

Report to Queensland Floods Commission of Inquiry:

provided in response to a request for information from the Queensland Floods Commission of Inquiry received by the Bureau of Meteorology on 4 March 2011.



*Notes:

All times are in EST unless stated. The wet season in Queensland is normally defined by the Bureau as occurring from 1 October to 30 April of the next year.

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Introduction

- [1] This Report by the Bureau of Meteorology (Bureau) is provided in response to a request for information from the Queensland Floods Commission of Inquiry (Commission) received by the Bureau on 4 March 2011. In seeking information on the extensive heavy rainfall and consequential flooding across Queensland during December 2010 and January 2011, the Commission posed a series of questions which are set out and responded to within this Report.
- [2] This Report outlines important elements of the climate, weather and flooding experienced in Queensland during December 2010 and January 2011 and the manner in which the Bureau responded to extreme events, including via warnings and advice to the community, emergency managers and all levels of government. It should be read together with the Provision of Preliminary Meteorological and Hydrological Information: Background briefing for the Queensland Floods Commission of Inquiry dated 17 March 2011.

Overview

- [3] From mid 2010, a number of regional climate events being monitored by the Bureau's climate specialists pointed to an active summer season for the Bureau, emergency managers and the public across Queensland. La Niña, the periodic cooling of waters in the eastern Pacific, was developing rapidly. Confirmation of an unusually high Indian Ocean sea surface temperature pattern and record sea surface temperatures in the western Pacific Ocean led the Bureau to take early action by alerting relevant authorities.
- [4] Knowledge of the seasonal climate and catchment conditions is vital to an understanding of the confluence of environmental conditions conducive to the extreme weather and flooding events of 2010/11. During 2010/11, Australia experienced one of the strongest La Niña events on record. Previous strong La Niña events, such as those of 1974 and 1955, were associated with widespread and severe flooding in eastern Australia. Queensland had substantial rainfall from July 2010. It was Australia's wettest July to December on record, the effect of which was to wet catchments and make them more conducive to flooding from heavy rainfall. Queensland also recorded its wettest December ever. A series of major rain events across December and into January resulted in widespread flooding of many rivers across Queensland.
- [5] Flooding during the 2010-11 wet season was widespread, sustained and exceeded all previous meteorological and hydrological records in many areas of Queensland.
- [6] Section 2.1 of this Report provides an outline of the scale, severity and duration of the Queensland flood events of 2010-2011.

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¹ Notes:

Questions posed by the Commission of Inquiry

1 General Information

1.1 Q1.1 What, in general terms, are the role and responsibilities of the Bureau?

- [7] The Bureau is Australia's national weather, climate and water agency. Its expertise and services assist Australians in dealing with the realities of their natural environment, including drought, floods, fires, storms, tsunami and tropical cyclones. Through regular forecasts, warnings, monitoring and advice spanning the Australian region and Antarctic territory, the Bureau provides one of the most fundamental and widely used services of government.
- [8] The Bureau operates under the authority of the *Meteorology Act 1955* (Cth) and the *Water Act 2007* (Cth), the former providing the legal basis for its activities in disaster mitigation. In addition, it is responsible for maintaining the national climate record, and advancing scientific understanding of Australian weather, climate and water. The Bureau must also fulfil Australia's international obligations under the Convention of the World Meteorological Organization (WMO) and related international meteorological treaties and agreements.
- [9] The Bureau contributes to all aspects of disaster management including planning, preparation, response and recovery. In all phases, the Bureau (as a Commonwealth agency) works with state disaster managers and state and local government agencies in order to provide the best possible meteorological and hydrological advice. Section 3.1 of this Report outlines the communication channels that the Bureau maintains during a disaster.
- [10] It is important to note that Bureau services are not confined to just formal warnings to the community and agencies during an event. From September 2010 onwards, the Bureau embarked on a campaign of briefings, meetings and media releases to raise awareness of the upcoming summer with emergency management staff, workshops with relevant agencies, media preparedness exercises, disaster management system exercises and public education. Additionally, community preparedness was established throughout the lead up via general forecasts and radio briefings.

1.1.1 Monitoring

- [11] The Bureau:
 - a. operates a range of instruments that measure meteorological and hydrological data; and
 - b. receives and records data from instruments that are operated by government agencies and third parties other than the Bureau.

1.1.2 Planning

[12] With regard to planning, the Bureau works with a range of government agencies to assist in their establishment of networks, emergency alert systems and communication protocols. In the Preparation phase the Bureau provides seasonal climate outlooks to assist emergency managers to be ready for extreme events. The Bureau issues a three-month seasonal outlook statement at the end of every month.

- [13] For example, on 4 October the Bureau issued its seasonal outlook for Queensland. The Regional Director Mr Jim Davidson said in a public media release:
 - "prepare early not only for cyclones but also for floods as we have already experienced record September rainfalls across the state."
 - "Preparation is the key to safety, and we encourage communities to factor in the possibility of a destructive cyclone or major flood into their pre-season planning."
- In September and October of 2010, the Bureau conducted numerous briefings to the Queensland state government and disaster management officials, state and territory government agencies and the federal government. Paragraph [107] and Appendix J of this report outline the briefings that the Bureau provided during the Queensland flood events of 2010-11. For example, the Regional Director Mr Davidson provided a special briefing to Queensland Department of Premier and Cabinet on the 18 October warning that the very strong La Niña would feed extremely moist air masses over Queensland and potentially result in extensive flooding and above average tropical cyclone activity.
- [15] Paragraph [107] of this Report outlines the pre-season briefings that the Bureau provided to a range of agencies.

1.1.3 Response

- [16] The response phase is the most visible to the community. In this phase, the Bureau provides:
 - a wide range of forecasts and warnings for meteorological and hydrological (flood services) conditions;
 - b. advice to emergency managers, state water agencies, local governments and dam operators;
 - c. public forecasts and warnings;
 - d. meteorological and hydrologic forecasts to emergency services agencies who manage community messaging and the emergency response.
- [17] During the wet season of 2010-2011, the Bureau provided vital warning services right across the country with seven tropical cyclones across the Australian region, severe flooding across Queensland, New South Wales, Tasmania and Victoria, destructive bushfires around Perth and heat wave conditions across South Australia. In Queensland alone, four major meteorological events occurred over a two month period. Refer to Table 2.1.
- [18] The Bureau's authority for issuing warnings comes from the Meteorology Act and subsequent Commonwealth Government decisions in cooperation with state/territory governments.
- [19] Specific roles regarding warnings are discussed in Q 1.2 below.
- [20] Appendices A, B, C and D of this Report outline the warnings that the Bureau issued during the Queensland flood events of 2010-11.

1.1.4 Recovery

[21] The Bureau works with state disaster managers and government agencies to provide services throughout the recovery phase.

1.1.5 Bureau Personnel

[22] All forecasts and warnings issued by the Bureau are prepared by qualified and experienced meteorologists and hydrologists. Meteorologists involved in delivering forecasts and warnings have, in line with the World Meteorological Organisation standards and guidelines, relevant degrees or higher qualifications and have successfully completed the Bureau's accredited Graduate Diploma in Meteorology course or an equivalent qualification. Hydrologists are graduates in either engineering or a relevant natural resources area that incorporates hydrology as part of the curriculum. The technical officers assisting with data management tasks are highly experienced, including in the operation and field maintenance of rainfall and water level monitoring systems. Additionally, staff build further competency through a combination of onthe-job development, specialised in-house training courses and involvement in relevant external activities such as conferences and technical workshops.

1.2 Q1.2 What is the Bureau's role in relation to forecasting and flood estimation?

1.2.1 Weather forecasting

- [23] For weather forecasting and Severe Weather Warning in Queensland, services are provided through the Regional Forecasting Centre (RFC) under the direction of the Regional Director. The RFC is permanently established and continuously staffed. It is supplemented with additional staff during significant weather events. In particular, a dedicated Severe Weather Desk operates within the Queensland RFC from October through to March, and a Tropical Cyclone Warning Centre (TCWC) is activated as required. During flood episodes, the Flood Warning Centre (FWC) also operates and works in close coordination with the RFC, and the TCWC.
- [24] The RFC is supported by sub-regional forecast offices located at Cairns, Townsville and Rockhampton. Information to the media and public is also provided through Observing Offices located at Weipa, Mount Isa, Cairns, Townsville, Mackay, Rockhampton, Longreach and Charleville. Services to the Australian Defence Forces are provided through offices at RAAF Base Amberley and Army Base Oakey.
- [25] Publicly available forecast services produced by the RFC for Queensland include:
 - a. weather forecasts suite comprising forecasts of weather for 17 Districts and 38 locations around Queensland;
 - b. a Queensland state forecast describing the expected evolution of the weather pattern over the next 4 days
 - c. Marine Forecasts for six areas; and
 - d. Tropical Cyclone outlooks.
- [26] Publicly available warning services produced by the Queensland RFC include:
 - a. Tropical Cyclone Warning Services;
 - b. Fire Weather Warning Services;
 - c. Severe Thunderstorm Warning Services;
 - d. Severe Weather Warning Services;
 - e. Flood Warning Services;
 - f. Coastal Waters and High Seas marine weather warning services, and
 - g. Other Warnings and Alerts (such as warnings for Farmers/Sheep Graziers Warning).
- [27] Other specialised advices, forecasts and warnings are provided by special arrangement to specific clients through "Registered User" services. This primarily includes warnings for the aviation industry and defence organisations, but also includes the State Disaster Coordination Centre for access to specific Bureau information for disaster management, and operators of dams and some local governments for access to flood forecasting model results.

- [28] The Bureau works to provide emergency management authorities and other emergency service organisations with detailed routine and operational forecasts, climatological advice and pre-season briefing to assist with the development of appropriate management strategies.
- [29] At the end of each season the Bureau also undertakes post-event analysis (especially for tropical cyclones, severe weather and flood events) and post-season debriefs with relevant agencies.
- [30] Importantly, the Bureau also conducts community awareness campaigns, and develops awareness material and brochures to help communities and individuals understand weather phenomena and the services provided by the Bureau, in partnership with emergency managers and local governments.

1.2.2 Flood forecasting

The provision of flood forecasting and warning services in Australia is a cooperative arrangement between all three levels of government, which describe the responsibilities of agencies for the establishment and operation of flood warning and forecasting systems. Under this arrangement, a distinction is made between flash flood warnings (described as situations where the rain-to-flood time is less than 6² hours) and other (non-flash flood or riverine) warnings. While the Bureau is responsible for forecasting floods, predicting river height levels, and forecasting heavy rain that is conducive to flash flooding, the Bureau is not responsible for forecasting flash flooding in specific locations or individual creeks.

1.2.3 Flood warning service

- [32] The flood warning service is part of the Bureau's basic warning service and provides warning information to the public through the broadcast media (radio and television) and to relevant State and Local Government bodies including emergency services organisations. The Bureau performs its flood forecasting and warning role within the context of a *total warning system*³ and in partnership with other agencies at all three levels of government.
- [33] Flood warning services are provided through the Flood Warning Centre (FWC), a part of the RFC, managed by the Regional Hydrology Manager. The FWC is a permanently established and designated operational area that is staffed during flood periods and is the focus of operational flood warning activities. The FWC is staffed by hydrologists, meteorologists and technical officers, who work closely with the meteorologists in the RFC.
- [34] The primary roles for the Bureau in the total flood warning system are:
 - a. to prepare and issue flood warnings on a river basin scale;
 - b. to make predictions of future flood levels at locations within designated basins; and
 - to provide these warnings and predictions in the form of flood warning messages direct to a range of stakeholder agencies involved in disaster management and response, as well as to the general public through the media and the Bureau website.

²The threshold of six hours to distinguish flash floods is what is widely accepted internationally and by organisations such as WMO and US National Weather Service. It is related in general to a minimum time required for mobilisation of resources for emergency response.

³ The concept of a Total Warning System to encompass all aspects of a warning system including Monitoring and Prediction, Interpretation, Message Construction, Communication, Protective behaviour and Review (Reference Australian Emergency Manual 21: Flood Warning, published by the Attorney General's Department, 2009)

- [35] The flood warning system for each basin is described in a brochure that is made available on the Bureau's website at http://www.bom.gov.au/hydro/flood/qld/brochures/index.shtml.
- [36] Under the disaster management arrangements that the Bureau has with state agencies and local governments, the Bureau has no role in:
 - a. the issuance of flash flood warnings for specific locations or individual creeks.
 - b. the interpretation of the impact of the expected flooding and predicted flood levels on people and infrastructure in the floodplain; and
 - c. the further dissemination of this more targeted information down to individual affected parties sits within the overall disaster management arrangements of the state.
- [37] Almost 800 Flood Warnings were prepared and issued by hydrologists in the Flood Warning Centre for the two month period of December 2010 and January 2011 which compares with a long term average of about 350 per year.

1.2.4 Flood warning network

- [38] The Queensland FWC has access to about 2,200 stations owned by the Bureau and various partner agencies providing rainfall and/or water level information. Information from almost all of these stations is made available to the public by the Bureau with prior agreement from partner agencies.
- [39] There has been sustained growth of the automated flood warning networks in Queensland for the past two decades, 1990 to 2010, as illustrated in Figure 1.2.4.1.

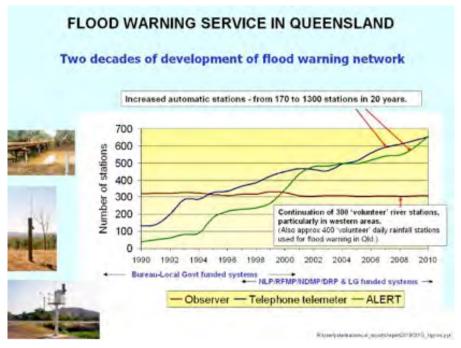


Figure 1.2.4.1: Flood warning service in Queensland

[40] Of the 2,200 stations currently used in the flood warning service, about 1,370 stations automatically transmit the data to the Bureau operations centre. The remaining stations are either manually read or have loggers that store the data for later retrieval. Figure 1.2.4.2 is a graphical representation of the river height and rainfall stations that are either used for real time operations (orange) or postevent analysis (blue and orange). Table 1.2.1 provides the number of stations in the network.

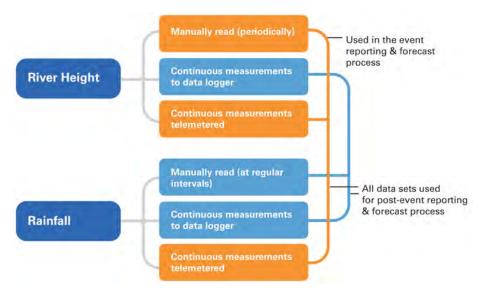


Figure 1.2.4.2 Shows a graphical representation of the data flow for real time operations (orange) or post-event analysis (blue and orange).

- [41] Some of the flood warning stations are duplicated at key sites to provide increased security of information for flood warning operations.
- [42] The flood warning service relies on the cooperative sharing of rainfall and water level data from stations owned and operated by many agencies in Queensland. Table 1.2.1 summarises the number of stations owned and operated by the Bureau, either wholly or in a shared arrangement (typically with local governments) and other agencies (primarily Queensland Department of Environment and Resource Management (DERM), SunWater, SEQwater and local governments).

Table 1.2.1: Stations currently used in the flood warning service

	ALL STATIONS	BUREAU OWNED	SHARED BUREAU & OTHER AGENCY STATION	OTHER AGENCY STATION
Rainfall station	401	72	96	233
Water level station	591	193	94	304
Combined rainfall & water level	654	10	138	506
Total Flood Warning Network	1646	275	328	1043
Plus selected stations from Bureau rainfall network	540	540		
TOTAL	2186	815	328	1043

[43] Figure 1.2.4.3 shows a graphical representation of the types of information received and used by the Bureau to generate forecasts and warnings.

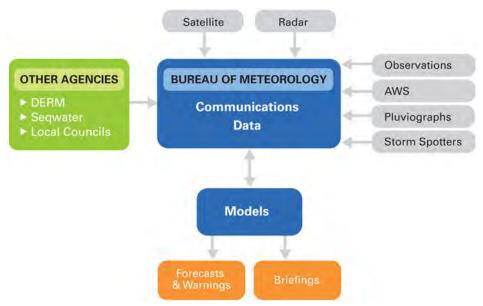


Figure 1.2.4.3 Information flows to generate forecasts and warning services

1.2.5 Flood estimation

- [44] Flood estimation' is the term that describes the estimation of the "design" flood required for the design of small and large infrastructure and the establishment of designated flood levels for land use planning and zoning. Design floods are estimated for various return periods through to estimation of the *Probable Maximum Flood*. The Bureau has no direct role in flood estimation but plays a vital indirect role as a significant provider of data and analysis used by engineers as input to flood estimation studies. The chief input is the provision of design rainfall data from the Bureau's *Hydrometeorological Advisory Service*. In this regard, the Bureau is currently leading a revision of design rainfall estimates of rainfall intensity, frequency and duration curves provided by the industry manual *Australian Rainfall and Runoff*⁴.
- [45] Bureau hydrologists can be involved in local government steering or reference groups for flood studies to provide hydrological expertise in flood modelling. It is considered highly desirable that the flood forecast modelling undertaken by the Bureau be consistent with the design flood estimation studies (and vice versa) to maximise the opportunity for using the Bureau's predicted flood heights and flows to identify flood inundation areas and other impacts effectively during events.

1.3 Q1.3 What role does the Bureau play in relation to Flood Modelling?

[46] The Bureau operates a hydrologic forecasting system involving the real-time collection of rainfall and water level data from a network of stations operated in partnership with State and other agencies. This data is used in hydrologic forecasting models which, combined with forecast rainfalls when required enable the predictions of future flood levels to be made.

⁴ Australian Rainfall and Runoff (Institution of Engineers Australia, last full revision in 1987, now being published as a sequence of revised chapters)

- The Bureau uses hydrologic models for catchments in most major Queensland river basins except those in Cape York, where quantitative flood prediction services have not been developed so far. The Bureau maintains these models, updates them as new data from additional stations becomes available and revises them following flood events to make use of new data. Hydrologic models are more accurate in areas where the rainfall and water level monitoring network is reasonably dense. Flood model results can be made available to local council engineers for technical discussion with the Bureau's flood forecasters.
- [48] The hydrologic models simulate runoff production from observed and forecast rainfall. Bureau hydrologists cross-check model results with a variety of empirical data analysis techniques.
- [49] The models assist the hydrologists in the preparation of flood warnings and river height predictions but provide guidance only. Flood forecasting models have recognised sources of error, including in the inputs (for example, in estimating the amount of rain which has fallen in the catchment together with its temporal and spatial variation, and in specifying accurately the expected or forecast rain) and in the simplified representation of processes to convert rainfall into runoff and to simulate the movement of runoff through catchments and river channels.
- [50] Hydrologic models do not simulate the full range of processes involved in translating rainfall to runoff. Hydrologic behaviour is influenced by topography and ground conditions. The rainfall amounts observed or sampled at a limited number of stations provide only an approximation of the intensity, timing and distribution of catchment wide rainfall required to model the runoff. The estimation of forecast rainfall based on the output of Numerical Weather Prediction (NWP) models is limited not only by difficulties in representing complex physical processes but also by imperfectly observed boundary and initial conditions for the models. The hydrologic models normally work with streamflow volumes, but observations and predictions are usually expressed in terms of the heights at the forecast locations. For extreme floods, the conversion of height to streamflow volume through a *rating curve* may contain errors, as it is typical with floods that the conversion is required at the extremes of the rating curve which is often extrapolated or based on very few measurements.
- [51] Furthermore, the forecast lead times for river height predictions varies according to the characteristics of the catchment (its size, shape, steepness etc); the characteristics of the rainfall event (e.g. the location, movement and intensity of rainfall), and the ability to forecast the rainfall (which depends on catchment scale and the rainfall causing mechanisms at the time). For any given catchment, predicted river heights with longer forecast times will generally have inherent higher uncertainty. In Queensland, in significant flood events such as occurred in 2010-11, the intensity of rainfall can generate high levels of runoff from only part of the catchment which often results in much shorter rainfall to flood peak response times than is normally expected.
- [52] The models assume that previous catchment behaviour will be replicated in the river. However, when catchment and/or river conditions change for a variety of reasons such as land use change, construction or modification of online storages, catchment behaviour during floods may change and it is not always possible to anticipate this changed behaviour in the model.
- [53] The hydrologic flood modelling undertaken by the Bureau involves the estimation of a time series of values of future streamflows or river heights at individual locations on a river. Flood inundation modelling involving the estimation of the spread of flood waters across the floodplain is not part of the Bureau modelling operations.

[54] Other agencies, particularly local government in Queensland, use the predicted heights to interpret the expected inundation and movement of flood waters on the floodplain (i.e. in the horizontal dimension). For this, pre-developed flood impact information related to observed and predicted river heights at the flood warning gauge, is used. Flood maps where available, are often an effective tool for determining inundation areas (including depths of water and velocities). The production of flood maps suitable for flood response operations can be developed from specific flood hazard-response studies or as a by-product of traditional design flood studies using design rainfall scenarios undertaken for planning purposes (e.g. for land use planning).

1.4 01.4 What role does the Bureau play in relation to the management of large dams?

- [55] In some catchments flood behaviour is influenced by the existence, and in some cases the operation of, water storages (dams). To effectively model flood behaviour it is essential that Bureau modelling take account of these influences, requiring close liaison with the dam operators. This liaison may involve the Bureau receiving direct advice of observed and projected releases (in the case of Wivenhoe Dam, for example) and sharing hydrological data and catchment modelling results with the dam operators, but only in so far as this is necessary to refine Bureau warnings and predictions for downstream locations.
- [56] The Bureau can be included in Emergency Action Plans (EAPs) as a receiver of information from dam operators. Furthermore, the Bureau is likely to be listed as a point of contact for advice regarding forecast rainfalls in emergency flood situations. The Bureau can be nominated in the contact register for emergencies and flood information. For Seqwater dams, the Bureau is issued with a controlled copy of the EAPs.
- [57] In late 2010, the draft 'Protocol for the Communication of Flooding Information for the Brisbane River Catchment - including Floodwater Releases from Wivenhoe and Somerset Dams' was developed by stakeholders in a committee that was chaired by DERM. The draft protocol details the responsibilities and cooperation between the various state and local government stakeholders for the provision of harmonised information during Brisbane River floods. Whilst the Bureau is not a signatory, the Bureau was consulted during the drafting to ensure the role of the Bureau in providing flood warning and forecasting services for the Brisbane River was articulated.
- [58] The Bureau provides a variety of information including Quantitative Precipitation Forecasts (QPF) to dam operators of the Wivenhoe, Somerset, North Pine and Ross River Dams. Dam owners and/or operators also typically directly access data from their own or other agencies' flood warning rainfall and water level monitoring networks in the dam catchment. During rainflood events, the Bureau's Flood Warning Centre provides advice and model results to dam owners and/or operators (primarily SunWater and Seqwater) as requested. Section 7.1 of this Report details the information that the Bureau provided to dam operators during the Queensland floods of 2010-11.
- [59] Also, in response to requests from dam owners and operators to better manage the operation of their storage, the Bureau recently commenced a seasonal streamflow forecasting service providing a three month forecast of streamflow for selected locations initially in the Murray Darling Basin.

- 1.5 Q1.5 Is there a way to receive personalised warnings through Bureau without checking the website i.e. email/text and have Bureau considered implementing that as a service. Is registering as an individual and paying a small fee or a free service feasible?
- [60] The Bureau currently provides email and SMS text based alerts to emergency services and a few commercial customers as part of a contractual agreement.
- [61] Recently the Bureau enabled Really Simple Syndication (RSS) warning services whereby the user can be alerted to the existence of one of the Bureau's warnings via the internet without having to check the website directly. Smart phones have the capability of automatically alerting the user to new and existing Bureau warnings via this RSS service.

2 High Level Chronological Overview

- 2.1 Q2.1 An outline of the geographic scale, severity and duration of the flood events during the 2010/2011 wet season.
- [62] The state-wide flooding during December 2010 and January 2011 was widespread, sustained and exceeded all previous records in many areas of Queensland.
- [63] An extensive report of the meteorological conditions over the two months of December 2010 and January 2011 is contained in Appendix E.
- [64] In brief, the flooding across Queensland consisted of a number of different types of rainfall and flooding events, which are listed in Table 2.1.

Table 2.1. The major rainfall events leading to the Queensland floods.

Event one: 28 November 2010 – 22 December 2011	A sequence of large scale rain events across the state.	Major flooding of rivers of rivers across the Southern half of the State.
Event two: 23 -28 December 2010	A single 6 day event covering almost the entire state. Record rainfalls.	Record flooding in central and Southern Queensland. Inundation of the cities of Bundaberg, Rockhampton and Emerald and many other towns.
Event three: 10-12 January 2011	A concentrated rainfall event on the scale of several hundred kilometres, occurring directly over several small river basins.	Flooding of the cities of Brisbane and Ipswich and many other towns.
Event four:10 January 2011	Intense rainfall from a thunderstorm complex over several hours directly over a region with steep topography channelling the flow.	The flash floods in Toowoomba and the Lockyer Valley.

[65] As will be described in Section 2.1.1 of this Report, the flooding was widespread through December 2010 and into January 2011 in response to the rain events occurring across Queensland. The large scale rainfall at the end of December brought about record flooding in many rivers across central and southern Queensland. The next major event led to the Brisbane and Ipswich floods and the Toowoomba and Lockyer Valley flash floods. High flood levels remained in many of the rivers in the southeast through to the end of January. This progression is shown in Figure 2.1.1, which contains snapshot maps of river conditions at various dates through the two month period.

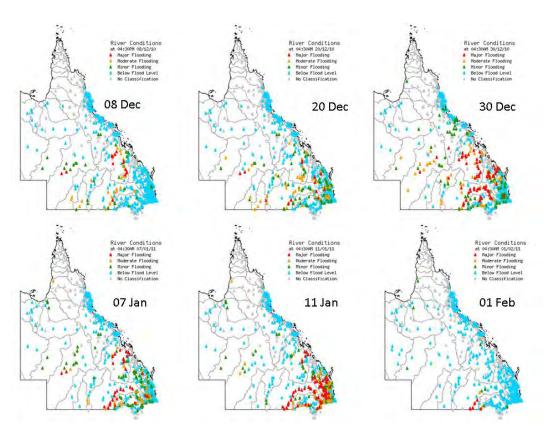


Figure 2.1.1 Snapshot maps of river conditions from the continuously-updated Bureau of Meteorology monitoring website: www.bom.gov.au/ qld/flood/index.shtml.

The first two maps are for 8 December and 20 December, and represent conditions during the sequence of rainfall events across the State during the first 3 weeks of December. The map for 30 December shows the response of rivers to the six day record large scale rainfall event from 23 – 28 December. The 7 January map represents conditions immediately prior to the Brisbane floods/ Toowoomba event. The 11 January map represents conditions the day following the Toowoomba flood and two days prior to the flood peak of the Brisbane River, whilst the 1 February map shows conditions at the end of January.

2.1.1 Q2.1.1. What were the precipitating events leading up to the specific flood events (e.g. Cyclone Tasha)?

2.1.1.1 The climate drivers

- [67] The rainfall and wide-spread flooding resulted from longer time-scale influences (or "climate drivers"). The primary large scale drivers were:
 - a. Heavy rainfall in the prior months;
 - b. The monsoonal wet season;
 - c. The La Niña event; and
 - d. The Madden Julian Oscillation.

(a) Heavy rainfall in the prior months

[68] A major contributor to the December and January floods across the state was the record rainfall that occurred through the preceding four months. This was characterised by large areas of the state receiving more than double their long-term average rainfall for each month over the sequence from August through November. In particular, in September 2010 most of the state received more than four times the normal monthly rainfall.

(b) Monsoonal wet season

[69] Queensland experiences a "monsoonal climate" with a summer wet season and winter dry season, which means that heavy rain, is not unusual in the summer. The Australian monsoon is part of the global monsoon system whereby the intertropical convergence zone (ITCZ) or global belt of heavy equatorial rainfall is located over northern Australia. The strength of the north Australian monsoon is monitored through the westerly component of the 850 hPa wind at Darwin. By this measure there was an active monsoon from 20 December through all of January. Thus, the active monsoon contributed directly to events two and three.

(c) The La Niña event

[70] It is well established that the major climate influence on Australia's rainfall is the El Niño-Southern Oscillation phenomenon (ENSO). ENSO has two extreme phases, each lasting approximately 9 months: the El Niño phase which generally causes large scale drought across Australia, and the La Niña phase which often brings about major flooding events. The period from August 2010 to February 2011 was one of the strongest La Niña events on record, as measured by the Southern Oscillation Index (SOI) used by the Bureau to monitor ENSO activity.

(d) The Madden Julian Oscillation

[71] The major global weather pattern influencing tropical rainfall on the sub-seasonal time scale is known as the Madden Julian Oscillation (MJO). This is monitored by an index classifying the MJO into phases, such that when the pattern is in phases 4, 5 and 6 (out of a possible 8). These active phases enhance the strength of the Australian monsoon and brings an increased probability of high rainfall across northern Australia. During the first two weeks of December and from 9 January onwards the MJO was in an active phase and would have enhanced the strength of the monsoon. Thus it was a climate driver of the rainfall during event one (28 November – 22 December) and could also have contributed to event three (the Brisbane floods).

2.1.1.2 The weather events

[72] Within the envelope of these large scale drivers, a number of specific weather events led to the rainfall directly on the catchments in the days immediately preceding the major floods. A discussion paper on the meteorology of the rainfall associated with the December - January floods across the state is included as Appendix E. However, in simple terms, there were four major synoptic or "weather" events.

(a) Event one: 28 November to 22 December 2010

- Through the first two weeks of December an inland trough lay over the state with a supply of moisture from the trade winds extending along the east coast. A succession of rainfall events occurred across the State with the passage of a sequence of upper level westerly troughs. In the period from 15 through 20 December, a monsoon low off Western Australia brought about a current of monsoon westerlies across northern Queensland with an inland trough across the south of the State. The passage of an upper level westerly trough brought extensive rainfall to the southern half of the State. These weather components: monsoon westerlies, inland trough etc are described in detail in the Appendix E.
- The first three weeks of December were characterised by a continuous sequence of large-scale rainfall events occurring across the state. While no individual event in this period was unusual for the time of year, the cumulative effect was one of record rainfall for the month. To show the nature of the rainfall during this period, Figure 2.1.2 shows the one-day rainfall totals for the first two weeks of the period. For illustrative purposes, separate rainfall events each lasting 1-3 days are outlined and marked by the letters A, B, C and D.

This sequence of heavy December rain followed four prior months of record state-wide rainfall.

Thus the catchments were already wet with high levels of flow. The added rainfall over the state led to many rivers having high flood levels. At the end of this sequence, there was major flooding over a number of rivers across the central and southeast of the state including the Barcoo, Dawson, Comet, Condamine, Balonne, Warrego, and the Boyne. The river conditions on 8 December (half-way through) and 20 December (at the end of this sequence) can be seen in the first and second panels of Figure 2.1.1, respectively.

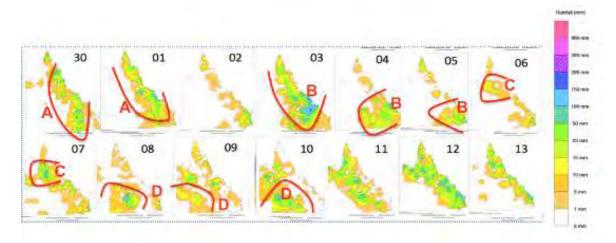


Figure 2.1.2 Map of daily rainfall for the 24 hours ending at 9 am 30 November, 9 am 1 December, through to 9 am 13 December 2010. The maps show the character of the rain during the first weeks of December with widespread rainfall on most days, and a number of separate rain events (A, B, C, and D), each lasting several days.

(b) Event two: 23 December 2010 to 28 December 2010

- [76] This six-day sequence of heavy rainfall involved the landfall of Tropical Cyclone Tasha which transformed into a monsoon low or rain depression in the days after landfall. This low accentuated the structure of the monsoon trough in which it was embedded. An upper level westerly trough interacted with the depression and brought about large scale ascent of tropical air rising ahead of the trough as it moved to higher latitude, as illustrated in Figure 16 of Appendix E.
- This sequence of six days was one of record rainfall across Queensland. As shown in Figure 2.1.3, this was a large scale rainfall event with more than 200 mm falling over central eastern Queensland and extending up the coast as far as Cairns. Falls exceeded 400 mm in many parts of the State. The rains from 23 to 28 December resulted in exceptional flooding in many parts of central and southern Queensland with many rivers reaching record levels. Properties were inundated in at least 17 towns in Queensland and adjacent border areas of New South Wales, with the largest impacts in the towns of Theodore, Dalby, Chinchilla, Emerald, Bundaberg and Rockhampton. The most widespread intense rainfall was on the 27 December, where a number of stations in the Carnarvon Range area set all-time daily records with daily totals in excess of 200 mm, peaking at 273.6 mm at Carnarvon Station. Except for the southeast coastal fringe south of Maryborough, almost every river in Queensland that is south of the Tropic of Capricorn and east of Charleville and Longreach reached major flood level at some stage during the period from 26 November to 7 January, mostly between 23 December and 4 January. This demonstrates the very large spatial scale of this event and the intensity of the rain.

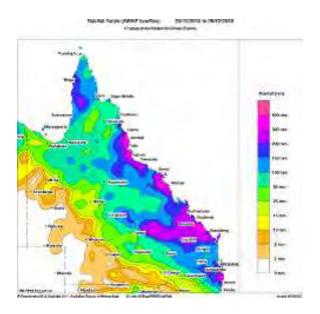


Figure 2.1.3 Rainfall across Queensland during the record large scale event over the six days from 23 to 28 December 2010

(c) Event three: 10 to 12 January 2011

[78] The rainfall over these three days was largely responsible for the flooding of the cities of Brisbane and Ipswich as well as for the flash floods in Toowoomba and the Lockyer Valley. This was an unusual type of rainfall event with the major rain system having a scale of only several hundred kilometres, in this case over a concentrated region of south eastern Queensland. This can be seen in the rainfall map accumulated over the three days on the left panel of Figure 2.1.4. Despite the regional scales of the rainfall, it occurred in the location of the catchments feeding the Brisbane River.

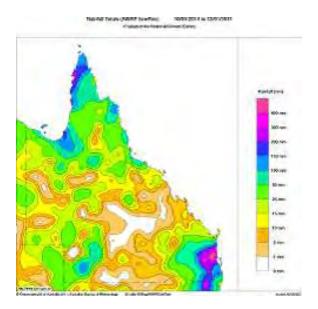


Figure 2.1.4 Rainfall over the three days leading to the flooding of the cities of Brisbane and Ipswich and to the Toowoomba and Lockyer Valley flash floods.

The rainfall event leading to the Brisbane and Ipswich floods was caused by an onshore moist easterly trade wind flow in Southern Queensland interacting with an upper level cut-off low. A cut-off low of this nature is an unusual event at this latitude at this time of year. It was caused by global scale dynamics (known as Rossby-wave breaking) at higher latitudes along the interface between the troposphere and the stratosphere. In the Australian monsoon context, it is not well understood and will be the subject of further research. It is an example, however, of a major rainfall event resulting from an interaction between the moist tropical flow and the higher latitude westerly weather systems. The low level easterly flow and the cut-off low are shown in Figure 2.1.1.1.

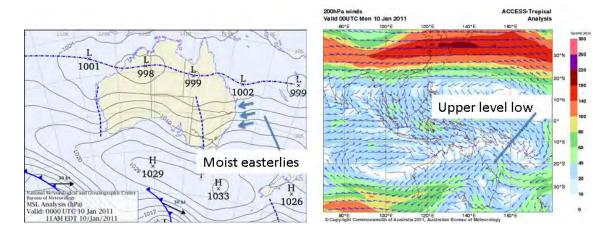


Figure 2.1.1.1 Mean sea level pressure analysis (left) and upper level 200 hPa analysis for 10 January 2011, coincident with the Brisbane and Ipswich floods and Toowoomba and Lockyer Creek flash floods event.

- (d) Event four: The flash floods in Toowoomba and the Lockyer Valley on 10 January 2011

 A flash flood is a weather event over a small spatial area, occurring on the scale of an individual thunderstorm complex. It is typically caused by heavy rainfall of the order of 50 to 200 mm occurring over a period of one to two hours. It occurs over regions with topography that channels the runoff from the rainfall into local creek and river systems, leading to flooding occurring within hours of the rain falling. The small scale but persistent heavy rainfall for the thunderstorm complex causing the flash flood is discussed in detail in Section 6.
- [81] The easterly flow and upper level cut-off described above brought about an atypical rain system along the south east Queensland coast consisting of a sequence of thunderstorms forming within the easterlies and moving slowly inland towards the coastal mountain range. The meteorological cause of the flash floods was a thunderstorm complex that formed within this easterly stream. The thunderstorm cell moved southward and westward. Radar imagery suggests it slowed in speed and increased in intensity due to the enhanced uplift as the easterly flow approached the escarpment and a complex interaction between neighbouring storms and low level changes in wind. The lifetime of the thunderstorm was several hours, with intense rainfalls over a one to two hour period over Toowoomba and the Lockyer Valley catchment.

2.1.2 Q2.1.2 Which river catchments, towns and regional areas were flood affected?

- [82] As discussed in section 2.1 of this Report, a large number of areas had already been affected by flooding or heavy rain leading up to the period December 2010.
- [83] The map in Figure 2.1.2.1 shows the location of gauging stations that reached at least minor flood level during December 2010 and January 2011. Sites where major flooding was recorded are presented as a red triangle and the map highlights how wide spread the flooding was during this period. The only area of Queensland that was not significantly affected was the far west and western gulf rivers but these areas have been significantly affected in March 2011 and floods are on-going at the time of preparing this report.

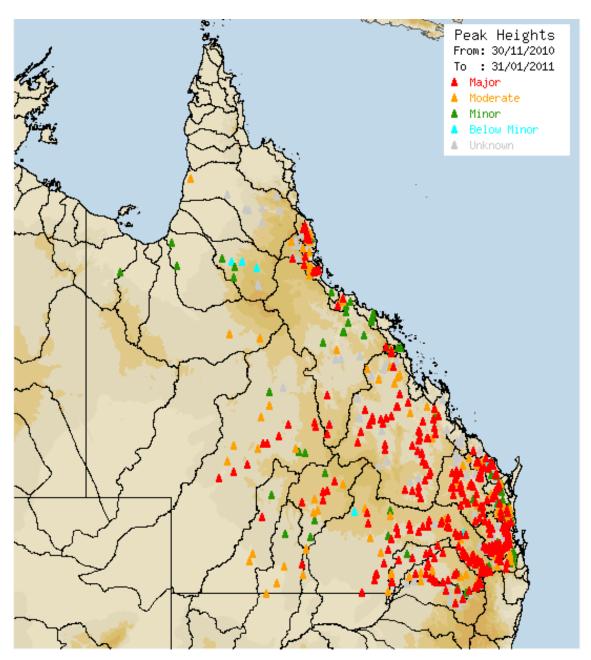


Figure 2.1.2.1 Map of the highest flood level reached at gauging stations in Queensland between 30/11/2010 and 31/01/2011.

[84] Table 2.1.2.1 summarises the areas and catchments in Queensland that were affected in the months of December 2010 and January 2011. The regional area names are based on areas used in the Bureau warning and data display systems.

Table 2.1.2.1 Regional areas and catchments that were flood affected during December 2010 and January 2011.

REGIONAL AREA	CATCHMENTS
North Tropical Coast	Johnstone, Herbert, Tully, Murray, Russell-Mulgrave
Central Coast	Haughton, Pioneer, Don, Lower Burdekin, Belyando
Coastal Streams Mackay to Maryborough	Nogoa, Mackenzie, Connors/Isaac, Dawson, Fitzroy, Kolan, Burnett, Baffle Creek, Burrum
Coastal streams Maryborough to the Gold Coast	Mary, Caboolture, Brisbane, Bremer, Lockyer Creek, Pine, Mooloolah, Maroochy, Noosa, Logan-Albert
Border Rivers including the Darling Downs	Upper Condamine, Myall Creek, Charleys Creek, Condamine, Balonne, Maranoa, Moonie, Macintyre
South West	Warrego, Paroo, Bulloo, Barcoo, Cooper Creek, Thompson

[85] Figure 2.1.2.2 is a map showing the towns that were flood affected overlayed on catchment boundaries. It also highlights in red the towns reported to have suffered inundation of some properties, either commercial or housing. This is provided based on the best knowledge available to the Bureau at this time and there are likely to be towns affected for which the Bureau has no information to date and are not shown on the map.

2.1.3 Q2.1.3 What flooding was generated as a result (described if possible in terms of Local Government areas)?

[86] A summary of flood affected towns, catchments and local government areas is included in Appendix F. This summary should be read in conjunction with the map that is included in Appendix F. This map shows the flood affected towns overlayed on the local government boundaries. It also highlights in red the towns reported to have suffered some inundation of properties, either commercial or housing. This is provided based on the best knowledge available to the Bureau at this time and there are likely to be towns that are missing.

2.1.4 O2.1.4 How severely affected were the relevant river catchments and their surrounding areas?

- [87] The Bureau does not receive or monitor comprehensive information on flood effects and severity as experienced on the ground. During floods the Bureau receives some reports of inundation from the media, emergency services and local disaster groups. These reports are noted and are used in some of the maps and tables in this report but will not be comprehensive.
- [88] For most river height stations in Queensland, a flood classification has been established to define the river height at which minor, moderate and major flooding commences. These flood classifications are *unique to each station* and have been developed over the decades from experience of past flooding, and for many locations, with the advice of local people (e.g. the landholder or agency providing the river readings) and from local government. Some local governments regularly provide the Bureau with adjustments and updates to the flood classification for stations within their jurisdiction, and especially following flood events.

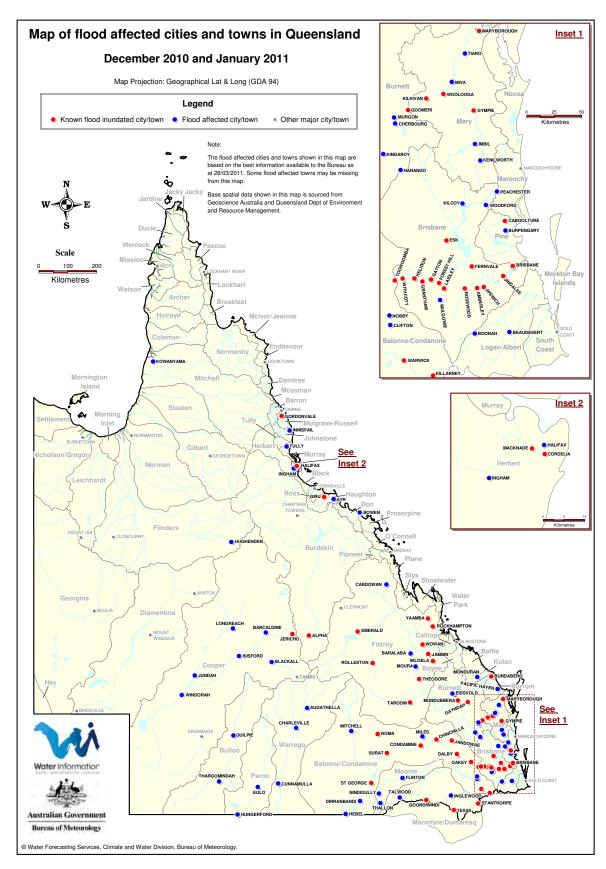


Figure 2.1.2.2 Map of Queensland flood affected towns overlayed on catchment boundaries.

- [89] The Bureau uses the following definitions for each of the flood classifications:
 - a. **Minor flooding:** Causes inconvenience. Low-lying areas next to watercourses are inundated which may require the removal of stock and equipment. Minor roads may be closed and low-level bridges submerged.
 - b. **Moderate flooding:** In addition to the above, the evacuation of some houses may be required. Main traffic routes may be covered. The area of inundation is substantial in rural areas requiring the removal of stock.
 - c. Major flooding: In addition to the above, extensive rural areas and/or urban areas are inundated. Properties and towns are likely to be isolated and major traffic routes likely to be closed. Evacuation of people from flood affected areas may be required.

Figure 2.1.4.1 shows a diagrammatic representation of flood classifications at a flood warning gauge.

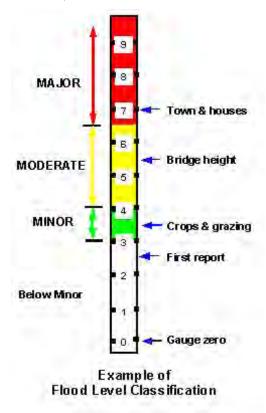


Figure 2.1.4.1 Example of flood classification at a flood warning river height gauge.

- [90] In this example, the threshold of minor flooding at this station is 2 metres; moderate flooding is 4 metres and major flooding is 6 metres.
- [91] The Bureau in Queensland maintains an historical flood peak height database for each river station, often incorporating information from other water and local agencies. For many river height stations, the Bureau in Queensland also maintains details of the flood height at which a bridge or road crossing is affected and includes this information when providing latest river heights (for example, as depths above or below the bridge or road crossing). For key river locations, for example at towns and cities, other more detailed information regarding flood heights and the likely impact ("probable flood effect") is recorded by the Bureau to assist in flood warning operations. The primary purpose for collecting flood effects is so the Bureau Flood Warning Centre hydrologists understand more about the severity/impact of the floods being observed or predicted.

[92] A simple example for Theodore is listed below:

Station: THEODORE BOM No: 039315

GAUGE Ht (m) PROBABLE FLOOD EFFECT

- 7.00 FIRST REPORT
- 8.00 MINOR FLOOD LEVEL
- 8.00 Water over Dawson River Bridge, on the Leichhardt Highway, Theodore
- 10.00 Crops/Grazing
- 11.00 MODERATE FLOOD LEVEL
- 12.00 MAJOR FLOOD LEVEL
- 12.20 Town/Houses
- 13.24 Mar 2010 flood.
- [93] Appendix G outlines the regions, catchments and flood effects (using the flood classification of minor, moderate, major). The flood effects column is based on the highest flood classifications reached at the gauging stations within a catchment.
- [94] An alternative simple assessment of flood severity is based on a comparison of the 2010-2011 flood peaks at each location with the historical flood heights at that location. At over 100 river height stations used for flood warning in Queensland, the peak flood height experienced in the 2010-11 floods was the highest on record. In many cases the recent floods were the highest in living memory, and in several cases, the highest in 50 to 100 years of records. A selection of these locations at which a record flood was experienced are summarised in Appendix H.

2.1.5 Q2.1.5 What was the duration of the flooding?

- [95] The duration of flooding is dependent on the hydrology, geology and geography of the catchment and also the meteorology of the event (ie, how long the rain stays in the catchment or how often it returns to the catchment while flooding continues).
- [96] Table 2.1.5.1 provides a summary of the start and finish dates and times of the flood warnings issued by the Bureau for each river basin. This provides an indication of the duration of the flood events in these catchments.

Table 2.1.5.1 Summary of start and finish dates of flood warnings to indicate flood duration.

CATCHMENT / WARNING AREA	PERIOD OF WARNINGS	NUMBER OF DAYS WITH WARNINGS	TOTAL DAYS
Logan-Albert	27/12/2010 to 29/12/2010 12/01/2011 to 14/01/2011	3	6
Brisbane	12/10/2010 to 19/10/2011 05/12/2010 27/12/2010 to 30/12/2010 06/01/2011 to 21/01/2011	8 1 4 16	29
Pine	11/01/2011 to 13/01/2011	3	3
Maroochy	09/01/2011 to 11/01/2011 20/01/2011	3	4
Noosa	11/1/2011	1	1

CATCHMENT / WARNING AREA	PERIOD OF WARNINGS	NUMBER OF DAYS WITH WARNINGS	TOTAL DAYS
Mary	12/12/2010 to 14/12/2010 29/12/2010 to 30/12/2010 06/01/2011 to 15/01/2011	3 2 10	15
Burrum	12/12/2010 to 13/12/2010	2	2
Burnett	12/12/2010 to 15/12/2010 24/12/2010 to 02/01/2011 06/012/2011 to 15/01/2011	4 10 10	24
Kolan	12/12/2010 to 13/12/2010 27/12/2010 to 01/01/2011	2 5	7
Baffle	14/12/2010 to 16/12/2010 26/12/2010 to 31/12/2010	3 6	9
Fitzroy (including Nogoa, Mackenzie, Dawson, Connors, Isaac)	25/11/2010 to 19/01/2011 24/12/2010 to 01/02/2011	19 38	57
Pioneer	02/12/2010 to 03/12/2010 24/12/2010 to 26/12/2010 31/01/2011	2 3 1	6
Don	03/12/2010 to 04/12/2010 12/12/2010 to 13/12/2010 24/12/2010 to 28/12/2010 03/01/2011 to 04/01/2011 18/01/2011 to 20/01/2011 30/01/2011 to 31/01/2011	2 2 4 2 3 2	15
Burdekin	26/12/2010 to 01/01/2011	7	7
Haughton	25/12/2010 to 27/12/2010 30/01/2011	3	4
Ross	25/12/2010 to 28/12/2010	4	4
Tully	24/12/2010 to 28/12/2010	5	5
Johnstone	25/12/2010	1	1
Mulgrave-Russell	24/12/2010 to 25/12/2010	2	2
Condamine-Balonne (mayall Ck, Charleys Ck, Maranoa)	05/12/2010 to 01/02/2011	57	57
Border Rivers (Macintyre and Weir)	11/12/2010 to 30/01/2011	50	50
Moonie River	14/12/2010 to 19/12/2011 27/12/2010 to 22/01/2011	6 27	33
Warrego River	25/11/2010 to 01/01/2011	7	7
Paroo River	03/12/2010 to 19/12/2011	17	17
Bulloo River	16/11/2010 to 24/12/2010	9	9
Cooper Creek	30/11/2010 to 20/01/2011	51	51
Flinders	13/12/2010 to 14/12/2010 19/01/2010 to 25/01/2011	2 7	9

[97] The duration of flooding at individual sites can also be viewed using a plot of the river heights versus date/time – known as a (stage) hydrograph. These are provided in Appendix B of this Report for many key locations and towns. Examples are provided below for Rockhampton in Figure 2.1.5.1 and Gympie in Figure 2.1.5.2.

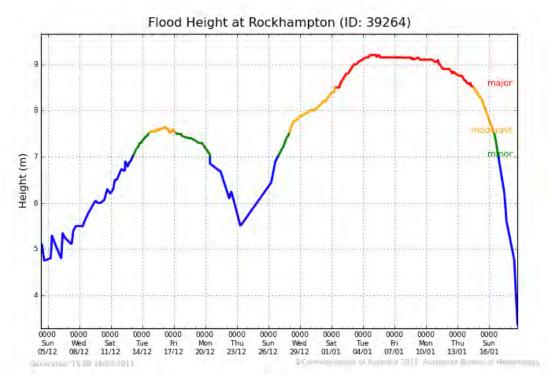


Figure 2.1.5.1 Hydrograph for Rockhampton showing the duration of flooding in that area.

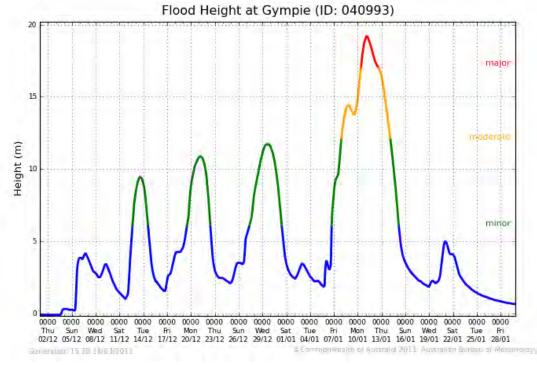


Figure 2.1.5.2 Hydrograph for Gympie showing the duration of flooding in that area.

[98] Table 2.1.5.2 is a timeline of when the rivers peaked in key locations/towns in Queensland. It highlights the main towns that were known to be inundated in red. It should be noted that the dates are based on the time of the peak and many of the towns were inundated for many days leading up to and following the peak and many towns were flooded multiple times during the two months. Where the Bureau doesn't have a record of the peak flood height, the date has been estimated based on information provided in emergency management situation reports and the media.

Table 2.1.5.2 - Flood affected locations/towns in Queensland (peak shown in red)

FLOOD AFFECTI DECEMBER 2010	ED QLD CITIES/TOWNS	FLOOD AFFECTED QLD CITIES/TOWNS JANUARY 2011		
Wed 1/12/2010	Charleville	Sat 1/01/2011	Charleville, Condamine Town, Isisford, Theodore, Longreach	
Thur 2/12/2010		Sun 2/01/2011	Flinton, Jundah	
Fri 3/12/2010	Bowen , Cardowan, Emerald, Jundah	Mon 3/01/2011	Bowen	
Sat 4/12/2010	Cunnamulla, Mitchell, Mulgowie, Yaamba	Tue 4/01/2011	Rockhampton, Surat, Yaamba	
Sun 5/12/2010	Eulo, Gatton, Roma, Rosewood, Taroom	Wed 5/01/2011		
Mon 6/12/2010	Emerald, Isisford, Windorah	Thur 6/01/2011	Gatton, Helidon, Mulgowie, Nindigully	
Tue 7/12/2010		Fri 7/01/2011	Dalby, Eidsvold, Goomeri, Helidon, Imbil, Inglewood, Kenilworth, Kilkivan, Rosewood, Taroom, Windorah, Woodford	
Wed 8/12/2010	Charleville	Sat 8/01/2011	Amberley, St George, Talwood, Taroom, Tiaro, Woolooga	
Thur 9/12/2010	Eulo, Surat, Thargomindah	Sun 9/01/2011	Goondiwindi, Grantham, Helidon, Imbil, Kenilworth, Mundubbera, Peachester, Thallon, Kilcoy	
Fri 10/12/2010	Hungerford, Theodore	Mon 10/01/2011	Boonah, Clifton, Bundaberg, Dalby, Esk, Toowoomba, Withcott, Helidon, Grantham, Gatton, Laidley, Kenilworth, Killarney, Mulgowie, Nobby, Stanthorpe, Woodford	
Sat 11/12/2010	St George	Tue 11/01/2011	Beaudesert, Boonah, Burpengary, Caboolture, Cherbourg, Fernvale, Forest Hills, Grantham, Gympie, Inglewood, Kilkivan, Kingaroy, Laidley, Mundubbera, Murgon, Nanango, Peachester, Rosewood, Stanthorpe, Warwick, Woodford, Miva	

FLOOD AFFECTED QLD CITIES/TOWNS DECEMBER 2010		FLOOD AFFECTED QLD CITIES/TOWNS JANUARY 2011	
Sun 12/12/2010	Moura, Pacific Haven	Wed 12/01/2011	Amberley, Chinchilla, Dalby, Dirranbandi, Flinton, Inglewood, Ipswich, Jindalee, Maryborough, Oakey, Texas, Tiaro, Jandowae
Mon 13/12/2010	Augathella, Baralaba, Gympie, Isisford, Mitchell, Quilpie, Roma, Windorah	Thur 13/01/2011	Brisbane City, Bundaberg
Tue 14/12/2010	Amberley, Quilpie, Yaamba	Fri 14/01/2011	Eidsvold, Goondiwindi
Wed 15/12/2010	Charleville, Rosewood, Thargomindah	Sat 15/01/2011	Windorah
Thur 16/12/2010	Eulo, Flinton, Helidon, Rockhampton	Sun 16/01/2011	Condamine Town, Hebel, Nindigully
Fri 17/12/2010	Amberley, Rosewood, St George, Theodore	Mon 17/01/2011	Flinton
Sat 18/12/2010		Tue 18/01/2011	Surat
Sun 19/12/2010	Cunnamulla, Helidon, Mitchell, Moura, Surat	Wed 19/01/2011	Bowen, Hughenden, Laidley
Mon 20/12/2010	Alpha, Amberley, Blackall, Dalby, Gatton, Gympie, Kenilworth, Peachester, Roma, Rosewood, Taroom, Windorah, Woodford	Thur 20/01/2011	Amberley, Rosewood
Tue 21/12/2010	Augathella, Baralaba, Eidsvold, Isisford, Mundubbera	Fri 21/01/2011	
Wed 22/12/2010	Brisbane City, Hungerford, Jindalee	Sat 22/01/2011	
Thur 23/12/2010	Charleville, Euramo, Gatton, Halifax, Ingham, Surat, Thargomindah	Sun 23/01/2011	St George
Fri 24/12/2010	Amberley, Bowen, Chinchilla, Gayndah, Isisford, Mundubbera, Rosewood	Mon 24/01/2011	
Sat 25/12/2010	Flinton, Gordonvale, Innisfail, Theodore	Tue 25/01/2011	Dirranbandi
Sun 26/12/2010	Euramo, Giru, Halifax, Helidon, Ingham, Cordelia, Macknade, Laidley, Mulgowie	Wed 26/01/2011	
Mon 27/12/2010	Ayr, Biloela, Dalby, Gatton, Helidon, Ipswich, Jambin, Killarney, Laidley, Mulgowie, Warwick, Wowan	Thur 27/01/2011	
Tue 28/12/2010	Alpha, Amberley, Chinchilla, Eidsvold, Gayndah, Inglewood, Ipswich, Jericho, Kowanyama, Moura, Mundubbera, Miles, Pacific Haven, Roma, Theodore, Rolleston	Fri 28/01/2011	

FLOOD AFFECTED QLD CITIES/TOWNS DECEMBER 2010		FLOOD AFFECTED QLD CITIES/TOWNS JANUARY 2011	
Wed 29/12/2010	Baralaba, Barcaldine, Cunnamulla, Flinton, Gympie, Mitchell, Monduran, Taroom	Sat 29/01/2011	Hebel
Thur 30/12/2010	Augathella, Blackall, Bundaberg, Goondiwindi	Sun 30/01/2011	
Fri 31/12/2010	Emerald	Mon 31/01/2011	Bowen, Cardowan

Note:

- City/Town names in red are when the flood peak was associated with significant effects, for example notable inundation above floor level or near levee overtopping.
- 2. The date shown is based on the time of the peak river height. Flood effects are likely to have occurred before and after the dates listed above
- 3. This list is based on the best information available at the Bureau as at 09/03/2011. There may be other towns that have been affected that are not on this list

3 Communications between the Bureau and disaster management

3.1 Q3.1 The Bureau of Meteorology and Disaster Management interface.

- [99] Note: In answering question 3, this Report focuses on the Bureau's emergency management procedures. Specific details relating to events in December 2010 and January 2011 are described in Sections 4, 5 and 6 of this Report.
- [100] The Bureau has a role in all aspects of Disaster Management including Planning, Preparation, Response and Recovery. These are summarised in Figure 3.1.1. In all phases, the Bureau (as a Commonwealth agency) works with state disaster managers, state agencies and local governments in order to provide the best possible meteorological and hydrological advice.

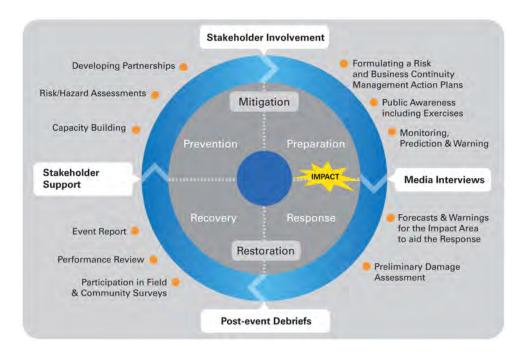


Figure 3.1.1 The role of the Bureau of Meteorology in Disaster Risk Management

3.1.1 Q3.1.1 Who was the responsible/point of contact in Bureau for personnel performing a role in a disaster management plan? e.g. Forecasting/Hydrology.

[101] The main interface between the Bureau and the disaster management agencies in Queensland is the Regional Director and his executive staff, underpinned by a team of operational meteorologists and hydrologists. This interaction is supported according to the situation by the full team of operational meteorologists and hydrologists involved in the warning and forecasting operations.

3.1.2 Q3.1.2 What were the communication/information flows?

- [102] The communication flows take the form of routine briefings as part of (for example):
 - pre-wet season awareness raising activities;
 - b. formal disaster exercises;
 - C. daily (and more frequent if required) briefings through teleconferences with disaster management agencies during critical periods;
 - d. live media crosses;
 - direct telephone communication with key client groups; and e.
 - f. the continual flow of warning and related information through the web, facsimile dissemination, emails, SMS messaging to selected emergency management personnel and recorded telephone services.
- [103] The targets for the information are the key stakeholders in the disaster management system. For Queensland this includes:
 - a. Emergency Management Queensland;
 - the Queensland Police Service; b.
 - local governments; C.
 - members of the State Disaster Coordination Group (SDCG); and d.
 - directors of key agencies, who are briefed at the State Disaster Management Group (SDMG).
- [104] In addition to the communication flows discussed above at paragraphs [101] to [103] of this Report, there is:
 - a dedicated telephone hotline between the Bureau's Flood and Tropical Cyclone Warning Centres and the State Disaster Coordination Centre to provide direct, secure, and rapid transfer of key information; and
 - a special email group that is available to share important information among and between Bureau and key clients.

The warnings are dispatched by fax and email automatically and directly to nominated disaster managers by the Bureau's computing and communication system.

- [105] The frequency of information dissemination varies to match the nature of the warning situation and the requirements of disaster managers. For example, the briefings given in relation to the Queensland wet season of 2010-11 are summarised in paragraphs [107] and [108]. This list shows that the frequency of briefings varied from several days in the pre-season awareness period to more than once a day during the peak of the event in January,
- [106] In the preparation phase of disaster management, the Bureau provides pre-season briefings to all levels of government and to the public. For the 2010-11 wet season the Bureau provided detailed briefing of a very wet La Niña season and record sea surface temperatures in the Coral Sea. The briefing said that it would feed extremely moist air masses over Queensland and potentially result in extensive flooding and above average tropical cyclone activity.

[107] Specific activities and briefings included:

- In the week commencing 7 June 2010, the Bureau participated in Exercise Poseidon which was organised by EMQ in association with the Far Northern District Disaster Management Group (DDMG) that covers the Far North Tropical Coast north of Ingham, and the numerous Local Disaster Management Groups (LDMG's) between Cooktown and Cardwell. The Bureau undertook significant work to prepare the scenario and exercise warnings.
- b. On 3 September, the Bureau gave a briefing to Minister Roberts, Queensland Minister for Community Safety, highlighting the potentially extreme seasonal outlook.
- C. In September 2010, the Bureau participated in two southwest Queensland flood workshops - Charleville (7 September) and St George (9 September) - involving representatives from state and local government, including a number of Mayors (A follow-up activity to the severe flooding in March 2010).
- In October 2010, the Bureau participated in the pre-season severe weather/flood and seasonal d. outlook workshops held in numerous locations around Queensland including Gympie, Kowanyana, Charters Towers, Innisfail, Mackay, Beenleigh, Gladstone and Rockhampton.
- e. Two routine State Disaster Management Group (SDMG) meetings on 12 October and 8 December.
- f. Two briefings of the Queensland Department of Premier and Cabinet (18 October and 5 January).
- g. During October-November 2010, the Bureau participated in meetings with state and local government agencies to develop a 'protocol for the communication of flooding information for the Brisbane River catchment, including flood water releases from Wivenhoe and Somerset Dams'.
- During October-November 2010, the Bureau participated in meetings with Seqwater and h. Brisbane City Council to discuss and refine technical capabilities and arrangements in flood prediction and warning for the Brisbane River.
- i. Between 1 and 3 November 2010, Exercise Orko was carried out and involved flood warnings for the area covering Toowoomba Regional Council and Lockyer Valley. The exercise was organised by Emergency Management Queensland in Toowoomba and was based around the scenario of a tropical cyclone coming ashore and causing flooding in the region. The Bureau providing "exercise" warnings commencing 28 October as a part of the exercise buildup. Severe Weather Warnings covering flash flooding and flood warnings were prepared by the Bureau for the exercise.
- In November 2010, upon request from EMQ, the Bureau prepared guidance material for j. rainfall amounts likely to cause severe riverine flooding and rainfall amounts likely to cause local and severe flash flooding in coastal areas from Maryborough to the NSW border. This information was used as the basis for a flood preparation seminar that was delivered on 6 December 2010 and attended by Seqwater and local governments. (The Bureau was unable to attend due to the significant flood warning operations at the time.)
- k. November 2010: Meeting between Bureau and ABC Radio Content Managers (managers from all areas of Queensland) and specially requested briefing to Suncorp insurance group.
- ١. December 2010: Meeting & presentation to ABC Radio Brisbane (managers & broadcasters/ hosts) and specially requested briefing to Energex. The Bureau also presented at the Institute of Public Administration Australia's seminar "Disaster Management Systems in Queensland" where the seasonal outlook message was stressed.
- m. Fourteen extraordinary SDMG (State Disaster Management Group) Meetings. (The Prime Minister was briefed at 2 of these meetings and the Premier at the majority of meetings).
- Twenty-eight extraordinary State Disaster Coordination Group (SDCG) Teleconferences. n.
- Three routine State Disaster Coordination Group (SDCG) Meetings. 0.
- One routine Brisbane LDMG (Local Disaster Management Group) Meeting on 28 October (chaired by Lord Mayor Newman).

- q. Four extraordinary Brisbane LDMG meetings on 11, 13, 19 and 20 January (with the Honourable Queensland Deputy Premier Lucas, the Honourable Queensland Treasurer Fraser and the Honourable Leader of the Federal Opposition Abbott present at various times)
- [108] During the floods, the RFC and FWC received numerous ad hoc telephone requests for elaboration on forecasts and warnings issued. The FWC also provided direct briefings and advice to agencies detailed in Appendix J.

3.1.3 Q3.1.3 How was the information disseminated?

[109] As outlined in paragraphs [102] and [104] of this Report, information relating to forecasts and warnings is disseminated in a variety of means including web, email, telephone, fax, radio, special briefings, SMS.

3.1.4 O3.1.4 When was the information disseminated?

- [110] Forecast and warning information is disseminated and updated on a regular basis depending on its importance and the requirements of users, as well as whenever thresholds for amendments are met.
- [111] When a Severe Weather Warning is issued, it is updated at least every six hours and sooner if there is significant change during that period. Additional information is also provided to emergency services throughout the validity period of the warning.
- [112] Severe Thunderstorm Warnings are issued when required and updated every three hours, or more frequently for southeast Queensland warnings.
- [113] Flood warnings are issued for each river basin when required, and updated at least daily and more frequently (for example, 3 to 6 hours) for more serious flooding and when flood conditions are changing. Other flood warning products are also provided publicly (e.g. through the web, recorded phone services, the media and many other agencies involved in disaster management operations) as well as regular (updated hourly and more frequently in some cases) consolidated reports of hydrologic data (rainfall and water level) through the Bureau web pages.
- [114] Similarly, the media has access to most of the Bureau's information for use in regular public broadcasts. Additional reports specially tailored to suit radio broadcasts are sent directly to the media. The ABC has special arrangements with the Bureau to invoke special broadcasts during significant crisis. Supplementing this, Bureau officials are frequently engaged in direct media crosses aimed at communicating key information to the public.
- [115] During the flood events across Queensland flood and weather information was updated regularly (hourly in some cases) throughout the event and was continuously available on the web as well as (on-demand) through telephone weather services.

3.1.5 Q3.1.5 To whom was the information disseminated?

[116] As paragraphs [101] to [103] of this Report outline, the Bureau engages with a broad range of agencies whilst fulfilling its role in the planning, preparation, response and recovery to significant weather related events. Figure 3.1.5.1 shows a graphical representation of the range of agencies that the Bureau regularly provides information and briefings.



Figure 3.1.5.1 Range of agencies and organisations that receive Bureau information and briefings

It can be seen from Figure 3.1.5.1 that the Bureau provides information and briefings to the general public through two major avenues: the Bureau's web site and the media. The web site has developed significantly in recent years and, as demonstrated through regular public surveys, is now a major source of information for members of the public in making everyday decisions (including those related to flooding, tropical cyclones). Figure 3.1.5.2 demonstrates the extraordinary use of the Bureau's web site by the public, especially during major weather event. Indeed, for the December 2010 to January 2011 period, the Bureau website received over 9.4 billion hits. The information is extensive and includes climate information, weather forecasts and warnings, radar displays, flood forecasts and warnings and background information on catchments. During the period the Bureau provided a special link on its front page to assist users. The system was 100% operational during that period. For those who do not have access, the Bureau provides regularly updated telephone recordings as well as dissemination to media outlets for TV, Radio etc.

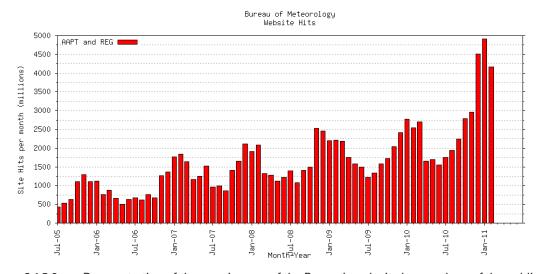


Figure 3.1.5.2 Demonstration of the growing use of the Bureau's web site by members of the public, especially during major events such as the December 2010 and January 2011 events.

3.1.6 Q3.1.6 What access was provided to the Bureau by individual stakeholders down the disaster management chain, e.g. DDCs, LDCs, etc.

[118] The Bureau actively enables direct telephone contact into the Bureau by disaster managers at all levels operating in the state system. Email can also be used to communicate with the Bureau (for example, flood.gld@bom.gov.au connects to the Flood Warning Centre). The Bureau's website is updated regularly with relevant information for managers. There is also a dedicated telephone for use for direct communication between the Bureau and the SDCC watch desk. The Bureau also participates in formal teleconference briefings at the state level and, for some areas, at the local level, in meetings of the local disaster management groups.

3.1.7 Q3.1.7 What regular updates or trigger points were provided to alert particular stakeholders?

- [119] In addition to regular updates of forecasts and warnings though normal promulgation channels, as well as teleconferences and media reports, triggers for providing alerts and updating information flows to stakeholders are based on the river levels exceeding predetermined threshold levels of flooding based on previous events, and response agency advice of important impacts.
- [120] Categories of flooding (minor, moderate, major) are used in warnings to indicate the significance of predicted flood levels which initiates responses appropriate to each category. Paragraph [89] of this Report defines those categories.
- [121] When severe weather or severe thunderstorm warnings are issued or amended, it is routine practice to ring the State Disaster Coordination Centre to alert them to those amendments.
- [122] Specific details relating to thresholds for updating or amending warnings and forecasts are included in Sections 4, 5 and 6 of this Report.

3.1.8 Q3.1.8 Were there any communications logistics/problems in the provision of the information?

- [123] The Bureau works hard to ensure the effectiveness of our services even during high operational periods. There were no significant technical communication problems evident in the transmission of essential information flows during the flood events in December 2010-January 2011. While some incoming phone calls on the morning of the 13 January 2011 were disrupted, the backup analogue telephone connections (retained for this purpose) continued to function. Outgoing phone lines continued to work throughout.
- [124] An important component of the Bureau's planning and preparation is the Business Continuity Management (BCM) and the associated contingency planning, which came into play during the Queensland events. The Bureau has a formal BCM process for its national operations and its State based operations. These were activated during the Queensland floods (as well as the NSW and Victorian floods over similar timeframes). In particular, with reference to Queensland, where the majority of additional support was provided from other national, state and territory offices, the following was undertaken:

- Internet and web based services had available back up from the Disaster Recovery Centre in Canberra. During the period the system was 100% operational;
- Networks of instrumentation had redundancy in communication protocols (ie, an alternative b. and back-up technology by which to transmit data) such as satellite, 3G, VHF and PSTN;
- Forecasts and warnings provided through a range of channels, including web, Fax, Recorded C. telephone, radio, free to air and pay TV, media interviews by operational staff, via State Emergency liaison, via VHF and HF marine broadcasting;
- d. Flying squad arrangements where interstate meteorologist, hydrologist and communications staff (who have prior familiarisation with Queensland operations) are flown in to assist during significant events and peak periods; and
- Additional ICT support from Melbourne and Brisbane.
- [125] The Bureau also had in place contingency planning in the event that the Brisbane office was inundated or had power blackouts. This planning included UPS (Uninterrupted Power Supply) and special generator capability and transfer of operations, as a third level of redundancy, to other state offices or temporary accommodation.
- [126] Through the BCM process outlined in paragraph [124]d of this Report, staffing was supplemented from Head Office and other offices by several additional operational staff during peak periods. Bureau Executive members (from Melbourne and Canberra) also attended during periods to assist with support arrangements.

3.2 Bureau of Meteorology Interface with Public

3.2.1 Q3.2.1 What information was provided by Bureau to the Public?

- [127] The Bureau takes its role to provide information to the public very seriously. During pre-season planning, the Bureau contributes regularly to campaigns aimed at raising awareness of the community to dangers of flooding. Such campaigns are led by state or local government agencies or by Emergency Management Australia.
- [128] The list of services provided to the public are described above in Section 1.2 of this Report, and include weather and flood forecasting and warnings. The Bureau also provides to the public media interviews, radar loops and other observations, model data and public education material brochures for phenomena and warnings.
- [129] During the Queensland flood events, the public were provided with all weather and flood warning products as well as regular (updated hourly and more frequently in some cases) consolidated reports of hydrologic data (rainfall and water level) through the Bureau web pages.
- [130] Similarly, the media has access to most of the Bureau's information for use in regular public broadcasts. Additional reports specially tailored to suit radio broadcasts are sent directly to the media. The ABC has special arrangements to enable emergency broadcasts during significant crisis. Supporting this, Bureau officials are frequently engaged in direct media crosses aimed at communicating key information to the public.
- [131] A list of the warnings issued during the period 9 to 12 January is included in Appendix C.
- [132] Specifically, the community received warning of heavy rain and thunderstorms conducive to flash flooding across the region well ahead of the flooding occurring. As outlined at paragraph [31] of this Report, the Bureau's role concerning flood warnings does not extend to forecasting flash flooding in specific locations or individual creeks.

- 3.3 Q3.3 In relation to the information provided to the public and to personnel performing a role in a disaster management plan, what is Bureau's assessment in relation to the accuracy, timeliness and meaningfulness of that information?
- [133] The Bureau's forecast and warning services were generally timely, meaningful, effective and accurate. The Bureau provided important advice to the community and emergency management agencies before, during and after events. The complete mitigation of damage from flooding is impossible in Australia. However, with cooperation between all levels of government and affected communities, improvements can be made. The Bureau will continue its close involvement in this process.

4 Lockyer Valley – Disaster Management

- [134] The events that led to the serious flash flooding over Toowoomba and the Lockyer Valley were the result of a complex interaction between thunderstorms, the atmosphere and the catchment physiography. The rainfall rates assessed beneath these storms were not by themselves unique over the 3 day period of 10 to 12 January, but their location and the very wet state of the catchments in these areas exacerbated the impact of the ensuing flooding.
- 4.1 Q4.1 Was there a regular form of communication in place between a Bureau representative and local government or disaster management people in Toowoomba or the Lockyer in December 2010/January 2011? If so, how did it work?
- [135] In severe weather and flooding events, the Bureau would not generally have any direct contact with Toowoomba Regional Council and Lockyer Valley Regional Council unless Council officers telephoned the Bureau to seek further specific advice regarding their area.
- [136] Consistent with this, during December 2010 and January 2011, there was no regular form of direct communication specifically with the Councils. These Councils, however, may have participated in the regular disaster management teleconferences with the State Disaster Coordination Centre (SDCC) at which the Bureau provides meteorological and hydrological briefings as described in Section 3 of this Report. The local governments may also have participated in State Disaster Management Group (SDMG) meetings at which the Bureau also provides briefings.
- [137] The Bureau automatically distributes a pre-agreed list of forecast and warning products to these Councils according to pre-defined distribution lists, as follows:

Table 4.1.1 Bureau products normally received by Toowoomba Regional Council

WARNING/INFORMATION PRODUCT	COMMUNICATION
Information Bulletin to all clients	Email
Severe Weather Warning	Email
Fire Weather Warning	Email
Severe Thunderstorm Warning - SE Qld	Email
Severe Thunderstorm Warning – Old	Email
Flood Warning for Condamine Balonne	Email
Queensland Flood Warning Summary	Email
3 hourly River Height Bulletin for Condamine Balonne	Email

Table 4.1.2: Bureau products sent to Lockyer Valley Regional Council

WARNING/INFORMATION PRODUCT	COMMUNICATION
Tsunami Warning	Email and Fax
Tropical Cyclone Advice (warnings)	Email and Fax
Information Bulletin to all clients	Email and Fax
Flood Warning: Coastal rivers south of Maryborough	Email and Fax
Queensland Flood Warning Summary	Email and Fax
3 hourly River Height Bulletin for Brisbane, Bremer etc	Email and Fax

- [138] There was no regular form of direct communication with the Disaster District Coordinator based in Toowoomba or with the Emergency Management Queensland area office based in Toowoomba. These coordinators would be engaged in the usual manner via the SDCC teleconferences and SDMG meetings and would telephone the Bureau for additional advice as required.
- [139] The Bureau maintains lists of contact points where applicable for disaster management agencies and local governments to allow for direct telephone communication as required. They are also especially useful in relation to collaborative activities in the preparation and prevention stages.

4.2 Q4.2 Was there a Bureau employee nominated for this particular area? If so, what is that person's name and contact details?

- [140] There is not a nominated Bureau employee who was responsible for the Toowoomba and Lockyer Valley area or catchment. The Bureau's provision of forecast and warning services involves a roster of operational staff covering the whole or parts of Queensland according to the specific functions and the individual forecasting and warning requirements at the time.
- [141] During busy situations in the FWC, the shift manager (ie, Duty FWC Engineer/Hydrologist) generally allocates specific warnings/river basins to hydrologists according to the workload and the priority/severity of the floods in particular catchments.
- [142] Similarly, for weather forecasting in the RFC, the senior forecaster manages the allocation of resources.

5 Lockyer Valley Specific Issues: Warning, Forecasting and Modelling

5.1 What forms of warning were available to the Bureau to alert residents of the Lockyer Valley?

In terms of weather forecasts and Severe Weather Warnings, the Bureau subdivides Queensland into 17 districts and provides updates twice daily. The Lockyer Valley is part of the Southeast Coast district (see Figure 5.1.1). The Southeast Coast forecast includes a brief weather forecast for the next four days, with additional detail (including maximum and minimum temperature forecasts) for the next seven days for Ipswich, the Gold Coast and the Sunshine Coast.

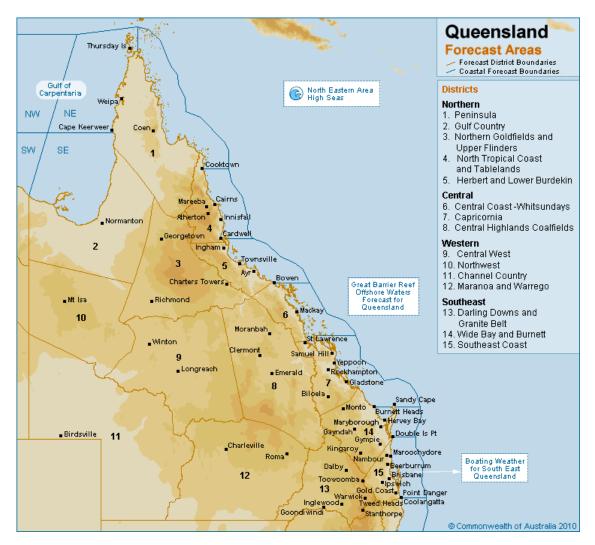


Figure 5.1 Queensland Forecast Area Map showing Forecast District Boundaries

- [144] The Bureau also conducts scheduled interviews with many radio stations, and endeavours to provide comment to radio, newspaper and online media on request subject to operational workloads. Scheduled radio interviews are routinely held with Toowoomba based radio stations 4DDB, 4WK, 4GR and ABC Local Radio. Interviews with Brisbane based radio stations may also be received in the Lockyer Valley.
- [145] Warnings are issued to the public, emergency services and other organisations via the Bureau's website and relayed via other web providers. The Bureau also distributes these warnings to a defined list of recipients which typically includes a selection of relevant disaster and emergency management agencies, other State and Local Government agencies, water agencies and media (radio, television, newspaper, and web). Distribution is via email, fax, computer links and (on request) to emergency management personnel via SMS.
- [146] Available warnings are described in Section 5.1.1 to 5.1.5.

5.1.1 Severe Weather Warnings and Severe Thunderstorm Warnings

- [147] Severe weather warnings are issued when one or more of the criteria in Table 5.1.1 are met and:
 - severe weather is expected to affect land-based communities within 6-24 hours;
 - it is not directly the result of severe thunderstorms; and
 - it is not covered by tropical cyclone or fire weather warnings which are covered by other warnings.
- [148] Table 5.1.1 below details the criteria for issuing severe weather or severe thunderstorm warnings.

Table 5.1.1 Criteria for issuing severe weather or severe thunderstorm warnings

PHENOMENON	SEVERE THUNDERSTORM WARNING	SEVERE WEATHER WARNING
Wind (Gusts)	Gusts 90km/h or more	Gusts 90km/h or more
Wind (Average)		Widespread winds over land of 63km/h or more (Gale force)
Tornado	All tornados	
Blizzard		Widespread blizzards in Alpine areas
Flash Flood	Heavy Rainfall that is conducive to flash flooding or a reported flash flood	Heavy Rainfall that is conducive to flash flooding or a reported flash flood
Large Hail	Hail with diameter of at least 2cm (size of \$2 coin)	
Storm Tide		Abnormally high tides caused by winds (expected to exceed highest astronomical tide)
Large Waves		Unusually large surf waves expected to cause dangerous conditions on the coast (dependent on location - but generally surf exceeding 5 m, less in the tropics). Large surf is commonplace in SA, Vic and Tas, so warnings are only issued there for extreme events.

- [149] Note that with regard to flash flooding these warnings identify areas under threat of heavy rain that may lead to flash flooding, and do not attempt to forecast specifics of any ensuing flash flooding or to provide detailed information on the likely downstream impact areas. As outlined in paragraph [31] of this Report, this is the role of other government agencies. However reports received of flash flooding may be included in, and relayed to the public through, these warnings.
- [150] While the threat remains, a Severe Weather Warning will usually be issued every six hours, however the more frequent warnings may be issued in some rapidly changing situations or in serious circumstances.
- [151] Copies of the Severe Weather Warnings issued during December 2010 and January 2011 are contained in Appendix B.

5.1.2 Severe Thunderstorm Warnings

- [152] Severe Thunderstorm Warnings are issued by the Bureau to alert communities of the threat of the dangerous thunderstorms when the criteria in Table 5.1.1 above are met. A Severe Thunderstorm Warning is issued:
 - a. When a severe thunderstorm is reported, or there is strong evidence of a severe thunderstorm, and it is expected to persist, or
 - b. when existing thunderstorms are likely to develop into a severe thunderstorm.
- [153] Severe thunderstorms can be quite localised and develop quickly leading to difficulties in determining the exact location of their formation. The warnings are usually issued without much lead-time. To try and issue warnings with a greater lead-time would lead to an increase in false alarms, thus rendering the service ineffective.
- [154] The Bureau implemented further changes to the format of Severe Thunderstorm Warnings issued for southeast Queensland in 2008. The main change was the use of Local Government Areas (LGAs) as the spatial subdivision rather than the Bureau's standard forecast districts.
- [155] While the threat remains, a Severe Thunderstorm Warning will usually be issued every three hours, however the more detailed southeast Queensland warnings may be issued every 30-60 minutes.
- [156] It is rare for Severe Weather Warnings and Severe Thunderstorm Warnings to be issued concurrently for the same area. The practicality of maintaining clear and concise messages generally leads the Bureau to opt for simplicity of message. One situation where they will be issued concurrently is where the severe thunderstorms are expected to produce additional phenomena such as large hailstones or damaging winds.
- [157] Copies of severe thunderstorm warnings issued during January 2011 in Queensland are contained in Appendix C.

5.1.3 Flood Warnings

- [158] Flood warnings are issued for the Brisbane River basin which includes the Stanley and upper Brisbane, Lockyer Creek, Warrill Creek, Bremer River and lower Brisbane River below Wivenhoe Dam. Warnings typically include information regarding the observed or expected flood conditions (mostly in descriptive terms of minor, moderate and major flooding) in one or more of the major Brisbane River tributaries or subcatchments, including the Lockyer Creek system at times. Predicted river heights at specific locations may also be provided in the Flood Warning. A list of latest river heights for selected stations is also provided within the body of the warning.
- [159] The criteria for issuing flood warnings are described in the warning procedures for the Brisbane/
 Bremer River basin and state that "Flood Warnings are to be issued whenever any key river height
 station is expected to exceed, or exceeds, the moderate flood level in the upper catchment and
 tributaries, or minor flood level in lower areas around Brisbane and Ipswich Cities."
- [160] Copies of flood warnings issued during the 2010-11 Queensland wet season are contained in Appendix D.

5.1.4 Threshold Based River Height Bulletins

- Threshold based River Height Bulletins (RHBs) are issued by the Bureau as a part of the flood warning system in Queensland. RHBs are a list of flood warning stations and their latest river height and where available, additional information relating to a bridge, road, lake or spillway level. During rain-flood periods, RHBs are automatically issued every 3 hours where the water level at any one of the stations on the list has exceeded a pre-set threshold height. River heights (water levels) for Lockyer Creek are contained in the "River Height Bulletin for Brisbane, Pine, Caboolture Rivers and tributaries."
- [162] Each RHB is distributed to a defined list of recipients which typically includes a selection of relevant State and Local Government agencies, disaster management agencies, water agencies, and media (radio, television, newspaper). Distribution is via email, fax and computer links.
- [163] All RHB issued during 2010/11 flood season are archived in the Bureau computer systems and can be made available. Almost 5,000 threshold based river height bulletins were issued during the 2 month period, and each bulletin contains lists of river height stations exceeding threshold levels and is distributed to multiple recipients via fax, email and computer links
- Depending on the product type, updates for river heights and latest rainfall are also produced every 15 to 60 minutes, and published on the Bureau's website as soon as the information becomes available to the Bureau. Although the updating occurs every 15 to 60 minutes, individual station data will only be refreshed when new information is received by the Bureau. The frequency of data receipt depends on the type of field station varying from daily reporting only, to three-hourly telephone-based automatic stations, to continuous real-time updating from ALERT type stations.

5.1.5 Standard Emergency Warning Signal (SEWS)

- In 1999 an agreement was reached between all states and territories on the need for the Standard Emergency Warning Signal (SEWS) to assist in the delivery of public warnings and messages for major emergency events. The Assistant Director-General of EMQ is responsible for coordinating and managing polices dealing with the use of SEWS. The Bureau's Queensland Regional Director (or delegate) is one of a number of nominated initiating authorities, for the use of the SEWS for intense rainfall leading to flash flooding (1 to 6 hour rainfall > 50 Year Average Recurrence Interval (ARI)) or major flood, flash flood and//or dam break or for other significant weather events only. (For more information on ARI see Appendix K) In determining the use of the audio signal the following four factors should be present:
 - Potential for loss of life and/or a major threat to a significant number of properties or the environment;
 - b. A significant number of people need to be warned;
 - c. The impact is expected within 12 hours or is occurring at the time; and
 - d. One or more of the phenomena are classified as "destructive".
- [166] The Bureau's Flood Warning Centre directed broadcasters to use the SEWS for the extraordinary flash flood warnings in the Lockyer creek area at 5:00 pm and 8:37 pm 10 January and the flash flood warning was finalised at 7:27 am on 11 January.
- [167] The SEWS was also used on Severe Weather Warnings from 8:00 am Tuesday 11 January 2011 until the warning was cancelled at 10:00 pm EST on 11 January 2011.

- [168] Flood warnings for the Lockyer, Bremer, Warrill and Brisbane River below Wivenhoe including Brisbane City required broadcasters to use the SEWS from 8:05 pm on 11 until 3:52 am on 13 January 2011.
- 5.2 Q5.2 There were 'flood warnings' for the Lockyer Valley on 23 December 2010 were these warnings provided by Bureau? If so how and to whom were they distributed?
- There were no flood warnings for the Lockyer Valley issued by the Bureau on 23 December 2010. Water levels were at a relatively low level until some minor flood levels were reached in Laidley Creek and Lockyer Creek around Gatton after about 3.00 pm that day.
- [170] River Height Bulletins containing latest heights for Laidley Creek and Lockyer Creek were issued on 23 December at these times:
 - a. 12:31 pm; included Laidley Creek at Showground Weir;
 - b. 3:30 pm; included Showground Weir and Lockyer Creek at Gatton;
 - c. 6:31 pm; included Gatton, Showground Weir, Warrego Highway and Glenore Grove; and
 - d. 9:31 pm; included Gatton, Warrego Highway and Glenore Grove.
- [171] A Queensland Flood Summary was issued at 7:51 pm Thursday 23 December which contained additional information as follows: "Brisbane River: Minor flooding at Gatton along Lockyer Creek and at Harrisville along Warrill Creek."
- [172] At 12:45 pm Thursday 23 December, a severe weather warning was issued for rainfall with locally moderate to heavy falls and potential for flooding over a broad area of Queensland from the Gulf of Carpentaria to Southeast Queensland and parts of Cape York Peninsula. The warning was reissued every 6 hours until December 28.
- 5.2.1 Flood warnings for Lockyer Valley at other times in December 2010
- [173] Flood warnings covering the Lockyer Valley were issued four times on 5 December; then six were issued between 19 December and 22 December, the final one of the six being issued at 9:14 am on Wednesday 22 December.
- [174] At 7:57 pm Sunday 26 December, a 'Priority Flood Warning for coastal streams from Bundaberg to the NSW border including adjacent inland streams' was issued which included specific mention of Lockyer Creek.
- [175] Flood warnings for Lockyer Creek then followed from 5:19 am Monday 27 December and continued until Thursday 30 December.
- 5.3 Q5.3 What warnings were provided by Bureau for the Lockyer Valley on 10 January 2011? How, to whom and at what times were they distributed?
- [176] In the days leading up to Monday 10 January, Bureau forecasters were involved in numerous media interviews and briefings to emergency services outlining a deteriorating situation. The Bureau had already heightened awareness in the community through riverine flood warnings and severe weather warnings for parts of Queensland. From Sunday 5 January 2011, severe weather warnings were being issued for the southeast coast district (that includes the Lockyer Valley area) and they were updated regularly, warning the community about very heavy rain and thunderstorms which may lead to localised flash flooding and/or worsen existing river flooding.

- [177] On 10 January the Bureau continued to issue flood warnings, river height bulletins and severe weather warnings for heavy rainfall leading to flash flooding. These were issued both at regular times and at unscheduled times as the events unfolded. See table 5.3.1 for details.
- [178] The warnings and bulletins were transmitted by several communications channels including:
 - Fax
 - Email
 - CMSS Computer Message Switching System FTP or direct electronic transfer to an external agency computer
 - SMS to some individual disaster management personnel
 - Products available on the internet (www.bom.gov.au) and via FTP to Bureau anonymous FTP server.
- [179] The Bureau Product ID and warning title for products covering the Lockyer Valley on 10 January 2011 were:
 - IDQ60140 River Height Bulletin for Brisbane, Pine, Caboolture Rivers and tributaries
 - IDQ20805 Flood Warning for Lower Brisbane
 - IDQ20032 Severe Weather Warning 1
 - IDQ20780 Flood Warning For Coastal Streams From Maryborough To The NSW Border
 - IDQ20885 Queensland Flood Summary
- [180] Table 5.3.1 is a table of warnings issued by the Bureau on 10 January 2011 that covered the Lockyer Valley area. Copies of the full text of the warnings are available in Appendix L.

Table 5.6.1 Rainfall and Water Level Commentary

DATE	TIME	PRODUCT ID	HEADER
Monday 10 January 2011	12:30 AM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	12:36 AM	IDQ20805	FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE Issued at 12:36 AM on Monday the 10th of January 2011
Monday 10 January 2011	3:31 AM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	5:00 AM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 5:00 am on Monday 10 January 2011
Monday 10 January 2011	6:30 AM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	9:19 AM	IDQ20780	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER Issued at 9:19 AM on Monday the 10th of January 2011
Monday 10 January 2011	9:30 AM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries

DATE	TIME	PRODUCT ID	HEADER
Monday 10 January 2011	10:28 AM	IDQ20805	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE Issued at 10:28 AM on Monday the 10th of January 2011
Monday 10 January 2011	11:00 AM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:00 am on Monday 10 January 2011
Monday 10 January 2011	11:05 AM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:05 am on Monday 10 January 2011
Monday 10 January 2011	11:40 AM	IDQ20885	Flood Summary Issued at 11:40 AM on Monday the 10th of January 2011
Monday 10 January 2011	12:30 PM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	3:30 PM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	4:16 PM	IDQ20805	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:16 PM on Monday the 10th of January 2011
Monday 10 January 2011	5:00 PM	IDQ20780	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 5:00 PM on Monday the 10th of January 2011
Monday 10 January 2011	5:05 PM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 5:05 pm on Monday 10 January 2011
Monday 10 January 2011	6:12 PM	IDQ20805	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 6:12 PM on Monday the 10th of January 2011
Monday 10 January 2011	6:30 PM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts. Issued at 6:30 pm on Monday 10 January 2011

DATE	TIME	PRODUCT ID	HEADER
Monday 10 January 2011	6:30 PM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	7:50 PM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 7:50 pm on Monday 10 January 2011
Monday 10 January 2011	8:37 PM	IDQ20780	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 8:37 PM on Monday the 10th of January 2011
Monday 10 January 2011	9:30 PM	IDQ60140	RIVER HEIGHT BULLETIN for Brisbane, Pine, Caboolture Rivers and tributaries
Monday 10 January 2011	9:44 PM	IDQ20805	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 9:44 PM on Monday the 10th of January 2011
Monday 10 January 2011	11:00 PM	IDQ20032	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 11:00 pm on Monday 10 January 2011

- [181] These warnings and river height bulletins were provided directly to an extensive list of over 300 users ranging from local councils in the area, radio and television stations in the area, emergency services organisations (and their regional centres) in the area, private weather companies and utility companies in the area.
- [182] At 1:00 pm on 10 January 2011 the Bureau contacted the SDCC Watch Desk to inform them of exceptionally heavy rainfall west of Wivenhoe and that 75 mm had been recorded at Redbank Creek over the last hour. The Bureau also noted that the really heavy rainfall had moved over the Toowoomba town area with expected flash flooding over the next hour or two. See Section 6.8.
- 5.4 Q5.4 Media reports indicate that on 10 January 2011, the Helidon flood gauge produced a reading of 5.2 m and that at Gatton 18.92 m, before each was washed away. Is this correct?
- [183] The media were reporting information from river gauge stations that were later known to have failed during the flooding. Subsequent field visits and analysis of data provided information about the actual levels that were reached at Helidon and Gatton on 10 January. This information is detailed below.

5.4.1 Lockyer Creek at Helidon

[184] At Helidon, two water level readings, from equipment co-located at the same installation, are available to the Bureau:

HelidonTM: Readings of water level from the DERM gauging station are communicated via direct telephone polling by the Bureau and via computer transfer from DERM to the Bureau. This station gave a highest reading of 12.66 m for 2.50 pm and then no further reports were received.

Helidon AL: Readings of water level from the Seqwater 'ALERT' station are communicated via VHF radio telemetry to the Bureau and Seqwater. This station gave a highest reading of 12.74 m at 2:53 pm and then several readings which suggested that the water level had peaked at about this level. (In the weeks after the flood, it was learnt from DERM that higher water levels had been reached which had inundated the monitoring station.) The station then stopped reporting for about 2.5 hours and then began reporting incorrectly.

- [185] Paragraph [199]c of this Report provides more detail on the way that the Bureau's computer system received these readings.
- [186] Both the Helidon TM gauge and the Helidon AL gauge had failed at the time of the very fast creek rises. Some weeks later DERM advised that the Helidon station had been completely inundated by flood waters. DERM advised that the Helidon flood peak has been surveyed at 13.88m and estimated to have occurred at 3.10 pm on 10 January 2011. Flood peaks surveyed after a flood are generally taken from flood debris and flood "high tide" lines.
- [187] The 2011 flood peak of about 13.88 metres is more than 6 metres higher than the previous record of 7.55 metres recorded in the January 1974 flood.

5.4.2 Lockyer Creek at Gatton

[188] At Gatton, two water level readings from different locations (i.e. readings that are not directly comparable), were available to the Bureau.

GattonTM: Readings of water level from the Seqwater station are communicated via direct telephone polling by the Bureau. This station gave a highest reading of 13.87 m for 6:40 pm before reporting a sudden (later found to be erroneous) drop in water level.

Gatton AL: Readings of water level from the Seqwater 'ALERT' station are communicated via VHF radio telemetry to the Bureau and Seqwater. This station gave a highest (later found to be erroneous) reading of 18.92 m at 6:27 pm before the station failed.

These readings were later found to be erroneous by undertaking post-flood visits and confirming the actual peak flood level by inspection and from information received from local landholders.

- The Lockyer flash flood on Monday 10 January did not cause the highest flooding of the event at Gatton and downstream. Higher flood levels were experienced at Gatton on the following day, Tuesday 11 January, due to further heavy rainfall in the Lockyer-Laidley valley. A post flood survey indicates a 2011 flood peak of 15.38 metres (for Tuesday 11) at the original manual reporting flood warning station which has a long history of recorded flood peaks. The 2011 flood of 15.38 metres compares with a 1974 flood peak of 14.63 metres. The highest recorded flood at Gatton is 16.33 metres in 1893.
- [190] Based on a re-construction of flood data, it is likely that the 'flash' flood peak at Gatton on Monday 10 January occurred at about 8 pm and it is estimated that it was about one metre lower than the peak recorded the following day.

5.5 Q5.5 If there was a marked spike in the reading at Helidon, why did it not cause the Bureau to issue warnings for locations further down the Lockyer Valley?

- [191] Monitoring of observational data by weather and flood forecasters takes place with the Bureau's core services in mind. River gauges are not generally monitored to detect flash floods. Our automatic systems do collect and publish the data with thresholds based river height bulletins issued automatically every 3 hours via fax and email and river height data as maps, tables and plots updated on the Bureau website every 15 to 30 minutes. Section 4, at page 17 of the Bureau's Preliminary Report outlines the way in which the Bureau's River Height Bulletins are automatically updated. While the River Height Bulletins are automatically updated three-hourly, some automatic and manual river height stations may not report within every three-hour time period. The result is that some River Height Bulletins may display information that has not been updated for more than three hours. Section 5.1.4 of this Report outlines the threshold-based river height bulletins that the Bureau provides.
- [192] As outlined at paragraph [31], the Bureau monitors river catchments and provides forecasts and warnings for those river systems; however it does not routinely issue flash flood warnings for specific locations or individual creeks.
- [193] The flash flooding generated in the headwaters of Lockyer Creek was severe and had devastating impact. The following summarises the Bureau's involvement in monitoring, detecting, forecasting and reporting on this event.
 - The Bureau's chief priority for flood monitoring, forecasting and warning in the Brisbane catchment is the lower Brisbane River, with Moggill being the most upstream station for which river height predictions are required.
 - In the early afternoon of January 10, the Bureau concluded that the conditions were giving rise to the most severe flooding in the Brisbane Valley since 1974. At this point more of the Bureau's attention was required to estimate potential flooding levels in the lower Brisbane and Bremer Rivers, giving rise to intense activity in the FWC and very active dialogue with stakeholders, notably the dam operator and the City Councils of Brisbane and Ipswich.
 - The Bureau collects and publishes (in near-real-time) a large amount of river height data obtained from other agencies, including for sites in the headwaters of catchments draining to agreed forecast locations. However, the Bureau actively monitors a subset of that information that is salient to its forecasting and warning process for those agreed (lower-catchment) locations where the rain to flood times are greater than six hours.
 - The Helidon TM and Helidon AL river height gauges are examples of such headwater stations that are operated by other agencies for purposes other than flood warning. In these cases the data is collected for water resource and dam operations, by DERM and Seqwater respectively. The Bureau collects and publishes this data, and ultimately uses it for forecasting flows in the lower catchment.
 - The Bureau does not have the systems, capacity or detailed local knowledge to provide a flash flood service for the many thousands of headwater valleys across Australia.
 - Nevertheless, by collecting and publishing on the web in near-real-time the Helidon gauge (and similar) data and by issuing automated threshold-based river height bulletins, the Bureau provides valuable information for stakeholders.

- [194] On the afternoon of Monday 10 January, in response to the rapid stream rises being registered on automatic water level gauges at Helidon, as soon as those readings were recognised by the FWC, the Bureau took steps to verify the data and issue additional warnings for the community located downstream.
- The Bureau's Flood Warning Centre created an extraordinary "Flash Flood Warning" using the Warning for Coastal Streams from Maryborough to the NSW Border as a template. It was retitled and the content changed to become a top priority flash flood warning for Lockyer Creek. Broadcasters were requested to use the Standard Emergency Warning Signal (SEWS). This flash flood warning was first issued at 5:00 pm Monday, approximately 2 hours ahead of the arrival of the flood peak at Gatton. It was and subsequently updated and re-issued at 8:37 pm and on Tuesday at 12:19 am, 4:10 am and 7:27 am.
- [196] The Bureau's Flood Warning Centre also notified the Queensland State Disaster Coordination Centre by telephone at around 4.50 pm that the extreme flash flooding was expected to rapidly extend though the Lockyer Valley system to the Gatton area.
- [197] By 5 pm Monday, the time of the first flash flood warning, the leading edge of the flash flood waters had passed Grantham and was approaching the Gatton area. The purpose of the flash flood warnings was to provide warning for locations downstream along Lockyer Creek. For example, the top priority warning issued at 5:00 pm advised:

"Very heavy rainfalls have been recorded in the Toowoomba area and caused extreme flash flooding. This rainfall is also causing extreme rises in the upper Lockyer Creek at Helidon with very fast and dangerous rises possible downstream at Gatton in the next few hours. Rises will extend downstream of Gatton during tonight."

[198] It should be noted that the Bureau does not have information regarding the flood impacts associated with flood levels at Helidon, Sandy Creek Road near Grantham, or Gatton, apart from the flood classifications (level of minor, moderate, major flood), road crossing information where relevant and available past flood heights.

Summary of warning, information and briefing activities following the Helidon 'spike'

- [199] Following the marked 'spike' in the readings at Helidon, other considerations, relevant activities, briefings, warnings and information for agencies and the public included:
 - a. At 3:30 pm, a threshold based River Height Bulletin, which is automatically generated, was issued containing the latest available river levels at Helidon:

Lockyer Creek at Helidon # 3.02 pm 12.68

Lockyer Creek at Helidon * 2.50 pm 12.66 R (for rising)

- b. The Bureau's website was updated at 15 minute intervals with the latest available water levels, and at 30 minute intervals with the summary tables and plots.
- c. At around 4:00 pm to 4:30 pm, the Flood Warning Centre became aware of the water level readings at Helidon, a few of which had become available in the Bureau's computer system at around 3:00 pm or shortly after. Only a few readings were available at this time as the computer system had automatically marked most of the readings, which were incomplete, from the Helidon AL station as being incorrect. The readings that had been received had the 'hallmark' of a station which had become faulty with significant "jumps" in values and loss of receipt of intervening values. There is no flood warning rainfall or water level network above the Helidon gauge to be able to model or assess with any reliability or accuracy the observed or expected water levels at Helidon.

- The Bureau does not have processes or resources to respond to rapid rises and it does not provide a site-specific flash flood warning service. To do so would require a different systems and service model scaled to deal with flash flooding at a state and national scale. The flood warning service is on a river basin scale with predictions for key locations. Additionally, the FWC was heavily occupied at the time, observing many hundreds of water level gauges across the State in multiple areas of major flood and responding continuously to continued heavy rainfall over a very wide area of southern Queensland. Some towns were experiencing or were forecast to experience severe flooding and inundation, including in/at the Dawson, Fitzroy/Rockhampton and other towns; Condamine-Balonne/ Killarney, Warwick, Dalby, Surat, St George; Gympie & Maryborough; Bundaberg as well as a developing flood situation in the Brisbane River system downstream to Ipswich and Brisbane City. It is also relevant to note that no information came to the Bureau at this time in relation to flash flooding from any local council, spotter, media or commercial operator other than a call from a Bureau spotter received at 12.39 pm from the Cressbrook Dam area advising of very heavy rainfall in that area. The Bureau passed this information on to the SDCC at 12.59 pm.
- At 4:16 pm, a priority Flood Warning was issued for the Lockyer, Bremer, Warrill and Brisbane River below Wivenhoe including Brisbane City. At this stage, the Flood Warning Centre was unaware of the flash flood which had developed in the upper Lockyer Creek catchment.
- f At about 4:30 pm to 4:50 pm, the unusual readings from Helidon were assessed by the FWC to be most likely valid in indicating that a rapid rise in water level had occurred at that location. The indicated significant spike in water level was linked to footage of the flash flooding in Toowoomba which had begun appearing on television monitors in the FWC.
- At about 4:50 pm to 4:55 pm, the Flood Warning Centre phoned the Executive Officer, State Disaster Coordinator to advise him of the situation and the expected progress of the flash flood.
- h. At about 4:50 pm, the FWC Hydrologist was "live" on ABC Radio and warned that the strong rises in the Helidon area should be expected in the Gatton area within the hour.
- i. At 5:00 pm, the top priority flash flood warning was issued as described above. SEWS was used to broadcast this warning.
- At 5:05 pm, a top priority (for immediate broadcast) Severe Weather Warning was updated j. and re-issued for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation for people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.
- From 5:00 pm onwards, the FWC remained in close contact (telephone and email) with the State Disaster Coordinator or his representative and the SDCC to continue to update the unfolding flash flood situations in both the Lockyer Creek and the creeks, including Gowrie and Oakey Creeks flowing north westwards away from the Toowoomba and range area towards the Condamine River.
- ١. Concurrently, staff in the FWC and the RFC undertook many radio interviews and briefings.
- At 5:25 pm, an update of the priority Flood Warning for the Condamine and Balonne River system was issued by the FWC.
- At 6:12 pm, an update of the priority Flood Warning for the Lockyer, Bremer, Warrill and n. Brisbane River below Wivenhoe Dam including Brisbane City was issued by the FWC.
- At 6:30 pm, updated River Height Bulletins were issued, which provide the latest available river heights for Lockyer Creek and Oakey Creek at Fairview TM. These continued to be updated and issued at 3 hourly intervals.
- Before 9:30 pm, the FWC 'turned off' the Helidon water level stations to prevent erroneous data from appearing in the River Height Bulletin and website as these stations had failed.

- [200] Warning and briefing activities associated with the movement of the flash flood and its downstream impacts, including its projected effect on Brisbane River flood predictions, continued throughout Monday 10 January evening and overnight.
- 5.6 Q5.6 Particular commentary is required from a hydrologist as to the science of the extreme rainfall, the incident in Toowoomba on 10 January 2011 and the water that ran down the range into the Lockyer.
- [201] The Bureau's Preliminary Report to the Commission of Inquiry provides a meteorological and hydrological analysis covering the rainfall and flash flood events in Toowoomba and Lockyer Creek on Monday 10 January.
- [202] Some additional commentary and clarification is given below:
 - The Great Dividing Range in the Toowoomba region is a common catchment boundary (catchment 'divide') of the Lockyer Creek catchments and the catchments of the metropolitan creeks (East Creek, West Creek) of Toowoomba City. Runoff generated by heavy rain falling to the east of the ridge (along the highest points) of the Great Dividing Range flows eastwards into the Lockyer Creek system, whereas rainfall falling to the west of the ridge flows in a general westwards (north-westwards) direction through Toowoomba City, before moving towards the Condamine River on the Darling Downs. This is shown in Figure 5.6.1.
 - To clarify, flood waters in the Toowoomba creeks do no enter the Lockyer Creek system and did not contribute to the flash flooding in the areas of Murphys Creek, Withcott, Postmans Ridge, Helidon, Grantham and Gatton.
 - Table 5.6.1 summarises the events in conjunction with Figure 5.6.1. (Text in italics indicates that the information became available in the weeks after the floods, i.e. it was not known at the time of the flash flood.)

Table 5.6.1 Rainfall and Water Level Commentary

RAINFALLS	
11 am to 1 pm	Heavy rainfall 50 mm to above 100 mm recorded in the Cressbrook Dam area (e.g. highest total of 111 mm at Redbank Creek rainfall station; located approximately 40 km to the north west of Toowoomba). The radar shows this storm cell moving in a south west direction towards Alice and Murphys Creeks catchments.
1 pm to 2 pm	Heavy rainfall in excess of 50 mm recorded in the Toowoomba area (58 mm at Toowoomba ALERT rainfall station approx 6 km north of city; 60 mm at Toowoomba Airport). Lighter rainfalls of generally less than 10 mm at Gatton (1 mm), Sandy Creek Road near Grantham (5 mm) and Helidon (11 mm). Information received by the Bureau since the event indicates that: * 180.8 mm was recorded at Withcott for the 24 hour period ending 9 am Tuesday 11 January (Source: Bureau pluvio rain gauge network) * 93 mm was recorded in 1 hour at Holmes near Spring Bluff (Source: Queensland Rail) * Report of 150 mm in 50 minutes in the Rocky Creek catchment (Source: Courier mail, original source unknown) * Report of 107 mm in 2 hours at Postmans Ridge (Source: Internet, original source

WATER LEVELS	
2 pm to 3 pm	Subsequent post event information indicates the peak at Lockyer Creek Rail Bridge was at about 2:20 pm and that Alice and Paradise Creeks were in full flood. Rises also took place in Murphys Creek and along Rocky Creek at Withcott. Five sub-catchments of Lockyer Creek to Helidon were in full flood during this period. Very rapid rise in Lockyer Creek at Helidon. Automatic gauge indicated a water level rise, commencing at about 2 pm, of more than 8 metres in one hour, from about 4 metres to possibly about 12.7 metres at about 3 pm, before failing.
	Subsequently, DERM have advised that the Helidon flood peak has been surveyed as 13.88 metres and estimated to have occurred at 3:10 pm on 10 January.
3 pm to 5 pm	Rise of approx 1.2 metres recorded at the automatic water level station in Sandy Creek at Sandy Creek Road AL, near Grantham, possibly indicating passage of Lockyer Creek floodwaters.
5 pm to 7 pm	Very rapid rise in Lockyer Creek at Gatton. Automatic gauge (Gatton TM) indicated a water level rise, commencing at about 5 pm, of about 7 metres in two hours before failing. The Lockyer flash flood did not cause the highest flooding at Gatton and downstream. Higher flood levels were experienced at Gatton on the following day, Tuesday 11 January, due to further heavy rainfall in the Lockyer-Laidley Valley. A post flood survey indicates a 2011 flood peak of 15.38 metres (occurring on Tuesday 11) at the long term flood warning gauge. This compares with a 1974 flood peak of 14.63 metres The highest recorded flood at Gatton is 16.33 metres in 1893.
6 pm to 9 pm	Rapid rise in Lockyer Creek at Glenore Grove. Automatic gauge indicated a water level rise, commencing at about 6 pm, of about 3.8 metres in two hours from about 10.7 metres to about 14.5 metres at about 9 pm. (Automatic gauge indicated a peak water level of about 14.6 metres at about 11 pm.)
Midnight to midday Tuesday 11 January	Rise in Lockyer Creek at Lyons Bridge. Automatic gauge indicated a water level rise, commencing at about midnight Monday, of about 2 metres in twelve hours from about 15.2 metres to about 17.1 metres at about midday Tuesday.

- It is likely that the intensity of the highest hourly and two hourly rainfalls which could not be observed in the Lockyer catchment exceeded the 1% Annual Exceedance Probability (AEP - chance of occurrence of 1% in any given year, or a "100 year" rainfall). The 1% AEP rainfall amounts for this area are approximately 75mm for 1 hour duration and 100 mm for 2 hours duration.
- An important contributing factor to the events of 10 January is the physiography of the catchment. The steep slope of the catchments played an important role in the destructive nature of the flood that followed. Based on a preliminary analysis of the likely timing of peaks, it is estimated that the peak was travelling, on average at around 40 km per hour in the upper areas above Helidon.
- In addition to the above factors, the atypical direction of the approaching storm played a role in the flood that followed. The south westerly storm movement may have allowed peak runoff from the five sub-catchments to align more closely in downstream areas. A storm moving in the typical opposite direction would be more likely to allow the peak of the Rocky Creek and Murphys Creek flood waters to flow down the valley to Helidon before those from Alice and 15 Mile Creeks arrive.

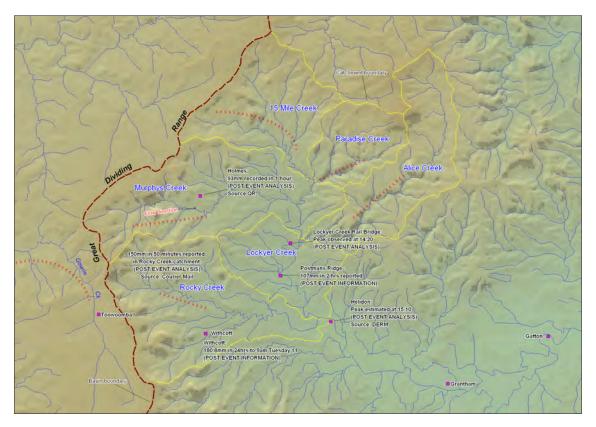


Figure 5.6.1 Map showing the direction of flow for the Lockyer Valley catchments above Helidon.

- 5.7 Q5.7 In relation to this "wall of water" can the hydrologist comment on any aspect that may have lessened the impact of this such as the geography of the land, diversion of water ways, regular clearing of creeks and rivers, levees, etc.
- [203] It is not the Bureau's role to develop or assess flood mitigation options, except when requested to contribute to the development of a flood monitoring and warning system. At times, Bureau water engineers/hydrologists are invited to participate in expert panels, steering committees or reference groups providing advice on flood studies being undertaken by other agencies (e.g. local government). The flash flood in the Lockyer Creek system was a complex phenomenon and would require detailed engineering investigations to fully understand. The Bureau could assist in an advisory panel to undertake such a study.
- 6 Toowoomba Specific Issues: Warning, Forecasting and Modelling

In relation to the storm which deposited the rain on Toowoomba on 10 January 2011, leading to flash flooding:

- 6.1 Q6.1 Were there any unusual features to the appearance of the storm cell as it appeared on radar?
- [204] Appendix M provides some background information about interpreting radar images. The storms propagated from northeast to southwest (from the Sunshine Coast to Toowoomba). The most common direction for severe storms that affect Toowoomba and the Lockyer Valley is in the opposite direction (i.e. from Toowoomba to the Sunshine Coast). These severe storms are generally characterised by large hail and damaging winds; any flash flooding is moderated by the usual speed of the storm movement. In this case the storms moved from northeast to southwest

(from the Sunshine Coast to Toowoomba). Major flash flood producing storms in southeast Queensland do generally approach from the eastern quadrant but usually produce most of their rainfall nearer the coast. It is usual that storms approaching the Sunshine Coast from the east to northeast dissipate over the hinterland and form broad rain bands that can then affect the eastern Darling Downs. However it is unusual that a storm originating from the Sunshine Coast with such localised rainfall intensity should maintain that intensity as far inland as Toowoomba. The storm had relatively low intensity of radar returns (reflectivity) for a storm in southeast Queensland of such high actual rainfall amounts.

- 6.2 06.2 What is the quality of radar coverage in Toowoomba; where are the nearest radar facilities and at what level of resolution do they operate?
- [205] Currently southeast Queensland and the Darling Downs is serviced by weather radars at Marburg, Mt Stapylton (near Beenleigh), Gympie (Mount Kanighan) and Grafton in northern NSW.
- [206] Radar sites are chosen such that they give the best spatial coverage possible. However surrounding terrain can cause blockages of the radar beam when pointed near to the horizon thus reducing the maximum range of the radar. The radars used to forecast severe weather in the Toowoomba area generally have unimpeded coverage, except for some terrain blockage to the south west from the Marburg radar affecting coverage toward Milmerran and Inglewood.
- [207] Additionally the radars near Dulbydilla (east of Charleville) and in NSW at Moree further enhance the southeast Queensland and Darling Downs radar network allowing monitoring of upstream weather systems. In general, useful radar coverage (when not impeded by nearby terrain) extends to around only 200km due to curvature of the earth.
- [208] With regard to resolution, this can be measured in a number of ways. The angular resolution of a radar is determined by its beamwidth which in turn is determined (for a given operating wavelength) by the size of its antenna. The range resolution of radar is determined by the number of pulses it transmits every second. The 'video' resolution is determined by the number of intensity levels used when recording returned signals. Radar information is depicted with a 'display' resolution that is chosen to suit the display medium, whether it is a meteorologist's workstation or the Bureau's web site. Indeed there are many data products collected from each radar (one low resolution, low altitude product designed for display via the web and other low capacity display systems, and a high resolution hemispheric 'volume' scan product designed for display on meteorologist workstations and for use to compute other derived products such as rainfall estimates). It is also the case that each radar in the Bureau's network is configured slightly differently to take advantage of its particular site location and various hardware configurations that will vary with the dimension, type and age of the radar. For simplicity in the following comments the term resolution is used to refer to the overall spatial detail that a radar is generally able to convey to a forecaster.
- [209] Of the radars used by weather forecasters in southeast Queensland, the Brisbane (Mt Stapylton) radar operates at the highest resolution and has 'Doppler' capability to a range of 150km, which extends about 25 km west of Toowoomba area. Of the other radars only the Gympie (Mt Kanighan) radar operates in Doppler mode but at a lower resolution than the Mt Stapylton radar. The Marburg and Grafton radars operate in the lowest resolution mode. Only the Mt Stapylton radar operates with updates every 6 minutes; the other radars update every 10 minutes.
- [210] The closely spaced radars in southeast Queensland are designed to provide semi-redundant monitoring capability over greater Brisbane and the Gold and Sunshine Coast areas, with lower resolution weather monitoring capability over the remainder of southeast Queensland and the eastern Darling Downs.

- [211] During the southeast Queensland flooding, all radars operating in the southeast Queensland area performed to expectations and any outages were attended to in the shortest possible time. There were no radar outages associated with the flooding experienced in southeast Queensland on 10 January 2011.
- 6.3 Q6.3 Ought there to be an additional radar facility installed to provide greater coverage of the Darling Downs, and if so where?
- [212] Extensive flooding across southeast Queensland and the Darling Downs in January 2011 included devastating flash flooding in Toowoomba and the Lockyer Valley and a rise of the Brisbane River to major flood levels. The Bureau's radar network provided valuable information during these events.
- [213] As explained in Section 6.2 of this Report, the Bureau's network is designed to give the best possible coverage of the area with its network of radars. The question of the value that might be provided by an additional radar facility would need to be the subject of detailed investigation and the Bureau is not able to provide comment on this specific question at this time.
- 6.4 Q6.4 What steps could be taken, by way of improvement of radar coverage, modelling or otherwise; to ensure that intense localised rainfall events of the type are detected?
- [214] Extreme events can be very localised and can occur on spatial extents less than 10 x 10 km. The development of a warning service whereby intense localised events are reliably monitored and accurately modelled would require further detailed research and investigation.
- 6.5 Q6.5 What rainfall reports were received for areas affected by the storm cell before it reached Toowoomba?
- [215] The Bureau has access to rainfall data at nine ALERT stations in the wider Toowoomba area. Table 6.5.1 gives hourly rainfall amounts for the period 9:00 am to 3:00 pm 10 January 2011. The display tool used for the rainfall data from the VHF radio ALERT network is the Bureau Environon software. An example of the data display at 1:00 pm 10 January 2011 is included in Figure 6.5.1.
- 6.6 06.6 What flood gauges, if any, and what rainfall gauges exist in the Toowoomba urban area?
- [216] The Bureau has no information regarding water level stations or the water levels recorded in the Toowoomba City creek systems.
- [217] The operational rainfall data (i.e. data available to the Bureau during the rain-flood event) is available from the Toowoomba AL station (owned by Segwater) near Mt Kynoch and the Toowoomba AWS station (owned by Bureau) at Toowoomba Airport, which are both outside the catchment of the creeks upstream of the city area. More information is provided on these stations in Section 6.11 of this Report.
- [218] The Toowoomba Regional Council also operates a rain gauge network around the Toowoomba City area and suburbs for its own purposes. Rainfall data from these stations is not available to the Bureau during rain-flood events, i.e. the stations are not a part of the flood warning network. While the Bureau is willing to collect and publish additional rainfall data that is compatible to its flood warning system, the Bureau does not require the data from these rainfall gauges to provide flood warnings for the very large Condamine river basin.

Table 6.5.1: Rainfall data (mm) displayed by the Bureau Enviromon system

1 HOUR TOTALS	CRESSBROOK CREEK AL	HELIDON	ROSENTRETTERS AL	CABOONBAH AL	SOMERSET DAM AL	RAVENSBOURNE AL	UPPER CRESSBROOK	REDBANK CREEK AL	TOOWOOMBA AL
							CREEK AL		
	540142	540143	540148	540155	540159	540299	540385	540489	
Total Midnight to midnight	97	45	93	92	144	142	80	153	96
10/01/2011 2 - 3 pm	14	1	2	6	-	8	4	6	2
10/01/2011 1 – 2 pm	3	11	-	1	8	6	6	6	55
10/01/2011 12 noon -1 pm	54	13	29	8	4	6	30	75	10
10/01/2011 11 am - 12 noon	5	2	33	44	50	2	5	36	1
10/01/2011 10 - 11 am	1	2	1	6	18	4	1	-	-
10/01/2011 9 – 10 am	-	-	0	-	2	3	-	-	2

Note: Ravensbourne AL was reporting false data.

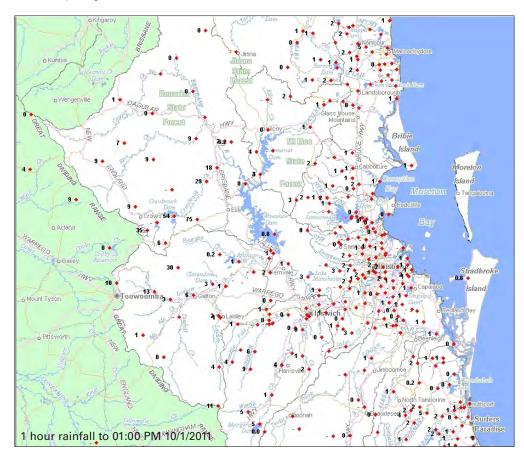


Figure 6.5.1 Example of rainfall map from the Bureau Enviromon system for the period ending 1:00 pm 10 January 2011

- [219] Where there is a known flash flood threat local agencies can operate flood ALERT systems consisting of a dense network of automatic radio reporting rainfall and water level stations and a local computer to display, analyse and alarm on the data. The Bureau's role is to assist local agencies to develop such a system.
- 6.7 Q6.7 What forms of warning were available to the Bureau to alertToowoomba residents of severe weather events?
- [220] Details on the applicable forms of weather warnings and the method of distribution are discussed in Section 5.
- [221] Toowoomba is part of the Darling Downs & Granite Belt district. The Darling Downs & Granite Belt forecast includes a brief weather forecast for the next day for Dalby, Warwick and Goondiwindi, with additional detail (including maximum and minimum temperature forecasts) for the next four days for Toowoomba.
- 6.8 Q6.8 What warnings were given in relation to Toowoomba and at what times?
- [223] Severe Weather Warnings for heavy rain and thunderstorms conducive to flash flooding were issued for the Darling Downs and Granite Belt District (including Toowoomba) at 4.55 pm and 11 pm on 9 January 2011; 5 am, 11 am (re-issued at 11.05 to amend update time); 5.05 pm; 6.30 pm, 7.50 pm, 11 pm on 10 January; and 5.05 am on 11 January 2011. (Copies of these warnings are provided in Appendix L of this Report).
- [223] The Bureau also conducted scheduled interviews with many radio stations, and provided comment to radio, newspaper and online media on request. Scheduled radio interviews were routinely held with Toowoomba based radio stations 4DDB, 4WK, 4GR and ABC Local Radio.
- [224] To maintain a clear message, and reduce duplication, the Severe Weather Warning continued to be issued on a regular update cycle. This was based on the most significant phenomenon (heavy rain conducive to flash flooding) of the weather event. This decision was conveyed to emergency management authorities at the SDCC.
- [225] At 1.00 pm on 10 January 2011 the Bureau contacted the SDCC Watch Desk to inform them that a pulse of really heavy rainfall was moving over the Toowoomba town area with expected flash flooding over the next hour or two. During the conversation with the SDCC, the Bureau expressed the view that the expected flash flooding could soon result in calls for assistance. This was in accord with the Bureau's standard interaction with the SDCC (see Section 3).
- 6.9 Q6.9 What recordings of rainfall were made by the Bureau during the rain event in Toowoomba and over what period; where were those recordings made; and are they considered to have been accurate?
- [226] The Bureau had access to rain gauge data in real time from the Toowoomba area from stations at Toowoomba Airport (Toowoomba AWS) and from near Mount Kynoch (Toowoomba AL). Note that the Toowoomba AWS is owned and operated by the Bureau but the Toowoomba AL gauge is owned and operated by Seqwater.

[227] Hourly rainfalls from the Toowoomba AL and Toowoomba AWS stations during the rain event of Monday 10 January were as follows in Table 6.9.1:

Table 6.5.1: Rainfall recorded by the Toowoomba rain gauges on Monday 10 January 2011.

TIME	TOOWOOMBA AL	TOOWOOMBA AWS
11 am to noon	1 mm	0.2 mm
Noon to 1 pm	10 mm	8.4 mm
1 pm to 2 pm	55 mm	60.2 mm
2 pm to 3 pm	2 mm	3.6 mm
3 pm to 4 pm	7 mm	10.0 mm

- [228] These rainfalls are considered to be accurate at the location of measurement.
- [229] Rainfall information received from Toowoomba Regional Council after the event indicated that rainfalls in excess of the rainfalls outlined in the table at paragraph [226] of this Report were recorded around the Toowoomba City area and suburbs within the catchment areas of the Toowoomba Creek systems. For example, the highest rainfall in the recorded data obtained to date indicated rainfall intensity of about 94 millimetres in one hour ending 2:15 pm on Monday 10 January 2011.
- 6.10 Q6.10 If the rainfall recordings are not considered to have been accurate, has the Bureau any alternative means of determining what the actual falls were; what are those means; and what are the results?
- [230] As outlined in Section 6.9 of this Report, the rainfalls measured at Toowoomba AL and Toowoomba AWS are considered to be accurate at the location of measurement. None of the gauges that the Bureau has access to in real time sampled the areas believed to have received the heaviest rain. Additional rain gauges would be required to provide an accurate determination of the areal extent and intensity of the storm.
- [231] The Bureau is researching the use of advanced techniques to calibrate radar returns with rain gauge reports and use these to provide a better estimation of rain rates. The Bureau also has a longer term research initiative underway termed the Strategic Radar Enhancement Project (SREP). Its aim, over the next four years, is to examine the incorporation of radar data directly into high resolution numerical weather models. In addition the Bureau is a partner on a research project examining the use of more advanced polarised radar systems.
- 6.11 O6.11 A submission to the Inquiry has suggested that rainfall recording in Toowoomba occurs at the airport on the western edge of the city, whereas the heavier rain falls to its east as clouds strike the range, with the consequence that rainfall is under-reported. The suggestion is that the observation facilities should be relocated. Comment?
- [232] The Bureau has not had the opportunity to consider the submission referred to in question 6.11. The Toowoomba AWS is located at the airport on the western edge of the city for the purposes of taking observations for aviation meteorological services. As this is required to maintain aviation safety relocation is not considered an option.

- [233] The Toowoomba AL rainfall station is owned by Seqwater and is located close to the top of the range in the Mt Kynoch area to serve both as a rainfall station and as a possible future VHF repeater for other stations in the Seqwater ALERT system.
- [234] To enable improved monitoring of flooding in the tributaries of the upper Brisbane River, such as the major creek systems in the Lockyer Valley, and in the Toowoomba city itself, access to additional telemetered rain and river gauges would be required. Any additions to the rainfall and river monitoring networks will be a matter for consultation with the respective state and local government authorities such as DERM, Seqwater, Toowoomba Regional Council and Lockyer Valley Regional Council.
- 6.12 Q6.12 The same submission suggests that there is a need for the Bureau to deploy on the ground observers as well as using satellite imagery and modelling. Comment?
- [235] Manual observations by people comprise an important part of the Bureau's national observing network. The Bureau maintains volunteer rainfall networks, volunteer river height networks and paid weather observers (both Bureau staff and contracted observers) at many locations. In addition, there is a large severe thunderstorm spotter network across the country. Recently the Bureau undertook a national campaign to increase the storm spotter network. These volunteers are encouraged to call Regional Forecasting Centres around the country when severe thunderstorms are experienced at their location. They have dedicated telephone access to the forecasting centre so their reports can be delivered and considered in a timely manner. Spotters can also relay information to the Bureau through a web-based form and via a dedicated email address. Such intelligence supplements the array of other information the Bureau processes. Although nine registered spotters reside in the Toowoomba and Lockyer Valley region, the Bureau received only one call on 10 Janaury 2011 and did not receive any information from spotters by email or web.
- [236] The Bureau will continue to augment its automatic observations with on-ground observers to best support warning services. All such information is prone to human interpretation and use of this information needs to take into account the resource requirements to provide verification, maintenance and quality control.

7 Dams - Forecasting

- [237] The Bureau models 47 basins in Queensland using over 150 operational rainfall-runoff flood models that includes the modelling of about 28 large dams. Collectively these models are calibrated on over 1200 flood events dating back to 1893.
- [238] Each dam needs to be individually modelled and has different data networks, operating procedures and characteristics in relation to modifying flood behaviour and affecting downstream flood forecasting. Importantly, flood warning operations for dams with gated spillways that allow control of outflows require different arrangements for flood prediction than a dam with fixed spillways.
- [239] For gated spillways the Bureau needs estimates of future dam releases from the dam operator to be able to predict for downstream locations. For fixed spillways the Bureau models the inflows and the characteristics of the dam using the spillway to predict outflows and downstream locations.

Wivenhoe Dam (Gated spillway) and Ipswich and Brisbane City Predictions

- [240] The flood travel time from Wivenhoe Dam to Brisbane City is around 30 hours and the catchment below Wivenhoe is over 6000 square kilometres. The Bureau aims to provide 24 hours lead time for forecasts of heights in Brisbane but this is not always possible because large floods can be generated from the lower Brisbane River catchment without releases from Wivenhoe. A large Brisbane flood also causes backwater flooding of Lockyer Creek and the Bremer River including lpswich.
- [241] The role of the Bureau and other agencies with regard to floods in the Brisbane River is defined in the Bureau operational procedures as:
 - a. Bureau of Meteorology: Issue Flood Warnings including predicted river heights for Ipswich, Moggill, Jindalee and Brisbane City in consultation with the South East Queensland Water (Seqwater), Brisbane City Council and Ipswich City Council and with other Local Governments as required.
 - b. Seqwater: Information to the Bureau and other agencies on the status of dams and actual and projected releases from Wivenhoe Dam and Somerset Dam. Consultation with the Bureau regarding expected flood heights along the Brisbane River downstream of Wivenhoe Dam.
 - c. Local Government (in particular Brisbane & Ipswich City Councils): Detailed flood level information to their respective communities, including the interpretation of river height forecasts into expected areas and depths of inundation.
- The actual and projected releases change often during events especially when the heavy rainfall continues for long periods or returns to catchments above the dams. For example, Figure 7.1 shows the projected releases provided by Seqwater FOC to the Bureau during the January 2011 flood with the final actual releases in a bolder black line. The Bureau used the Seqwater advice of actual and projected releases in its Brisbane River flood forecasting model during the process of developing and updating predicted flood levels for Brisbane and Ipswich Cities. The Bureau was also requested to examine scenarios of 9000 and 10000 cumec peak outflows from Wivenhoe Dam and how this would affect predicted flood levels for Brisbane and Ipswich.

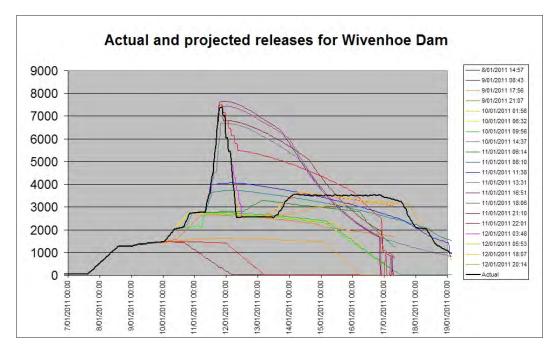


Figure 7.1 Actual and projected releases provided to the Bureau from Seqwater during the January 2011 Brisbane River Flood.

- 7.1 Q7.1 In relation to forecasting provided to the operators of the Wivenhoe, Somerset and North Pine Dams, what forecast advice was given in the 2010/2011 wet season and at what times was it given?
- [243] The following types of operational forecast advice have been provided by the Bureau to Seqwater, who are the operators of the Wivenhoe, Somerset and North Pine Dams:
 - a. Operational forecasting and warning products;
 - b. 24-hour Quantitative Precipitation Forecasts (QPF) for the Dam catchments;
 - c. Multi-day model rainfall forecasts;
 - d. Flood model results:
 - e. Direct telephone briefings and email communications; and
 - f. Ad hoc forecast scenario requests.
- [244] Additionally, the Bureau publishes seasonal rainfall outlooks each month for the next three months. Based on the predicted seasonal outlook for a very wet 2010-11, and the experience of the Wivenhoe Dam releases in October 2010, the Bureau participated in several meetings with representatives from Seqwater and Brisbane City Council during October and November 2010, to discuss and refine technical capabilities and arrangements in flood prediction and warning for the Brisbane River.
- [245] The Bureau provides other rainfall related services on its website for use by dam operators in the course of operations:
 - The weather radar (available through www.bom.gov.au);
 - ACCESS meteograms forecast rainfall (based on the Bureau ACCESS Model);
 - Interactive weather and wave forecast rainfall maps (based on ACCESS Model);
 - Water and land forecast rainfall (based on an ensemble of several numerical weather prediction models);
 - Severe weather warnings.

7.1.1 Operational forecasting and warning products

[246] A 24 hour quantitative precipitation forecast is provided to Seqwater for the catchments of Wivenhoe, Somerset and North Pine Dams at about 10am and 4pm each day. Below is an example of the product issued at 10:00 each morning. This product is prepared by an operational meteorologist based on the forecast strategy and best model guidance available at the time.

```
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03 am EST on Sunday the 13th of March 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to 10 am Monday: 10 to 15 mm

NORTH PINE DAM CATCHMENT
Forecast of catchment average rainfall for the 24 hour period to 10 am Monday: 10 to 20 mm
```

[247] Seqwater also receive:

- a selection of warning products. A complete list of the products sent to Seqwater is included in Table 7.1.1;
- A range of multi-day model rainfall forecasts, which are outlined in Section 7.1.2 of this b. Report; and
- Flood model results, which are publicly available and outlined in Section 7.1.3 of this Report; C.
- Direct telephone briefings and email communications, which are outlined in Section 7.1.4 of d. this Report; and
- Ad hoc forecast scenario requests, which are outlined in Section 7.1.5 of this Report.

Table 7.1.1 List of forecasting and warning products received by Seqwater

PRODUCT ID	PRODUCTTITLE	DELIVERY MECHANISM	HOW OFTEN
10003	SEQWB Quantitative Precipitation	EMAIL	Routinely 10:03 and 1600 each day
20003	Tsunami Warning	EMAIL	When issued
20023	Tropical Cyclone Advice 1	EMAIL	When issued
20026	Tropical Cyclone Advice 2	EMAIL	When issued
20029	Tropical Cyclone Advice 3	EMAIL	When issued
20032	Severe Weather Warning 1	EMAIL	When issued
20033	Severe Weather Warning 2	EMAIL	When issued
20036	Fire Weather Warning 2	EMAIL	When issued
20038	Severe Thunderstorm Warning - SE Qld 1	EMAIL	When issued
20041	Severe Thunderstorm Warning - Qld 1	EMAIL	When issued
20780	FLDWARN Coastal Rs Maryborough south	EMAIL	When issued
20790	FLDWARN for the Mary River basin	EMAIL	When issued
20795	FLDWARN for the Noosa and Maroochy Rs	EMAIL	When issued
20800	FLDWARN for the Upper Brisbane R basin	EMAIL	When issued
20805	FLDWARN for Lower Brisbane and Bremer Rs	EMAIL	When issued
20810	FLDWARN for the Brisbane Creeks	EMAIL	When issued
20815	FLDWARN for the Logan Albert R basin	EMAIL	When issued
20820	FLDWARN for the Nerang and Coomera Rs	EMAIL	When issued

7.1.2 Multi-day model rainfall forecasts

- [248] The multi-day rainfall forecast products available on the Bureau website that Seqwater used during events include:
 - ACCESS meteograms forecast rainfall (based on the Bureau ACCESS Model); a.
 - b. Interactive weather and wave forecast rainfall maps (based on ACCESS Model); and
 - WATL Water and land forecast rainfall (based on an ensemble of several numerical weather prediction models);
- [249] These forecast products are based on direct model output and provide forecasts up to 8 days in graphical and tabular form. The WATL products also present the forecast in terms of probability.

- [250] Figure 7.1.2 and 7.13 has an example of each of these products. Some of these products are provided as a registered user or subscription service and Seqwater have been provided with usernames and passwords. The specific products that Seqwater have subscribed to receive on a cost recovery basis are:
 - a. IDY25000 ACCESS-G Grid Files for Full Domain. These files have a resolution of 80 km;
 - b. IDY25200 ACCESS-A Grid Files for Full Domain. These files have a resolution of about 12 km; and
 - c. IDY25402 ACCESS-C Brisbane Grid Files. These files have a resolution of about 5 km.
- [251] The Australian Community Climate and Earth-System Simulator (ACCESS) Numerical Weather Prediction (NWP) data is made available by the Bureau. The ACCESS systems have been developed and tested by research staff from the Centre for Australian Weather and Climate Research (CAWCR). As the ACCESS-G, ACCESS-A and ACCESS-C files are operated at different resolutions, they each provide slightly different results.

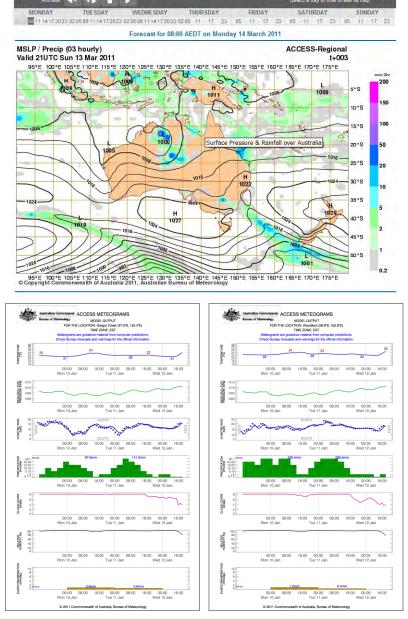
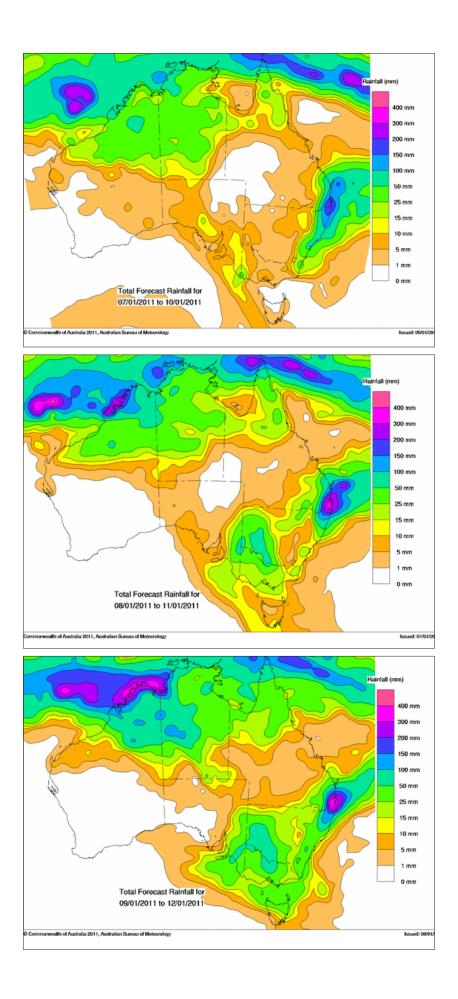


Figure 7.1.2 Examples of the ACCESS meteograms and interactive display of forecast rainfall



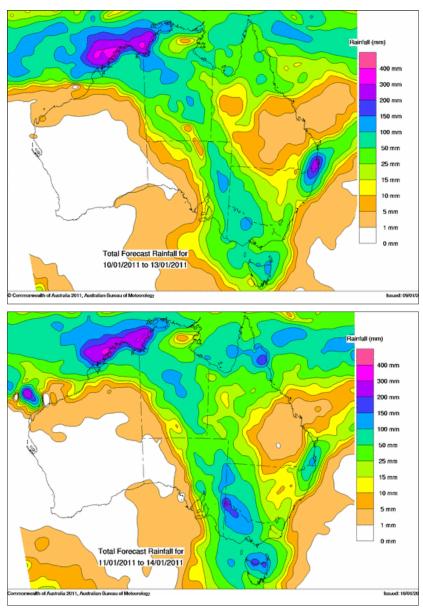


Figure 7.1.3 Four Day WATL rainfall forecast maps published daily from 6/1/2011 to 10/1/2011

7.1.3 Flood model results

- [252] The Bureau Flood Warning Centre (FWC) allows access to its flood modelling results via a registered user (password protected) area on the Bureau website. For Wivenhoe Dam, the sharing of flood forecast model results allows the FWC and Seqwater Flood Operations Centre (FOC) to compare model results for areas upstream of the dams and for downstream areas, based on the projected outflows. The Brisbane City Council Flood Information Centre also uses the flood forecast model results for more detailed information regarding forecast heights at Moggill, Jindalee and Brisbane City. However the official predicted heights at any time are contained in the flood warnings and may differ from the predictions given by the flood forecast model
- [253] The projected outflows are sent to the Bureau via email every time the release strategy and projections change. The FWC then uses this in models and publishes the results to the registered user website.

[254] The Bureau's FWC published flood model results for the Brisbane River Model 31 times between the 6 and 19 January 2011. This is summarised in Table 7.1.2.

Table 7.1.2. Dates and times of when FWC model results were published to the registered user web site.

DATE	TIME	PRODUCT
6/01/2011	15:08	IDQ65163 Brisbane River Flood Model Results
8/01/2011	06:07	IDQ65163 Brisbane River Flood Model Results
9/01/2011	18:49	IDQ65163 Brisbane River Flood Model Results
9/01/2011	23:14	IDQ65163 Brisbane River Flood Model Results
10/01/2011	07:40	IDQ65163 Brisbane River Flood Model Results
10/01/2011	10:17	IDQ65163 Brisbane River Flood Model Results
10/01/2011	14:48	IDQ65163 Brisbane River Flood Model Results
10/01/2011	22:13	IDQ65163 Brisbane River Flood Model Results
11/01/2011	02:16	IDQ65163 Brisbane River Flood Model Results
11/01/2011	07:23	IDQ65163 Brisbane River Flood Model Results
11/01/2011	09:14	IDQ65163 Brisbane River Flood Model Results
11/01/2011	11:43	IDQ65163 Brisbane River Flood Model Results
11/01/2011	17:18	IDQ65163 Brisbane River Flood Model Results
12/01/2011	00:37	IDQ65163 Brisbane River Flood Model Results
12/01/2011	08:28	IDQ65163 Brisbane River Flood Model Results
12/01/2011	17:01	IDQ65163 Brisbane River Flood Model Results
12/01/2011	18:25	IDQ65163 Brisbane River Flood Model Results
12/01/2011	21:08	IDQ65163 Brisbane River Flood Model Results
13/01/2011	02:23	IDQ65163 Brisbane River Flood Model Results
13/01/2011	02:57	IDQ65163 Brisbane River Flood Model Results
13/01/2011	09:15	IDQ65163 Brisbane River Flood Model Results
13/01/2011	11:58	IDQ65163 Brisbane River Flood Model Results
13/01/2011	14:56	IDQ65163 Brisbane River Flood Model Results
13/01/2011	18:43	IDQ65163 Brisbane River Flood Model Results
14/01/2011	09:01	IDQ65163 Brisbane River Flood Model Results
15/01/2011	11:43	IDQ65163 Brisbane River Flood Model Results
16/01/2011	16:23	IDQ65163 Brisbane River Flood Model Results
17/01/2011	05:18	IDQ65163 Brisbane River Flood Model Results
18/01/2011	10:11	IDQ65163 Brisbane River Flood Model Results
18/01/2011	14:27	IDQ65163 Brisbane River Flood Model Results
19/01/2011	07:03	IDQ65163 Brisbane River Flood Model Results

7.1.4 Direct telephone briefings and email communications

- [255] The Bureau provides a generic email address for organisations to reach staff working in the FWC. This is used to share situation reports and forecast model results.
- [256] The Bureau FWC and the Seqwater FOC communicate regularly using routine and ad-hoc teleconferences, in addition to email communication. The teleconferences allow discussion on rainfall forecasts, flood model results and operational situation analysis.

7.1.5 Ad-hoc forecast scenario requests

- [257] The Seqwater FOC also requested that two scenarios be provided on the afternoon of 11 January 2011. The scenarios were regarding projected downstream flood levels at Brisbane if the peak of release from Wivenhoe dam reached 9000 cumecs and 10,000 cumecs.
- 7.2 Q7.2 In relation to forecasts regarding the Wivenhoe, Somerset and North Pine Dams, could the Bureau provide details of all communication between the Bureau and the Queensland State Department of Environment and Resource Management?
- [258] A draft or interim communications protocol was established in late 2010 between State and Local Government for flood events involving releases from Wivenhoe Dam.
- [259] The Bureau communicates regularly with DERM during flood events regarding aspects of the use of the DERM gauging network for flood warning purposes. The Bureau does not normally communicate with DERM regarding forecasts for Wivenhoe, Somerset and North Pine Dams. DERM is the dam regulator and Seqwater is the dam owner/operator. For the purposes of this question the communication with Seqwater will be provided.
- [260] In accordance with agreed arrangements and within the scope of the interim protocol the Bureau and the Seqwater Flood Operations Centre communicated extensively during flood events in South East Queensland. The forms of communication can be summarised as:
 - a. **Operational forecasting and warning products:** See 7.1 for a full listing of the operational products provided to Segwater.
 - b. Situation Reports: The Seqwater Flood Operations Centre sends regular Situation Reports for Wivenhoe, Somerset and North Pine Dams to a generic email address that all staff in the FWC can access. These documents describe the release strategy in a high level.
 - c. Actual and Project Wivenhoe Releases: The Seqwater Flood Operations Centre sends regular detailed actual and projected release data to the FWC via email. This provides a time series (date, time, value) of releases and can be easily included in the Bureau's flood modelling for the Lower Brisbane River.
 - d. Flood Event Operations Directives: The Bureau receives a drop copy of the gate operations directives. It is of no direct use to the Bureau and for information only.
 - e. Ad hoc forecast scenario requests: The Seqwater FOC also requested that two scenarios be provided on the afternoon of 11 January 2011. The scenarios were regarding projected downstream flood levels at Brisbane if the peak of release from Wivenhoe dam reached 9000 cumecs and 10,000 cumecs.
 - f. Technical discussions via phone or email: The Bureau's FWC and the Seqwater Flood Operations Centre are involved in technical discussions regarding flood modelling for the Brisdane River basin. The Bureau publishes the FWC model results to a registered user website as a basis for these discussions.
 - g. **Disaster management meetings involving both agencies:** The Bureau provides briefings to many levels of the Disaster management system and Seqwater are present at some of these meetings.
 - h. Data communications: With Seqwater support, the Bureau receives all data directly via VHF radio from the Seqwater ALERT system for the Brisbane Valley. The Bureau forwards a data stream of event reporting radio telemetry data to the Seqwater and SunWater computing systems. This includes additional rainfall data for the Brisbane River catchment and neighbouring catchments.

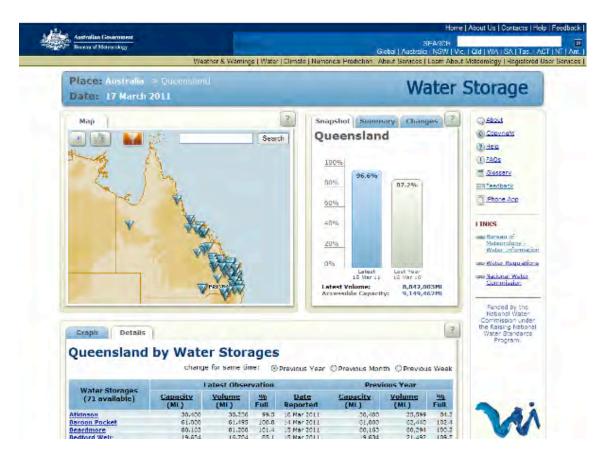
- i. The Bureau Website: The Bureau provides a large amount of information via the Bureau website. This includes forecasts, warnings, radar, rainfall and water level data. Seqwater are a registered user of the Bureau website and use this to access gridded forecast rainfall forecasts from the Bureau ACCESS model.
- [261] During non-operational times the Bureau has been involved in flood exercises and scientific advisory groups that included aspects of the operations of Wivenhoe Dam.

7.3 Q7.3 Is there any other dam-related data the Bureau gathers?

[262] The Bureau collects storage related data as part of the Commonwealth Water Act (2007) and provides this to the public on the Water Storages website.

http://water.bom.gov.au/waterstorage/awris/index.html

This site is intended for water resources reporting. It reports daily average levels and typically has a latency of 2-3 days for most of the approximately 260 dams that are included in the web site. In this regard it is of limited use in the flood forecasting and warning process.



- [263] The Bureau also has copies of operational manuals and emergency action plans for some dams in Queensland and has technical data such as spillway ratings and dam storage tables that are required for flood modelling involving dams.
- [264] The Bureau models 47 basins in Queensland using over 150 operational rainfall-runoff flood models that include modelling of 28 large dams.

8 Dams - Data

8.1 On a Queensland wide basis, could the Bureau provide the Commission with the following data, records, documents and communications in relation to:

8.1.1 Q8.1.1 Climate data and developing conditions

[265] See section 2 and Appendix E.

8.1.2 Q8.1.2 Rainfall predictions for 2010-11 wet season

[266] See paragraph [272] for maps from the Seasonal Climate Outlooks issued during the 2010-11 wet season.

8.1.3 Q8.1.3 Warnings/information communicated to catchment managers

[267] See section 3 and Appendix A for list of all warnings, and Appendices B, C, D and L for copies of warnings.

8.1.4 Q8.1.4 Rainfall and radar data

[268] The Bureau has provided access to these data sets for a range of users. It is provided for the Commission on a memory stick.

8.2 Q 8.2 For each catchment area for Queensland could the Bureau provide the Commission with the following data, records, documents and communications:

8.2.1 Q8.2.1 Document the pre-conditions, including SOI from January 2010 to the present.

The meteorology and influence of the preconditions are discussed above in the Section 2.1.1 of this Report and in Appendix E. The major preconditions are the abnormally high rainfall in the 5 months up to and including the month of December 2010. In particular both September and December 2010 were the wettest on record (that is wettest September, wettest December) for the state of Queensland. The rainfall decile maps for the 3-month seasons over 2010 are shown in Figure 8.2.1.1. It is noteworthy that for spring 2010 (September-November) almost the entire state had rainfall in the 10th decile. This means at each location 90% of years received less rainfall during spring.

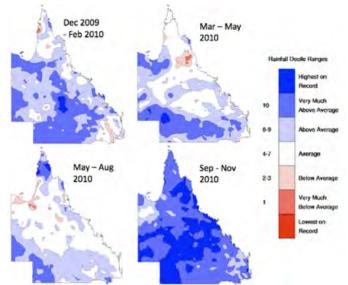


Figure 8.2.1.1 Three monthly rainfall Deciles over the State of Queensland for summer, autumn, winter and spring during the year 2010.

- [270] The time series of the Southern Oscillation Index SOI which monitors ENSO is shown in Appendix E. The positive SOI relates to La Niña conditions and negative to El Niño. The beginning months of 2010 were under the end of an El Niño event. The SOI went positive in March and from July onwards showed persistent large positive values signifying a La Niña. Measuring by this simple index, it was one of the strongest La Niña events on record. The average August to December SOI (+21.1) is the second highest on record, coming after the La Niña of 1917-18 (+24.4) with the 1975-76 La Niña value (+18.8) ranked third.
- [271] The values of the SOI from January 2010 to present are:

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2010	-10.1	-14.5	-10.6	-15.2	10.0	1.8	20.5	18.8	25.0	18.3	16.4	27.1
2011	19.9	22.3										

8.2.2 Q8.2.2 Document other indicators e.g. climate models.

[272] Seasonal Forecasts are issued every month by the National Climate Centre. These are based on an objective statistical model using global sea surface temperature patterns as predictors. These predictors include the sea surface temperature patterns associated with the La Niña. The 3-monthly forecasts for Queensland for November 2010 to January 2011, and for December 2010 to February 2011 are shown in Figures 8.2.2.1 and 8.2.2.2 below. The forecast for November 2010 to January 2011 gives higher than normal probabilities of above average rainfall across Queensland. The forecast for December through February continued higher probabilities of above normal for the southeast of the State. These forecasts are based on objective statistical schemes trained on data from the preceding years of record. Thus, they show the extent to which the heavy rain could have been anticipated based purely on sea surface temperature and ENSO indices.

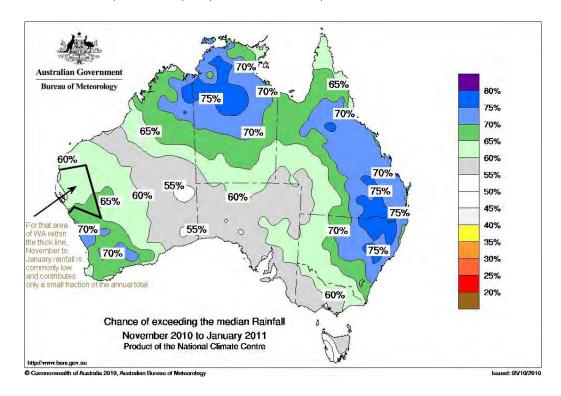


Figure 8.2.2.1 The operational Seasonal rainfall outlook for November 2010 to January 2011, issued by the Bureau of Meteorology on 26 October 2010.

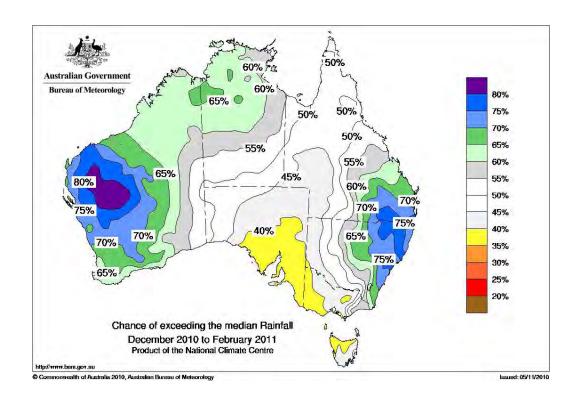


Figure 8.2.2.2 The operational Seasonal rainfall outlook for December 2010 to February 2011, issued by the Bureau of Meteorology on 23 November 2010.

- [273] A model called Predictive Ocean Atmosphere Model for Australia (POAMA) is run operationally at the Bureau and produces forecast products of sea surface temperature anomalies in the Indian and Pacific Oceans. Some experimental rainfall forecasts are available as prototype from the Centre for Australian Weather and Climate Research (CAWCR).
- [274] A discussion paper documenting "Climate Monitoring and Prediction advice leading up to the eastern Australian floods" has been prepared by the National Climate Centre and is supplied as Appendix N.

8.2.3 Q 8.2.3 Developing conditions for each flood event

[275] See Section 2 of this Report and location specific fact sheets in Appendix J.

8.2.4 Q 8.2.4 Description of causes of each event

[276] See Section 2 of this Report and location specific fact sheets in Appendix J.

8.2.5 Q 8.2.5 Warnings and information issued by the Bureau during the 2010/2011 wet season

[277] See Appendix A for list of all warnings, and Appendices B, C, D and L for copies of warnings.

8.3 Q8.3 To provide information in risk indicators, can the Bureau provide: individual "event" rainfall probabilities

[278] See location specific fact sheets in Appendix I. The Bureau is not able to provide the remainder of information that has been requested in this question, as local councils are responsible for maintaining up to date flood risk estimates for their localities.

ABBREVIATIONS	
ACCESS	Australian Community Climate and Earth System Simulator
AL	Alert Station
AWS	automatic weather station
BCM	Business Continuity Management
CAWCR	Centre for Australian Weather and Climate Research (Bureau of Meteorology/CSIRO)
CMSS	Corporate message switching system
CSRP	Cloud Seeding Research Project
DDC	District Disaster Committee
DERM	Department of Environment and Resource Management
EAP	Emergency action plans
EMQ	Emergency Management Queensland
ENSO	El Niño-Southern Oscillation
EST	Eastern standard time
FOC	Flood Operations Centre (Seqwater)
FWC	Flood Warning Centre (Bureau of Meteorology)
ITCZ	Intertropical convergence zone
LDC	local Disaster Committee
LDMG	Local Disaster Management Group
LGA	Local government areas
MJO	Madden Julian Oscillation
NCC	National Climate Centre (Bureau of Meteorology)
NWP	Numerical weather prediction
POAMA	Predictive Ocean Atmosphere Model for Australia
QCCCE	Queensland Climate Change Centre of Excellence
QPF	Quantitative Precipitation Forecast
RFC	Regional forecast centre (Bureau of Meteorology)
RHB	River Height Bulletins
RSS	really simple syndication
SDCC	State Disaster Coordination Centre
SDCG	State Disaster Coordination Group
SDMG	State Disaster Management Group
Seqwater	Southeast Queensland Water
SEWS	Standard Emergency Warning Signal
SOI	Southern oscillation index
SREP	Strategic Radar Enhancement Project
TITAN	Thunderstorm Identification Tracking and Nowcasting
TM	telemetry station
UPS	uninterrupted power supply

ABBREVIATIONS	
WATL	Water and the Land website (Bureau of Meteorology)
WIRADA	Water Information Research and Development Alliance
WMO	World Meteorological Organization

Appendices

- A. List of warnings issued 9 to 12 January 2011
- B. Copies of severe weather warnings December 2010 to January 2011
- C. Copies of severe thunderstorm warnings issued December 2010 to January 2011
- D. Copies of flood warnings issued December 2010 to January 2011
- E. A discussion paper on the meteorology of the rainfall associated with the December to January floods across the state
- F. Table and map of flood affected towns and Local Government Areas
- G. Table of regions based on flood classification
- H. A selection of record flood peak heights reached during December 2010 and January 2011.
- I. Flood summaries for a selection of flood affected towns
- J. Specific activities and briefings
- K. ARI information
- L. Copies of warnings for Lockyer valley and Toowoomba
- M. Interpreting radar images
- N. NCC "Climate Monitoring and Prediction advice leading up to the eastern Australian floods"
- O. Table of all peak heights recorded in the Bureau Peak Height Database between 1/12/2010 and 12/3/2011



Appendix A

List of warnings issued 9 to 12 January 2011

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Appendix A: List of warnings issued 9 to 12 January 2011

DATE	TIME OF ISSUE	WARNING HEADER
Sunday 9 January 2011	4:40:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For
		people in the Southeast Coast district and southern parts of the Wide Bay and Burnett. Issued at 4:40 am on Sunday 9 January 2011
Sunday 9 January 2011	7:27:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 7:27 AM on Sunday the 9th of January 2011
Sunday 9 January 2011	9:13:00	FLOOD WARNING FOR WARRILL CREEKTHE LOWER BRISBANE BELOW WIVENHOE Issued at 9:13 AM on Sunday the 9th of January 2011
Sunday 9 January 2011	9:28:00	FLOOD WARNING FOR THE STANLEY RIVER BRISBANE RIVER ABOVE WIVENHOE DAM Issued at 9:28 AM on Sunday the 9th of January 2011
Sunday 9 January 2011	10:55:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District. Issued at 10:55 am on Sunday 9 January 2011
Sunday 9 January 2011	14:12:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM Issued at 2:12 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	14:48:00	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER Issued at 2:48 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	15:28:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 3:28 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	16:55:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District. Issued at 4:55 pm on Sunday 9 January 2011
Sunday 9 January 2011	19:05:00	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER Issued at 7:05 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	22:38:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM Issued at 10:38 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	22:55:00	FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE Issued at 10:55 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	23:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:00 pm on Sunday 9 January 2011
Sunday 9 January 2011	23:02:00	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER Issued at 11:02 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	23:46:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 11:46 PM on Sunday the 9th of January 2011
Monday 10 January 2011	0:36:00	FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE Issued at 12:36 AM on Monday the 10th of January 2011
Monday 10 January 2011	1:44:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 1:44 AM on Monday the 10th of January 2011

DATE TIME OF ISSUE		WARNING HEADER				
Monday 10 January 2011	5:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash				
		flooding and potentially worsening the existing river flood situation For				
		people in the Southeast Coast district, southern parts of the Wide Bay and				
		Burnett district and eastern parts of the Darling Downs and Granite Belt				
		district. Issued at 5:00 am on Monday 10 January 2011				
Monday 10 January 2011	6:13:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM				
		Issued at 6:13 AM on Monday the 10th of January 2011				
Monday 10 January 2011	9:16:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE				
		WIVENHOE DAM Issued at 9:16 AM on Monday the 10th of January 2011				
Monday 10 January 2011	9:19:00	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO				
		THE NSW BORDER Issued at 9:19 AM on Monday the 10th of January 2011				
Monday 10 January 2011	10:28:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND				
, ,		BRISBANE RIVER BELOW WIVENHOE Issued at 10:28 AM on Monday the				
		10th of January 2011				
Monday 10 January 2011	10:53:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM				
, ,		Issued at 10:53 AM on Monday the 10th of January 2011				
Monday 10 January 2011	11:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash				
,,,	111111111111111111111111111111111111111	flooding and potentially worsening the existing river flood situation For				
		people in the Southeast Coast district, southern parts of the Wide Bay and				
		Burnett district and eastern parts of the Darling Downs and Granite Belt				
		district. Issued at 11:00 am on Monday 10 January 2011				
Monday 10 January 2011	11:05:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash				
, ,		flooding and potentially worsening the existing river flood situation For				
		people in the Southeast Coast district, southern parts of the Wide Bay and				
		Burnett district and eastern parts of the Darling Downs and Granite Belt				
		district. Issued at 11:05 am on Monday 10 January 2011 (Re-issued to amend				
		update time)				
Monday 10 January 2011	16:16:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND				
		BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued				
		at 4:16 PM on Monday the 10th of January 2011				
Monday 10 January 2011	17:00:00	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 5:00 PM on				
		Monday the 10th of January 2011				
Monday 10 January 2011	17:05:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash				
		flooding and potentially worsening the existing river flood situation For				
		people in the Southeast Coast district, far southern parts of the Wide Bay				
		and Burnett district and eastern parts of the Darling Downs and Granite Belt				
		district. Issued at 5:05 pm on Monday 10 January 2011				
Monday 10 January 2011	17:22:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE				
		WIVENHOE DAM Issued at 5:22 PM on Monday the 10th of January 2011				
Monday 10 January 2011	17:25:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM				
		Issued at 5:25 PM on Monday the 10th of January 2011				
Monday 10 January 2011	18:12:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND				
		BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued				
		at 6:12 PM on Monday the 10th of January 2011				
Monday 10 January 2011	18:30:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash				
,		,				
		flooding and potentially worsening the existing river flood situation For				
		people in the Southeast Coast, Darling Downs and Granite Belt and eastern				

DATE	TIME OF ISSUE	WARNING HEADER
Monday 10 January 2011	19:50:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 7:50 pm on Monday 10 January 2011
Monday 10 January 2011	20:37:00	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 8:37 PM on Monday the 10th of January 2011
Monday 10 January 2011	21:44:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 9:44 PM on Monday the 10th of January 2011
Monday 10 January 2011	22:32:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 10:32 PM on Monday the 10th of January 2011
Monday 10 January 2011	23:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 11:00 pm on Monday 10 January 2011
Tuesday 11 January 2011	0:06:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 12:06 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	0:19:00	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 12:19 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	4:06:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:06 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	4:10:00	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 4:10 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	5:05:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 5:05 am on Tuesday 11 January 2011
Tuesday 11 January 2011	6:55:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 6:55 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	6:56:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM Issued at 6:56 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	7:27:00	FINAL FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 7:27 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	8:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and worsening the existing river flood situation For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Issued at 8:00 am on Tuesday 11 January 2011
Tuesday 11 January 2011	9:28:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 9:28 AM on Tuesday the 11th of January 2011

DATE	TIME OF ISSUE	WARNING HEADER
Tuesday 11 January 2011	11:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
		and worsening the existing river flood situation For people in the Southeast
		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 11:00 am on Tuesday 11 January 2011
Tuesday 11 January 2011	12:30:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM
		Issued at 12:30 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	13:02:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE
		WIVENHOE DAM Issued at 1:02 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	14:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
		and worsening the existing river flood situation For people in the Southeast
		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 2:00 pm on Tuesday 11 January 2011
Tuesday 11 January 2011	14:15:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM
		Issued at 2:15 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	15:24:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE
		RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 3:24 PM
		on Tuesday the 11th of January 2011
Tuesday 11 January 2011	16:52:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE
		WIVENHOE DAM Issued at 4:52 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	17:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
		and worsening the existing river flood situation For people in the Southeast
		Coast District and the Darling Downs and Granite Belt District southeast of
T 1 11 1 2011		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011
Tuesday 11 January 2011	18:44:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM
T 1 11 1 22 1		Issued at 6:44 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	20:05:00	FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND
		BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued
T la	22.00.00	at 8:05 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	22:00:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding and worsening the existing river flood situation For people in the Southeast
		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011
Tuesday 11 January 2011	23:07:00	FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM
racoday 11 January 2011	20.07.00	Issued at 11:07 PM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	23:18:00	FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER
Tuesuay 11 January 2011	23.10.00	ABOVE WIVENHOE DAM Issued at 11:18 PM on Tuesday the 11th of
		January 2011
		1

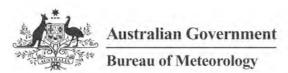


Appendix B

Copies of Severe Weather Warnings December 2010 to January 2011

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TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for rainfall with locally moderate to heavy falls and potential for flooding For people over a broad area of Queensland from the Gulf of Carpentaria to Southeast Queensland and parts of Cape York Peninsula.

Issued at 12:45 pm on Thursday 23 December 2010

Synoptic Situation:

The monsoon trough extends across northern Cape York Peninsula. A low is deepening on the monsoon trough and will move towards Cape York Peninsula during today and Friday. Moist onshore winds are feeding into an upper level trough and producing widespread areas of rain, showers and thunderstorms over eastern Queensland.

Scattered showers thunderstorms and general rain areas will continue over eastern Queensland for the coming week.

Heavy rainfall leading to flash flooding is expected on the coast between Cooktown and Ingham this afternoon and tonight.

Locally heavy falls may occur with thunderstorms elsewhere in the broad warning area.

Tides are expected to remain higher than normal and exceed the high water mark on the high tide over the next few days. This will cause inundation in low lying areas on the high tide.

Recent Events:

Abergowrie Bridge near Cardwell has recorded 269mm of rainfall in the 24 hours to 9am this morning.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5:00 pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for rainfall with locally moderate to heavy falls and flooding For people over a broad area of Queensland from the Gulf of Carpentaria to Southeast Queensland and parts of Cape York Peninsula.

Issued at 4:45 pm on Thursday 23 December 2010

Synoptic Situation:

The monsoon trough extends across northern Cape York Peninsula. A low is deepening on the monsoon trough and will move towards Cape York Peninsula during today and Friday. Moist onshore winds are feeding into an upper level trough and producing widespread areas of rain, showers and thunderstorms over eastern Queensland.

Scattered showers thunderstorms and general rain areas will continue over eastern Queensland for the coming week.

Heavy rainfall and thunderstorm activity leading to flash flooding is expected to increase on the coast and adjacent inland between Cooktown and Ingham tonight and tomorrow.

Locally heavy falls may occur with thunderstorms elsewhere in the broad warning area.

Tides are expected to remain higher than normal and exceed the high water mark on the high tide over the next few days. This will cause inundation in low lying areas on the high tide.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for rainfall with locally heavy falls, possibly leading to or worsening flooding For people over a broad area east of the Gulf of Carpentaria to Southeast Queensland.

Issued at 10:45 pm on Thursday 23 December 2010

Synoptic Situation:

The monsoon trough extends across northern Cape York Peninsula. A low is expected to develop on the monsoon trough over the northwest Coral Sea on Friday and move towards the Northeast Tropical Coast early Saturday. A combination of moist onshore winds and an upper level trough is producing widespread areas of rain, showers and thunderstorms over eastern Queensland.

Scattered showers, thunderstorms and general rain areas with locally heavy falls will continue over eastern Queensland for the coming week.

Heaviest rainfalls and thunderstorm activity, possibly leading to flash flooding, are expected to focus on the tropical east coast and adjacent inland between Cooktown and Mackay in the next 24 hours. Some locally heavy falls are also expected to develop about the southeast coast during Friday evening.

Tides are also expected to remain higher than normal and exceed the high water mark over southeastern Queensland on the high tide over the next couple of days. This will cause inundation in low lying areas on the high tide.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5:00 am Friday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for rainfall with locally heavy falls, possibly leading to or worsening flooding For people over a broad area east of the Gulf of Carpentaria to Southeast Queensland.

Issued at 4:40 am on Friday 24 December 2010

Synoptic Situation:

The monsoon trough extends across northern Cape York Peninsula. A low is expected to develop on the monsoon trough over the northwest Coral Sea today and move towards the Northeast Tropical Coast early Saturday. A combination of moist onshore winds and an upper level trough is producing widespread areas of rain, showers and thunderstorms over eastern Queensland.

Scattered showers, thunderstorms and general rain areas with locally heavy falls will continue over eastern Queensland for the coming week.

Heaviest rainfalls and thunderstorm activity, possibly leading to flash flooding, are expected to focus on the tropical east coast and adjacent inland between Cooktown and Mackay in the next 24 hours. Some locally heavy falls are also expected to develop about the southeast coast during this evening.

Tides are also expected to remain higher than normal and exceed the high water mark over southeastern Queensland on the high tide over the next couple of days. This will cause inundation in low lying areas on the high tide.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 am Friday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for rainfall with locally heavy falls, possibly leading to or worsening flooding For people in a broad area east of the Gulf of Carpentaria to Southeast Queensland, particularly about the coast and ranges between Cairns and St Lawrence.

Issued at 11:15 am on Friday 24 December 2010

Synoptic Situation:

The monsoon trough extended across northern Cape York Peninsula to a monsoon low located near Willis island in the Coral Sea. The monsoon low is expected to continue to move in a west south-west direction and cross the north tropical coast during Saturday morning. The combination of moist onshore winds and an upper level trough over Qld will continue to produce widespread areas of rain, showers and thunderstorms over eastern Queensland.

Tides are also expected to remain higher than normal and exceed the high water mark over southeastern Queensland on the high tide over the next couple of days. This will cause inundation in low lying areas on the high tide.

The situation across Qld will continue to be monitored and be updated every 6 hours to advise of the areas most likely to be affected.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 am Friday





TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for damaging wind gusts, heavy rainfall and further flooding For people in about the coast, ranges and adjacent inland between Cairns and St Lawrence.

Issued at 4:45 pm on Friday 24 December 2010

Synoptic Situation:

The monsoon trough extended across northern Cape York Peninsula to a monsoon low located near Willis island in the Coral Sea. The monsoon low is expected to continue to move in a south-west direction and cross the north tropical coast near Cairns during Saturday morning.

Damaging wind gusts to 90 kph will develop overnight between Cairns and Bowen, particularly about the higher ground including the Atherton Tablelands. These wind gusts will extend westwards into the adjacent inland during Saturday morning.

Heavy rainfall and associated flooding will continue on the coast between Cairns and

St Lawrence and extend inland during Saturday.

Scattered showers, thunderstorms and general rain areas will continue over remaining eastern areas of Queensland for the next few days. Some localised heavy falls may occur.

The situation across Qld will continue to be monitored and be updated every 6 hours to advise of the areas most likely to be affected.

The State Emergency Service advises that people in the affected area should:

- · beware of fallen trees and powerlines
- · secure loose outdoor items
- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Friday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Damaging Winds, Heavy Rainfall and Further Flooding For people about the coast, ranges and adjacent inland areas between Cairns and St Lawrence.

Issued at 11:15 pm on Friday 24 December 2010

Synoptic Situation: At 10pm, the monsoon trough extended across northern Cape York Peninsula to a monsoon low located in the northwest Coral Sea, approximately 300km northeast of Cairns. The monsoon low has been slowly intensifying and is expected to continue intensifying and move in a southwest direction and cross the north tropical coast between Cairns and Cardwell during Saturday morning.

Damaging wind gusts to 90 kilometres per hour will develop overnight between Cairns and Bowen, particularly about the higher ground, including the Atherton Tablelands. These wind gusts will extend westwards into the adjacent inland during Saturday morning.

Heavy rainfall and associated flooding will continue in coastal areas between Cairns and St Lawrence overnight and extend inland during Saturday. Some localised heavy falls may occur.

The situation will continue to be monitored and will be updated every 3 hours.

Recent Events:

- 592mm of rainfall has been recorded at Clarke Range Alert [west of Mackay] within the last 48 hours.

The State Emergency Service advises that people in the affected area should:

- · beware of fallen trees and powerlines
- · secure loose outdoor items
- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 2 am Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING for Damaging Winds, Heavy Rainfall and Further Flooding For people about the coast, ranges and adjacent inland areas between Port Douglas and St Lawrence.

Issued at 12:40 am on Saturday 25 December 2010

Synoptic Situation: At 11pm a Tropical Low was estimated to be 175 km ENE of Cairns, and 235 km NE of Cardwell. The Low is moving SW at 28 km/h and expected to make landfall between Cairns and Cardwell on Saturday morning. There is the potential for the system to reach weak category 1 tropical cyclone intensity prior to landfall.

Damaging wind gusts to 90 kilometres per hour will develop this morning between Port Douglas and Bowen, particularly about the higher ground, including the Atherton Tablelands. These wind gusts will extend westwards into the adjacent inland later in the morning.

Heavy rainfall and associated flooding will continue in coastal areas between Port Douglas and St Lawrence, extending inland later this morning. Some localised heavy falls may occur.

The situation will continue to be monitored and will be updated every 3 hours.

Recent Events:

- 592mm of rainfall has been recorded at Clarke Range Alert [west of Mackay] within the last 48 hours.

The State Emergency Service advises that people in the affected area should:

- · beware of fallen trees and powerlines
- · secure loose outdoor items
- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 3 am Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Damaging Winds, Heavy Rainfall and Further Flooding For people about the coast, ranges and adjacent inland areas between Cardwell and St Lawrence.

Issued at 3:15 am on Saturday 25 December 2010

Synoptic Situation: At 1:00 am EST Tropical Cyclone Tasha, Category 1, was estimated to be

95 kilometres east northeast of Cairns and 195 kilometres north northeast of Cardwell and is moving west southwest at 31 kilometres per hour towards the coast and is likely to cross the coast on Saturday morning between Cairns and Innisfail [see separate Cyclone Advice]. A 1025 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Damaging wind gusts to 90 kilometres per hour are likely this morning between Cardwell and Townsville, particularly about the higher ground. These wind gusts will extend westwards into the adjacent inland later in the morning and are forecast to ease late on Saturday.

Heavy rainfall and associated flooding will continue in coastal areas between Cardwell and St Lawrence, extending inland later this morning. Some localised heavy falls may occur.

Recent Events:

- 668mm of rainfall has been recorded at Clarke Range Alert [west of Mackay] within the last 72 hours.

The State Emergency Service advises that people in the affected area should:

- · beware of fallen trees and powerlines
- · secure loose outdoor items
- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 8 am Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy Rainfall and Further Flooding

For people about the coast between Cairns and St Lawrence and extending inland to also include the eastern Northern Goldfields and Upper Flinders and northern Central Highlands and Coalfields Districts.

Issued at 8:45 am on Saturday 25 December 2010

Synoptic Situation: At 7:00 am EST Ex-Tropical Cyclone Tasha was estimated to be 40 kilometres southwest of Cairns and 25 kilometres south southeast of Mareeba and is moving west southwest at 22 kilometres per hour. A 1023 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Heavy rainfall and associated flooding will continue in coastal areas between Cairns and St Lawrence, and will extend inland with the low from later this morning. Some localised heavy falls may occur.

Recent Events:

- 704mm of rainfall has been recorded at Clarke Range Alert [west of Mackay] within the last 72 hours.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 am Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy Rainfall and Further Flooding

For people about the coast between Cardwell and St Lawrence and extending inland to also include the eastern Northern Goldfields and Upper Flinders and northeastern Central Highlands and Coalfields Districts.

Issued at 11:35 am on Saturday 25 December 2010

Synoptic Situation: At 10:00 am EST Ex-Tropical Cyclone Tasha was estimated to be 150 kilometres southwest of Innisfail and 140 kilometres east of Georgetown and is moving west south-southwest at 40 kilometres per hour. A 1023 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Heavy rainfall and associated flooding will continue in coastal areas between Cardwell and St Lawrence, and will extend inland with the low during the afternoon. Some localised heavy falls may occur.

Recent Events:

Widespread rainfall of 200-300mm between Cairns and Ingham in the 24 hours to 9am Saturday.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy Rainfall and Further Flooding

For people about the east coast between Ingham and Fraser Island, extending inland to the eastern Northern Goldfields and Upper Flinders, the Central Highlands and Coalfields and remaining northern parts of the Wide Bay and Burnett forecast Districts.

Issued at 4:55 pm on Saturday 25 December 2010

Synoptic Situation: At 4:00 pm EST Ex-Tropical Cyclone Tasha had weakened into a broad rain depression between Georgetown and Charters Towers and was moving south-southwest at around 30 kilometres per hour. A 1023 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Heavy rainfall and associated flooding will continue in coastal areas between Ingham and Gladstone tonight, extending inland to southeastern parts of the Northern Goldfields and Upper Flinders, and through eastern parts of the Central Highlands and Coalfields district.

On Sunday this heavy rainfall is forecast to move south between Bowen and Fraser Island on the east coast and inland through the Central Highlands and Coalfields district.

Recent Events:

Widespread rainfall of 200-300mm between Cairns and Ingham in the 24 hours to 9am Saturday. Localised heavy falls are being recorded near the coast between Ingham and Mackay on Saturday afternoon.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 pm Saturday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Widespread Damaging/Hazardous Winds, Locally Destructive Winds, Flash Flooding, Abnormally High Tides/Dangerous Surf For people about the east coast between Ingham and the NSW border, extending inland to the eastern Northern Goldfields and Upper Flinders, the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 11:10 pm on Saturday 25 December 2010

Synoptic Situation: At 10:00 pm EST Ex-Tropical Cyclone Tasha had weakened into a broad rain depression north of Hughenden and was moving southwest at around 30 kilometres per hour. A 1020 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Heavy rainfall and associated flooding will continue in coastal areas between Ingham and Bundaberg tonight, extending inland to southeastern parts of the Northern Goldfields and Upper Flinders, and through eastern parts of the Central Highlands and Coalfields district.

On Sunday this heavy rainfall is forecast to move south between Mackay and the NSW border on the east coast and inland through the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall of 80 to 130mm inland from Mackay since 9am Saturday. Increasing rainfall being observed on radar through the Capricornia district.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 am Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between Ingham and the NSW border, extending inland to the eastern Northern Goldfields and Upper Flinders, the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 11:20 pm on Saturday 25 December 2010

Synoptic Situation: At 10:00 pm EST Ex-Tropical Cyclone Tasha had weakened into a broad rain depression north of Hughenden and was moving southwest at around 30 kilometres per hour. A 1020 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast south of the cyclone.

Heavy rainfall and associated flooding will continue in coastal areas between Ingham and Bundaberg tonight, extending inland to southeastern parts of the Northern Goldfields and Upper Flinders, and through eastern parts of the Central Highlands and Coalfields district.

On Sunday this heavy rainfall is forecast to move south between Mackay and the NSW border on the east coast and inland through the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall of 80 to 130mm inland from Mackay since 9am Saturday. Increasing rainfall being observed on radar through the Capricornia district.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 am Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between Mackay and the NSW border, extending inland to the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 4:45 am on Sunday 26 December 2010

Synoptic Situation: At 4:00 am EST Ex-Tropical Cyclone Tasha had weakened into a broad rain depression northwest of Hughenden and was moving southwest at around 30 kilometres per hour. A 1021 hPa high in the southern Tasman Sea extended a firm ridge onto the Queensland east coast.

Heavy rainfall is forecast to move south between Mackay and the NSW border on the east coast and inland through the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall of up to 160mm inland from Mackay and 130mm at Rockhampton since 9am Saturday. Increasing rainfall being observed on radar through the Capricornia and Wide Bay and Burnett districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 am Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the northern Herbert and Burdekin, and about the east coast between Mackay and the NSW border, extending inland to the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 9:55 am on Sunday 26 December 2010

Synoptic Situation: At 9:00 am the monsoon trough sat from northwest Queensland to the southern interior with rain areas to its east. A 1019 hPa high over New Zealand extended a ridge onto the Queensland east coast.

Localised heavy rainfall is occurring about the northern Herbert and Burdekin district and is forecast to ease during the afternoon.

Widespread heavy rainfall is occurring and forecast to further develop on the east coast between Mackay and the NSW border and inland through the Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall of up to 160mm inland from Mackay and 130mm at Rockhampton since 9am Saturday. Increasing rainfall being observed on radar through the Capricornia, Wide Bay and Burnett and Maranoa and Warrego districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between St Lawrence and the NSW border, extending inland to the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 2:50 pm on Sunday 26 December 2010

Synoptic Situation: At 2:00 pm the monsoon trough sat from northwest Queensland to the southern interior with rain areas to its east. A 1019 hPa high over New Zealand extended a ridge onto the Queensland east coast.

Widespread rainfall is forecast to become heavy late today or tonight on the east coast between St Lawrence and the NSW border and inland through the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall rates over eastern Queensland have generally eased today.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between St Lawrence and the NSW border, extending inland to the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 4:45 pm on Sunday 26 December 2010

Synoptic Situation: At 2:00 pm the monsoon trough sat from northwest Queensland to the southern interior with rain areas to its east. A 1019 hPa high over New Zealand extended a ridge onto the Queensland east coast.

Widespread rainfall is forecast to become heavy late today or tonight on the east coast between St Lawrence and the NSW border and inland through the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall rates over eastern Queensland have generally eased today.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 pm Sunday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between St Lawrence and the NSW border, extending inland to the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 10:35 pm on Sunday 26 December 2010

Synoptic Situation: At 9:00 pm the monsoon trough sat from northwest Queensland to the southern interior with rain areas to its east. A 1019 hPa high over New Zealand extended a ridge onto the Queensland east coast.

Widespread rainfall is likely to become heavy again on Monday on the east coast between St Lawrence and the NSW border and inland through the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall totals since 9am Sunday: Up to 150mm in southwest parts of the Central Highland and Coalfields, Up to 80mm to the west and south of Bundaberg, widespread falls of 60 to 110mm about the Gold Coast and adjacent hinterland. The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Heavy rainfall

For people about the east coast between St Lawrence and the NSW border, extending inland to the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Issued at 4:41 am on Monday 27 December 2010

Synoptic Situation: At 3:00 am Monday the monsoon trough was lying from northwest Queensland to the southern interior areas of rain to its east. A high near New Zealand extended a weak ridge onto the Queensland east coast.

Widespread rainfall is likely to become heavy again on Monday on the east coast between St Lawrence and the NSW border and inland through the southern Central Highlands and Coalfields, the northeast Maranoa and Warrego and the northern Darling Downs and Granite Belt districts.

Recent Events:

Rainfall totals since 9am Sunday: Up to 190mm in southwest parts of the Central Highlands and Coalfields, Up to 80mm to the west and south of Bundaberg, up to 110mm about the Gold Coast and widespread falls of 50 to 80mm across southern parts of the Southeast Coast and Darling Downs and Granite Belt districts. The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Flash Flooding

For people in the southern Central Highlands and Coalfields, northeastern Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and Capricornia districts.

Issued at 11:40 am on Monday 27 December 2010

Synoptic Situation: At 10am, the monsoon trough extended across Queensland interior from the northeast of the state down into the southeast interior. The trough is forecast to retreat northwards over the next couple of days.

Widespread rainfall is expected to continue and flash flooding is likely throughout the southern Central Highlands and Coalfields, northeast Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast and Wide Bay and Burnett and Capricornia districts today.

The rainfall is expected to contract out of the Maranoa and Warrego and Darling Downs and Granite Belt districts by Monday.

Recent Events:

- Generally 150 to 250mm of rainfall was recorded in the 24 hours to 9am Monday in southern parts of the Central Highlands and Coalfields district, including 274mm at Carnaryon.
- Generally 50 to 100mm of rainfall was recorded in the 24 hours to 9am Monday across the Darling Downs and Granite Belt and Southeast Coast districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Flash Flooding

For people in the southern Central Highlands and Coalfields, northeastern Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and Capricornia districts.

Issued at 11:45 am on Monday 27 December 2010

Synoptic Situation: At 10am, the monsoon trough extended across Queensland interior from the northeast of the state down into the southeast interior. The trough is forecast to retreat northwards over the next couple of days.

Widespread rainfall is expected to continue and flash flooding is likely throughout the southern Central Highlands and Coalfields, northeast Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast and Wide Bay and Burnett and Capricornia districts today.

The rainfall is expected to contract out of the Maranoa and Warrego and Darling Downs and Granite Belt districts by Tuesday.

Recent Events:

- Generally 150 to 250mm of rainfall was recorded in the 24 hours to 9am Monday in southern parts of the Central Highlands and Coalfields district, including 274mm at Carnaryon.
- Generally 50 to 100mm of rainfall was recorded in the 24 hours to 9am Monday across the Darling Downs and Granite Belt and Southeast Coast districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Flash Flooding

For people in the Central Highlands and Coalfields, northeastern Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and Capricornia districts.

Issued at 4:20 pm on Monday 27 December 2010

Synoptic Situation: At 4pm, the monsoon trough extended across the Queensland interior from the northwest down into the southeast of the state. The trough is forecast to retreat northwards over the next couple of days.

Widespread rainfall is expected to continue and flash flooding is likely throughout the Central Highlands and Coalfields, Southeast Coast, Wide Bay and Burnett and Capricornia districts during the remainder of today.

The rainfall is expected to ease overnight across the Southeast Coast district, while extending throughout the Central Highlands and Coalfields district on Tuesday. Widespread rainfall is otherwise expected to persist in all remaining districts.

Rain has eased in the northeastern Maranoa and Warrego and Darling Downs and Granite Belt districts and hence the warning for these districts is CANCELLED.

Recent Events:

- Generally 150 to 250mm of rainfall was recorded in the 24 hours to 9am Monday in southern parts of the Central Highlands and Coalfields district, including 274mm at Carnarvon.
- Generally 50 to 100mm of rainfall was recorded in the 24 hours to 9am Monday across the Darling Downs and Granite Belt and Southeast Coast districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for Flash Flooding

For people in the Central Highlands and Coalfields, northeastern Maranoa and Warrego, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and Capricornia districts.

Issued at 4:20 pm on Monday 27 December 2010

Synoptic Situation: At 4pm, the monsoon trough extended across the Queensland interior from the northwest down into the southeast of the state. The trough is forecast to retreat northwards over the next couple of days.

Widespread rainfall is expected to continue and flash flooding is likely throughout the southern Central Highlands and Coalfields, Southeast Coast, Wide Bay and Burnett and Capricornia districts during the remainder of today.

The rainfall is expected to ease overnight across the Southeast Coast district, while extending throughout the Central Highlands and Coalfields district on Tuesday. Widespread rainfall is otherwise expected to persist in all remaining districts.

Rain has eased in the northeastern Maranoa and Warrego and Darling Downs and Granite Belt districts and hence the warning for these districts is CANCELLED.

Recent Events:

- Generally 150 to 250mm of rainfall was recorded in the 24 hours to 9am Monday in southern parts of the Central Highlands and Coalfields district, including 274mm at Carnarvon.
- Generally 50 to 100mm of rainfall was recorded in the 24 hours to 9am Monday across the Darling Downs and Granite Belt and Southeast Coast districts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday AEST



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING for Flash Flooding For people in the Central Highlands and Coalfields, Wide Bay and Burnett and Capricornia districts.

Issued at 12:20 am on Monday 27 December 2010

Synoptic Situation: At 1150pm, a trough is moving north through the Wide Bay region at the moment with widespread rainfall and flash flooding. This trough is expected to reach the Capricorn region during Tuesday. This will reduce the rainfall through the Burnett and Wide Bay regions while shifting the heavy falls through the Capricorn region. Heavy falls are still expected to continue through the Central Highlands for Tuesday. By Wednesday the heavier falls will have moved further north over the northern Central Highlands and the Mackay region. By Thursday the overall rain situation will weaken with an end to the heavier falls.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 am



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING for Flash Flooding For people in the Central Highlands and Coalfields, Wide Bay and Burnett and Capricornia districts.

Issued at 5:00 am on Tuesday 28 December 2010

Synoptic Situation: At 5am a trough is moving north through the Wide Bay region at the moment with widespread rainfall and flash flooding. This trough is expected to reach the Capricorn region this afternoon. This will reduce the rainfall through the Burnett and Wide Bay regions while shifting the heavy falls through the Capricorn region. Heavy falls are still expected to continue through the Central Highlands later today. By Wednesday the heavier falls will have moved further north over the northern Central Highlands and the Mackay region. By Thursday the overall rain situation will weaken with an end to the heavier falls.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 am



TOP PRIORITY FOR IMMEDIATE BROADCAST CANCELLATION OF SEVERE WEATHER WARNING for Flash Flooding For people in the Central Highlands and Coalfields, Wide Bay and Burnett and Capricornia districts.

Issued at 10:15 am on Tuesday 28 December 2010

Synoptic Situation: At 10am, a trough extended across Queensland from the northwest down through central parts of the state. The trough is forecast to remain slow moving while weakening over the next couple of days.

Rainfall is easing and the threat of flash flooding is becoming less likely throughout the Central Highlands and Coalfields, Wide Bay and Burnett and Capricornia districts. However, rain is expected to continue in these districts though not to the extent of the past few days, which may locally exacerbate any flash flooding that is already occurring.

The warning for these districts is therefore CANCELLED.

Flood warnings remain current for various rivers and streams in these districts, refer to these products for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

No further warnings are expected to be issued for this event



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Maranoa, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and southern parts of the Central Highlands and Coalfields and Capricornia forecast districts.

Issued at 10:55 am on Wednesday 5 January 2011

Synoptic Situation: At 10am EST, a trough extended from northwestern Queensland into the southern Maranoa. The trough is expected to intensify as it moves slowly east over the next 24 hours.

Thundery rain areas with some heavy falls are expected to develop this evening and overnight over the Maranoa, Darling Downs and Granite Belt, Southeast Coast districts and southern parts of the Wide Bay and Burnett district. This heavy rain is expected to extend to the Capricornia districts and remaining parts of the Wide Bay and Burnett district during Thursday. The rain will ease over the Maranoa and western Darling Downs during Thursday.

Heavy rainfall may lead to localised flash flooding and/or worsen current river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5:00 pm Wednesday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Maranoa, Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett and Capricornia forecast districts and southern parts of the Central Highlands and Coalfields district.

Issued at 11:10 am on Wednesday 5 January 2011

Synoptic Situation: At 10am EST, a trough extended from northwestern Queensland into the southern Maranoa. The trough is expected to intensify as it moves slowly east over the next 24 hours.

Thundery rain areas with some heavy falls are expected to develop this evening and overnight over the Maranoa, Darling Downs and Granite Belt and Southeast Coast districts and southern parts of the Wide Bay and Burnett and Central Highlands and Coalfields districts. This heavy rain is expected to extend to the Capricornia and remaining parts of the Wide Bay and Burnett during Thursday. The rain will ease over the Maranoa, western Darling Downs and southwestern Central Highlands and Coalfields during Thursday.

Heavy rainfall may lead to localised flash flooding and/or worsen current river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5:00 pm Wednesday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett, Capricornia and Central Highlands and Coalfields district.

Issued at 5:00 pm on Wednesday 5 January 2011

Synoptic Situation: At 4pm EST, a trough extended from northwestern Queensland into the Darling Downs. The trough is expected to intensify as it moves slowly east over the next 24 hours.

Thundery rain areas with some heavy falls are occurring over the Darling Downs and Granite Belt, Southeast Coast districts and southern parts of the Wide Bay and Burnett and Central Highlands and Coalfields districts. This heavy rain is expected to extend to the Capricornia and remaining parts of the Wide Bay and Burnett and eastern Central Highlands and Coalfields during Thursday. The rain will ease over the western Darling Downs and southwestern Central Highlands and Coalfields on Thursday.

Heavy rainfall may lead to localised flash flooding and/or worsen current river flooding.

Heavy rainfall has eased over the Maranoa District and a Severe Weather Warning for this area is no longer current.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Wednesday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation
For people in the Eastern Darling Downs, Granite Belt, Southeast Coast, Wide Bay

For people in the Eastern Darling Downs, Granite Belt, Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 11:30 pm on Wednesday 5 January 2011

Synoptic Situation: At 11pm EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday morning which will then contract towards the Capricorn and Wide Bay coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Wednesday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation

For people in the Eastern Darling Downs, Granite Belt, Southeast Coast,

For people in the Eastern Darling Downs, Granite Belt, Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 11:55 pm on Wednesday 5 January 2011

Synoptic Situation: At 11pm EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday morning which will then contract towards the Capricorn and Wide Bay coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation
For people in the Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 3:40 am on Thursday 6 January 2011

Synoptic Situation: At 0330AM EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday which will then contract towards the Capricorn, Wide Bay and Sunshine coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation For people in the Wide Bay and Burnett districts.

Issued at 6:55 am on Thursday 6 January 2011

Synoptic Situation: At 0650AM EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather towards the Wide Bay region this afternoon and overnight.

Heavy rainfall has eased over the Capricorn and SE coastal district, therefore this warning has been cancelled in these districts.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district and eastern parts of the Wide Bay and Burnett District.

Issued at 8:30 am on Thursday 6 January 2011

Synoptic Situation: At 8am EST, an upper level low was developing over the southeastern interior of Queensland. A slow moving surface trough extended from northwestern Queensland into the Darling Downs.

Rain areas and thunderstorms are expected to increase through the Southeast Coast District and eastern parts of the Wide Bay and Burnett District this afternoon. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast District and eastern parts of the Wide Bay and Burnett District.

Issued at 10:45 am on Thursday 6 January 2011

Synoptic Situation: At 10am EST, an upper level low was developing over the southeastern interior of Queensland. A slow moving surface trough extended from northwestern Queensland into eastern Darling Downs.

Rain areas and thunderstorms will increase further through the Southeast Coast District and eastern parts of the Wide Bay and Burnett District today. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Rainfall is expected to ease about the Southeast Coast District during Friday.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur today with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett districts.

Issued at 4:50 pm on Thursday 6 January 2011

Synoptic Situation: At 4pm EST, an upper level low was developing over the southeastern interior of Queensland and is forecast to move in a north northeast direction overnight. A slow moving surface trough extended from northwestern parts of the state down into the southeast.

Rain areas and thunderstorms will continue through parts of the Southeast Coast district north of Brisbane and eastern parts of the Wide Bay and Burnett district this evening and overnight. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Rain areas and thunderstorms have eased in parts of the Southeast Coast district south of Brisbane but may redevelop overnight. Heavy rain areas are forecast to contract into eastern parts of the Wide Bay and Burnett district on Friday.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur today with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett

Issued at 10:55 pm on Thursday 6 January 2011

districts.

Synoptic Situation: At 1030pm EST, an upper level low over the southeastern interior will move north into the Capricorn district during Friday. Current rain areas near the coast will develop back inland over the SE region during Friday.

Some heavy falls may occur about the eastern Burnett, Wide Bay and northern parts of the Sunshine coast later on Friday with the potential for flash flooding and this may contribute to existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett districts.

Issued at 5:25 am on Friday 7 January 2011

Synoptic Situation: At 0420am EST, an upper level low occurs over the Capricorn region at present and will contribute to further rain areas over southeastern region today.

Some heavy falls may occur about the eastern Burnett, Wide Bay and northern parts of the Sunshine coast later today with the potential for flash flooding and this may contribute to existing flooding situation.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett forecast districts.

Issued at 8:25 am on Friday 7 January 2011

Synoptic Situation: At 7am EST, an upper level low was located over the Capricornia district while a low level trough was located off the Capricorn coast. These systems will combine to produce further rain areas and thunderstorms over the Southeast Coast and Wide Bay and Burnett forecast districts.

Some heavy falls are currently occurring about southern parts of the Southeast Coast District. Heavy rainfall is also expected to develop further north about the Sunshine Coast and Wide Bay and Burnett district through today. Rainfalls should ease south of the Sunshine Coast later today.

Heavy rainfalls may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 11:25 am on Friday 7 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. These systems will combine to produce further rain areas and thunderstorms over the Southeast Coast and Wide Bay and Burnett districts.

Heavy rain and isolated thunderstorms are currently occurring about the Southeast Coast district. These conditions are expected to develop in the Wide Bay and Burnett district during this afternoon and evening. Rainfall is expected to ease south of the Sunshine Coast later today.

Heavy rainfall may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Thursday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 3:35 pm on Friday 7 January 2011

Synoptic Situation: At 3pm EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. The upper level low is forecast to move off the Capricornia coast on Saturday while the low level trough remains slow moving.

Heavy rain and isolated thunderstorms are currently occurring about the Wide Bay and Burnett and Southeast Coast districts north of Brisbane. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

These conditions are expected to persist about the Wide Bay and Burnett district on Saturday while redeveloping throughout the Southeast Coast district during the afternoon and evening.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Friday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 3:40 pm on Friday 7 January 2011

Synoptic Situation: At 3pm EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. The upper level low is forecast to move off the Capricornia coast on Saturday while the low level trough remains slow moving.

Heavy rain and isolated thunderstorms are currently occurring about the Wide Bay and Burnett and Southeast Coast districts north of Brisbane. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

These conditions are expected to persist in these areas on Saturday while redeveloping throughout the Southeast Coast district during the afternoon and evening.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Friday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 10:50 pm on Friday 7 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located near the Wide Bay coast.

Heavy rain and isolated thunderstorms are currently occurring about the southern Wide Bay and Burnett district and are forecast to develop about the Sunshine Coast during Saturday morning, and remaining parts of the Southeast Coast district on Saturday afternoon. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Saturday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 4:55 am on Saturday 8 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located near the Wide Bay coast.

Heavy rain and isolated thunderstorms are currently occurring about the southern Wide Bay and Burnett district and are forecast to develop about the Sunshine Coast during Saturday morning, and remaining parts of the Southeast Coast district on Saturday afternoon. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 220mm over the Mary River catchment since 9am Friday has caused rapid river rises there, see separate Flood Warning for details.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Saturday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 11:00 am on Saturday 8 January 2011

Synoptic Situation: At 10am EST, an upper level low was located offshore from the Capricornia district while a low level trough was located off the southern coast.

Heavy rain overnight has weakened recently to showers and isolated thunderstorms. Rain areas are expected to return to the Southeast Coast and Wide Bay and Burnett districts from this afternoon, and increase to moderate to heavy falls at times tonight and Sunday. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 304mm over the Mary River catchment in the 24 hours to 9am Saturday. A Flood Warning is current for this area.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Saturday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 5:15 pm on Saturday 8 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located off the southern coast.

Rain areas are expected to return to the Southeast Coast and Wide Bay and Burnett districts tonight, and are likely to increase to moderate to heavy falls at times during Sunday. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 304mm over the Mary River catchment in the 24 hours to 9am Saturday. A Flood Warning is current for this area.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Saturday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett.

Issued at 10:20 pm on Saturday 8 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located well offshore of the Fraser coast. Both of these systems are expected to move closer to the coast overnight and during Sunday.

Rain areas and thunderstorms are expected to increase through the Southeast Coast district and southern parts of the Wide Bay and Burnett district from early Sunday. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Sunday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett.

Issued at 4:40 am on Sunday 9 January 2011

Synoptic Situation: At 4am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Sunday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 10:55 am on Sunday 9 January 2011

Synoptic Situation: At 10am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. The heavy rain areas are expected to move into the eastern parts of the Darling Downs and Granite Belt District overnight. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall over 100mm was recorded in the last 24 hours about parts of the Sunshine Coast and Hinterland.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Sunday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 4:55 pm on Sunday 9 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located near the Wide Bay coast. A surface trough was located near the southern Queensland coast. Both of these systems are moving towards the west and southwest.

Rain areas and thunderstorms are expected to continue about the northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to move into the southern parts towards the border with New South Wales and west to the Granite Belt overnight. Heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 239mm, West Bellthorpe 233mm and Lindfield 226mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Sunday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 pm on Sunday 9 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue about northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to extend further south to the New South Wales border and west to the Granite Belt overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 336mm, West Bellthorpe 331mm and Lindfield 301mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Monday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:00 am on Monday 10 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, West Bellthorpe recorded 343mm, Maleny 337mm, and Lindfield 313mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:05 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

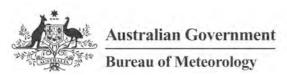
Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Monday.



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:05 pm on Monday 10 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards and gradually ease in the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district later on Tuesday.

Rainfall has eased in far southern parts of the Wide Bay and Burnett district and therefore the warning for this district is now CANCELLED.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts.

Issued at 6:30 pm on Monday 10 January 2011

Synoptic Situation: At 6pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts this evening. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 7:50 pm on Monday 10 January 2011

Synoptic Situation: At 7pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts this evening and overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 11:00 pm on Monday 10 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the far southeast of the Central Highlands and Coalfields district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during Tuesday.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts tonight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 1 hour to 11pm EST Monday, Monsildale and Mt Stanley [situated in northern parts of the Southeast Coast district] both received 58mm. In the 13 hours since 9am EST Monday, Redbank Creek received 132mm, Ballon 124mm and Mt Castle 103mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Tuesday.



TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 5:05 am on Tuesday 11 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the Darling Downs and Granite Belt district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during the day.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts today. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract to the south by late today, before gradually easing.

Recent events: Rainfall since 9am Monday Monsildale 160mm, Mt Stanley 135mm, and Redbank Creek 134mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.



Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 8:00 am on Tuesday 11 January 2011

Synoptic Situation: At 8am AEST, an upper level low was located over the Darling Downs and Granite Belt district and is forecast to move to the southwest and slowly weaken.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to localised flash flooding and will worsen existing river flooding.

Currently, an intense slow moving band of rainfall extends from about Maroochydore to Warwick. Rainfall rates in this band are reaching 80 to 100 mm per hour.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/gld] for further information.

The Severe Weather Warning for the southern parts of Wide Bay and Burnett and eastern Maranoa and Warrego and northwestern parts of Darling Downs and Granite Belt districts has been cancelled. However showers and thunderstorms will persist through the area and may produce heavy rainfall in these parts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.



Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 11:00 am on Tuesday 11 January 2011

Synoptic Situation: At 10am AEST, an upper level low was located over the southern Queensland interior and is forecast to move to the southwest and continue weakening. A surface trough lying over the Southeast Queensland Coast is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently, an intense band of rainfall extends from about Tewantin to Warwick. Recent rainfall rates in this band have reached 80 to 100 mm per hour, particularly about the Brisbane and Lockyer Valleys. This rainfall band is expected to remain slow moving during the remainder of today.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 2pm AEST Tuesday.



Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 2:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 2 pm AEST, a surface trough was lying over the Southeast Queensland Coast and is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently the focus of the heaviest rainfall extends from about Maroochydore to Warwick, including the Brisbane and Lockyer Valleys and Ipswich area. Recent rainfall rates in this band have reached 60 to 80 mm per hour. This rainfall band is expected to remain slow moving during the remainder of today and gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm AEST Tuesday.



Transmitters in areas of the Southeast Coast district and the Darling Downs and Granite Belt district southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 5:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 4 pm AEST, southeast Queensland was under the influence of a deep moist easterly airstream, with an upper trough located over the Darling Downs.

Heavy rain areas and local thunderstorms are expected to continue tonight through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to further localised flash flooding and will worsen existing river flooding.

The heavy rain areas are expected to gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 pm AEST Tuesday.



Note: The Standard Emergency Warning Signal is no longer required.

TOP PRIORITY FOR IMMEDIATE BROADCAST CANCELLATION - SEVERE WEATHER WARNING

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 10:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 10 pm AEST, southeast Queensland was under the influence of a deep moist east to northeast airstream. A weakening upper trough was moving south.

Heavy rain areas have eased during the past few hours and further flash flooding due to rainfall is no longer expected.

Note that an extremely serious river and stream flood situation still exists. Refer to flood warnings [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

No further warnings are expected to be issued for this event



Appendix C

Copies of Severe Thunderstorm Warnings December 2010 to January 2011

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IDQ20041 Bureau of Meteorology Queensland Regional Office

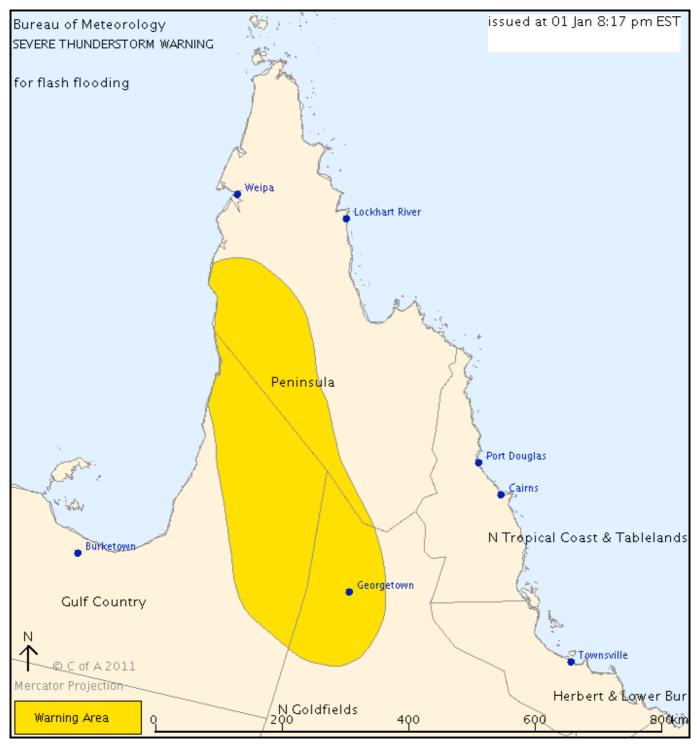
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Peninsula, Gulf Country and Northern Goldfields and Upper Flinders Forecast Districts.

Issued at 8:17 pm Saturday, 1 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Georgetown, Croydon, Kowanyama and Forsayth.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:20 pm.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

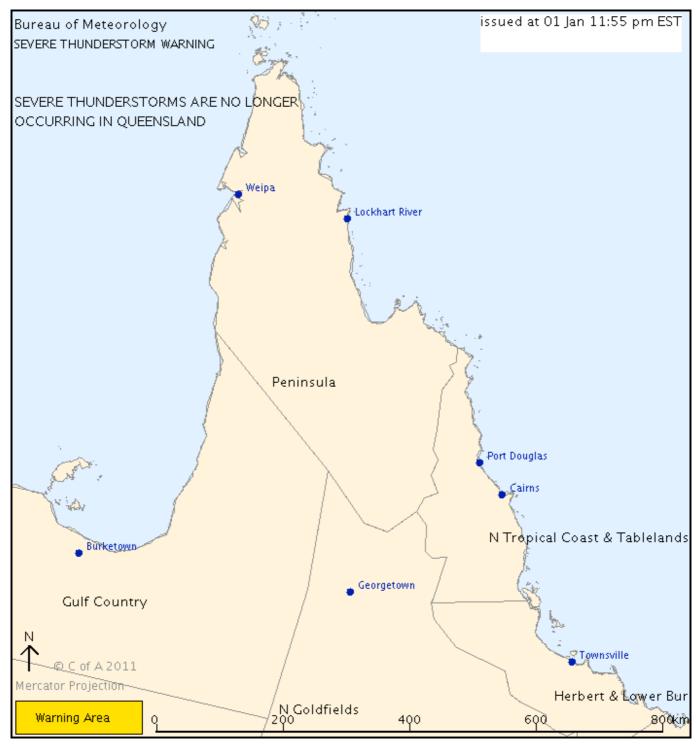
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 11:55 pm Saturday, 1 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

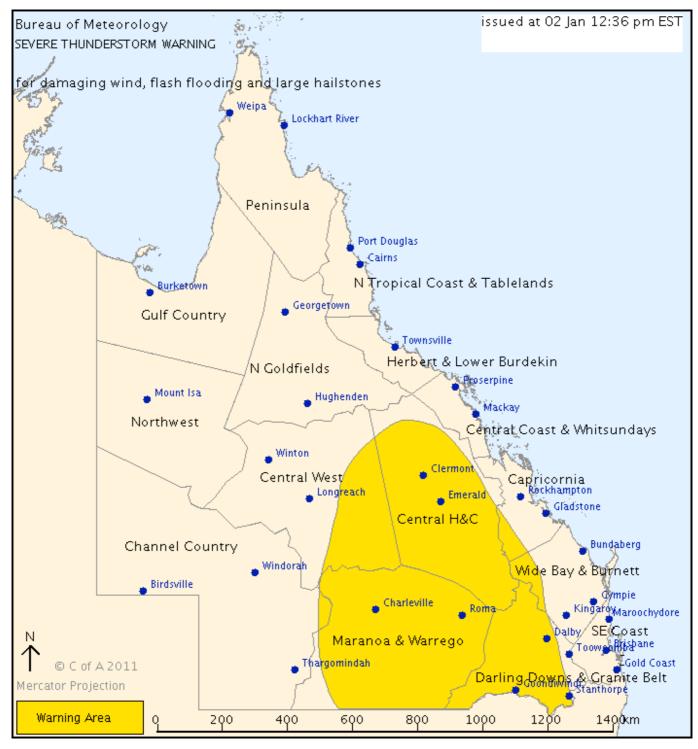
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the Central Highlands and Coalfields, Maranoa and Warrego, Darling Downs and Granite Belt and parts of the Central West, Channel Country, Capricornia and Wide Bay and Burnett Forecast Districts.

Issued at 12:36 pm Sunday, 2 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Dalby, Roma, Charleville, Emerald, Clermont, Cunnamulla, St George, Blackwater, Barcaldine, Moranbah, Stanthorpe and Goondiwindi.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:40 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

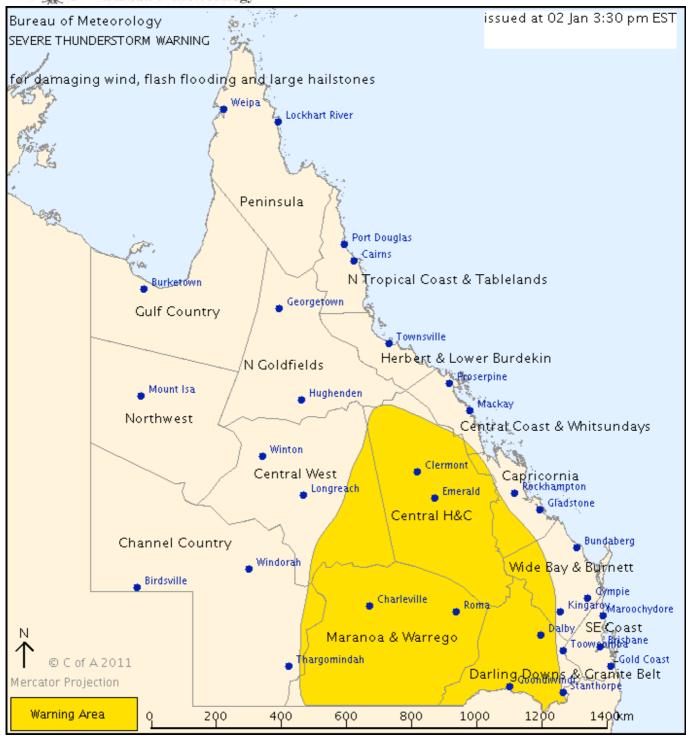
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the Central Highlands and Coalfields, Maranoa and Warrego, Darling Downs and Granite Belt and parts of the Central Coast and Whitsundays, Central West, Channel Country, Capricornia and Wide Bay and Burnett Forecast Districts.

Issued at 3:30 pm Sunday, 2 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Dalby, Roma, Charleville, Emerald, Clermont, Cunnamulla, St George, Quilpie, Biloela, Blackwater, Moranbah and Goondiwindi.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:30 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

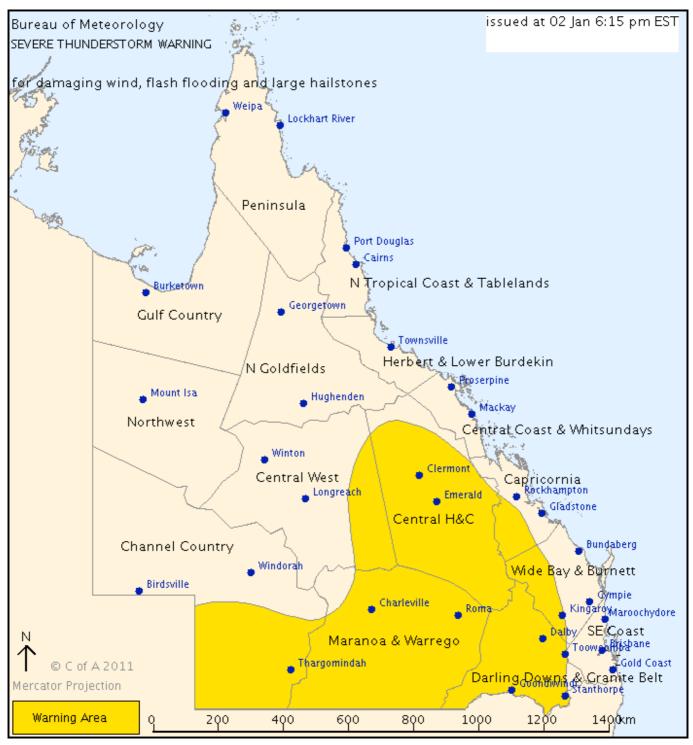
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the Central Highlands and Coalfields, Maranoa and Warrego, Darling Downs and Granite Belt and parts of the Central West, Channel Country, Capricornia, Wide Bay and Burnett and Southeast Coast Forecast Districts.

Issued at 6:15 pm Sunday, 2 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Thargomindah, Toowoomba, Dalby, Roma, Charleville, Emerald, Clermont, Kingaroy, Blackwater, Moranbah, Stanthorpe and Goondiwindi.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:15 pm.



At 6:15 pm Sunday, 2 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

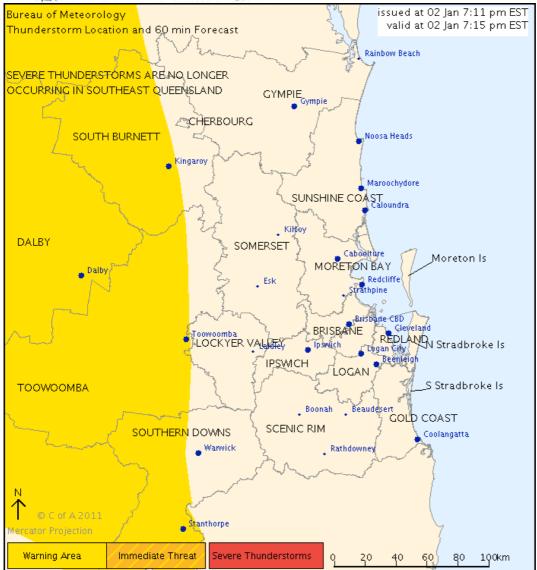
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 7:11 pm Sunday, 2 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for the Central Highlands and Coalfields, Maranoa and Warrego, Darling Downs and Granite Belt and parts of the Central West, Channel Country, Capricornia, Wide Bay and Burnett and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



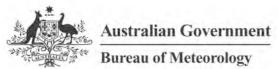
IDQ20041 Bureau of Meteorology Queensland Regional Office

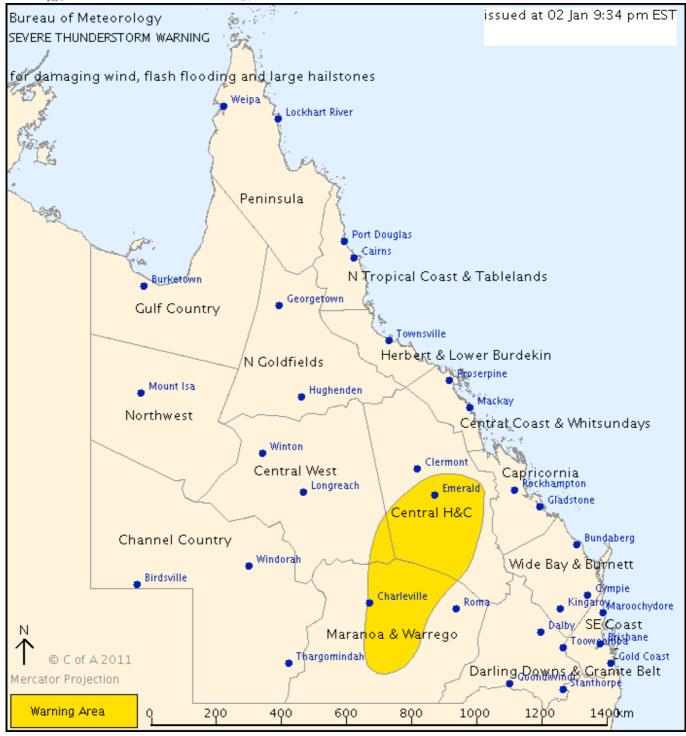
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Central West and Maranoa and Warrego Forecast Districts.

Issued at 9:34 pm Sunday, 2 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Charleville, Emerald, Blackwater, Mitchell, Rolleston and Springsure.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:35 am Monday.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

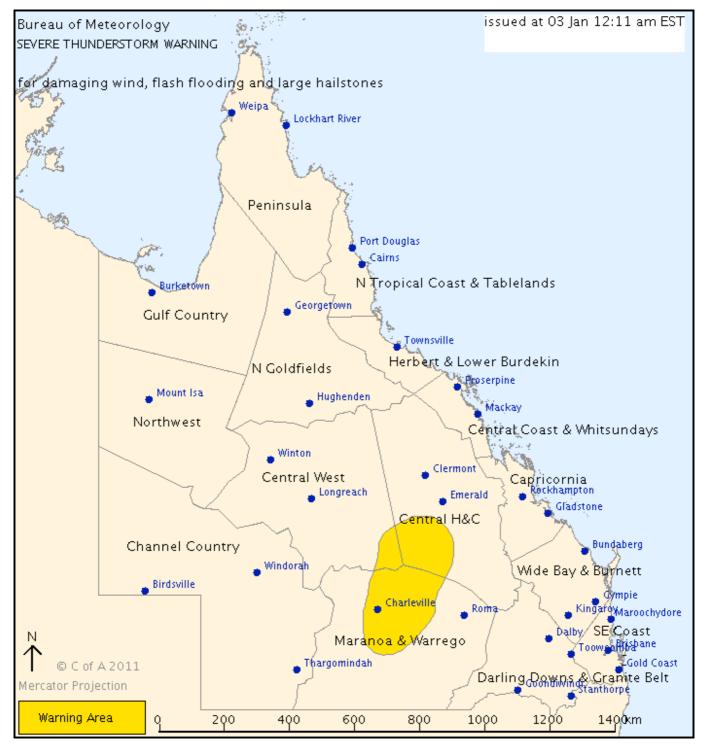
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Central West and Maranoa and Warrego Forecast Districts.

Issued at 12:11 am Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Charleville, Tambo, Springsure, Augathella and Mantuan Downs.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:15 am.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

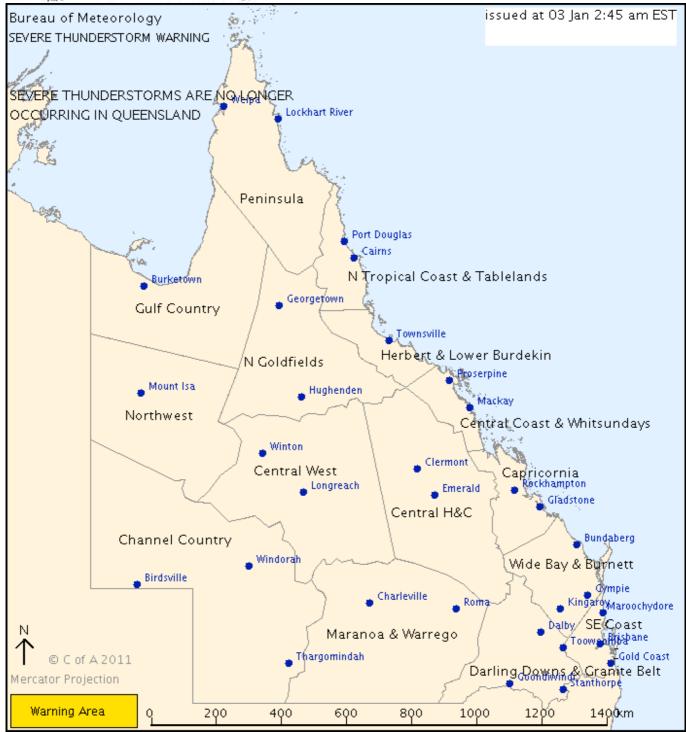
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 2:45 am Monday, 3 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING For people in parts of the LOCKYER VALLEY and SOUTHERN DOWNS Council Areas.

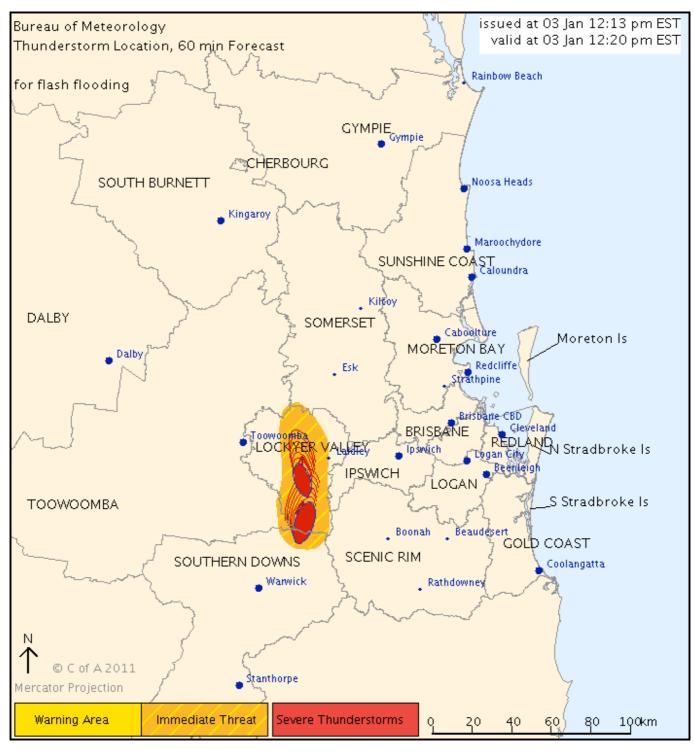
Issued at 12:13 pm Monday, 3 January 2011.

Thunderstorms are moving towards the north.

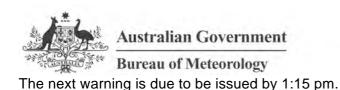
They are forecast to affect the area northwest of Cunninghams Gap by 12:50 pm and Gatton by 1:20 pm.

Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

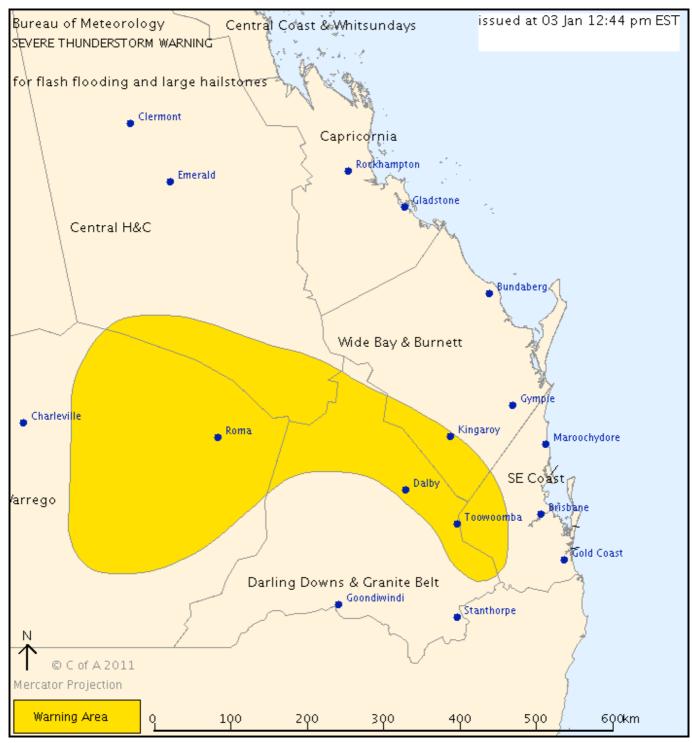
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 12:44 pm Monday, 3 January 2011.

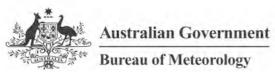
Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Toowoomba, Dalby, Roma, Kingaroy, Bollon, Oakey, Mitchell, Taroom and Injune.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:45 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

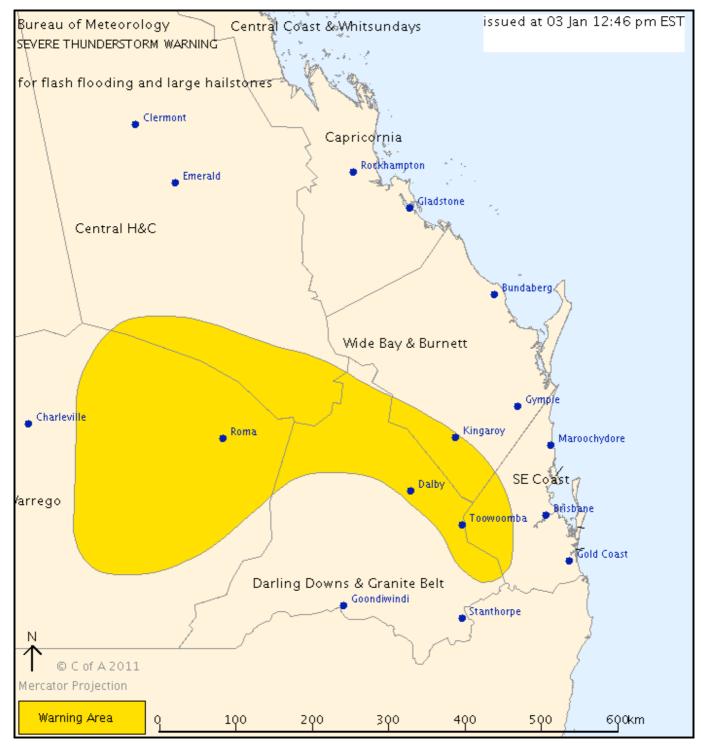
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 12:46 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Toowoomba, Dalby, Roma, Kingaroy, Bollon, Oakey, Mitchell, Taroom and Injune.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:50 pm.



At 12:46 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

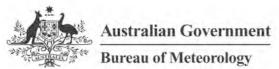
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING
For people in the LOCKYER VALLEY and parts of the TOOWOOMBA Council Areas.

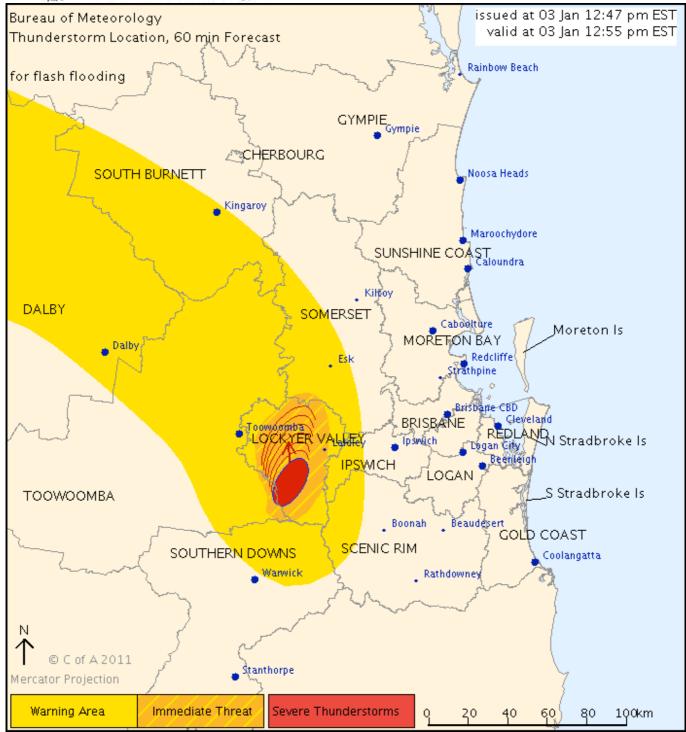
Issued at 12:47 pm Monday, 3 January 2011.

Thunderstorms are moving towards the north.

They are forecast to affect Gatton and the area south of Helidon by 1:25 pm and Helidon and the area north of Gatton by 1:55 pm.

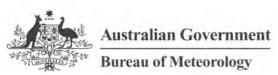
Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:50 pm.



A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

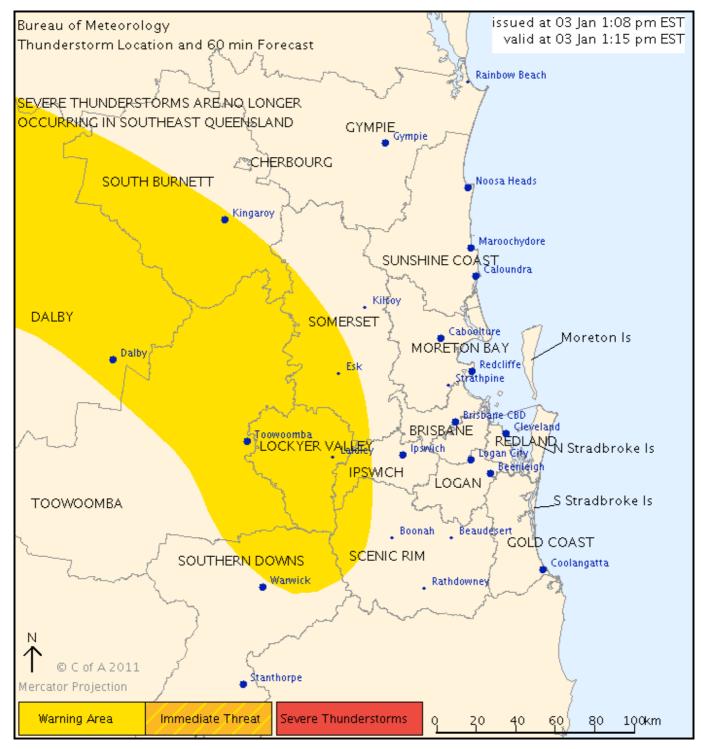
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 1:08 pm Monday, 3 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY and TOOWOOMBA Council Areas.

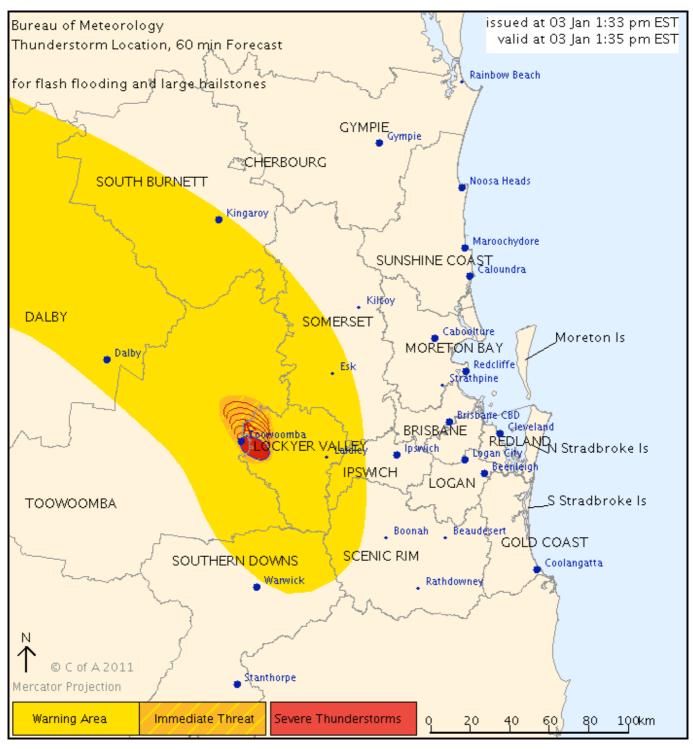
Issued at 1:33 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 1:35 pm, severe thunderstorms were detected on weather radar near Toowoomba.

They are forecast to affect Highfields by 2:05 pm and the area north of Toowoomba by 2:35 pm.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 2:35 pm.

A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

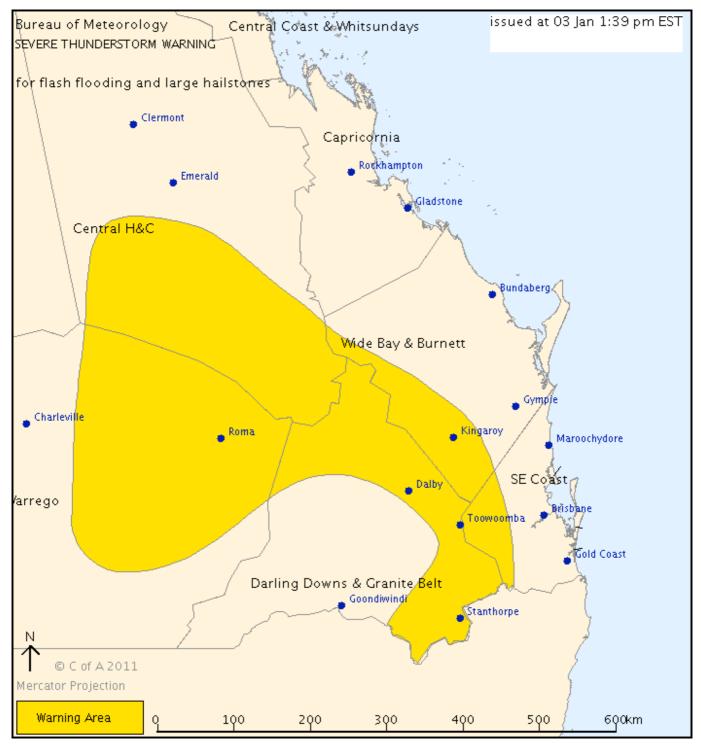
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 1:39 pm Monday, 3 January 2011.

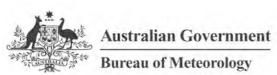
Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Warwick, Toowoomba, Dalby, Roma, Kingaroy, Stanthorpe, Bollon, Oakey, Mitchell, Taroom, Rolleston and Springsure.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:40 pm.



At 1:39 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

IDQ20038 Bureau of Meteorology Queensland Regional Office

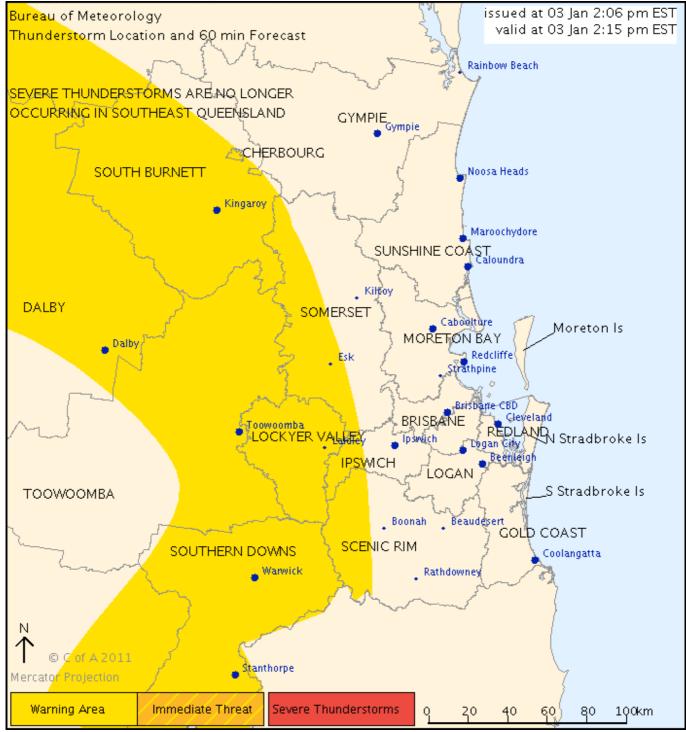
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 2:06 pm Monday, 3 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

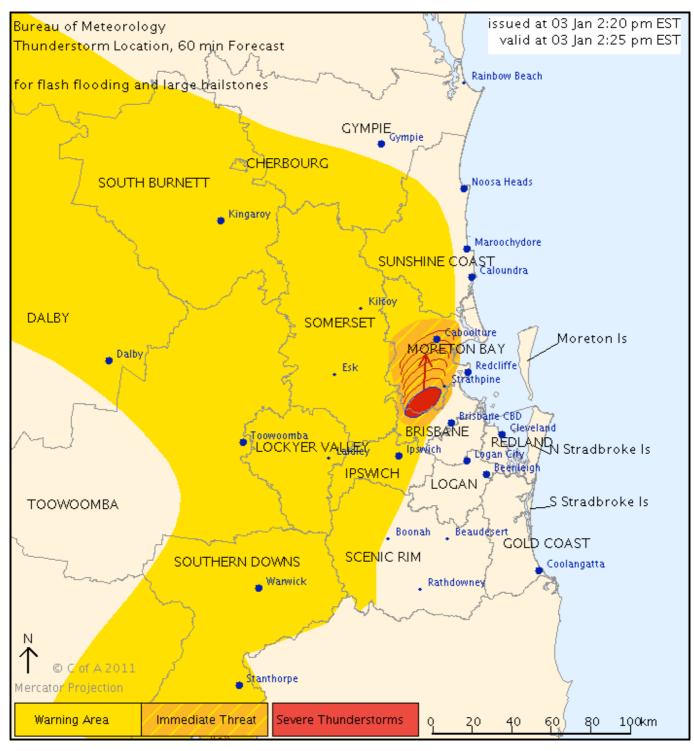
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the BRISBANE CITY, MORETON BAY and SOUTHERN DOWNS Council Areas.

Issued at 2:20 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 2:25 pm, severe thunderstorms were detected on weather radar near Highvale, Samford and Albany Creek. These thunderstorms are moving towards the north. They are forecast to affect Lake Samsonvale, Kallangur and Narangba by 2:55 pm and Caboolture, Dayboro and Burpengary by 3:25 pm.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:20 pm.



A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

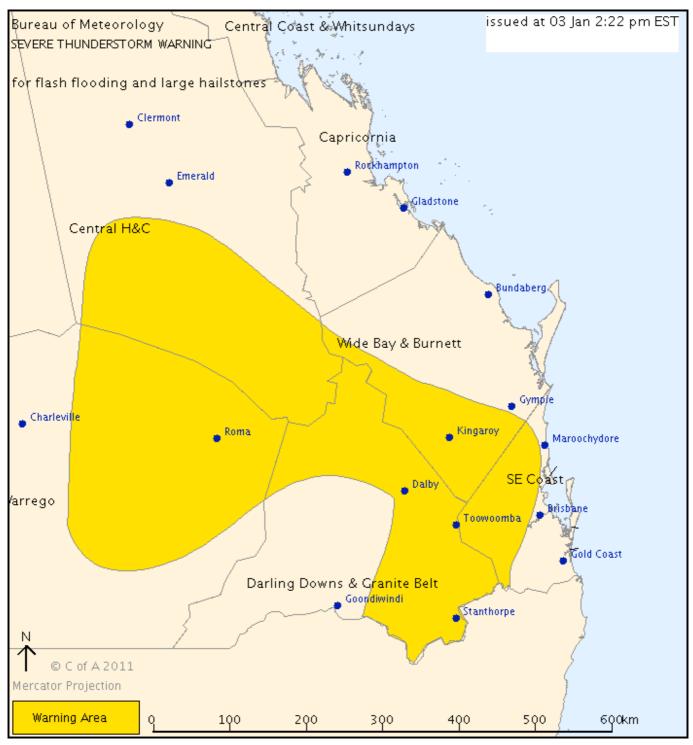
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 2:22 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Warwick, Toowoomba, Dalby, Roma, Ipswich, Kingaroy, Stanthorpe, Caboolture, Mitchell, Taroom, Rolleston and Springsure.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:25 pm.



At 2:22 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

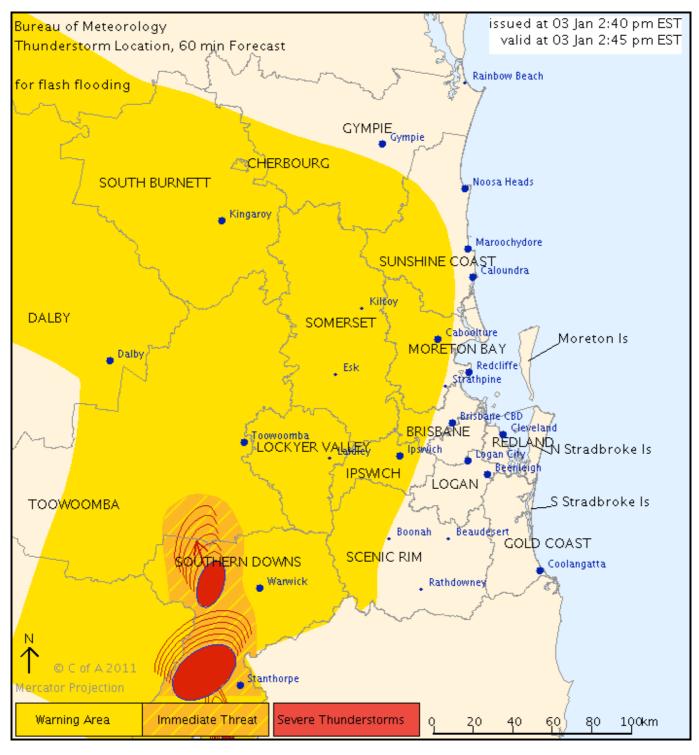
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING
For people in parts of the SOUTHERN DOWNS and TOOWOOMBA Council Areas.

Issued at 2:40 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 2:45 pm, severe thunderstorms were detected on weather radar near Pikedale, the area between Stanthorpe and Warwick, the area west of Warwick and the NSW border. They are forecast to affect the area southwest of Warwick by 3:15 pm and Dalveen and Ellangowan by 3:45 pm.

Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:40 pm.



A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

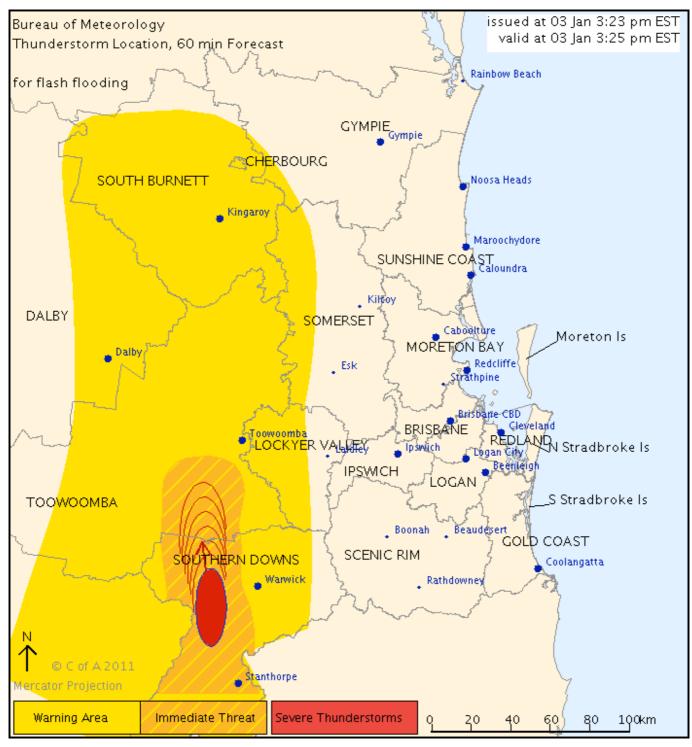
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING For people in parts of the SOUTHERN DOWNS and TOOWOOMBA Council Areas.

Issued at 3:23 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 3:25 pm, severe thunderstorms were detected on weather radar near the area west of Warwick. These thunderstorms are moving towards the north. They are forecast to affect Ellangowan and Felton by 4:25 pm.

Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:25 pm.



A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

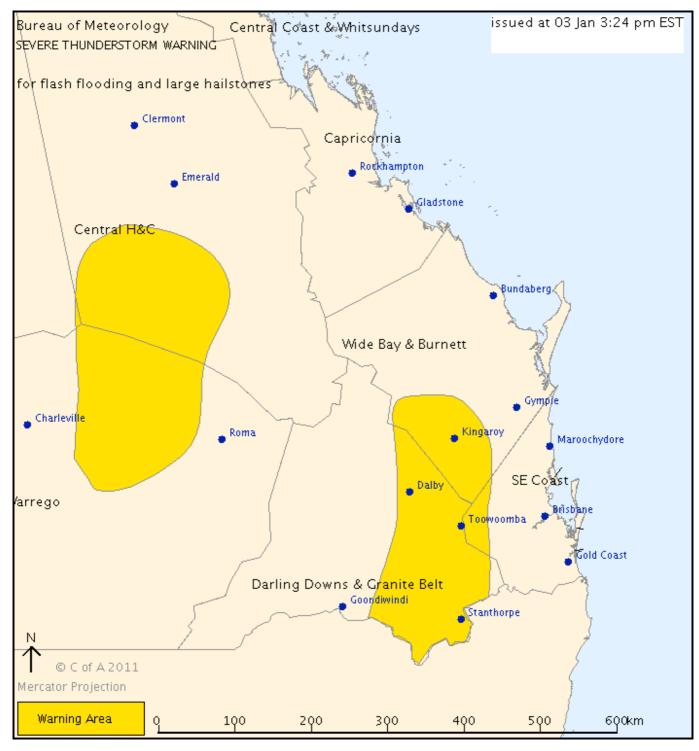
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:24 pm Monday, 3 January 2011.

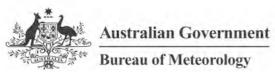
Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Mitchell, Rolleston, Springsure, Warwick, Toowoomba, Dalby, Kingaroy, Stanthorpe, Oakey, Inglewood, Jondaryan and Yarraman.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:25 pm.



At 3:24 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the GYMPIE, MORETON BAY, SOUTHERN DOWNS, SUNSHINE COAST, SOMERSET and TOOWOOMBA Council Areas.

Issued at 3:57 pm Monday, 3 January 2011.

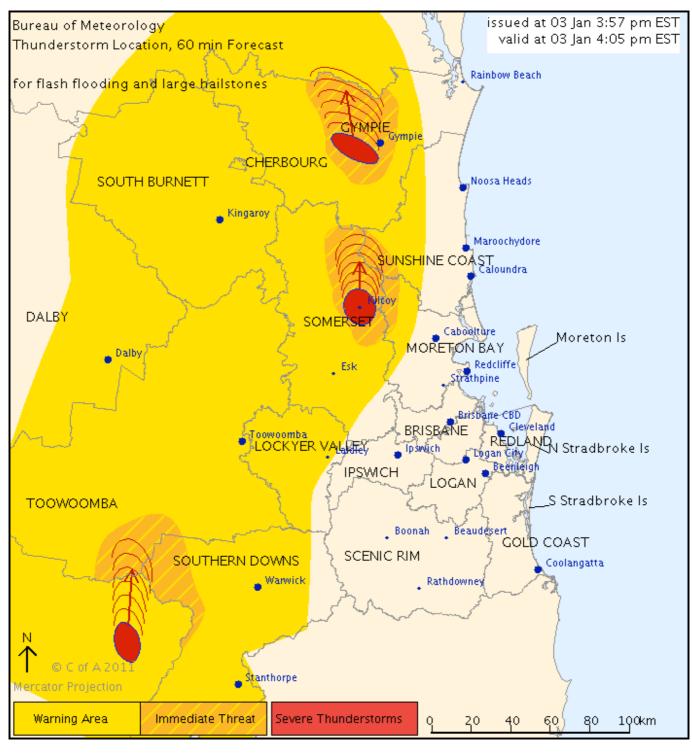
The Bureau of Meteorology warns that, at 4:05 pm, severe thunderstorms were detected on weather radar near Kilcoy and Mount Kilcoy.

These thunderstorms are moving towards the north.

They are forecast to affect the area northwest of Gympie and the area north of Gympie by 4:35 pm and Jimna, the ranges south of Jimna, the area west of Conondale and Mount Kanighan by 5:05 pm.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 5:00 pm.

A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

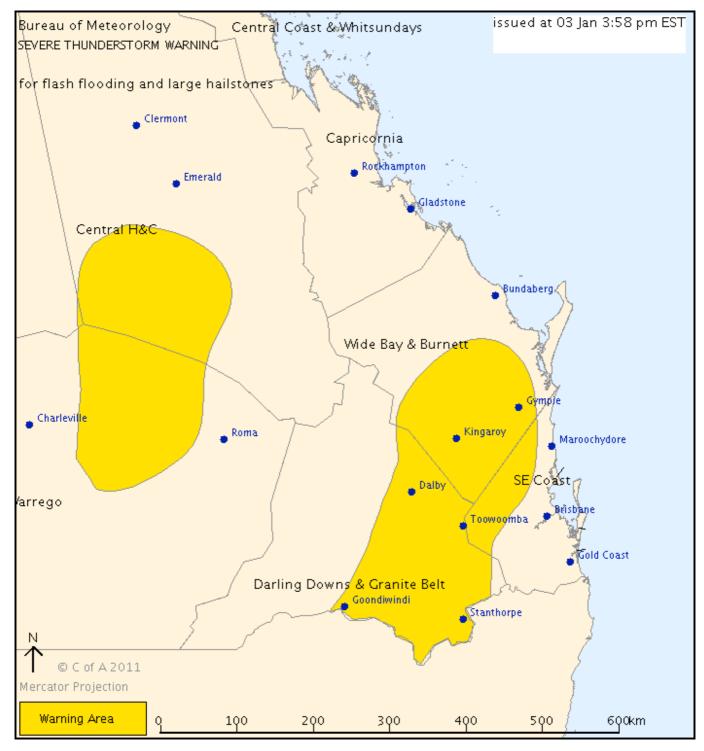
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:58 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Mitchell, Rolleston, Springsure, Warwick, Toowoomba, Dalby, Gympie, Kingaroy, Stanthorpe, Oakey, Goondiwindi and Toolara Forestry.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:00 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

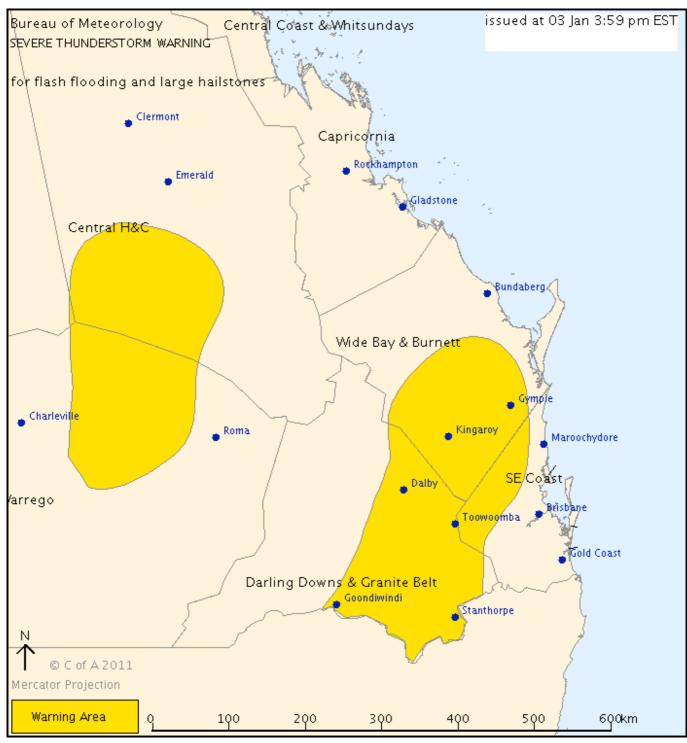
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:59 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Mitchell, Rolleston, Springsure, Warwick, Toowoomba, Dalby, Gympie, Kingaroy, Stanthorpe, Oakey, Goondiwindi and Toolara Forestry.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:00 pm.



At 3:59 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

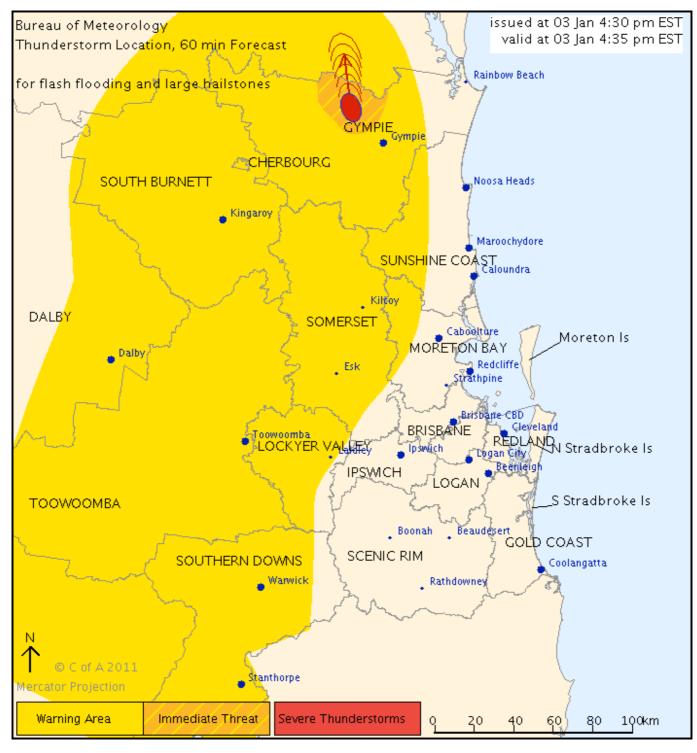
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the GYMPIE Council Area.

Issued at 4:30 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 4:35 pm, severe thunderstorms were detected on weather radar near the area northwest of Gympie.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 5:30 pm.

A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the TOOWOOMBA Council Area.

Issued at 4:49 pm Monday, 3 January 2011.

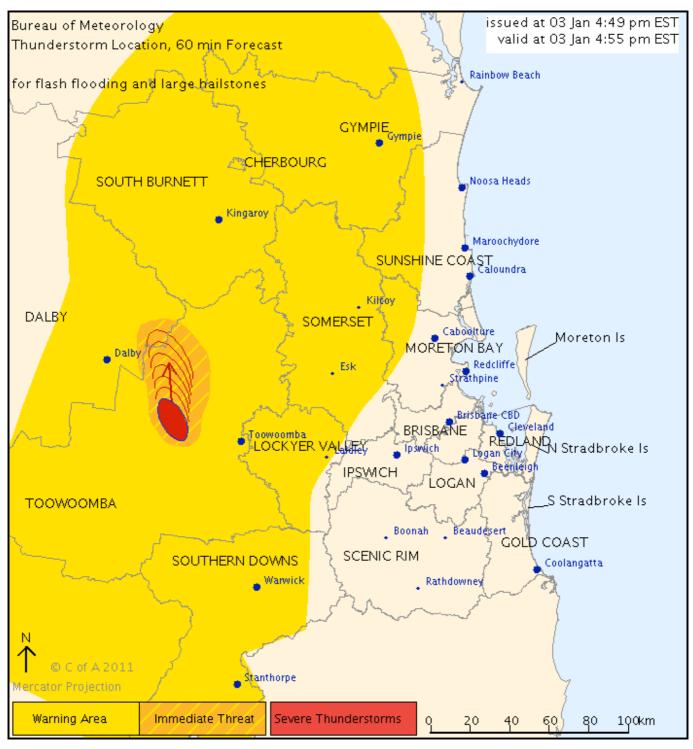
The Bureau of Meteorology warns that, at 4:55 pm, severe thunderstorms were detected on weather radar near Jondaryan and the area west of Oakey.

These thunderstorms are moving towards the north.

They are forecast to affect the area east of Dalby by 5:55 pm.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 5:50 pm.

A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

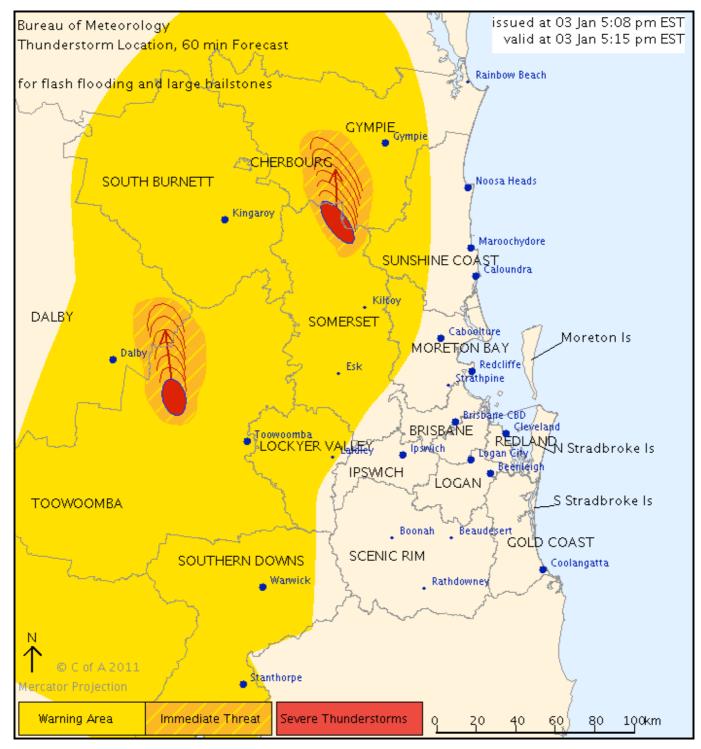
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING and LARGE HAILSTONES For people in parts of the GYMPIE, DALBY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 5:08 pm Monday, 3 January 2011.

The Bureau of Meteorology warns that, at 5:15 pm, severe thunderstorms were detected on weather radar near Jondaryan and the area northwest of Jimna. These thunderstorms are moving towards the north. They are forecast to affect the area southwest of Gympie, the ranges between Gympie and Murgon, the area east of Dalby and the Amamoor Range northwest of Kenilworth by 6:15 pm.

Very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:10 pm.



A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

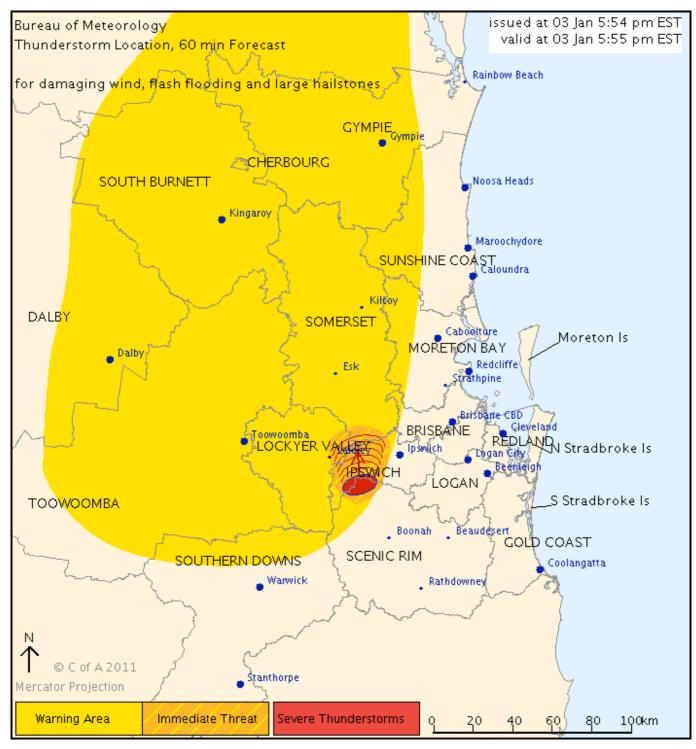
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and SOMERSET Council Areas.

Issued at 5:54 pm Monday, 3 January 2011.

Thunderstorms are moving towards the north. They are forecast to affect Grandchester and Rosewood by 6:25 pm and Hatton Vale and Marburg by 6:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 6:55 pm.

A more general severe thunderstorm warning is also current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

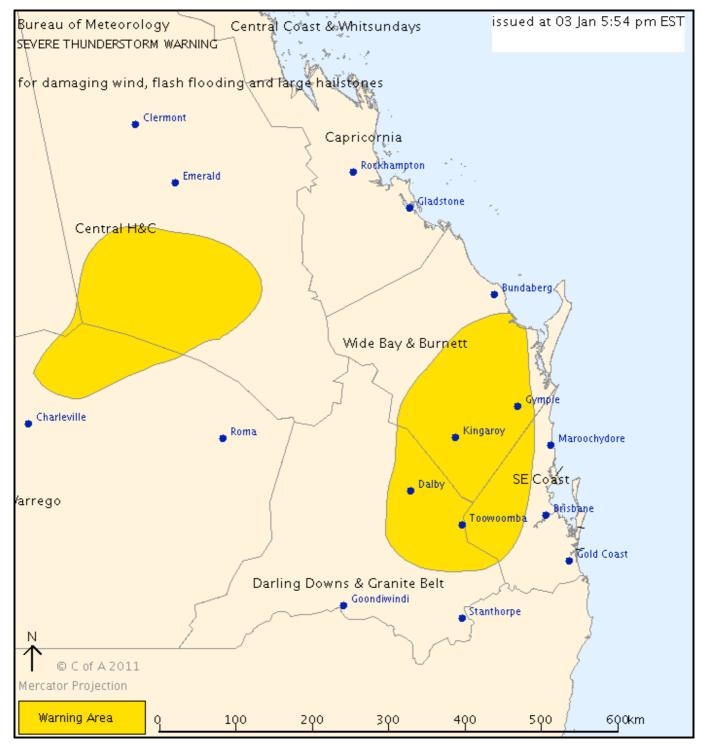
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 5:54 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Toowoomba, Dalby, Gympie, Kingaroy, Oakey, Maryborough, Gayndah, Biggenden, Rolleston, Springsure, Augathella and Mantuan Downs.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:55 pm.



At 5:54 pm Monday, 3 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

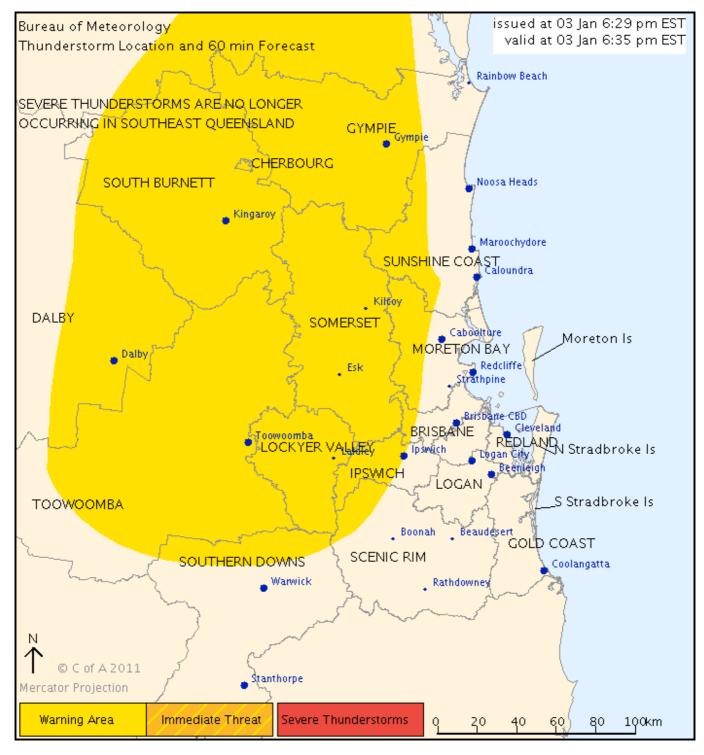
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 6:29 pm Monday, 3 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for parts of the Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego,



Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

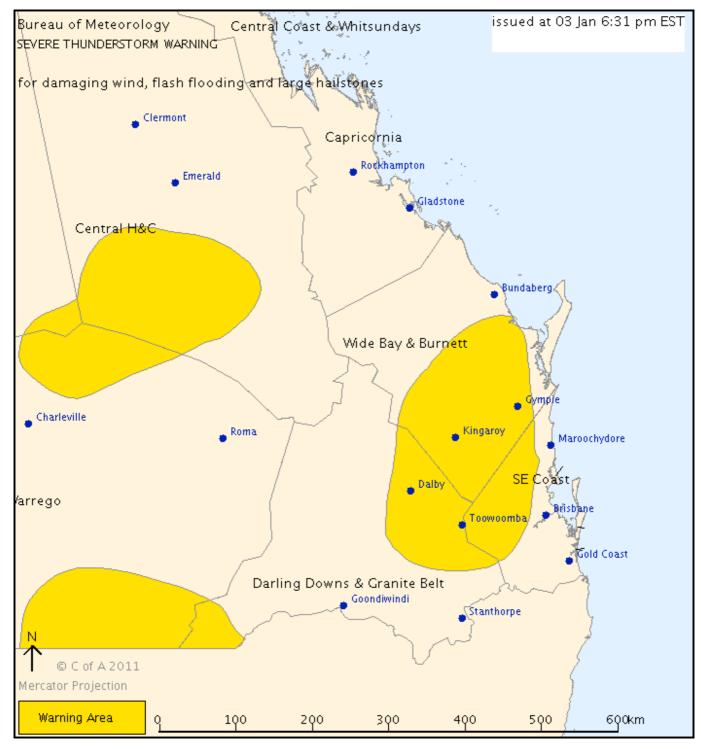
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Central West, Wide Bay and Burnett, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 6:31 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Toowoomba, Dalby, Gympie, Kingaroy, Rolleston and Springsure.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:35 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

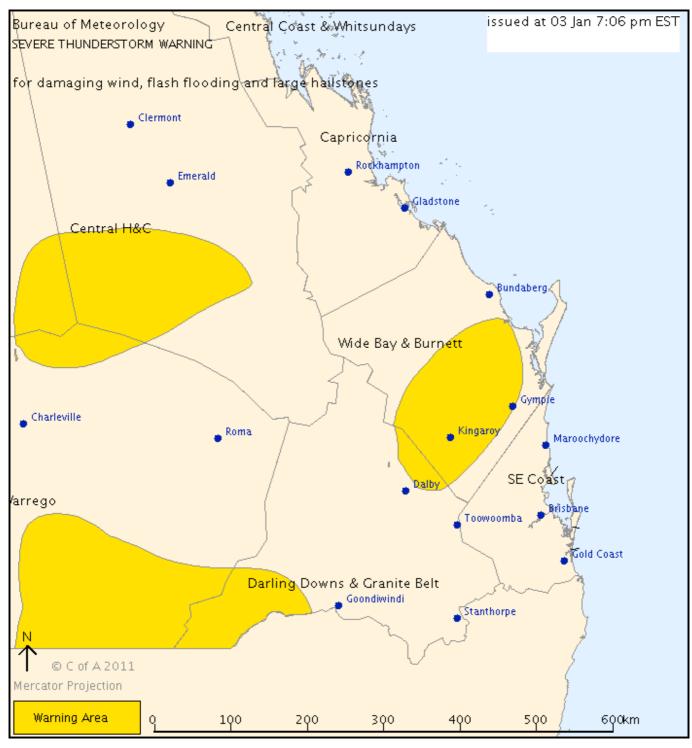
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Central West, Wide Bay and Burnett, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 7:06 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Gympie, Kingaroy, Tambo, Rolleston, Springsure and Bollon.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:10 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

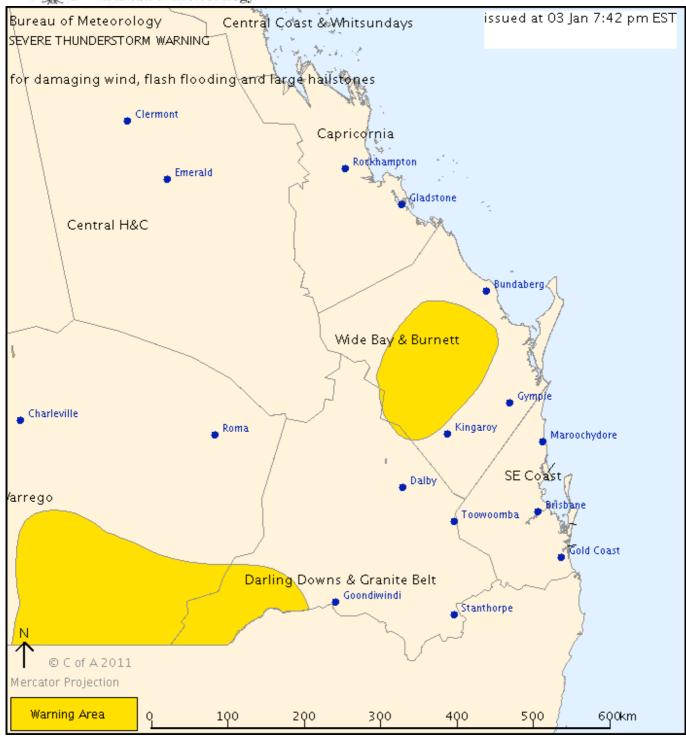
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Wide Bay and Burnett, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 7:42 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Bollon, Dirranbandi, Wondai, Murgon, Childers, Gayndah, Mundubbera and Biggenden.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:45 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

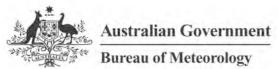
IDQ20041 Bureau of Meteorology Queensland Regional Office

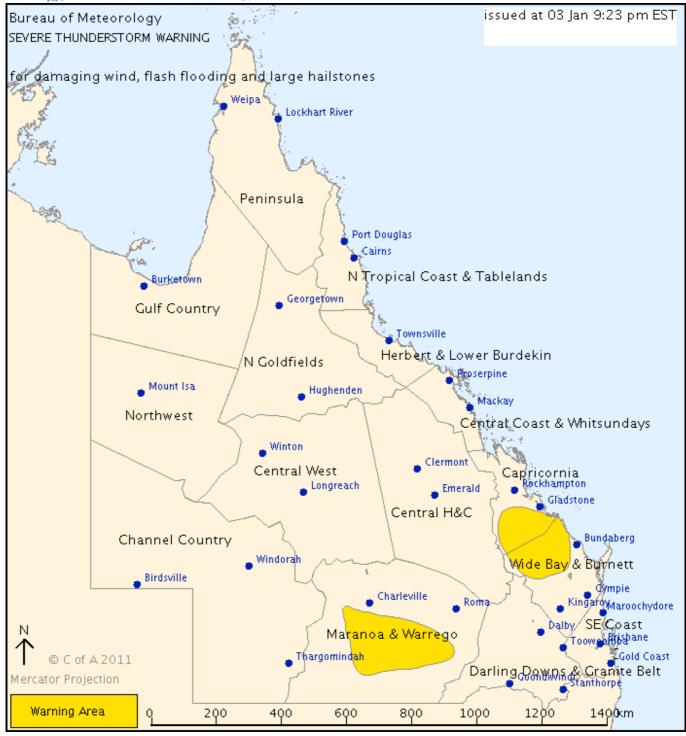
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Capricornia, Wide Bay and Burnett and Maranoa and Warrego Forecast Districts.

Issued at 9:23 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Bollon, Biloela, Monto, Gayndah, Mundubbera and Eidsvold.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:25 am Tuesday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

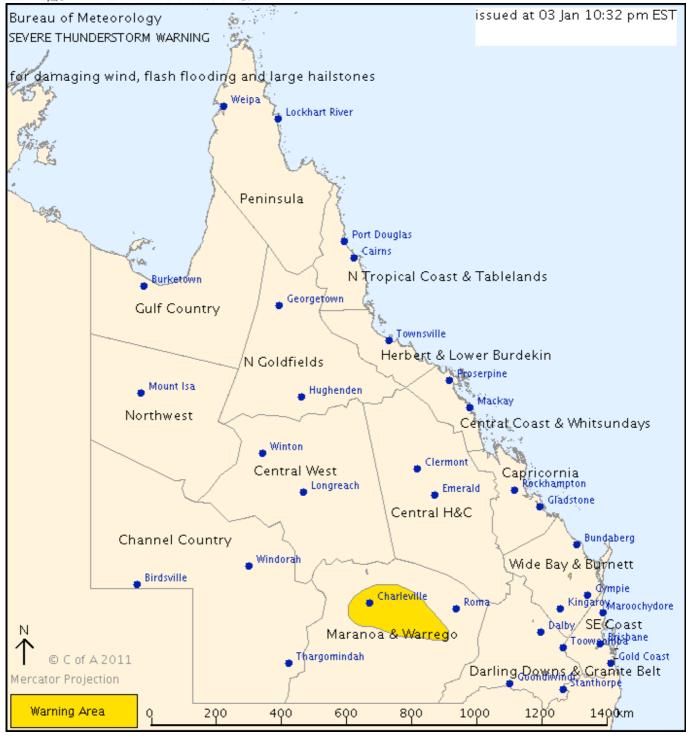
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Maranoa and Warrego Forecast District.

Issued at 10:32 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Charleville.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:35 am Tuesday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

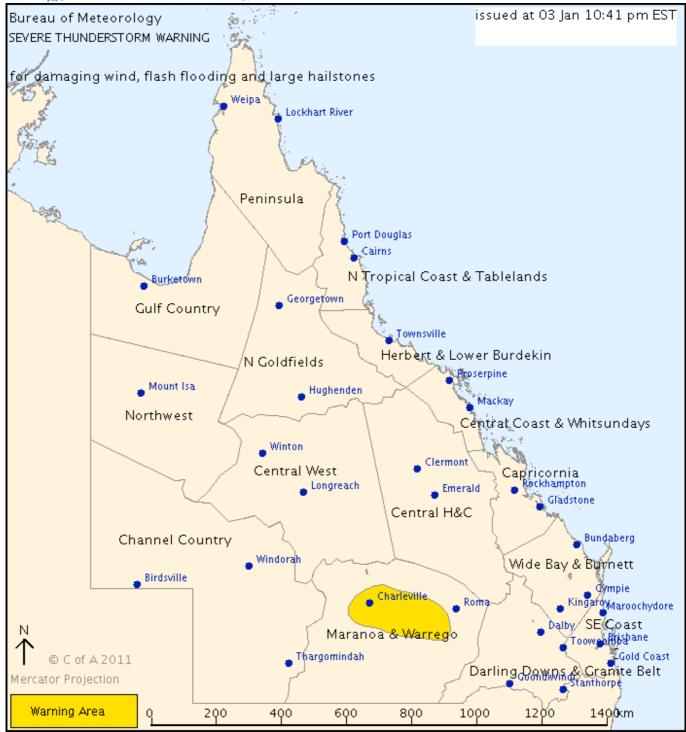
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Maranoa and Warrego Forecast District.

Issued at 10:41 pm Monday, 3 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Charleville and Mitchell.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:45 am Tuesday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 1:31 am Tuesday, 4 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

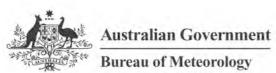
The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency



Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields Forecast District.

Issued at 3:37 pm Tuesday, 4 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Emerald, Blackwater, Rolleston, Springsure and Comet.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:40 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

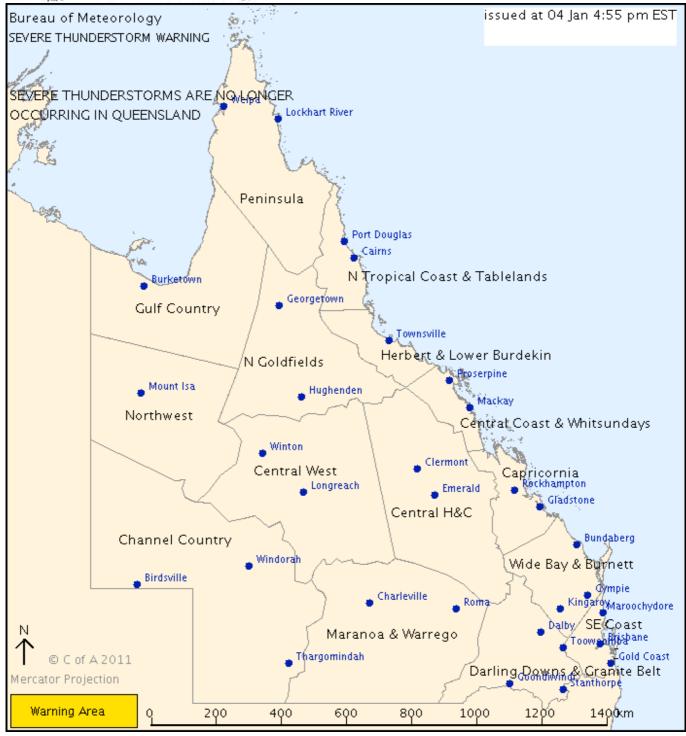
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 4:55 pm Tuesday, 4 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

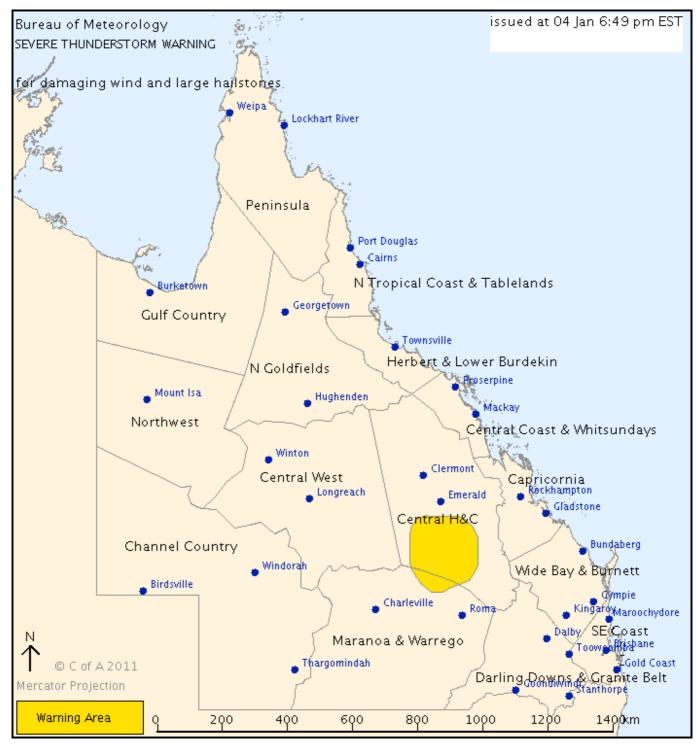
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields and Maranoa and Warrego Forecast Districts.

Issued at 6:49 pm Tuesday, 4 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Rolleston, Springsure and Mantuan Downs.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

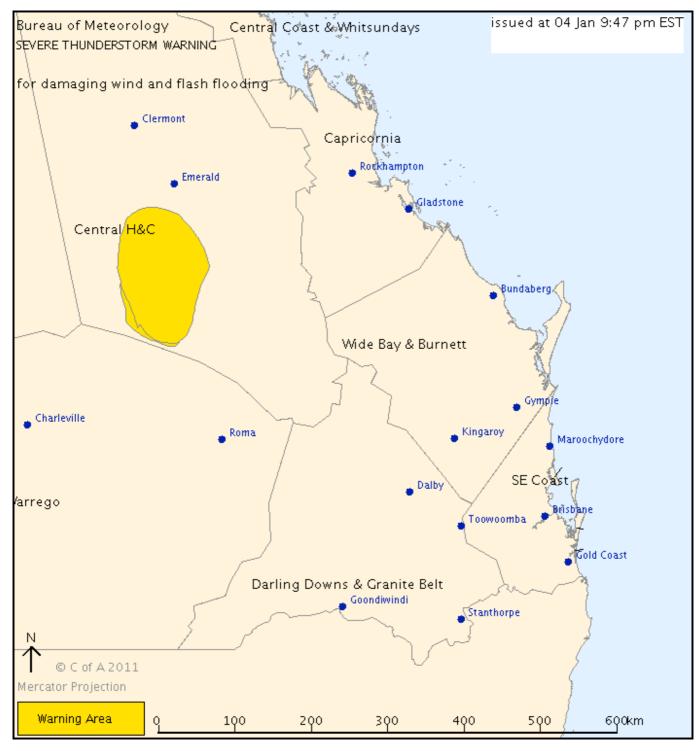
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in parts of the Central Highlands and Coalfields Forecast District.

Issued at 9:47 pm Tuesday, 4 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Springsure.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:50 am Wednesday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

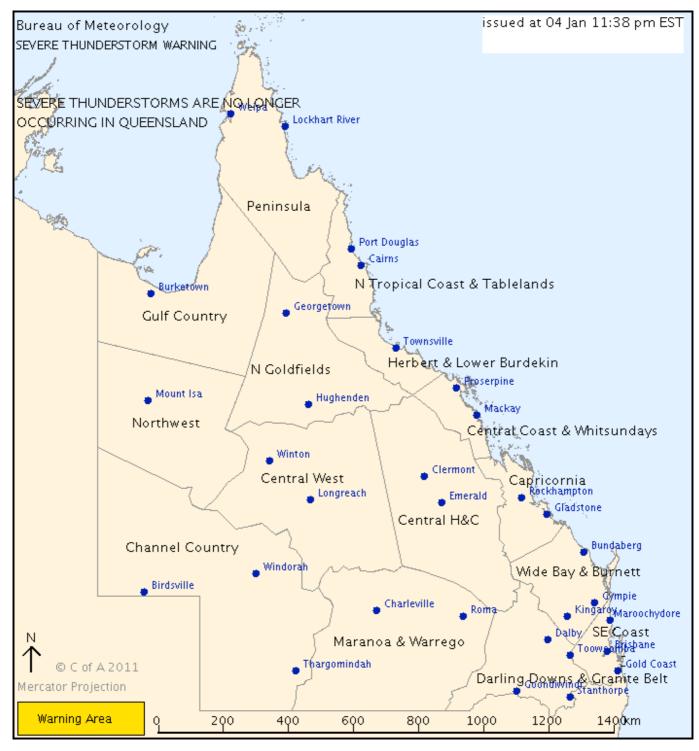
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 11:38 pm Tuesday, 4 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

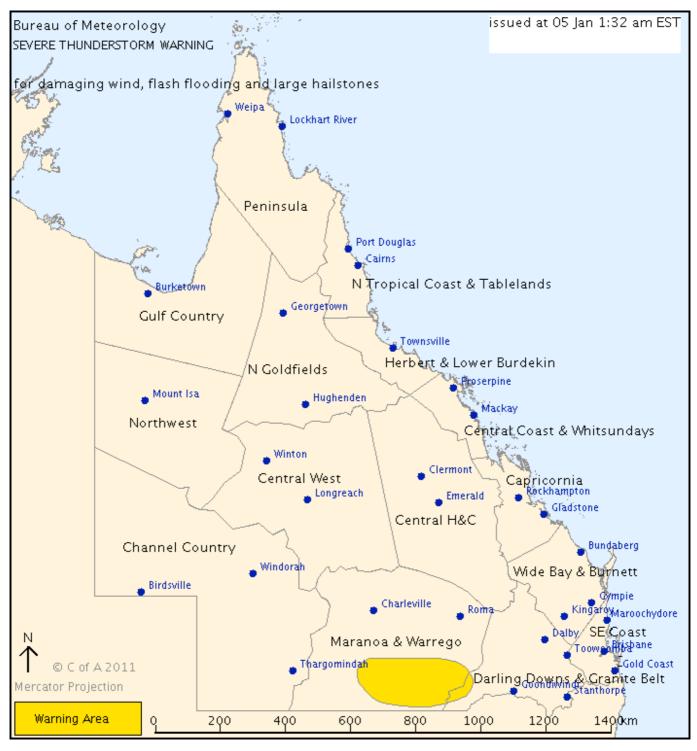
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 1:32 am Wednesday, 5 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include St George, Bollon and Dirranbandi.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:35 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

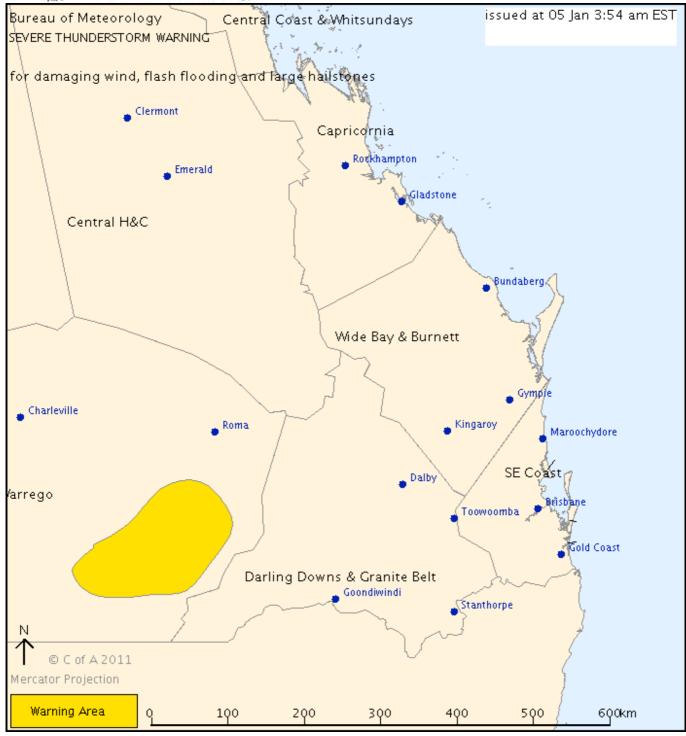
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Maranoa and Warrego Forecast District.

Issued at 3:54 am Wednesday, 5 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include St George and Bollon.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:55 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

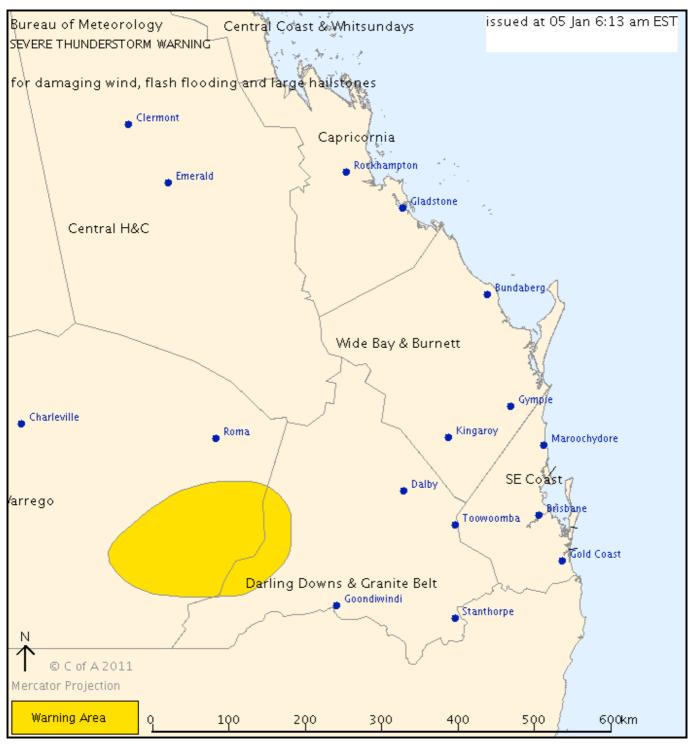
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 6:13 am Wednesday, 5 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include St George and Bollon.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:15 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

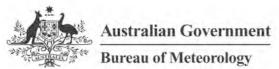
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 8:08 am Wednesday, 5 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

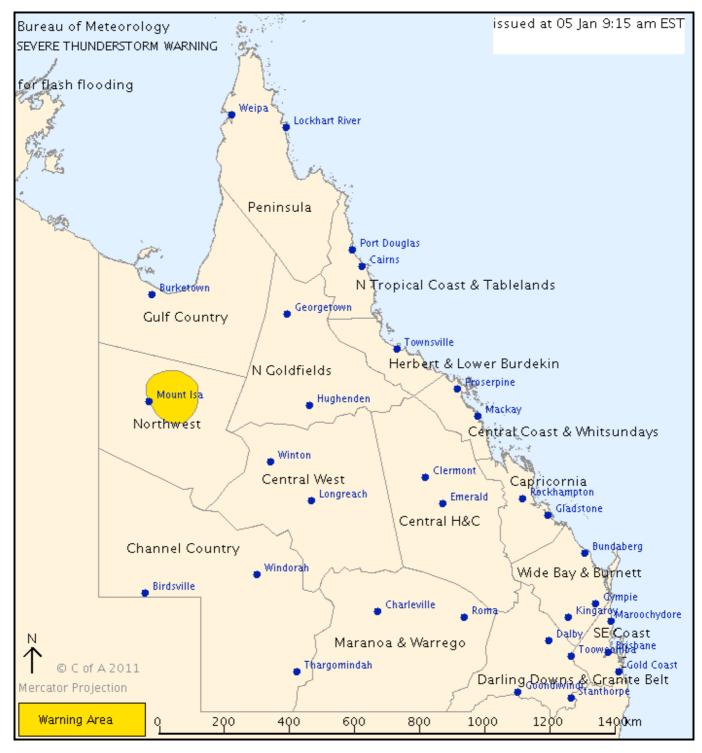
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest Forecast District.

Issued at 9:15 am Wednesday, 5 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Mount Isa and Cloncurry.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

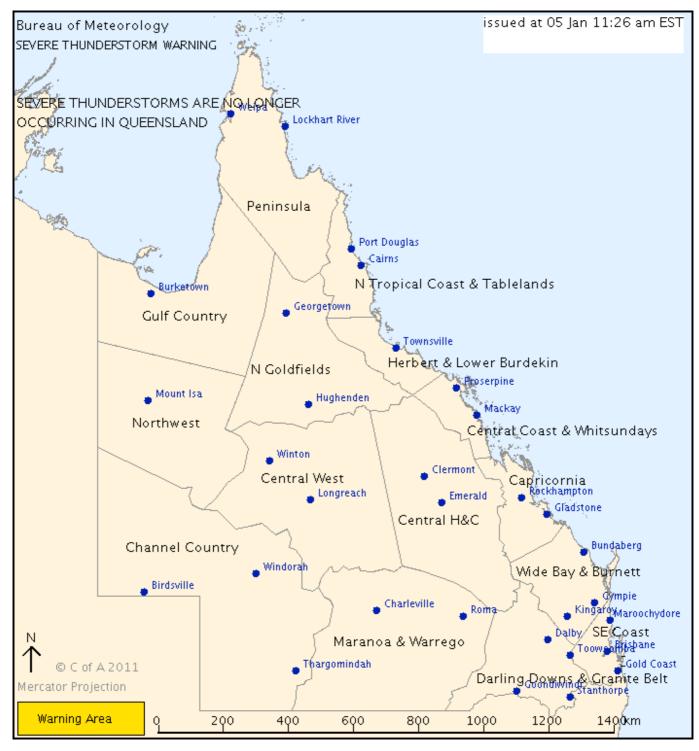
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 11:26 am Wednesday, 5 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the BRISBANE CITY, LOCKYER VALLEY, MORETON BAY and SOMERSET Council Areas.

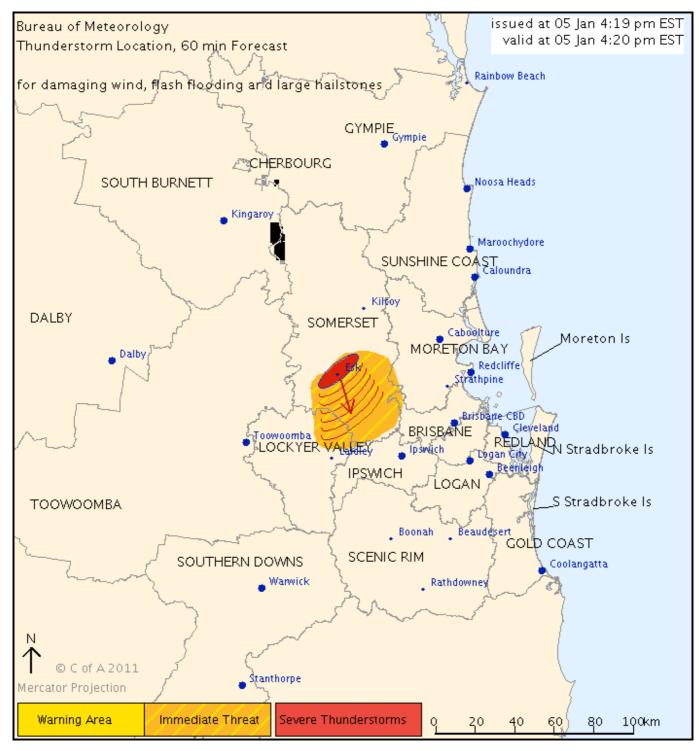
Issued at 4:19 pm Wednesday, 5 January 2011.

The Bureau of Meteorology warns that, at 4:20 pm, severe thunderstorms were detected on weather radar near Esk and northern Lake Wivenhoe.

They are forecast to affect the area south of Esk by 4:50 pm and southern Lake Wivenhoe by 5:20 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 5:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

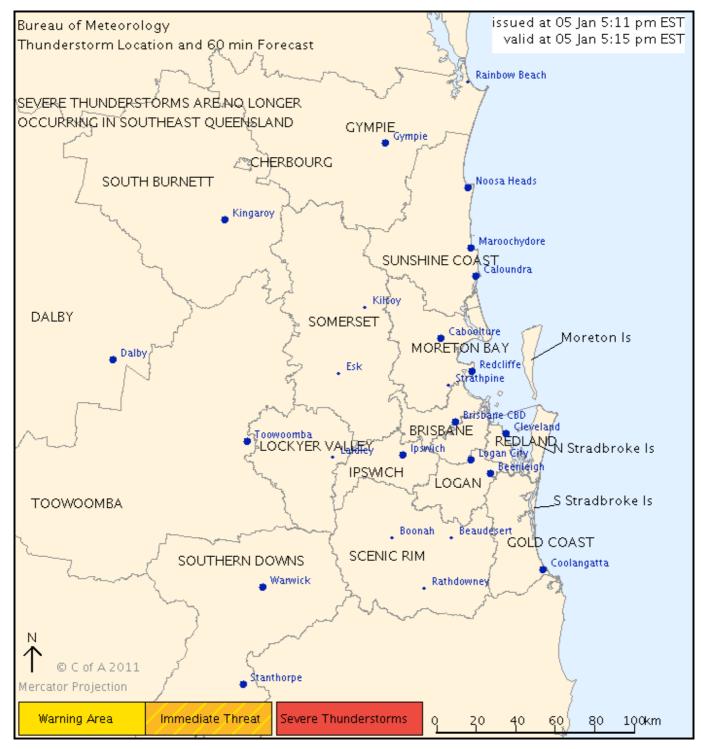
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 5:11 pm Wednesday, 5 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but further severe thunderstorms are possible and the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia Forecast Districts.

Issued at 3:21 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Rockhampton, Clermont, Yeppoon and Moranbah.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:25 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

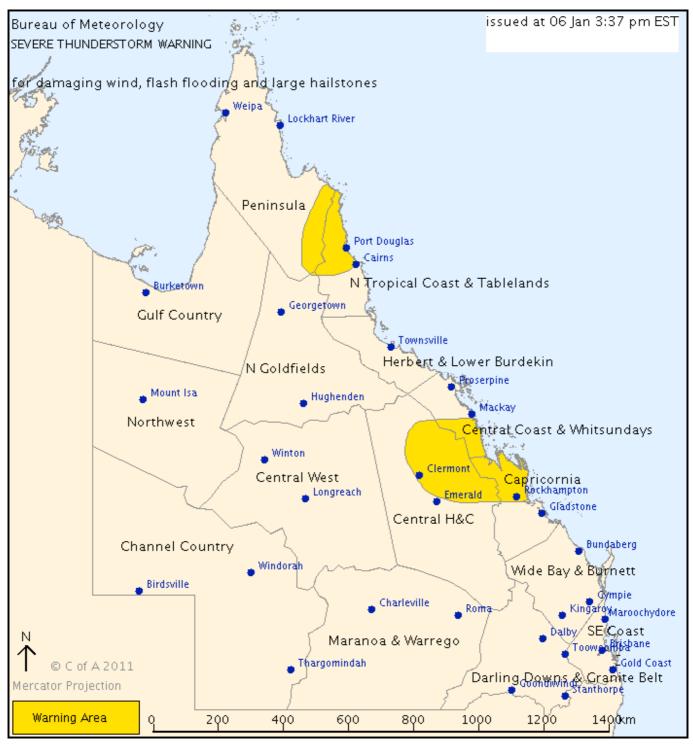
SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Peninsula, Northern Tropical Coast and Tablelands, Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia Forecast Districts.

Issued at 3:37 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones over the next several hours in parts of the Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia districts. Locations which may be affected include Rockhampton, Clermont, Yeppoon and Moranbah.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next several hours in parts of the Peninsula and Northern Tropical Coast and Tablelands districts. Locations which may be affected include Port Douglas, Mareeba, Cooktown and Daintree Village.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:40 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Peninsula, Northern Tropical Coast and Tablelands, Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia Forecast Districts.

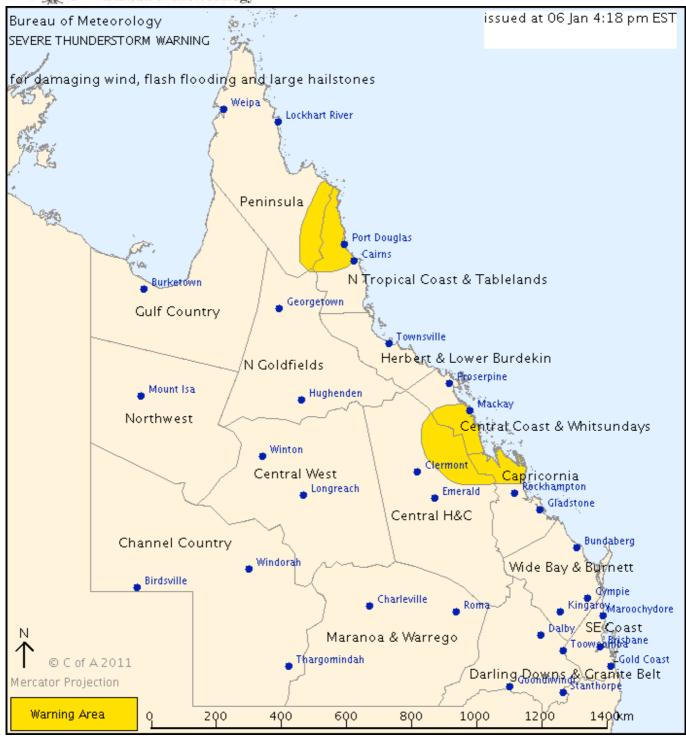
Issued at 4:18 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones over the next several hours in parts of the Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia districts. Locations which may be affected include Mackay, Moranbah, St Lawrence and Sarina.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next several hours in parts of the Peninsula and Northern Tropical Coast and Tablelands districts. Locations which may be affected include Port Douglas, Mareeba, Cooktown and Daintree Village.

88mm of rainfall was recorded in 1 hour at Flaggy Creek [northwest of Cairns] at 3:50pm.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Central Coast and Whitsundays and parts of the Herbert and Lower Burdekin and Capricornia Forecast Districts.

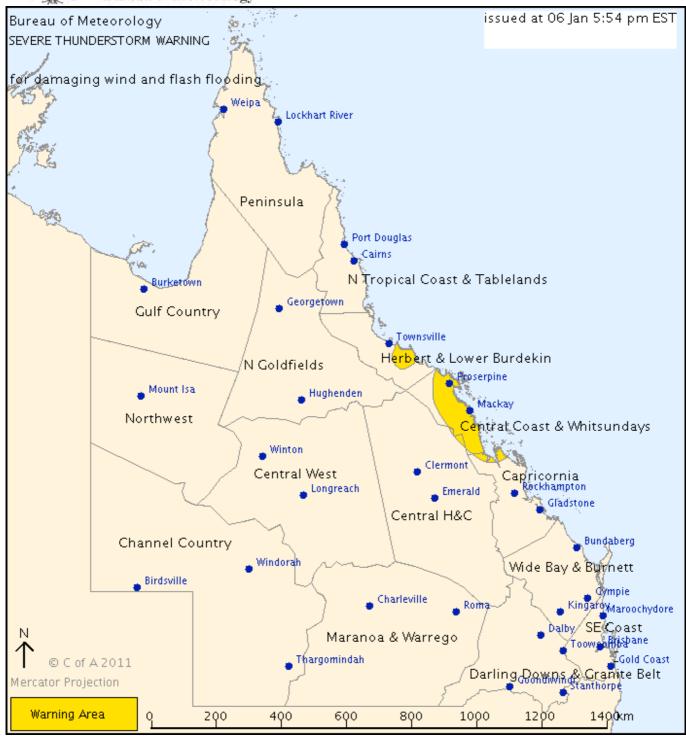
Issued at 5:54 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding over the next several hours in the Central Coast and Whitsundays and far northern parts of the Capricornia districts. Locations which may be affected include Mackay, Proserpine, Hamilton Island, St Lawrence, Sarina and Nebo.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next several hours in parts of the Herbert and Lower Burdekin district. Locations which may be affected include Giru.

89mm of rainfall was earlier recorded in 1 hour at Flaggy Creek [northwest of Cairns] at 3:50pm.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:55 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays, Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

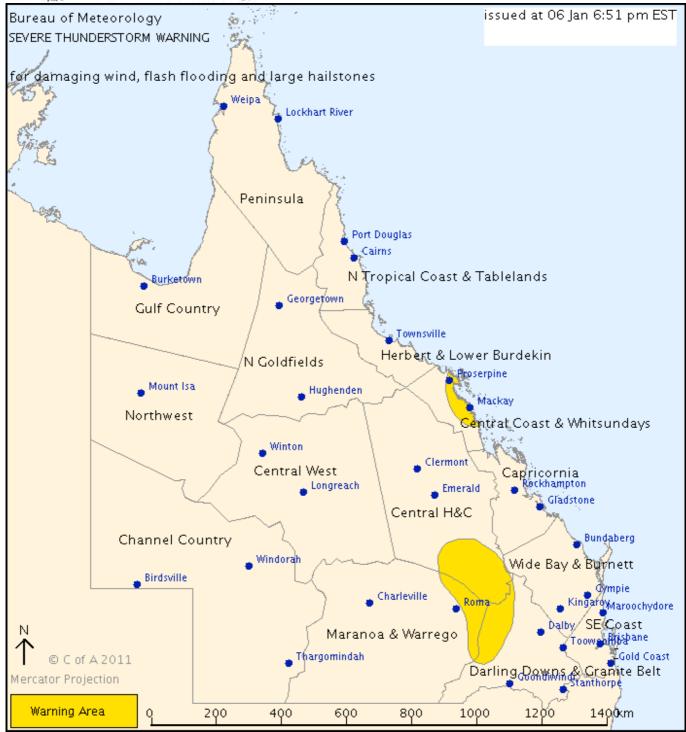
Issued at 6:51 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next hour or two in parts of the Central Coast and Whitsundays district. Locations which may be affected include Mackay, Proserpine and Hamilton Island.

Severe thunderstorms could possibly produce damaging winds, very heavy rainfall, flash flooding and large hailstones over the next several hours in parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt districts.

89mm of rainfall was earlier recorded in 1 hour at Flaggy Creek [northwest of Cairns] at 3:50pm.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:55 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

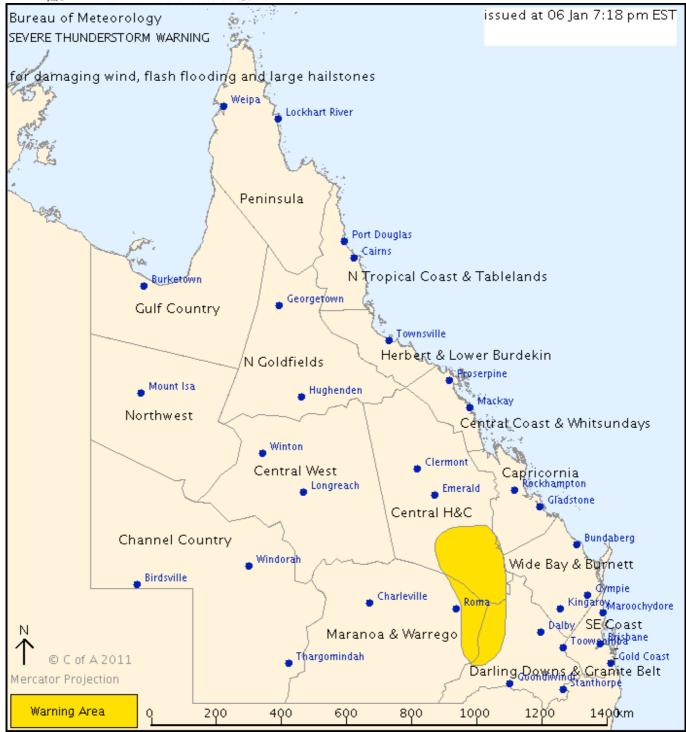
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 7:18 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Surat and the area east of Marengo.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

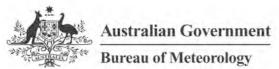
TOP PRIORITY FOR IMMEDIATE BROADCAST

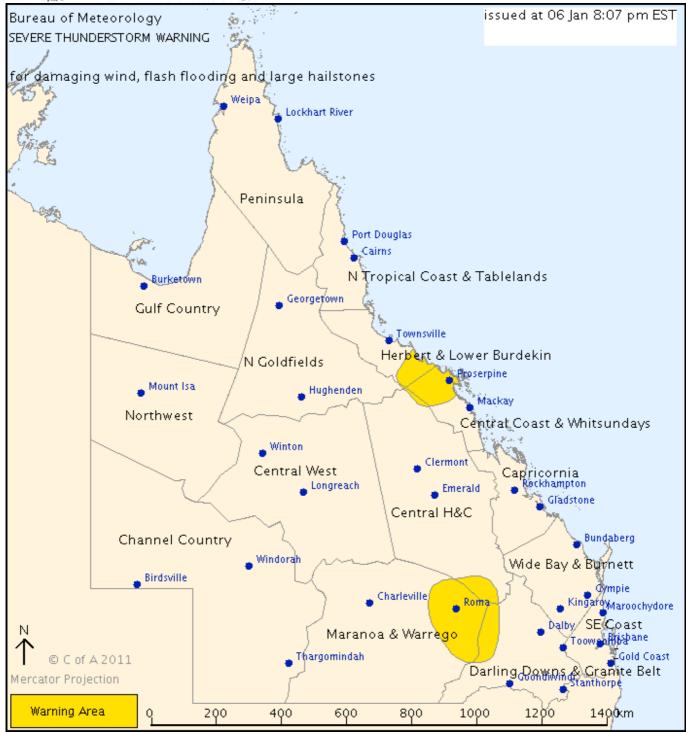
SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Herbert and Lower Burdekin, Central Coast and Whitsundays, Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 8:07 pm Thursday, 6 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones over the next several hours in far southern parts of the Central Highlands and Coalfields, Maranoa and Warrego and far northwestern parts of the Darling Downs and Granite Belt districts. Locations which may be affected include Roma and Mitchell.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding over the next several hours in southern parts of the Herbert and Lower Burdekin and northern parts of the Central Coast and Whitsundays districts. Locations which may be affected include Proserpine, Bowen and Collinsville.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:10 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 10:23 pm Thursday, 6 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

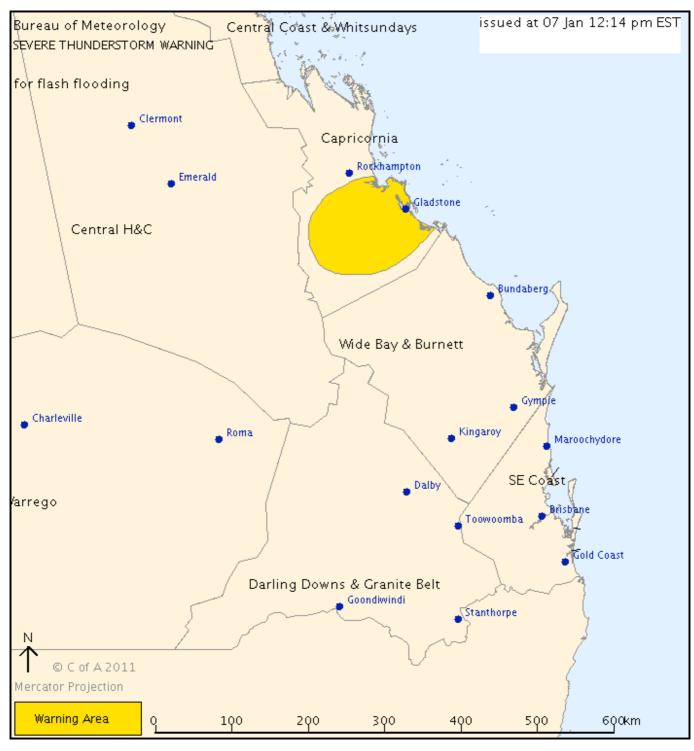
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Capricornia Forecast District.

Issued at 12:14 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected includes the area inland of Gladstone.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

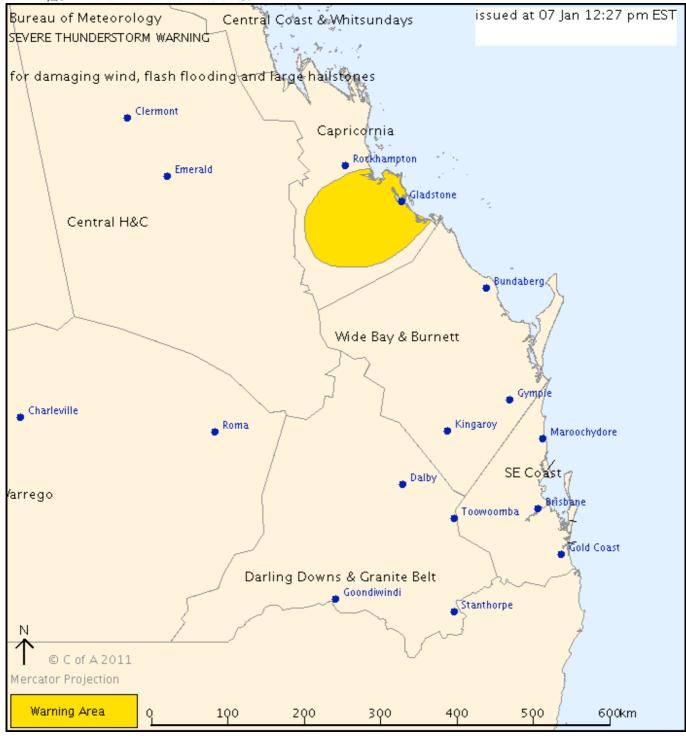
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Capricornia Forecast District.

Issued at 12:27 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Mt Larcom and Calliope.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:30 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

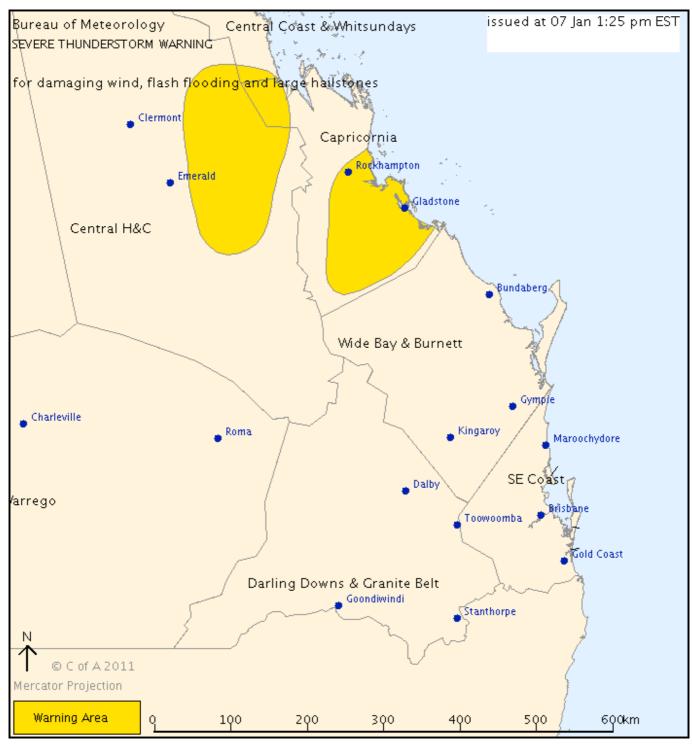
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays, Central Highlands and Coalfields and Capricornia Forecast Districts.

Issued at 1:25 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Rockhampton, Leura and Blackwater.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:25 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

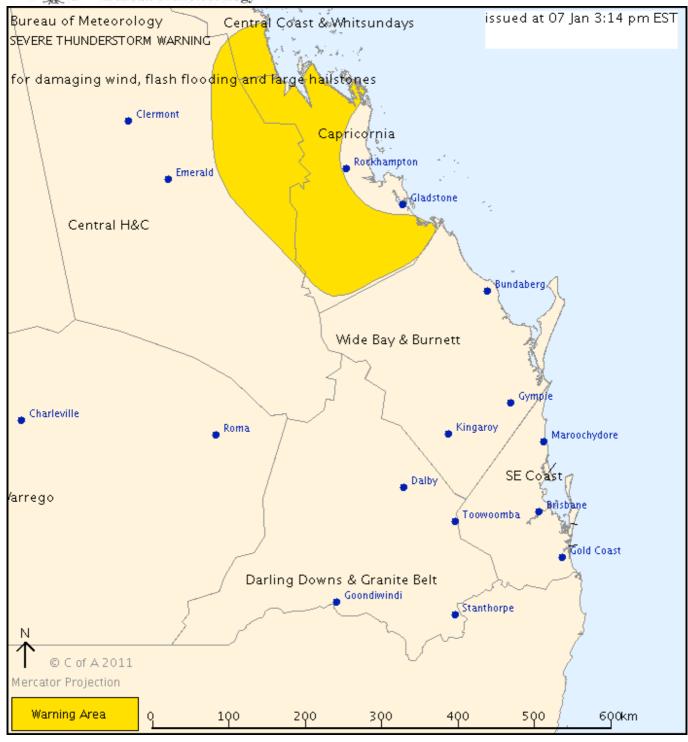
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the Capricornia and parts of the Central Coast and Whitsundays and Central Highlands and Coalfields Forecast Districts.

Issued at 3:14 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Biloela, Baralaba and Marlborough.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

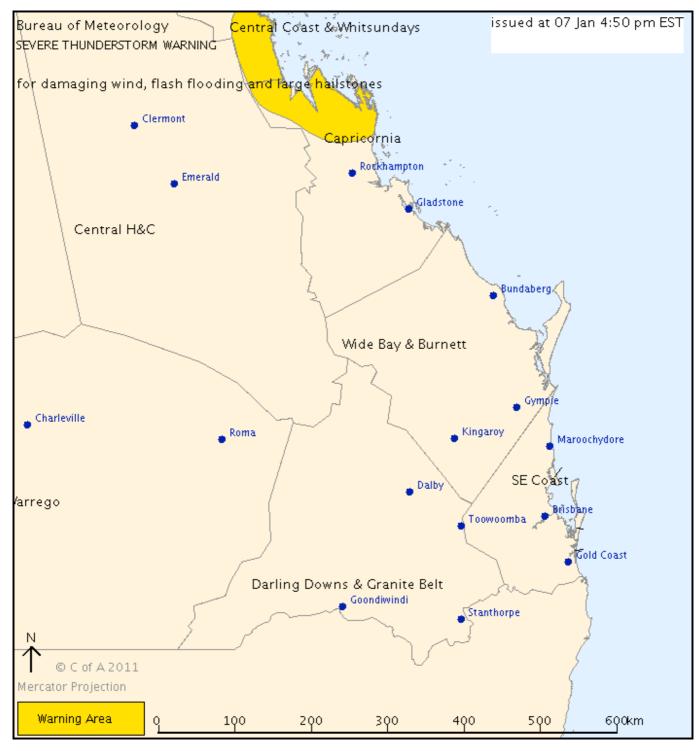
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays and Capricornia Forecast Districts.

Issued at 4:50 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Marlborough and Sarina.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

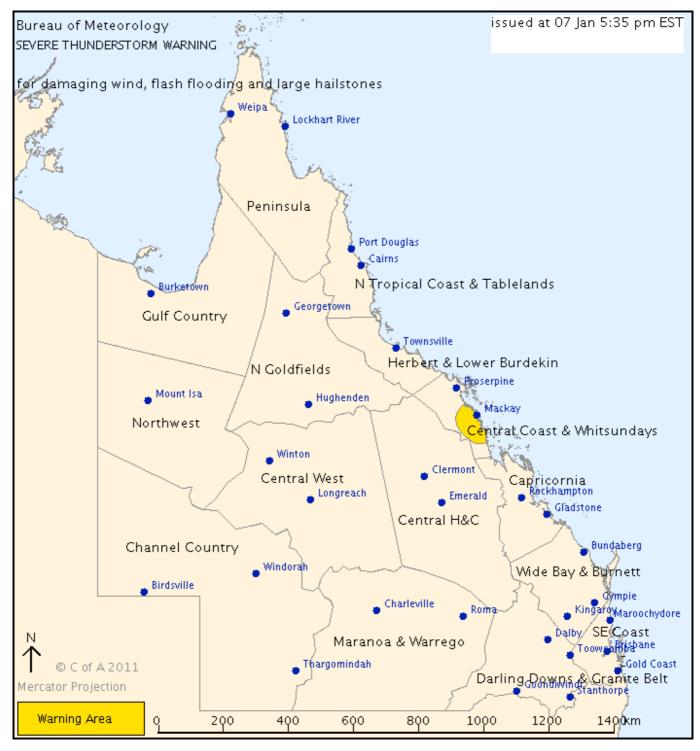
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays Forecast District.

Issued at 5:35 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Mackay and Sarina.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:35 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

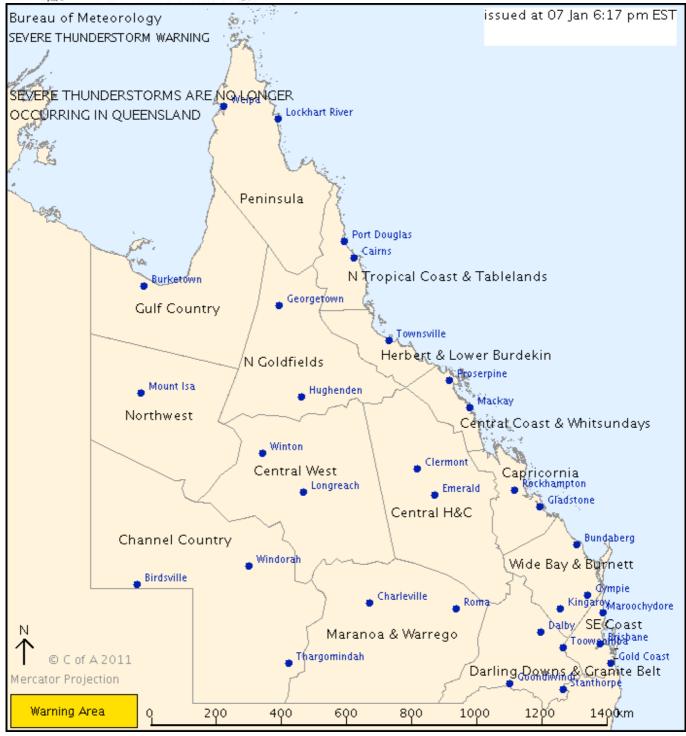
Issued at 6:17 pm Friday, 7 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.

A 111km/hr wind gust was earlier recorded at Mackay Ap at 5:42pm.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

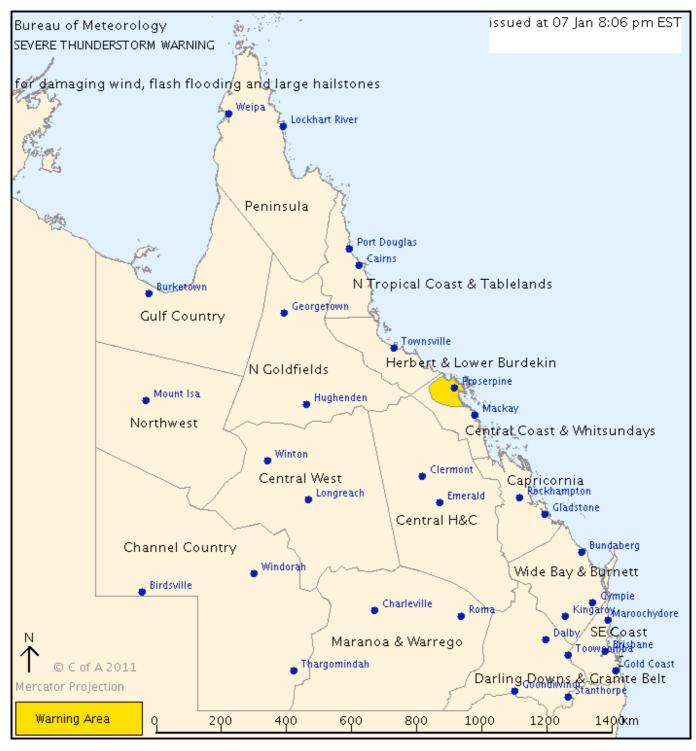
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Coast and Whitsundays Forecast District.

Issued at 8:06 pm Friday, 7 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Proserpine and Hamilton Island.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:10 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

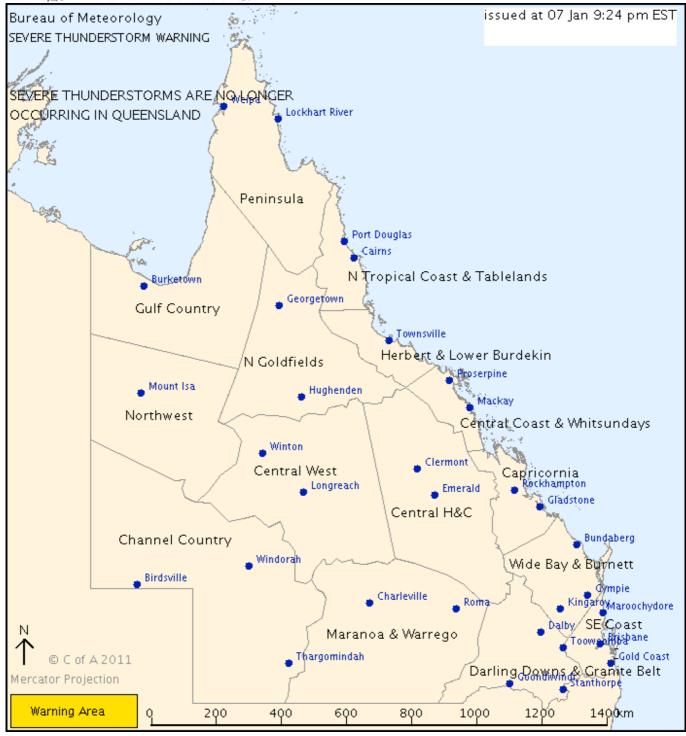
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:24 pm Friday, 7 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

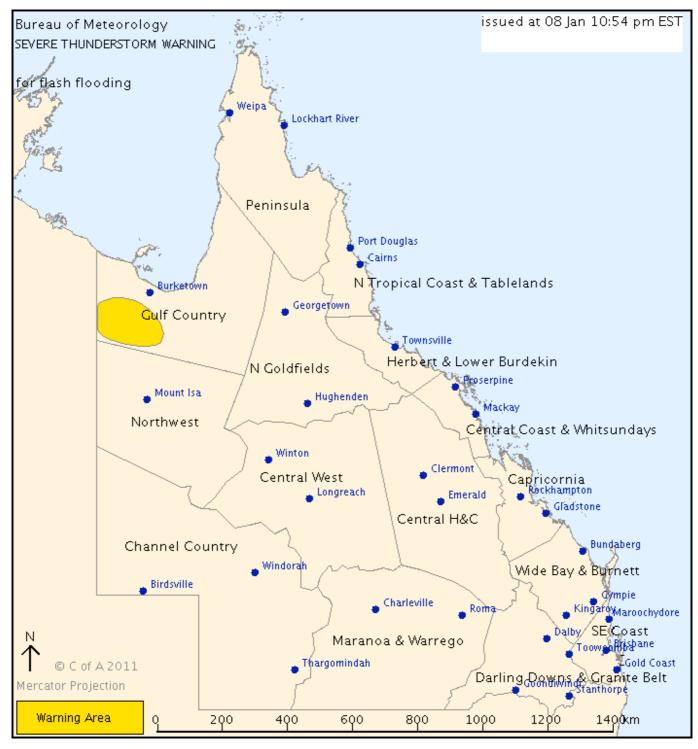
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Gulf Country Forecast District.

Issued at 10:54 pm Saturday, 8 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Riversleigh Station and Gregory Downs Station.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:55 am Sunday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 1:14 am Sunday, 9 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

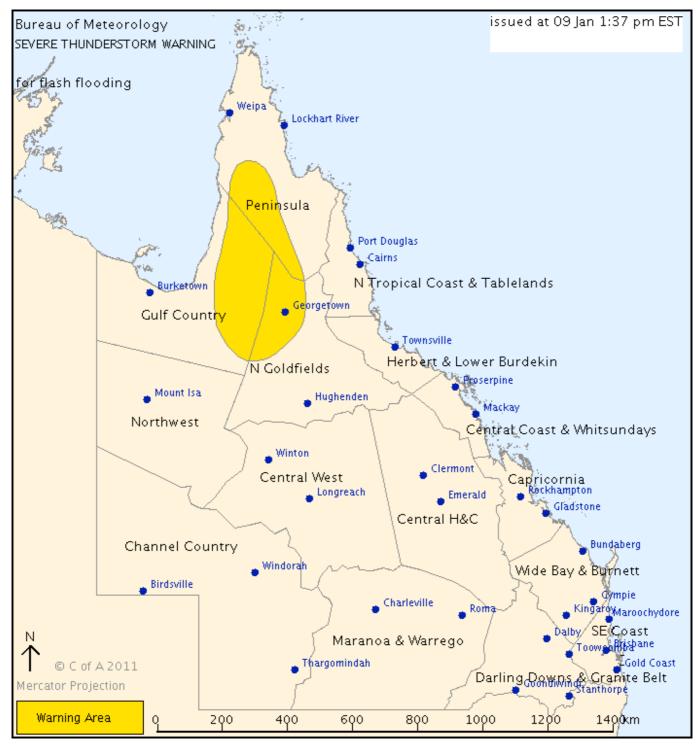
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Peninsula, Gulf Country and Northern Goldfields and Upper Flinders Forecast Districts.

Issued at 1:37 pm Sunday, 9 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Georgetown, Croydon, Forsayth and Blackbull Siding.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:40 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

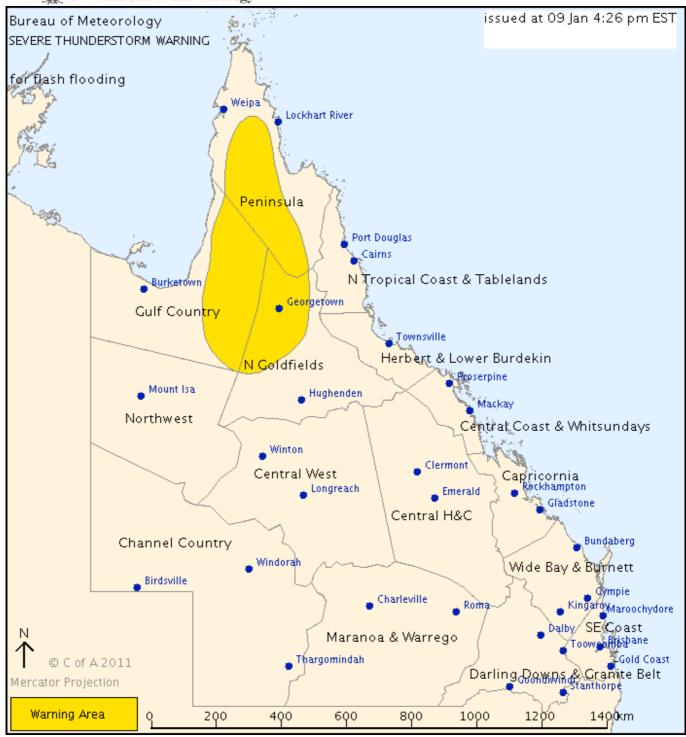
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Peninsula, Gulf Country and Northern Goldfields and Upper Flinders Forecast Districts.

Issued at 4:26 pm Sunday, 9 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Georgetown, Croydon, Coen, Palmerville, Musgrave and Einasleigh.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:30 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

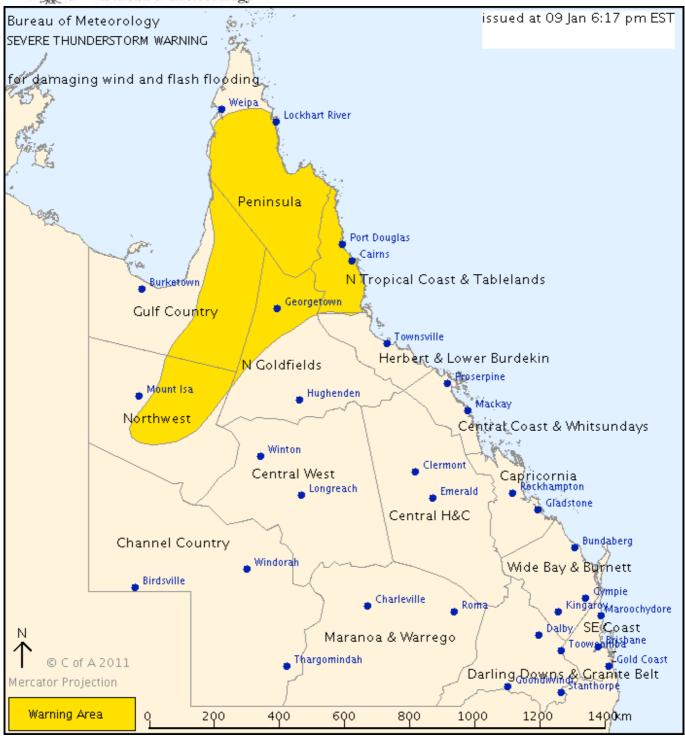
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING

For people in the Peninsula, Northern Tropical Coast and Tablelands and parts of the Gulf Country, Northern Goldfields and Upper Flinders and Northwest Forecast Districts.

Issued at 6:17 pm Sunday, 9 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Cloncurry, Georgetown, Cairns, Port Douglas, Lockhart River, Julia Creek, Croydon, Innisfail, Mareeba, Kowanyama, Coen and Aurukun.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:06 pm Sunday, 9 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

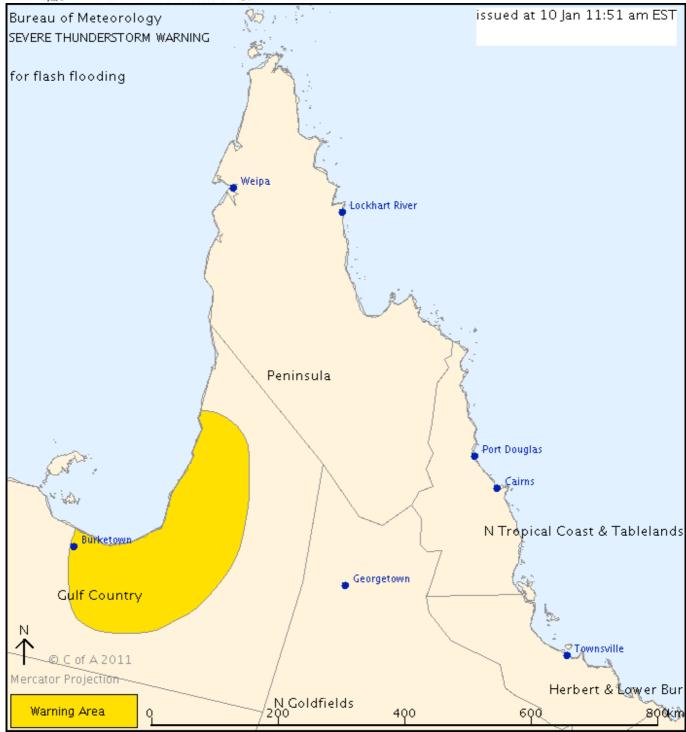
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Gulf Country Forecast District.

Issued at 11:51 am Monday, 10 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Burketown, Normanton, Karumba and Delta Downs Station.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 2:55 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

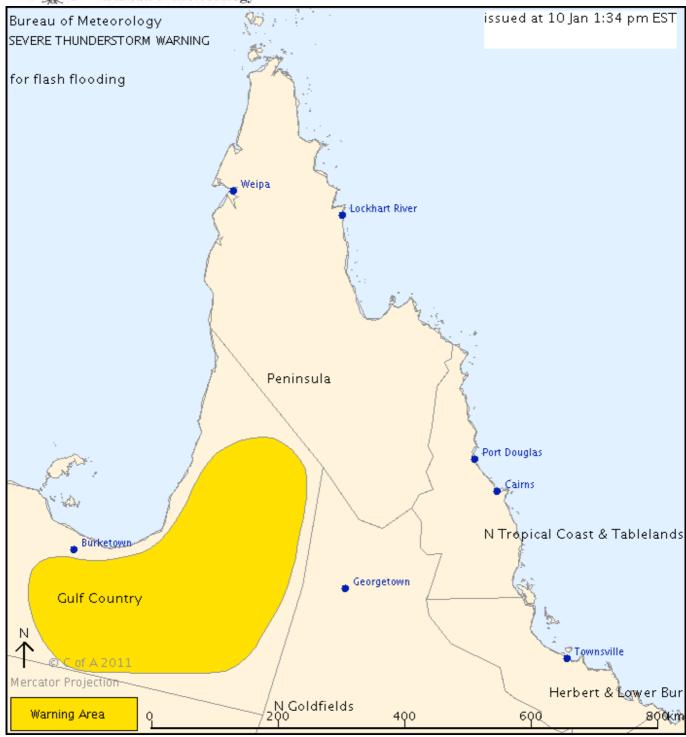
SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Gulf Country Forecast District.

Issued at 1:34 pm Monday, 10 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Normanton, Croydon, Delta Downs Station and Augustus Downs Station.

55mm of rainfall was recorded in an hour at Normanton Ap at 12:20pm.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:35 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING

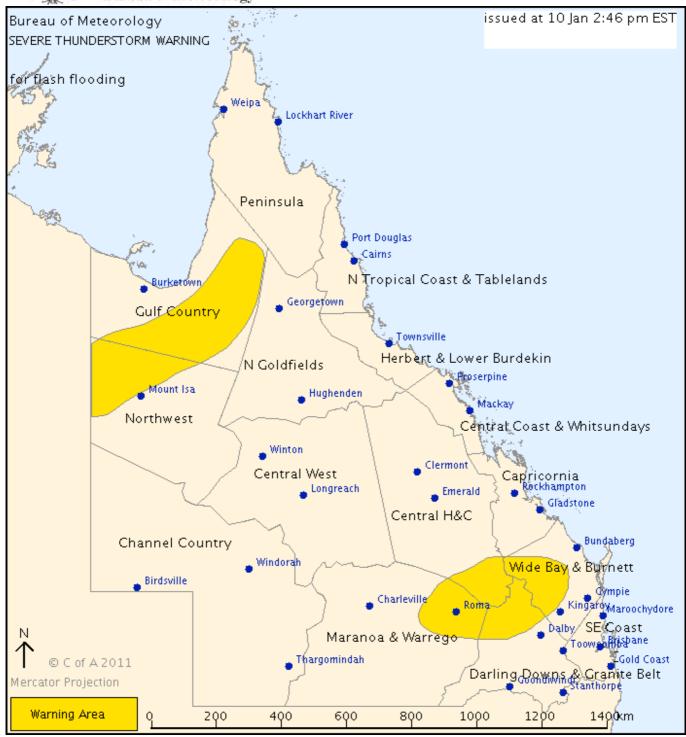
For people in parts of the Gulf Country, Northwest, Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 2:46 pm Monday, 10 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Camooweal, Croydon, Roma and Taroom.

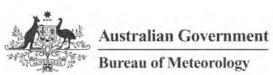
55mm of rainfall was recorded in an hour at Normanton Ap at 12:20pm.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:50 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING

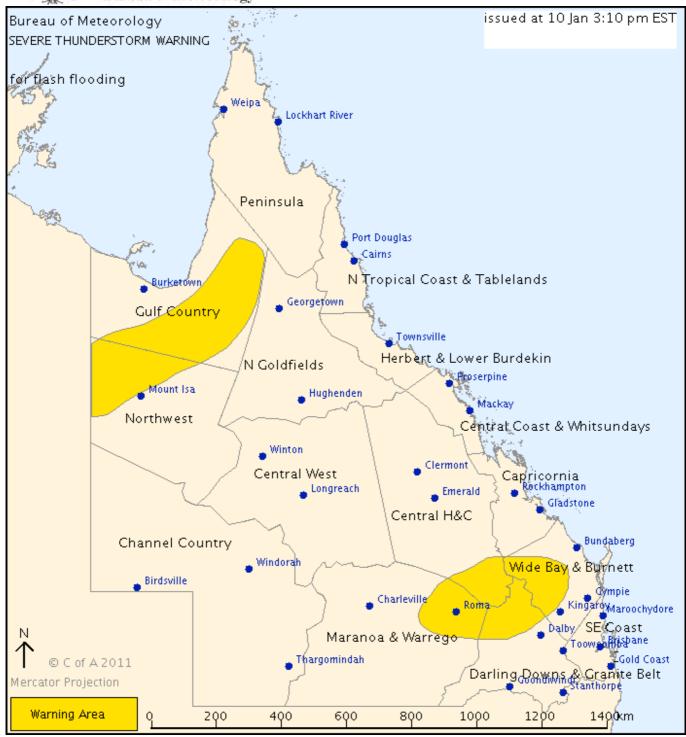
For people in parts of the Gulf Country, Northwest, Central Highlands and Coalfields, Wide Bay and Burnett, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 3:10 pm Monday, 10 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Camooweal, Croydon, Roma and Taroom.

A separate Severe Weather Warning is also current for rain and isolated thunderstorms affecting Southeast Coast, southern parts of the Wide Bay and Burnett and eastern parts of the Darling Downs and Granite Belt districts.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:10 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

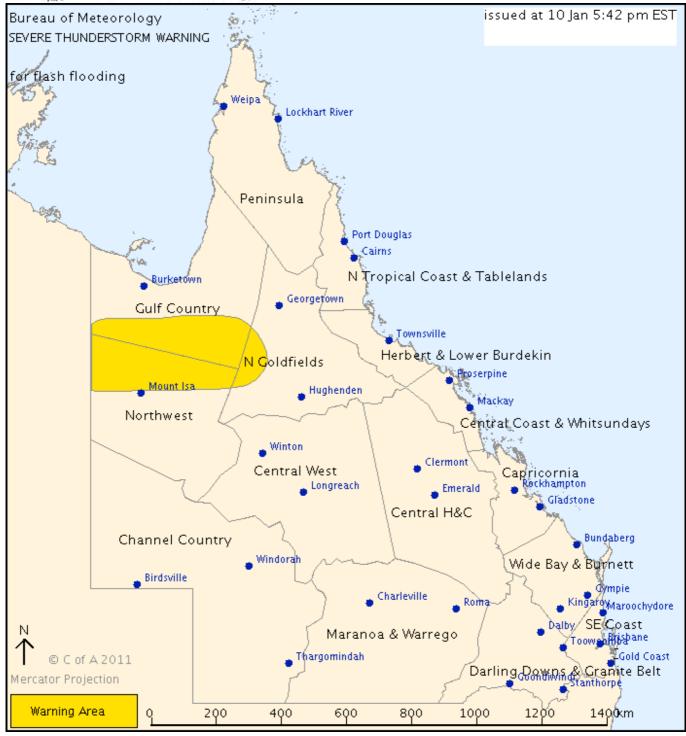
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Gulf Country, Northern Goldfields and Upper Flinders and Northwest Forecast Districts.

Issued at 5:42 pm Monday, 10 January 2011.

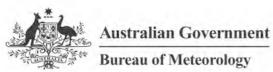
Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Camooweal, Kamilaroi Station and Riversleigh Station.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:45 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

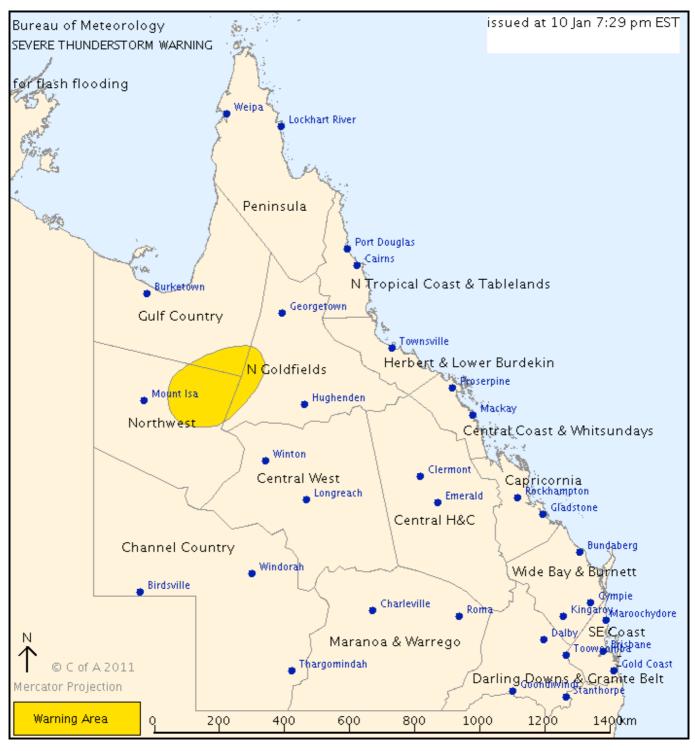
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Gulf Country, Northern Goldfields and Upper Flinders and Northwest Forecast Districts.

Issued at 7:29 pm Monday, 10 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Cloncurry, Julia Creek and Mckinlay Roadhouse.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:30 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

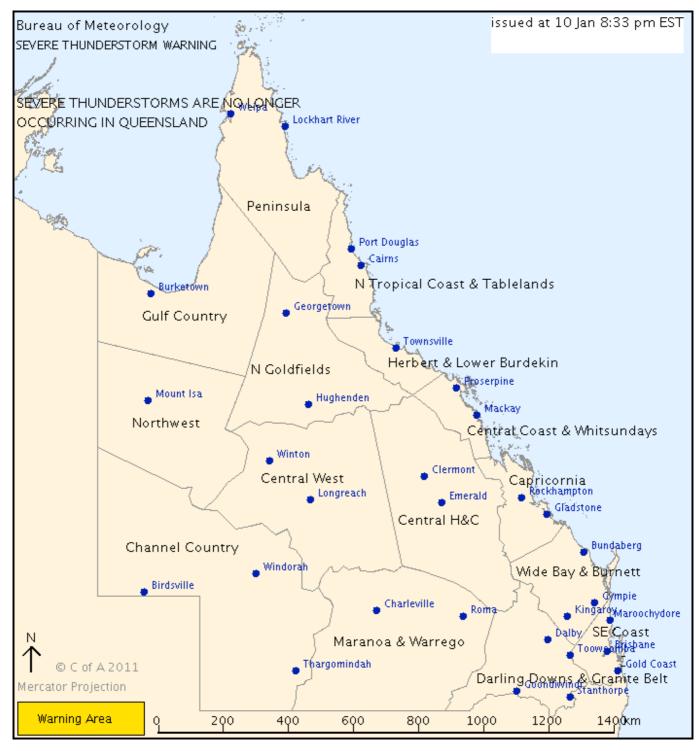
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 8:33 pm Monday, 10 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

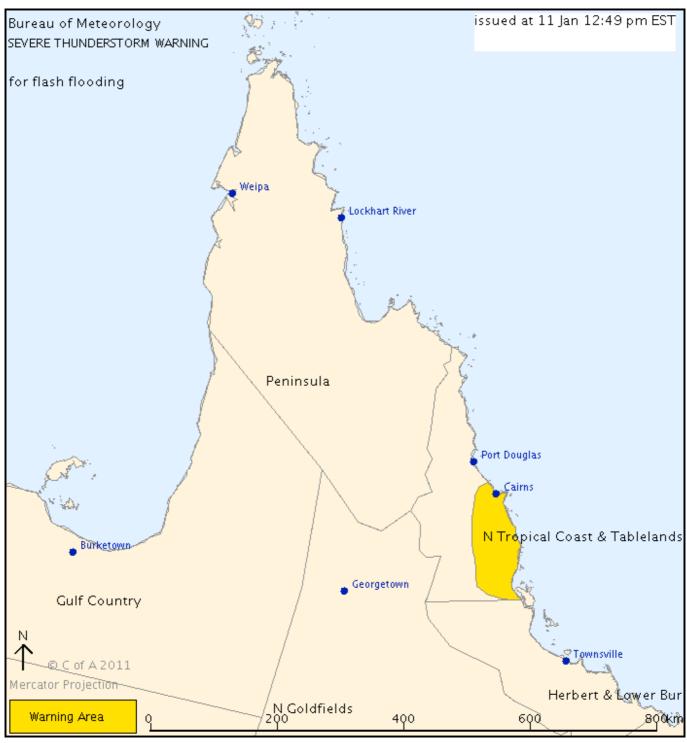
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northern Tropical Coast and Tablelands Forecast District.

Issued at 12:49 pm Tuesday, 11 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Cairns, Innisfail, Cardwell, Tully and Babinda.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

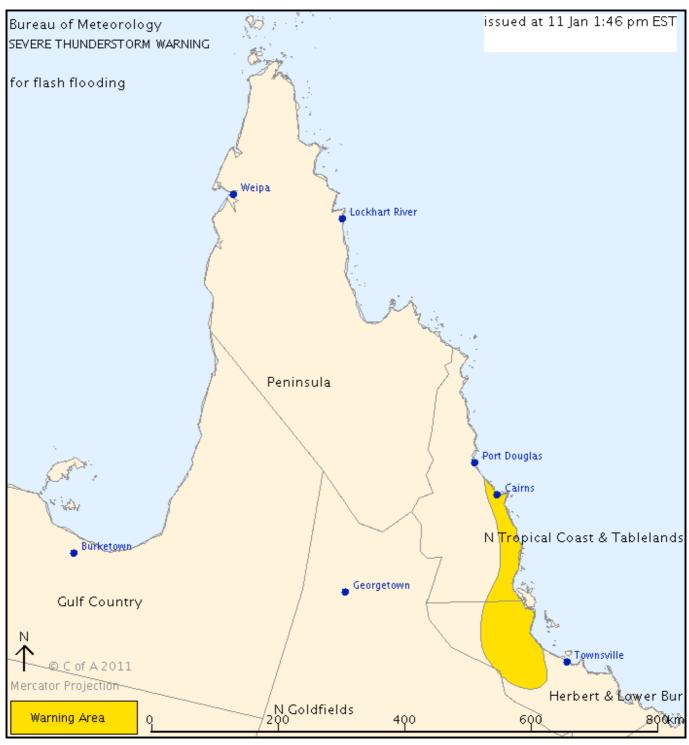
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northern Tropical Coast and Tablelands and Herbert and Lower Burdekin Forecast Districts.

Issued at 1:46 pm Tuesday, 11 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Cairns, Ingham, Innisfail, Cardwell, Tully and Babinda.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

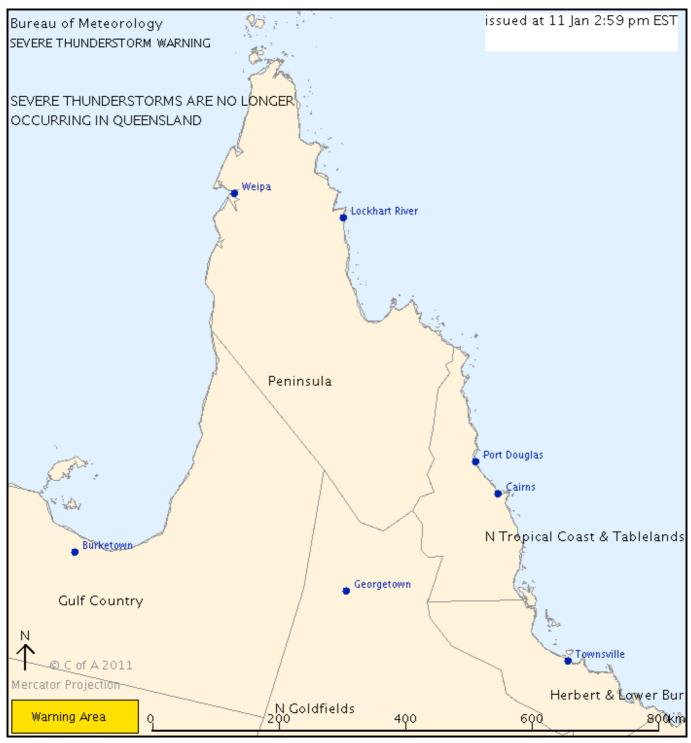
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 2:59 pm Tuesday, 11 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

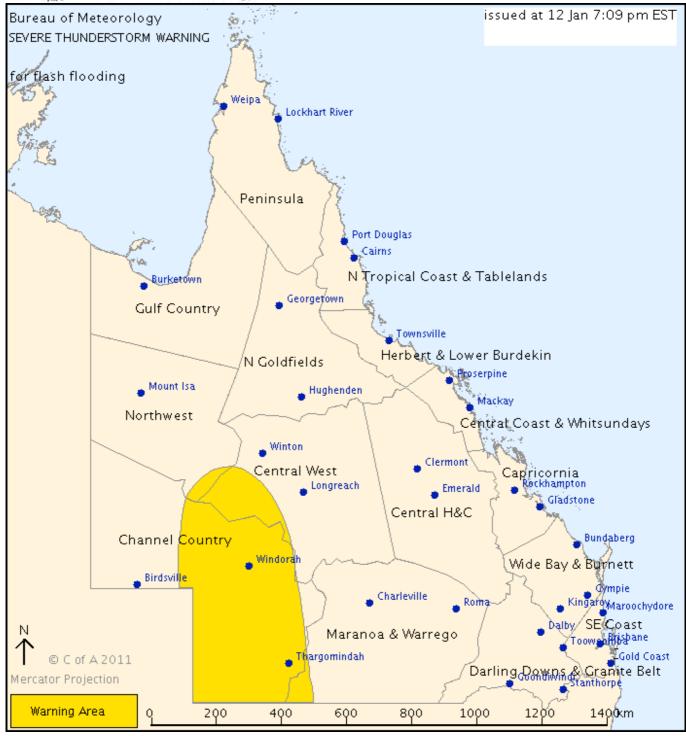
SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest, Central West, Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 7:09 pm Wednesday, 12 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Thargomindah, Windorah, Bulloo Downs, Eromanga, Stonehenge and Davenport Downs Station.

92mm of rainfall recorded near Windorah since this afternoon.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:10 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

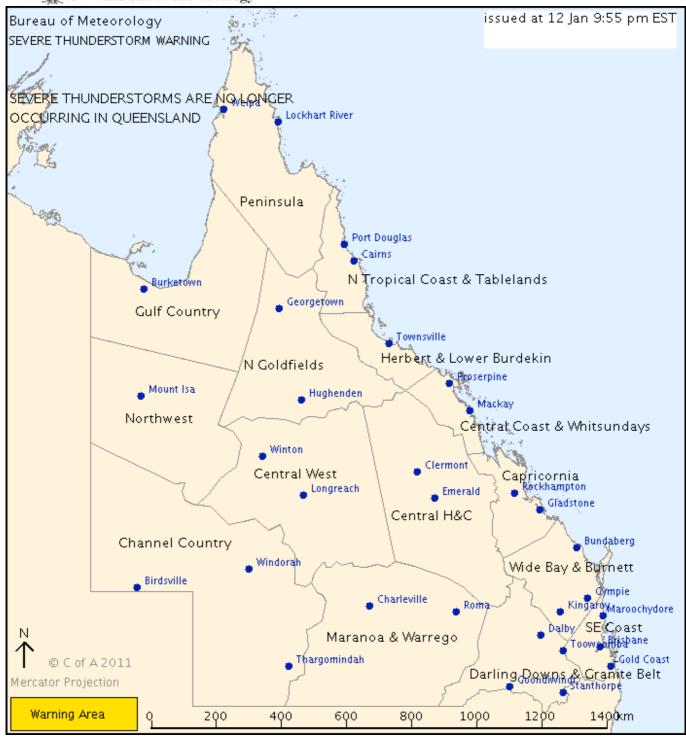
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:55 pm Wednesday, 12 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

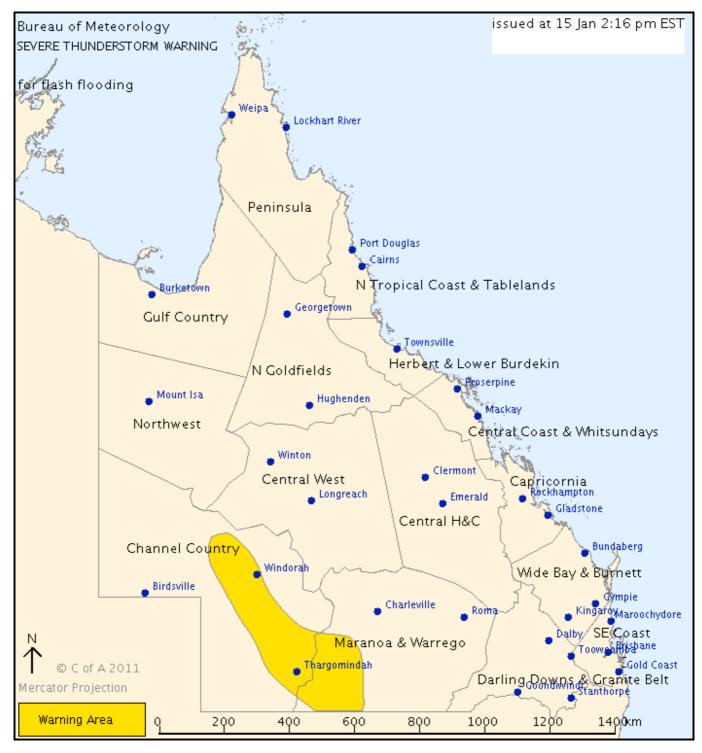
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 2:16 pm Saturday, 15 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Thargomindah, Cunnamulla, Windorah, Eromanga, Mount Margaret and Mt Howitt Station.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

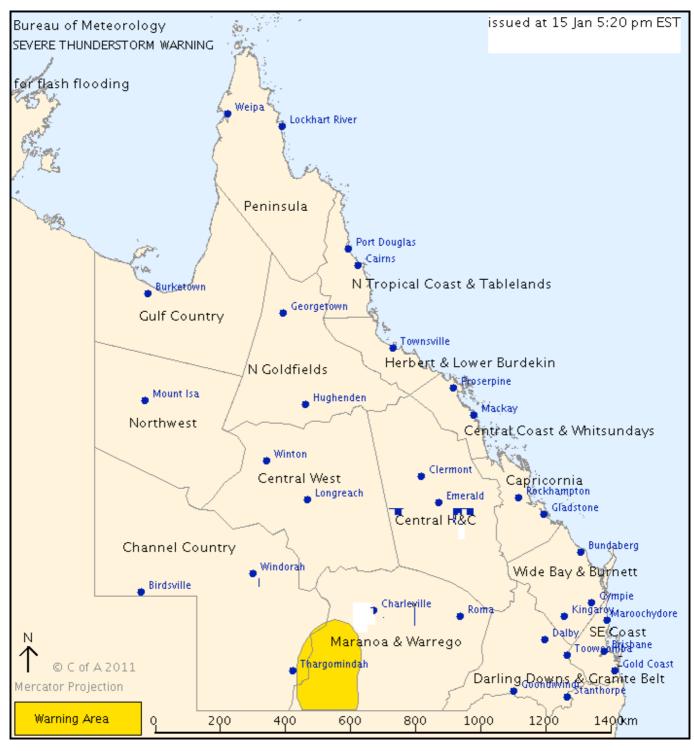
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 5:20 pm Saturday, 15 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Cunnamulla, Hungerford and Eulo.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

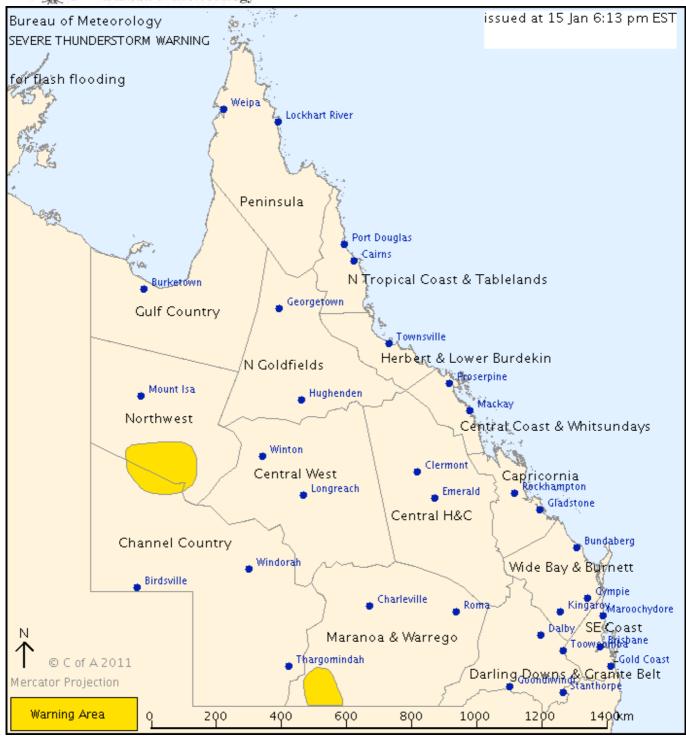
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest, Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 6:13 pm Saturday, 15 January 2011.

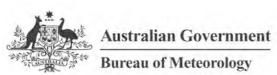
Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Boulia, Hungerford and Eulo.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

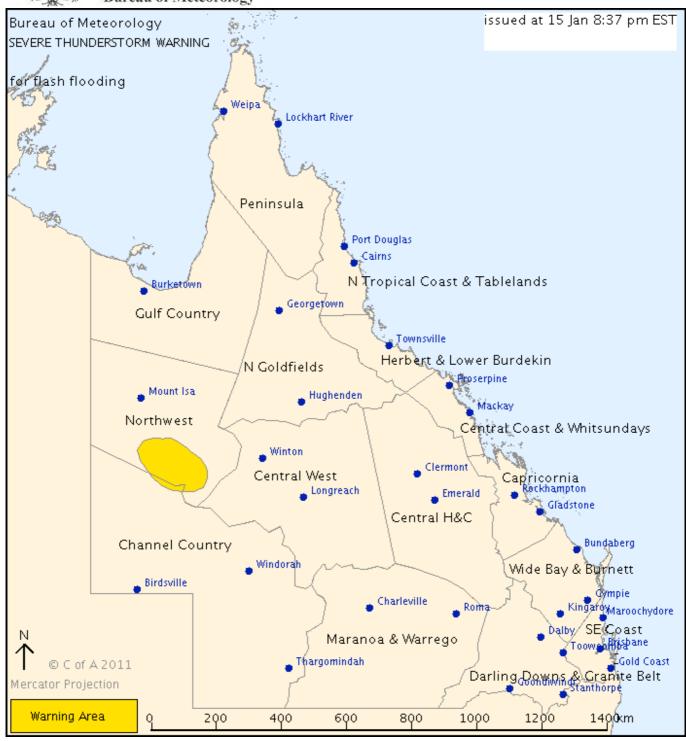
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest Forecast District.

Issued at 8:37 pm Saturday, 15 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Boulia.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:40 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:34 pm Saturday, 15 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

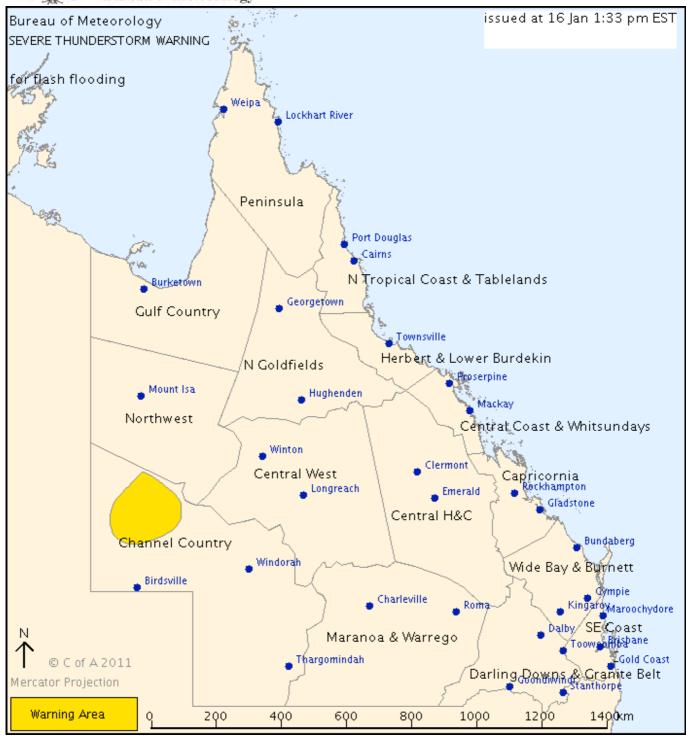
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Channel Country Forecast District.

Issued at 1:33 pm Sunday, 16 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Bedourie.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:35 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

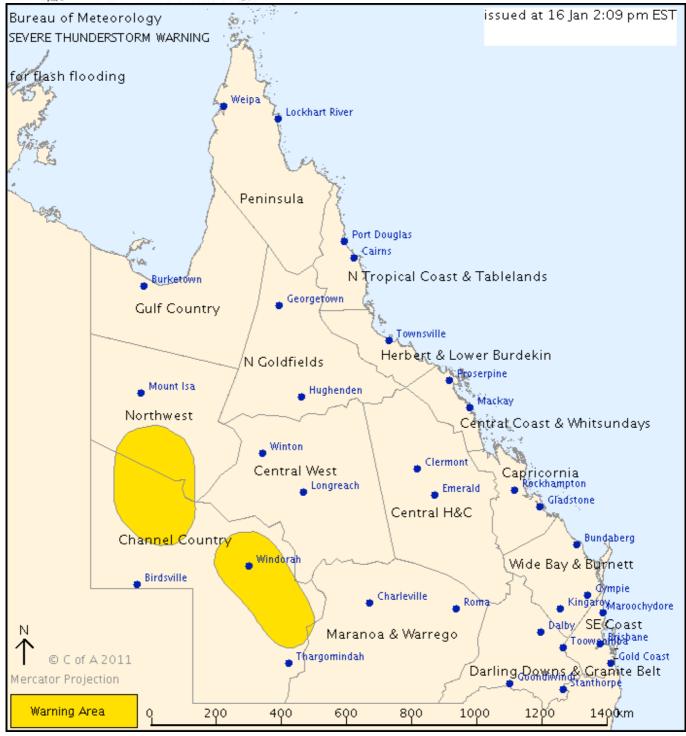
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest and Channel Country Forecast Districts.

Issued at 2:09 pm Sunday, 16 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Bedourie, Boulia, Dajarra Hotel, Quilpie, Windorah and Eromanga.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:10 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

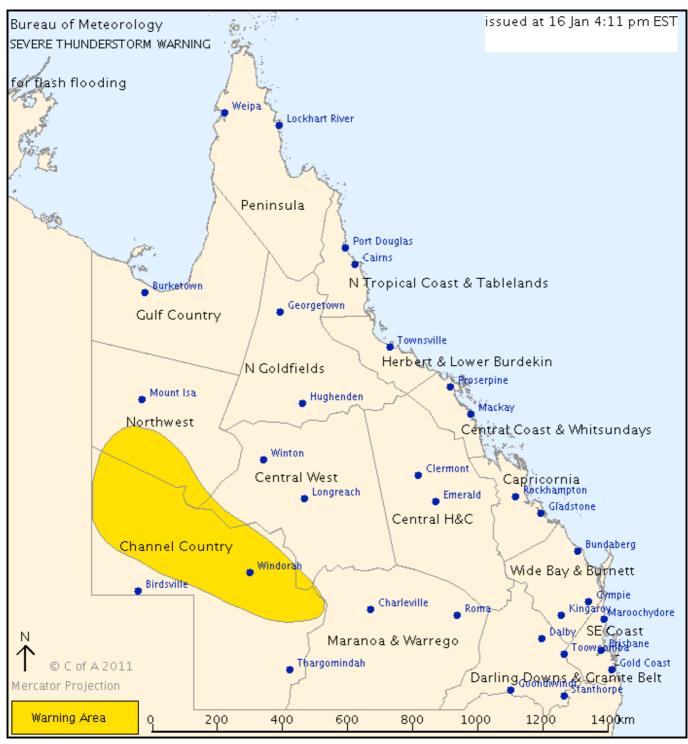
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest, Central West and Channel Country Forecast Districts.

Issued at 4:11 pm Sunday, 16 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Quilpie, Windorah, Bedourie, Boulia, Dajarra Hotel and Eromanga.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

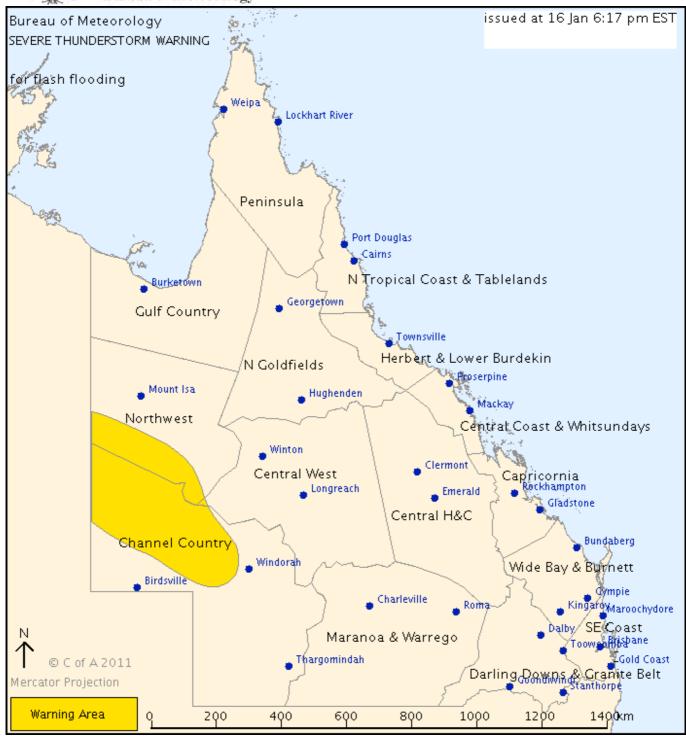
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northwest and Channel Country Forecast Districts.

Issued at 6:17 pm Sunday, 16 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Bedourie, Boulia, Urandangie, Glenormiston and Davenport Downs Station.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

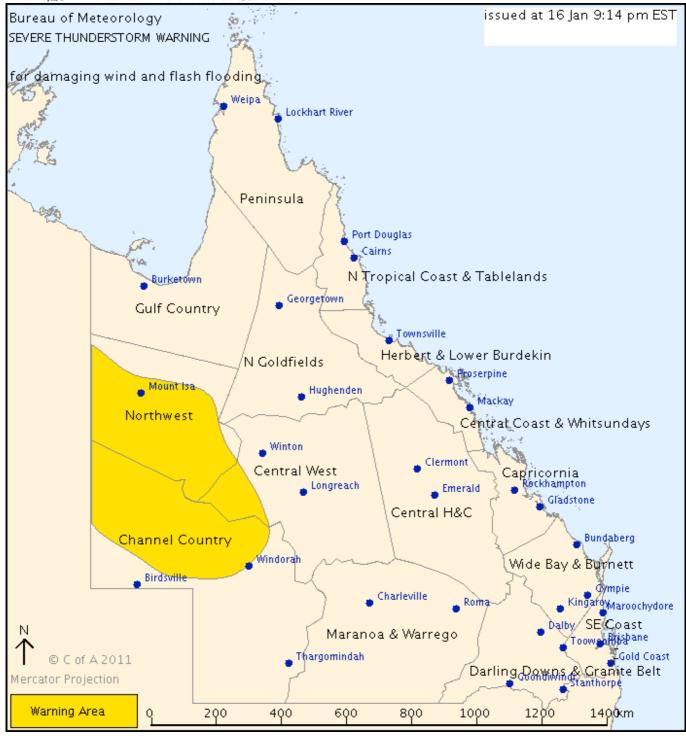
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Northwest and parts of the Central West and Channel Country Forecast Districts.

Issued at 9:14 pm Sunday, 16 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Mount Isa, Cloncurry, Camooweal, Boulia, Dajarra Hotel and Urandangie.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:15 am Monday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

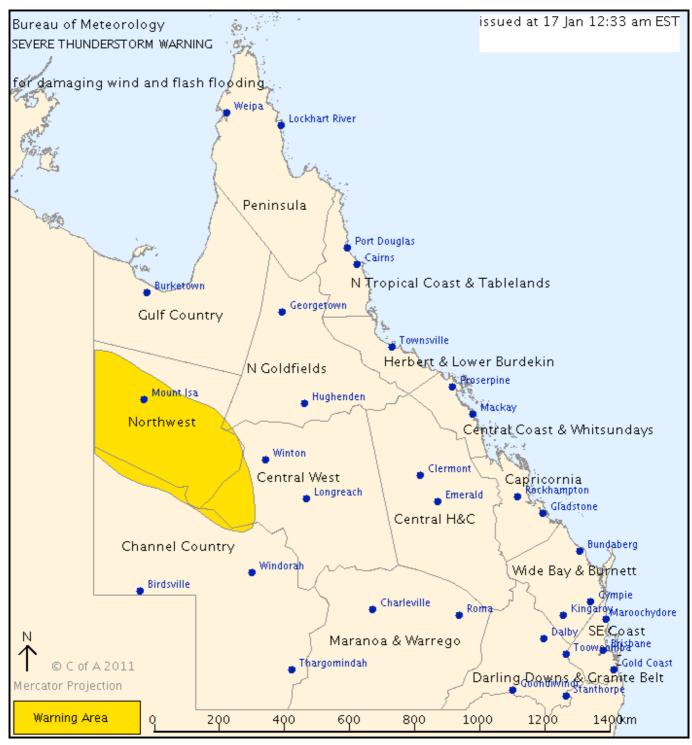
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Northwest and parts of the Central West and Channel Country Forecast Districts.

Issued at 12:33 am Monday, 17 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Mount Isa, Cloncurry, Camooweal, Boulia, Dajarra Hotel and Urandangie.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:35 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

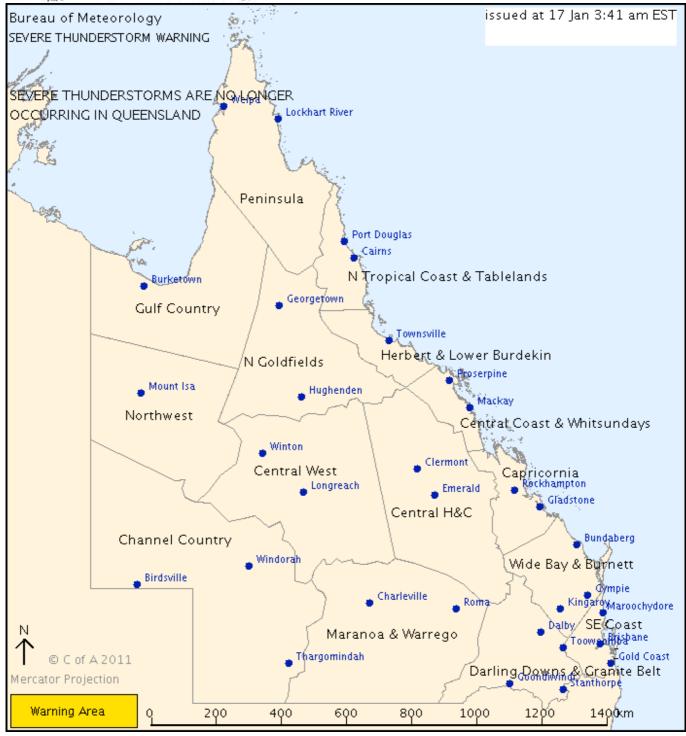
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 3:41 am Monday, 17 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20038 Bureau of Meteorology Queensland Regional Office

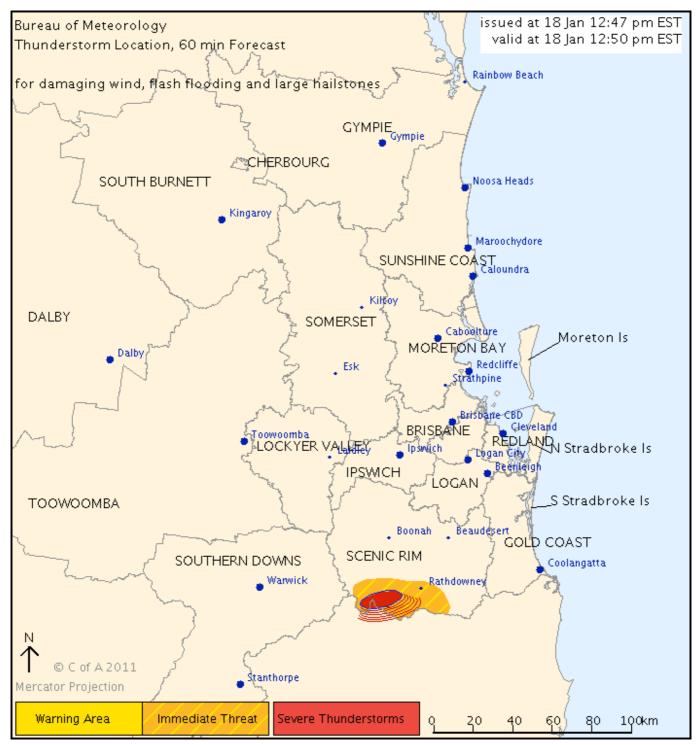
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the SCENIC RIM Council Area.

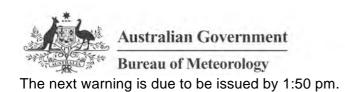
Issued at 12:47 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 12:50 pm, severe thunderstorms were detected on weather radar near Mount Barney and the NSW border. These thunderstorms are slow moving. Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the GOLD COAST CITY and SCENIC RIM Council Areas.

Issued at 1:22 pm Tuesday, 18 January 2011.

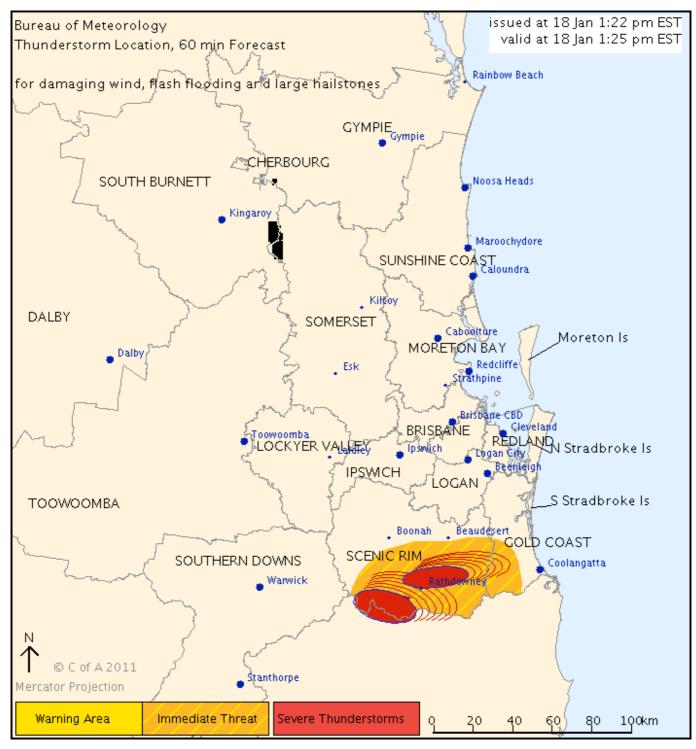
The Bureau of Meteorology warns that, at 1:25 pm, severe thunderstorms were detected on weather radar near Mount Barney and Rathdowney.

These thunderstorms are moving towards the east.

They are forecast to affect Border Ranges National Park and the area south of Canungra by 1:55 pm and Numinbah Valley, Little Nerang Dam and Laravale by 2:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 2:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

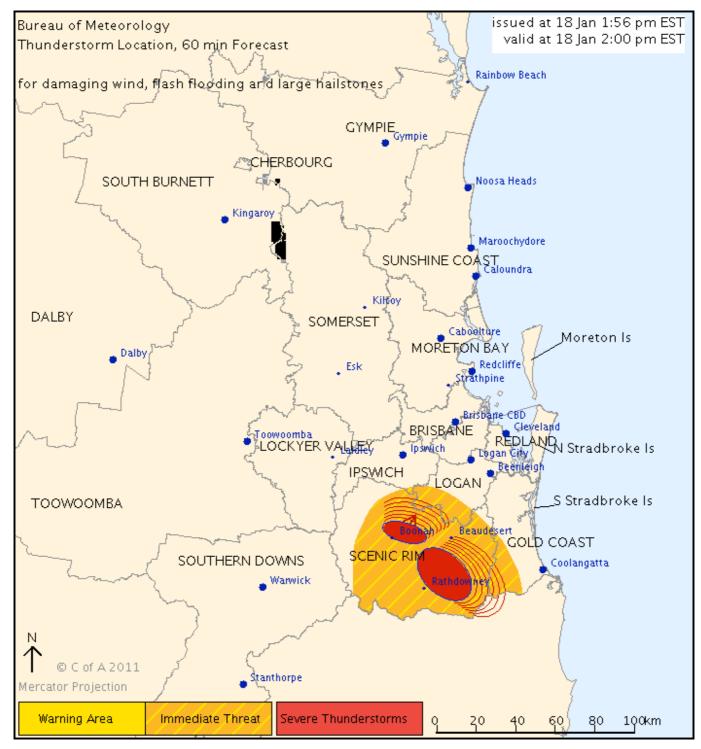
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the SCENIC RIM and parts of the GOLD COAST CITY and LOGAN CITY Council Areas.

Issued at 1:56 pm Tuesday, 18 January 2011.

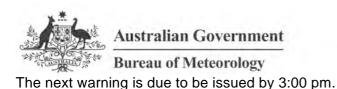
The Bureau of Meteorology warns that, at 2:00 pm, severe thunderstorms were detected on weather radar near Boonah, the area between Boonah and Beaudesert and Laravale. These thunderstorms are slow moving. They are forecast to affect the McPherson Range and the area south of Canungra by 2:30 pm and Beaudesert, Springbrook and Numinbah Valley by 3:00 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY and parts of the GOLD COAST CITY, IPSWICH CITY and SCENIC RIM Council Areas.

Issued at 2:31 pm Tuesday, 18 January 2011.

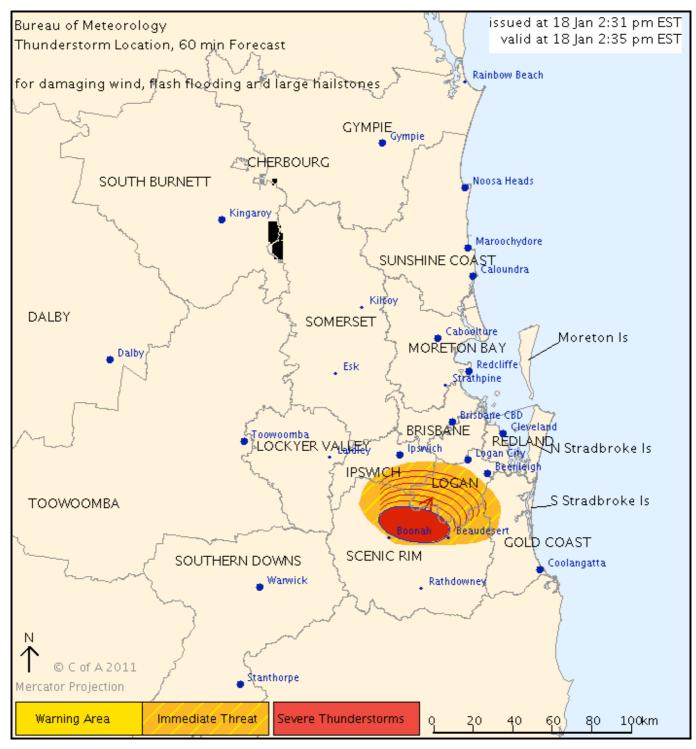
The Bureau of Meteorology warns that, at 2:35 pm, severe thunderstorms were detected on weather radar near the area between Boonah and Beaudesert.

These thunderstorms are moving towards the northeast.

They are forecast to affect Jimboomba by 3:05 pm and Logan Village, Bundamba Lagoon and Greenbank by 3:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 3:30 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY and parts of the BRISBANE CITY, GOLD COAST CITY, IPSWICH CITY and SCENIC RIM Council Areas.

Issued at 2:52 pm Tuesday, 18 January 2011.

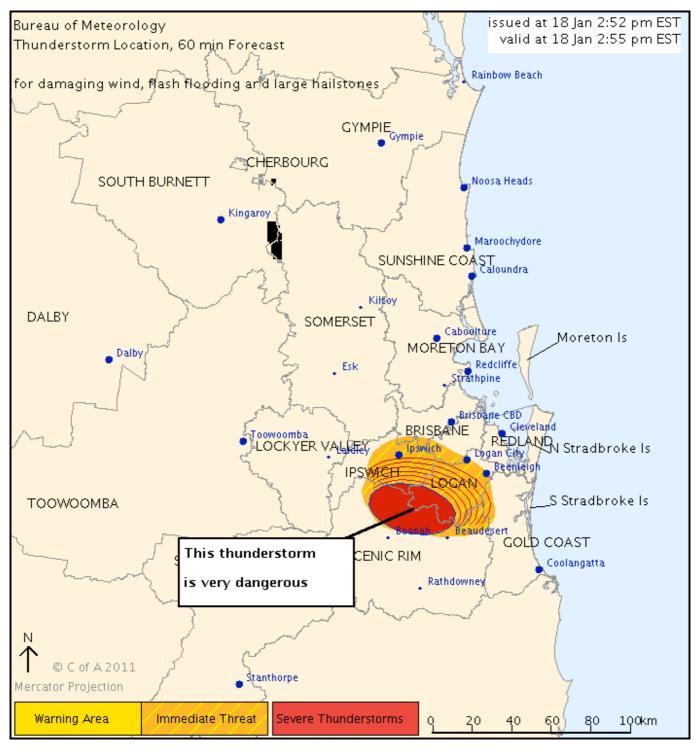
The Bureau of Meteorology warns that, at 2:55 pm, very dangerous thunderstorms were detected on weather radar near the area between Boonah and Beaudesert and Peak Crossing.

These thunderstorms are slow moving.

Very dangerous thunderstorms are forecast to affect Tamborine, Jimboomba and Bundamba Lagoon by 3:25 pm and Greenbank, Redbank Plains and Amberley by 3:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 3:55 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, GOLD COAST CITY, MORETON BAY, SOUTHERN DOWNS, SCENIC RIM, SOMERSET and REDLAND Council Areas.

Issued at 3:04 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:05 pm, very dangerous thunderstorms were detected on weather radar near Peak Crossing and Amberley.

These thunderstorms are moving towards the north to northeast.

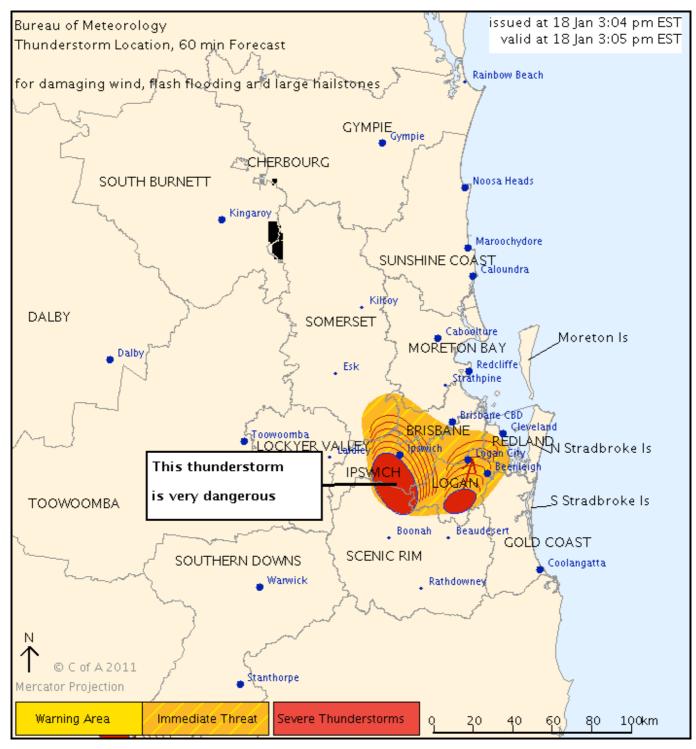
Very dangerous thunderstorms are forecast to affect Ipswich and Bundamba Lagoon by 3:35 pm and Redbank Plains, Lake Manchester and Fernvale by 4:05 pm.

Other severe thunderstorms were located near Jimboomba.

They are forecast to affect Logan Village by 3:35 pm and Beenleigh, Logan City and Sunnybank Hills by 4:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 4:05 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the BRISBANE CITY and parts of the LOGAN CITY, MORETON BAY, IPSWICH CITY, SOMERSET and REDLAND Council Areas.

Issued at 3:40 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:45 pm, severe thunderstorms were detected on weather radar near Ipswich and Upper Brookfield.

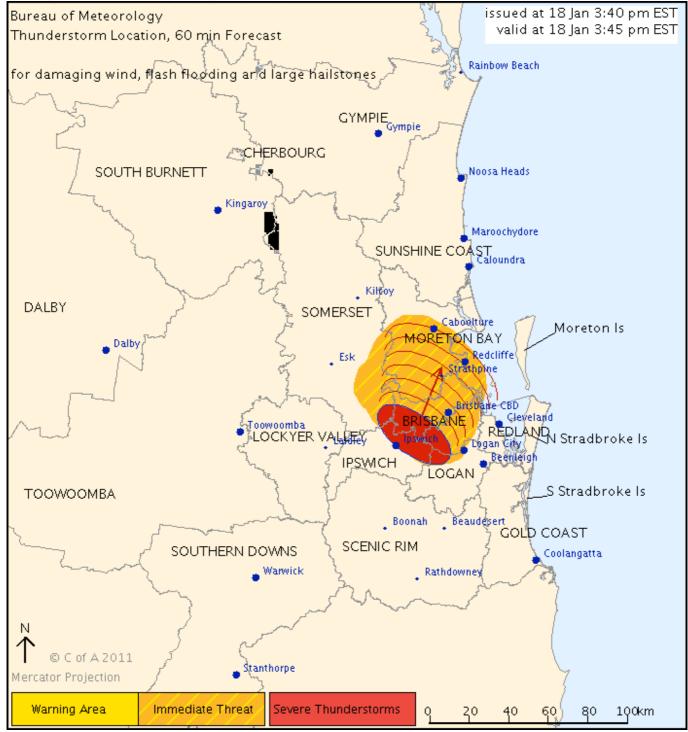
These thunderstorms are moving towards the north.

They are forecast to affect Brisbane CBD, Albany Creek and the D'Aguilar Ranges by 4:15 pm and Strathpine, Redcliffe and Mount Mee by 4:45 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:40 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the BRISBANE CITY and parts of the LOCKYER VALLEY, LOGAN CITY, MORETON BAY, IPSWICH CITY, SOMERSET, TOOWOOMBA and REDLAND Council Areas.

Issued at 3:47 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:55 pm, severe thunderstorms were detected on weather radar near Toowoomba, Highfields and Sunnybank Hills.

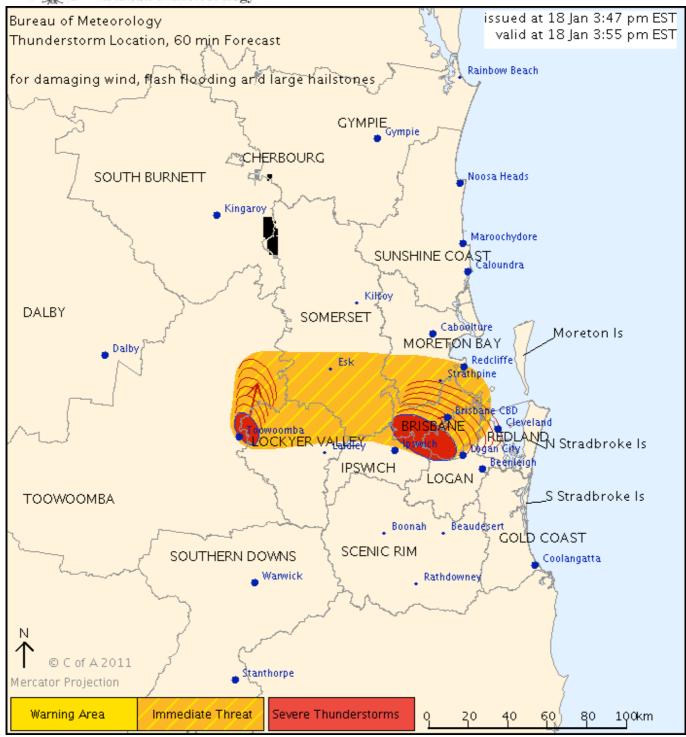
These thunderstorms are moving towards the north to northeast.

They are forecast to affect Brisbane CBD, Logan City and the area north of Toowoomba by 4:25 pm and Cleveland, Albany Creek and Crows Nest by 4:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:50 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the MORETON BAY and parts of the BRISBANE CITY, LOCKYER VALLEY, IPSWICH CITY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 4:16 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near Brisbane CBD, the area south of Esk and Highvale.

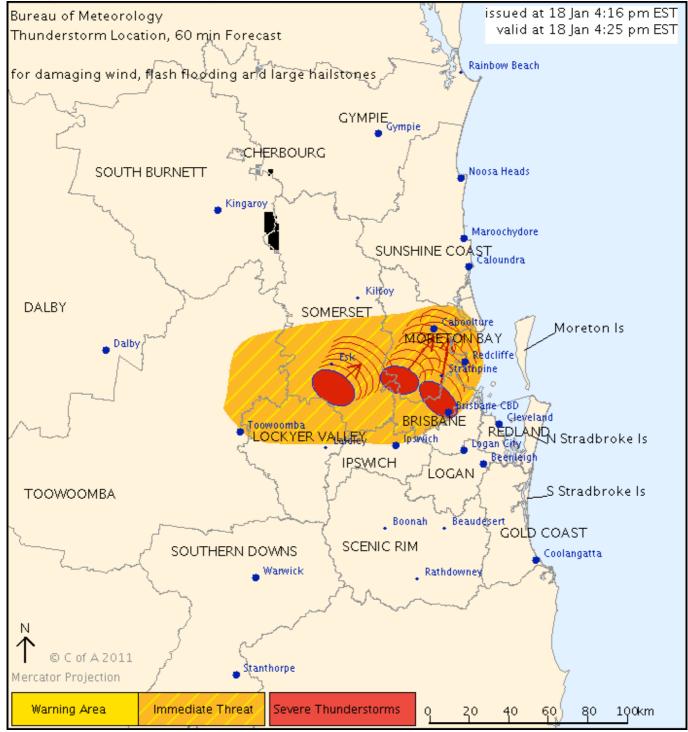
These thunderstorms are moving towards the north to northeast.

They are forecast to affect Strathpine, Esk and Dayboro by 4:55 pm and Redcliffe, Caboolture and Wamuran by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the MORETON BAY and parts of the BRISBANE CITY, LOCKYER VALLEY, SUNSHINE COAST, SOMERSET and TOOWOOMBA Council Areas.

Issued at 4:18 pm Tuesday, 18 January 2011.

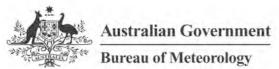
The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near Brisbane CBD, the area south of Esk, the D'Aguilar Ranges and the area north of Toowoomba.

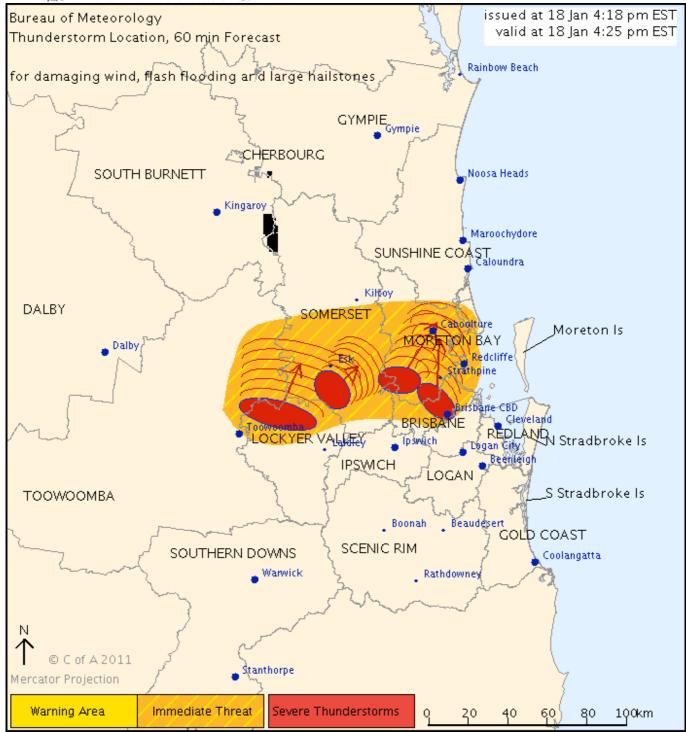
These thunderstorms are moving towards the north to northeast.

They are forecast to affect Strathpine, Esk and the area southwest of Esk by 4:55 pm and Redcliffe, Caboolture and the area northwest of Esk by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, MORETON BAY, IPSWICH CITY, SOMERSET and parts of the BRISBANE CITY, LOGAN CITY, SUNSHINE COAST, SCENIC RIM, SOUTH BURNETT and TOOWOOMBA Council Areas.

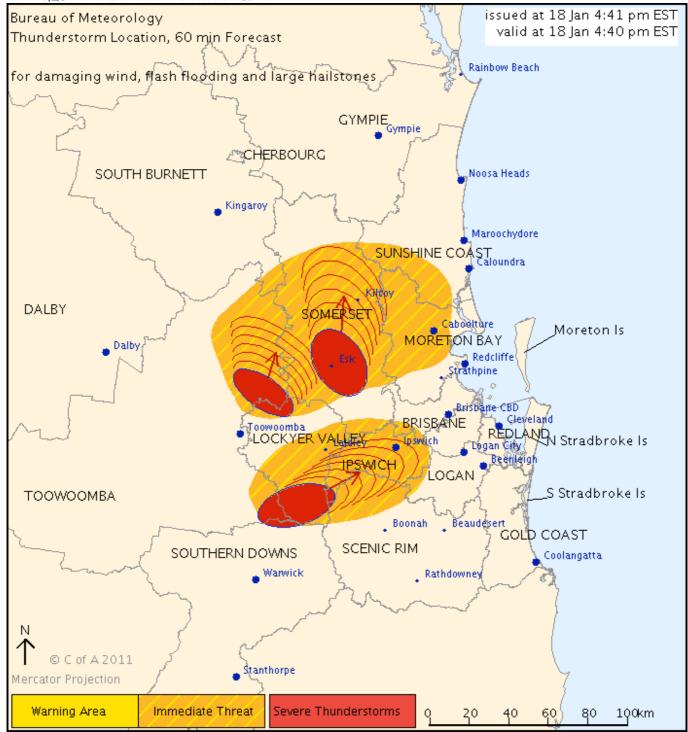
Issued at 4:41 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 4:40 pm, severe thunderstorms were detected on weather radar near Esk, the area south of Esk, Hampton and the area northwest of Cunninghams Gap. These thunderstorms are moving towards the north to northeast. They are forecast to affect the area southwest of Esk, the area west of Kilcoy and Lake Somerset by 5:10 pm and Ipswich, Kilcoy and the area northwest of Esk by 5:40 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm 3-4 cm hail reported at Bridgeman Downs





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:45 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the MORETON BAY, SUNSHINE COAST and SOMERSET Council Areas.

Issued at 5:28 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 5:35 pm, severe thunderstorms were detected on weather radar near Kilcoy.

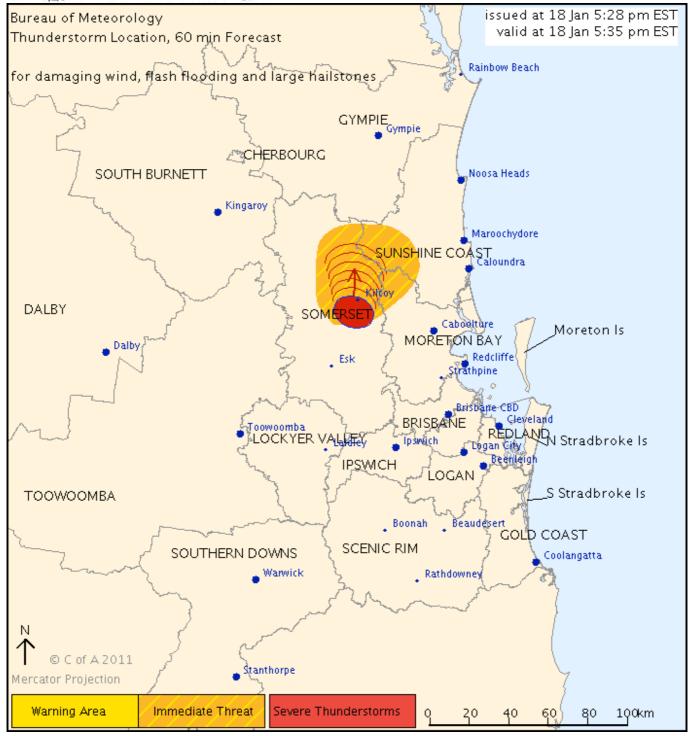
These thunderstorms are moving towards the north.

They are forecast to affect the area west of Kilcoy and Mount Kilcoy by 6:05 pm and the ranges south of Jimna and the area west of Conondale by 6:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm 3-4 cm hail reported at Bridgeman Downs





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:30 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the SOUTHERN DOWNS and TOOWOOMBA Council Areas.

Issued at 6:25 pm Tuesday, 18 January 2011.

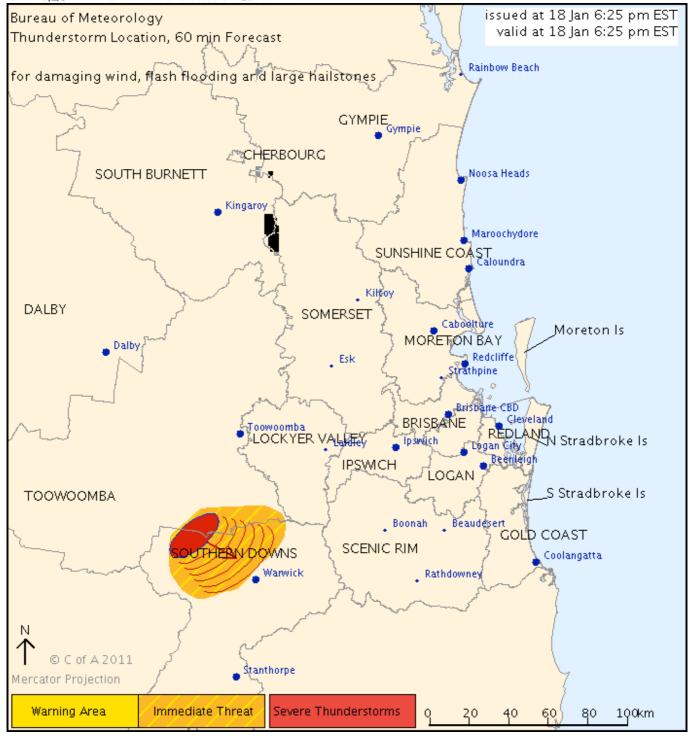
Thunderstorms are moving towards the southeast.

They are forecast to affect the area west of Warwick by 6:55 pm and the area northwest of Warwick, the area north of Warwick and Allora by 7:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm 3-4 cm hail reported at Bridgeman Downs





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:25 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

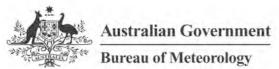
TOP PRIORITY FOR IMMEDIATE BROADCAST	
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEEN	SLAND

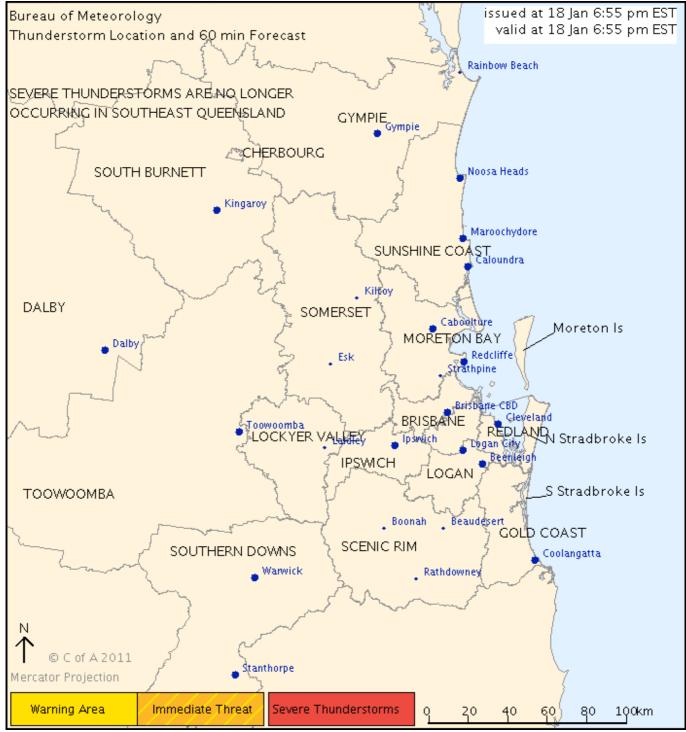
Issued at 6:55 pm Tuesday, 18 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm 3-4 cm hail reported at Bridgeman Downs





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

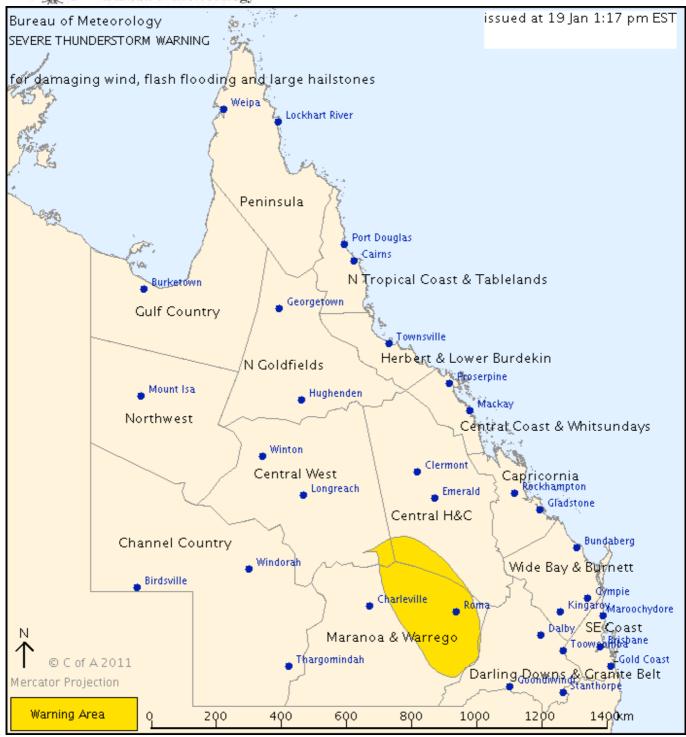
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Central Highlands and Coalfields, Central West and Maranoa and Warrego Forecast Districts.

Issued at 1:17 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Roma, St George, Mitchell and Injune.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:20 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

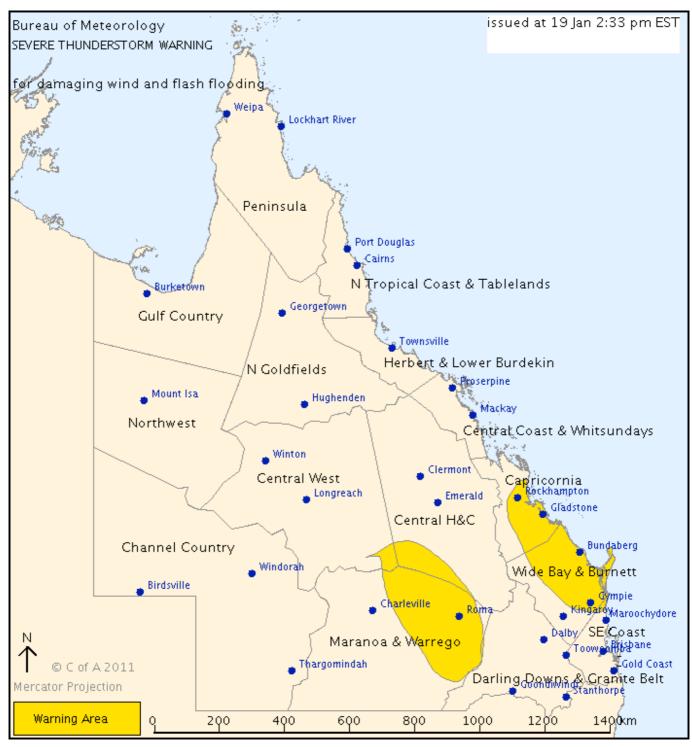
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in parts of the Central Highlands and Coalfields, Central West, Capricornia, Wide Bay and Burnett, Maranoa and Warrego and Southeast Coast Forecast Districts.

Issued at 2:33 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Gympie, Bundaberg, Gladstone, Rockhampton, Hervey Bay, Fraser Island, Hervey Bay waters and Yeppoon.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:35 pm.



At 2:33 pm Wednesday, 19 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

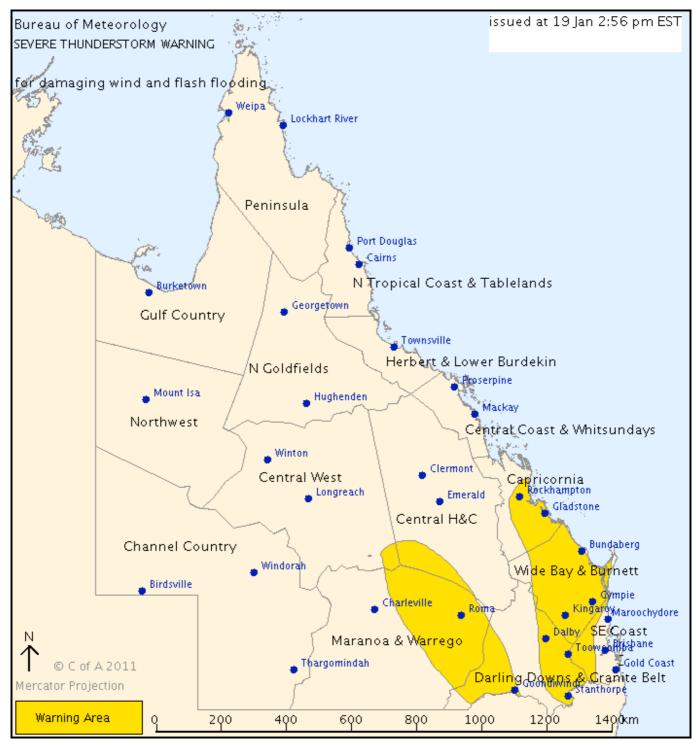
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 2:56 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy and Stanthorpe.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:00 pm.



At 2:56 pm Wednesday, 19 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

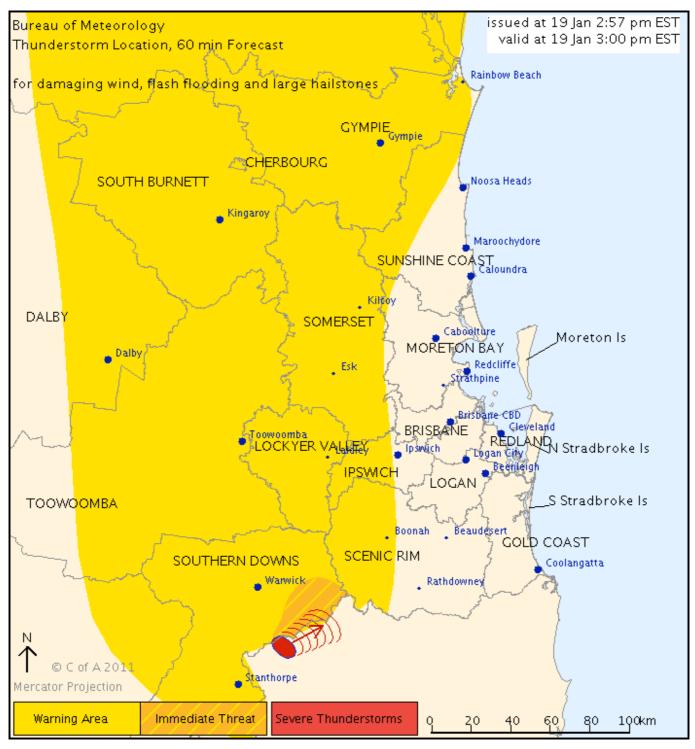
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the SOUTHERN DOWNS Council Area.

Issued at 2:57 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 3:00 pm, severe thunderstorms were detected on weather radar near the area south of the NSW border. These thunderstorms are moving towards the northeast. They are forecast to affect Killarney by 4:00 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 4:00 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

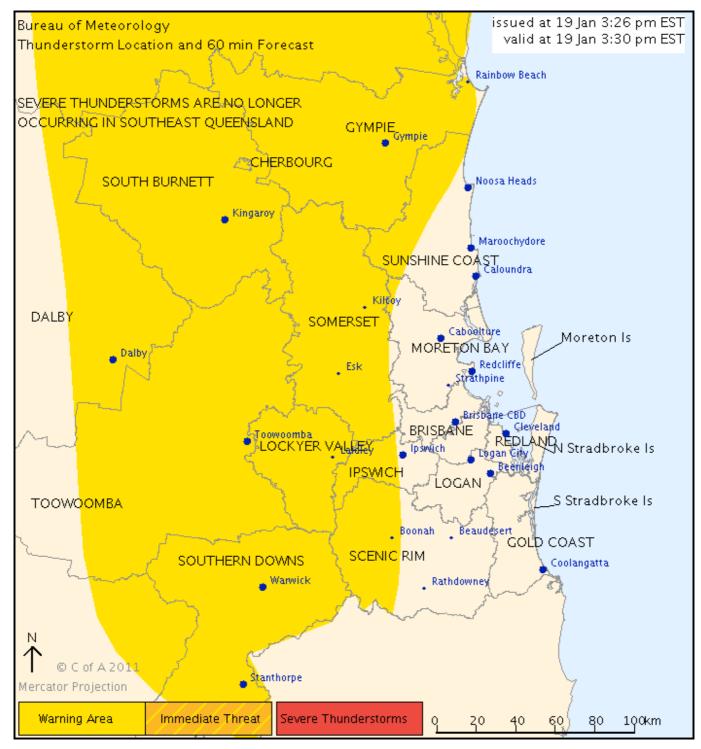
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 3:26 pm Wednesday, 19 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.



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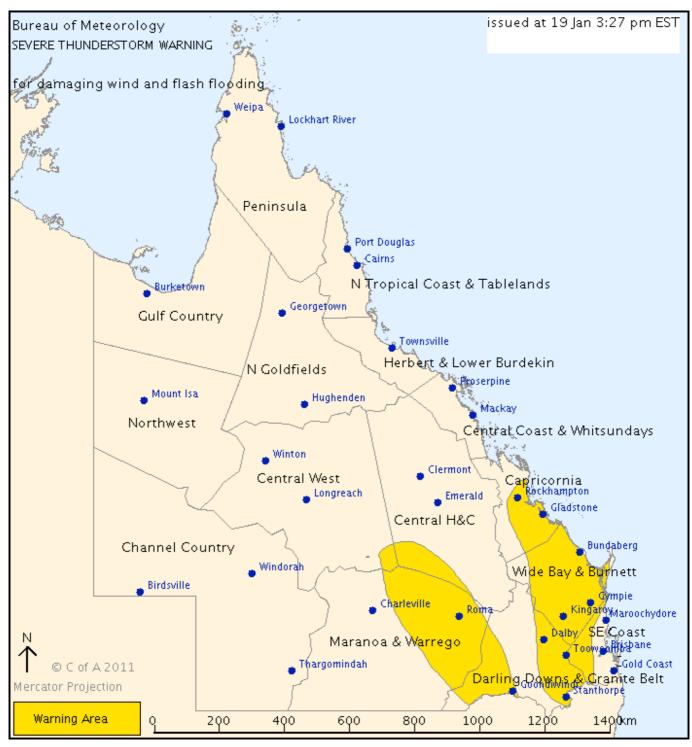
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:27 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy and Stanthorpe.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:30 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

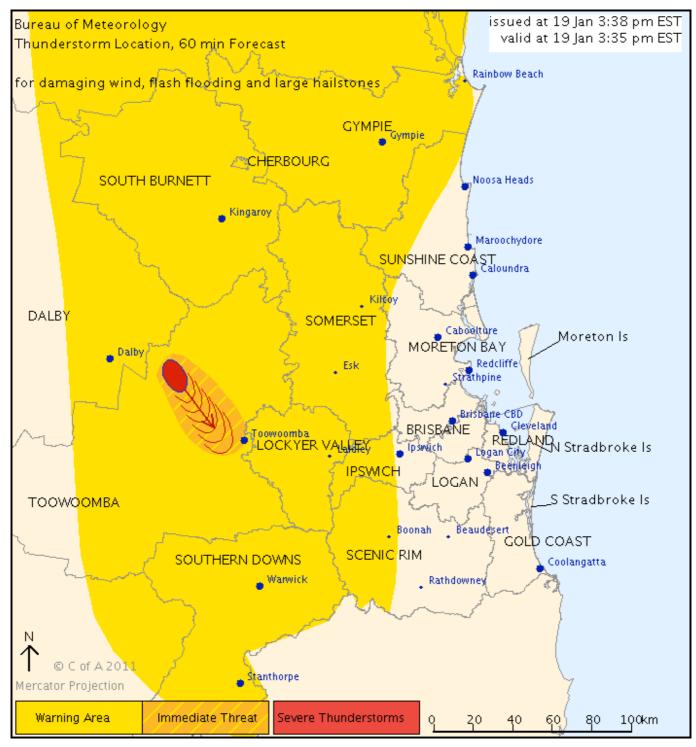
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the TOOWOOMBA Council Area.

Issued at 3:38 pm Wednesday, 19 January 2011.

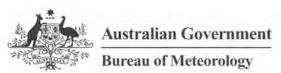
Thunderstorms are moving towards the southeast. They are forecast to affect Oakey by 4:05 pm and the area northwest of Toowoomba by 4:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 4:40 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

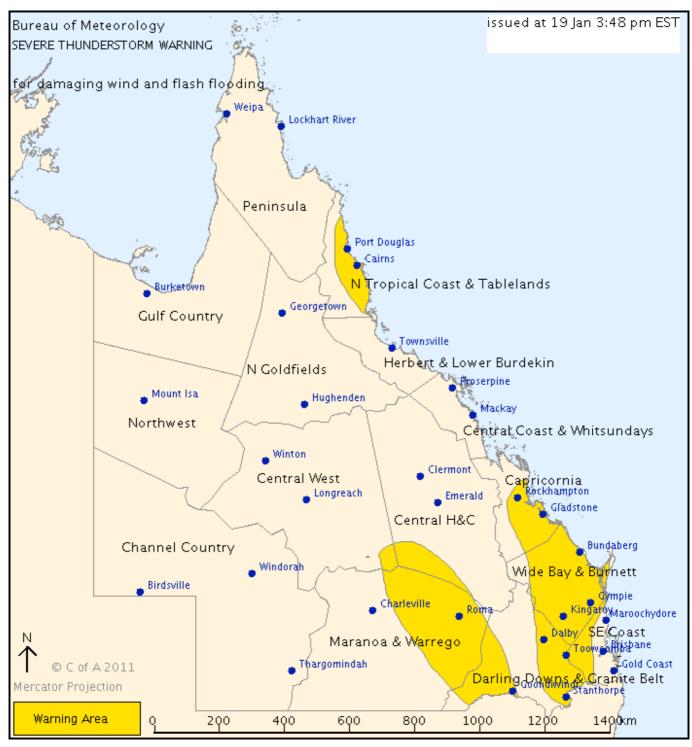
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia,

and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:48 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy, Stanthorpe, Cairns and Port Douglas.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:50 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

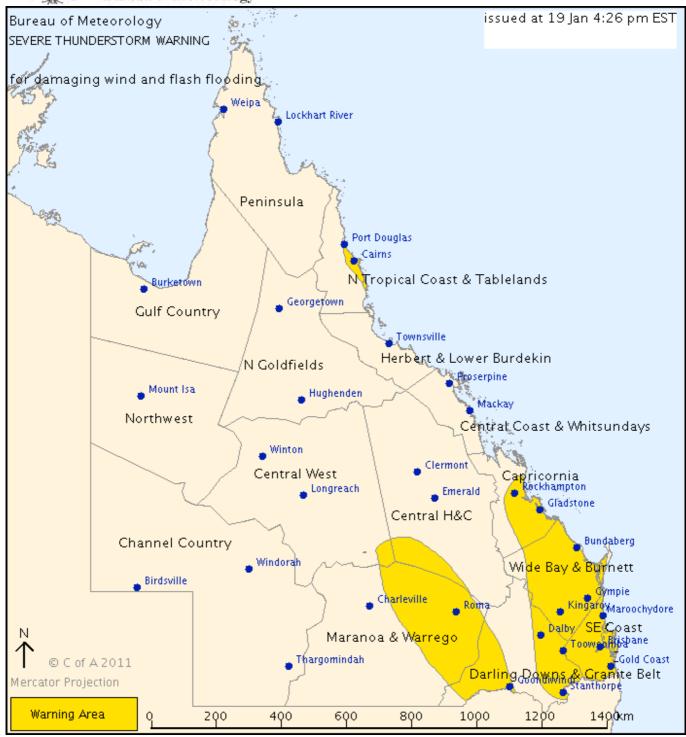
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields

Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 4:26 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Gold Coast, Toowoomba, Brisbane, Dalby, Maroochydore, Gympie, Bundaberg, Rockhampton, Kingaroy, Stanthorpe, Cairns and Port Douglas.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:30 pm.



At 4:26 pm Wednesday, 19 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS, SCENIC RIM and TOOWOOMBA Council Areas.

Issued at 4:27 pm Wednesday, 19 January 2011.

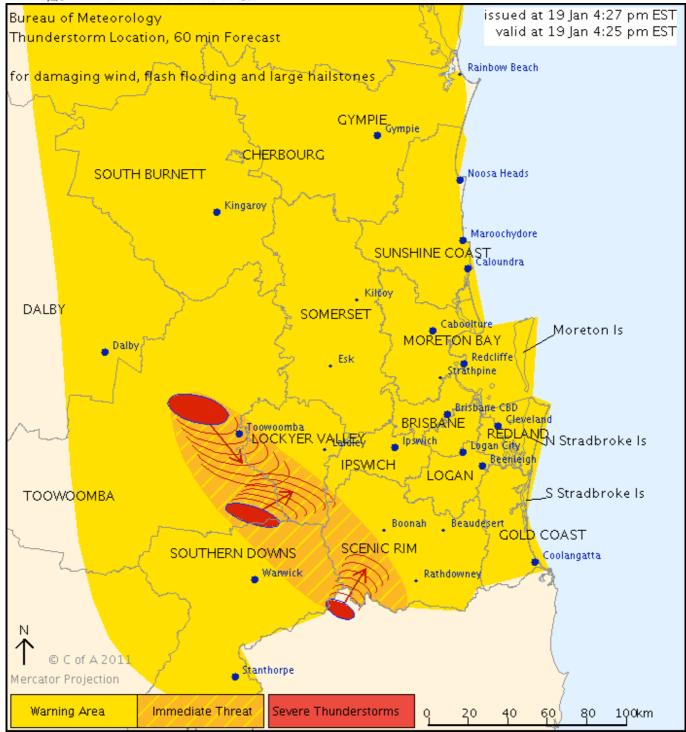
The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near the area northwest of Toowoomba and Oakey.

They are forecast to affect Toowoomba and the area west of Toowoomba by 4:55 pm and the area south of Toowoomba, the area southwest of Toowoomba and Cambooya by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:30 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the GOLD COAST CITY, LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS, SCENIC RIM and TOOWOOMBA Council Areas.

Issued at 4:36 pm Wednesday, 19 January 2011.

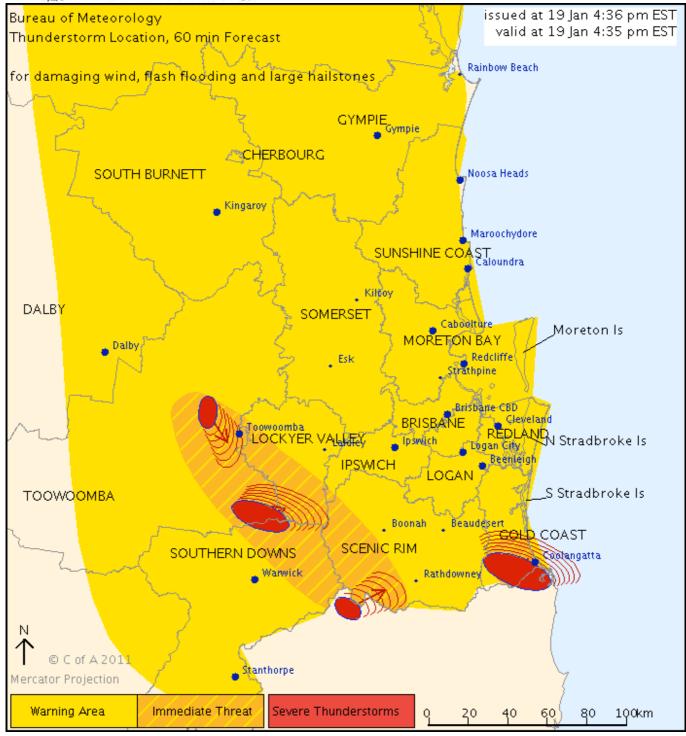
The Bureau of Meteorology warns that, at 4:35 pm, severe thunderstorms were detected on weather radar near Little Nerang Dam, Tallebudgera and Numinbah Valley.

They are forecast to affect Coolangatta, the area northwest of Toowoomba and Mudgeeraba by 5:05 pm and Toowoomba, Maroon Dam and Miami by 5:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:35 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the SCENIC RIM and parts of the GOLD COAST CITY, LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS and TOOWOOMBA Council Areas.

Issued at 4:47 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 4:50 pm, severe thunderstorms were detected on weather radar near Coolangatta, the area southwest of Toowoomba, Border Ranges National Park and the NSW border.

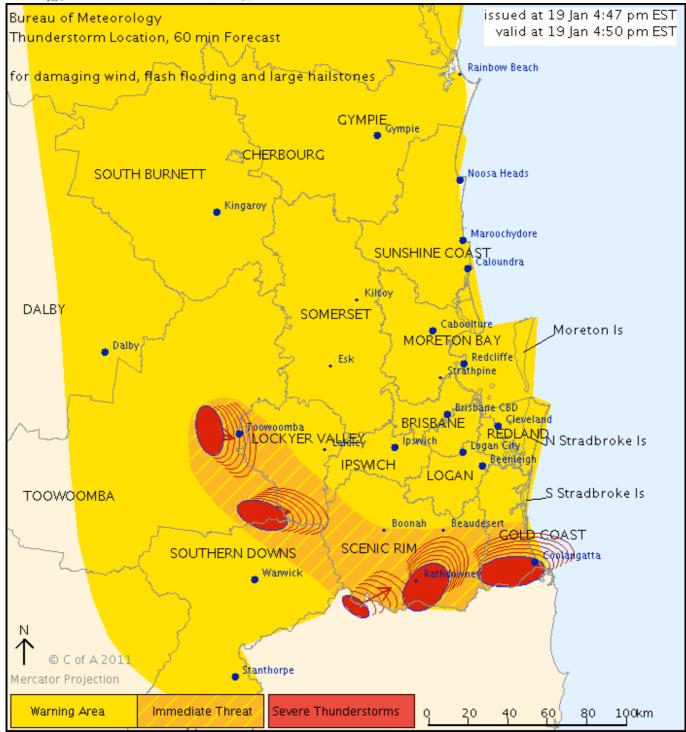
These thunderstorms are moving towards the east to northeast.

They are forecast to affect the area northwest of Toowoomba, Laravale and Miami by 5:20 pm and Toowoomba, the area south of Toowoomba and Highfields by 5:50 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:50 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

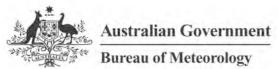
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY and parts of the IPSWICH CITY, SCENIC RIM and SOMERSET Council Areas.

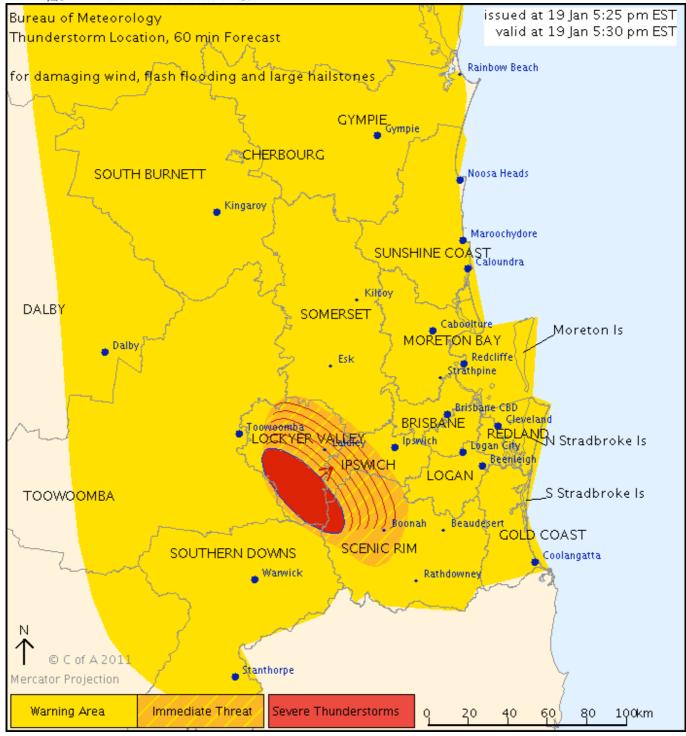
Issued at 5:25 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 5:30 pm, severe thunderstorms were detected on weather radar near the area northwest of Cunninghams Gap and the area south of Helidon. These thunderstorms are moving towards the northeast. They are forecast to affect Gatton, Mulgowie and Helidon by 6:00 pm and Boonah, Laidley and Hatton Vale by 6:30 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:25 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING

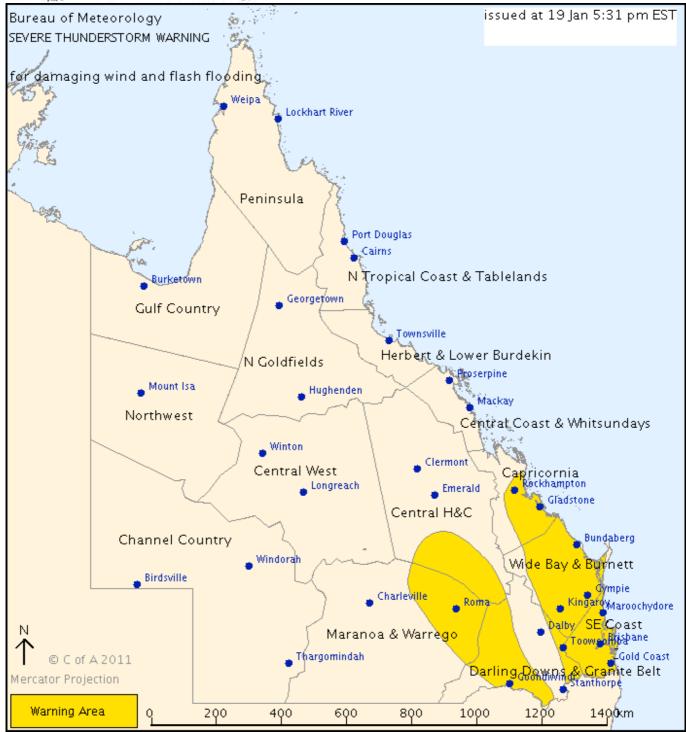
For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 5:31 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Rockhampton and Kingaroy.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:35 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 5:54 pm Wednesday, 19 January 2011.

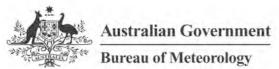
The Bureau of Meteorology warns that, at 5:55 pm, severe thunderstorms were detected on weather radar near Mulgowie, Helidon, Maroon Dam and Rosevale.

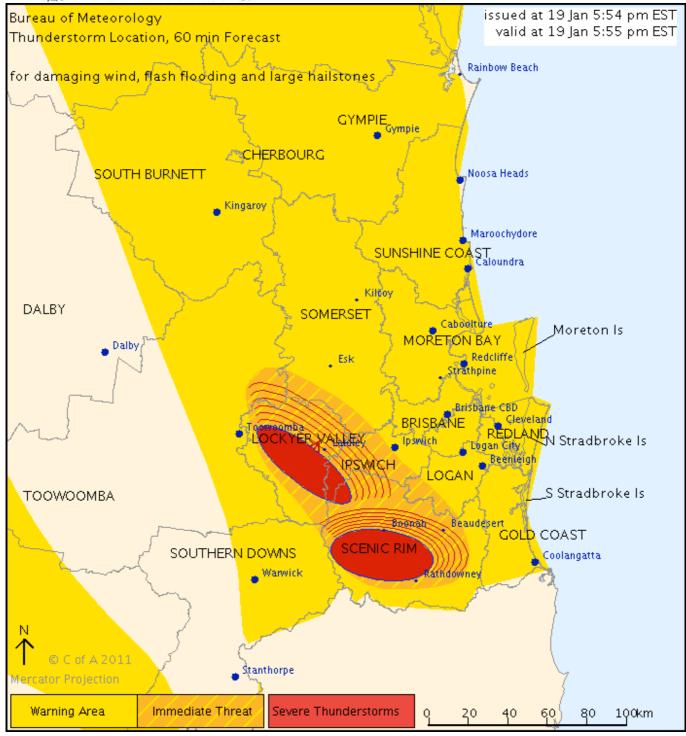
These thunderstorms are moving towards the northeast.

They are forecast to affect Boonah, Laidley and Gatton by 6:25 pm and Beaudesert, the area between Boonah and Beaudesert and Hampton by 6:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:55 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

Issued at 6:12 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 6:15 pm, very dangerous thunderstorms were detected on weather radar near Laidley and Gatton.

These thunderstorms are moving towards the northeast.

Very dangerous thunderstorms are forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

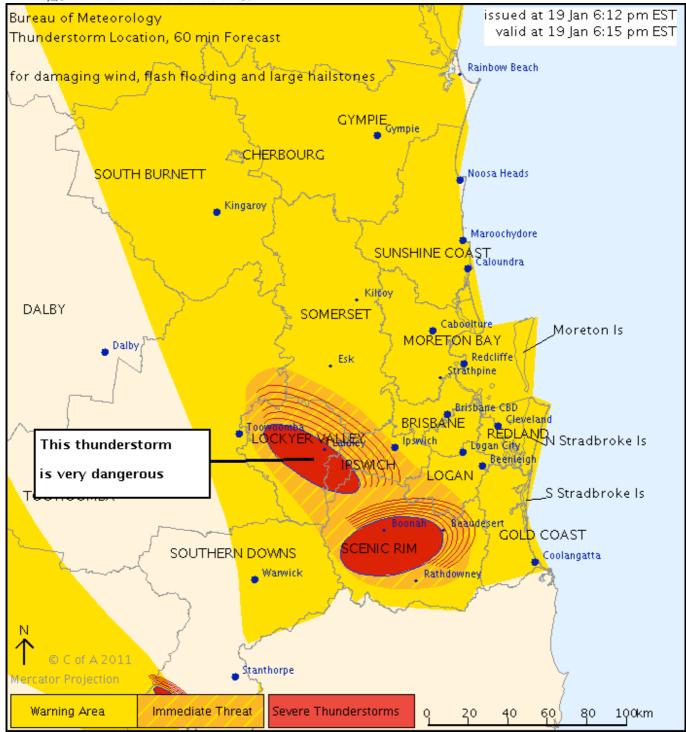
Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe.

They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney, Cunninghams Gap and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

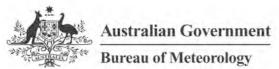
Issued at 6:15 pm Wednesday, 19 January 2011.

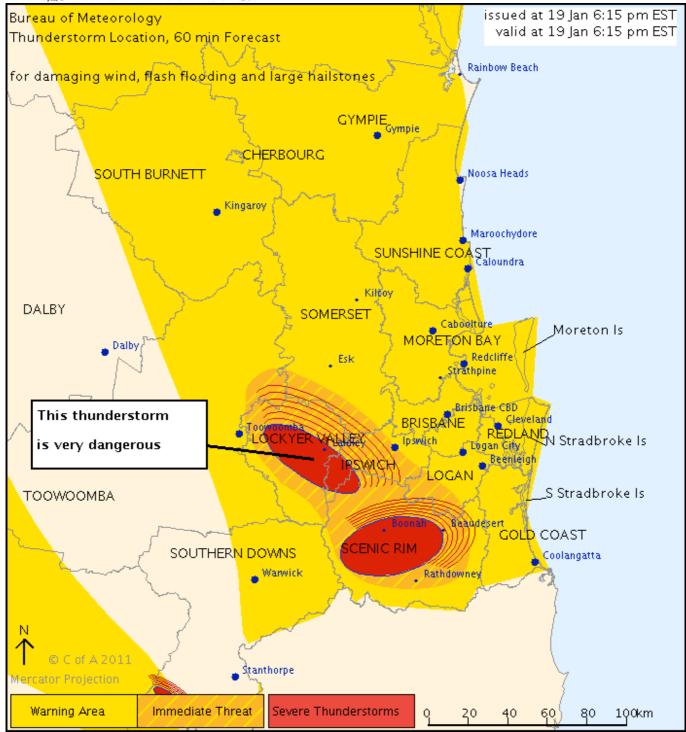
The Bureau of Meteorology warns that, at 6:15 pm, very dangerous thunderstorms with intense rainfall were detected on weather radar near Laidley and Gatton. These thunderstorms are moving towards the northeast. Very dangerous thunderstorms are forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe. They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

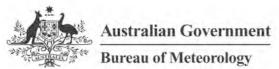
Issued at 6:20 pm Wednesday, 19 January 2011.

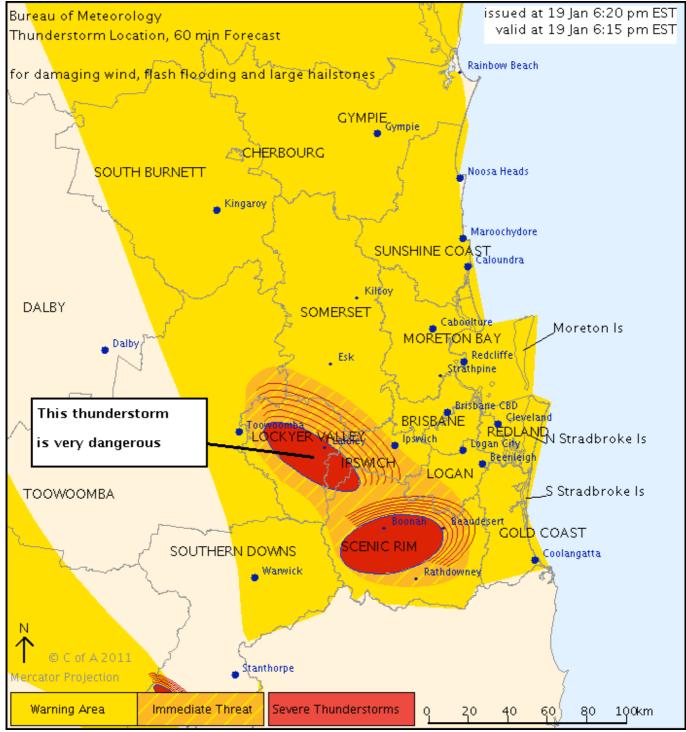
The Bureau of Meteorology warns that, at 6:15 pm, a very dangerous thunderstorm with intense rainfall was detected on weather radar near Laidley and Gatton. This thunderstorm is moving towards the northeast. This very dangerous thunderstorm is forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe. They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 60mm/hr and 40mm/30 min have been observed near Tenthill [southwest of Gatton]





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, GOLD COAST CITY, LOCKYER VALLEY, SCENIC RIM, SOMERSET and REDLAND Council Areas.

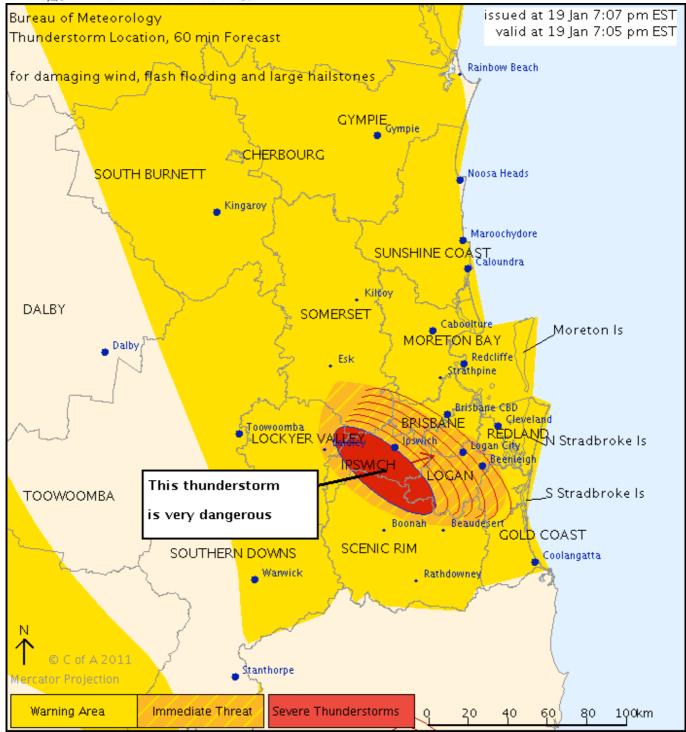
Issued at 7:07 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 7:05 pm, very dangerous thunderstorm with intense rainfall was detected on weather radar near Amberley, Rosewood, Hatton Vale, Marburg and Harrisville. This thunderstorm is moving towards the northeast. This thunderstorm is forecast to affect Ipswich, Redbank Plains, Lowood and Fernvale by 7:35 pm and Beenleigh, Logan City, Enoggera Reservoir and Mount Nebo by 8:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:05 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

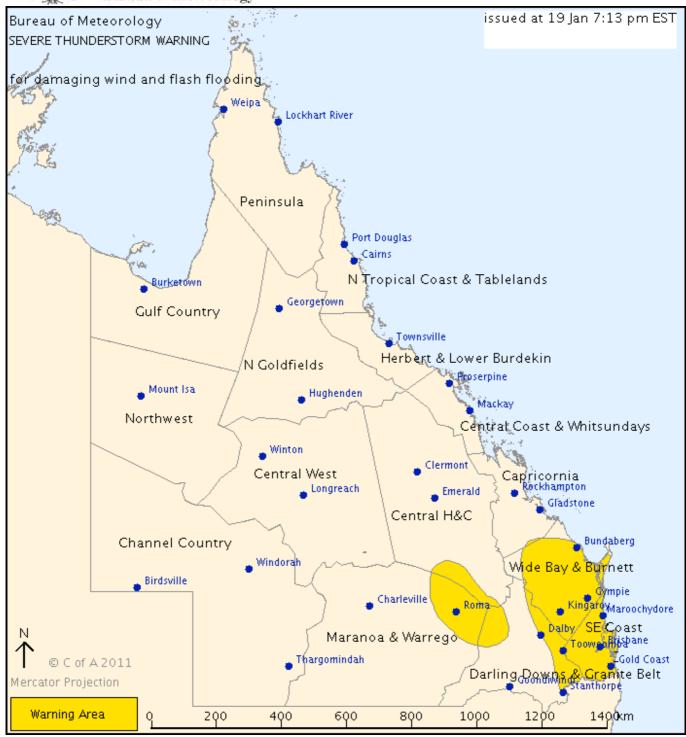
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 7:13 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Roma.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:15 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, LOCKYER VALLEY, MORETON BAY, SCENIC RIM and SOMERSET Council Areas.

Issued at 7:25 pm Wednesday, 19 January 2011.

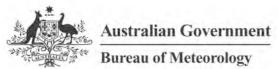
The Bureau of Meteorology warns that, at 7:05 pm, very dangerous thunderstorms were detected on weather radar near lpswich, Amberley, Rosewood and Marburg.

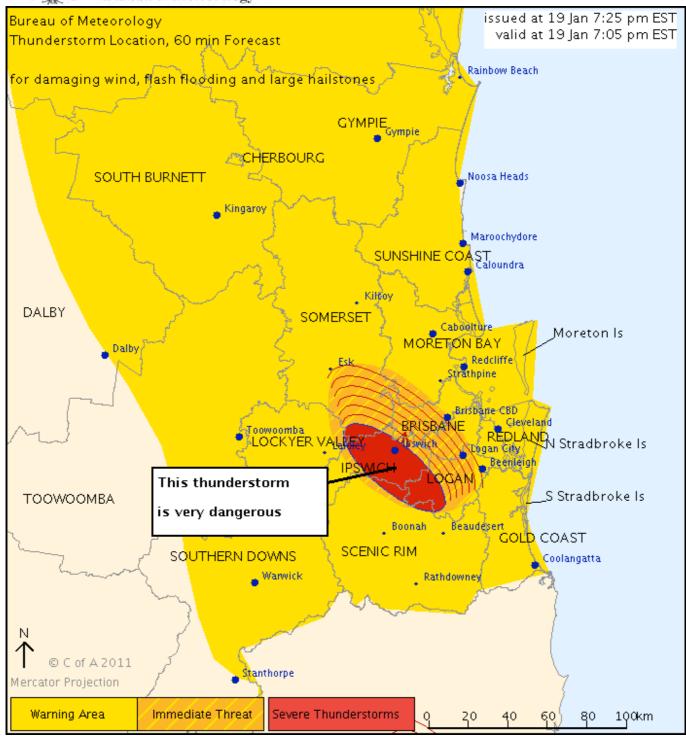
These thunderstorms are moving towards the north.

Very dangerous thunderstorms are forecast to affect Wacol, Lake Manchester, Lowood and Fernvale by 7:35 pm and Logan City, the area south of Esk, southern Lake Wivenhoe and the D'Aguilar Ranges by 8:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:25 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

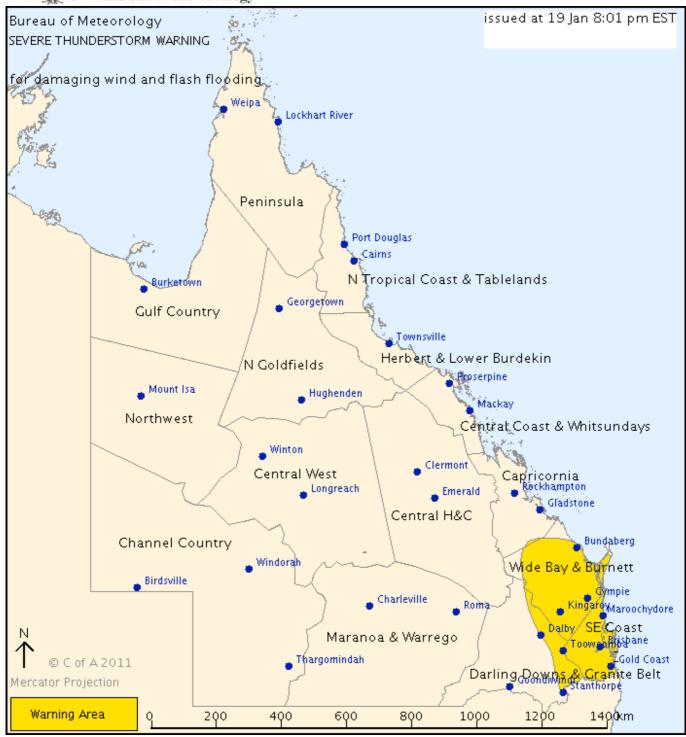
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt Forecast Districts.

Issued at 8:01 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Hervey Bay waters.

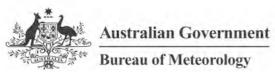
Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:05 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND and FLASH FLOODING For people in the BRISBANE CITY, MORETON BAY and parts of the IPSWICH CITY and SOMERSET Council Areas.

Issued at 8:03 pm Wednesday, 19 January 2011.

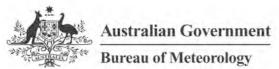
The Bureau of Meteorology warns that, at 8:05 pm, severe thunderstorms were detected on weather radar near Enoggera Reservoir, Mount Nebo, Highvale, Samford and Wacol.

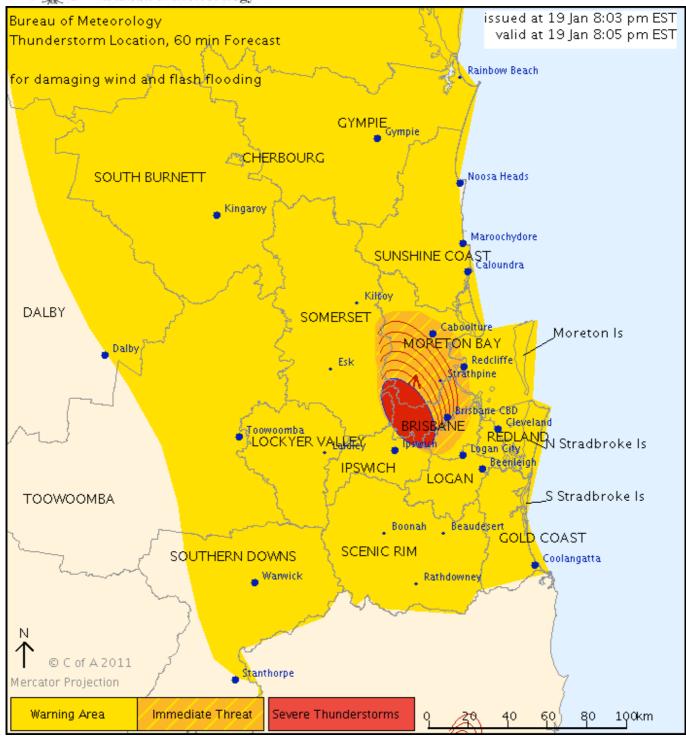
These thunderstorms are moving towards the north to northeast.

They are forecast to affect Albany Creek, the D'Aguilar Ranges, Lake Samsonvale and Dayboro by 8:35 pm and Brisbane CBD, Strathpine, Burpengary and Mount Mee by 9:05 pm.

Damaging winds, very heavy rainfall and flash flooding are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:05 pm.



A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

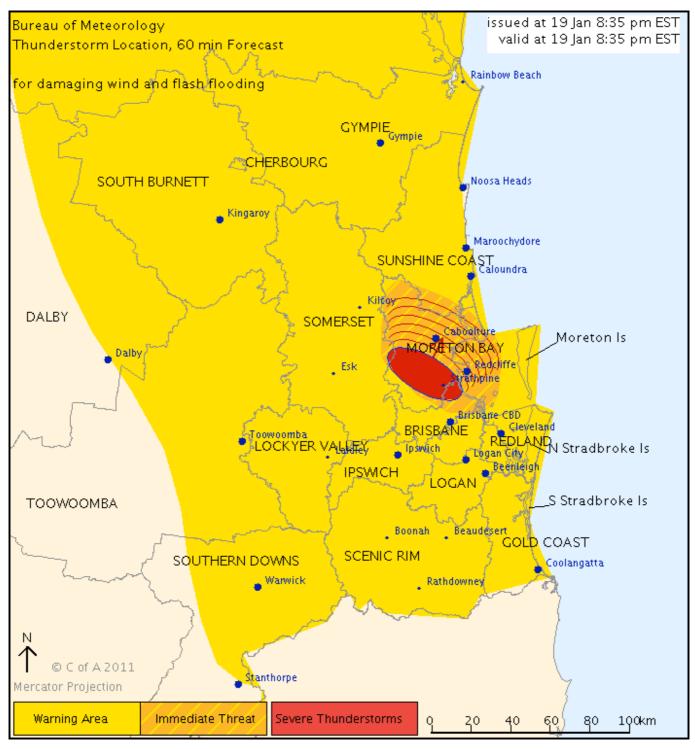
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND and FLASH FLOODING For people in the MORETON BAY and parts of the BRISBANE CITY, SUNSHINE COAST and SOMERSET Council Areas.

Issued at 8:35 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 8:35 pm, a severe thunderstorm is detected on weather radar near Strathpine, Kallangur, Narangba and Dayboro. This thunderstorm is moving towards the northeast. This thunderstorm is forecast to affect Redcliffe, Caboolture, Mount Mee and Wamuran by 9:05 pm and Deception Bay waters, Bribie Island, Beerburrum and Woodford by 9:35 pm.

Damaging winds, very heavy rainfall and flash flooding are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 9:35 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

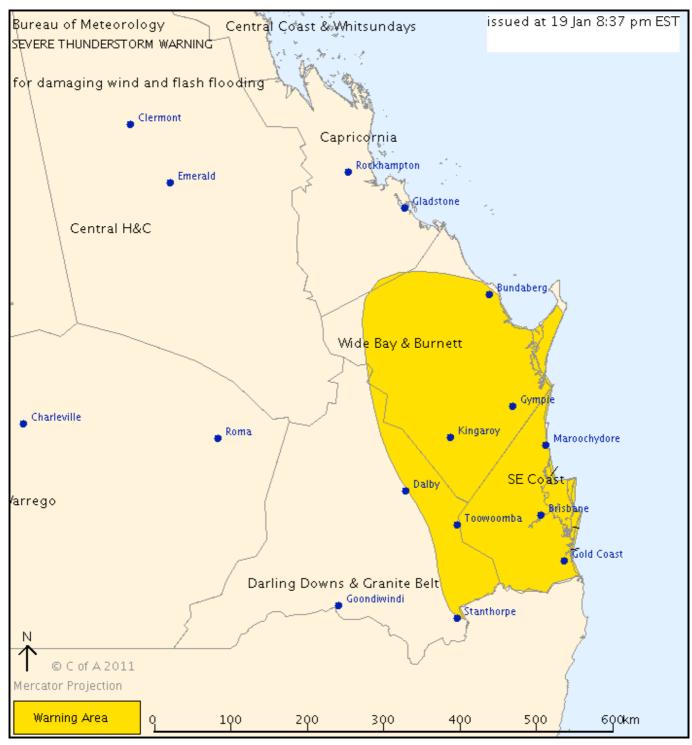
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt Forecast Districts.

Issued at 8:37 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Fraser Island.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:40 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

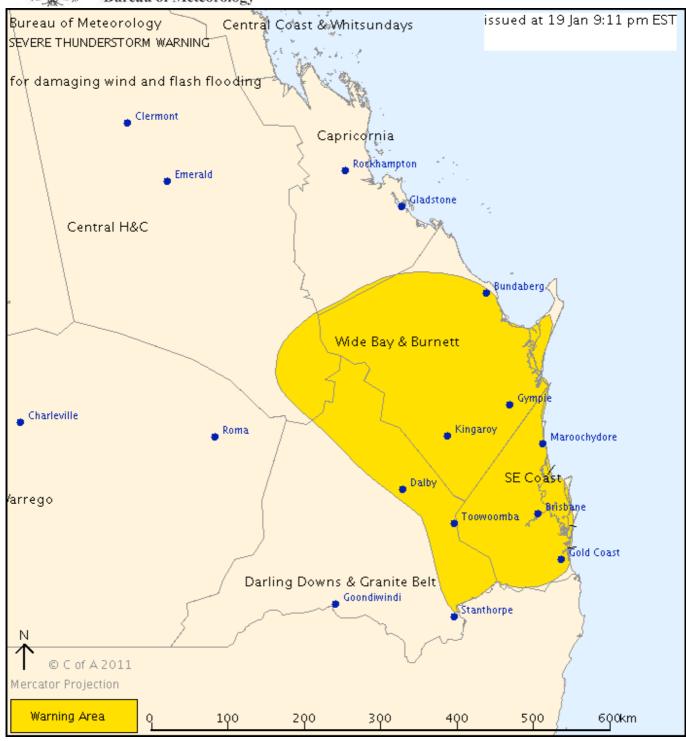
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and FLASH FLOODING For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia and Darling Downs and Granite Belt Forecast Districts.

Issued at 9:11 pm Wednesday, 19 January 2011.

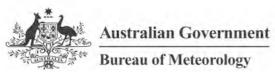
Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Toowoomba, Brisbane, Dalby, Maroochydore, Gympie, Bundaberg and Kingaroy.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:15 am Thursday.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

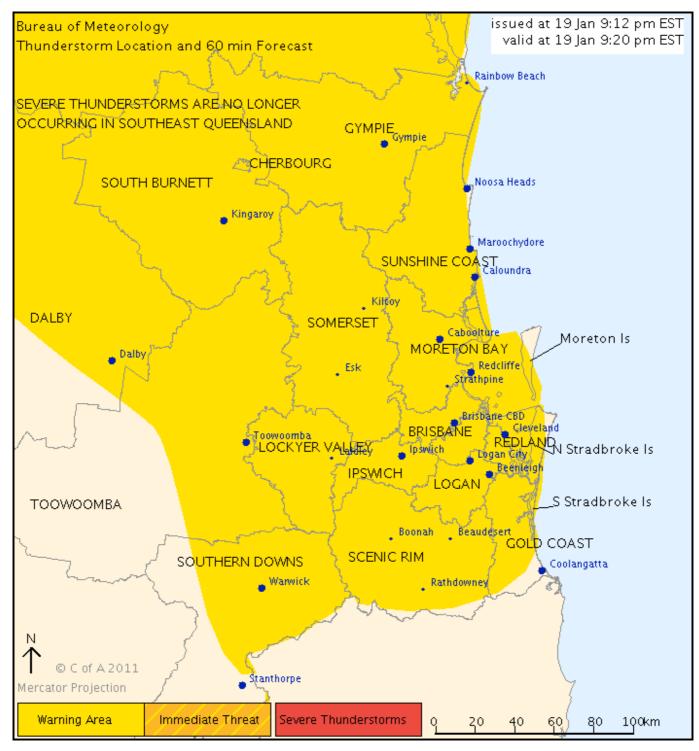
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 9:12 pm Wednesday, 19 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia and Darling Downs and Granite Belt districts.



Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 12:10 am Thursday, 20 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING For people in the LOGAN CITY and parts of the BRISBANE CITY, GOLD COAST CITY, IPSWICH CITY and SCENIC RIM Council Areas.

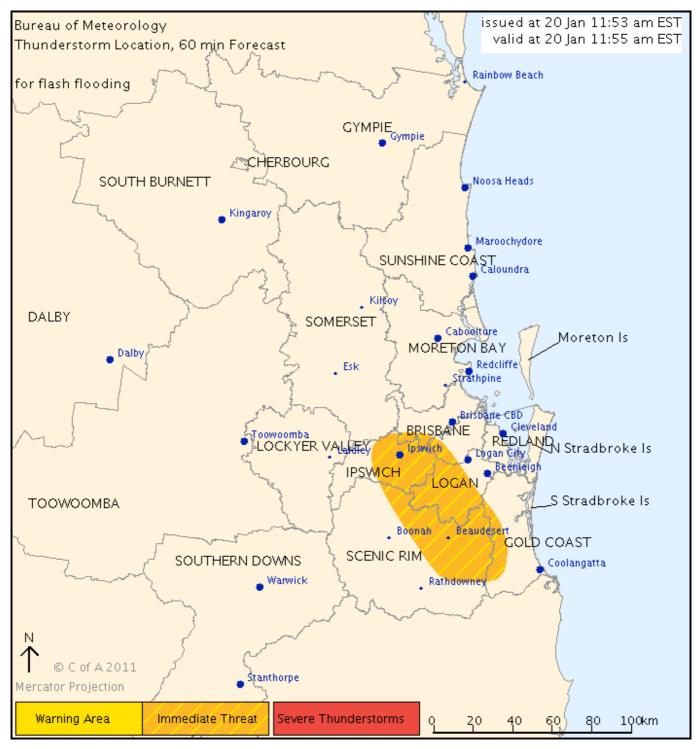
Issued at 11:53 am Thursday, 20 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours.

Locations which may be affected

include Ipswich, Beaudesert and the area between Boonah and Beaudesert.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:55 pm.



IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

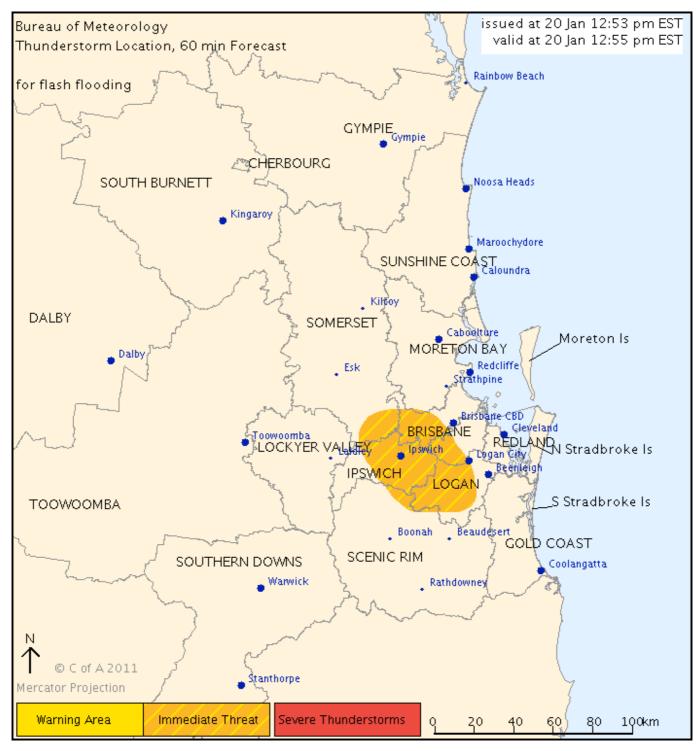
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, SCENIC RIM and SOMERSET Council Areas.

Issued at 12:53 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and could possibly cause localised flash flooding in the warning area over the next several hours.

Locations which may be affected include Ipswich.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:55 pm.



IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING
For people in parts of the BRISBANE CITY,
MORETON BAY and
SOMERSET Council Areas.

Issued at 1:49 pm Thursday, 20 January 2011.

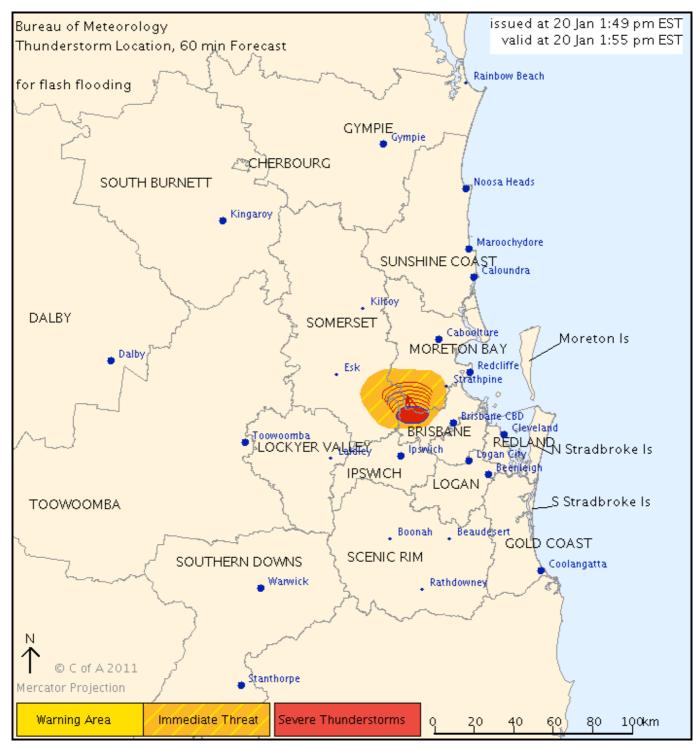
The Bureau of Meteorology warns that, at 1:55 pm, severe thunderstorms were detected on weather radar near Upper Brookfield.

These thunderstorms are slow moving.

They are forecast to affect Highvale and Samford by 2:25 pm.

Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 2:50 pm.



IDQ20038
Bureau of Meteorology
Queensland Regional Office

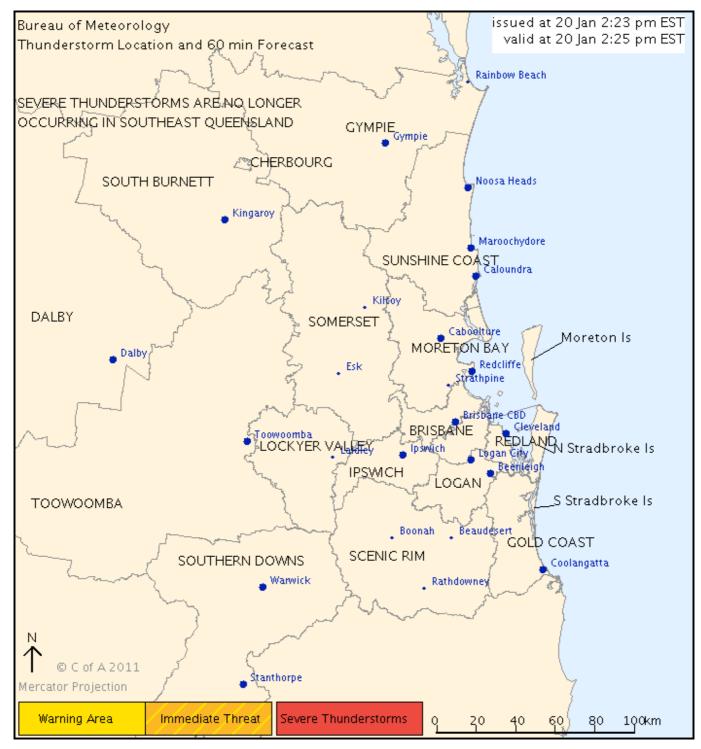
TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 2:23 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY, SOUTHERN DOWNS and TOOWOOMBA Council Areas.

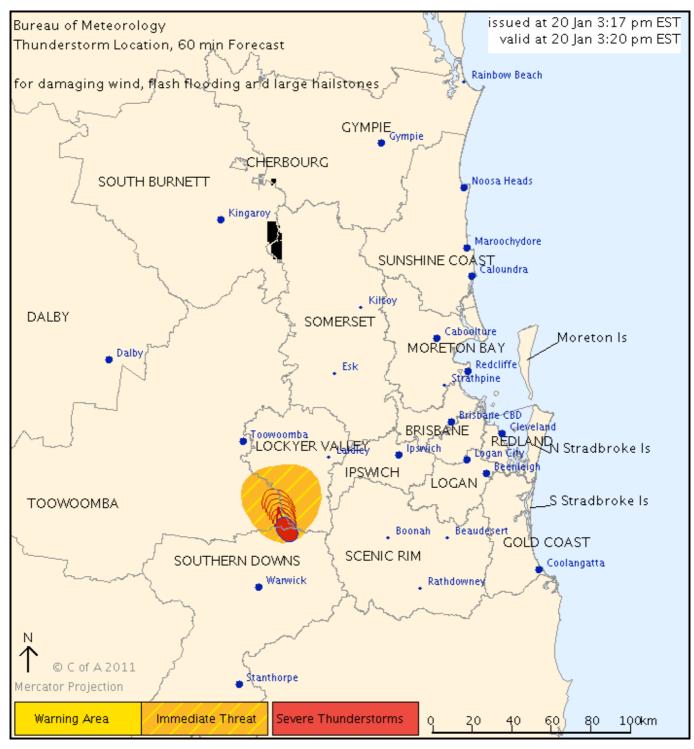
Issued at 3:17 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours.

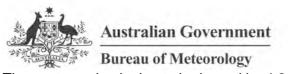
Locations which may be affected

include the area northwest of Cunninghams Gap and the area south of Helidon.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



The next warning is due to be issued by 4:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for FLASH FLOODING
For people in parts of the LOCKYER VALLEY,
IPSWICH CITY and SCENIC RIM Council Areas.

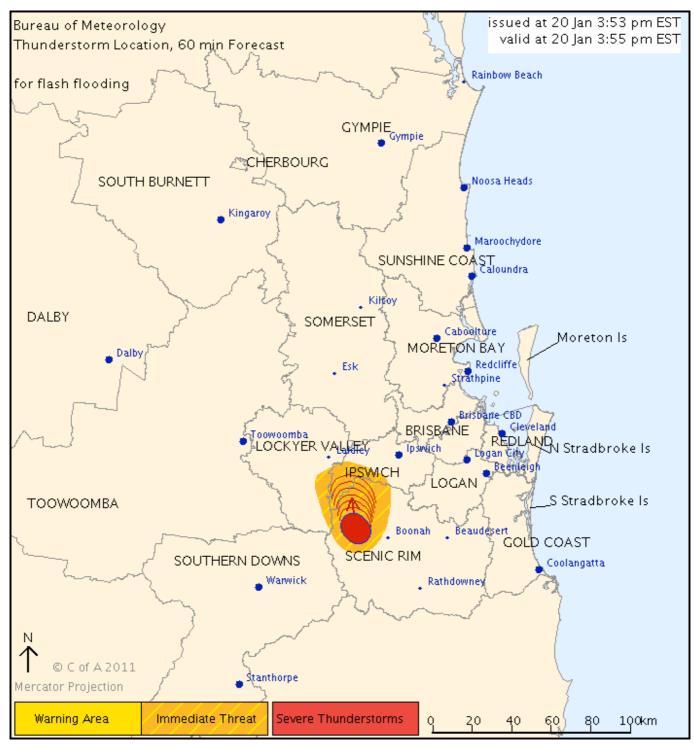
Issued at 3:53 pm Thursday, 20 January 2011.

The Bureau of Meteorology warns that, at 3:55 pm, severe thunderstorms were detected on weather radar near Aratula.

They are forecast to affect Rosevale by 4:25 pm.

Very heavy rainfall and flash flooding are likely.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:55 pm.



IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

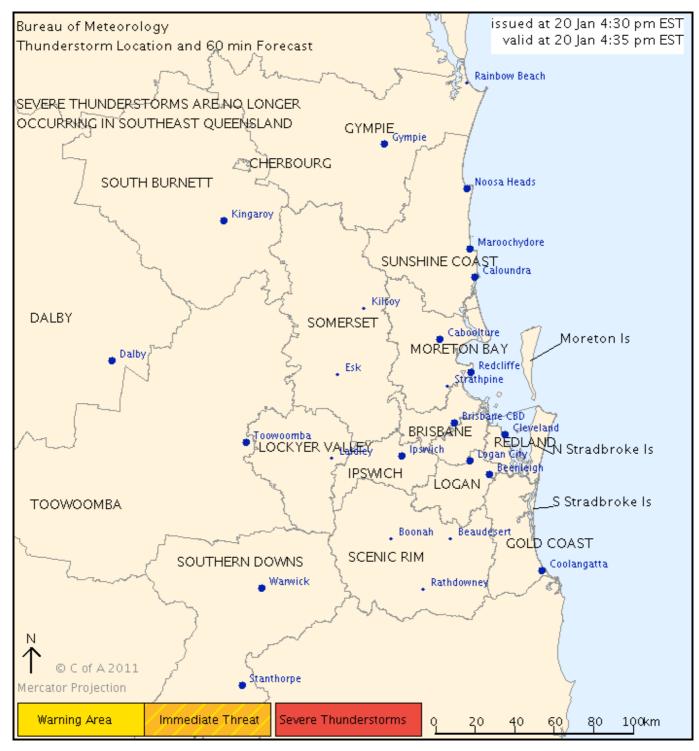
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 4:30 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



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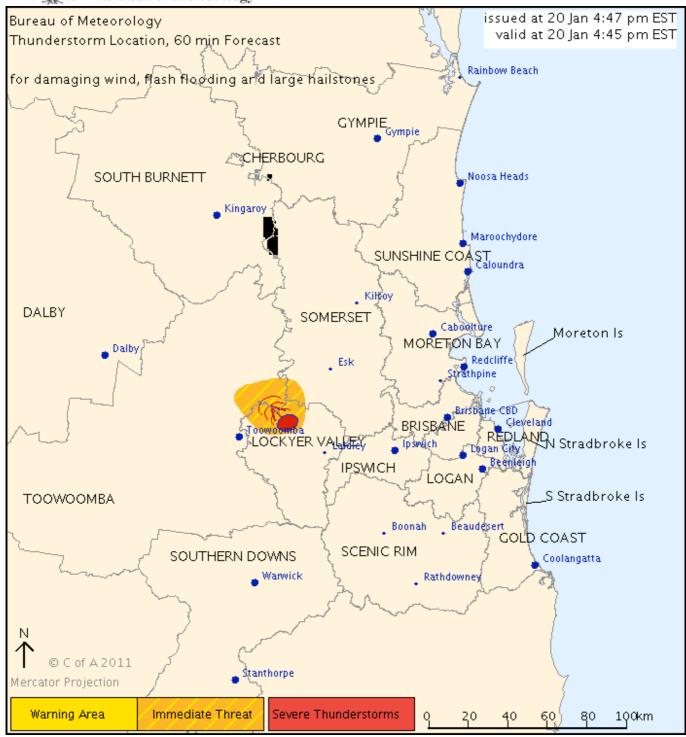
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 4:47 pm Thursday, 20 January 2011.

The Bureau of Meteorology warns that, at 4:45 pm, severe thunderstorms were detected on weather radar near the area north of Gatton. Damaging winds, very heavy rainfall, flash flooding and large hailstones are possible.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:50 pm.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 5:10 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

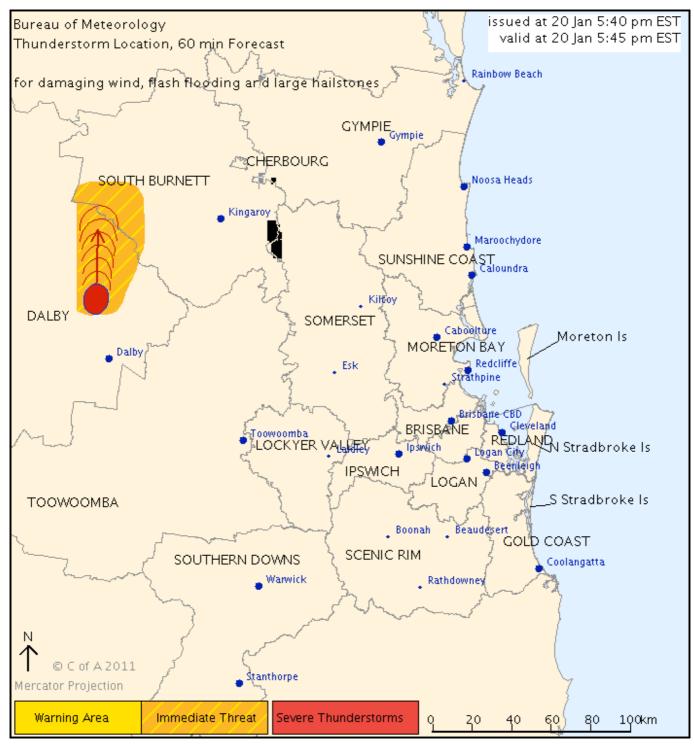
SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the DALBY and SOUTH BURNETT Council Areas.

Issued at 5:40 pm Thursday, 20 January 2011.

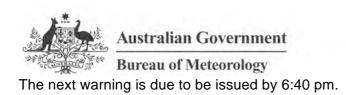
The Bureau of Meteorology warns that, at 5:45 pm, severe thunderstorms were detected on weather radar near Jimbour. These thunderstorms are moving towards the north.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.



IDQ20041 Bureau of Meteorology Queensland Regional Office

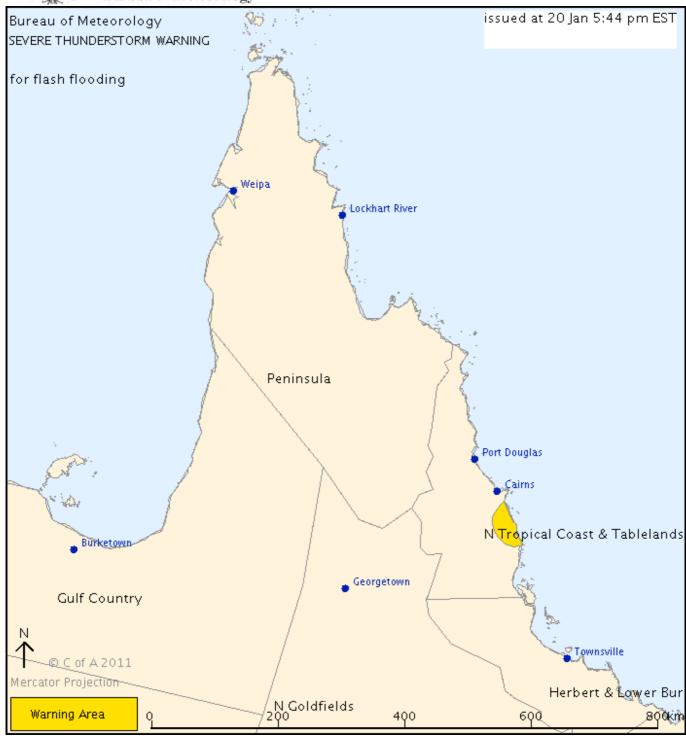
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for FLASH FLOODING For people in parts of the Northern Tropical Coast and Tablelands Forecast District.

Issued at 5:44 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next hour. Locations which may be affected include Babinda.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:45 pm.



At 5:44 pm Thursday, 20 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20041 Bureau of Meteorology Queensland Regional Office

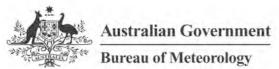
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Northern Tropical Coast and Tablelands and Darling Downs and Granite Belt Forecast Districts.

Issued at 6:33 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next hour or two in parts of the Northern Tropical Coast and Tablelands district. Locations which may be affected include Gordonvale and Babinda.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones over the next hour or two in parts of the Darling Downs and Granite Belt district.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:35 pm.



If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

IDQ20038 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

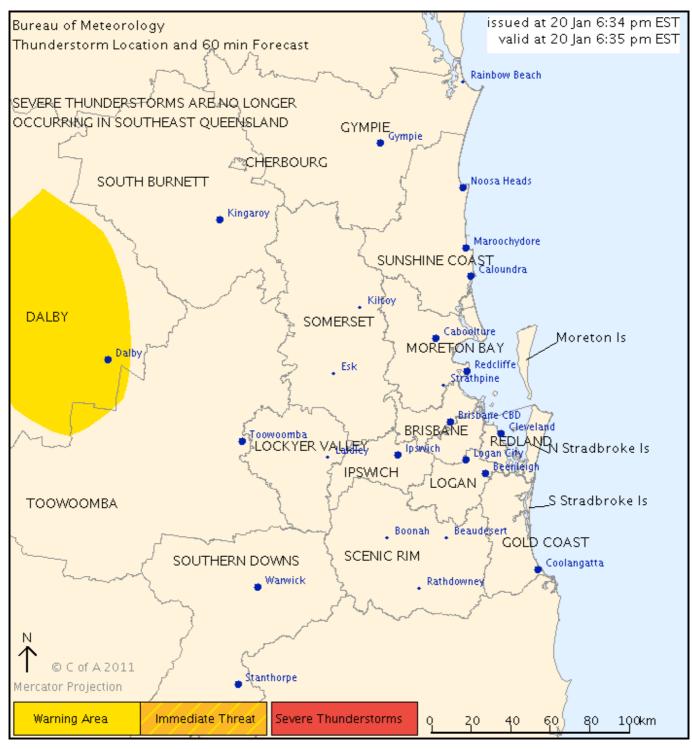
CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 6:34 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for parts of the Northern Tropical Coast and Tablelands and Darling Downs and Granite Belt districts.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 6:58 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

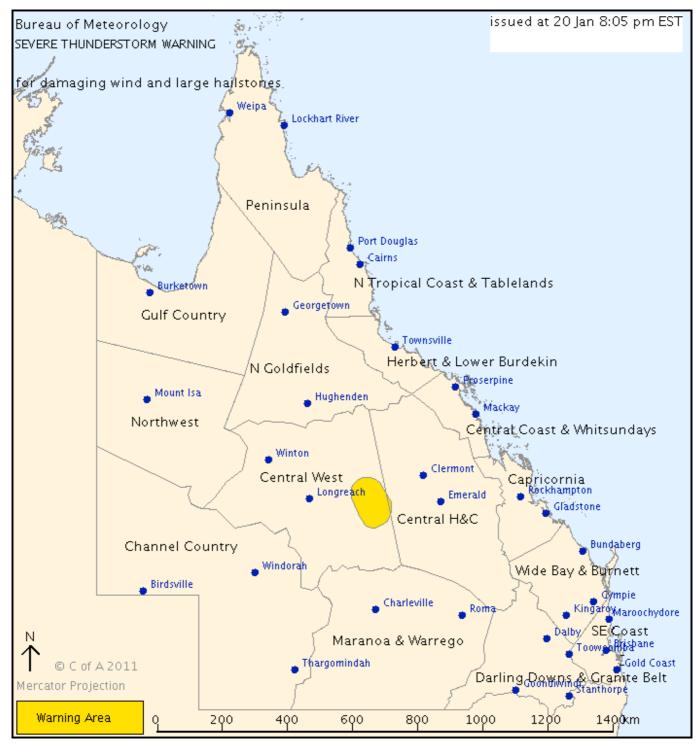
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central West Forecast District.

Issued at 8:05 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Alpha and Jericho.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:05 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Northern Tropical Coast and Tablelands, Herbert and Lower Burdekin and Central West Forecast Districts.

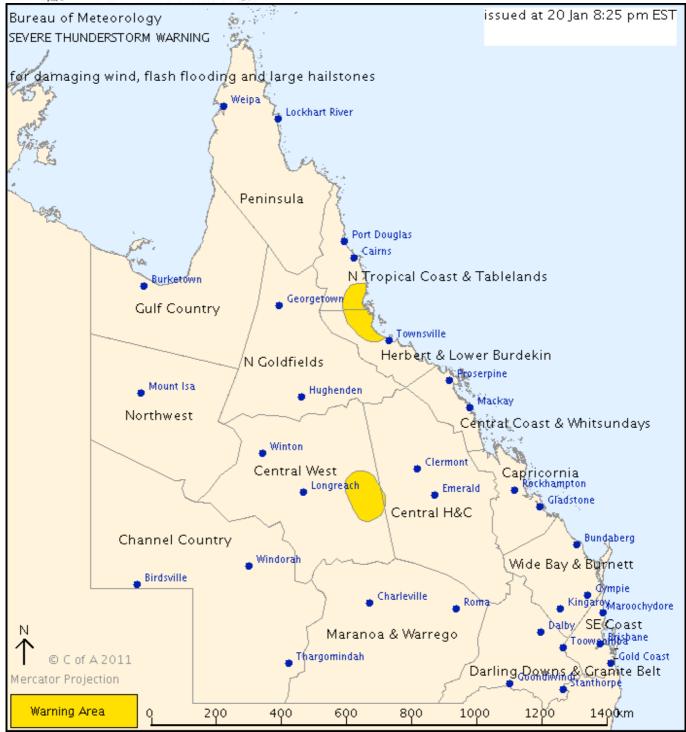
Issued at 8:25 pm Thursday, 20 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones over the next several hours in parts of the Central West district. Locations which may be affected include Jericho.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding over the next several hours in parts of the Northern Tropical Coast and Tablelands and Herbert and Lower Burdekin districts. Locations which may be affected include Ingham, Cardwell and Rollingstone.

30mm of rainfall has been recorded in 15 minutes at Paradise Lagoon [northeast of Townsville] at 8:25pm.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:25 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:26 pm Thursday, 20 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

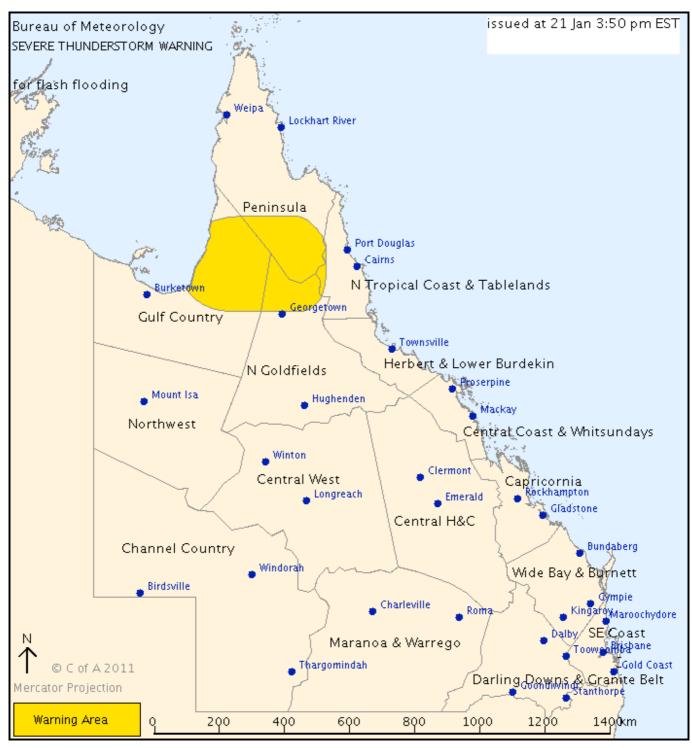
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for FLASH FLOODING
For people in parts of the
Peninsula,
Gulf Country,
Northern Tropical Coast and Tablelands and
Northern Goldfields and Upper Flinders Forecast Districts.

Issued at 3:50 pm Friday, 21 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Delta Downs Station and Palmerville.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

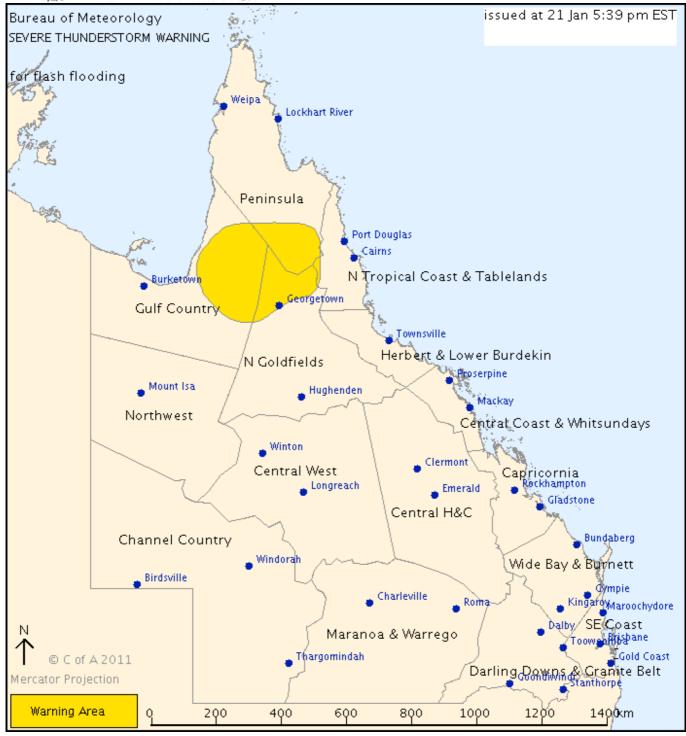
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for FLASH FLOODING
For people in parts of the
Peninsula,
Gulf Country,
Northern Tropical Coast and Tablelands and
Northern Goldfields and Upper Flinders Forecast Districts.

Issued at 5:39 pm Friday, 21 January 2011.

Severe thunderstorms are likely to produce very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Croydon and possibly Palmerville.





- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:40 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

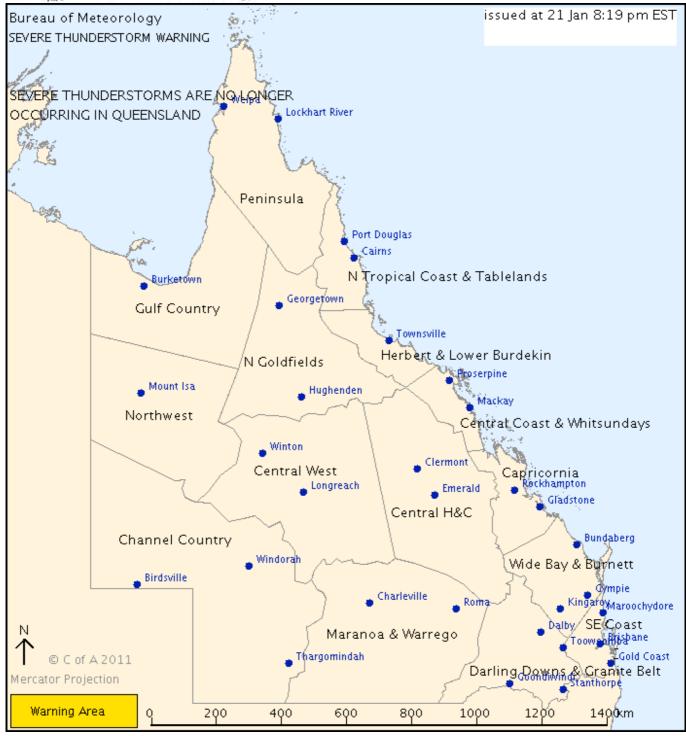
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 8:19 pm Friday, 21 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

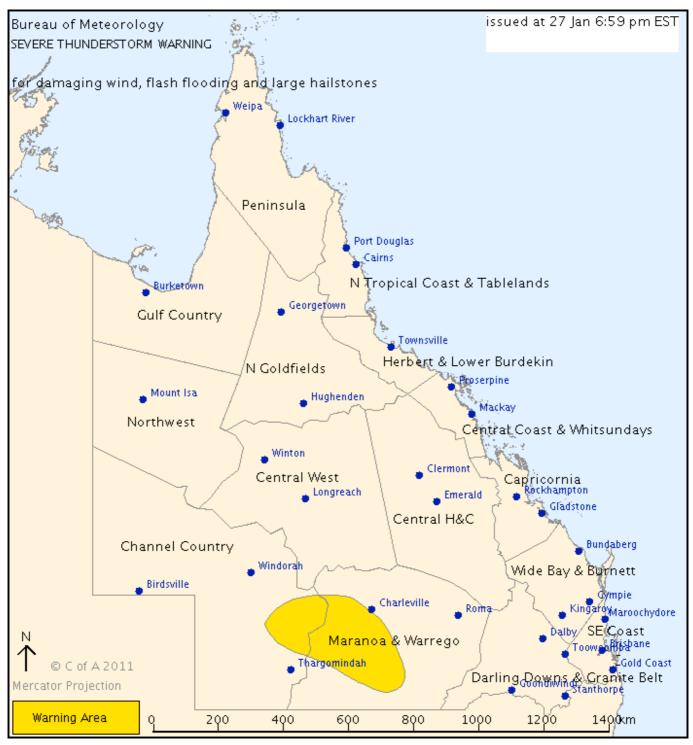
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 6:59 pm Thursday, 27 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall, flash flooding and large hailstones in the warning area over the next several hours. Locations which may be affected include Cunnamulla, Quilpie, Eromanga and Mount Margaret.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Avoid driving, walking or riding through flood waters.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:00 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

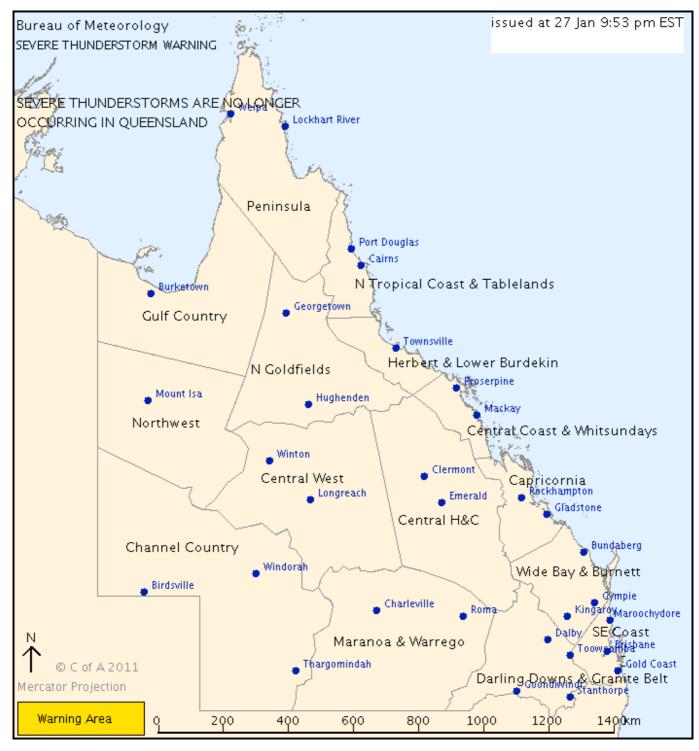
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 9:53 pm Thursday, 27 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

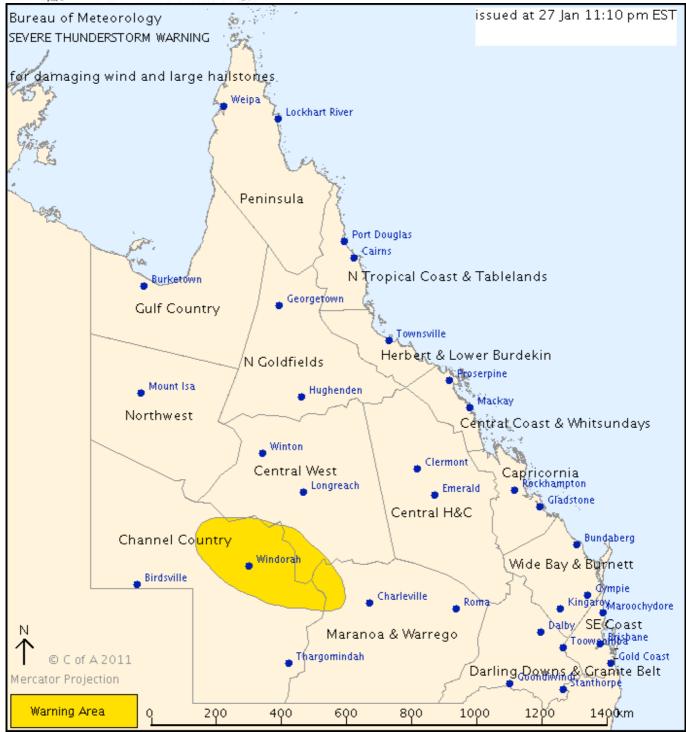
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central West, Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 11:10 pm Thursday, 27 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Windorah, Stonehenge, Adavale and Jundah.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 2:10 am Friday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

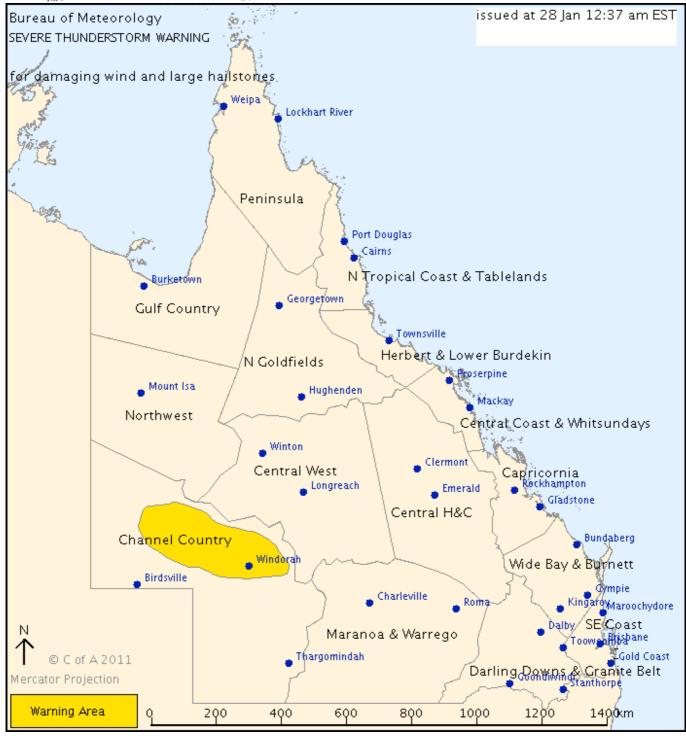
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Channel Country Forecast District.

Issued at 12:37 am Friday, 28 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Windorah, Bedourie, Jundah and Davenport Downs Station.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:40 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

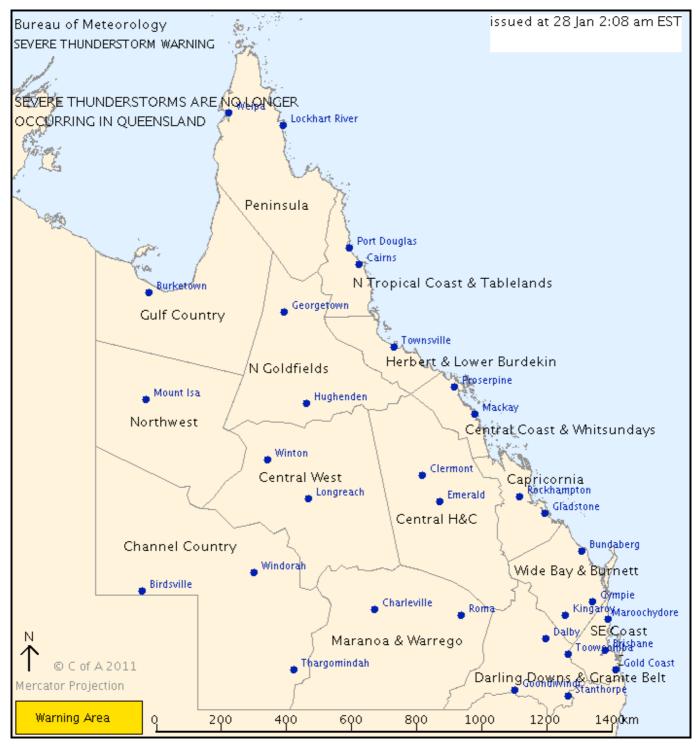
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 2:08 am Friday, 28 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

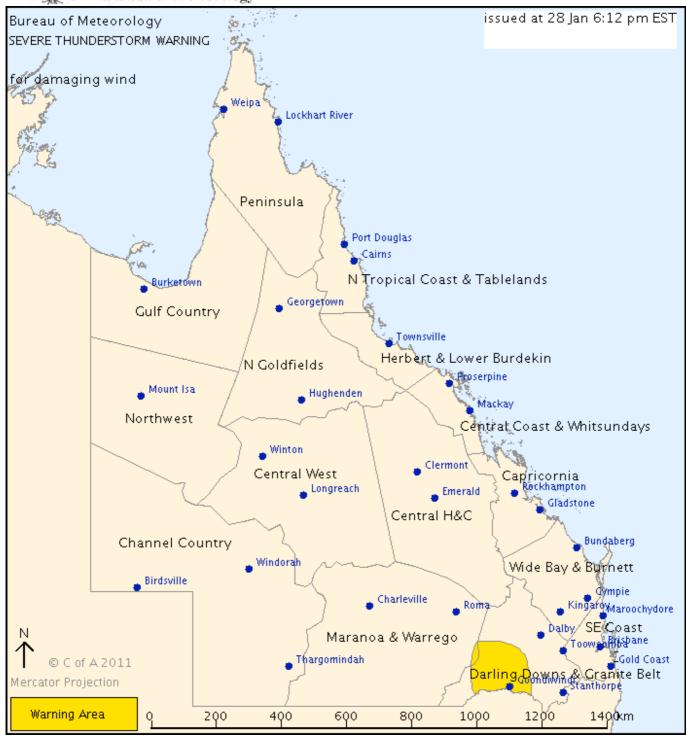
SEVERE THUNDERSTORM WARNING for DAMAGING WIND For people in parts of the Darling Downs and Granite Belt Forecast District.

Issued at 6:12 pm Friday, 28 January 2011.

Severe thunderstorms are likely to produce damaging winds in the warning area over the next several hours. Locations which may be affected include Goondiwindi.

Thunderstorms likely in the north in a very moist and unsatble airmass south of the monsoon trough. Possible thunderstorms over the interior due to a surface trough - damaging wind gusts are the only likely severe phenomena expected.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:15 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

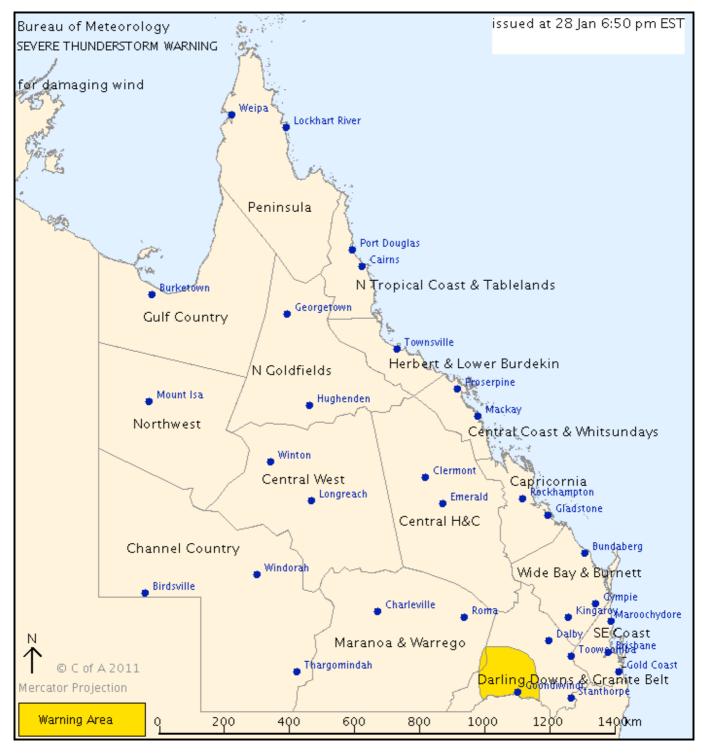
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND For people in parts of the Darling Downs and Granite Belt Forecast District.

Issued at 6:50 pm Friday, 28 January 2011.

Severe thunderstorms are likely to produce damaging winds in the warning area over the next several hours. Locations which may be affected include Goondiwindi.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:50 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

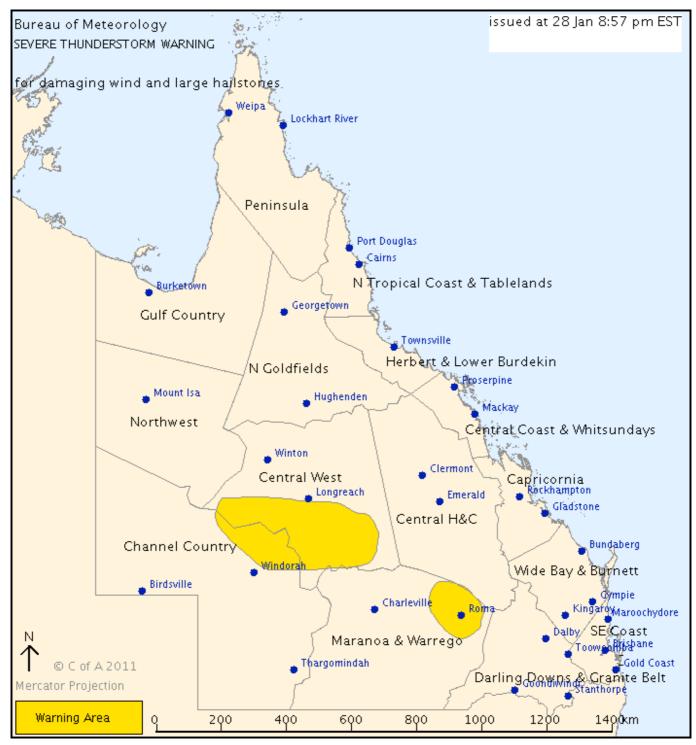
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central West, Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 8:57 pm Friday, 28 January 2011.

Severe thunderstorms are likely to produce damaging winds over the next several hours in parts of the Central West and Channel Country districts. Locations which may be affected include Isisford, Tambo, Blackall, Stonehenge and Jundah.

Severe thunderstorms are likely to produce damaging winds and large hailstones over the next several hours in parts of the Maranoa and Warrego district. Locations which may be affected include Roma, Mitchell and Injune.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:00 am Saturday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

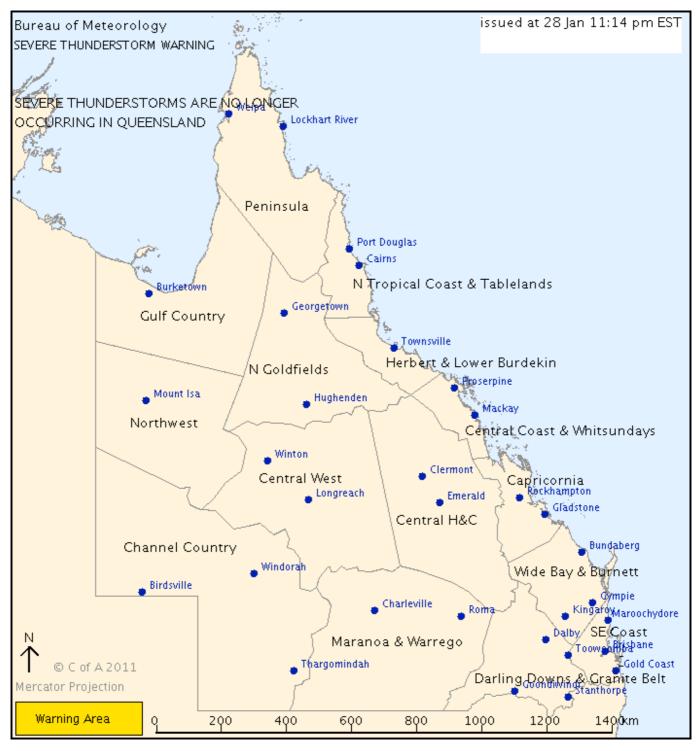
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 11:14 pm Friday, 28 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



IDQ20041 Bureau of Meteorology Queensland Regional Office

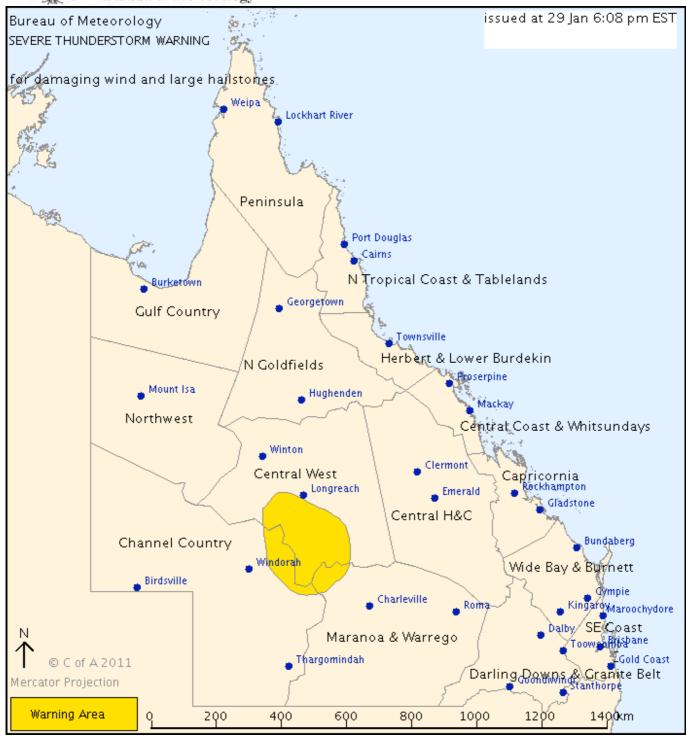
TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in parts of the Central West, Channel Country and Maranoa and Warrego Forecast Districts.

Issued at 6:08 pm Saturday, 29 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Isisford, Blackall, Stonehenge and Adavale.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:10 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

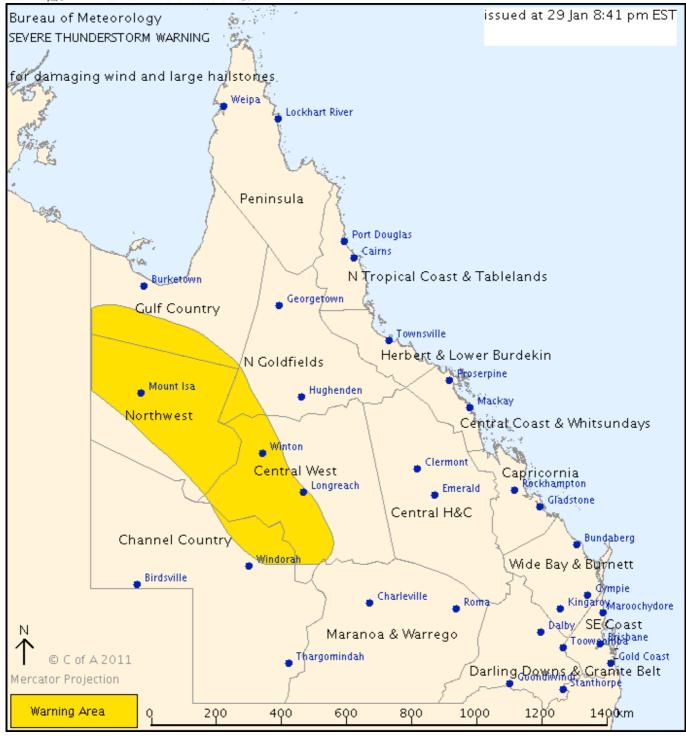
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in the Northwest and parts of the Gulf Country, Northern Goldfields and Upper Flinders, Central West and Channel Country Forecast Districts.

Issued at 8:41 pm Saturday, 29 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Longreach, Winton, Mount Isa, Cloncurry, Isisford, Julia Creek, Camooweal, Dajarra Hotel and Kamilaroi Station.

Trepell Airport recorded a wind gust of 92 km/hr at 8:34 pm EST.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:45 pm.



IDQ20041 Bureau of Meteorology Queensland Regional Office

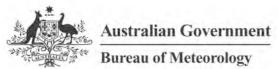
TOP PRIORITY FOR IMMEDIATE BROADCAST

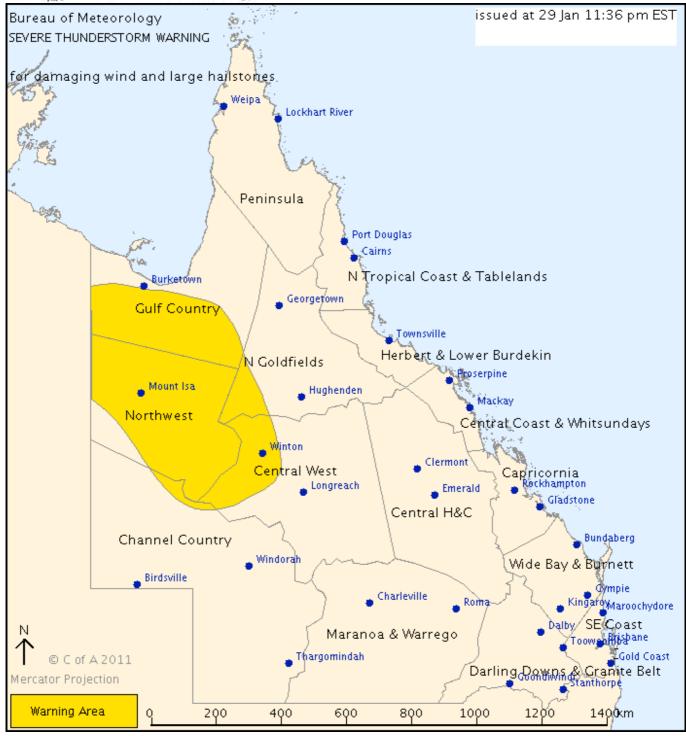
SEVERE THUNDERSTORM WARNING for DAMAGING WIND and LARGE HAILSTONES For people in the Northwest and parts of the Gulf Country, Northern Goldfields and Upper Flinders, Central West and Channel Country Forecast Districts.

Issued at 11:36 pm Saturday, 29 January 2011.

Severe thunderstorms are likely to produce damaging winds and large hailstones in the warning area over the next several hours. Locations which may be affected include Winton, Mount Isa, Cloncurry, Julia Creek, Camooweal, Boulia, Dajarra Hotel, Kamilaroi Station and Augustus Downs Station.

Trepell Airport recorded a wind gust of 92 km/hr at 8:34 pm EST Saturday. Winton Airport recorded a wind gust of 87 km/hr at 10:54 pm EST Saturday.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 2:40 am Sunday.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND
For people in the
Gulf Country and parts of the
Northern Goldfields and Upper Flinders and
Northwest Forecast Districts.

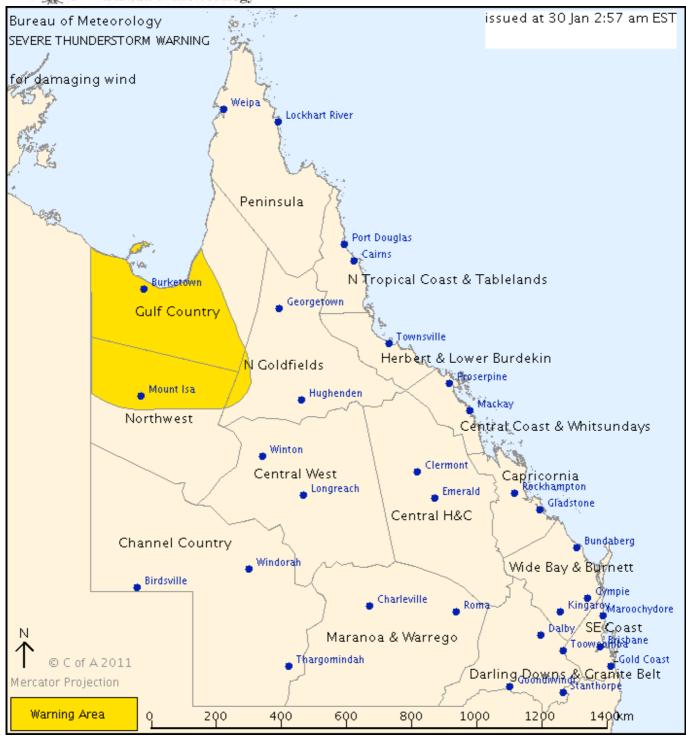
Issued at 2:57 am Sunday, 30 January 2011.

Severe thunderstorms are likely to produce damaging winds in the warning area over the next several hours. Locations which may be affected include Mount Isa, Cloncurry, Burketown, Mornington Island, Normanton, Julia Creek, Camooweal, Karumba and Delta Downs Station.

The Severe Thunderstorm Warning has been cancelled for the Central West and Channel Country Forecast districts.

Trepell Airport recorded a wind gust of 92 km/hr at 8:34 pm EST Saturday. Winton Airport recorded a wind gust of 87 km/hr at 10:54 pm EST Saturday.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:00 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING for DAMAGING WIND For people in parts of the Gulf Country Forecast District.

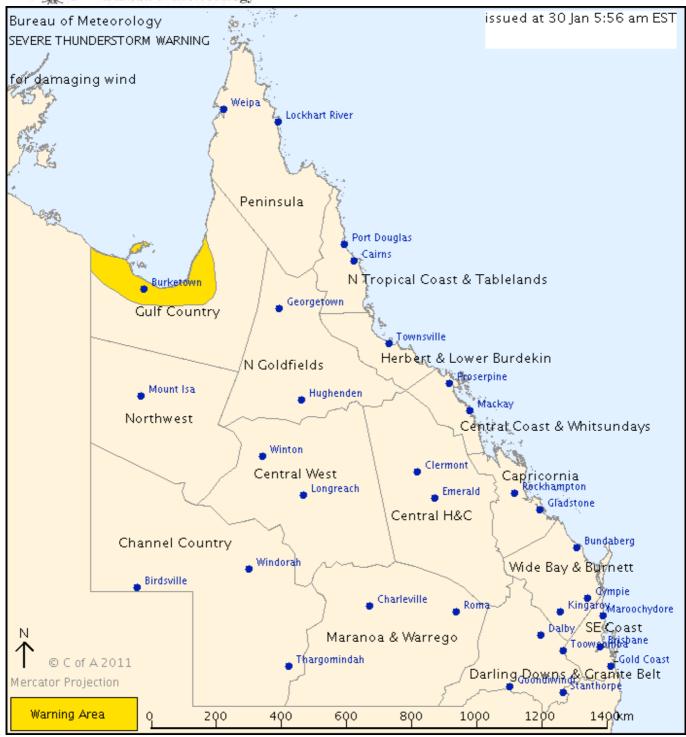
Issued at 5:56 am Sunday, 30 January 2011.

Severe thunderstorms are likely to produce damaging winds in the warning area over the next several hours. Locations which may be affected include Burketown, Mornington Island, Normanton, Karumba, Delta Downs Station and Westmoreland Station.

The Severe Thunderstorm Warning has been cancelled for the Northern Goldfields, Upper Flinders and Northwest Forecast Districts.

Burketown recorded a wind gust of 94 km/hr at 4:27 am EST Sunday. Winton Airport recorded a wind gust of 87 km/hr at 10:54 pm EST Saturday. Trepell Airport recorded a wind gust of 92 km/hr at 8:34 pm EST Saturday.





- * Move your car under cover or away from trees.
- * Secure loose outdoor items.
- * Seek shelter, preferably indoors and never under trees.
- * Avoid using the telephone during a thunderstorm.
- * Beware of fallen trees and powerlines.
- * For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:00 am.



IDQ20041 Bureau of Meteorology Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

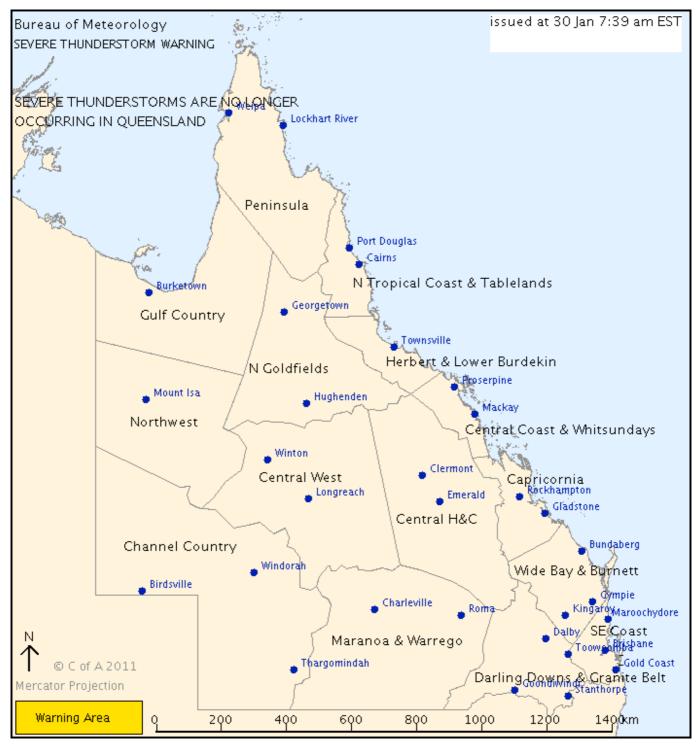
CANCELLATION SEVERE THUNDERSTORM WARNING

Issued at 7:39 am Sunday, 30 January 2011.

Severe thunderstorms are no longer occurring in QUEENSLAND.

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.





- * Beware of fallen trees and powerlines.
- * Avoid driving, walking or riding through flood waters.
- * For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.



Appendix D

Copies of Flood Warnings December 2010 to January 2011

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Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY AND WARRILL CREEKS AND THE BREMER AND BRISBANE RIVERS

Issued at 5:19 AM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to heavy rainfall of between 50-70mm has been recorded in the Bremer River and Lockyer, Laidley and Warrill Creek catchments since 9am Sunday. River level rises causing moderate to major flooding has been recorded along Laidley and Warrill Creeks and along the Bremer River above Ipswich. Minor to moderate flooding is being recorded along Lockyer Creek downstream to Lyon's Bridge.

Further river level rises are expected within the area during Monday with the Bremer River at Ipswich expected to reach the minor flood level of 8 metres Monday evening. A Severe Weather Warning is current for the region with further rainfall expected during Monday.

Predicted River Heights/Flows:

Bremer River:

Ipswich Reach the minor flood level of 8 metres Monday evening.

Weather Forecast:

Rain areas with moderate to locally heavy falls.

Next Issue:

The next warning will be issued at about 10am Monday.

Latest River Heights:

Lockyer Ck at Helidon * 3.93m falling 02:30 AM MON 27/12/10 Lockyer Ck at Helidon # 3.98m steady 04:39 AM MON 27/12/10 Tenthill Ck at Tenthill # 3.82m rising 04:51 AM MON 27/12/10 Lockyer Ck at Gatton * 9.38m rising 02:40 AM MON 27/12/10 Lockyer Ck at Gatton # 13.7m falling 04:46 AM MON 27/12/10 Laidley Ck at Mulgowie * 5.36m falling 03:00 AM MON 27/12/10 Laidley Ck at Laidley 6.8m rising fast 09:10 PM SUN 26/12/10 Laidley Ck at Showground Weir * 9.19m falling 02:40 AM MON 27/12/10 Laidley Ck at Showground Weir # 8.06m falling 04:50 AM MON 27/12/10 Bill Gunn Dam # 110.03m steady 02:16 AM MON 27/12/10 Laidley Ck at Warrego Hwy * 5.59m rising 03:30 AM MON 27/12/10 Lockyer Ck at Glenore Grove # 11.12m rising 04:51 AM MON 27/12/10 Lockyer Ck at Lyons Br # 10.67m rising 04:49 AM MON 27/12/10 Lockyer Ck at Lyons Br # 10.36m rising 04:52 AM MON 27/12/10 Atkinson Dam # 65.77m steady 03:38 AM MON 27/12/10 Lockyer Ck at O'Reilly's Weir * 9.39m steady 03:00 AM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 9.6m rising 04:49 AM MON 27/12/10 Brisbane R at Lowood Pump Stn # 4.45m falling 04:14 AM MON 27/12/10 Brisbane R at Savages Crossing * 5.42m falling 02:40 AM MON 27/12/10 Brisbane R at Savages Crossing # 5.33m falling 04:39 AM MON 27/12/10



Brisbane R at Burtons Br # 4.74m falling 04:41 AM MON 27/12/10 Cabbage Tree Ck at L Manchester # 51.51m rising 04:16 AM MON 27/12/10 Brisbane R at Kholo Br # -1.31m rising 04:38 AM MON 27/12/10 Brisbane R at Mt Crosby # 8.66m rising 04:52 AM MON 27/12/10 Brisbane R at Colleges Crossing # 5.36m rising 04:51 AM MON 27/12/10 Bremer R at Adams Br * 3.13m falling 03:10 AM MON 27/12/10 Bremer R at Adams Br # 3.03m rising 04:34 AM MON 27/12/10 Bremer R at Stokes Crossing # 3.75m falling 04:32 AM MON 27/12/10 Bremer R at Spressers Br # 5.87m rising 04:49 AM MON 27/12/10 Spring Ck at Greys Plains Rd # 2.29m falling 04:40 AM MON 27/12/10 Western Ck at Grandchester # 04:45 AM MON 27/12/10 3.03m rising Western Ck at Kuss Rd # 7.12m falling 04:51 AM MON 27/12/10 Western Ck at Rosewood WWTP # 6.88m falling 03:37 AM MON 27/12/10 Bremer R at Rosewood 03:00 PM SUN 26/12/10 4.3m rising Bremer R at Rosewood# 6.06m steady 04:51 AM MON 27/12/10 Bremer R at Rosewood # 6.08m rising 03:42 AM MON 27/12/10 Bremer R at Five Mile Br Walloon # 6.44m rising 04:49 AM MON 27/12/10 Bremer R at Walloon DERM * 03:00 AM MON 27/12/10 6.65m rising Bremer R at Three Mile Br # 04:41 AM MON 27/12/10 18.2m rising Reynolds Ck at Moogerah Dam * 02:30 AM MON 27/12/10 1.01m steady Reynolds Ck at Moogerah Dam # 155.98m rising 04:15 AM MON 27/12/10 Warrill Ck at Toohills Crossing * 02:40 AM MON 27/12/10 1.9m rising Warrill Ck at Kalbar Weir HW # 77.93m falling 04:39 AM MON 27/12/10 Warrill Ck at Kalbar Weir HW * 78.29m falling 02:30 AM MON 27/12/10 Warrill Ck at Kalbar Weir TW * 7.95m falling 02:40 AM MON 27/12/10 Warrill Ck at Harrisville # 5.38m rising 03:47 AM MON 27/12/10 Warrill Ck at Harrisville# 5.25m rising 04:22 AM MON 27/12/10 Warrill Ck at Churchbank Weir * 2.78m rising 02:15 AM MON 27/12/10 Warrill Ck at Churchbank Weir # 2.87m rising 04:35 AM MON 27/12/10 Warrill Ck at Greens Rd Amberley # 6.18m rising 04:50 AM MON 27/12/10 Warrill Ck at Amberley DNR * 6.92m rising 02:40 AM MON 27/12/10 Purga Ck at Peak Crossing # 3.31m falling 04:43 AM MON 27/12/10 Purga Ck at Loamside # 6.44m steady 04:50 AM MON 27/12/10 Purga Ck at Loamside *

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



IDQ20805

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY, LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 5:21 AM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to heavy rainfall of between 50-70mm has been recorded in the Bremer River and Lockyer, Laidley and Warrill Creek catchments since 9am Sunday. River level rises causing moderate to major flooding has been recorded along Laidley and Warrill Creeks and along the Bremer River above Ipswich. Minor to moderate flooding is being recorded along Lockyer Creek downstream to Lyon's Bridge.

Further river level rises are expected within the area during Monday with the Bremer River at Ipswich expected to reach the minor flood level of 8 metres Monday evening. A Severe Weather Warning is current for the region with further rainfall expected during Monday.

Predicted River Heights/Flows:

Bremer River:

Ipswich Reach the minor flood level of 8 metres Monday evening.

Weather Forecast:

Rain areas with moderate to locally heavy falls.

Next Issue:

The next warning will be issued at about 10am Monday.

Latest River Heights:

Lockyer Ck at Helidon * 3.93m falling 02:30 AM MON 27/12/10 Lockyer Ck at Helidon # 4m rising 05:12 AM MON 27/12/10 Flagstone Ck at Brown-Zirbels Rd * 4.34m rising 02:40 AM MON 27/12/10

Sandy Creek at Sandy Creek Road # NA

Ma Ma Ck at Harm's * 3m falling 02:00 AM MON 27/12/10
Tenthill Ck at Tenthill * 3.74m falling 04:09 AM MON 27/12/10
Tenthill Ck at Tenthill # 3.88m rising 05:18 AM MON 27/12/10
Lockyer Ck at Gatton * 9.38m rising 02:40 AM MON 27/12/10

Lockyer Ck at Gatton NA

Lockyer Ck at Gatton # 13.88m rising 05:19 AM MON 27/12/10

Laidley Ck at Thornton NA

Laidley Ck at Mulgowie * 5.46m rising 04:30 AM MON 27/12/10
Laidley Ck at Laidley 6.8m rising fast 09:10 PM SUN 26/12/10
Laidley Ck at Showground Weir * 9.19m falling 02:40 AM MON 27/12/10
Laidley Ck at Showground Weir # 7.74m falling 05:20 AM MON 27/12/10
Bill Gunn Dam # 110.03m steady 05:15 AM MON 27/12/10
Laidley Ck at Warrego Hwy * 5.71m rising 04:00 AM MON 27/12/10

Lake Clarendon Dam # NA

Lockyer Ck at Glenore Grove # 11.38m rising 05:17 AM MON 27/12/10

Lockyer Ck at Lyons Br NA



Lockyer Ck at Lyons Br # 10.91m rising 05:19 AM MON 27/12/10 Lockyer Ck at Lyons Br # 10.56m rising 05:19 AM MON 27/12/10

Lockyer Ck at Rifle Range Rd * NA

Atkinson Dam # 65.77m steady 03:38 AM MON 27/12/10

Buaraba Ck # NA

Lockyer Ck at O'Reilly's Weir * 9.53m rising 04:00 AM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 9.66m rising 05:15 AM MON 27/12/10 Brisbane R at Lowood Pump Stn # 4.45m falling 04:14 AM MON 27/12/10

Brisbane R at Lowood NA
Brisbane R at Lowood # NA

Brisbane R at Savages Crossing * 5.42m falling 02:40 AM MON 27/12/10 Brisbane R at Savages Crossing # 5.31m falling 05:09 AM MON 27/12/10

Black Snake Ck at Marburg # NA

Brisbane R at Burtons Br # 4.72m falling 05:11 AM MON 27/12/10

Cabbage Tree Ck at L Manchester # 51.51m rising 04:16 AM MON 27/12/10

Brisbane R at Kholo Br # -1.29m rising 04:59 AM MON 27/12/10

Brisbane R at Mt Crosby NA
Brisbane R at Mt Crosby * NA

Brisbane R at Mt Crosby # 8.68m steady 05:20 AM MON 27/12/10
Brisbane R at Mt Crosby # 8.66m steady 04:59 AM MON 27/12/10
Brisbane R at Colleges Crossing # 5.36m rising 04:51 AM MON 27/12/10
Bremer R at Adams Br * 3.09m falling 04:00 AM MON 27/12/10
Bremer R at Adams Br # 3.05m rising 05:16 AM MON 27/12/10

Bremer R at Stokes Crossing NA

Bremer R at Stokes Crossing # 3.65m falling 05:15 AM MON 27/12/10
Bremer R at Spressers Br # 5.82m falling 04:55 AM MON 27/12/10
Spring Ck at Greys Plains Rd # 2.09m falling 05:16 AM MON 27/12/10
Western Ck at Grandchester # 3.13m rising 05:07 AM MON 27/12/10

Western Ck at Kuss Rd NA

Western Ck at Kuss Rd # 7.04m falling 05:18 AM MON 27/12/10
Western Ck at Rosewood WWTP # 6.83m falling 04:53 AM MON 27/12/10

Bremer R at Rosewood 4.3m rising 03:00 PM SUN 26/12/10 Bremer R at Rosewood# 6.06m steady 04:51 AM MON 27/12/10

Bremer R at Rosewood #



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY, LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 10:13 AM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Fast rises are causing areas of moderate to major flooding in Laidley, Lockyer and Warrill Creeks and in the Bremer River. A moderate flood peak is expected in the Bremer River at Ipswich later this afternoon.

LAIDLEY AND LOCKYER CREEKS:

The main flood peak in Lockyer Creek is currently in the Glenore Grove area causing moderate flooding. Rises will continue downstream at Lyons Bridge with a major flood peak expected during Monday afternoon.

Moderate to major flooding has generally peaked in Laidley Creek.

BREMER RIVER:

The main peak in the Bremer River is now in the Walloon area with a moderate flood peak of around 10 metres now expected in the Bremer river at the David Trumpy Bridge later this afternoon. Further heavy rainfall is forecast and higher levels are possible.

Predicted River Heights/Flows: Bremer River:

Ipswich Reach 10 metres by 3pm Monday.

Weather Forecast:

Rain areas with moderate to locally heavy falls.

Next Issue:

The next warning will be issued at about 2pm Monday.

Latest River Heights:

Lockyer Ck at Helidon * 3.99m falling 08:10 AM MON 27/12/10 Lockyer Ck at Gatton * 9.72m rising 08:20 AM MON 27/12/10 Lockyer Ck at Gatton # 13.94m rising 10:01 AM MON 27/12/10 Laidley Ck at Mulgowie * 5.45m falling 08:00 AM MON 27/12/10 Laidley Ck at Laidley 6.5m falling slowly 07:30 AM MON 27/12/10 Laidley Ck at Showground Weir # 7.32m falling 09:59 AM MON 27/12/10 Laidley Ck at Warrego Hwy * 08:00 AM MON 27/12/10 5.96m steady

Lockyer Ck at Glenore Grove # 12.7m rising 09:57 AM MON 27/12/10 Lockyer Ck at Lyons Br # 12.99m rising 09:58 AM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 10.16m rising 09:49 AM MON 27/12/10



Western Ck at Rosewood WWTP # 6.48m falling 09:55 AM MON 27/12/10 Bremer R at Rosewood# 5.76m falling 09:12 AM MON 27/12/10

Bremer R at Five Mile Br Walloon # 6.98m rising
Bremer R at Walloon DERM * 7.81m rising
Bremer R at Three Mile Br # 20.35m rising
08:49 AM MON 27/12/10
08:00 AM MON 27/12/10
09:56 AM MON 27/12/10

Warrill Ck at Kalbar 8.7m falling slowly 09:00 AM MON 27/12/10
Warrill Ck at Amberley DNR * 7.08m rising 08:00 AM MON 27/12/10

Bremer R at Berry's Lagoon * 22.52m rising 08:15 AM MON 27/12/10
Bremer R at One Mile Br # 14.35m rising 10:02 AM MON 27/12/10
Bremer R at Hancocks Br Brassall # 11.13m rising 10:03 AM MON 27/12/10
Bremer R at Ipswich # 6.75m rising 10:03 AM MON 27/12/10

^{*,#} automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY, LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 2:29 PM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Fast rises are causing areas of moderate to major flooding in Laidley, Lockyer and Warrill Creeks and in the Bremer River. A moderate flood peak is expected in the Bremer River at Ipswich during this evening.

LAIDLEY AND LOCKYER CREEKS:

Further rainfall has been recorded since 9am which is producing some renewed rises in the upper reaches of the catchment. The main flood peak in Lockyer Creek is now downstream of the Glenore Grove area. Major flood levels will continue downstream at Lyons Bridge with a peak around 15.2 metres expected overnight Monday.

Moderate to major flooding has peaked in Laidley Creek.

BREMER RIVER:

A major flood peak of about 7 metres has been recorded in the Bremer River at the Five Mile Bridge with a moderate flood peak of around 10 metres now expected in the Bremer river at the David Trumpy Bridge during this evening. Further heavy rainfall is forecast and higher levels are possible.

Predicted River Heights/Flows:

Bremer River:

Ipswich Reach around 10 metres Monday evening.

Weather Forecast:

Rain areas with moderate to locally heavy falls.

Next Issue:

The next warning will be issued at about 6pm Monday.

Latest River Heights:

Lockyer Ck at Helidon # 01:30 PM MON 27/12/10 4.56m rising Lockyer Ck at Gatton # 13.7m falling 01:13 PM MON 27/12/10 Laidley Ck at Mulgowie * 5.56m rising 12:00 PM MON 27/12/10 Laidley Ck at Laidley 6.5m falling slowly 07:30 AM MON 27/12/10 Laidley Ck at Showground Weir # 7.2m rising 01:29 PM MON 27/12/10 Laidley Ck at Warrego Hwy * 12:00 PM MON 27/12/10 5.84m falling

Lockyer Ck at Glenore Grove # 12.72m falling 01:24 PM MON 27/12/10 Lockyer Ck at Lyons Br # 13.45m rising 01:22 PM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 10.46m steady 01:17 PM MON 27/12/10



Western Ck at Rosewood WWTP # 6.43m rising 01:28 PM MON 27/12/10 Bremer R at Rosewood # 5.5m falling 12:51 PM MON 27/12/10

Bremer R at Five Mile Br Walloon # 6.66m steady 01:27 PM MON 27/12/10 Bremer R at Three Mile Br # 20.8m rising 01:26 PM MON 27/12/10

Warrill Ck at Kalbar 8.7m falling slowly 09:00 AM MON 27/12/10 Warrill Ck at Amberley DNR * 7.2m rising 11:40 AM MON 27/12/10

Bremer R at Berry's Lagoon * 23.19m rising 11:30 AM MON 27/12/10
Bremer R at One Mile Br # 14.8m rising 01:13 PM MON 27/12/10
Bremer R at Hancocks Br Brassall # 12.38m rising 01:30 PM MON 27/12/10
Bremer R at Ipswich # 7.75m rising 01:23 PM MON 27/12/10

^{*,#} from automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY, LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 5:57 PM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Heavy rainfall during Monday has caused fast rises and areas of moderate to major flooding in Laidley, Lockyer and Warrill Creeks and in the Bremer River. A moderate flood peak is expected in the Bremer River at Ipswich during this evening.

LAIDLEY AND LOCKYER CREEKS:

Further heavy rainfall during the afternoon has caused renewed rises and moderate to major flooding in the upper reaches of Laidley and Lockyer Creeks. Major flood levels will continue downstream at Lyons Bridge with further rises and a peak around 15.2 metres expected overnight Monday.

WARRILL CREEK:

Fast rises and major flooding is occurring in the Warrill Creek from Kalbar Weir to Amberley.

BREMER RIVER:

A major flood peak of about 7 metres has been recorded in the Bremer River at the Five Mile Bridge with a moderate flood peak of around 10 metres now expected in the Bremer river at the David Trumpy Bridge at Ipswich during this evening.

The heavy rainfall has now cleared the area with only lighter rain expected overnight.

Predicted River Heights/Flows:

Bremer River:

Ipswich Reach around 10 metres Monday evening.

Next Issue:

The next warning will be issued at about 9pm Monday.

Latest River Heights:

Lockyer Ck at Helidon # 5.16m falling 04:45 PM MON 27/12/10 Flagstone Ck at Brown-Zirbels Rd * 7.14m falling 02:40 PM MON 27/12/10 Tenthill Ck at Tenthill # 8.7m rising 04:45 PM MON 27/12/10

Lockyer Ck at Gatton # 14.72m falling 04:34 PM MON 27/12/10
Laidley Ck at Mulgowie * 8.97m rising 03:30 PM MON 27/12/10
Laidley Ck at Laidley 6.6m rising slowly 02:15 PM MON 27/12/10

Laidley Ck at Showground Weir # 8.72m rising 04:47 PM MON 27/12/10

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Bill Gunn Dam # 110.07m steady 02:23 PM MON 27/12/10 Laidley Ck at Warrego Hwy * 5.76m falling 03:00 PM MON 27/12/10

Lockyer Ck at Glenore Grove # 04:42 PM MON 27/12/10 12.62m falling Lockyer Ck at Lyons Br # 13.85m rising 04:40 PM MON 27/12/10 Lockyer Ck at Lyons Br # 04:46 PM MON 27/12/10 11.46m rising Lockyer Ck at O'Reilly's Weir * 10.67m rising 03:00 PM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 10.72m rising 04:38 PM MON 27/12/10 Brisbane R at Lowood Pump Stn # 5.45m rising 04:44 PM MON 27/12/10

Bremer R at Adams Br * 4.43m rising 03:00 PM MON 27/12/10 Bremer R at Adams Br # 4.67m rising 04:43 PM MON 27/12/10 Bremer R at Stokes Crossing # 4.55m rising 04:30 PM MON 27/12/10 Bremer R at Spressers Br # 5.52m steady 04:25 PM MON 27/12/10 Spring Ck at Grevs Plains Rd # 2.34m falling 04:46 PM MON 27/12/10 Western Ck at Grandchester # 4.43m falling 04:45 PM MON 27/12/10 Western Ck at Kuss Rd # 7.12m rising 04:42 PM MON 27/12/10 Western Ck at Rosewood WWTP # 04:19 PM MON 27/12/10 6.48m rising 5.4m rising slowly 03:05 PM MON 27/12/10 Bremer R at Rosewood Bremer R at Rosewood# 5.46m steady 01:51 PM MON 27/12/10 Bremer R at Rosewood # 5.46m rising 04:24 PM MON 27/12/10 Bremer R at Five Mile Br Walloon # 6.28m falling 04:46 PM MON 27/12/10 Bremer R at Walloon DERM * 7.78m falling 03:00 PM MON 27/12/10 Bremer R at Three Mile Br # 04:26 PM MON 27/12/10 20.7m falling

Reynolds Ck at Moogerah Dam * 1.92m rising 02:40 PM MON 27/12/10 Reynolds Ck at Moogerah Dam # 157.08m rising 04:35 PM MON 27/12/10 Warrill Ck at Toohills Crossing * 6.07m rising 02:40 PM MON 27/12/10 Warrill Ck at Kalbar Weir HW # 79.73m rising 04:45 PM MON 27/12/10 Warrill Ck at Kalbar Weir HW * 79.24m rising 02:30 PM MON 27/12/10 Warrill Ck at Kalbar Weir TW * 8.55m rising 02:40 PM MON 27/12/10 03:00 PM MON 27/12/10 Warrill Ck at Kalbar 10m rising fast Warrill Ck at Harrisville # 5.4m rising 04:35 PM MON 27/12/10 Warrill Ck at Churchbank Weir * 2.97m rising 02:00 PM MON 27/12/10 Warrill Ck at Churchbank Weir # 3.07m steady 04:28 PM MON 27/12/10 Warrill Ck at Greens Rd Amberley # 6.64m falling 04:44 PM MON 27/12/10 Purga Ck at Peak Crossing # 3.16m rising 04:41 PM MON 27/12/10 Purga Ck at Loamside # 04:39 PM MON 27/12/10 5.99m steady Bremer R at Berry's Lagoon * 23.42m rising 02:30 PM MON 27/12/10 Bremer R at One Mile Br # 14.95m falling 04:21 PM MON 27/12/10 Bremer R at Hancocks Br Brassall # 12.63m steady 04:11 PM MON 27/12/10 Bremer R at Ipswich # 8.45m rising 04:46 PM MON 27/12/10

#, * denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LAIDLEY, LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 9:23 PM on Monday the 27th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues in the Laidley, Lockyer and Warrill Creeks and the Bremer River. A minor flood peak of 8.5 metres is occurring at Ipswich.

LAIDLEY AND LOCKYER CREEKS:

Moderate to major flooding continues in the upper reaches of the Laidley and Lockyer Creeks. Major flood levels will continue downstream at Lyons Bridge with further rises and a peak around 15.2 metres expected overnight Monday.

WARRILL CREEK:

Major flooding in Warrill Creek from Kalbar Weir to Amberley will continue overnight then ease during Tuesday.

BREMER RIVER:

Minor flooding is easing in the upper reaches of the Bremer River. Moderate to major flooding continues between Spressers Bridge and Walloon. The Bremer River at Ipswich is now peaking at 8.5 metres and is expected to remain steady overnight and Tuesday.

The heavy rainfall has now cleared the area with only lighter rain expected overnight.

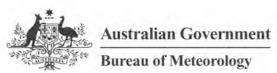
Next Issue:

The next warning will be issued at about 6am Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 5.16m falling 04:45 PM MON 27/12/10 Flagstone Ck at Brown-Zirbels Rd * 7.14m falling 02:40 PM MON 27/12/10 Tenthill Ck at Tenthill # 8.7m rising 04:45 PM MON 27/12/10 Lockyer Ck at Gatton # 14.72m falling 04:34 PM MON 27/12/10 Laidley Ck at Mulgowie * 8.97m rising 03:30 PM MON 27/12/10 Laidley Ck at Laidley 6.6m rising slowly 02:15 PM MON 27/12/10 Laidley Ck at Showground Weir # 8.72m rising 04:47 PM MON 27/12/10 Bill Gunn Dam # 110.07m steady 02:23 PM MON 27/12/10 Laidley Ck at Warrego Hwy * 5.76m falling 03:00 PM MON 27/12/10

Lockyer Ck at Glenore Grove # 12.62m falling 04:42 PM MON 27/12/10 Lockyer Ck at Lyons Br # 13.85m rising 04:40 PM MON 27/12/10 Lockyer Ck at Lyons Br # 11.46m rising 04:46 PM MON 27/12/10



Lockyer Ck at O'Reilly's Weir * 10.67m rising 03:00 PM MON 27/12/10 Lockyer Ck at O'Reilly's Weir # 10.72m rising 04:38 PM MON 27/12/10 Brisbane R at Lowood Pump Stn # 5.45m rising 04:44 PM MON 27/12/10

Bremer R at Adams Br * 4.43m rising 03:00 PM MON 27/12/10 Bremer R at Adams Br # 04:43 PM MON 27/12/10 4.67m rising Bremer R at Stokes Crossing # 4.55m rising 04:30 PM MON 27/12/10 Bremer R at Spressers Br # 5.52m steady 04:25 PM MON 27/12/10 Spring Ck at Greys Plains Rd # 2.34m falling 04:46 PM MON 27/12/10 Western Ck at Grandchester # 4.43m falling 04:45 PM MON 27/12/10 Western Ck at Kuss Rd # 7.12m rising 04:42 PM MON 27/12/10 Western Ck at Rosewood WWTP # 6.48m rising 04:19 PM MON 27/12/10 Bremer R at Rosewood 5.4m rising slowly 03:05 PM MON 27/12/10 Bremer R at Rosewood# 5.46m steady 01:51 PM MON 27/12/10 Bremer R at Rosewood # 5.46m rising 04:24 PM MON 27/12/10 Bremer R at Five Mile Br Walloon # 6.28m falling 04:46 PM MON 27/12/10 Bremer R at Walloon DERM * 7.78m falling 03:00 PM MON 27/12/10 Bremer R at Three Mile Br # 20.7m falling 04:26 PM MON 27/12/10

Reynolds Ck at Moogerah Dam * 02:40 PM MON 27/12/10 1.92m rising Reynolds Ck at Moogerah Dam # 157.08m rising 04:35 PM MON 27/12/10 Warrill Ck at Toohills Crossing * 02:40 PM MON 27/12/10 6.07m rising Warrill Ck at Kalbar Weir HW # 79.73m rising 04:45 PM MON 27/12/10 Warrill Ck at Kalbar Weir HW * 79.24m rising 02:30 PM MON 27/12/10 Warrill Ck at Kalbar Weir TW * 8.55m rising 02:40 PM MON 27/12/10 Warrill Ck at Kalbar 10m rising fast 03:00 PM MON 27/12/10 Warrill Ck at Harrisville # 5.4m rising 04:35 PM MON 27/12/10 Warrill Ck at Churchbank Weir * 2.97m rising 02:00 PM MON 27/12/10 Warrill Ck at Churchbank Weir # 3.07m steady 04:28 PM MON 27/12/10 Warrill Ck at Greens Rd Amberley # 6.64m falling 04:44 PM MON 27/12/10

Bremer R at Berry's Lagoon * 23.42m rising 02:30 PM MON 27/12/10
Bremer R at One Mile Br # 14.95m falling 04:21 PM MON 27/12/10
Bremer R at Hancocks Br Brassall # 12.63m steady 04:11 PM MON 27/12/10
Bremer R at Ipswich # 8.45m rising 04:46 PM MON 27/12/10

#, * denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 5:35 AM on Tuesday the 28th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues in the Lockyer and Warrill Creeks and the Bremer River. A minor flood peak of 8.5 metres was recorded at Ipswich during Monday evening with some small further rises expected during Tuesday which will keep Ipswich River levels around the 8 metre mark.

LOCKYER CREEK:

Moderate to major flooding continues in Lockyer Creek. River level rises causing major flooding will continue in the Lyons Bridge area with a peak up to 16 metres expected during Tuesday.

WARRILL CREEK:

Moderate to major flooding is being recorded in Warrill Creek from Kalbar Weir to Amberley. Further small rises are expected during Tuesday morning with river levels expected to commence to ease during Tuesday afternoon.

BREMER RIVER:

Moderate to major flooding continues between Spressers Bridge and Walloon. The Bremer River at Ipswich peaked at 8.5 metres during Monday evening with a smaller second peak expected during Tuesday.

The heavy rainfall has now cleared the area with only lighter rain expected during Tuesday.

Next Issue:

The next warning will be issued at about noon Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 04:48 AM TUE 28/12/10 2.34m falling Flagstone Ck at Brown-Zirbels Rd * 3.35m falling 02:40 AM TUE 28/12/10 Tenthill Ck at Tenthill # 3.5m falling 04:54 AM TUE 28/12/10 Lockyer Ck at Gatton # 11.54m falling 05:01 AM TUE 28/12/10 Laidley Ck at Mulgowie * 3.91m falling 03:00 AM TUE 28/12/10 Laidley Ck at Laidley 8.8m rising slowly 09:50 PM MON 27/12/10 Laidley Ck at Showground Weir # 5.88m falling 04:56 AM TUE 28/12/10 Bill Gunn Dam # 110.05m steady 02:15 AM TUE 28/12/10 Laidley Ck at Warrego Hwy * 6.37m steady 03:00 AM TUE 28/12/10

Lockyer Ck at Glenore Grove # 13.22m falling 05:03 AM TUE 28/12/10 Lockyer Ck at Lyons Br # 15.37m rising 04:58 AM TUE 28/12/10 Lockyer Ck at O'Reilly's Weir # 11.34m rising 05:04 AM TUE 28/12/10 Brisbane R at Lowood Pump Stn # 6.73m rising 04:50 AM TUE 28/12/10



Brisbane R at Savages Crossing # 7.01m rising 04:54 AM TUE 28/12/10 Brisbane R at Burtons Br # 5.7m rising 04:56 AM TUE 28/12/10 Brisbane R at Kholo Br # 04:42 AM TUE 28/12/10 -0.59m rising Brisbane R at Mt Crosbv # 8.98m steady 04:59 AM TUE 28/12/10 Brisbane R at Colleges Crossing # 6.26m steady 04:35 AM TUE 28/12/10 Bremer R at Adams Br # 2.03m falling 04:55 AM TUE 28/12/10 Bremer R at Stokes Crossing # 2.65m falling 05:03 AM TUE 28/12/10 Bremer R at Spressers Br # 5.52m falling 05:02 AM TUE 28/12/10 Spring Ck at Greys Plains Rd # 1.19m steady 03:50 AM TUE 28/12/10 Western Ck at Grandchester # 1.23m falling 04:55 AM TUE 28/12/10 Western Ck at Kuss Rd # 4.78m falling 05:02 AM TUE 28/12/10 Western Ck at Rosewood WWTP # 5.98m falling 05:03 AM TUE 28/12/10 Bremer R at Rosewood # 5.5m falling 05:00 AM TUE 28/12/10 Bremer R at Five Mile Br Walloon # 6.76m falling 04:55 AM TUE 28/12/10 Bremer R at Walloon DERM * 7.68m rising 03:00 AM TUE 28/12/10 Bremer R at Three Mile Br # 20.80m rising 04:41 AM TUE 28/12/10

Reynolds Ck at Moogerah Dam # 156.8m falling 04:40 AM TUE 28/12/10 Warrill Ck at Toohills Crossing * 0.83m rising 02:40 AM TUE 28/12/10 Warrill Ck at Kalbar Weir HW # 78.19m falling 05:03 AM TUE 28/12/10 Warrill Ck at Kalbar Weir TW * 8.28m falling 02:20 AM TUE 28/12/10 Warrill Ck at Kalbar 10.6m rising slowly 06:00 PM MON 27/12/10 Warrill Ck at Harrisville # 5.58m steady 05:00 AM TUE 28/12/10 Warrill Ck at Churchbank Weir # 3.32m steady 04:29 AM TUE 28/12/10 Warrill Ck at Greens Rd Amberley # 7.14m rising 04:53 AM TUE 28/12/10 Warrill Ck at Amberley DNR * 8.01m steady 02:40 AM TUE 28/12/10

Bremer R at Berry's Lagoon * 23.14m rising 02:30 AM TUE 28/12/10
Bremer R at One Mile Br # 14.85m steady 05:03 AM TUE 28/12/10
Bremer R at Hancocks Br Brassall # 12.23m rising 04:47 AM TUE 28/12/10
Bremer R at Ipswich # 8.05m rising 04:53 AM TUE 28/12/10

^{*,#} from automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND THE BREMER RIVERS Issued at 12:03 PM on Tuesday the 28th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues in the Lockyer and Warrill Creeks and the Bremer River. A second minor flood peak of 8.5 metres is expected at Ipswich during Tuesday afternoon.

LOCKYER CREEK:

Moderate to major flooding continues in Lockyer Creek. River level rises causing major flooding will continue in the Lyons Bridge area with a peak up to 16 metres expected during Tuesday.

WARRILL CREEK:

Major flooding is being recorded in Warrill Creek from Kalbar Weir to Amberley. Further small rises are expected during Tuesday morning with river levels expected to commence to ease during Tuesday afternoon. Minor flood levels continue to ease in the upper reaches of Warrill Creek between Moogerah Dam and the Junction Weir area.

BREMER RIVER:

Minor to moderate flooding continues between Spressers Bridge and Walloon. The Bremer River at Ipswich continues to slowly rise to a second minor flood peak around the 8.5 metre level during Tuesday.

The heavy rainfall has now cleared the area with only lighter rain is expected during Tuesday.

Next Issue:

The next warning will be issued at about 7pm Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 1.92m falling 11:06 AM TUE 28/12/10 Flagstone Ck at Brown-Zirbels Rd * 3.01m falling 08:10 AM TUE 28/12/10 Tenthill Ck at Tenthill # 3.1m falling 10:57 AM TUE 28/12/10 Lockyer Ck at Gatton # 7.96m steady 11:07 AM TUE 28/12/10 Laidley Ck at Mulgowie * 3.18m falling 09:00 AM TUE 28/12/10 Laidley Ck at Laidley 3.8m falling slowly 08:15 AM TUE 28/12/10 Laidley Ck at Showground Weir # 5.4m falling 11:07 AM TUE 28/12/10 Bill Gunn Dam # 110.03m steady 08:35 AM TUE 28/12/10 Laidley Ck at Warrego Hwy * 5.75m falling 09:00 AM TUE 28/12/10

Lockyer Ck at Glenore Grove # 11.22m falling 11:11 AM TUE 28/12/10 Lockyer Ck at Lyons Br # 15.87m rising 10:58 AM TUE 28/12/10 Lockyer Ck at O'Reilly's Weir # 11.76m falling 11:11 AM TUE 28/12/10



Brisbane R at Lowood Pump Stn # 7.33m rising 11:05 AM TUE 28/12/10

Brisbane R at Savages Crossing # 11:12 AM TUE 28/12/10 7.39m falling 6m rising Brisbane R at Burtons Br # 10:59 AM TUE 28/12/10 Brisbane R at Kholo Br # -0.39m rising 10:47 AM TUE 28/12/10 Brisbane R at Mt Crosby # 9.07m steady 11:05 AM TUE 28/12/10 Brisbane R at Colleges Crossing # 6.51m rising 10:44 AM TUE 28/12/10 Bremer R at Adams Br # 1.85m falling 10:31 AM TUE 28/12/10 Bremer R at Stokes Crossing # 2.15m falling 11:03 AM TUE 28/12/10 Bremer R at Spressers Br # 4.87m falling 11:03 AM TUE 28/12/10 Spring Ck at Greys Plains Rd # 1.09m steady 09:50 AM TUE 28/12/10 Western Ck at Grandchester # 0.98m falling 09:58 AM TUE 28/12/10 Western Ck at Kuss Rd # 3.84m falling 11:07 AM TUE 28/12/10 Western Ck at Rosewood WWTP # 4.83m falling 11:10 AM TUE 28/12/10 Bremer R at Rosewood # 4.72m falling 11:06 AM TUE 28/12/10 Bremer R at Five Mile Br Walloon # 5.48m falling 11:10 AM TUE 28/12/10 Bremer R at Walloon DERM * 7.41m falling 09:00 AM TUE 28/12/10 Bremer R at Three Mile Br # 20.55m rising 11:11 AM TUE 28/12/10

Reynolds Ck at Moogerah Dam # 156.58m falling 10:49 AM TUE 28/12/10 Warrill Ck at Toohills Crossing * 0.06m rising 08:20 AM TUE 28/12/10 Warrill Ck at Kalbar Weir HW # 77.01m falling 11:06 AM TUE 28/12/10 Warrill Ck at Kalbar Weir TW * 7.27m falling 08:20 AM TUE 28/12/10 Warrill Ck at Kalbar 8.7m falling slowly 09:30 AM TUE 28/12/10 Warrill Ck at Harrisville # 5.28m steady 11:00 AM TUE 28/12/10 Warrill Ck at Churchbank Weir # 3.12m falling 10:31 AM TUE 28/12/10 Warrill Ck at Greens Rd Amberley # 7.32m rising 11:11 AM TUE 28/12/10 Warrill Ck at Amberley DNR * 8.15m rising 08:20 AM TUE 28/12/10

11:08 AM TUE 28/12/10 Purga Ck at Peak Crossing # 1.61m steady Purga Ck at Loamside # 5.07m steady 11:13 AM TUE 28/12/10 Purga Ck at Loamside * 6.53m falling 08:20 AM TUE 28/12/10 Bremer R at Berry's Lagoon * 23.49m falling 08:15 AM TUE 28/12/10 11:04 AM TUE 28/12/10 Bremer R at One Mile Br # 14.9m falling Bremer R at Hancocks Br Brassall # 12.73m rising 11:05 AM TUE 28/12/10 Bremer R at Ipswich # 8.45m falling 11:08 AM TUE 28/12/10

^{*,#} from automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND THE BRISBANE RIVER BELOW WIVENHOE

Issued at 7:52 PM on Tuesday the 28th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding is easing along Lockyer and Warrill Creeks. Minor flooding is expected along the Brisbane River between Wivenhoe Dam and Mt Crosby Weir this week.

LOCKYER CREEK:

Major flood levels have peak in the Lyons Bridge area at 16 metres. Levels will now fall overnight and during Wednesday.

WARRILL CREEK:

Major flooding is being recorded in Warrill Creek from Harrisville to Amberley. Creek levels are now falling and are expected to continue to do so overnight. Minor flood levels continue to ease in the upper reaches of Warrill Creek between Moogerah Dam and the Kalbar area.

BREMER RIVER:

Flood levels along the Bremer River are expected to fall below minor flood levels overnight.

BRISBANE RIVER BELOW WIVENHOE

SEQ Water advises that releases have started from Wivenhoe dam. The releases, combined with Lockyer Creek flows are expected to result in minor flooding downstream to Mt Crosby Weir into the weekend.

Next Issue:

The next warning will be issued at about 7:30am Wednesday.

Latest River Heights:

Lockyer Ck at Helidon *	1.67m falling	05:40 PM TUE 28/12/10
Lockyer Ck at Helidon #	1.64m falling	06:36 PM TUE 28/12/10
Flagstone Ck at Brown-Zir	bels Rd * 2.64m fall	ling 05:20 PM TUE 28/12/10
Ma Ma Ck at Harm's *	2.19m falling	05:10 PM TUE 28/12/10
Tenthill Ck at Tenthill *	2.89m falling	05:00 PM TUE 28/12/10
Tenthill Ck at Tenthill #	2.8m falling	06:39 PM TUE 28/12/10
Lockyer Ck at Gatton *	5.13m falling	05:40 PM TUE 28/12/10
Lockyer Ck at Gatton #	6.62m steady	06:46 PM TUE 28/12/10
Laidley Ck at Mulgowie *	2.7m falling	05:00 PM TUE 28/12/10
Laidley Ck at Laidley	3.8m falling slov	vly 08:15 AM TUE 28/12/10
Laidley Ck at Showground	Weir * 5.22m fall	ing 05:20 PM TUE 28/12/10
Laidley Ck at Showground	Weir # 5.2m fallir	ng 06:04 PM TUE 28/12/10
Bill Gunn Dam #	110.01m steady	05:17 PM TUE 28/12/10



Laidley Ck at Warrego Hwy * 4.85m falling 05:00 PM TUE 28/12/10 Lockyer Ck at Glenore Grove # 8.46m falling 06:55 PM TUE 28/12/10 Lockyer Ck at Lyons Br # 15.39m falling 06:49 PM TUE 28/12/10 Lockyer Ck at Lyons Br # 12.62m rising 01:01 AM TUE 28/12/10 Lockyer Ck at Rifle Range Rd * 15.71m falling 05:40 PM TUE 28/12/10 Lockyer Ck at O'Reilly's Weir # 12.1m falling 06:54 PM TUE 28/12/10 Brisbane R at Lowood Pump Stn # 8.31m rising 06:50 PM TUE 28/12/10 Brisbane R at Savages Crossing * 7.98m rising 05:30 PM TUE 28/12/10 Brisbane R at Savages Crossing # 8.15m rising 06:51 PM TUE 28/12/10 Brisbane R at Burtons Br # 6.48m rising 06:50 PM TUE 28/12/10 Cabbage Tree Ck at L Manchester # 51.31m falling 06:10 PM TUE 28/12/10 Brisbane R at Kholo Br # -0.03m rising 06:46 PM TUE 28/12/10 Brisbane R at Mt Crosby # 9.24m falling 06:56 PM TUE 28/12/10 Brisbane R at Mt Crosby # 9.22m rising 06:22 PM TUE 28/12/10 Brisbane R at Colleges Crossing # 6.76m rising 05:07 PM TUE 28/12/10 Bremer R at Adams Br * 1.71m falling 05:00 PM TUE 28/12/10 Bremer R at Adams Br # 1.69m rising 06:52 PM TUE 28/12/10 Bremer R at Stokes Crossing # 1.85m steady 06:52 PM TUE 28/12/10 4.07m falling 06:50 PM TUE 28/12/10 Bremer R at Spressers Br # Spring Ck at Greys Plains Rd # 0.99m steady 06:50 PM TUE 28/12/10 Western Ck at Grandchester # 0.73m falling 06:29 PM TUE 28/12/10 Western Ck at Kuss Rd # 3.24m falling 06:56 PM TUE 28/12/10 Western Ck at Rosewood WWTP # 3.73m falling 06:37 PM TUE 28/12/10 Bremer R at Rosewood 03:00 PM TUE 28/12/10 4m falling Bremer R at Rosewood# 4.06m falling 06:34 PM TUE 28/12/10 Bremer R at Rosewood # 4.08m falling 06:42 PM TUE 28/12/10 Bremer R at Five Mile Br Walloon # 3.94m falling 06:52 PM TUE 28/12/10 Bremer R at Walloon DERM * 5.51m falling 05:00 PM TUE 28/12/10 Bremer R at Three Mile Br # 06:56 PM TUE 28/12/10 18.3m falling Reynolds Ck at Moogerah Dam * 1.48m falling 05:40 PM TUE 28/12/10 Reynolds Ck at Moogerah Dam # 156.36m falling 06:30 PM TUE 28/12/10 Warrill Ck at Toohills Crossing * -0.04m falling 05:20 PM TUE 28/12/10 Warrill Ck at Kalbar Weir HW # 76.29m rising 06:45 PM TUE 28/12/10 Warrill Ck at Kalbar Weir HW * 76.33m falling 05:30 PM TUE 28/12/10 Warrill Ck at Kalbar Weir TW * 5.62m falling 05:40 PM TUE 28/12/10 Warrill Ck at Kalbar 7.3m falling slowly 06:00 PM TUE 28/12/10 Warrill Ck at Harrisville # 5.02m falling 06:53 PM TUE 28/12/10 Warrill Ck at Harrisville# 4.9m steady 05:27 PM TUE 28/12/10 Warrill Ck at Churchba



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND THE BRISBANE RIVER BELOW WIVENHOE

Issued at 6:48 AM on Wednesday the 29th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues to ease along Lockyer and Warrill Creeks. Minor flooding is expected along the Brisbane River between Wivenhoe Dam and Mt Crosby Weir this week.

LOCKYER CREEK:

Major flooding continues to ease in the Lyons Bridge and Rifle Range areas, with river levels expected to fall away quickly during Wednesday.

WARRILL CREEK:

Moderate flood levels continue to ease along Warrill Creek between Harrisville and Amberley.

BREMER RIVER:

River levels along the Bremer River have fallen below minor flood levels overnight.

BRISBANE RIVER BELOW WIVENHOE:

SEQ Water advises that releases have started from Wivenhoe dam. The releases, combined with Lockyer Creek flows are expected to result in minor flooding to develop downstream to Mt Crosby Weir during Wednesday.

Weather Forecast:

A shower or two.

Next Issue:

The next warning will be issued at about 3:30pm Wednesday.

Latest River Heights:

Lockver Ck at Helidon # 1.4m falling 06:09 AM WED 29/12/10 Flagstone Ck at Brown-Zirbels Rd * 2.31m falling 05:20 AM WED 29/12/10 Ma Ma Ck at Harm's * 2.06m falling 05:00 AM WED 29/12/10 Tenthill Ck at Tenthill # 2.54m falling 06:15 AM WED 29/12/10 Lockyer Ck at Gatton # 5.18m falling 06:19 AM WED 29/12/10 Laidley Ck at Mulgowie * 2.32m falling 05:00 AM WED 29/12/10 Laidley Ck at Showground Weir # 5.06m steady 05:54 AM WED 29/12/10 Laidley Ck at Warrego Hwy * 4.39m falling 05:00 AM WED 29/12/10 Lockyer Ck at Glenore Grove # 6.84m falling 06:18 AM WED 29/12/10 Lockyer Ck at Lyons Br # 13.35m falling 06:22 AM WED 29/12/10 Lockyer Ck at Rifle Range Rd * 13.72m falling 05:40 AM WED 29/12/10 Lockyer Ck at O'Reilly's Weir # 12.06m falling 06:26 AM WED 29/12/10 Brisbane R at Lowood Pump Stn # 9.77m rising 06:23 AM WED 29/12/10 Brisbane R at Savages Crossing # 9.75m rising 06:27 AM WED 29/12/10 Brisbane R at Burtons Br # 7.86m rising 06:11 AM WED 29/12/10



Brisbane R at Kholo Br # 1.37m rising 06:26 AM WED 29/12/10
Brisbane R at Mt Crosby # 10.06m rising 06:22 AM WED 29/12/10
Brisbane R at Colleges Crossing # 7.71m rising 06:05 AM WED 29/12/10
Bremer R at Adams Br # 1.55m rising 06:16 AM WED 29/12/10
Bremer R at Stokes Crossing # 1.55m falling 04:54 AM WED 29/12/10
Bremer R at Spressers Br # 3.42m falling 06:11 AM WED 29/12/10
Spring Ck at Greys Plains Rd # 0.94m steady 03:50 AM WED 29/12/10
Western Ck at Grandchester # 0.53m falling 06:23 AM WED 29/12/10
Western Ck at Kuss Rd # 2.32m falling 06:17 AM WED 29/12/10
Western Ck at Rosewood WWTP # 2.78m falling 06:17 AM WED 29/12/10
Bremer R at Rosewood # 3.48m falling 06:15 AM WED 29/12/10
Bremer R at Five Mile Br Walloon # 3.24m falling 06:01 AM WED 29/12/10
Bremer R at Walloon DERM * 4.28m falling 05:00 AM WED 29/12/10
Bremer R at Three Mile Br # 15.75m falling 06:11 AM WED 29/12/10
Warrill Ck at Harrisville# 4.6m steady 06:27 AM WED 29/12/10
Warrill Ck at Churchbank Weir # 2.46m falling 05:37 AM WED 29/12/10
Warrill Ck at Greens Rd Amberley # 5.94m falling 06:23 AM WED 29/12/10
Warrill Ck at Amberley DNR * 6.89m falling 05:40 AM WED 29/12/10
Purga Ck at Peak Crossing # 1.21m steady 05:08 AM WED 29/12/10
Purga Ck at Loamside # 2.74m steady 06:19 AM WED 29/12/10
Bremer R at Berry's Lagoon * 20.17m falling 05:30 AM WED 29/12/10
Bremer R at One Mile Br # 11.3m falling 06:22 AM WED 29/12/10
Bremer R at Hancocks Br Brassall # 8.23m falling 06:18 AM WED 29/12/10
Bremer R at Ipswich # 4.7m falling 06:15 AM WED 29/12/10
Brisbane R at Moggill # 2.82m rising 05:41 AM WED 29/12/10
Brisbane R at Jindalee Br NA
Brisbane R at City Gauge # 0.86m falling 06:25 AM WED 29/12/10
Moreton Bay at Whyte Island # 0.59m falling 06:25 AM WED 29/12/10

^{*,#} denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR WARRILL CREEK AND THE BRISBANE RIVER BELOW WIVENHOE Issued at 2:38 PM on Wednesday the 29th of December 2010 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues to ease along Lockyer and Warrill Creeks. Minor flooding is expected along the Brisbane River between Wivenhoe Dam and Mt Crosby Weir this week.

LOCKYER CREEK:

Moderate flooding continues to ease in the Lyons Bridge and Rifle Range areas, with river levels expected to fall away quickly during Wednesday.

WARRILL CREEK:

Moderate flood levels continue to ease along Warrill Creek between Harrisville and Amberley.

BRISBANE RIVER BELOW WIVENHOE:

SEQ Water advises that releases have started from Wivenhoe dam. The releases, combined with Lockyer Creek flows are expected to result in minor flooding downstream to Mt Crosby Weir during Wednesday.

Next Issue:

The next warning will be issued at about 7:30am Thursday.

Latest River Heights:

Lockyer Ck at Helidon * 11:20 AM WED 29/12/10 1.34m steady Lockyer Ck at Helidon # 01:39 PM WED 29/12/10 1.3m steady Flagstone Ck at Brown-Zirbels Rd * 2.2m falling 11:30 AM WED 29/12/10 Ma Ma Ck at Harm's * 2.03m steady 08:00 AM WED 29/12/10 Tenthill Ck at Tenthill * 2.48m falling 12:00 PM WED 29/12/10 Tenthill Ck at Tenthill # 2.4m falling 02:12 PM WED 29/12/10 Lockyer Ck at Gatton * 3.78m falling 11:30 AM WED 29/12/10 Lockyer Ck at Gatton # 4.9m rising 02:31 PM WED 29/12/10 Laidley Ck at Mulgowie * 2.18m falling 01:00 PM WED 29/12/10 Laidley Ck at Showground Weir * 5.02m falling 11:40 AM WED 29/12/10 Laidley Ck at Showground Weir # 5.04m steady 11:53 AM WED 29/12/10 Bill Gunn Dam # 109.97m steady 02:16 PM WED 29/12/10 Laidley Ck at Warrego Hwy * 4.18m falling 01:00 PM WED 29/12/10 Lockyer Ck at Glenore Grove # 6.12m falling 02:22 PM WED 29/12/10 Lockyer Ck at Lyons Br # 11.59m falling 02:31 PM WED 29/12/10 Lockyer Ck at Rifle Range Rd * 12.42m falling 11:40 AM WED 29/12/10 Atkinson Dam # 65.76m steady 02:22 PM WED 29/12/10 Lockyer Ck at O'Reilly's Weir * 11.69m falling 12:10 PM WED 29/12/10 Lockyer Ck at O'Reilly's Weir # 11.46m falling 02:30 PM WED 29/12/10 Brisbane R at Lowood Pump Stn # 9.79m rising 02:26 PM WED 29/12/10 Brisbane R at Savages Crossing * 9.95m rising 11:30 AM WED 29/12/10 Brisbane R at Savages Crossing # 9.89m falling 02:27 PM WED 29/12/10 Brisbane R at Burtons Br # 8.02m rising 01:47 PM WED 29/12/10



Cabbage Tree Ck at L Manchester # 51.17m falling 02:06 PM WED 29/12/10 Brisbane R at Kholo Br # 2.03m rising 02:17 PM WED 29/12/10 Brisbane R at Mt Crosby # 10.71m steady 02:32 PM WED 29/12/10 Brisbane R at Mt Crosby # 10.68m rising 02:22 PM WED 29/12/10 Brisbane R at Colleges Crossing # 8.46m rising 02:09 PM WED 29/12/10 Bremer R at Adams Br * 1.52m steady 12:00 PM WED 29/12/10 1.49m steady 12:58 PM WED 29/12/10 Bremer R at Adams Br # Bremer R at Stokes Crossing # 1.4m falling 02:05 PM WED 29/12/10 Bremer R at Spressers Br # 3.07m falling 02:24 PM WED 29/12/10 Spring Ck at Greys Plains Rd # 0.89m steady 12:49 PM WED 29/12/10 Western Ck at Grandchester # 0.48m steady 12:55 PM WED 29/12/10 Western Ck at Kuss Rd # 2.04m falling 02:09 PM WED 29/12/10 Western Ck at Rosewood WWTP # 2.38m falling 01:51 PM WED 29/12/10 Bremer R at Rosewood 03:00 PM TUE 28/12/10 4m falling Bremer R at Rosewood# 3.16m steady 01:51 PM WED 29/12/10 3.16m steady 02:27 PM WED 29/12/10 Bremer R at Rosewood # Bremer R at Five Mile Br Walloon # 2.92m falling 02:02 PM WED 29/12/10 Bremer R at Walloon DERM * 3.95m falling 12:00 PM WED 29/12/10 Bremer R at Three Mile Br # 14.5m steady 02:25 PM WED 29/12/10 Warrill Ck at Harrisville # 4.42m falling 02:29 PM WED 29/12/10 Warrill Ck at Harrisville# 4.3m falling 02:03 PM WED 29/12/10 Warrill Ck at Churchbank Weir * 2.3m falling 11:00 AM WED 29/12/10 Warrill Ck at Churchbank Weir # 2.27m steady 01:28 PM WED 29/12/10 Warrill Ck at Greens Rd Amberley # 5.46m falling 02:32 PM WED 29/12/10 Warrill Ck at Amberley DNR * 6.5m falling 11:30 AM WED 29/12/10 19.4m falling 11:30 AM WED 29/12/10 Bremer R at Berry's Lagoon * Bremer R at One Mile Br # 10.25m falling 02:25 PM WED 29/12/10 Bremer R at Hancocks Br Brassall # 6.98m falling 02:10 PM WED 29/12/10 Bremer R at Ipswich # 3.85m falling 02:28 PM WED 29/12/10 Brisbane R at Moggill # 2.67m rising 02:10 PM WED 29/12/10 2.62m steady 01:17 PM WED 29/12/10 Brisbane R at Moggill # Bris



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR WARRILL CREEK AND THE BRISBANE RIVER BELOW WIVENHOE DAM Issued at 6:10 AM on Thursday the 30th of December 2010 by the Bureau of Meteorology, Brisbane.

Minor flooding continues to ease along Warrill Creek. Minor flooding is expected to continue along the lower Brisbane River between Wivenhoe Dam and Mt Crosby Weir during this week.

WARRILL CREEK:

Minor flooding continues to ease along Warrill Creek between Harrisville and Amberley.

BRISBANE RIVER BELOW WIVENHOE:

SEQ Water advises that releases will continue from Wivenhoe dam until the weekend. The releases, combined with Lockyer Creek flows are expected to result in minor flooding downstream to Mt Crosby Weir during the remainder of this week.

Next Issue:

The next warning will be issued at about 3:30pm Thursday.

Latest River Heights:

Lockyer Ck at Helidon * 1.17m falling 05:00 AM THU 30/12/10
Tenthill Ck at Tenthill # 2.24m steady 04:48 AM THU 30/12/10
Lockyer Ck at Gatton # 4.28m rising 05:52 AM THU 30/12/10
Laidley Ck at Mulgowie * 2m steady 04:00 AM THU 30/12/10
Laidley Ck at Showground Weir # 4.9m steady 05:53 AM THU 30/12/10
Laidley Ck at Warrego Hwy * 3.5m falling 05:00 AM THU 30/12/10
Lockyer Ck at Glenore Grove # 5.08m falling 05:49 AM THU 30/12/10
Lockyer Ck at Lyons Br # 8.95m falling 05:31 AM THU 30/12/10
Lockyer Ck at Rifle Range Rd * 8.99m falling 05:40 AM THU 30/12/10
Lockyer Ck at O'Reilly's Weir # 11.78m falling 05:48 AM THU 30/12/10
Brisbane R at Lowood Pump Stn # 10.77m steady 05:55 AM THU 30/12/10
Brisbane R at Savages Crossing # 10.71m rising 05:54 AM THU 30/12/10
Brisbane R at Burtons Br # 8.6m rising 05:50 AM THU 30/12/10
Brisbane R at Kholo Br # 2.55m falling 05:53 AM THU 30/12/10
Brisbane R at Mt Crosby # 11.08m rising 05:37 AM THU 30/12/10
Brisbane R at Colleges Crossing # 8.86m rising 05:01 AM THU 30/12/10
Bremer R at Adams Br # 1.37m falling 05:46 AM THU 30/12/10
Bremer R at Stokes Crossing # 1.3m steady 03:52 AM THU 30/12/10
Bremer R at Spressers Br # 2.72m falling 04:36 AM THU 30/12/10
Western Ck at Grandchester # 0.43m steady 03:55 AM THU 30/12/10
Western Ck at Kuss Rd # 1.62m falling 05:52 AM THU 30/12/10
Western Ck at Rosewood WWTP # 1.83m falling 05:10 AM THU 30/12/10
Bremer R at Rosewood# 2.71m falling 05:24 AM THU 30/12/10
Bremer R at Five Mile Br Walloon # 2.42m falling 05:52 AM THU 30/12/10
Bremer R at Walloon DERM * 3.28m falling 05:00 AM THU 30/12/10
· · · · · · · · · · · · · · · · · · ·
Bremer R at Three Mile Br # 12.95m falling 05:10 AM THU 30/12/10



Warrill Ck at Kalbar Weir TW * 2.52m falling 05:15 AM THU 30/12/10 Warrill Ck at Harrisville # 3.42m falling 05:50 AM THU 30/12/10 Warrill Ck at Churchbank Weir # 1.57m falling 05:18 AM THU 30/12/10 Warrill Ck at Greens Rd Amberley # 4.92m rising 05:53 AM THU 30/12/10 Warrill Ck at Amberley DNR * 5.73m falling 05:30 AM THU 30/12/10 Purga Ck at Peak Crossing # 0.96m steady 05:08 AM THU 30/12/10 Purga Ck at Loamside # 1.83m steady 05:48 AM THU 30/12/10 Bremer R at One Mile Br # 8.8m falling 05:42 AM THU 30/12/10 Bremer R at Hancocks Br Brassall # 5.58m falling 05:39 AM THU 30/12/10 Bremer R at Ipswich # 3.1m rising 05:29 AM THU 30/12/10 Brisbane R at Moggill # 2.87m rising 05:46 AM THU 30/12/10 Brisbane R at City Gauge * 1.23m steady 05:40 AM THU 30/12/10 Moreton Bay at Whyte Island # 1.09m falling 05:50 AM THU 30/12/10

^{*.#} denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FINAL FLOOD WARNING FOR WARRILL CREEK AND THE BRISBANE RIVER BELOW WIVENHOE DAM

Issued at 3:06 PM on Thursday the 30th of December 2010 by the Bureau of Meteorology, Brisbane.

Minor flooding continues to ease along Warrill Creek. Minor flooding is expected to continue along the lower Brisbane River between Wivenhoe Dam and Mt Crosby Weir during this week.

SEQ Water advises that releases will continue from Wivenhoe dam until the weekend. The releases, combined with Lockyer Creek flows are expected to result in minor flooding downstream to Mt Crosby Weir during the remainder of this week.

Next Issue:

This is the final warning. River Height Bulletins will continue to be issued.

Latest River Heights:

Brisbane R at Lowood Pump Stn # 10.63m rising 02:50 PM THU 30/12/10 Brisbane R at Savages Crossing # 10.73m falling 02:48 PM THU 30/12/10 Brisbane R at Burtons Br # 8.74m falling 02:47 PM THU 30/12/10 Brisbane R at Kholo Br # 3.03m steady 02:40 PM THU 30/12/10 11.48m falling 02:49 PM THU 30/12/10 Brisbane R at Mt Crosby # Brisbane R at Colleges Crossing # 9.41m rising 02:48 PM THU 30/12/10 Bremer R at Adams Br # 1.33m falling 02:28 PM THU 30/12/10 Bremer R at Stokes Crossing # 1.25m steady 12:52 PM THU 30/12/10 Bremer R at Spressers Br # 2.52m falling 01:37 PM THU 30/12/10 Bremer R at Rosewood # 2.5m steady 02:27 PM THU 30/12/10 Bremer R at Five Mile Br Walloon # 2.2m falling 02:34 PM THU 30/12/10 Bremer R at Walloon DERM * 3.08m falling 01:00 PM THU 30/12/10 Bremer R at Three Mile Br # 12.05m falling 02:26 PM THU 30/12/10 Warrill Ck at Kalbar Weir HW # 75.51m falling 02:09 PM THU 30/12/10 Warrill Ck at Kalbar Weir TW * 2.14m falling 02:40 PM THU 30/12/10 Warrill Ck at Harrisville # 2.84m falling 02:32 PM THU 30/12/10 Warrill Ck at Churchbank Weir # 1.07m falling 02:44 PM THU 30/12/10 Warrill Ck at Greens Rd Amberley # 4.46m falling 02:47 PM THU 30/12/10 Warrill Ck at Amberley DNR * 5.33m falling 02:30 PM THU 30/12/10 Bremer R at Berry's Lagoon * 17.33m falling 02:30 PM THU 30/12/10 Bremer R at One Mile Br # 8.1m falling 02:20 PM THU 30/12/10 Bremer R at Hancocks Br Brassall # 5.18m falling 02:48 PM THU 30/12/10 3.2m falling 02:33 PM THU 30/12/10 Bremer R at Ipswich # Brisbane R at Moggill # 2.87m falling 01:51 PM THU 30/12/10 Brisbane R at City Gauge # 0.65m rising 02:49 PM THU 30/12/10 Moreton Bay at Whyte Island # 0.61m rising 02:48 PM THU 30/12/10

^{*,#} from automatic station





Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 10:47 AM on Thursday the 6th of January 2011 by the Bureau of Meteorology, Brisbane.

Heavy rainfall during this morning is expected to lead to lead to fast rises in the Lockyer and Warrill creek catchments and along the Bremer River with some moderate flood levels predicted today and during Friday. Further rises are likely while rainfall continues.

LOCKYER CREEK

Rainfall of up to 50mm in the 3 hours to 10am has resulted in fast rises in the Lockyer Creek catchment. Minor flood levels are likely at Gatton and Laidley later today with moderate flood levels downstream at Rifle Range Rd early on Friday. Higher levels are likely as rainfall continues.

WARRILL CREEK

Fast rises are likely along Warrill Creek following rainfall this morning. At least minor flood levels are predicted later today at Harrisville and Amberley with further rises as rainfall continues.

BREMER RIVER

Some minor to moderate flood levels are likely along the Bremer River during today and Friday.

Next Issue:

The next warning will be issued by 2pm Thursday.

Latest River Heights:

1.25m steady 08:00 AM THU 06/01/11 Lockyer Ck at Helidon * Lockyer Ck at Helidon # 2.24m rising 10:11 AM THU 06/01/11 Flagstone Ck at Brown-Zirbels Rd * 2.48m falling 08:00 AM THU 06/01/11 Tenthill Ck at Tenthill * 2.14m steady 08:28 AM THU 06/01/11 Lockyer Ck at Gatton * 3.44m rising 08:10 AM THU 06/01/11 Lockyer Ck at Gatton # 5.14m rising 10:13 AM THU 06/01/11 Laidley Ck at Mulgowie * 2.54m falling 08:00 AM THU 06/01/11 Laidley Ck at Showground Weir * 4.87m rising 08:20 AM THU 06/01/11 Laidley Ck at Showground Weir # 5.16m rising 10:01 AM THU 06/01/11 Bill Gunn Dam # 109.9m steady 08:14 AM THU 06/01/11 Laidley Ck at Warrego Hwv * 2.28m rising 08:00 AM THU 06/01/11 Lockyer Ck at Glenore Grove # 5.18m rising 10:14 AM THU 06/01/11 Lockyer Ck at Lyons Br # 5.45m falling 10:15 AM THU 06/01/11 Lockyer Ck at Rifle Range Rd * 5.02m falling 08:00 AM THU 06/01/11 Atkinson Dam # 65.75m steady 10:06 AM THU 06/01/11 Lockyer Ck at O'Reilly's Weir * 9.22m rising 08:00 AM THU 06/01/11 Lockyer Ck at O'Reilly's Weir # 9.14m falling 10:09 AM THU 06/01/11

^{*}automatic station





Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 2:27 PM on Thursday the 6th of January 2011 by the Bureau of Meteorology, Brisbane.

Heavy rainfall is continuing to cause fast river level rises in the Lockyer and Warrill creek catchments and along the Bremer River. Some moderate to major flood levels are predicted for later today and during Friday. Further rises are likely while rainfall continues.

LOCKYER CREEK

Rainfall of up to 60mm in the 6 hours to 2pm has resulted in fast rises along Lockyer Creek at Helidon and along Tenthill Creek. Minor, possibly moderate flood levels are likely at Gatton later today. Rises are also occurring along Laidley Creek with major flood levels at Mulgowie above the Laidley Creek Bridge. Major flood levels of above 7 metres are at forecast at Laidley this evening.

Downstream at Lyons Bridge, moderate flood levels are likely during Friday with major flood levels of 13 metres possible.

WARRILL CREEK

Fast rises are likely along Warrill Creek at Kalbar following rainfall this morning. At least minor flood levels are predicted later today at Harrisville and Amberley with further rises as rainfall continues.

BREMER RIVER

Minor flood levels are being observed at Adams Bridge. Minor to moderate flood levels are forecast downstream to Walloon over the next 24 hours.

Next Issue:

The next warning will be issued by 6pm Thursday.

Latest River Heights:

Lockyer Ck at Helidon # 4.36m falling 01:47 PM THU 06/01/11 Flagstone Ck at Brown-Zirbels Rd * 5.88m falling 12:40 PM THU 06/01/11 Tenthill Ck at Tenthill * 3.28m rising 12:20 PM THU 06/01/11 Lockyer Ck at Gatton # 6.06m falling 01:46 PM THU 06/01/11 Laidley Ck at Mulgowie * 5.57m rising 12:30 PM THU 06/01/11 Laidley Ck at Showground Weir # 5.68m rising 01:49 PM THU 06/01/11 Bill Gunn Dam # 109.94m steady 01:14 PM THU 06/01/11 Laidley Ck at Warrego Hwy * 2.52m rising 12:00 PM THU 06/01/11 Lockyer Ck at Glenore Grove # 5.68m rising 01:47 PM THU 06/01/11 Lockyer Ck at Lyons Br # 6.49m rising 01:45 PM THU 06/01/11 Lockyer Ck at Rifle Range Rd * 5.02m falling 08:00 AM THU 06/01/11 Atkinson Dam # 65.76m steady 12:48 PM THU 06/01/11 Lockyer Ck at O'Reilly's Weir * 9.07m steady 12:19 PM THU 06/01/11 Bremer R at Adams Br # 4.41m rising 01:49 PM THU 06/01/11



Bremer R at Stokes Crossing # 3.15m rising 01:48 PM THU 06/01/11 3.82m falling 01:37 PM THU 06/01/11 Bremer R at Spressers Br # Spring Ck at Grevs Plains Rd # 2.39m falling 01:47 PM THU 06/01/11 Western Ck at Grandchester # 3.38m rising 01:36 PM THU 06/01/11 Western Ck at Kuss Rd # 01:47 PM THU 06/01/11 Western Ck at Rosewood WWTP # 3.88m rising 01:50 PM THU 06/01/11 Bremer R at Rosewood# 3.86m falling 12:31 PM THU 06/01/11 Bremer R at Walloon DERM * 3.91m rising 10:40 AM THU 06/01/11 Bremer R at Three Mile Br # 10.8m rising 01:41 PM THU 06/01/11 Reynolds Ck at Moogerah Dam * 0.35m rising 08:00 AM THU 06/01/11 Warrill Ck at Toohills Crossing * 0.3m rising 08:20 AM THU 06/01/11 Warrill Ck at Kalbar Weir HW # 76.85m rising 01:48 PM THU 06/01/11 Warrill Ck at Harrisville # 1.28m rising 01:44 PM THU 06/01/11 0.32m steady 06:00 AM THU 06/01/11 Warrill Ck at Churchbank Weir * Warrill Ck at Greens Rd Amberley # 2.36m rising 01:44 PM THU 06/01/11 Warrill Ck at Amberley DNR * 3.42m falling 08:20 AM THU 06/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 5:25 PM on Thursday the 6th of January 2011 by the Bureau of Meteorology, Brisbane.

Heavy rainfall is continuing to cause fast river level rises in the Lockyer and Warrill creek catchments and along the Bremer River. Some moderate to major flood levels are occurring.

LOCKYER CREEK

Heavy rainfall during Thursday has resulted in fast rises along Lockyer Creek and Tenthill Creek. Moderate flood levels are occurring at Gatton. Rises are also occurring along Laidley Creek with major flood levels at Mulgowie and Showground Weir.

Downstream at Glenore Grove, major flood levels are likely overnight and during Friday at Lyons Bridge.

WARRILL CREEK

Fast rises with moderate flooding are occurring along Warrill Creek at Kalbar following rainfall this morning. Moderate flood levels are predicted later today at Harrisville and minor flood levels predicted at Amberley.

BREMER RIVER

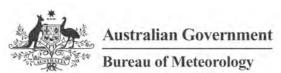
Minor flood levels are being observed at Adams Bridge with moderate flood levels at Kuss Road. Minor to moderate flood levels are forecast downstream to Walloon over the next 24 hours.

Next Issue:

The next warning will be issued by 10pm Thursday.

Latest River Heights:

Lockyer Ck at Helidon * 4.31m rising 02:30 PM THU 06/01/11 Tenthill Ck at Tenthill * 3.66m rising 04:00 PM THU 06/01/11 Lockyer Ck at Gatton # 13.34m rising 05:10 PM THU 06/01/11 Laidley Ck at Mulgowie * 6.2m falling 04:20 PM THU 06/01/11 Laidley Ck at Laidley 5.8m rising fast 02:25 PM THU 06/01/11 Laidley Ck at Showground Weir # 9.26m rising 05:10 PM THU 06/01/11 Bill Gunn Dam # 109.94m steady 04:15 PM THU 06/01/11 Laidley Ck at Warrego Hwv * 3.42m rising 04:00 PM THU 06/01/11 Lockyer Ck at Glenore Grove # 8.36m rising 05:11 PM THU 06/01/11 Lockyer Ck at Lyons Br # 7.35m rising 05:06 PM THU 06/01/11 Lockyer Ck at Rifle Range Rd * 6.06m rising 02:20 PM THU 06/01/11 Atkinson Dam # 65.77m steady 03:37 PM THU 06/01/11 Lockyer Ck at O'Reilly's Weir # 9m rising 04:56 PM THU 06/01/11 Bremer R at Adams Br # 3.79m falling 05:10 PM THU 06/01/11 Bremer R at Stokes Crossing # 04:47 PM THU 06/01/11 4.45m rising Bremer R at Spressers Br # 4.07m rising 05:05 PM THU 06/01/11



Spring Ck at Greys Plains Rd # 1.69m falling 05:02 PM THU 06/01/11 Western Ck at Grandchester # 3.08m rising 04:23 PM THU 06/01/11 Western Ck at Kuss Rd # 7m rising 05:09 PM THU 06/01/11 05:08 PM THU 06/01/11 Western Ck at Rosewood WWTP # 5.53m rising Bremer R at Rosewood# 4.11m rising 05:01 PM THU 06/01/11 Bremer R at Rosewood # 05:05 PM THU 06/01/11 4.14m rising Bremer R at Five Mile Br Walloon # 3.36m steady 04:26 PM THU 06/01/11 Bremer R at Walloon DERM * 04:00 PM THU 06/01/11 4.32m steady Bremer R at Three Mile Br # 11.6m rising 05:10 PM THU 06/01/11 Reynolds Ck at Moogerah Dam * 0.35m rising 08:00 AM THU 06/01/11 Warrill Ck at Toohills Crossing * 0.3m rising 08:20 AM THU 06/01/11 Warrill Ck at Kalbar Weir HW # 77.07m falling 05:09 PM THU 06/01/11 Warrill Ck at Kalbar Weir TW * 0.76m steady 07:05 AM THU 06/01/11 Warrill Ck at Kalbar 03:00 PM THU 06/01/11 7.5m rising 3.06m rising Warrill Ck at Harrisville # 05:08 PM THU 06/01/11 Warrill Ck at Churchbank Weir # 05:11 PM THU 06/01/11 0.62m rising Warrill Ck at Greens Rd Amberley # 2.42m falling 05:08 PM THU 06/01/11 Warrill Ck at Amberley DNR * 3.1m steady 02:10 PM THU 06/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 9:32 PM on Thursday the 6th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfall has eased during Thursday evening with totals of less then 5mm recorded in the 3 hours to 9:30pm. Moderate and major flooding continues in Lockyer and Laidley Creeks and in the Bremer River, with minor to moderate flooding occurring in Warrill Creek.

LOCKYER CREEK

Minor to moderate flooding has peaked in Lockyer Creek between Helidon and Showground Weir, with moderate flood levels currently easing at Gatton. Major flood levels continue to rise in Laidley Creek at Laidley.

Moderate flooding continues to rise in Lockyer Creek at Glenore Grove, with moderate flood levels also expected overnight downstream at Lyons Bridge.

WARRILL CREEK

Stream levels have either peaked or are nearing a peak along Warrill Creek. Minor to moderate flooding is occurring between Kalbar and Churchbank Weir during Thursday evening, with minor flooding expected overnight at Amberley.

BREMER RIVER

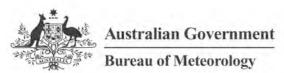
River levels have either peaked or are nearing a peak along the Bremer River. Minor to major flooding is occurring between Kuss Road and Rosewood.

Next Issue:

The next warning will be issued by 7am Friday.

Latest River Heights:

3		
Lockyer Ck at Helidon #	2.56m falling	09:02 PM THU 06/01/11
Tenthill Ck at Tenthill *	3.17m falling 08	8:00 PM THU 06/01/11
Lockyer Ck at Gatton #	13.3m falling	08:58 PM THU 06/01/11
Laidley Ck at Mulgowie *	4.5m falling	07:30 PM THU 06/01/11
Laidley Ck at Laidley	8.1m falling slowly	06:30 PM THU 06/01/11
Laidley Ck at Showground W	eir # 7.44m fallin	g 09:01 PM THU 06/01/11
Laidley Ck at Warrego Hwy *	4.4m rising	07:30 PM THU 06/01/11
Lockyer Ck at Glenore Grove	# 11.16m rising	g 08:59 PM THU 06/01/11
Lockyer Ck at Lyons Br #	9.59m rising	09:00 PM THU 06/01/11
Lockyer Ck at Rifle Range Ro	d * 8.24m rising	08:40 PM THU 06/01/11
Lockyer Ck at O'Reilly's Weir	# 9.54m rising	09:01 PM THU 06/01/11
Brisbane R at Savages Cross	sing # 3.35m rising	g 08:54 PM THU 06/01/11
Brisbane R at Burtons Br #	1.98m rising	08:29 PM THU 06/01/11
Brisbane R at Mt Crosby #	7.7m steady	08:58 PM THU 06/01/11
Brisbane R at Colleges Cross	sing # 2.76m rising	08:52 PM THU 06/01/11
Bremer R at Adams Br #	2.69m falling	08:58 PM THU 06/01/11
Bremer R at Stokes Crossing	g# 3.7m falling	09:02 PM THU 06/01/11



Bremer R at Spressers Br # 5.42m rising 09:02 PM THU 06/01/11 Spring Ck at Greys Plains Rd # 1.19m falling 08:45 PM THU 06/01/11 Western Ck at Grandchester # 1.83m falling 08:59 PM THU 06/01/11 Western Ck at Kuss Rd # 6.98m falling 08:28 PM THU 06/01/11 Western Ck at Rosewood WWTP # 6.53m rising 08:53 PM THU 06/01/11 Bremer R at Rosewood # 5.1m rising 08:59 PM THU 06/01/11 Bremer R at Five Mile Br Walloon # 3.66m rising 08:57 PM THU 06/01/11 Bremer R at Walloon DERM * 08:00 PM THU 06/01/11 4.3m steady Bremer R at Three Mile Br # 11.65m rising 08:55 PM THU 06/01/11 Warrill Ck at Kalbar Weir TW * 5.75m rising 08:40 PM THU 06/01/11 Warrill Ck at Kalbar 7.6m falling 06:00 PM THU 06/01/11 Warrill Ck at Harrisville# 3.8m rising 08:59 PM THU 06/01/11 Warrill Ck at Churchbank Weir # 1.01m rising 08:43 PM THU 06/01/11 Warrill Ck at Greens Rd Amberley # 3.5m rising 09:02 PM THU 06/01/11 Warrill Ck at Amberlev DNR * 3.94m risina 08:40 PM THU 06/01/11 0.71m steady Purga Ck at Peak Crossing # 08:08 PM THU 06/01/11 Purga Ck at Loamside * 1.5m rising 08:30 PM THU 06/01/11 Bremer R at Berry's Lagoon * 15.91m rising 07:45 PM THU 06/01/11 Bremer R at One Mile Br # 6.55m falling 08:09 PM THU 06/01/11 Bremer R at Hancocks Br Brassall # 2.93m steady 07:11 PM THU 06/01/11 Bremer R at Ipswich # 0.45m steady 08:26 PM THU 06/01/11

^{*,#} denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 7:14 AM on Friday the 7th of January 2011 by the Bureau of Meteorology, Brisbane.

40 - 70 mm of rainfall fell over the catchment since 9am Thursday which caused fast rises and minor to moderate flooding with some isolated major flooding in the Bremer River and Lockyer and Laidley Creeks. Rainfall has eased over the area in the past 6 hours and river levels are generally falling.

Further rainfall is expected over the catchment during Friday which could cause renewed river level rises.

LOCKYER CREEK

Minor to moderate flooding is easing on Lockyer Creek between Gatton and Lyons Bridge.

WARRILL CREEK

Minor flooding continues between Harrisville and Amberley.

BREMER RIVER

Moderate to major flooding is easing between Spressers Bridge and Rosewood. Moderate flooding continues between Walloon and Three Mile Bridge.

Weather Forecast:

Rain areas.

Next Issue:

The next warning will be issued by 4pm Friday.

Latest River Heights:

Lockyer Ck at Helidon *	2.65m falling	08:40 PM THU 06	/01/11
Lockyer Ck at Helidon #	1.78m falling	04:38 AM FRI 07/	01/11
Tenthill Ck at Tenthill *	2.56m falling	05:00 AM FRI 07/01/	/11
Lockyer Ck at Gatton *	9.09m falling	08:40 PM THU 06/	01/11
Lockyer Ck at Gatton #	7.08m steady	06:10 AM FRI 07	7/01/11
Laidley Ck at Mulgowie *	2.82m falling	04:00 AM FRI 07/	01/11
Laidley Ck at Laidley	8.1m falling slov	vly 06:30 PM THU 06	/01/11
Laidley Ck at Showground W	/eir * 7.69m fall	ing 08:40 PM THI	J 06/01/11
Laidley Ck at Showground W	/eir # 5.28m ste	eady 05:53 AM FI	RI 07/01/11
Laidley Ck at Warrego Hwy *	5.16m fallin	g 05:00 AM FRI 0	7/01/11
Lockyer Ck at Glenore Grove	e# 9.44m fallii	ng 06:25 AM FRI	07/01/11
Lockyer Ck at Lyons Br #	12.83m falling	g 06:15 AM FRI 07	7/01/11
Lockyer Ck at Rifle Range Ro	d * 8.24m risin	g 08:40 PM THU	06/01/11
Lockyer Ck at O'Reilly's Weir	r * 10.49m risin	g 05:00 AM FRI 0	7/01/11
Lockyer Ck at O'Reilly's Weir	r# 10.52m risin	g 05:55 AM FRI 0)7/01/11
Brisbane R at Savages Cross	sing * 3.34m ris	ing 08:40 PM TH	U 06/01/11



Brisbane R at Savages Crossing	# 4.59m rising	06:21 AM FRI 07/01/11
Brisbane R at Burtons Br #	2.66m rising	06:20 AM FRI 07/01/11
Brisbane R at Mt Crosby #	7.87m steady	06:19 AM FRI 07/01/11
Brisbane R at Mt Crosby #	7.86m rising	05:51 AM FRI 07/01/11
Brisbane R at Colleges Crossing	# 3.26m steady	04:34 AM FRI 07/01/11
Bremer R at Adams Br *	1.88m steady	05:20 AM FRI 07/01/11
Bremer R at Adams Br #	1.87m falling	06:25 AM FRI 07/01/11
Bremer R at Stokes Crossing #	2.25m falling	06:11 AM FRI 07/01/11
Bremer R at Spressers Br #	5.22m falling	06:10 AM FRI 07/01/11
Spring Ck at Greys Plains Rd #	0.99m steady	03:49 AM FRI 07/01/11
Western Ck at Grandchester #	0.98m falling	05:41 AM FRI 07/01/11
Western Ck at Kuss Rd #	4.18m falling	06:24 AM FRI 07/01/11
Western Ck at Rosewood WWTF	9 # 5.43m falli	ing 06:14 AM FRI 07/01/11
Bremer R at Rosewood	3.8m rising fast	03:00 PM THU 06/01/11
Bremer R at Rosewood#	5.01m falling	06:17 AM FRI 07/01/11
Bremer R at Rosewood #	5.02m falling	06:23 AM FRI 07/01/11
Bremer R at Five Mile Br Walloon	n # 5.76m falling	06:24 AM FRI 07/01/11
Bremer R at Walloon DERM *	6.78m rising	05:00 AM FRI 07/01/11
Bremer R at Three Mile Br #	16.05m steady	05:11 AM FRI 07/01/11
Warrill Ck at Toohills Crossing *	0.81m falling	08:40 PM THU 06/01/11
Warrill Ck at Kalbar Weir TW *	5.75m rising	08:40 PM THU 06/01/11
Warrill Ck at Kalbar 7.6	m falling 06:0	00 PM THU 06/01/11
Warrill Ck at Harrisville # 4n	n falling 05:	11 AM FRI 07/01/11
Warrill Ck at Harrisville# 3.9	9m steady 09	5:18 AM FRI 07/01/11
Warrill Ck at Churchbank Weir *	0.96m rising	08:30 PM THU 06/01/11
Warrill Ck at Churchbank Weir #	1.91m rising	06:22 AM FRI 07/01/11
Warrill Ck at Greens Rd Amberle	y # 4.62m falling	06:20 AM FRI 07/01/11
Warrill Ck at Amberley DNR *	3.94m rising	08:40 PM THU 06/01/11
Purga Ck at Peak Crossing #	0.81m rising	05:19 AM FRI 07/01/11
Purga Ck at Loamside #	1.61m steady	05:49 AM FRI 07/01/11
Purga Ck at Loamside *	1.5m rising (08:30 PM THU 06/01/11
Bremer R at Berry's Lagoon *	15.91m rising	07:45 PM THU 06/01/11
Bremer R at One Mile Br #	10.5m rising	06:22 AM FRI 07/01/11
Bremer R at Hancocks Br Brassa	all # 5.53m rising	06:22 AM FRI 07/01/11
Bremer R at Ipswich # 2	2.25m rising C	06:19 AM FRI 07/01/11

*, # denote automatic



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 4:24 PM on Friday the 7th of January 2011 by the Bureau of Meteorology, Brisbane.

Some small renewed rises and minor to moderate flooding is occurring along Lockyer and Warrill Creeks. River rises are also occurring in the Bremer River where minor flooding continues. The rainfall has continued to ease during Friday afternoon, which is expected to result in stream levels to commence to ease during this evening and overnight Friday.

The rainfall has continued to ease during Friday afternoon, with less than 7mm recorded during the previous 3 hours to 4pm. Further small rises are occurring along the upper reaches of the Lockyer and Warrill Creeks and in the Bremer River during Friday afternoon.

LOCKYER CREEK:

Minor to moderate flooding continues on Lockyer Creek between the Warrego Highway and Rifle Range Road.

WARRILL CREEK:

Minor to moderate flooding continues between Kalbar and Amberley.

BREMER RIVER:

Minor flooding continues between Spressers Bridge and Three Mile Bridge.

Weather Forecast:

Rain periods with moderate falls possible and local thunder at times.

Next Issue:

The next warning will be issued at about 9am Saturday, or earlier if heavy rainfall returns to the catchment.

Latest River Heights:

Lockyer Ck at Helidon #	3.3m rising	03:50 PM FR	07/01/11
Tenthill Ck at Tenthill *	2.49m falling	02:00 PM FRI 0	7/01/11
Lockyer Ck at Gatton #	6.94m falling	g 03:49 PM FR	l 07/01/11
Laidley Ck at Mulgowie *	2.95m rising	g 02:30 PM FR	I 07/01/11
Laidley Ck at Laidley	8.1m falling s	lowly 06:30 PM TH	U 06/01/11
Laidley Ck at Showground W	eir # 5.22m	rising 03:40 PM	M FRI 07/01/11
Laidley Ck at Warrego Hwy *	4.71m fal	ling 02:00 PM I	FRI 07/01/11
Lockyer Ck at Glenore Grove	# 7.88m ri	sing 03:47 PM	FRI 07/01/11
Lockyer Ck at Lyons Br #	11.97m fall	ing 03:42 PM F	RI 07/01/11
Lockyer Ck at Rifle Range Ro	l * 12.38m s	steady 08:00 Al	M FRI 07/01/11
Lockyer Ck at O'Reilly's Weir	# 10.56m fa	Illing 03:53 PM I	FRI 07/01/11
Brisbane R at Lowood Pump	Stn # 5.43m	rising 03:31 F	PM FRI 07/01/11
Brisbane R at Savages Cross	sing # 5.65m	falling 03:49 PI	M FRI 07/01/11



Brisbane R at Burtons Br #	3.88m rising	03:53 PM FRI 07/01/11
Brisbane R at Kholo Br #	-1.97m rising	03:44 PM FRI 07/01/11
Brisbane R at Mt Crosby #	8.34m rising	03:27 PM FRI 07/01/11
Brisbane R at Colleges Crossing	g # 4.71m rising	03:27 PM FRI 07/01/11
Bremer R at Adams Br #	2.43m falling	03:52 PM FRI 07/01/11
Bremer R at Stokes Crossing #	2.3m rising	03:45 PM FRI 07/01/11
Bremer R at Spressers Br #	4.32m falling	02:53 PM FRI 07/01/11
Spring Ck at Greys Plains Rd #	1.39m falling	03:37 PM FRI 07/01/11
Western Ck at Grandchester #	2.43m falling	03:54 PM FRI 07/01/11
Western Ck at Kuss Rd #	4.6m rising	03:53 PM FRI 07/01/11
Western Ck at Rosewood WWT	P # 4.88m risi	ing 03:53 PM FRI 07/01/11
Bremer R at Rosewood #	4.32m steady	02:27 PM FRI 07/01/11
Bremer R at Five Mile Br Walloo	n # 4.16m falling	03:45 PM FRI 07/01/11
Bremer R at Walloon DERM *	5.77m falling	02:00 PM FRI 07/01/11
Bremer R at Three Mile Br #	14.3m steady	03:26 PM FRI 07/01/11
Warrill Ck at Toohills Crossing *	1.21m rising	08:20 AM FRI 07/01/11
Warrill Ck at Harrisville # 4.	.32m rising 03	3:32 PM FRI 07/01/11
Warrill Ck at Churchbank Weir #	1.97m rising	03:38 PM FRI 07/01/11
Warrill Ck at Greens Rd Amberlo	ey # 4.92m falling	g 03:47 PM FRI 07/01/11
Warrill Ck at Amberley DNR *	5.52m steady	08:20 AM FRI 07/01/11
Purga Ck at Peak Crossing #	1.51m rising	03:55 PM FRI 07/01/11
Purga Ck at Loamside #	2.37m steady	03:49 PM FRI 07/01/11
Bremer R at One Mile Br #	10.8m falling	03:43 PM FRI 07/01/11
Bremer R at Hancocks Br Brass	all # 7.23m falling	g 03:42 PM FRI 07/01/11
Bremer R at Ipswich #	4.2m falling 0	3:46 PM FRI 07/01/11
Brisbane R at Moggill #	2.07m falling (03:42 PM FRI 07/01/11
Brisbane R at City Gauge *	0.62m rising	08:20 AM FRI 07/01/11
Moreton Bay at Whyte Island #	0.07m falling	03:51 PM FRI 07/01/11

^{*,#} denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR LOCKYER AND WARRILL CREEKS AND BREMER RIVER Issued at 9:05 AM on Saturday the 8th of January 2011 by the Bureau of Meteorology, Brisbane.

Minor to moderate flood levels are generally falling along Lockyer and Warrill Creeks and the Bremer River.

LOCKYER CREEK:

Minor to moderate flooding continues along Lockyer Creek between the Warrego Highway and Rifle Range Road. A moderate flood peak is expected this morning at Lyons Bridge of just over 12 metres.

WARRILL CREEK:

Minor to moderate flooding is falling between Harrisville and Amberley.

BREMER RIVER:

Minor flooding continues between Spressers Bridge and Walloon.

Weather Forecast:

Rain periods with moderate falls possible and local thunder at times.

Next Issue:

The next warning will be issued at about 9am Sunday, or earlier if heavy rainfall returns to the catchment.

Latest River Heights:

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Lockyer Ck at Gatton * 4.83m falling 08:20 AM SAT 08/01/11	
Laidley Ck at Mulgowie * 2.36m falling 07:00 AM SAT 08/01/11	
Laidley Ck at Showground Weir # 5.12m steady 08:53 AM SAT 08/01/11	
Laidley Ck at Warrego Hwy * 4.63m falling 08:00 AM SAT 08/01/11	
Lockyer Ck at Glenore Grove # 8.2m falling 08:49 AM SAT 08/01/11	
Lockyer Ck at Lyons Br # 12.09m falling 08:30 AM SAT 08/01/11	
Lockyer Ck at Rifle Range Rd * 11.79m steady 08:00 AM SAT 08/01/11	
Lockyer Ck at O'Reilly's Weir # 10.94m rising 08:34 AM SAT 08/01/11	
Bremer R at Adams Br # 1.61m falling 08:52 AM SAT 08/01/11	
Bremer R at Stokes Crossing # 1.8m falling 08:37 AM SAT 08/01/11	
Bremer R at Spressers Br # 4.27m falling 08:23 AM SAT 08/01/11	
Spring Ck at Greys Plains Rd # 0.89m steady 06:49 AM SAT 08/01/11	
Western Ck at Grandchester # 0.78m falling 07:43 AM SAT 08/01/11	
Western Ck at Kuss Rd # 3.28m falling 08:51 AM SAT 08/01/11	
Western Ck at Rosewood WWTP # 3.98m falling 08:41 AM SAT 08/01/17	1
Bremer R at Rosewood # 4.2m falling 08:41 AM SAT 08/01/11	
Bremer R at Five Mile Br Walloon # 4.02m falling 08:33 AM SAT 08/01/11	
Bremer R at Walloon DERM * 5.17m falling 08:00 AM SAT 08/01/11	
Bremer R at Three Mile Br # 13.85m falling 08:41 AM SAT 08/01/11	
Warrill Ck at Toohills Crossing * 0.01m rising 08:10 AM SAT 08/01/11	



Warrill Ck at Harrisville # 4.1m falling 08:47 AM SAT 08/01/11
Warrill Ck at Churchbank Weir # 2.07m steady 07:29 AM SAT 08/01/11
Warrill Ck at Greens Rd Amberley # 5.18m rising 08:50 AM SAT 08/01/11
Warrill Ck at Amberley DNR * 5.99m falling 08:00 AM SAT 08/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR WARRILL CREEK THE LOWER BRISBANE BELOW WIVENHOE Issued at 9:13 AM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Minor flood levels are falling at Amberley along Warrill Creek.

SEQ Water advises releases from Wivenhoe Dam will continue through Sunday. Minor flooding will continue downstream along the Brisbane River to Mt Crosby today and tomorrow.

Weather Forecast:

Rain periods with moderate falls possible.

Next Issue

The next warning will be issued at about 9am Monday or earlier if needed.

Latest River Heights:

10.34m falling 08:10 AM SUN 09/01/11 Brisbane R at Savages Crossing * Brisbane R at Savages Crossing # 10.31m falling 09:03 AM SUN 09/01/11 Brisbane R at Burtons Br # 7.76m falling 08:59 AM SUN 09/01/11 Cabbage Tree Ck at L Manchester # 51.19m steady 07:55 AM SUN 09/01/11 Brisbane R at Kholo Br # 2.61m falling 08:59 AM SUN 09/01/11 Brisbane R at Mt Crosby # 11.21m steady 08:55 AM SUN 09/01/11 Brisbane R at Mt Crosby # 11.14m falling 09:06 AM SUN 09/01/11 Brisbane R at Colleges Crossing # 8.91m steady 09:07 AM SUN 09/01/11 Warrill Ck at Amberley DNR * 5.07m falling 08:20 AM SUN 09/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE Issued at 10:55 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek upstream of Gatton and in the Bremer River in the Rosewood area. Further rainfall is forecast for the region during Monday which may produce higher levels.

LOCKYER CREEK:

Lockyer Creek levels in the Helidon area have peaked at about 7 metres with further rises and moderate to major flooding expected downstream to the O'Reilly's area during Monday.

BREMER RIVER:

River level rises and moderate to major flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with at least minor flood levels expected in the Bremer River at Ipswich during Monday night.

MIDDLE AND LOWER BRISBANE:

SEQ Water advises releases from Wivenhoe Dam will continue. Minor flooding will continue along the middle Brisbane River at Savages and Mt Crosby with moderate flood levels expected at Mt Crosby overnight Monday.

Next Issue:

The next warning will be issued at about 9am Monday.

Latest River Heights:

Lockyer Ck at Helidon # 6.68m falling 10:08 PM SUN 09/01/11 Flagstone Ck at Brown-Zirbels Rd * 4.65m rising 08:40 PM SUN 09/01/11 Sandy Creek at Sandy Creek Road # 4.25m falling 10:03 PM SUN 09/01/11 Ma Ma Ck at Harm's * 1.92m steady 08:00 AM SUN 09/01/11 Tenthill Ck at Tenthill * 2.45m steady 08:33 PM SUN 09/01/11 Lockyer Ck at Gatton # 9.62m falling 09:58 PM SUN 09/01/11 Laidley Ck at Mulgowie * 3.33m rising 08:00 PM SUN 09/01/11 Laidley Ck at Laidley 3.95m falling slowly 08:00 PM SUN 09/01/11 Laidley Ck at Showground Weir # 5.6m falling 08:55 PM SUN 09/01/11 Bill Gunn Dam # 110.06m steady 09:44 PM SUN 09/01/11 Laidley Ck at Warrego Hwy * 4.36m rising 08:00 PM SUN 09/01/11 LLockyer Ck at Glenore Grove # 8.8m rising 10:09 PM SUN 09/01/11 Lockyer Ck at Lyons Br # 10:08 PM SUN 09/01/11 10.03m rising Lockyer Ck at Rifle Range Rd * 9.47m rising 08:40 PM SUN 09/01/11 Atkinson Dam # 09:52 PM SUN 09/01/11 65.76m steady Lockyer Ck at O'Reilly's Weir # 12m rising 10:05 PM SUN 09/01/11 Brisbane R at Lowood Pump Stn # 10.87m falling 10:07 PM SUN 09/01/11 Brisbane R at Savages Crossing # 11.47m rising 10:09 PM SUN 09/01/11 Brisbane R at Burtons Br # 8.78m rising 10:08 PM SUN 09/01/11



Cabbage Tree Ck at L Manchester # 51.97m rising 10:10 PM SUN 09/01/11 Brisbane R at Kholo Br # 3.61m rising 10:10 PM SUN 09/01/11 Brisbane R at Mt Crosby # 11.9m risina 10:09 PM SUN 09/01/11 10:11 PM SUN 09/01/11 Brisbane R at Colleges Crossing # 9.71m rising Bremer R at Adams Br # 2.15m falling 10:03 PM SUN 09/01/11 Bremer R at Stokes Crossing # 2.65m rising 09:53 PM SUN 09/01/11 Bremer R at Spressers Br # 4.87m rising 09:56 PM SUN 09/01/11 Spring Ck at Greys Plains Rd # 1.14m steady 09:48 PM SUN 09/01/11 Western Ck at Grandchester # 3.38m rising 10:07 PM SUN 09/01/11 Western Ck at Rosewood WWTP # 6.43m rising 08:45 PM SUN 09/01/11 Bremer R at Rosewood # 5.02m rising 10:05 PM SUN 09/01/11 Bremer R at Five Mile Br Walloon # 4m rising 10:09 PM SUN 09/01/11 Bremer R at Walloon DERM * 4.54m rising 08:00 PM SUN 09/01/11 Reynolds Ck at Moogerah Dam # 155.5m steady 09:01 PM SUN 09/01/11 Warrill Ck at Kalbar Weir HW # 75.75m steady 09:59 PM SUN 09/01/11 Warrill Ck at Kalbar Weir TW * 5.25m falling 08:40 PM SUN 09/01/11 Warrill Ck at Harrisville# 2.45m rising 10:08 PM SUN 09/01/11 Warrill Ck at Churchbank Weir # 0.76m steady 07:29 PM SUN 09/01/11 Warrill Ck at Greens Rd Amberley # 4.52m rising 10:05 PM SUN 09/01/11 Warrill Ck at Amberley DNR * 5.43m rising 08:40 PM SUN 09/01/11 Purga Ck at Peak Crossing # 1.16m rising 08:08 PM SUN 09/01/11 Purga Ck at Loamside * 4.19m falling 08:40 PM SUN 09/01/11 Bremer R at Berry's Lagoon * 17.66m rising 08:30 PM SUN 09/01/11 Bremer R at One Mile Br # 10:11 PM SUN 09/01/11 8.9m rising 10:11 PM SUN 09/01/11 Bremer R at Hancocks Br Brassall # 5.98m steady Bremer R at Ipswich # 3.95m rising 09:58 PM SUN 09/01/11 09:46 PM SUN 09/01/11 Brisbane R at Moggill # 3.57m rising Brisbane R at City Gauge # 0.1m steady 08:12 PM SUN 09/01/11 Moreton Bay at Whyte Island # 0.45m rising 10:07 PM SUN 09/01/11

*,# from automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE Issued at 12:36 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek upstream of Gatton and in the Bremer River in the Rosewood area. Further heavy rainfall is forecast for the catchments of the Bremer River and Warrill and Lockyer Creeks during Monday.

LOCKYER CREEK:

Moderate to major flood levels have developed in Lockyer Creek upstream of Gatton. Levels in the Helidon area have peaked at about 7 metres and rises continue at Gatton. Rises to major flood levels are expected during Monday at Glenore Grove and Lyons Bridge.

BREMER RIVER:

River level rises and moderate to major flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with at least minor flood levels expected in the Bremer River at Ipswich during Monday night and continuing into Tuesday.

MIDDLE AND LOWER BRISBANE:

SEQ Water advises releases from Wivenhoe Dam will continue. Minor flooding will continue along the middle Brisbane River at Savages and Mt Crosby during Monday with moderate flood levels expected overnight Monday.

Higher than predicted tides are expected to continue in the Lower Brisbane area during Monday. Minor flood levels are possible on the high tide at the Brisbane City (Port Office) gauge during Tuesday and Wednesday.

Next Issue:

The next warning will be issued at about 9.30am Monday.

Latest River Heights:

Lockyer Ck at Helidon #	6.5m rising	11:47 PM SUN 09/01/11
Flagstone Ck at Brown-Zirbels I	Rd * 4.65m rising	08:40 PM SUN 09/01/11
Sandy Creek at Sandy Creek Ro	oad # 4.2m rising	g 11:39 PM SUN 09/01/11
Lockyer Ck at Gatton #	12.98m steady	11:46 PM SUN 09/01/11
Laidley Ck at Mulgowie *	3.45m rising	10:00 PM SUN 09/01/11
Laidley Ck at Laidley 3.	95m falling slowly	y 08:00 PM SUN 09/01/11
Laidley Ck at Showground Weir	* 5.62m falling	08:30 PM SUN 09/01/11
Laidley Ck at Showground Weir	# 5.72m rising	11:37 PM SUN 09/01/11
Laidley Ck at Warrego Hwy *	4.75m rising	10:00 PM SUN 09/01/11
Lockyer Ck at Glenore Grove #	9.98m rising	11:48 PM SUN 09/01/11
Lockyer Ck at Lyons Br #	10.73m rising	11:47 PM SUN 09/01/11
Lockyer Ck at Rifle Range Rd *	9.47m rising	08:40 PM SUN 09/01/11
Lockyer Ck at O'Reilly's Weir #	12.34m rising	11:45 PM SUN 09/01/11



Brisbane R at Lowood Pump Stn # 11.19m falling 11:46 PM SUN 09/01/11 Brisbane R at Savages Crossing # 11.73m rising 11:48 PM SUN 09/01/11 Brisbane R at Burtons Br # 9.06m rising 11:32 PM SUN 09/01/11 Brisbane R at Kholo Br # 3.91m rising 11:44 PM SUN 09/01/11 11:49 PM SUN 09/01/11 Brisbane R at Mt Crosby # 12.24m steady Brisbane R at Colleges Crossing # 9.91m rising 11:46 PM SUN 09/01/11

Bremer R at Spressers Br # 4.97m rising 11:08 PM SUN 09/01/11 Western Ck at Grandchester # 4.23m rising 11:45 PM SUN 09/01/11 Western Ck at Rosewood WWTP # 6.63m rising 11:49 PM SUN 09/01/11 Bremer R at Rosewood # 5.14m rising 11:41 PM SUN 09/01/11 Bremer R at Five Mile Br Walloon # 4.66m rising 11:48 PM SUN 09/01/11 Bremer R at Walloon DERM * 5.04m rising 10:30 PM SUN 09/01/11 Revnolds Ck at Moogerah Dam # 155.48m falling 11:34 PM SUN 09/01/11

Warrill Ck at Harrisville # 2.74m rising 11:44 PM SUN 09/01/11
Warrill Ck at Harrisville# 2.65m rising 11:32 PM SUN 09/01/11
Warrill Ck at Greens Rd Amberley # 4.4m falling 11:47 PM SUN 09/01/11
Warrill Ck at Amberley DNR * 5.43m rising 08:40 PM SUN 09/01/11

Bremer R at Berry's Lagoon * 17.66m rising 08:30 PM SUN 09/01/11 Bremer R at One Mile Br # 9.25m rising 11:33 PM SUN 09/01/11 Bremer R at Hancocks Br Brassall # 6.23m rising 11:33 PM SUN 09/01/11 Bremer R at Ipswich # 4.1m rising 11:34 PM SUN 09/01/11 Brisbane R at Moggill # 11:44 PM SUN 09/01/11 3.72m rising Brisbane R at City Gauge # 0.9m rising 11:12 PM SUN 09/01/11



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

Issued at 10:28 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek and along the Bremer River. Moderate flood levels are likely at Ipswich. Further heavy rainfall is forecast for the catchments of the Brisbane and Bremer Rivers and Warrill and Lockyer Creeks during Monday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday. At the Brisbane City Gauge, river levels of about 2.3 metres are expected with the high tides on Tuesday and Wednesday causing minor flooding.

LOCKYER CREEK:

A major flood peak is currently around Glenore Grove of around 13 metres. Rises to around 14.5 metres are expected at Lyons Bridge later today and around 15 metres at Rifle Range Road. Higher levels are possible as rainfall continues.

BREMER RIVER:

River level rises and moderate flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with moderate flood levels of at least 10 metres expected in the Bremer River at Ipswich early on Tuesday.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Minor flooding is expected at Savages and moderate flooding at Mt Crosby overnight tonight.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.3 metres with the high tides on Tuesday and Wednesday. Further rises are possible as rainfall continues.

Predicted River Heights/Flows:

Ipswich: Reach at least 9.5 metres (moderate) during the early hours of Tuesday.

Moggill: Reach around 8 metres (below minor) on Tuesday morning.

Jindalee: Reach at least 5 metres (below minor) during Tuesday.

Brisbane: Reach about 2.3 metres (minor) with the high tides on Tuesday and Wednesday.



Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 3:30pm Monday.

Latest River Heights:

Latest Kiver Heights.		
Lockyer Ck at Gatton *	9.49m falling	08:20 AM MON 10/01/11
Laidley Ck at Laidley	3.85m steady	08:55 AM MON 10/01/11
Laidley Ck at Showground We	eir * 5.3m falling	08:10 AM MON 10/01/11
Laidley Ck at Warrego Hwy *	5.7m steady	08:00 AM MON 10/01/11
Lockyer Ck at Glenore Grove	# 12.86m fallir	ng 09:18 AM MON 10/01/11
Lockyer Ck at Lyons Br #	14.07m rising	09:17 AM MON 10/01/11
Lockyer Ck at Rifle Range Rd	* 13.4m rising	08:20 AM MON 10/01/11
Brisbane R at Lowood Pump S	Stn # 13.21m ris	sing 09:13 AM MON 10/01/11
Brisbane R at Savages Cross	ing # 12.95m risi	ing 09:18 AM MON 10/01/11
Brisbane R at Burtons Br #	9.92m rising	09:11 AM MON 10/01/11
Brisbane R at Kholo Br #	5.19m rising	09:12 AM MON 10/01/11
Brisbane R at Mt Crosby #	13.43m rising	09:16 AM MON 10/01/11
Brisbane R at Colleges Cross	ing # 11.11m risii	ng 09:20 AM MON 10/01/11
Bremer R at Adams Br *	1.93m rising	08:30 AM MON 10/01/11
Bremer R at Stokes Crossing	# 2.3m rising	09:01 AM MON 10/01/11
Bremer R at Spressers Br #	5.02m falling	09:03 AM MON 10/01/11
Western Ck at Rosewood WW	/TP # 6.38m fa	alling 07:09 AM MON 10/01/11
Bremer R at Rosewood #	5.06m falling	09:08 AM MON 10/01/11
Bremer R at Five Mile Br Wall	oon # 5.42m risin	g 08:24 AM MON 10/01/11
Bremer R at Walloon DERM *	6.49m rising	08:00 AM MON 10/01/11
Warrill Ck at Harrisville#	2.65m steady	08:17 AM MON 10/01/11
Warrill Ck at Amberley DNR *	5.34m rising	08:10 AM MON 10/01/11
Bremer R at Ipswich #	5.7m rising	09:08 AM MON 10/01/11
Brisbane R at Moggill #	4.72m rising	09:14 AM MON 10/01/11
Brisbane R at Jindalee Br #	2.8m rising	09:17 AM MON 10/01/11
Brisbane R at City Gauge #	0.65m rising	09:09 AM MON 10/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

INCLUDING BRISBANE CITY

Issued at 4:16 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to renewed rises in the Lockyer Creek catchment. Rainfall is forecast to continue this evening and a return to moderate to major flood levels is expected overnight and during Tuesday. Major flood levels are expected to continue at Lyons Bridge with rises above 15 metres likely during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley overnight.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.



The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

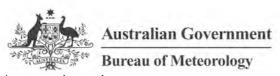
Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 9pm Monday.

Latest River Heights:

Lockyer Ck at Gatton # 10.36m steady 03:04 PM MON 10/01/11 Laidley Ck at Laidley 6m rising 02:45 PM MON 10/01/11 Laidley Ck at Showground Weir # 6.98m rising 03:07 PM MON 10/01/11 Laidley Ck at Warrego Hwy * 5.43m falling 01:00 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 11.36m falling 03:05 PM MON 10/01/11 Lockyer Ck at Lyons Br # 14.79m rising 03:02 PM MON 10/01/11 Lockyer Ck at Rifle Range Rd * 13.4m rising 08:20 AM MON 10/01/11 Brisbane R at Lowood Pump Stn # 14.13m falling 03:07 PM MON 10/01/11 Brisbane R at Savages Crossing # 14.15m rising 03:09 PM MON 10/01/11 Brisbane R at Burtons Br # 10.88m rising 03:05 PM MON 10/01/11 Brisbane R at Kholo Br # 03:06 PM MON 10/01/11 6.23m rising 14.26m rising Brisbane R at Mt Crosby # 03:07 PM MON 10/01/11 Brisbane R at Colleges Crossing # 11.96m rising 03:09 PM MON 10/01/11 Bremer R at Spressers Br # 5.07m rising 03:09 PM MON 10/01/11 Bremer R at Rosewood # 4.94m rising 03:02 PM MON 10/01/11 Bremer R at Five Mile Br Walloon # 5.12m falling 03:09 PM MON 10/01/11 Warrill Ck at Harrisville # 3.82m rising 03:05 PM MON 10/01/11 Warrill Ck at Amberley DNR * 5.34m rising 08:10 AM MON 10/01/11 Bremer R at Ipswich # 6.6m rising 02:40 PM MON 10/01/11 Brisbane R at Moggill # 5.52m rising 02:59 PM MON 10/01/11 Brisbane R at Jindalee Br # 3.7m rising 02:50 PM MON 10/01/11 Brisbane R at City Gauge # 1.36m falling 03:09 PM MON 10/01/11



*automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

INCLUDING BRISBANE CITY

Issued at 6:12 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

LOCKYER CREEK: Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Laidley Creek at Mulgowie. These will extend to Gatton and areas downstream during the evening and overnight. Severe record major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Laidley Creek at Mulgowie. These will extend to Gatton and areas downstream during the evening and overnight. High level record major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley



MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 9pm Monday.

Latest River Heights:

Lockyer Ck at Helidon * 12.66m rising 02:50 PM MON 10/01/11 Lockyer Ck at Helidon # 12.68m steady 03:02 PM MON 10/01/11 Flagstone Ck at Brown-Zirbels Rd * 3.27m falling 08:20 AM MON 10/01/11 Sandy Creek at Sandy Creek Road # 3.8m falling 05:22 PM MON 10/01/11 Ma Ma Ck at Harm's * 2.28m falling 08:10 AM MON 10/01/11 Tenthill Ck at Tenthill * 4.53m rising 04:10 PM MON 10/01/11 Lockyer Ck at Gatton * 9.07m rising 05:30 PM MON 10/01/11 Lockyer Ck at Gatton # 13.22m rising 05:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 7.88m rising 04:00 PM MON 10/01/11 Laidley Ck at Laidley 6m rising 02:45 PM MON 10/01/11 Laidley Ck at Showground Weir * 8.95m rising 05:30 PM MON 10/01/11 Laidley Ck at Showground Weir # 05:31 PM MON 10/01/11 9m rising Laidley Ck at Warrego Hwy * 5.28m falling 03:00 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 10.78m falling 05:24 PM MON 10/01/11 Lockyer Ck at Lyons Br # 14.93m rising 05:05 PM MON 10/01/11 Lockyer Ck at Rifle Range Rd * 14.85m rising 05:30 PM MON 10/01/11 Lockyer Ck at O'Reilly's Weir # 16.38m rising 05:29 PM MON 10/01/11



Brisbane R at Lowood Pump Stn # 14.53m falling 05:28 PM MON 10/01/11 Brisbane R at Savages Crossing # 14.37m rising 05:29 PM MON 10/01/11 Brisbane R at Burtons Br # 11.08m rising 05:23 PM MON 10/01/11 Brisbane R at Kholo Br # 6.63m rising 05:28 PM MON 10/01/11 Brisbane R at Mt Crosbv # 14.64m rising 05:31 PM MON 10/01/11 Brisbane R at Mt Crosby # 14.08m falling 04:39 PM MON 10/01/11 Brisbane R at Colleges Crossing # 12.41m rising 05:33 PM MON 10/01/11 Bremer R at Stokes Crossing # 4.6m falling 05:20 PM MON 10/01/11 Warrill Ck at Churchbank Weir * 2.35m rising 05:30 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.6m rising 05:26 PM MON 10/01/11 Bremer R at One Mile Br # 11.8m steady 05:03 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 9.28m rising 04:33 PM MON 10/01/11 Bremer R at Ipswich # 6.85m steady 05:27 PM MON 10/01/11 Brisbane R at Moggill # 5.87m rising 05:18 PM MON 10/01/11 Brisbane R at Jindalee Br # 3.75m steady 04:07 PM MON 10/01/11 Brisbane R at City Gauge # 0.81m falling 05:21 PM MON 10/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

INCLUDING BRISBANE CITY

Issued at 9:44 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

LOCKYER CREEK: Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Gatton and Laidley Creek at Mulgowie. Lockyer Creek at Gatton reached 19 metres, which is more than 2.5 metres above the previous record.

Rapid stream rises are occurring at Glenore Grove, and the river has reached 14.42 metres at 9pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.

Stream rises in the Lockyer Creek downstream are expected overnight, with the main flood waters reaching Lyons Bridge overnight.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Gatton and Laidley Creek at Mulgowie. These will extend to Lyons Bridge in the next few hours and areas downstream later Monday and early Tuesday. High level major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday



afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley overnight.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about midnight Monday.

Latest River Heights:

Lockyer Ck at Helidon * 12.66m rising 02:50 PM MON 10/01/11 Flagstone Ck at Brown-Zirbels Rd * 4.28m falling 08:40 PM MON 10/01/11 Sandy Creek at Sandy Creek Road # 2.85m falling 08:49 PM MON 10/01/11 Ma Ma Ck at Harm's * 08:10 AM MON 10/01/11 2.28m falling Tenthill Ck at Tenthill * 4.52m falling 08:40 PM MON 10/01/11 Lockver Ck at Gatton * 18.92m rising 18:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 6.68m falling 07:30 PM MON 10/01/11 Laidley Ck at Laidley 8.6m rising slowly 06:00 PM MON 10/01/11 08:58 PM MON 10/01/11 Laidley Ck at Showground Weir # 9.22m rising Laidley Ck at Warrego Hwy * 5.38m rising 08:00 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 14.42m rising 08:58 PM MON 10/01/11 Lockyer Ck at Lyons Br # 15.07m rising 08:56 PM MON 10/01/11



Lockyer Ck at Rifle Range Rd * 14.99m rising 08:40 PM MON 10/01/11 Lockyer Ck at O'Reilly's Weir # 17.14m rising 08:55 PM MON 10/01/11 Brisbane R at Lowood Pump Stn # 15.17m falling 08:58 PM MON 10/01/11 Brisbane R at Savages Crossing * 08:40 PM MON 10/01/11 14.76m falling Brisbane R at Savages Crossing # 14.87m steady 08:53 PM MON 10/01/11 08:47 PM MON 10/01/11 Brisbane R at Burtons Br # 11.44m rising Brisbane R at Kholo Br # 7.09m rising 08:47 PM MON 10/01/11 Brisbane R at Mt Crosby # 15.05m rising 08:57 PM MON 10/01/11 Brisbane R at Colleges Crossing # 12.91m rising 09:00 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.92m falling 08:56 PM MON 10/01/11 Bremer R at One Mile Br # 12.2m rising 08:59 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 9.58m rising 08:27 PM MON 10/01/11 Bremer R at Ipswich # 7.2m rising 08:56 PM MON 10/01/11 Brisbane R at Moggill # 6.12m rising 08:53 PM MON 10/01/11 Brisbane R at Jindalee Br # 3.75m steady 07:07 PM MON 10/01/11 Brisbane R at City Gauge * 0.41m steady 08:40 PM MON 10/01/11



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 12:06 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The main flood waters in the Lockyer Creek are now at Glenore Grove, with strong stream rises expected overnight and early Tuesday morning in the Lockyer Creek downstream of Glenore Grove.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently around Glenore Grove, with strong stream rises at Lyons Bridge expected in the next few hours. The Lockyer Creek at Glenore Grove has reached 14.60 metres at 11:30pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.

Renewed stream rises have commenced at the Lockyer River at Lyons Bridge with a peak between 16 and 16.5 metres expected early Tuesday morning.

BREMER RIVER:

The rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels between 5 and 6 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK



The rainfall during Monday has lead to increases in Warrill Creek with Amberley currently peaking around 6 metres.

MIDDLE AND LOWER BRISBANE:

Moderate flooding is developing at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres (minor) with the afternoon high tide on Tuesday. Reach about 3 metres (moderate) with the high tides on Wednesday.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

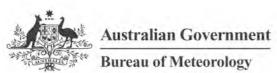
Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 4am Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 12.68m steady 03:02 PM MON 10/01/11 Flagstone Ck at Brown-Zirbels Rd * 4.28m falling 08:40 PM MON 10/01/11 Sandy Creek at Sandy Creek Road # 2.45m rising 11:01 PM MON 10/01/11 Ma Ma Ck at Harm's * 2.28m falling 08:10 AM MON 10/01/11 Tenthill Ck at Tenthill * 4.07m falling 10:30 PM MON 10/01/11 Lockyer Ck at Gatton * 18.92m rising 6:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 5.63m falling 10:10 PM MON 10/01/11 Laidley Ck at Laidley 8.7m falling slowly 10:00 PM MON 10/01/11 Laidley Ck at Showground Weir # 8.56m falling 11:16 PM MON 10/01/11 Bill Gunn Dam # 110.1m steady 11:14 PM MON 10/01/11 Laidley Ck at Warrego Hwy * 5.8m rising 09:50 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 11:12 PM MON 10/01/11 14.6m rising Lockyer Ck at Lyons Br # 15.17m rising 10:38 PM MON 10/01/11 Lockyer Ck at Rifle Range Rd * 08:40 PM MON 10/01/11 14.99m rising Lockyer Ck at O'Reilly's Weir # 11:16 PM MON 10/01/11 17.5m rising Brisbane R at Lowood Pump Stn # 15.45m rising 11:10 PM MON 10/01/11 Brisbane R at Savages Crossing # 11:17 PM MON 10/01/11 15.25m falling Brisbane R at Burtons Br # 11.8m rising 11:14 PM MON 10/01/11 Brisbane R at Kholo Br # 11:15 PM MON 10/01/11 7.41m rising Brisbane R at Mt Crosby # 15.31m rising 11:15 PM MON 10/01/11



Brisbane R at Colleges Crossing # 13.21m rising 11:18 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.94m rising 11:08 PM MON 10/01/11 Bremer R at One Mile Br # 12.75m rising 11:08 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 10.13m rising 11:17 PM MON 10/01/11

Bremer R at Ipswich # 7.6m rising 11:17 PM MON 10/01/11
Brisbane R at Moggill # 6.42m rising 11:14 PM MON 10/01/11
Brisbane R at Jindalee Br # 3.9m rising 10:59 PM MON 10/01/11
Brisbane R at City Gauge # 1.05m rising 11:09 PM MON 10/01/11



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:06 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge, with strong stream rises expected during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane during Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Extremely heavy rainfall during Monday led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton Monday evening before the station failed. This level was well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently arriving at Lyons Bridge, with strong stream rises expected in the next few hours. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood.

Renewed stream rises have commenced in Lockyer Creek at Lyons Bridge with a peak between 16 and 16.5 metres expected Tuesday morning. This is likely to be similar in level to the 1996 flood.

BREMER RIVER:

The Bremer River at Walloon has exceeded the moderate flood level. The Bremer River at Rosewood peaked at 5.8 metres around midnight monday.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Warrill Creek at Amberley peaked at 5.98 metres around 9pm Monday.

MIDDLE AND LOWER BRISBANE:



Moderate flooding is developing at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres (minor) with the afternoon high tide on Tuesday. Reach about 3 metres (moderate) with the high tides on Wednesday.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 8am Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 12.68r	n steady 03:02 PM MON 10/01/11
Flagstone Ck at Brown-Zirbels Rd * 3.	49m falling 02:10 AM TUE 11/01/11
Sandy Creek at Sandy Creek Road #	2.15m falling 03:19 AM TUE 11/01/11
Ma Ma Ck at Harm's * 3.26m	
Tenthill Ck at Tenthill * 5.57m ris	ing 02:40 AM TUE 11/01/11
Lockyer Ck at Gatton # 18.92n	n rising 06:30 PM MON 10/01/11
Laidley Ck at Mulgowie * 6.39m	•
Laidley Ck at Laidley 8.7m fall	ing slowly 10:00 PM MON 10/01/11
Laidley Ck at Showground Weir # 7.	84m rising 03:25 AM TUE 11/01/11
Laidley Ck at Warrego Hwy * 6.41	m rising 02:00 AM TUE 11/01/11
Lockyer Ck at Glenore Grove # 13.	<u> </u>
Lockyer Ck at Lyons Br # 15.55	
Lockyer Ck at Rifle Range Rd * 15.3	
Lockyer Ck at O'Reilly's Weir # 18m	
Brisbane R at Lowood Pump Stn #	
	5.89m rising 03:29 AM TUE 11/01/11
	m rising 03:29 AM TUE 11/01/11
	rising 03:29 AM TUE 11/01/11
Brisbane R at Mt Crosby # 15.82	
Brisbane R at Mt Crosby # 14.08	•
Brisbane R at Colleges Crossing # 13	
	m falling 03:11 AM TUE 11/01/11
Bremer R at Five Mile Br Walloon # 6.	•
Warrill Ck at Greens Rd Amberley # 5	.84m falling 03:29 AM TUE 11/01/11



Bremer R at One Mile Br # 13.75m rising 03:31 AM TUE 11/01/11 Bremer R at Hancocks Br Brassall # 11.33m rising 03:22 AM TUE 11/01/11

Bremer R at Ipswich # 8.55m rising 03:31 AM TUE 11/01/11
Brisbane R at Moggill # 7.07m rising 03:29 AM TUE 11/01/11
Brisbane R at Jindalee Br # 4.5m rising 03:29 AM TUE 11/01/11
Brisbane R at City Gauge # 1.4m falling 03:15 AM TUE 11/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 9:28 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Continuing heavy rainfall in the Lockyer Creek catchment is causing very fast rises along Tenthill Creek.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge, with strong stream rises during Tuesday and levels of above 17 metres are forecast.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will increase levels in Brisbane during Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and moderate flood levels of 2.6 metres with the overnight high tide. Further rises to 3.5 metres (major) is expected with the high tide on Wednesday afternoon with higher levels likely on Thursday.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed along Tenthill Creek this morning. Renewed rises are likely in the lower catchment during Tuesday prolonging major flooding. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood. Renewed rises are likely at Glenore Grove today with a return to above 14 metres.

The main flood peak from Monday is currently approaching Lyons Bridge, with strong stream rises expected in the next few hours. A peak is expected above 17 metres at Lyons Bridge later today.

BREMER RIVER:

The Bremer River at Walloon has exceeded the moderate flood level. The Bremer River at Rosewood peaked at 5.8 metres around midnight Monday but renewed rises are expected as rainfall continues.

The Bremer River at Ipswich is expected to reach about 16 metres during Wednesday. Higher levels are expected.

WARRILL CREEK

Further rises are likely today as rainfall continues.



MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and moderate flood levels of 2.6 metres with the overnight high tide. Higher flood levels to 3.5 metres (major) are expected with the high tide on Wednesday afternoon. Levels above 3.5 metres are expected on Thursday.

(3.5 metres at the Brisbane City gauge is about 2.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach at least 16 metres (major) during Wednesday; further rises.

Moggill: Reach at least 15 metres (moderate) during Wednesday; further rises.

Jindalee: Reach at least 9 metres (moderate) late Wednesday; further rises.

Brisbane City: Reach about 2.6 metres (moderate) with the overnight high tide tonight. Reach 3.5 metres (major) with the high tides on Wednesday. Higher levels are expected on Thursday with the high tides.

(3.5 metres at the Brisbane City gauge is about 2 metres higher than the highest tide of the year at this location).

Further rises are expected at all four locations with continued rainfall.

Next Issue:

The next warning will be issued at about 3:30pm Tuesday.

Latest River Heights:

Flagstone Ck at Brown-Zirbels Rd * 3.53m rising 05:40 AM TUE 11/01/11 Sandy Creek at Sandy Creek Road # 2.9m rising 06:56 AM TUE 11/01/11 Ma Ma Ck at Harm's * 2.96m rising 05:40 AM TUE 11/01/11 Tenthill Ck at Tenthill * 5.57m rising 05:46 AM TUE 11/01/11 Laidley Ck at Mulgowie * 6.83m rising 05:00 AM TUE 11/01/11 Laidley Ck at Laidley 8.7m falling slowly 10:00 PM MON 10/01/11 Laidley Ck at Showground Weir * 8.74m rising 05:40 AM TUE 11/01/11 Laidley Ck at Warrego Hwy * 6.28m rising 05:00 AM TUE 11/01/11 Lockyer Ck at Glenore Grove # 13.48m rising 06:52 AM TUE 11/01/11 Lockyer Ck at Lyons Br # 16.09m rising 06:56 AM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 05:40 AM TUE 11/01/11 15.78m rising Brisbane R at Lowood Pump Stn # 16.21m rising 06:55 AM TUE 11/01/11 Brisbane R at Savages Crossing # 16.17m rising 06:53 AM TUE 11/01/11 Brisbane R at Burtons Br # 12.92m rising 06:50 AM TUE 11/01/11 Brisbane R at Mt Crosby # 06:36 AM TUE 11/01/11 16.23m rising Brisbane R at Colleges Crossing # 14.51m rising 06:57 AM TUE 11/01/11 Bremer R at Rosewood # 5.32m rising 06:41 AM TUE 11/01/11 Warrill Ck at Amberley DNR * 6.78m rising 05:20 AM TUE 11/01/11 Bremer R at Ipswich # 9.25m rising 06:50 AM TUE 11/01/11



Brisbane R at Moggill #
Brisbane R at Jindalee Br #
Brisbane R at City Gauge #

7.62m rising 4.75m rising 0.95m falling 06:45 AM TUE 11/01/11 06:26 AM TUE 11/01/11 06:30 AM TUE 11/01/11

*automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 3:24 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected with the overnight high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed. Major flooding will continue this evening throughout the catchment. Flood levels at Glenore Grove were at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood is expected to reach at least 7.6 metres during the next few hours.

The Bremer River at Ipswich is expected to reach about 22 metres during Wednesday. Higher levels are possible as rainfall continues.

WARRILL CREEK

Further rises are likely today as rainfall continues with major flooding from Kalbar to Amberley continuing. Levels at Amberley are expected to reach at least 7.5 metres overnight.

MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir with major flood levels exceeded overnight.



At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected tonight with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach at least 22 metres (major) during Wednesday; further rises.

Moggill: Reach at least 22 metres (moderate) during Wednesday; further rises.

Jindalee: Reach at least 14.2 metres (moderate) late Wednesday; further rises.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday.

Reach 4.5 metres (major) at 3pm Wednesday. Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about 7pm Tuesday.

Latest River Heights:

Tenthill Ck at Tenthill * 5.58m rising 02:30 PM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 9.26m rising 03:10 PM TUE 11/01/11 Laidley Ck at Warrego Hwy * 7.37m steady 02:00 PM TUE 11/01/11 Lockyer Ck at Glenore Grove # 15.24m rising 03:04 PM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 16.65m rising 02:20 PM TUE 11/01/11 Brisbane R at Savages Crossing * 20.48m rising 02:40 PM TUE 11/01/11 20.10m rising 03:20 PM TUE 11/01/11 Brisbane R at Mt Crosby # Brisbane R at Colleges Crossing # 15.41m rising 03:21 PM TUE 11/01/11 Bremer R at Rosewood # 7.48m rising 03:08 PM TUE 11/01/11 Bremer R at Walloon DERM * 9.85m rising 02:40 PM TUE 11/01/11 Warrill Ck at Amberley DNR * 8.09m rising 02:40 PM TUE 11/01/11 Bremer R at Ipswich # 12.05m rising 03:18 PM TUE 11/01/11 Brisbane R at Moggill # 10.22m rising 03:14 PM TUE 11/01/11 Brisbane R at Jindalee Br # 6.7m rising 03:11 PM TUE 11/01/11 Brisbane R at City Gauge # 1.9m rising 01:01 PM TUE 11/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 8:05 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected with the overnight high tide. Higher flood levels to about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed. Major flooding will continue this evening throughout the catchment. Flood levels at Glenore Grove were at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood has peaked at 7.5 metres around 5pm Tuesday.

The Bremer River at Ipswich is expected to reach around 21.5 metres during Wednesday.

WARRILL CREEK

Further rises are likely today as rainfall continues with major flooding from Kalbar to Amberley continuing. Levels at Amberley are expected to reach at least 8.0 metres overnight.



MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir with major flood levels exceeded overnight.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected tonight with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach about 21.5 metres (major) during Wednesday; further rises possible.

Moggill: Reach about 21 metres (moderate) during Wednesday; further rises possible.

Jindalee: Reach about 14.2 metres (moderate) late Wednesday; further rises possible.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday.

Reach about 4.5 metres (major) at 3pm Wednesday. Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about midnight Tuesday.

Latest River Heights:

Tenthill Ck at Tenthill * 5.05m falling 06:20 PM TUE 11/01/11 Laidley Ck at Mulgowie * 1.9m steady 08:50 AM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 9.24m falling 07:31 PM TUE 11/01/11 Laidley Ck at Warrego Hwy * 7.37m steady 06:00 PM TUE 11/01/11 Lockyer Ck at Glenore Grove # 15.26m rising 07:31 PM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 16.66m rising 05:30 PM TUE 11/01/11 Brisbane R at Savages Crossing * 21.67m rising 05:40 PM TUE 11/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 7.24m falling 07:29 PM TUE 11/01/11 Bremer R at Walloon DERM * 11.27m rising 06:00 PM TUE 11/01/11 Warrill Ck at Amberley DNR * 8.69m rising 05:40 PM TUE 11/01/11 Bremer R at Ipswich # 14.85m falling 07:33 PM TUE 11/01/11 Brisbane R at Moggill # 12.17m rising 07:32 PM TUE 11/01/11 Brisbane R at Jindalee Br # 7.95m rising 07:23 PM TUE 11/01/11 Brisbane R at City Gauge # 1.75m falling 06:57 PM TUE 11/01/11

Warnings and River Height Bulletins are available at

^{*,#} denotes an automatic station



http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 12:19 AM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected with the overnight high tide. Higher flood levels to about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

LOCKYER CREEK:

Major flooding will continue tonight in the Lockyer Creek catchment. Flood levels at Glenore Grove peaked at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level

The Lockyer Creek at Lyons Bridge peaked at 17.25 metres around 6pm Tuesday.

WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. Levels at Amberley are expected to reach at least 8.0 metres overnight.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood has peaked at 7.5 metres around 5pm Tuesday.

The Bremer River at Ipswich is expected to reach around 21.5 metres during Wednesday causing major flooding. This level is 0.8 metres higher than the 1974 flood peak at Ipswich.

MIDDLE AND LOWER BRISBANE:

Major flood levels have been exceeded at Savages Crossing and Mount Crosby Weir, with further rises expected overnight.



At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected tonight with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach about 21.5 metres (major) during Wednesday; further rises possible.

Moggill: Reach about 21 metres (moderate) during Wednesday; further rises possible.

Jindalee: Reach about 14.2 metres (moderate) late Wednesday; further rises possible.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday.
Reach about 4.5 metres (major) at 3pm Wednesday.
Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about 4am Wednesday.

Latest River Heights:

Tenthill Ck at Tenthill * 4.71m falling 09:20 PM TUE 11/01/11 Laidley Ck at Mulgowie * 1.9m steady 08:50 AM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 9.24m rising 11:28 PM TUE 11/01/11 Laidley Ck at Warrego Hwy * 7.37m steady 09:00 PM TUE 11/01/11 Lockyer Ck at Glenore Grove # 14.88m falling 11:38 PM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 16.64m steady 08:00 PM TUE 11/01/11 Brisbane R at Savages Crossing * 22.97m rising 08:40 PM TUE 11/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 6.76m falling 11:35 PM TUE 11/01/11 Bremer R at Walloon DERM * 11.07m falling 09:00 PM TUE 11/01/11 Warrill Ck at Amberley DNR * 08:40 PM TUE 11/01/11 9m rising Bremer R at Ipswich # 16.55m rising 11:36 PM TUE 11/01/11 Brisbane R at Moggill # 13.87m rising 11:32 PM TUE 11/01/11 Brisbane R at Jindalee Br # 9.2m rising 11:35 PM TUE 11/01/11 2.26m rising 11:33 PM TUE 11/01/11 Brisbane R at City Gauge #

^{*,#} automatic station



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:02 AM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street) rises are expected during Wednesday. River levels around 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

LOCKYER CREEK:

Major flooding will continue tonight in the Lockyer Creek catchment. Flood levels at Glenore Grove peaked at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level.

The Lockyer Creek at Lyons Bridge peaked at 17.25 metres around 6pm Tuesday.

WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. Levels at Amberley are expected to reach at least 8.0 metres overnight.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood has peaked at 7.5 metres around 5pm Tuesday.

The Bremer River at Ipswich is expected to reach around 21.5 metres during Wednesday causing major flooding. This level is 0.8 metres higher than the 1974 flood peak at Ipswich.

MIDDLE AND LOWER BRISBANE:

Major flooding is occuring along the Brisbane River from downstream of Wivenhoe dam to Jindalee, with further rises expected downstream of Savages Crossing during Wednesday.



Major flood levels have been exceeded at Savages Crossing, with a peak recorded early Wednesday morning.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres were recorded with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach about 21.5 metres (major) during Wednesday; further rises possible.

Moggill: Reach about 21 metres (moderate) during Wednesday; further rises possible.

Jindalee: Reach about 14.2 metres (moderate) late Wednesday; further rises possible.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday. Reach about 4.5 metres (major) at 3pm Wednesday.

Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about 8am Wednesday.

Latest River Heights:

Tenthill Ck at Tenthill * 3.03m steady 02:40 AM WED 12/01/11 Laidley Ck at Mulgowie * 1.9m steady 08:50 AM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 8.9m falling 03:25 AM WED 12/01/11 Laidley Ck at Warrego Hwy * 7.2m falling 02:00 AM WED 12/01/11 Lockyer Ck at Glenore Grove # 14.06m falling 03:26 AM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.59m falling 02:10 AM WED 12/01/11 Brisbane R at Savages Crossing * 24.13m rising 02:40 AM WED 12/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 6.28m falling 03:23 AM WED 12/01/11 Bremer R at Walloon DERM * 10.27m falling 02:00 AM WED 12/01/11 Warrill Ck at Amberley DNR * 9.13m steady 02:20 AM WED 12/01/11 Bremer R at Ipswich # 18.2m rising 03:19 AM WED 12/01/11 Brisbane R at Moggill # 15.37m rising 03:20 AM WED 12/01/11 Brisbane R at Jindalee Br # 10.35m rising 03:17 AM WED 12/01/11 Brisbane R at City Gauge # 3.01m rising 03:24 AM WED 12/01/11



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 7:33 AM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

At at 7:30am Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 3.1 metres and rising. Rises will continue during Wednesday and overnight.

At the Brisbane City gauge, river levels of about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 24 hours.

LOCKYER CREEK:

Major flooding will continue this morning in the Lockyer Creek catchment with levels expected to start falling significantly today. Flood levels at Glenore Grove peaked at 15.2 metres at 3pm Tuesday, which is 0.3 metres above the 1974 flood level.

The Lockyer Creek at Lyons Bridge peaked at 17.25 metres around 6pm Tuesday.

WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. A flood peak to just over 8 metres is occurring at Amberley this morning.

BREMER RIVER

Major flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich is expected to peak about 20.5 metres during Wednesday afternoon with major flooding. This is similar to the 1974 flood level.

MIDDLE AND LOWER BRISBANE:



Major flooding is rising from the Savages Crossing area to Jindalee along the Brisbane River.

At Savages Crossing, a major flood peak of 24.2 metres has been recorded early Wednesday morning, slightly above the 1974 peak level at this location.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres were recorded with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Predicted River Heights/Flows:

Ipswich: Peak about 20.5 metres (major) during Wednesday afternoon.

Moggill: Peak about 20 metres (moderate) during Wednesday afternoon.

Jindalee: Peak about 14.2 metres (moderate) by midnight.

Brisbane City: Reach about 4.5 metres (major) at 3pm Wednesday. Peak about 5.5 metres (major) during Thursday.

Next Issue:

The next warning will be issued at about noon Wednesday.

Latest River Heights:

Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 7.26m falling 06:01 AM WED 12/01/11 Laidley Ck at Warrego Hwy * 6.86m falling 05:00 AM WED 12/01/11 Lockyer Ck at Glenore Grove # 13.42m falling 06:01 AM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.55m falling 05:40 AM WED 12/01/11 Brisbane R at Savages Crossing * 23.85m falling 05:40 AM WED 12/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 5.9m falling 06:02 AM WED 12/01/11 Bremer R at Walloon DERM * 9.58m falling 05:40 AM WED 12/01/11 Warrill Ck at Amberley DNR * 9.2m rising 05:20 AM WED 12/01/11 Bremer R at Ipswich # 18.6m rising 05:53 AM WED 12/01/11 Brisbane R at Moggill # 16.27m rising 05:53 AM WED 12/01/11 Brisbane R at Jindalee Br # 11.1m rising 06:02 AM WED 12/01/11 Brisbane R at City Gauge # 3.10m rising 07:30 AM WED 12/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 7:56 AM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: At 7:30 am Wednesday, flood levels at Ipswich are at 19 metres and rising. A peak is expected this afternoon of about 20.5 metres. This is similar to the 1974 flood level.

BRISBANE: At 7:30am Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 3.1 metres and rising. Rises will continue during Wednesday and overnight.

At the Brisbane City gauge, river levels of about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 24 hours.

LOCKYER CREEK:

Major flooding will continue this morning in the Lockyer Creek catchment with levels expected to start falling significantly today. Flood levels at Glenore Grove peaked at 15.2 metres at 3pm Tuesday, which is 0.3 metres above the 1974 flood level.

The Lockyer Creek at Lyons Bridge peaked at 17.25 metres around 6pm Tuesday.

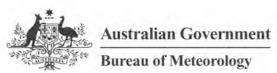
WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. A flood peak to just over 8 metres is occurring at Amberley this morning.

BREMER RIVER

Major flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich is expected to peak about 20.5 metres during



Wednesday afternoon with major flooding. This is similar to the 1974 flood level.

MIDDLE AND LOWER BRISBANE:

Major flooding is rising from the Savages Crossing area to Jindalee along the Brisbane River.

At Savages Crossing, a major flood peak of 24.2 metres has been recorded early Wednesday morning, slightly above the 1974 peak level at this location.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres were recorded with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Predicted River Heights/Flows:

Ipswich: Peak about 20.5 metres (major) during Wednesday afternoon.

Moggill: Peak about 20 metres (moderate) during Wednesday afternoon.

Jindalee: Peak about 14.2 metres (moderate) by midnight.

Brisbane City: Reach about 4.5 metres (major) at 3pm Wednesday. Peak about 5.5 metres (major) during Thursday.

Next Issue:

The next warning will be issued at about noon Wednesday.

Latest River Heights:

Tenthill Ck at Tenthill * 2.67m falling 06:00 AM WED 12/01/11 Laidley Ck at Mulgowie * 1.9m steady 08:50 AM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 6.56m falling 07:37 AM WED 12/01/11 Laidley Ck at Warrego Hwy * 6.75m falling 06:00 AM WED 12/01/11 Lockyer Ck at Glenore Grove # 13.04m falling 07:39 AM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.55m falling 05:40 AM WED 12/01/11 Brisbane R at Savages Crossing * 23.85m falling 05:40 AM WED 12/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 5.64m falling 07:38 AM WED 12/01/11 Bremer R at Walloon DERM * 9.53m falling 06:00 AM WED 12/01/11 Warrill Ck at Amberley DNR * 9.2m rising 05:20 AM WED 12/01/11 Bremer R at Ipswich # 18.85m rising 07:29 AM WED 12/01/11 Brisbane R at Moggill # 16.72m rising 07:38 AM WED 12/01/11 Brisbane R at Jindalee Br # 11.5m rising 07:41 AM WED 12/01/11 Brisbane R at City Gauge # 3.15m rising 07:39 AM WED 12/01/11

^{*}automatic station





Australian Government Bureau of Meteorology Queensland

by the Bureau of Meteorology, Brisbane.

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 11:56 AM on Wednesday the 12th of January 2011

IPSWICH: At 11:30 am Wednesday, flood levels at Ipswich are at 19.3 metres and

rising. A peak is expected this afternoon of about 20.5 metres. This is similar to the 1974 flood level.

BRISBANE: At 11:45am Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 3.75 metres and rising. Rises will continue during Wednesday afternoon and overnight.

At the Brisbane City gauge, river levels of about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 24 hours.

LOCKYER CREEK:

Major flooding will continue this morning in the Lockyer Creek catchment with levels expected to start falling significantly today.

WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. A flood peak to just over 8 metres is occurring at Amberley today.

BREMER RIVER

Major flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich is expected to peak about 20.5 metres during Wednesday afternoon with major flooding. This is similar to the 1974 flood level.

MIDDLE AND LOWER BRISBANE:



Major flooding is rising from the Savages Crossing area to Jindalee along the Brisbane River.

At Savages Crossing, a major flood peak of 24.2 metres has been recorded early Wednesday morning, slightly above the 1974 peak level at this location.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres were recorded with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with a peak of about 5.5 metres expected with the high tides at 4am and 4pm. Levels will remain high throughout Thursday. This is similar to the 1974 flood peak of 5.45 metres.

Predicted River Heights/Flows:

Ipswich: Peak about 20.5 metres (major) during Wednesday afternoon.

Moggill: Peak about 20 metres (moderate) during Wednesday afternoon.

Jindalee: Peak about 14.2 metres (moderate) by midnight.

Brisbane City: Reach about 4.5 metres (major) at 3pm Wednesday.

Peak about 5.5 metres (major) during Thursday. Fall below major flood level during Friday.

Next Issue:

The next warning will be issued at about 4pm Wednesday.

Latest River Heights:

Laidley Ck at Laidley 5.1m steady 08:45 AM WED 12/01/11 Laidley Ck at Showground Weir # 5.92m falling 11:34 AM WED 12/01/11 Laidley Ck at Warrego Hwy * 6.19m falling 10:00 AM WED 12/01/11 Lockyer Ck at Glenore Grove # 12.02m falling 11:36 AM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.5m falling 08:20 AM WED 12/01/11 Brisbane R at Savages Crossing * 23.25m falling 08:20 AM WED 12/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 5.08m falling 11:32 AM WED 12/01/11 Bremer R at Walloon DERM * 8.55m falling 10:30 AM WED 12/01/11 Warrill Ck at Amberley DNR * 9.25m steady 08:00 AM WED 12/01/11 Bremer R at Ipswich # 19.3m rising 11:27 AM WED 12/01/11 Brisbane R at Moggill # 17.42m rising 11:20 AM WED 12/01/11 Brisbane R at Jindalee Br # 12.25m rising 11:35 AM WED 12/01/11 Brisbane R at City Gauge # 3.7m rising 11:15 AM WED 12/01/11

^{*}automatic station





Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:29 PM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: At 4pm Wednesday, flood levels at Ipswich are at 19.4 metres and steady. Based on upstream peak levels, it is likely to peak at around current levels which will be maintained into this evening.

BRISBANE: At 4pm Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 4.3 metres and rising. Rises will continue during Wednesday afternoon and overnight.

At the Brisbane City gauge, river rises will continue this evening with a peak of about 5.2 metres expected with the high tide at 4am. Levels will remain high throughout Thursday.

This is below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly overnight.

LOCKYER CREEK:

Minor to major flooding will continue this afternoon in the Lockyer Creek catchment with levels expected to start falling significantly today.

WARRILL CREEK:

Major flooding continues from Kalbar to Amberley. A flood peak just over 8 metres occurred at Amberley today.

BREMER RIVER

Moderate to minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich is currently at 19.4 metres, and is expected to peak up to 19.5 metres during Wednesday evening with major flooding. This is around 1.2 metres below the 1974 flood level.

MIDDLE AND LOWER BRISBANE:

Major flooding is rising from the Moggill area to Brisbane City along the Brisbane River.



At Mount Crosby Weir, a major flood peak of 26.2 metres was recorded on Wednesday morning, slightly below the 1974 peak level at this location.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), flood levels reached 4.2 metres on the 3pm high tide with major flooding. River rises will continue this evening with a peak of about 5.2 metres expected with the high tide at 4am Thursday. This is slightly below to the 1974 flood peak of 5.45 metres. Levels will remain high throughout Thursday.

Predicted River Heights/Flows:

Ipswich: Peak around 19.5 metres (major) during Wednesday evening.

Moggill: Peak around 18.5 metres (major) during Wednesday afternoon.

Jindalee: Peak about 13 metres (major) by midnight.

Brisbane City: Peak about 5.2 metres (major) with the high tide at 4am Thursday.

Fall below major flood level during Friday.

Next Issue:

The next warning will be issued at about 8pm Wednesday.

Latest River Heights:

Laidley Ck at Showground Weir # 5.66m falling 03:10 PM WED 12/01/11 Laidley Ck at Warrego Hwy * 5.56m falling 02:00 PM WED 12/01/11 Lockyer Ck at Glenore Grove # 10.72m falling 03:11 PM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.29m rising 02:40 PM WED 12/01/11 Brisbane R at Savages Crossing * 20.62m falling 02:50 PM WED 12/01/11 Brisbane R at Colleges Crossing # 15.81m falling 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 4.7m falling 03:08 PM WED 12/01/11 Bremer R at Walloon DERM * 7.38m falling 02:40 PM WED 12/01/11 9.1m falling 02:40 PM WED 12/01/11 Warrill Ck at Amberley DNR * Bremer R at Ipswich # 19.4m rising 04:00 PM WED 12/01/11 Brisbane R at Moggill # 17.67m rising 03:11 PM WED 12/01/11 12.7m rising 03:11 PM WED 12/01/11 Brisbane R at Jindalee Br # Brisbane R at City Gauge # 4.3m rising 04:00 PM WED 12/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 8:11 PM on Wednesday the 12th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich peaked at 19.4 metres during Wednesday, and are beginning to fall. River levels are expected to continue falling into Thursday.

BRISBANE: At 8pm Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 4.2 metres.

At the Brisbane City gauge, river rises will continue this evening with a peak of about 5.2 metres expected with the high tide at 4am. Levels will remain high throughout Thursday.

This is below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Major flooding in the lower Lockyer Creek will continue easing tonight.

WARRILL CREEK:

Moderate to major flooding continues from Kalbar to Amberley, with flood levels now falling.

BREMER RIVER

Minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich peaked at 19.4 metres Wednesday afternoon, and is continuing to fall. This peak was around 1.3 metres below the 1974 flood level.

MIDDLE AND LOWER BRISBANE:

Major flooding is rising from the Moggill area to Brisbane City along the Brisbane River.

At Mount Crosby Weir, a major flood peak of 26.2 metres was recorded on Wednesday morning, slightly below the 1974 peak level at this location.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. This was about 2 metres below the 1974 peak at this location.



At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), flood levels reached 4.2 metres on the 3pm high tide with major flooding. River rises will continue this evening with a peak of about 5.2 metres expected with the high tide at 4am Thursday. This is slightly below to the 1974 flood peak of 5.45 metres. Levels will remain high throughout Thursday.

Predicted River Heights/Flows:

Jindalee: Peak about 13 metres (major) by midnight.

Brisbane City: Peak about 5.2 metres (major) with the high tide at 4am Thursday.

Fall below major flood level during Friday.

Next Issue:

The next warning will be issued at about midnight Wednesday.

Latest River Heights:

Laidley Ck at Showground Weir # 5.46m falling 07:37 PM WED 12/01/11 Laidley Ck at Warrego Hwy * 5.2m falling 05:00 PM WED 12/01/11 Lockyer Ck at Glenore Grove # 9.38m falling 07:37 PM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 16.15m falling 05:40 PM WED 12/01/11 Brisbane R at Savages Crossing * 19.52m falling 05:40 PM WED 12/01/11 Bremer R at Rosewood # 4.32m falling 07:26 PM WED 12/01/11 Bremer R at Walloon DERM * 6.52m falling 05:40 PM WED 12/01/11 Warrill Ck at Amberlev DNR * 8.84m falling 05:40 PM WED 12/01/11 Bremer R at Ipswich # 19.05m falling 08:00 PM WED 12/01/11 Brisbane R at Moggill # 17.52m falling 07:20 PM WED 12/01/11 Brisbane R at Jindalee Br # 12.9m rising 07:35 PM WED 12/01/11 4.2m steady 08:00 PM WED 12/01/11 Brisbane R at City Gauge #



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 12:27 AM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich peaked at 19.4 metres during Wednesday, and are beginning to fall. River levels are expected to continue falling into Thursday.

BRISBANE: At 10pm Wednesday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 4.2 metres following the high tide. Renewed rises with the tide are expected, with a peak under 5 metres expected with the high tide at 4am. Levels will remain high throughout Thursday.

This is below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Major flooding in the lower Lockyer Creek will continue easing into Thursday.

WARRILL CREEK:

Moderate to major flooding continues from Kalbar to Amberley, with flood levels now falling.

BREMER RIVER

Minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich peaked at 19.4 metres Wednesday afternoon, and is continuing to fall. This peak was around 1.3 metres below the 1974 flood level.

MIDDLE AND LOWER BRISBANE:

Major flooding continues from the Mount Crosby area to Brisbane City along the Brisbane River.

At Mount Crosby Weir, a major flood peak of 26.2 metres was recorded on Wednesday morning, slightly below the 1974 peak level at this location.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. This was about 2 metres below the 1974 peak at this location.

At Jindalee, a peak of 13 metres was observed at about 7pm Wednesday.



At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), flood levels reached 4.2 metres on the 3pm high tide with major flooding. River rises will continue with a peak under 5 metres expected with the high tide about 4am Thursday. This is below the 1974 flood peak of 5.45 metres. Levels will remain high throughout Thursday.

Predicted River Heights/Flows:

Brisbane City: Peak under 5 metres (major) with the high tide at 4am Thursday.

Fall below major flood level by Friday.

Next Issue:

The next warning will be issued at about 4am Thursday.

Latest River Heights:

Laidley Ck at Laidley 5.1m steady 08:45 AM WED 12/01/11 Laidley Ck at Showground Weir # 5.36m falling 10:31 PM WED 12/01/11 Laidley Ck at Warrego Hwy * 4.85m falling 10:00 PM WED 12/01/11 Lockyer Ck at Glenore Grove # 8.68m falling 11:28 PM WED 12/01/11 Lockyer Ck at Rifle Range Rd * 15.96m falling 08:40 PM WED 12/01/11 Brisbane R at Savages Crossing * 18.48m falling 08:40 PM WED 12/01/11 Bremer R at Rosewood # 4.1m steady 11:26 PM WED 12/01/11 Bremer R at Walloon DERM * 5.59m falling 10:00 PM WED 12/01/11 Warrill Ck at Amberlev DNR * 8.48m falling 08:40 PM WED 12/01/11 Bremer R at Ipswich # 18.55m falling 11:34 PM WED 12/01/11 17.02m falling 11:29 PM WED 12/01/11 Brisbane R at Moggill # Brisbane R at Jindalee Br # 12.75m falling 11:23 PM WED 12/01/11 Brisbane R at City Gauge # 4.25m rising 11:45 PM WED 12/01/11



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 3:52 AM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich are falling strongly, and have fallen below 18 metres around 3am Thursday. River levels will continue falling during Thursday, and drop below major flood level later Thursday.

BRISBANE: At 3:30am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 4.45 metres and rising with the high tide. A peak slightly above this level is expected in the next few hours.

This is below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Major flooding in the lower Lockyer Creek will continue easing during Thursday.

WARRILL CREEK:

Moderate to major flooding continues from Kalbar to Amberley, with flood levels now falling.

BREMER RIVER

Minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich is falling strongly, and has fallen below 18 metres at around 3am Thursday. River levels will continue falling during Thursday.

MIDDLE AND LOWER BRISBANE:

Major flooding continues along the Brisbane River from the Mount Crosby area to Brisbane City.

At Mount Crosby Weir, a major flood peak of 26.2 metres was recorded on Wednesday morning, slightly below the 1974 peak level at this location.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. This was about 2 metres below the 1974 peak at this location.

At Jindalee, a peak of 13 metres was observed at about 7pm Wednesday.



At 3:30am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) was 4.45 metres and rising with the high tide. A peak slightly above this level is expected in the next few hours.

Predicted River Heights/Flows:

Brisbane City: Peak around 4.6 metres (major) with the high tide about 4am Thursday.

Fall below major flood level by Friday.

Next Issue:

The next warning will be issued at about 8am Thursday.

Latest River Heights:

Tenthill Ck at Tenthill * 1.74m falling 02:00 AM THU 13/01/11 Laidley Ck at Laidley 5.1m steady 08:45 AM WED 12/01/11 Laidley Ck at Showground Weir # 5.32m falling 03:25 AM THU 13/01/11 Laidley Ck at Warrego Hwy * 4.68m falling 02:00 AM THU 13/01/11 Lockyer Ck at Glenore Grove # 8.2m falling 03:15 AM THU 13/01/11 15.06m falling 02:40 AM THU 13/01/11 Lockyer Ck at Rifle Range Rd * Brisbane R at Savages Crossing * 16.7m falling 02:40 AM THU 13/01/11 Bremer R at Rosewood # 3.92m falling 03:14 AM THU 13/01/11 Bremer R at Walloon DERM * 5.01m falling 02:00 AM THU 13/01/11 Warrill Ck at Amberley DNR * 7.71m falling 02:40 AM THU 13/01/11 Bremer R at Ipswich # 17.85m falling 03:16 AM THU 13/01/11 Brisbane R at Moggill # 16.27m falling 03:14 AM THU 13/01/11 Brisbane R at Jindalee Br # 12.45m falling 02:59 AM THU 13/01/11 4.45m rising 02:57 AM THU 13/01/11 Brisbane R at City Gauge #



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 8:40 AM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich are falling and have fallen below 17 metres at 8am Thursday. River levels will drop below major flood level overnight.

BRISBANE: At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. At 8am Thursday, the Brisbane City gauge was 4.2 metres and falling. A return to flood levels of around 4.2 metres is expected with the high tide at 4pm Thursday.

The flood peak was below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Major flooding in the lower Lockyer Creek will continue easing during Thursday.

WARRILL CREEK:

Moderate flooding continues from Kalbar to Amberley, with flood levels now falling.

BREMER RIVER

Minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich has fallen below 17 metres at 8am Thursday. River levels will continue falling during Thursday with levels of about 15 metres

MIDDLE AND LOWER BRISBANE:

Major flooding continues along the Brisbane River from the Mount Crosby area to Brisbane City.

At Savages Crossing, a major flood peak of 24.1 metres was recorded on Wednesday morning, slightly higher than the 1974 peak level (23.8m) at this location.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. Flood levels of around 14.5 metres are expected by 4pm Thursday.

At Jindalee, a peak of 13 metres was observed at about 7pm Wednesday. Flood levels of around 11 metres are expected by around 4pm Thursday.

At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. Flood levels will recede this morning before rising again to around 4.2 metres with the high tide at 4pm today. Flood levels of around 3.1 metres



Predicted River Heights/Flows:

Ipswich: Fall to around 15 metres by 4pm Thursday, then about 11 metres by 5am Friday.

Moggill: Fall to about 14.5 metres by 4pm Thursday, then about 10 metres by 5am Friday.

Jindalee: Fall to about 11 metres by 4pm Thursday, then about 6 metres by 5am Friday.

Brisbane City: Fall this morning before rising again with the tide to around 4.2 metres by 4pm, then about 3.2 metres with the 5am high tide on Friday.

Next Issue:

The next warning will be issued at about 1pm Thursday.

Latest River Heights:

Laidley Ck at Laidley 5.1m steady 08:45 AM WED 12/01/11 Laidlev Ck at Showground Weir # 5.26m falling 06:19 AM THU 13/01/11 Laidley Ck at Warrego Hwy * 4.57m falling 06:00 AM THU 13/01/11 Lockyer Ck at Glenore Grove # 7.84m falling 07:39 AM THU 13/01/11 Lockyer Ck at Rifle Range Rd * 14.46m falling 05:40 AM THU 13/01/11 Brisbane R at Savages Crossing * 16.06m rising 05:40 AM THU 13/01/11 Bremer R at Rosewood # 3.74m falling 07:17 AM THU 13/01/11 Bremer R at Walloon DERM * 4.59m falling 06:00 AM THU 13/01/11 Warrill Ck at Amberlev DNR * 7.39m falling 05:40 AM THU 13/01/11 Bremer R at Ipswich # 16.9m falling 07:35 AM THU 13/01/11 Brisbane R at Moggill # 15.27m falling 07:41 AM THU 13/01/11 Brisbane R at Jindalee Br # 11.85m falling 07:32 AM THU 13/01/11 4.26m falling 07:24 AM THU 13/01/11 Brisbane R at City Gauge #

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 12:57 PM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich are falling and have fallen below 17 metres at 8am Thursday. River levels will drop below major flood level overnight.

BRISBANE: At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. At noon Thursday, the Brisbane City gauge was 3.91 metres steady. A return to flood levels of around 4.2 metres are expected with the high tide at 4pm Thursday.

The flood peak was below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Major flooding in the lower Lockyer Creek will continue easing during Thursday.

WARRILL CREEK:

Moderate flooding continues from Kalbar to Amberley, with flood levels now falling.

BREMER RIVER

Minor flooding is easing along the Bremer River from Rosewood to Walloon.

The Bremer River at Ipswich has fallen below 17 metres at 8am Thursday. River levels will continue falling during Thursday with levels of about 15 metres

MIDDLE AND LOWER BRISBANE:

Major flooding continues along the Brisbane River from the Mount Crosby area to Brisbane City.

At Savages Crossing, a major flood peak of 24.1 metres was recorded on Wednesday morning, slightly higher than the 1974 peak level (23.8m) at this location.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. Flood levels of around 10 metres are expected by 5am Friday.

At Jindalee, a peak of 13 metres was observed at about 7pm Wednesday. Flood levels of around 11 metres are expected by around 4pm Thursday.

At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. Flood levels will rise again to around 4.2 metres with the high tide at 4pm today. Flood levels of around 3.2 metres are expected with the high tide at 5am Friday.



Predicted River Heights/Flows:

Ipswich: Fall to around 15 metres by 4pm Thursday, then about 11 metres by 5am Friday.

Moggill: Fall to about 14.5 metres by 4pm Thursday, then about 10 metres by 5am Friday.

Jindalee: Fall to about 11 metres by 4pm Thursday, then about 6 metres by 5am Friday.

Brisbane City: Rise again this afternoon with the tide to around 4.2 metres by 4pm, then about 3.2 metres with the 5am high tide on Friday.

Next Issue:

The next warning will be issued at about 6pm Thursday.

Latest River Heights:

Tenthill Ck at Tenthill * 1.58m falling 11:00 AM THU 13/01/11 Laidley Ck at Showground Weir # 5.22m falling 12:19 PM THU 13/01/11 Laidley Ck at Warrego Hwy * 4.47m falling 11:00 AM THU 13/01/11 Lockyer Ck at Glenore Grove # 7.44m falling 12:35 PM THU 13/01/11 Lockyer Ck at Rifle Range Rd * 13.14m falling 11:40 AM THU 13/01/11 Brisbane R at Savages Crossing * 15.01m rising 11:30 AM THU 13/01/11 Bremer R at Rosewood # 3.52m falling 12:35 PM THU 13/01/11 Bremer R at Walloon DERM * 4.26m falling 11:00 AM THU 13/01/11 Warrill Ck at Amberlev DNR * 6.89m falling 11:40 AM THU 13/01/11 Bremer R at Ipswich # 15.6m falling 12:37 PM THU 13/01/11 Brisbane R at Moggill # 14.02m falling 12:41 PM THU 13/01/11 Brisbane R at Jindalee Br # 10.95m falling 12:26 PM THU 13/01/11 3.9m falling 12:03 PM THU 13/01/11 Brisbane R at City Gauge #

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 5:41 PM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich fell below 15 metres at 3pm Thursday. River levels will fall below major flood level overnight.

BRISBANE: At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. At 5pm Thursday the Brisbane City gauge was 3.6 metres and falling, and will continue to fall during Thursday evening.

The flood peak was below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Moderate flooding in the lower Lockyer Creek will continue easing during Thursday evening.

WARRILL CREEK:

Moderate flooding continues from Harrisville to Amberley, with flood levels falling steadily.

BREMER RIVER

The Bremer River from Rosewood to Walloon continues to fall and is now below minor flood level

Major flood levels in the Bremer River at Ipswich continue to fall. The level at Ipswich passed through 15 metres at 2:45 pm Thursday and will fall below major flood level overnight Thursday.

MIDDLE AND LOWER BRISBANE:

Moderate to major flooding continues along the Brisbane River from the Mount Crosby area to Brisbane City.

At Moggill, a peak of 17.9 metres was observed during Wednesday afternoon. Flood levels of around 11 metres are expected by 5am Friday.

The flood level at Jindalee at 5:30pm Thursday was 9.9 metres and continuing to fall.

At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. Flood levels had dropped to 3.75 metres with the high tide at 4pm Thursday. Flood levels of around 3 metres are expected with the high tide at 5am Friday.



Predicted River Heights/Flows:

Ipswich: Fall to around 12 metres by 5am Friday.

Moggill: Fall to about 11 metres by 5am Friday.

Jindalee: Fall to about 7 metres by 5am Friday.

Brisbane City: Fall to about 3 metres with the 5am high tide on Friday.

Next Issue:

The next warning will be issued at about 10pm Thursday.

Latest River Heights:

Tenthill Ck at Tenthill * 1.47m falling 04:00 PM THU 13/01/11 Laidley Ck at Showground Weir # 5.16m falling 05:16 PM THU 13/01/11 Laidley Ck at Warrego Hwy * 4.43m steady 04:00 PM THU 13/01/11 Lockyer Ck at Glenore Grove # 7.12m falling 05:19 PM THU 13/01/11 Lockyer Ck at Rifle Range Rd * 12.54m falling 02:40 PM THU 13/01/11 Brisbane R at Savages Crossing * 14.5m falling 02:30 PM THU 13/01/11 Bremer R at Rosewood # 3.36m falling 05:17 PM THU 13/01/11 Bremer R at Walloon DERM * 4.03m falling 04:00 PM THU 13/01/11 Warrill Ck at Amberley DNR * 6.69m falling 02:40 PM THU 13/01/11 Bremer R at Ipswich # 14.2m falling 05:22 PM THU 13/01/11 Brisbane R at Moggill # 12.77m falling 05:20 PM THU 13/01/11 Brisbane R at Jindalee Br # 9.95m falling 05:14 PM THU 13/01/11 Brisbane R at City Gauge # 3.61m falling 05:24 PM THU 13/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

INCLUDING BRISBANE CITY

Issued at 10:06 PM on Thursday the 13th of January 2011 by the Bureau of Meteorology, Brisbane.

IPSWICH: Flood levels at Ipswich fell below 13 metres at 9pm Thursday. River levels will fall below the major flood level (11.7 metres) Friday morning.

BRISBANE: At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. At 9pm Thursday the Brisbane City gauge was 3.06 metres and falling, and will continue to fall overnight Thursday.

The flood peak was below the 1974 flood peak of 5.45 metres as releases at Wivenhoe Dam were reduced quickly during Tuesday night.

LOCKYER CREEK:

Minor flooding in the lower Lockyer Creek will continue easing overnight Thursday.

WARRILL CREEK:

Minor to moderate flooding continues from Harrisville to Amberley, with flood levels falling steadily.

BREMER RIVER:

Major flood levels in the Bremer River at Ipswich continue to fall. The level at Ipswich passed through 13 metres at 9pm Thursday and will fall below major flood level (11.7 metres) Friday morning.

MIDDLE AND LOWER BRISBANE:

Moderate flooding continues along the Brisbane River from the Mount Crosby area to Brisbane City.

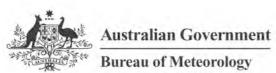
At Moggill, minor flood levels of around 11 metres are expected by 5am Friday.

The flood level at Jindalee at 9:30pm Thursday was 9 metres and continuing to fall with moderate flooding.

At 4am Thursday, the Brisbane City gauge (lower end of Edward Street and at Thornton Street) peaked at 4.46 metres. Flood levels of around 2.8 metres are expected with the high tide at 5am Friday.

Predicted River Heights/Flows:

Ipswich: Fall to around 12 metres by 5am Friday. Fall to about 9.5 metres on the 5pm Friday high tide.



Moggill: Fall to about 11 metres by 5am Friday. Fall to about 9.5 metres on the 5pm Friday high tide.

Jindalee: Fall to about 7 metres by 5am Friday. Fall to about 6 metres on the 5pm Friday high tide.

Brisbane City: Fall to about 2.8 metres with the 5am high tide on Friday. Fall below the moderate flood level (2.6 metres) by 5pm Friday with the high tide.

Next Issue:

The next warning will be issued at about 7am Friday.

Latest River Heights:

Tenthill Ck at Tenthill * 1.42m falling 08:00 PM THU 13/01/11 Laidley Ck at Showground Weir # 5.12m steady 08:52 PM THU 13/01/11 Laidley Ck at Warrego Hwy * 4.43m steady 08:00 PM THU 13/01/11 Lockyer Ck at Glenore Grove # 6.86m falling 09:29 PM THU 13/01/11 Lockyer Ck at Rifle Range Rd * 11.29m falling 08:40 PM THU 13/01/11 Brisbane R at Savages Crossing * 14.26m rising 08:30 PM THU 13/01/11 Bremer R at Rosewood # 3.26m falling 09:11 PM THU 13/01/11 Bremer R at Walloon DERM * 3.89m falling 08:00 PM THU 13/01/11 Warrill Ck at Amberley DNR * 6.36m falling 08:40 PM THU 13/01/11 Bremer R at Ipswich # 12.85m falling 09:40 PM THU 13/01/11 Brisbane R at Moggill # 11.62m falling 09:35 PM THU 13/01/11 Brisbane R at Jindalee Br # 8.95m falling 09:32 PM THU 13/01/11 Brisbane R at City Gauge # 3.01m falling 09:24 PM THU 13/01/11

^{*.#} from automatic station



Appendix E

Report on the Meteorology of the rainfall associated with the December 2010 – January 2011 floods across Queensland

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Report on the meteorological conditions for the Queensland Floods: December 2010 – January 2011.

This Appendix is a supporting document for the Bureau of Meteorology Submission to the Commission of Inquiry. So that its stands as a self-contained document, in some parts it duplicates figures and discussion from the main submission

1. Overview of Queensland rainfall during December 2010 and January 2011

The state-wide flooding across Queensland during December 2010 and January 2011 consisted of a number of different types of rainfall and flooding events.

Event one: 28 November through 22 December 2010. The first three weeks of December were characterised by a continuous sequence of large-scale rainfall events occurring across the state. While no individual event in this period was unusual for the time of year, the cumulative effect was one of record rainfall for the month. This sequence of heavy December rain followed immediately after four prior months of record state-wide rainfall. Thus the catchments were already wet with high levels of flow. The added rainfall over the state led to many rivers having high flood levels.

Event Two: 23 December through 28 December 2010. This sequence of six days was one of record rainfall across Queensland. This was a large scale rainfall event with more than 200 mm falling over central eastern Queensland and extending up the coast as far as Cairns. Falls exceeded 400 mm in many parts of the State. The rains from 23 to 28 December resulted in exceptional flooding in many parts of central and southern Queensland with many rivers reaching record levels. Properties were inundated in at least 17 towns in Queensland and adjacent border areas of New South Wales, with the largest impacts in the towns of Theodore, Dalby, Chinchilla, Emerald, Bundaberg and Rockhampton. The most widespread intense rainfall was on the 27th, where a number of stations in the Carnarvon Range area set

all-time daily records with daily totals in excess of 200 mm, peaking at 273.6 mm at Carnarvon Station. Except for the southeast coastal fringe south of Maryborough, almost every river in Queensland that is south of the Tropic of Capricorn and east of Charleville and Longreach reached major flood level at some stage during the period from 26 November to 7 January, mostly between 23 December and 4 January.

Event Three: 10-12 January 2011. The flooding of the cities of Ipswich and Brisbane. The rainfall over these three days was responsible for the flooding of the cities of Ipswich and Brisbane. This is a different type of rainfall event with the major rain system having a scale of only several hundred kilometres, in this case over a concentrated region of southeastern Queensland. Despite the regional scales of the rainfall, it occurred in the location of the catchments feeding the Brisbane River.

Event Four: The flash floods in Toowoomba and the Lockyer Valley on 10 January 2011 (a subset of Event three). A flash flood is a small scale weather event, occurring on the scale of an individual thunderstorm complex. It is generally caused by heavy rainfall of the order of 50 to 200 mm occurring over a period of one to 2 hours from a single slow moving thunderstorm or by a series of thunderstorms affecting a single location. It occurs over regions with topography that channels the runoff from the rainfall into local creek and river systems, leading to flooding occurring with hours of the rain falling. Intense rainfall of 60 mm in one hour was measured at the Toowoomba automatic weather station.

2. Large scale meteorological reasons for the state-wide flooding

Heavy rainfall in prior months

A major contributor to the December and January floods across the state is the record rainfall that occurred through the preceding four months. This is illustrated in the sequence of maps shown in Figure 1. The figure shows for each individual month from August through December the area of the State receiving more than twice the long-term average rainfall for that calendar month. As can be seen large areas of state received double the normal rainfall in each of this sequence of five months. Of particular note is the month of September 2010 for which most of the state received more than four times the normal rainfall for that time of year.

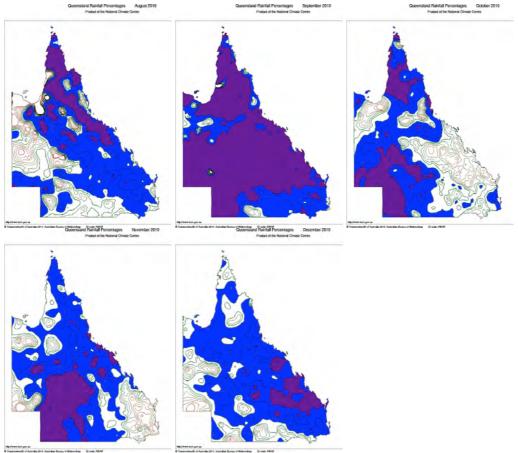


Figure 1. The region of the state of Queensland receiving more than twice its normal rainfall (blue) and more than four times it normal rainfall (purple) for that calendar month, for the sequence August through December 2010.

Record rainfalls occurred in many locations across the state during the period of major flooding, that is during December and January. Averaged across the state, it was the wettest December on record. Figure 2 shows a decile representation of the rainfall during December 2010 (left) and January 2011 (right). The December figure shows large regions of the state with highest on record rainfall and almost the entire state above the 8th decile, i.e., in the top 20% of all Decembers for rainfall totals. In contrast, the high decile rainfalls in January are mainly in the southwest and southeast corners of the state, signifying the different characters to the flooding events in the two months.

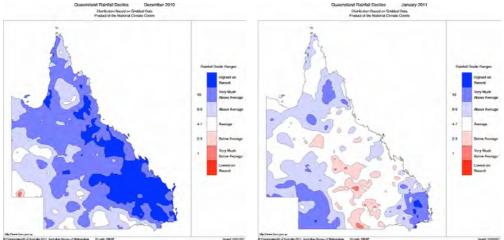


Figure 2. Queensland rainfall during December 2010 (left) and January 2011 (right) expressed as deciles. The light blue shading (deciles 8 – 10) signifies the region is in the upper 20 percent of rainfall for all Decembers (Januaries) in the historic record. The dark blue shading signifies a region where the rainfall was highest on record for that location for that calendar month.

The monsoon or wet season

Heavy rainfall is not unusual over Queensland in the summer months, as the state experiences a "monsoonal climate" with a summer wet season and winter dry season. The large rain accumulation that can occur in the wet season is shown in the left hand panel of Fig. 3 which is the 80th percentile December rainfall for Queensland, meaning the rain occurring for the top 20 percent of years at each location. As can be seen over the eastern and northern two thirds of the State, one in five Decembers have more than 100 mm monthly rainfall. This heavy climatological rainfall leads to regular seasonal flooding for many of the state's rivers. This is shown in Fig. 4 which shows peak river height for the past six Januaries. The last panel for January 2011 shows the extent and severity of flooding for the 2011 event. The other 5 panels, however, make the point that major flooding across the state is part of the background climatology at this time of year.

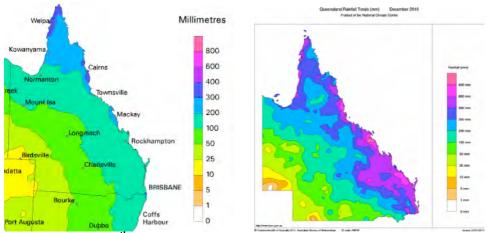


Figure 3. The 80th percentile December rainfall for Queensland (left) and the rainfall totals during December 2010 (right).

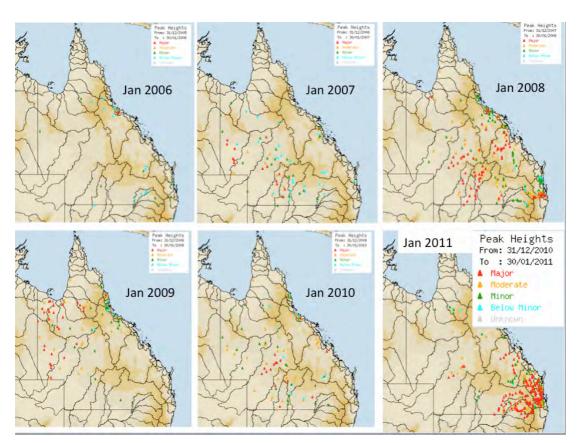


Figure 4. Peak river heights for the month of January for each of the past six years.

Northern Australian rainfall is influenced by the Australian monsoon. This is part of the global monsoon system whereby the inter-tropical convergence zone (ITCZ) or global belt of heavy equatorial rainfall is located over northern Australia. A characteristic feature of a monsoon is that it experiences "active" and "break" monsoon phases. When the monsoon is active, the circulation is characterised by a

monsoon trough, which is a region of low pressure with easterly trade winds to the south and monsoonal westerly winds to the northern (equatorward) side. Figure 5 depicts an active monsoon trough across northern Australia on 25 December 2010, a day of major large scale rainfall across Queensland during the 2010-11 statewide flooding event.

The strength of the north Australian monsoon is monitored through the strength of the westerly component of the 850 hPa wind at Darwin. By this measure there was an active monsoon from 20 December through all of January. Thus, the active monsoon contributed directly to events two and three.

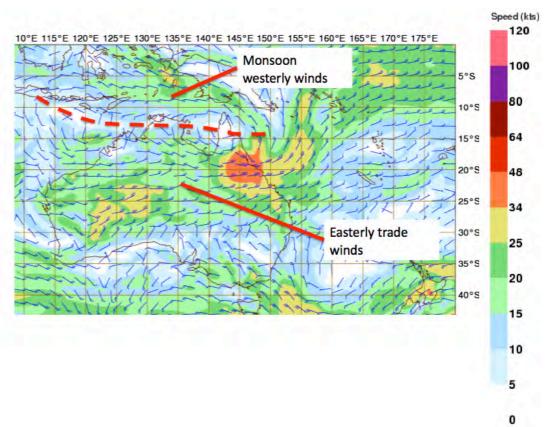


Figure 5 Wind flow at the 850 hPa pressure level (approximately 1.5 km above sea level) on 25 December 2010. The dashed line shows the location of the monsoon trough across Northern Australia, separating monsoon westerlies from trade-wind easterlies.

The La Niña event

When meteorological records occur, it is normal to inspect anomaly maps of the surface pressure and upper level winds to investigate the structure and large scale

patterns of the weather event. Figure 6 shows the anomaly from the long-term mean of mean sea level pressure during the period 15 December 2010 to 15 January 2011. As can be seen the period was characterised by a very large scale low pressure anomaly covering northern Australia, and extending across the Indian Ocean and northward through Indochina. A large region of anomalously high pressure is seen over the eastern Pacific Ocean. This large scale structure characterises a La Niña event, which is part of the global phenomenon known as El Niño Southern Oscillation, or ENSO. The ENSO phenomenon has two major phases: *El Niño* which normally brings drought to Australia, and *La Niña* which normally brings above normal rainfall to Australia.

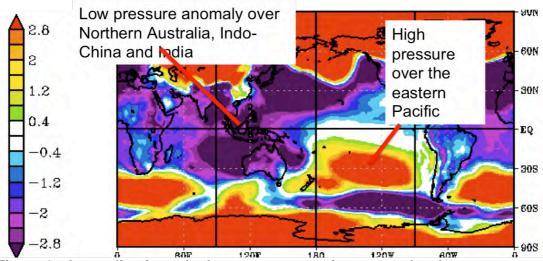


Figure 6. Anomalies from the long-term mean of mean sea level pressure over the 30 days from 17 December 2010 to 15 January 2011. The very large scale of the pressure anomalies represents the pressure pattern of a La Niña event.

The index used by the Bureau of Meteorology to monitor ENSO is the Southern Oscillation Index, or SOI. This is a normalised pressure difference that is proportional to the pressure anomaly at Tahiti minus the pressure anomaly at Darwin. Figure 7 shows the Southern Oscillation Index over the past four years. As can be seen the index is positive through all of the year 2010, indicating a La Niña. It is noted that the SOI is a slowly varying index, such that El Niño and La Niña events last of the order of 9 months or more. The fact that it varies so slowly combined with the large scale of the pressure patterns (Figure 6) is the primary reason it exerts a control over rainfall over a period of several months.

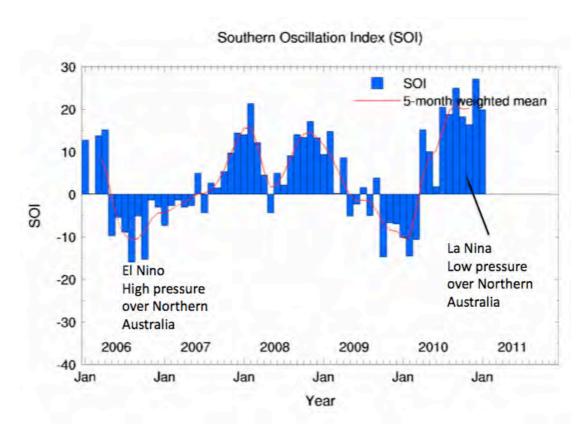


Figure 7. Time series of the Southern Oscillation Index (SOI) over recent years, showing the current La Niña.

It is well established that the ENSO phenomenon is the major control of Australian drought years and flood years, though other phenomena do play a part. Besides the current La Niña event, previous strong La Niña events, such as those of 1973/74 and 1955, have also been associated with widespread and severe flooding in eastern Australia. In particular the previous occasion the Brisbane River reached record flood levels was during the 1973/1974 La Niña.

Despite the fact ENSO exerts a large influence on Australian rainfall, the mechanisms through which it does the modulation are not completely understood. One physically intuitive mechanism is through ENSO's impact on sea surface temperature in the Australian region. Through the principle of thermodynamic equilibrium between the atmosphere and ocean, higher sea surface temperatures lead to higher water vapour contents in the vertical column of atmosphere above. Thus when sea surface temperatures in a region are high, weather systems in that region operate on an atmosphere containing more water vapour and so higher rainfalls are produced. The opposite is true for colder sea surface temperatures, leading to lower rainfall.

The Sea surface temperature anomaly pattern (departure from long term mean) for December 2010 is shown in Figure 8. The major feature is the anomaly pattern characteristic of the La Niña event. This consists of a large wedge-shaped region of cold sea surface temperature along the equator and in the eastern and central parts of the Pacific. To the west, marked by a red line, is a "boomerang-shaped" anomaly pattern of opposite sign. Thus in a El Niño, the boomerang region is cold bringing less rainfall to Australia. During a la Niña, as in December 2010, the sea surface temperatures in the boomerang region are above normal, and are associated with and possibly the major cause of the increased rainfall. It is noteworthy that the temperatures of the global oceans have been increasing steadily over recent decades in response to global warming. This effect is added to the characteristic warm anomaly associated with the La Niña. As a result of the superposition (global warming plus La Niña), sea surface temperatures surrounding Northern Australia in December 2010 were the highest for all years of record.

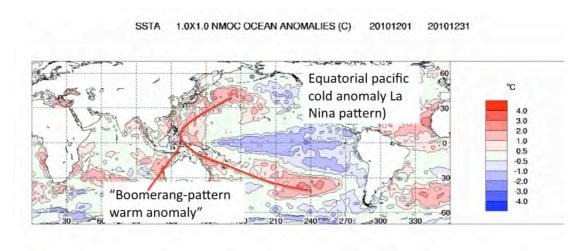


Figure 8. Global sea surface temperature anomalies for December 2010.

The Madden Julian Oscillation

The major global weather pattern influencing tropical rainfall on the time scale below that of the seasons is a phenomenon known as the Madden Julian Oscillation (MJO). The MJO varies on a time scale of several weeks. Development in the Bureau of Meteorology by Wheeler and Hendon has led to the development of an index of the MJO which is now used globally to monitor its activity. When the MJO is in phases 4, 5 and 6 (out of a possible 8) it enhances the strength of the Australian monsoon and brings an increased probability of high rainfall across northern Australia. The

MJO spanned an active phase (4 and 5) during the period 3 to 14 December 2010. Thus upward motion in the ITCZ and monsoon trough during the first event (28 November through 22 December) was enhanced by the MJO. The active (phase 6) MJO from 9 January 2011 onwards may also have influenced event 3, the Brisbane flood event.

3. Types of weather system present during the December-January rain events

For large scale heavy rainfall to occur in the Australian tropics, two fundamental ingredients are required. The first is a source of high moisture content air. This requires weather systems or flow patterns that bring in moist air from the equatorial oceans over the region. The second ingredient is a source of upward motion to cause condensation. This brought about by the structure or dynamics of the weather system.

The major weather systems affecting Queensland during December 2010 and January 2011 will be described in the following sections. The discussion is easier if first we establish a terminology by defining the major weather systems involved. The major role of these weather systems is usually to provide the second ingredient, a source of upward motion over a region of the atmosphere.

Upper Level Troughs

The most common source of vertical motion is an upper level trough in the circumpolar westerlies between 500 hPa and 200 hPa, that is, between 5 km and 10 km above the earth's surface. The upper level circumpolar westerlies are concentrated in the two jet streams circling the globe: the polar jet stream and the subtropical jet stream. Undulations on this jet stream flow are referred to as Rossby waves. Rossby waves have a characteristic vertical motion field whereby there is upward motion on the eastern half of a trough and downward motion on the western half (Figure 9). Over north eastern Australia during the summer wet season, Rossby waves provide an important source of upward motion. In addition, southward flow on the eastern side of the trough brings moist tropical air from the north over the Australian landmass, thus providing a source of moisture for the rain systems.

An example of a westerly trough with the rainfall occurring on its eastern side is shown in Figure 10, which is one of the sequence of rainfall events forming eventone of the December floods.

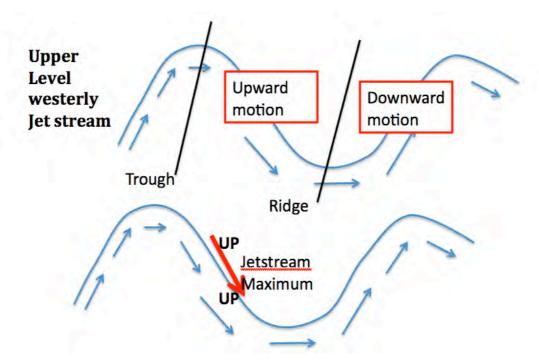


Figure 9. Schematic representation of the flow field in a Rossby wave on the upper level jet stream flow. The black lines represent a trough and a ridge of the wave. As depicted in the upper panel, there is upward atmospheric flow on the eastern side of a westerly trough in the Rossby wave. The lower panel schematically includes a region of localised strong winds or a jet stream maximum. As depicted the upward vertical motion is strongly enhanced in the left entrance and right exit of a jet stream core.

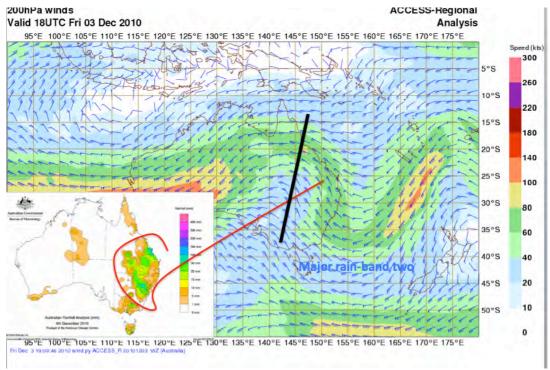


Figure 10. The 200 hPa wind field on the evening of 3 December 2010 showing the presence of an upper level westerly trough, marked by a black line. The rainfall for that day is inserted showing that it occurs in the region of upward motion east of the trough axis.

Monsoon surge

As described above, Northern Australia is influenced by the Australian monsoon. This is structured around the monsoon trough with easterly trade winds to the south and monsoonal westerly winds to the northern or equatorward side. It has been shown in a number of Australian studies by both the Bureau of Meteorology and the CSIRO that large-scale rainfall in the monsoon responds to increases in the monsoon westerly flow. Thus the 850 hPa wind at Darwin is the most common index of monsoon strength. There are a number of phenomena that can cause monsoon surges, or increases in the westerly current over a period of several days to a week. These include surges north of the equator in the China Sea and passages of eastward moving large scale equatorial convective systems associated with the MJO.

Monsoon lows or rainfall depression

A monsoon low or tropical rainfall depression is a weather system of horizontal scale approximately 500 to 1000 km and so is of a similar size to a tropical cyclone. In many cases a tropical cyclone undergoes a transition to a monsoon low after it makes landfall, though occasionally the opposite occurs. Monsoon lows have a similar structure to tropical cyclones. They are confined to the troposphere, and they have a so called "warm-core" at upper levels whereby the central region at the 300 hPa level of the upper troposphere can be a degree or more warmer than surrounding regions at distances 400 km or so away. The major difference is that a monsoon low does not have an eye wall nor a central core of extreme wind speeds near the surface. Though infrequent, monsoon lows are major rainfall producers for northern Australia. December 2010 featured a monsoon low that travelled along the coastline of Western Australia in mid December. This system can be seen off the Western Australia coast on the mean sea level pressure charts for 16 and 17 December shown in Figure 11. This monsoon low caused a one day rainfall total of 207 mm at the WA coastal town of Carnarvon, a location whose median annual rainfall is close to the same amount.

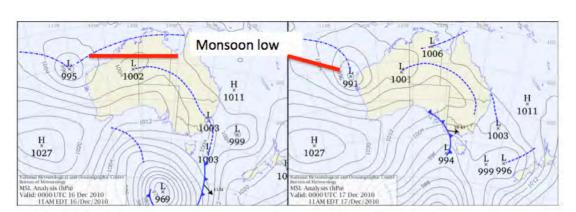


Figure 11. Mean sea level analyses for 16 and 17 December 2010 showing a monsoon low off the coast of Western Australia

Inland trough

A weather system often responsible for widespread rainfall across Queensland is the inland trough. An example from the 2010 rain event is shown in Figure 12, where the inland trough is depicted by the blue dashed line across Queensland and extending westward to link with the heat trough over Western Australia. The inland trough is partly a climatological feature, and so is common on daily

weather maps over the summer months. Its cause is partly "heat-low" and as such is a response to the inland warming of the continent. It is also partly a dynamical lee wave response to the flow of easterly trade winds across the mountain range along the coastal strip.

In terms of triggering rainfall, the inland trough is a source of convergence or "inflow". Thus it is a preferred region for the development of thunderstorms during the afternoon in response to surface heating. The strength and location of the trough respond to surrounding weather systems. In the example shown the trough extends across the entire state in response to the passage of a frontal system south of the continent. The state-wide scale of the inland trough has the consequence that convergence or upward motion near the surface also extends across the state. Thus when afternoon convection or thunderstorms develop, they do so on a state-wide scale and so bring heavy rain cross the state.

During the rain events of December 2010, the individual inland troughs formed and lasted over a period of a week or more. The troughs provided a source of thunderstorms and low level convergence. When upper level troughs moved across they provided vertical motion at upper levels, which linked with the thunderstorm development in the inland trough. This phase-locking of upper and lower troposphere disturbances produced major rain systems.

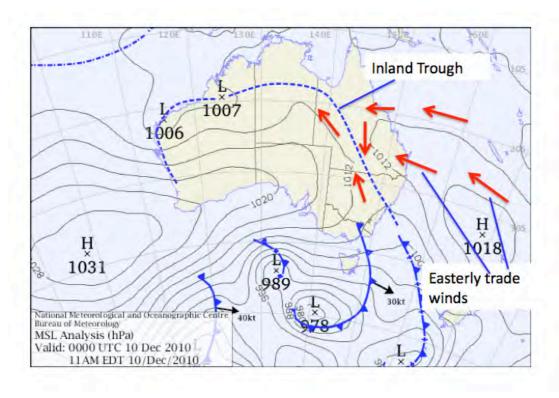


Figure 12. The mean sea level pattern for 9 am 10 Dec 2010, showing an example of an inland trough. The red arrows denote the direction of wind flow near the surface.

Easterly trade winds, associated with a ridge in the Tasman

Globally the "trade wind flow" is the zone of easterly winds directed towards the tropics across the major oceans of the globe. The persistence and ocean-wide scale of tehse wind systems made them important for trade in the era of sailing vessels. Across Australia, the trade wind flow occurs during the summer in the zone of easterly flow equatorward of the subtropical high pressure system. The easterly trades are marked in Figure 5 where an example of the monsoon trough is shown and in Figure12 where an inland trough is shown.

As discussed earlier, the role of weather systems during the wet season is to provide a source of moisture and to provide uplift. The moisture source for the majority of rainfall events across Queensland comes from the east in the trade winds. The strength and orientation of the trade flow responds to surrounding weather systems, including monsoon activity and the passage of fronts to the south. The High pressure system in the Tasman Sea in Figure 12 is a climatological feature during

the Summer months. When this High is present, a moist trade wind flow extends along the entire Queensland coastline.

4. The meteorology of the major rainfall events

4.1. Event One: 28 November to 22 December 2010. A sequence of large scale rainfall events occurring across the state over several weeks

As discussed in the Introduction and shown in Figure 13 this three and a half week period was characterised by an almost continuous sequence of separate rain systems across the State. Using the weather system terminology described above, the events of the first two weeks (from 28 November 2010 onwards) involved an inland trough. In each case the low-level instability triggering thunderstorms in the trough was complemented by the passage of upper level troughs. Thus the major forcing in this sequence was the passage of upper level troughs across the state. In the last week of the sequence (from 16 December 2010 onwards), monsoon westerlies extended across the northern half of the state. Large scale rainfall occurred in the monsoon trough, again supported by the passage of an upper-level trough.

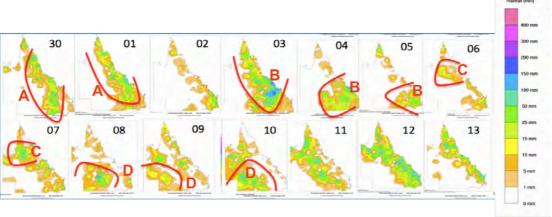


Figure 13. Map of daily rainfall for the 24 hours ending at 9am 30 November 2010, 9am 1 December, through to 9am 13 December 2010. The maps show the character of the rain during the first weeks of December with widespread rainfall on most days, and a number of separate rain events (A, B, C, etc.), each lasting several days.

Going over the event in finer detail, from 28 November into December, a surface inland-trough lay through the western interior and an upper trough approached the state from the west. Moisture laden northeasterly winds extending to the inland trough and an unstable upper atmosphere resulted in showers, and thunderstorms and rain areas developed across most of the state. Widespread rain areas persisted for the next two weeks, as a series of upper troughs moved through, enhancing existing flooding or triggering new flooding in many river systems. Two of the heaviest daily falls during this period were at Escott Station in the southern Gulf of Carpentaria where 266 mm was recorded on the 11th from a line of slow moving storms and at Mount Charlton with 228 mm on the 3rd.

On approximately 14 December, a monsoon low developed in the Indian Ocean west of Australia. As the low moved inland to Western Australia the monsoon westerlies extended across northern Australia. While this occurred a stream of upper level moisture spread across the country into Queensland; and an east-west oriented inland trough extended into Queensland. This situation is shown in Figure 14. Severe convective storms produced large hail, damaging wind and torrential rain in the southeast during the 15 and 18 December 2010.

An upper level trough moved across the state during 18 to 20 December 2010 producing wide spread rainfall in the east-west extending inland trough. Over the 48 hours ending 9am 20 December 2010, much of southern Queensland received a further 50 to 100 mm to add to the rainfall received in the preceding 3 weeks.

Following this extended period of wet weather the following flood warnings were current for the 20 December: Barcoo, Bulloo, Don, Condamine, Balonne, Moonie, Paroo, Warrego, the Fitzroy River basin, Brisbane River above Wivenhoe Dam, the Burnett Catchment, Mary River and Cooper Creek, Laidley and Warril Creeks and the Bremer River.

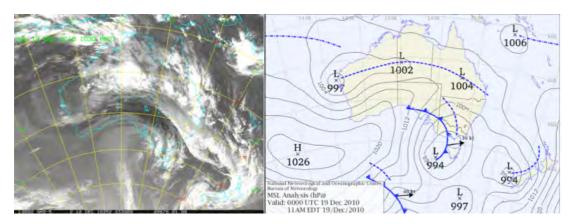


Figure 14 Satellite image and mean sea level analysis for the morning of 19 December 2010. The satellite image shows a stream of moisture in the inland trough across the northern half of the continent. The trough itself can be seen on the pressure analysis as the series of Low pressure centres along the west-east extending dashed blue line.

4.2. Event Two: 23 – 28 December 2010. A large scale rainfall event bringing record rains across the state

The meteorology of this record rainfall event began with a stream of easterly trade wind flow bringing moist air across the state. Widespread rainfall occurred on the 22 and 23 of December 2010 as an inland trough developed ahead of an upper level westerly trough crossing the state. This setup is shown in the four panels of Figure 15.

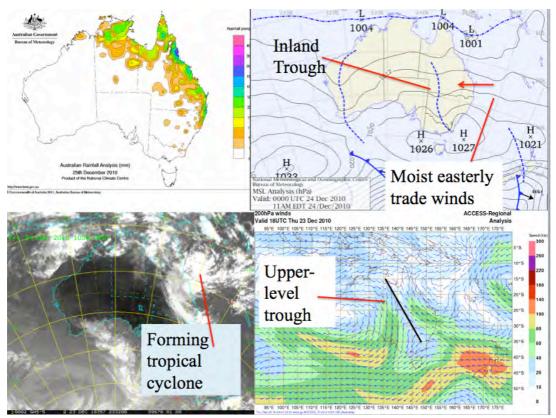


Figure. 15. The atmospheric structure early in the six-day record rainfall sequence on 23 to 28 December. The structure here is for 23 December. The upper left panel is 24 hour rainfall accumulated to 9 am on 24 December. Top right is the mean sea level analysis for the morning of 23 December. Bottom left is the infrared satellite image. Bottom right is the upper level (200hPa) flow.

The east-west dashed line extending across the top of the mean sea level pressure map is the monsoon trough. During this sequence Tropical Cyclone Tasha formed within the monsoon trough off the eastern coastline. The cyclone moved westward and made landfall south of Cairns on the morning of 25 December, causing heavy rainfall along the coastline. Tasha then moved inland and transformed into a large scale monsoon low, bringing widespread rainfall across the region over the subsequent 48 hours.

On the next day, 26 December, a westerly trough from the jet stream south of Australia moved northward and interacted with the monsoon depression. Through this interaction, a deep Rossby wave trough formed over the continent with moist tropical air from the monsoon low on the eastern side of the trough. This process is shown schematically in Figure 16. A consequence of this interaction is that the eastern end of the monsoon trough was advected southwards in the flow field east of the westerly trough. Thus by the 27 December the monsoon trough was distorted

and had a north-south orientation across Queensland. This is shown in the 850 hPa flow pattern in the left side of Figure 17. The right side shows the temperature field at the same level 850 hPa. It is noteworthy that the upper level trough had brought cold air northward across the centre of the continent.

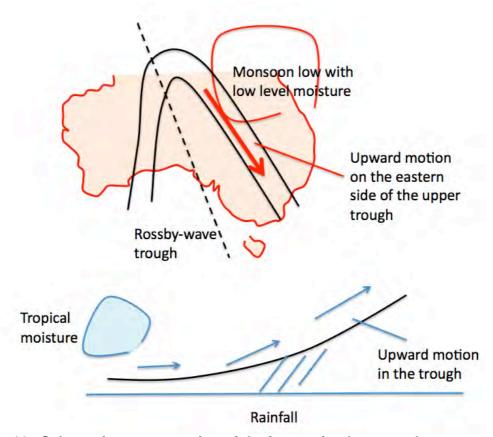


Figure 16. Schematic representation of the interaction between the monsoon low over Northern Australia and the upper level westerly trough occurring on 26 December 2010.

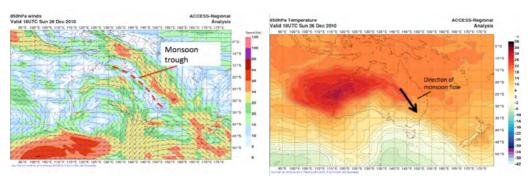


Figure 17. The flow at 850 hPa on the evening of 26 December 2010, the day of record large scale rainfall across Queensland. The left-hand figure shows the wind field. The red dashed line is the location of the monsoon trough. The right panel is temperature. The large arrow represents the direction of the westerly monsoon flow that has been diverted towards the south.

The arrow on the temperature chart shows the direction of the monsoon flow east of this trough, in the direction of warm to cold. Atmospheric flow tends to be "isentropic" meaning it flows along surfaces of constant potential temperature. When the air is flowing from cold to warm as in the figure, to remain at the same "isentropic temperature" it has to move to a lower pressure, that means it moves upwards in the atmosphere. Thus the configuration on the 27 December had the monsoon trough extending across the state, had large areas of moist air associated with the monsoon low, and had a large region of upward motion associated with the large scale flow from warm regions to cold regions. These ingredients led to the record rainfalls across the state on 26-26 of December.

4.3 Event Three: The rainfall over the Brisbane Catchment from 10-12 January 2011

As discussed above, and shown in Figure 18, the rain leading to the Brisbane floods occurred over three days and was associated with heavy rain across a scale of several hundred kilometres. Such a rainfall pattern along the east coast is a classical east coast rainfall situation. It always occurs at the northern edge of the easterly trade wind belt and is almost always associated with a westerly trough protruding up

over the tropics and with a jet streak giving enhanced upward motion, with either an equatorial jet entrance or a polar jet exit (as illustrated in Figure 9).

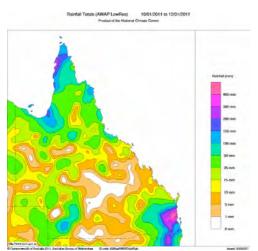


Figure 18. Rainfall over the three days leading to the flooding of the city of Brisbane and to the Toowoomba and Lockyer Valley flash floods ending 9 am, 12 January 2011.

The 24 hour rainfall for this event as simulated by the Bureau of Meteorology Numerical Weather Prediction (NWP) model ACCESS is shown in Figure 19. This shows the nature of the rainfall event and its location on the coastline, eastward of the Dividing Range and at the northern edge of the trade winds.

The upper level flow, however, is quite different to the normal configuration. The flow at 200 hPa is shown in the left panel of Figure 20. Rather than a westerly trough there is a separate low pressure system, known as a cut-off low. This low is not a tropical type low. Rather it is what is known as a baroclinic upper level disturbance, which is characterised by stratospheric air within the core of the low. Such systems develop from a process termed "Rossby—wave breaking" of the jet stream flow along the circumpolar westerly jet streams. The right hand side of Figure 20 shows a map of relative humidity at the 200 hPa level (10 km above the surface) as the cutoff low was developing late on 8 January 2011. The brown shading represents very dry air, and at this level represents air from the stratosphere. The wave-breaking action producing a discrete baroclinic cutoff low curling around into the tropics can be seen along the Queensland coastline.

Thus the key meteorology of the event is a classical easterly trade wind event, but with the additional uplift provided by an upper level low resulting from higher latitude global dynamics. The heavy rainfall can thus be considered to result from an

interaction between the tropical moist air in the trade wind system and a higher latitude system extruding into the tropics to tap this moisture source.

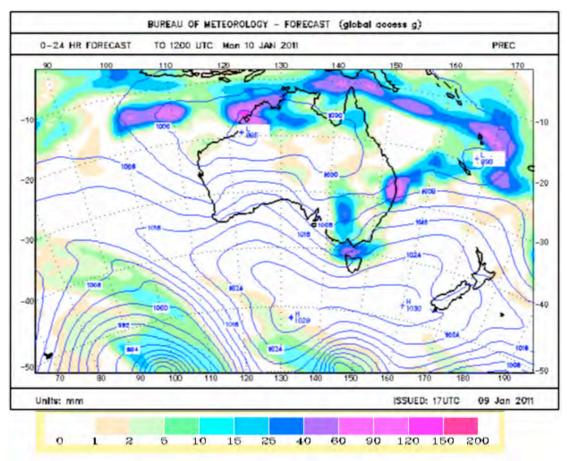


Figure 19. A model simulation showing the 24 hour rainfall on 10 January overlaid on the mean sea level pressure analysis.

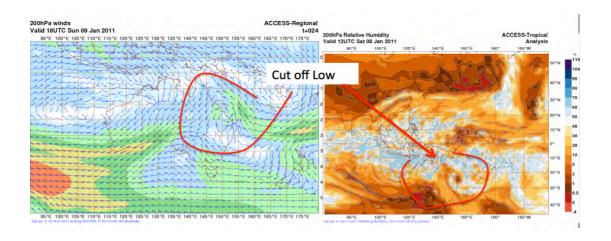


Figure 20. Upper level flow on 9 January showing the upper level cutoff low that provided vertical motion associated with the rainfall at the time of Brisbane flood event. The left hand panel shows the wind at 200 hPa, with the low pressure system circled. The right hand panel is a larger-scale view of the relative humidity at 200hPa. The brown shading represents very dry air, and so is associated with stratospheric air at this level surrounding the poles at top and bottom of the figure. The cut-off low can be seen to form from a "wave-breaking" at the equatorward edge of this zone of stratospheric air.

4.4 Event four: The meteorology of the Toowoomba and Lockyer Valley flash flood event

The flash flooding events at Toowoomba and in the Lockyer Valley occurred during the afternoon of 10 January, approximately between 1 and 6 pm local time (0300 and 0700 Universal time, UTC). As discussed in the introductory section, a flash flood event is generally associated with very heavy rainfall over a small area and is usually caused by a localised complex of intense thunderstorm complex. The flooding occurs within a time frame of from 30 minutes to several hours after the rainfall.

The large scale environment for the event is that described in Section 4.3 for the Brisbane floods, as the flash flood occurred during the same sequence. An infrared satellite image and a mean sea level pressure analysis for the morning of 10 January are shown in Figure 21. The satellite image shows a discrete complex of cloud and rain in the location of the rainfall shown in Figure 19. As discussed earlier the mean sea level pattern shows that this location is within the moist easterly trade wind flow.

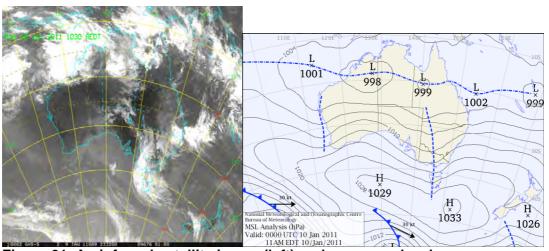


Figure 21. An infrared satellite image (left) and mean sea level pressure analysis (right) for the morning of 10 January 2011, the day of the Toowoomba and Lockyer Valley flash flood event.

On 10 January 2011 the storms that later combined to cause the significant flash flooding in the Toowoomba and Lockyer Valley region had their origins before 10:00am as separate storm cells just north of Maroochydore and near Redcliffe. The storms moved towards the southwest and west-southwest respectively. The storms later merged east of Lake Wivenhoe and increased in size and intensity as they approached the steeply rising topography while also slowing in their overall progress to the southwest.

At this point the motion of the storms became dominated by the location of the strongest updraft zone rather than simply steering with the average upper winds. The ranges played a significant role in controlling the development of the storms and in slowing the subsequent propagation to the southwest. The strongest part of the storm updraft was likely forming based on a complex interaction between the topography and the low level winds.

At around 10:40am, the area covered by the most intense rainfall started growing rapidly. It is inferred that this was due to the interaction of the two cells mentioned previously and the close proximity of the ranges. It was from around this time that rainfall rates increased at the Redbank Creek gauge with over 80mm of rain falling in the following 60 minutes.

Analysis of the radar data suggests that the rainfall intensity and apparent movement of the storm was not uniform before 1:00pm and the storm was continually undergoing local scale development which affected the area of severe weather.

Some of the most intense rainfall rates are likely to have been experienced along a line stretching to the southwest of Esk. At 12:30pm, very intense rainfall was falling to the northeast of Murphy's Creek

Based on rain gauge information, the heavy rainfall in Toowoomba fell between just prior to 1:00pm until around 2:00pm. The storm intensified further following interaction with the previously mentioned wind change boundary then relatively rapidly decayed once it moved off the topography and lost the additional uplift provided by the boundary.



Appendix F

Table and map of flood affected towns and Local Government Areas

December 2010 to January 2011

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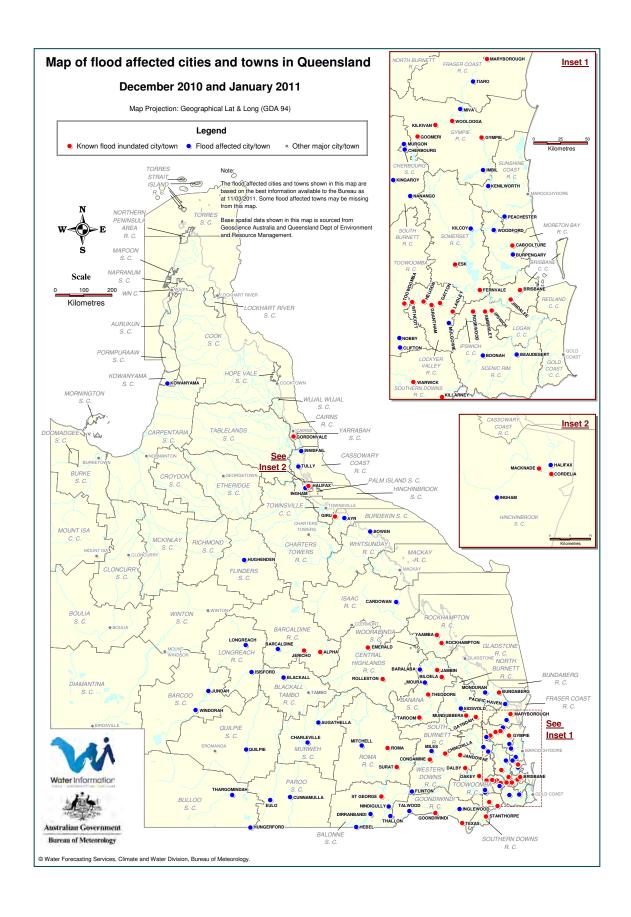
Appendix F.1: Flood affected towns with Local Government Areas

LOCAL GOVERNMENT AREA	CATCHMENT OR RIVER	TOWN NAME	INUNDATION OF PROPERTIES
Balonne Shire	Balonne Minor River	Dirranbandi	
	Bokhara River	Hebel	
	Balonne River	St George	Yes
	Moonie River	Nindigully	
	Moonie River	Thallon	
Banana Shire	Dawson River	Baralaba	
	Dawson River	Biloela	Yes
	Don River	Jambin	Yes
	Dawson River	Moura	
	Dawson River	Taroom	Yes
	Dawson River	Theodore	Yes
Barcaldine Regional	Barcoo River	Barcaldine	
	Jordan River	Jericho	Yes
	Alpha Creek	Alpha	Yes
Barcoo Shire	Barcoo River	Jundah	
	Cooper Creek	Windorah	
Blackall Tambo Regional	Barcoo River	Blackall	
Brisbane City	Brisbane River	Brisbane	Yes
	Brisbane River	Jindalee	Yes
Bulloo Shire	Bulloo River	Thargomindah	
	Paroo River	Hungerford	
Bundaberg Regional	Burnett River	Bundaberg	Yes
	Kolan River	Monduran	
Burdekin Shire	Burdekin River	Ayr	
	Haughton River	Giru	Yes
Cairns Regional	Mulgrave River	Gordonvale	Yes
Cassowary Coast Regional	Johnstone River	Innisfail	
	Tully River	Euramo	
Central Highlands Regional	Nogoa River	Emerald	Yes
	Comet River	Rolleston	Yes
Cherbourg Shire	Barker Creek	Cherbourg	
Flinders Shire	Flinders River	Hughenden	
Fraser Coast Regional	Mary River	Maryborough	Yes
	Mary River	Tiaro	
	Cherwell River	Pacific Haven	
Goondiwindi Regional	Macintyre River	Goondiwindi	Yes
	Macintyre Brook	Inglewood	
	Weir River	Talwood	
	Dumaresq River	Texas	Yes

LOCAL GOVERNMENT AREA	CATCHMENT OR RIVER	TOWN NAME	INUNDATION OF PROPERTIES	
Gympie Regional	Boonara Creek	Goomeri	Yes	
	Mary River	Gympie	Yes	
	Imbil Creek	Imbil		
	Wide Bay Creek	Kilkivan	Yes	
	Mary River	Miva		
	Wide Bay Creek	Woolooga	Yes	
Hinchinbrook Shire	Herbert	Cordelia	Yes	
	Herbert	Halifax		
	Herbert	Ingham		
	Herbert	Macknade	Yes	
Ipswich City	Warrill Creek	Amberley	Yes	
	Bremer River	Ipswich	Yes	
	Bremer River	Rosewood	Yes	
Isaac Regional	Connors River	Cardowan		
Kowanyama Shire	Mitchell River	Kowanyama		
Lockyer Valley Regional	Lockyer Creek	Gatton	Yes	
	Lockyer Creek	Grantham	Yes	
	Lockyer Creek	Helidon	Yes	
	Laidley Creek	Laidley	Yes	
	Laidley Creek	Mulgowie		
	Gatton Creek	Withcott	Yes	
Longreach Regional	Barcoo River	Isisford		
	Thomson River	Longreach		
Moreton Bay Regional	Stanley River	Woodford		
	Burpengary Creek	Burpengary		
	Caboolture River	Caboolture	Yes	
Murweh Shire	Warrego River	Augathella		
	Warrego River	Charleville		
North Burnett Regional	Burnett River	Eidsvold		
	Burnett River	Gayndah	Yes	
	Burnett River	Mundubbera	Yes	
Paroo Shire	Paroo River	Eulo		
	Warrego River	Cunnamulla		
Quilpie Shire	Bulloo River	Quilpie		
Rockhampton Regional	Fitzroy River	Rockhampton	Yes	
	Fitzroy River	Yaamba	Yes	
Roma Regional	Maranoa River	Mitchell		
	Bungil Creek	Roma	Yes	
	Balonne River	Surat	Yes	
Scenic Rim Regional	Albert River	Beaudesert		
	Teviot Brook	Boonah		
Somerset Regional	Esk Creek	Esk	Yes	
	Bremer River	Fernvale	Yes	
	Kilcoy Creek	Kilcoy		

LOCAL GOVERNMENT AREA	CATCHMENT OR RIVER	TOWN NAME	INUNDATION OF PROPERTIES	
South Burnett Regional	Barker Creek	Nanango		
	Stuart River	Kingaroy		
	Barambah Creek	Murgon		
Southern Downs Regional	Condamine River	Killarney	Yes	
	Condamine River	Warwick	Yes	
	Quart Pot Creek	Stanthorpe	Yes	
Sunshine Coast Regional	Stanley River	Peachester		
	Mary River	Kenilworth		
Toowoomba Regional	Kings Creek	Clifton		
	Kings Creek	Nobby		
	Oakey Creek	Oakey	Yes	
	East and West Creeks	Toowoomba	Yes	
Western Downs Regional	Charleys Creek	Chinchilla	Yes	
	Condamine River	Condamine	Yes	
	Myall Creek	Dalby	Yes	
	Oakey Creek	Jondaryan	Yes	
	Dogwood Creek	Miles		
	Moonie River	Flinton		
Whitsunday Regional	Don River	Bowen		

Appendix F.2: Flooded towns on LGA boundaries





Appendix G

Table of regions based on flood classifications December 2010 to January 2011

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Appendix G: Table of regions, catchments and severity based on the recorded flood classifications.

REGIONAL AREA	CATCHMENTS	HIGHEST FLOOD CLASSIFICATION REACHED
North Tropical Coast	Johnstone	Major in tributaries
	Herbert, Murray, Russell-Mulgrave	Major
	Tully	Moderate
Central Coast	Pioneer	Major in tributaries
	Don, Lower Burdekin	Minor
	Haughton, Belyando	Major
Coastal Streams Mackay to Maryborough	Nogoa, Mackenzie, Connors/Isaac, Dawson, Fitzroy, Kolan, Burnett, Baffle Creek, Burrum	Major
Coastal streams Maryborough to the Gold Coast	Mary, Caboolture, Brisbane, Bremer, Lockyer Creek, Pine	Major
	Mooloolah, Maroochy, Noosa, Logan-Albert	Moderate in tributaries
Border Rivers including the Darling Downs	Upper Condamine, Myall Creek, Charleys Creek, Condamine, Balonne, Moonie, Macintyre	Major
	Maranoa	Moderate
South West	Warrego, Bulloo, Barcoo, Cooper Creek	Major
	Paroo, Thompson	Moderate



Appendix H

Selection of record flood peak heights December 2010 to January 2011

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Appendix H: A selection of record flood peak heights reached during December 2010 and January 2011.

RIVER	LOCATION	PEAK HEIGHT	DATE	PREVIOUS RECORD	LENGTH OF
		(M)		(M)	RECORD
Dawson	Utopia Downs TM	14.25m	28-Dec	12.82m (27/04/1989)	1970
Dawson	Tarana Crossing	12.50m	28-Dec	12.09m (26/05/1983)	1983
Dawson	Windamere TM	10.52m	27-Dec	10.28m (03/05/1983)	1975
Dawson	Chilgerrie Hill	10.85m	27-Dec	10.60m (28/08/1998)	1983
Dawson	La Palma TM	7.70m	28-Dec	7.39m (23/02/1971)	1956
Dawson	Glebe Weir TW TM	18.81m	31-Dec	15.19m (06/05/1983)	1983
Dawson	Glebe Weir HWTM	9.62m	31-Dec	6.15m (06/05/1983)	1983
Dawson	Gyranda Weir TM	4.80m	27-Dec	3.94m (07/03/2010)	1988
Dawson	Isla-Delusion Crossing TM	11.21m	31-Dec	10.89m (27/12/2010)	1993
Dawson	Theodore	14.7m	1-Jan	14.07m (14/2/1956)	1924
Dawson	Woodleigh TM	18.45m	2-Jan	18.34m (29/12/2010)	1986
Dawson	RedcliffTM	9.01m	28-Jan	8.21m (24/12/2010)	1958
Dawson	Bindaree TM	15.85m	29-Jan	15.35m (25/12/2010)	2005
Dawson	Beckers TM	19.47m	30-Jan	15.75m (04/05/1983)	1965
Dawson	Newlands TM	17.84m	30-Jan	13.94m (12/03/2010)	1998
Nogoa	Raymond AL/TM	Above 12m	28-Jan	11.41m (25/11/1950)	1947
Nogoa	Craigmore AL/TM	18.16m	29-Dec	16.25 (20/01/2008)	1972
Nogoa	Emerald	16.05m	31-Dec	15.70 (27/11/1950)	1950
Comet	RewanTM	Above 11.3m	27-Dec	10.97m (19.04/1990)	1987
Comet	Rolleston	~ 8.2m	28-Dec	5.87m (19/2/2010)	1958
Comet	The Lake AL/TM	17.27m	28-Dec	14.37m (20/02/2010)	1972
Comet	Springsure Ck Jct AL/TM	12.50m	29-Dec	10.92m (21/02/2010)	2007
Comet	Comet Weir AL/TM	13.94m	29-Dec	13.19m (11/02/1954)	1922
Mackenzie	Riley's Crossing AL/TM	22.76m	30-Dec	20.44m (24/01/2008)	2006
Mackenzie	Bedford Weir TW AL/TM	22.29m	1-Jan	20.05m (25/01/2008)	1998
Mackenzie	Bingegang	17.45m	2-Jan	17.23m (06/02/1978)	1974
Fitzroy	South Yaamba TM	12.60m	4-Jan	10.03m (24/02/2008)	1998
Barker	Glenmore TM	4.45m	28-Dec	4.11m (10/02/1999)	1988
Barker	Bjelke Petersen Dam HWTM	1.89m	28-Dec	1.10m (10/02/1999)	1996
Boyne	Boondooma Dam HWTM	3.46m	28-Dec	3.15m (24/12/2010)	1983
Boyne	Cooranga TM	13.36m	27-Dec	11.75m (24/12/2010)	1995
Boyne	Derra TM	14.60m	28-Dec	10.07m (24/12/2010)	1992
Auburn	Glenwood	14.70m	29-Dec	13.11m (05/02/1971)	1971
Burnett River	Monto	6.49m	28-Dec	5.96m (09/01/1996)	1990
Burnett River	Lands End TM	6.81m	27-Dec	6.45m (07/02/2003)	1987
Burnett River	John Goleby Weir HWTM	5.24m	29-Dec	0.82m (16/02/1998)	1997
Burnett River	Wuruma Dam HWTM	3.38m	28-Dec	0.59m (10/02/1971)	1971
Burnett River	Eidsvold TM	14.28m	28-Dec	12.36m (08/02/2003)	1963
Burnett River	Gayndah Flume TM	16.34m	28-Dec	14.20m (05/02/1971)	1971
Burnett River	Paradise Dam HWTM	73.56m	29-Dec	70.89m (24/12/2010)	2010

RIVER	LOCATION	PEAK HEIGHT	DATE	PREVIOUS RECORD	LENGTH OF
Burnett River	Coringa TM	10.09m	27-Dec	8.47m (16/03/1992)	1986
Burnett River	Fig Tree TM	12.74m	25-Dec	11.23m (23/12/2010)	1997
Burnett River	Walla TM	20.10m	29-Dec	18.07m (05/02/1971)	1968
Burnett River	Walla Weir HWTM	29.11m	29-Dec	23.69m (26/12/2010)	2003
Burnett River	Walla Weir TW TM	15.41m	26-Dec	15.30m (25/12/2010)	2010
Condamine	Connolly Dam AL	1.08m	27-Dec	0.48m (06/05/1996)	1996
Condamine	Yangan AL	7.65m	27-Dec	6.60m (06/05/1996)	1996
Condamine	Murray's Bridge AL	8.40m	27-Dec	7.85m (06/05/1996)	1995
Condamine	Victoria Hill TM	5.05m	27-Dec	5.05m (20/12/2010)	2009
Condamine	Leyburn TM	4.90m	27-Dec	4.90m (11/02/1976)	1972
Condamine	Centenary Bridge Millmerran)	8.3m	28-Dec	8.20m (February 1976)	1976
Condamine	Clydesdale AL	4.78m	27-Dec	4.65m (03/05/1996)	1971
Condamine	Loudoun Bridge	11.20m	29-Dec	10.89m (13/02/1976)	1956
Condamine	Warra-Kogan Road Bridge	15.00m	30-Dec	14.00m (1956)	1956
Condamine	Brigalow Bridge TM	14.84m	30-Dec	13.99m (14/02/1976)	1972
Condamine	Beruna	7.95m	28-Dec	7.20m (08/02/1981)	1962
Condamine	Chinchilla Weir TM	15.38m	31-Dec	13.97m (08/04/1988)	1956
Condamine	Condamine	15.25m	1-Jan	14.25m (13/021942)	1924
Condamine	Cotswold TM	17.82m	2-Jan	16.13m (08/05/1983)	1967
Balonne	Warkon	12.03m	3-Jan	11.88m (13/01/1996)	1941
Balonne	Surat	12.75m	4-Jan	12.40m (3/3/2010)	1910
Moonie	The Deep Crossing	5.65m	27-Dec	4.45m (10/01/1996)	1970
Moonie	Tartha	7.00m	28-Dec	6.75m (1956)	1956
Weir	O'Connor TM	14.58m	28-Dec	14.57m (Jan 1956)	1956
Boyne	Milton TM	7.77m	28-Dec	6.86m (06/02/2003)	1992
Boyne	Awoonga Dam HWTM	4.16m	28-Dec	1.74m (07/01/1991)	1987
Kolan	Fred Haigh Dam HWTM	3.85m	29-Dec	1.73m (12/03/1977)	1977
Mary	Kenilworth Homestead AL	15.75m	10-Jan	6.17m (10/01/2011)	2004
Mary	Kilkivan TM	8.99m	7-Jan	7.86m (03/04/1989)	1975
Mary	Brooyar TM	12.94m	7-Jan	10.54m (18/12/1988)	1967
Mary	Teddington Weir HWTM	11.48m	8-Jan	11.12m (27/08/2007)	1995
Pine/Caboolture	Wamuran AL	30.67m	11-Jan	30.61m (12/02/1972)	1972
Pine/Caboolture	Upper Caboolture AL/TM	13.01m	11-Jan	11.76m (12/12/1991)	1967
Pine/Caboolture	Caboolture WTP AL	10.94m	11-Jan	9.91m (??/02/1972)	1972
Pine/Caboolture	Burpengary (Dale St) AL	11.19m	11-Jan	11.15m (??/02/1972)	1972
Pine/Caboolture	Baxters Creek AL	9.20m	11-Jan	4.95m (14/04/2009)	2009
Pine/Caboolture	Kobble Creek AL	5.72m	11-Jan	Only Height	2011
Pine/Caboolture	North Pine Dam AL	41.08m	11-Jan	40.10m (11/10/2010)	2009
Pine/Caboolture	Youngs Crossing	13.27m	11-Jan	8.27m (11/10/2010)	2009
Pine/Caboolture	Lawnton AL	5.92m	11-Jan	4.12m (11/10/2010)	2010
Pine/Caboolture	Cedar Creek Road AL	5.31m	11-Jan	3.81m (11/10/2010)	2009
Pine/Caboolture	Cash's Crossing AL	5.60m	11-Jan	5.10m (11/10/2010)	2009
Pine/Caboolture	Normanby Way AL	4.99m	11-Jan	3.69m (11/10/2010)	2009
Pine/Caboolture	John Brae Park AL	2.65m	11-Jan	2.05m (20/05/2009)	2009

RIVER	LOCATION	PEAK HEIGHT (M)	DATE	PREVIOUS RECORD (M)	LENGTH OF RECORD
Pine/Caboolture	Murrumba Downs AL	3.74m	11-Jan	1.74m (11/10/2010)	2009
Brisbane	Cooyar Creek AL/TM	11.02m	11-Jan	9.33 (27/01/1974)	1965
Brisbane	Linville AL/TM	11.00m	11-Jan	8.93 (09/02/1999)	1964
Brisbane	Devon Hills AL	11.25m	9-Jan	10.80 (09/02/1999)	1985
Brisbane	Boat Mountain AL/TM	11.02m	10-Jan	9.61 (27/01/1974)	1965
Brisbane	Gregor Creek AL/TM	14.56m	9-Jan	14.53 (09/02/1999)	1962
Brisbane	Falls Road TM	8.84m	10-Jan	4.84m (11/10/2010)	2009
Brisbane	Rosentreters Bridge AL/TM	6.80m	10-Jan	4.74m (08/02/1999)	1991
Lockyer Creek	Helidon AL/TM	13.88m	10-Jan	7.55m (27/1/1974)	1972
Lockyer Creek	Gatton AL/TM	16.50m	11-Jan	13.68m (27/12/2010)	1999
Lockyer Creek	Glenore Grove AL	15.34m	11-Jan	14.50m (27/12/2010)	1994
Lockyer Creek	Lyons Bridge AL	17.25m	11-Jan	16.40m (05/05/1996)	1995
Lockyer Creek	Glenore Grove AL	15.34m	11-Jan	14.50m (27/12/2010)	1994
Laidley Creek	Laidley	8.85m	11-Jan	8.80m (27/12/2010)	1996
Brisbane	Savages Crossing	24.15m	12-Jan	23.79 (28/01/1974)	1959



Appendix I

Location specific flood summaries

December 2010 to January 2011

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Appendix Identifier	Location
I-1	Brisbane
1-2	Bundaberg
I-3	Caboolture
1-4	Chinchilla
I-5	Condamine Township
I-6	Dalby
1-7	Emerald
1-8	Goondiwindi
1-9	Gympie
I-10	Ipswich
I-11	Jericho and Alpha
I-12	Lockyer Creek
I-13	Maryborough
I-14	Rockhampton
I-15	Rolleston
I-16	St George
I-17	Stanthorpe
I-18	Surat
I-19	Taroom
I-20	Texas
I-21	Theodore
1-22	Toowoomba
I-23	Warwick
I-24	Yaamba

Flood summary for the Brisbane River at Brisbane City

- The city of Brisbane is in the lower Brisbane River catchment.
- The flood heights at Brisbane are measured using an automatic gauge located at the Thornton Street Ferry which is owned by Seqwater (Bureau station number: 540198). There are a set of manual staff gauges at this site which is owned by the Bureau of Meteorology.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

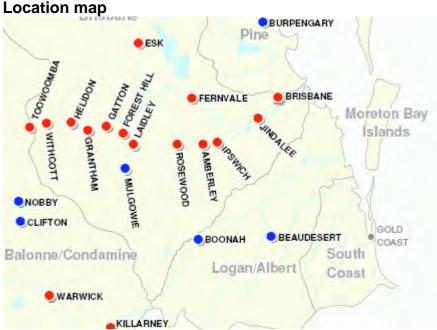
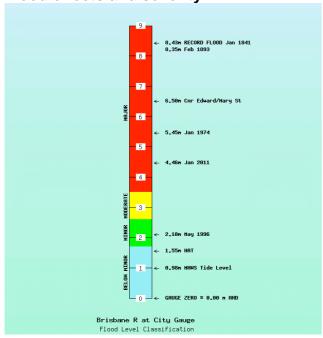


Figure 1. Map showing location of Brisbane.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 4.46 metres on 13/01/2011.
- Minor: 1.7 metres
 Moderate: 2.6 metres
 Major: 3.5 metres.
- Gauge zero is 0.0 metres AHD.
- Estimated 26600 houses and 5000 businesses affected during the flood. (Source BCC)
- Estimated 12500 properties were inundated by flood waters (Source BCC)
- Above major flood level (3.5 metres) from 12/01/2011 to 13/01/2011.
- Remained above minor flood level (1.7 metres) from 11/01/2011 to 14/01/2011.

Figure 2. Flood level classifications and flood effects for Brisbane.

Rainfall summary

- Rainfalls of between 600-1000mm were recorded in most of the Brisbane catchment during December 2010 and January 2011.
- Most of this rainfall fell between 09/01/2011 and 13/01/2011 with over 600mm recorded in parts of the Stanley River catchment during this period.

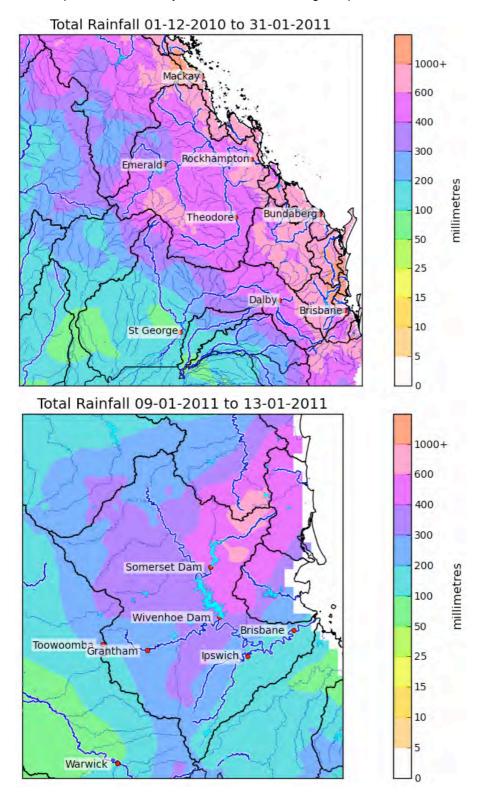


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 96 hours to 9am on 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at Savages Crossing AL and Mt Glorious AL-P on the lower Brisbane River are shown in Table 1.
- The most significant rainfall intensities for Savages Crossing AL in January 2011 occurred on the 11/01/2011 and 12/01/2011. Intensities for all durations from 1 to 72 hours exceeded the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.
- The most significant rainfall intensities for Mt Glorious AL-P in January 2011 occurred on the 11/01/2011. Intensities for durations from 3 to 48 hours exceeded the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Savages Crossing AL and Mt Glorious AL-P in the Brisbane River catchment for January 2011.

Rainfall		Savages Crossing AL	-		Mt Glorious AL-P	
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	10	8:25 AM 11/01/2011	1-2	12	8:30 AM 11/01/2011	2
6 min	12	8:26 AM 11/01/2011	1-2	14	8:31 AM 11/01/2011	2-5
10 min	21	8:25 AM 11/01/2011	2-5	24	8:35 AM 11/01/2011	5-10
20 min	41	8:25 AM 11/01/2011	10-20	37	8:35 AM 11/01/2011	5-10
30 min	57	8:35 AM 11/01/2011	20-50	50	8:35 AM 11/01/2011	10-20
1hr	104	8:40 AM 11/01/2011	>100	83	8:40 AM 11/01/2011	20-50
2hr	186	8:50 AM 11/01/2011	>100	132	8:35 AM 11/01/2011	50-100
3hr	211	9:30 AM 11/01/2011	>100	188	10:25 AM 11/01/2011	>100
6hr	293	1:10 PM 11/01/2011	>100	298	12:35 PM 11/01/2011	>100
12hr	368	2:10 PM 11/01/2011	>100	408	2:30 PM 11/01/2011	>100
24hr	378	2:05 PM 11/01/2011	>100	438	6:55 PM 11/01/2011	>100
48hr	485	2:15 PM 11/01/2011	>100	630	2:30 PM 11/01/2011	>100
72hr	507	2:00 AM 12/01/2011	>100	698	5:05 AM 12/01/2011	50-100

Note: The frequency analysis in this report is for rainfall only. A flood frequency analysis would be required to assess the probability of flood levels reached at each location.

Flood event timeline

Table 2. Flood event timeline for Brisbane City.

Time/Date	Event Description	Gauge height (metres)	Comment
09/01/2011	First warning issued	0.61	
11/01/2011	First time it exceeded minor flood level	1.70	Remained above minor flood levels for ~3.5 days.
12/01/2011	First time it exceeded moderate flood level	2.60	Remained above moderate flood levels for ~2.5 days.
12/01/2011	First time it exceeded major flood level	3.50	Remained above major flood levels for ~1.5 days.
3:00 AM 13/01/2011	Major flood peak	4.46	Highest since 1974.
13/01/2011	Final fall below major	3.50	
14/01/2011	Final fall below moderate	2.60	
14/01/2011	Final fall below minor	1.70	River level exceeded the minor flood level on the high tide on the 15/01/2011.
8:18 AM 19/01/2011	Final warning issued		

Flood Heights at Brisbane City

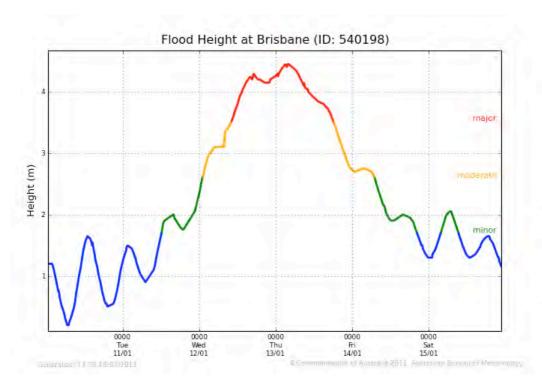


Figure 4. Flood Heights at Brisbane City (Thornton Street Ferry) gauge for January 2011.

Comparison with previous floods

- River height records for Brisbane commenced in 1841 with 13 major flood peaks since that time, three of these occurring in 1893.
- The last major flood recorded at Brisbane was the large scale flood event in January 1974 of 5.45 metres. The record flood at Brisbane was 8.43 metres in 1841.

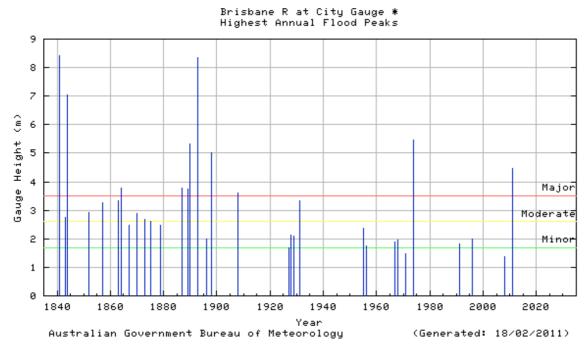


Figure 5. Highest annual flood peaks for the Brisbane River at Brisbane.

Warning and Forecast Service

- Significant runoff commenced during October with flood warnings for the Stanley, upper Brisbane and Bremer Rivers and Lockyer Creek issued between 10/10/2010 and 19/10/2010. This included the first large scale release from Wivenhoe Dam since 2001.
- A total of 96 warnings were issued for the Brisbane River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Brisbane.

Time of Height Forecast	Forecast/Time	Peak				
	First warning issued 09/01/2011					
12:36 AM on Monday the 10th of January 2011	Higher than predicted tides are expected to continue in the Lower Brisbane area during Monday. Minor flood levels are possible on the high tide at the Brisbane City (Port Office) gauge during Tuesday and Wednesday.					
10:28 AM on Monday the	Reach about 2.3 metres (minor) with the high tides on Tuesday and Wednesday. Further rises are possible as rainfall continues.	Rising limb forecasts -				
	Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.	reach a level and expected to continue rising				
9:28 AM on Tuesday the 11th of January 2011	Reach about 2.6 metres (moderate) with the overnight high tide tonight. Reach 3.5 metres (major) with the high tides on Wednesday. Higher levels are expected on Thursday with the high tides.					
3:24 PM on Tuesday the	Reach about 3 metres (moderate) around 3am Wednesday. Reach 4.5 metres (major) at 3pm Wednesday. Exceed 1974 flood level (5.45 metres) on Thursday.					
	Reach about 4.5 metres (major) at 3pm Wednesday. Peak about 5.5 metres (major) during Thursday.					
the 12th of January 2011	Reach about 4.5 metres (major) at 3pm Wednesday. Peak about 5.5 metres (major) during Thursday. Fall below major flood level during Friday.	Reached 4.3 metres a 5:00 PM Wed				
4:29 PM on Wednesday	Peak about 5.2 metres (major) with the high tide at 4am Thursday. Fall below major flood level during Friday.	12/01/2011 Peaked at 4.46 metres				
12:27 AM on Thursday the 13th of January 2011	Peak under 5 metres (major) with the high tide at 4am Thursday. Fall below major flood level by Friday.	at 3:00 AM Thurs 13/01/2011				
12th of January 2011	Peak around 4.6 metres (major) with the high tide about 4am Thursday. Fall below major flood level by Friday.					
	Final warning issued 21/01/2011					

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Burnett River at Bundaberg

- The town of Bundaberg is on the Burnett River in the Burnett catchment
- The flood heights at Bundaberg are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 039170).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

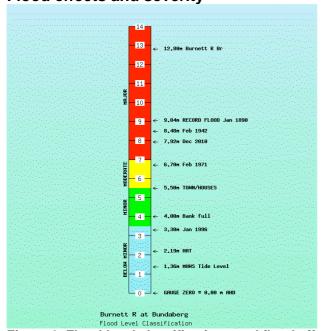
Location map



Figure 1. Map showing location of Bundaberg.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 7.92 metres on 30/12/2010
- Minor: 3.5 metres
 Moderate: 5.5 metres
 Major: 7.0 metres.
- · Gauge zero is 0.0 metres AHD.
- Houses begin to be effected at 5.50 metres.
- Estimated 300 houses and 120 businesses inundated (ABC News).
- A moderate flood peak of 5.76 metres occurred on 13/01/2011.
- Above major flood level (7 metres) from 29/12/2010 to 31/12/2010.
- Remained above minor flood level (3.5 metres) from 25/12/2010 to 02/01/2011 and again from 10/01/2011 to 15/01/2011.

Figure 2. Flood level classifications and flood effects for Bundaberg.

Rainfall summary

- Over 600mm recorded throughout most of Burnett catchment during December 2010 to January 2011
- Heavy rainfall of over 100mm throughout most of Burnett catchment between 9am on 26/12/2010 and 9am on 29/12/2010. The southern part of the Burnett catchment recorded over 300mm between 9am on 07/01/2011 and 9am on 13/01/2011.

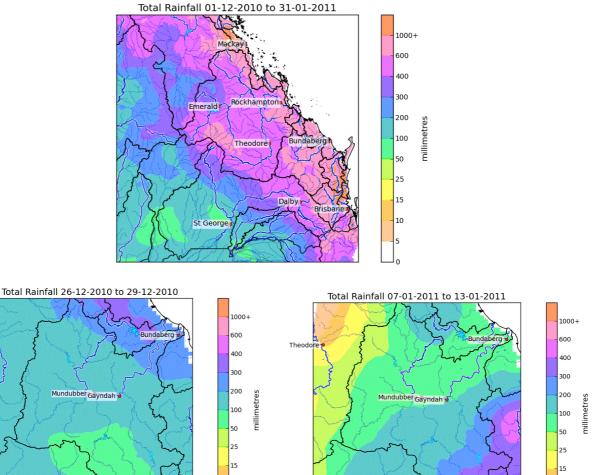


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 72 hours to 9am on 29/12/2010 (bottom left) and for 9am on 07/01/2011 to 9am on 13/01/2011 (bottom right).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at Bungadoo TM in the Lower Burnett River catchment and Glenmore TM on Barker Creek in the Upper Burnett River catchment are shown in Table 1.
- The most significant rainfall intensities for December 2010 and January 2011 occurred in the 12 hour duration period ending on the 11/01/2011, with less than a 1% Annual Exceedence Probability (greater than 100 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Bungadoo TM and Glenmore TM in the Burnett River

catchment for December 2010 and January 2011.

Rainfall		Bungadoo TM		GlenmoreTM			
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)	
12hr	, ,			184	4:50 AM 11/01/2011	> 100	
24hr	167	9:00 AM 28/12/2010	5-10	187	4:50 AM 11/01/2011	50-100	
48hr	262	9:00 AM 28/12/2010	10-20	235	4:50 AM 11/01/2011	20-50	
72hr	300	9:00 AM 28/12/2010	10-20	246	4:50 AM 11/01/2011	20-50	

Flood event timeline

Table 1. Flood timeline for Bundaberg

Table 1. Flood tillleline for Bundaberg					
Time/Date	Event Description	Gauge Height (metres)	Comment		
10:35 PM 19/12/2010	First warning issued				
25/12/2010	First time it exceeded minor flood level	3.50	Remained above minor flood level for ~9 days		
28/12/2010	First time it exceeded moderate flood level	5.50	Remained above moderate flood level for ~5 days		
29/12/2010	First time it exceeded major flood level	7.00	Remained above major flood level for ~3 days		
10:00 AM 30/12/2010	Major flood peak	7.92	Highest since 1942		
31/12/2010	Fall below major	7.00			
01/01/2011	Fall below moderate	5.50			
02/01/2011	Fall below minor	3.50			
10/01/2011	Exceeded minor flood level	3.50	Remained above minor flood level for ~6 days		
12:00 PM 10/01/2011	Minor flood peak	4.03			
13/01/2011	Exceeded moderate flood level	5.50	Remained above moderate flood level for ~2 days		
13/01/2011	Moderate flood peak	5.76			
14/01/2011	Final fall below moderate	5.50			
15/01/2011	Final fall below minor	3.50			
10:04 AM 15/01/2011	Final warning issued				

Flood Heights at Bundaberg

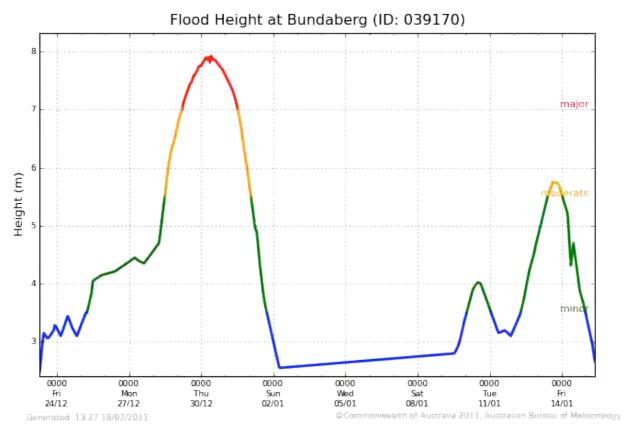


Figure 4. Flood heights for the Bundaberg manual gauge.

Comparison with previous floods

- Start of record 1875 with 9 major flood peaks in the record including 3 major flood peaks in 1893.
- Last major flood was 7.26 metres July 1954 but previous to that was 8.48 metres in February 1942.

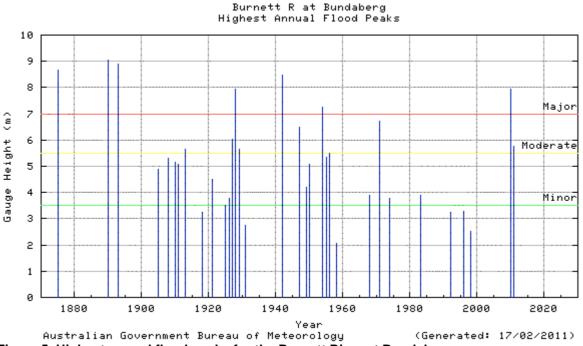


Figure 5. Highest annual flood peaks for the Burnett River at Bundaberg.

Warning and Forecast Service

- Significant runoff commenced during December with flood warnings for the Burnett River catchment issued between 12/12/2010 and 15/12/2010.
- Heavy rainfall occurred in December with warnings commencing on 19/12/2010 and continuing through to 17/1/2011.
- A total of 56 warnings were issued for the Burnett River system including the Burnett River during December 2010 and January 2011.

Table 2. Table of peak height predictions for Bundaberg

Time of Height Forecast	Forecast	Peak		
First warning issued 19/12/2010.				
11:37 PM on Monday the 27th of December 2010	Exceed moderate flood level of 5.5 metres during Wednesday.	6.00 metres at 3:00 PM Tues		
8:00 AM on Tuesday the 28th of December 2010	h of December 2010 possible during Thursday			
12:35 PM on Tuesday the 28th of December 2010	Peak prediction for Bundaberg will be updated as upstream peaks are recorded.	7.00 metres at 5:00 AM Wed		
5:07 PM on Tuesday the 28th of December 2010				
10:20 PM on Tuesday the 28th of December 2010	Exceed the major flood level of 7 metres overnight tonight. Reach about 7.5 metres on Wednesday. Remain high until at least Thursday night.	7.50 metres at 3:00 PM Wed 29/12/2010		
12:31 AM on Wednesday the 29th of December 2010	Exceed the major flood level of 7 metres overnight tonight. Reach about 7.5 metres on Wednesday. Remain high until at least Thursday night.			
	Peak at about 7.5 metres during Wednesday or overnight tonight. Remain high until Friday.	7.50 metres at 3:00 PM Wed 29/12/2010		
the 29th of December 2010	2:02 PM on Wednesday Peak at about 7.8 metres overnight Wednesday. River 29th of December 2010 levels to remain high until Friday.			
5:47 PM on Wednesday Peak at about 7.8 metres overnight Wednesday. River ne 29th of December 2010 levels to remain high until Friday. 10:52 PM on Wednesday Peak at about 7.8 metres overnight Wednesday. River		at 5:00 AM Thurs 30/12/2010		
	levels to remain high until Friday.			
7:16 AM on Thursday the 30th of December 2010	Remain around its current level during Thursday and overnight. River levels at Bundaberg should commence falling slowly overnight or during Friday morning.	7.92 metres		
12:23 PM on Thursday the 30th of December 2010				
4:56 PM on Thursday the 30th of December 2010	Remain around its current level during Thursday and overnight. River levels at Bundaberg should commence falling slowly overnight or during Friday morning.			
11:00 AM on Tuesday the 11th of January 2011	Reach about 5 metres overnight Thursday.	5.25 metres at 6:00 AM Thurs 13/01/2011		
10:25 PM on Wednesday the 12th of January 2011	Reach 5.5 metres overnight Thursday with further rises.	5.62 metres at 12:00 PM Thurs 13/01/2011		
8:28 AM on Thursday the 13th of January 2011	Exceed 5.5 metres later Thursday morning. Reach about 5.75 metres (moderate peak) at about 5pm	5.76 metres at 3:00 PM Thurs		

	Thursday.	13/01/2011		
1:48 PM on Thursday the 13th of January 2011	Peak at about 5.75 metres (moderate peak) at about 6pm Thursday.	5.75 metres at 6:00 PM Thurs		
6:40 PM on Thursday the 13th of January 2011	Currently reaching a moderate flood peak at 5.75 metres.	13/01/2011		
Last warning issued 15/01/2011.				

Flood summary for the Caboolture River at Caboolture

- The town of Caboolture is located on the Caboolture River in the Caboolture River catchment.
- The flood heights at Caboolture are measured on an alert gauge called Caboolture WTP (Water Treatment Plant) that is owned by the Moreton Bay Regional Council (Bureau station number: 540243).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

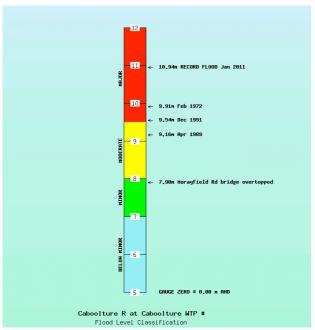
Location map



Figure 1. Map showing location of Caboolture.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 10.94 metres on 11/01/2011.
- Minor: 7 metres
 Moderate: 8 metres

 Major: 9.5 metres.
- Gauge zero is 0.0 metres AHD.
- Estimated 300 houses and also roads and public infrastructure affected in the Caboolture area (Courier Mail).
- On 11/01/2011 Caboolture exceeded minor flood level (7 metres), peaked at 10.94 metres (major) and fell below minor flood level (7 metres).

Figure 2. Flood level classifications and flood effects for Caboolture.

Rainfall summary

- Over 600mm of rainfall was recorded throughout most of the Caboolture catchment with totals of over 1000mm in the upper parts of the catchment during December 2010 to January 2011.
- Over 400mm of rainfall was recorded in the Upper Caboolture catchment for the 48 hours to 9am on 12/01/2011.

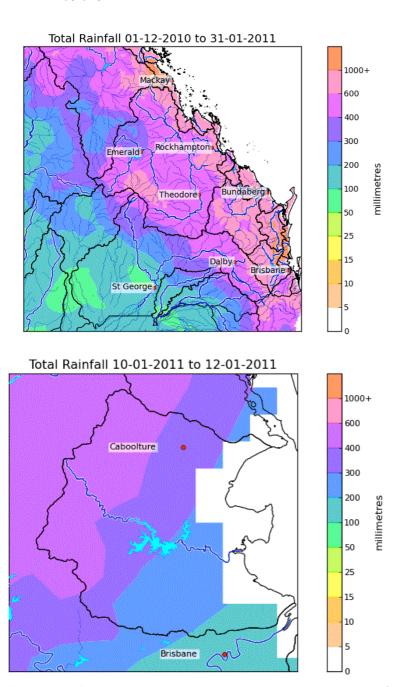


Figure 3. Rainfall map for December 2010 and January 2011 (top) and rainfall map for the 48 hours to 9am on 12/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for four selected stations at Wamuran AL on Waraba Creek, Caboolture WTP AL and Upper Caboolture AL on the Caboolture River and Moorina AL near Burpengary Creek are shown in Tables 1 and 2.
- The most significant rainfall intensities for December 2010 and January 2011 at all four sites occurred on the 11/01/2011. An exception to this was the 24 hour rainfall intensity at Caboolture WTP for the period ended 5:55 PM on the 11/01/2011 which equalled the 5-10% Annual Exceedence Probability (10-20 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Caboolture WTP AL and Upper Caboolture AL on

the Caboolture River for December 2010 and January 2011.

Rainfall	Caboolture WTP AL			Upper Caboolture AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
3 hr	154	9:55 AM 11/01/2011	50-100	160	10:05 AM 11/01/2011	100
6 hr	222	10:05 AM 11/01/2011	> 100	262	10:45 AM 11/01/2011	> 100
12hr	266	2:00 PM 11/01/2011	50-100	308	2:20 PM 11/01/2011	> 100
24hr	272	5:55 PM 11/01/2011	10-20	315	6:05 PM 11/01/2011	20-50
48hr	397	1:45 PM 11/01/2011	20-50	434	1:50 PM 11/01/2011	20-50
72hr	451	9:05 PM 11/01/2011	20-50	483	9:20 PM 11/01/2011	20-50

Table 2. Recorded Maximum Rainfall Intensities for Wamuran AL on Waraba Creek and Moorina AL near

Burpengary Creek for December 2010 and January 2011.

Rainfall	Wamuran AL			Moorina AL		
Daintall	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)	
60 min	77	10:40 AM 11/01/2011	20	103	9:35 AM 11/01/2011	> 100
2 hr	129	10:30 AM 11/01/2011	50-100	179	10:20 AM 11/01/2011	> 100
3 hr	176	10:45 AM 11/01/2011	> 100	214	10:15 AM 11/01/2011	> 100
6 hr	280	11:10 AM 11/01/2011	> 100	310	10:50 AM 11/01/2011	> 100
12hr	351	2:40 PM 11/01/2011	> 100	395	2:45 PM 11/01/2011	> 100
24hr	369	6:50 PM 11/01/2011	50-100	406	7:15 PM 11/01/2011	> 100
48hr	530	1:25 PM 11/01/2011	> 100	537	1:55 PM 11/01/2011	> 100
72hr	598	6:50 PM 11/01/2011	50-100	580	3:35 PM 11/01/2011	50-100

Flood event timeline

Table 3. Flood timeline for Caboolture.

Time/Date	Event Description	Gauge Height (metres)	Comment
9:58 AM 11/01/2011	First warning issued		
11/01/2011	First time it exceeded minor flood level	7.0	Remained above minor flood level for ~1 day
11/01/2011	First time it exceeded moderate flood level	8.0	Total time above moderate flood was ~1 day
11/01/2011	First time it exceeded major flood level	9.5	Total time above major flood was ~1 day
1:20 PM 11/01/2011	Major flood peak	10.94	New record
11/01/2011	Final fall below major	9.5	
11/01/2011	Final fall below moderate	8.0	
11/01/2011	Final fall below minor	7.0	
7:03 AM 13/01/2011	Final warning issued		

Flood Heights at Caboolture

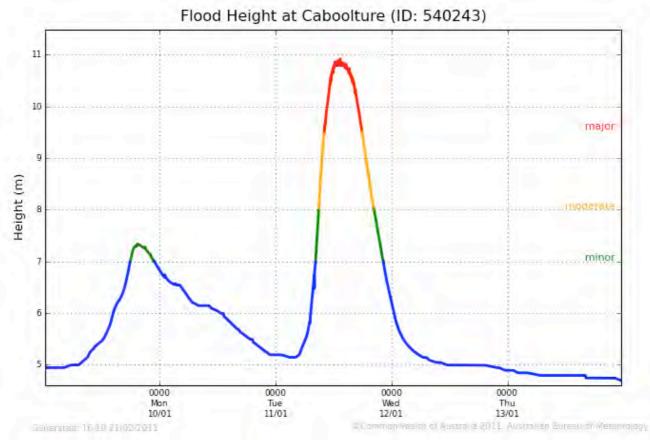


Figure 4. Flood heights for Caboolture alert gauge.

Comparison with previous floods

- Start of record 1972 with 3 major flood peaks in the record
- Last major flood was 9.54 metres December 1991 but previous to that was 9.91 metres in February 1972.

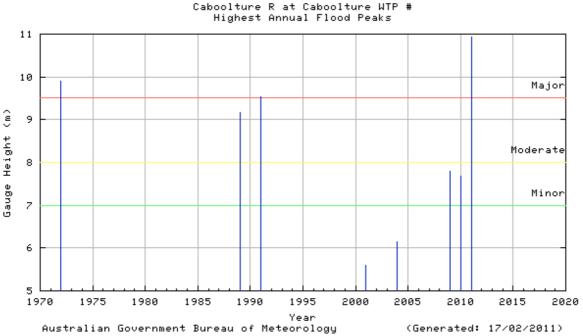


Figure 5. Highest annual flood peaks for the Caboolture River at Caboolture.

Warning and Forecast Service

- Heavy rainfall occurred in January 2011 with warnings commencing 11/1/2011 and continuing through to 13/1/2011.
- A total of 7 warnings were issued for the Pine River system including the Caboolture River during January 2011.
- The Bureau does not provide a quantitative forecasting service for the Caboolture River.

Table 4. Summary of warnings that referred to flooding at Caboolture.

Time of warning	Warning text	Peak
9:58 AM on Tuesday the 11th of January 2011	Very heavy rainfall during Tuesday morning has resulted in fast river rises and moderate to major flooding along the Caboolture River. At 9:50am Tuesday, the river level at Caboolture was 9.34 metres and rising with moderate flooding.	
11:24 AM on Tuesday the 11th of January 2011	Very heavy rainfall during Tuesday morning has resulted in extreme river rises and widespread major flooding along the Caboolture River and in Burpengary Creek. At 11:15am Tuesday, the river level at Caboolture was 10.44 metres and rising with major flooding.	
11th of January 2011	Major flooding continues at Caboolture, where at 1:40pm Tuesday the river level was 10.79 metres and near a peak.	10.94 metres at 1:20 PM Tues 11/01/2011

Flood summary for Charleys Creek at Chinchilla

- The town of Chinchilla is on Charleys Creek in the Condamine and Balonne catchment.
- The flood heights at Chinchilla are measured with a combination of an automatic gauge owned by the Department of Environment and Resource Management and a manual gauge owned by the Bureau of Meteorology (Bureau station number: Automatic - 541074, Manual -041351).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

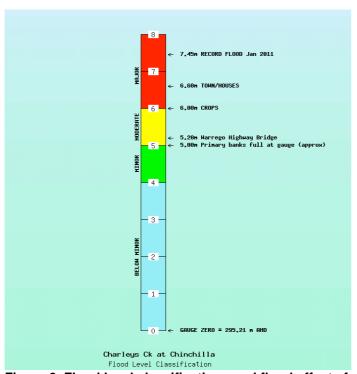
Location map



Figure 1. Map showing location of Chinchilla.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 7.24 metres on 28/12/2010
 Peaked at 7.45 metres on the 12/01/2011.
- Minor: 4 metres
 Moderate: 5 metres
 Major: 6 metres.
- Gauge zero is 295.215 metres AHD
- Houses begin to be affected at 6.6 metres.
- 36 properties were affected. (Courier Mail)
- Chinchilla was above major flood level (6 metres) between the 27/12/2010 and 01/01/2011 and then again from 11/01/2011 to 14/01/2011.
- Chinchilla remained above minor flood level (4 metres) between the 21/12/2011 and 06/01/2011 and then again from 10/01/2011 to 18/01/2011.

Figure 2. Flood level classifications and flood effects for Chinchilla.

Rainfall summary

- Between 300 to 400 millimetres of rainfall was recorded over the Condamine River and nearby creeks during the month of December 2010. Further heavy rain and falls between 200 and 400 millimetres were recorded during early January 2011.

 The heaviest rainfall periods during December 2010 and January 2011 occurred between the
- 06/01/2011 to 12/01/2011 with falls between 200 and 400 millimetres.

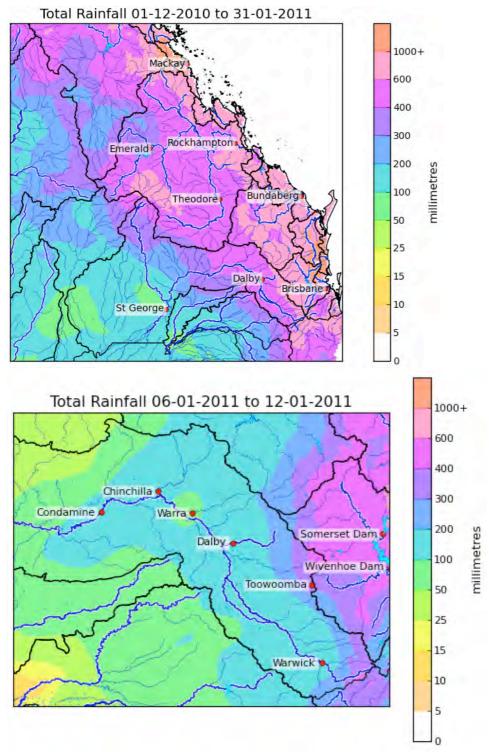


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period between 06/01/2011 and 12/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at Ballon TM and Horse Creek TM in Charley's Creek catchment are shown in Table 1.
- The most significant rainfall intensities for Ballon TM in January 2011 occurred on the 10/01/2011 and 11/01/2011. Intensities for all durations did not exceed the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.
- The most significant rainfall intensities for Horse Creek TM in January 2011 occurred on the 10/01/2011 and 11/01/2011. Intensities for durations did not exceed the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Ballon TM and Horse Creek TM on the Brisbane River for January 2011.

Briobario Kivor for Gariaary 20111						
Rainfall		Ballon TM		Horse Creek TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	
2hr	64	5:25 PM 10/01/2011	10-20	61	6:00 PM 10/01/2011	5-10
3hr	71	6:25 PM 10/01/2011	10-20	85	7:00 PM 10/01/2011	20-50
6hr	115	8:35 PM 10/01/2011	50-100	114	7:45 PM 10/01/2011	50-100
12hr	124	8:35 PM 10/01/2011	20-50	118	8:20 PM 10/01/2011	20-50
24hr	125	12:00 AM 11/01/2011	10-20	118	12:00 AM 11/01/2011	5-10

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Chinchilla.

Time/Date	Event Description	Gauge height (metres)	Comment
19/12/2010	First warning issued	Below minor	
21/12/2010	Exceeded minor flood level	4.00	Remained above minor flood levels for ~14 days.
26/12/2010	Exceeded moderate flood level	5.00	Remained above moderate flood levels for ~7 days and 16 hours.
27/12/2010	Exceeded major flood level	6.00	Remained above major flood levels for ~5 days.
6:00 AM 28/12/2010	Major flood peak	7.24	Highest flood recorded since the start of record in 1970*.
01/01/2011	Fell below major flood level	6.00	
03/01/2011	Fell below moderate flood level	5.00	
03/01/2011	Fell below flood minor	4.00	
10/01/2011	Exceeded minor flood level	4.00	Remained above minor flood levels for ~7 days.
10/01/2011	Exceeded moderate flood level	5.00	Remained above moderate flood levels for ~6.5 days.
11/01/2011	Exceeded major flood level	6.00	Remained above major flood levels for ~3.5 days.
10:15 AM 12/01/2011	Major flood peak	7.45	New Record.
14/01/2011	Fell below major flood level	6.00	
17/01/2011	Fell below moderate flood level	5.00	
17/01/2011	Fell below minor flood level	4.00	
9:00 AM 17/01/2011	Final warning issued		

Flood heights at Chinchilla

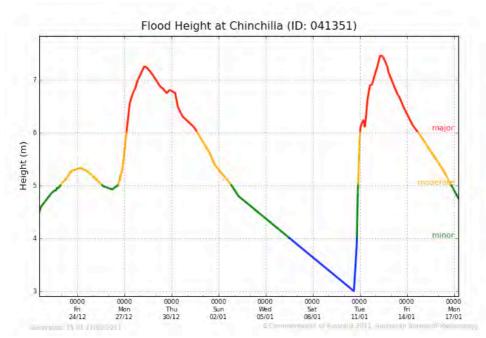


Figure 4. Flood heights at the Chinchilla manual gauge.

Comparison with previous floods

- Start of record 1970. Chinchilla manual station has peak heights dating back to 1893 however the station was re-located in 1970 and heights before this date cannot be compared.
- · 5 major flood peaks in the record
- The last major flood recorded at Chinchilla was 6.60 metres in May 1983 with major floods also occurring in 1981 (6.15 metres) and 1970 (6.17 metres). The record flood of February 1942 was 8.33 metres, however this was recorded at a different location and heights can't be related.

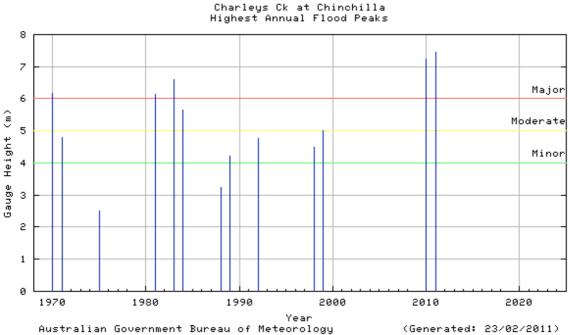


Figure 5. Highest annual flood peaks for Charleys Creek at Chinchilla.

Warning and Forecast Service

- The catchments started to become saturated during October with flood warnings for the Condamine and Balonne Rivers issued between 10/10/2010 and 25/10/2010.
- A total of 103 warnings were issued for the Condamine and Balonne River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Chinchilla.

Time of Height Forecast	Forecast	Peak
05/12/2010	First warning issued. Height at the time was below	minor.
12:03 PM on Tuesday the 21st of December 2010	Creek levels are expected to continue rising at Chinchilla with a peak just over 6 metres estimated during the next 36 hours.	
9:27 AM on Wednesday the 22nd of December 2010	Creek levels are expected to continue rising at Chinchilla with a peak just over 6 metres estimated overnight tonight.	
11:02 AM on Thursday the 23rd of December 2010	Moderate flood levels are rising slowly at Chinchilla with higher levels possible during the next few days from overnight rainfall.	
4:29 PM on Thursday the 23rd of December 2010	At 4pm, the level at Chinchilla was 5.28 metres and rising slowly. Further heavy falls were recorded in the catchment although this is unlikely to affect the peak at Chinchilla.	
10:09 AM on Friday the 24th of December 2010	Moderate flood levels are slowly approaching a peak at Chinchilla.	7.24 metres at 6:00 AM Tue
10:59 AM on Saturday the 25th of December 2010	River levels at Chinchilla will fall today before rising again. A flood peak of up to 6 metres is possible on Monday. River levels will be higher than Friday's peak.	28/12/2010
10:07 AM on Sunday the 26th of December 2010	A major flood peak of up to 6 metres is possible on Monday-Tuesday, with levels higher than the Friday peak.	
6:47 AM on Monday the 27th of December 2010	Major flooding is rising fast at Chinchilla with levels expected to be higher than the 1983 peak of 6.6 metres.	
12:36 PM on Monday the 27th of December 2010	Creek levels at Chinchilla have already exceeded the 1983 peak of 6.6 metres, with strong rises continuing during Monday.	
5:26 PM on Monday the 27th of December 2010	Charleys Creek at Chinchilla is expected to peak at 7 metres or above during Monday night and Tuesday morning.	
10:32 PM on Monday the 10th of January 2011	Reach 7 metres (major) during Tuesday morning. Possibly reach 7.5 metres Tuesday afternoon	
2:15 PM on Tuesday the 11th of January 2011	Reach 7 metres (major) during Tuesday night. Possibly reach 7.5 metres overnight and Wednesday.	7.45 metres at 10:15 AM Wed
11:07 PM on Tuesday the 11th of January 2011	Possibly reach 7.5 metres during Wednesday.	12/01/2011
7:28 AM on Wednesday the 12th of January 2011	Further rises to around 7.5 metres during Wednesday morning.	

Flood summary for the Condamine River at Condamine

- The town of Condamine is on the Condamine River in the Condamine-Balonne River catchment.
- The flood heights at Condamine are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 042048).
- Condamine experienced record flooding in January 2011 with two major peaks and a new peak height record of 15.25 metres on 01/01/2011.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

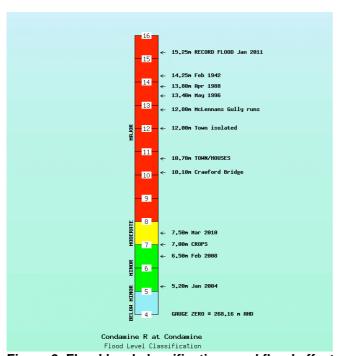
Location map



Figure 1. Map showing location of Condamine.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 15.25 metres on 01/01/2011 (new record) and 14.67 metres on 16/01/2011.
- Minor: 5 metres
 Moderate: 7 metres
 Major: 8 metres
- Gauge Zero is 268.163 metres AHD.
- All 100 residents were evacuated to Dalby on 30/12/2010 and again on 11/01/2011 for the two major flood peaks (Source: ABC).
- Both flood peaks exceeded any previous river height recorded for Condamine with the peak on 01/01/2011 setting the new peak height record for the town.
- Above major flood level (8 metres) from 24/12/2010 to 22/01/2011.
- Above minor flood level (5 metres) from 20/12/2010 to 24/01/2011.

Figure 2. Flood level classifications and flood effects for Condamine

Rainfall summary

- Between 300 and 600 millimetres of rainfall was recorded over the Condamine River catchment from the start of December 2010 to the end of January 2011 with falls greater than 600mm over the far east of the catchment.
- The heaviest rainfall periods during December occurred from the 26/12/2010 to 28/12/2010 with falls between 100 and 200 millimetres.

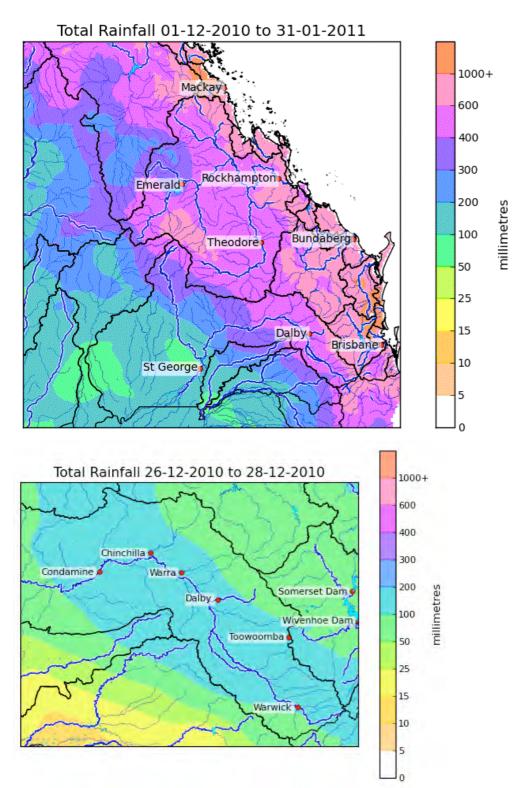


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period from the 26/12/2010 to 28/12/2010 (bottom).

Rainfall Intensity

- The December and January floods at Condamine Town were not caused by local area intense rainfall
 and rainfall intensity analysis of single sites in the large catchment above Condamine Town is not
 informative.
- The flood levels at Condamine Town were the result of the combination of large flows in Charleys Creek, Myall Creek and the Upper Condamine River.

Flood event timeline

Table 2. Flood timeline for Condamine

Time/Date	Event Description	Gauge Height (metres)	Comment	
7:48 AM 05/12/2010	First warning issued			
20/12/2010	River level first exceeds the minor flood level.	5.00	Remained above the minor flood level for 35 days.	
23/12/2010	River level first exceeds the moderate flood level	7.00	Remained above the moderate flood level for 31 days.	
9:00 AM 24/12/2010	River level first exceeds the major flood level	8.00	Remained above the major flood level for 29 days.	
6:15 AM 01/01/2011	First major flood peak	15.25	Record Flood Peak for Condamine.	
9:00 AM 16/01/2011	Second major flood peak	14.67	Second highest peak on record.	
22/01/2011	Final fall below major	8.00		
23/01/2011	Final fall below moderate	7.00		
24/01/2011	Final fall below minor	5.00		
24/01/2011	Final warning issued for Condamine Town.			

Flood Heights at Condamine

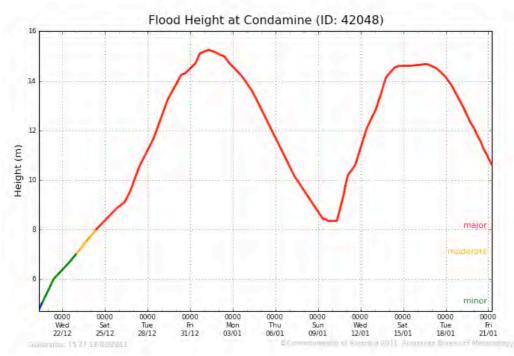


Figure 4. Flood Heights at Condamine manual gauge for December 2010 and January 2011

Comparison with previous floods

- River height records for Condamine commenced in 1922.
- River height peaks in January 2011 rank as the two highest flood peaks recorded for the town with the peak of 15.25 metres recorded on 01/01/2011 the new highest peak on record.
- The previous time the river level at Condamine exceeded 14 metres was in May 1983.

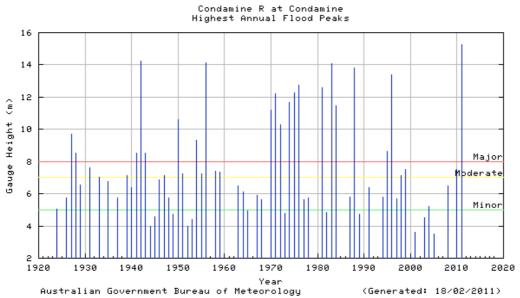


Figure 5. Highest annual flood peaks for the Condamine River at Condamine

Warning and Forecast Service

- The first warning for the Condamine-Balonne River was issued on 05/12/2010 for minor flooding in the Condamine River and more significant flooding in the Maranoa and Balonne Rivers. However, further rainfall in December saw the continuation of the Condamine-Balonne River Flood Warning through to 10/02/2011.
- Major flooding was first predicted for Condamine in the Flood Warning issued at 10 PM on 19/12/2010.
 Renewed rises were caused by widespread thunderstorm activity over the upper Condamine catchment including Myall and Charleys Creek.
- A total of 103 warnings were issued for the Condamine-Balonne River system during December 2010 and January 2011.

Table 3. Table of peak height predictions for Condamine

Time of Height Forecast	Forecast	Peak
05/12/2010 First warning i	ssued. Condamine Manual Station has not commen time.	ced reporting at this
12:03 PM on Tuesday the 21st of December 2010	A major flood peak is expected at Condamine of at least 9 to 10 metres during the weekend	Rising limb forecasts – reach a level and expected to continue
10:59 AM on Saturday the 25th of December 2010	A major flood peak of between 9 and 10 metres is expected at Condamine on Sunday	rising.
10:07 AM on Sunday the 26th of December 2010	A major flood peak of around 10 metres is expected at Condamine on Monday	
6:47 AM on Monday the 27th of December 2010	A major flood peak of between 10 to 11 metres is now expected on Wednesday at Condamine township	
12:36 PM on Monday the 27th of December 2010	A major flood peak of between 11 to 12 metres is now expected on Tuesday at Condamine township	

	Eurthor river rices are expected to extend described			
5:26 PM on Monday the 27th of December 2010	Further river rises are expected to extend downstream to the Condamine Town area and Cotswold area during this week. Major flooding is expected to continue for at least the next 2 weeks.			
7:08 AM on Tuesday the 28th of December 2010	Major flooding is expected to continue for at least the next 2 weeks.			
10:19 AM on Wednesday the 29th of December 2010	Record flood levels at Condamine are expected during the weekend and into next week.			
12:48 PM on Wednesday the 29th of December 2010	Flood levels to reach around 14 metres. Levels may reach or just exceed the 1942 flood record height of 14.25 metres.			
7:55 AM on Friday the 31st of December 2010	Reach about 15 metres (major) later this weekend.			
12:50 PM on Friday the 31st of December 2010	Condamine Township Reach, and possibly exceed, 15 metres (major) during this weekend.	New Record 15.25 metres at 6:15 AM Sat		
7:11 PM on Friday the 31st of December 2010	Continue rising at record levels. Peak during Sunday.	01/01/2011		
6:19 PM on Saturday the 1st of January 2011	The river level at Condamine Township at 2pm Saturday was 15.2m and steady with levels expected to remain steady overnight Saturday.			
3:40 PM on Sunday the 2nd of January 2011	Continue falling slowly during this week.	River levels falling.		
7:27 AM on Sunday the 9th of January 2011	Further rain is forecast for the eastern Darling Downs area from today through to Tuesday which will cause renewed rises in creeks in the area, and may produce renewed Condamine River rises.	Rising limb forecasts – reach a level and		
6:44 PM on Tuesday the 11th of January 2011	Exceed 13 metres during Thursday. Reach higher levels going into the weekend.	expected to continue rising		
7:28 AM on Wednesday the 12th of January 2011	Exceed 13 metres during Thursday with further rises and levels to around 14.8 metres by the weekend.			
10:10 AM on Thursday the 13th of January 2011	Reach around 14.8 metres (major flood) during the weekend.	44.0=		
10:55 AM on Saturday the 15th of January 2011	Peak around 15 metres overnight Sunday.	14.67 metres at 9:00 AM Sun 16/01/2011		
8:28 AM on Sunday the 16th of January 2011	Peak to about 14.8 metres (major) during Sunday.			
9:00 AM on Monday the 17th of January 2011	A major flood peak of 14.67 metres was recorded at Condamine Township during Sunday. River levels to ease below 13.0 metres late Tuesday.			
10/02/2011 Final warning issued for the Condamine-Balonne River System.				

Flood summary for Myall Creek at Dalby

- The town of Dalby is on Myall Creek in the Condamine and Balonne catchment.
- The flood heights at Dalby are measured with a combination of a manual and an automatic gauge co-owned by the Bureau of Meteorology and the Western Downs Regional Council (Bureau station number: manual gauge 041478 and automatic gauge 541041).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

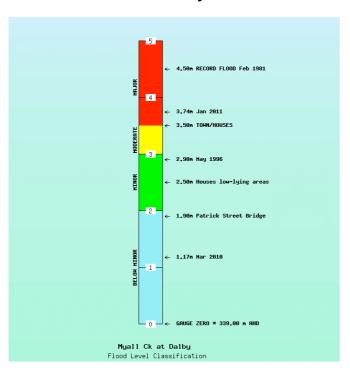
Location map



Figure 1. Map showing location of Dalby.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- The river peaked at:
 2.94 metres on 20/12/2010,
 3.54 metres on 27/12/2010,
 3.74 metres on 10/01/2011,
 3.49 metres on 12/01/2011.
- Minor: 2.0 metres
 Moderate: 3.0 metres
 Major 3.5: metres
- Gauge zero is 339.0 metres AHD.
- Houses in low lying areas begin to be affected at 3.5 metres.
- 100 properties inundated during the 3.54 metre peak on 27/12/2010 (Courier Mail).
- Dalby was above major flood level (3.5 metres) on the 27/12/2010 and again from 10/01/2011 to 11/01/2011.
- It remained above minor flood level (2.0 metres) for about 7.5 days total over the four main flood peaks.

Figure 2. Flood level classifications and flood effects for Dalby

Rainfall summary

- Between 300 and 600 millimetres of rainfall was recorded over the Condamine River and nearby creeks during the month of December 2010. Further heavy rain and falls between 200 and 400 millimetres were recorded during early January 2011.

 The heaviest rainfall periods during December 2010 and January 2011 occurred from the
- 06/01/2011 to 12/01/2011 with falls between 200 and 400 millimetres.

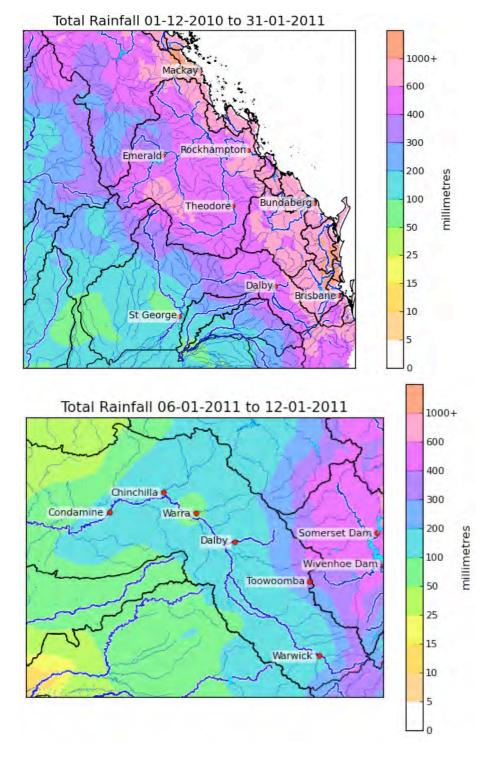


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period between 06/01/2011 and 12/01/2011 (bottom). **Rainfall Intensity**

- Maximum rainfall intensities for two selected stations at Cooringa AL and Mt Brigalow AL in the upper Myall Creek catchment are shown in Table 1.
- The most significant rainfall intensities for Cooringa AL in January 2011 occurred on the 06/01/2011, and 09/01/2011 - 11/01/2011. Intensities for all durations were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.
- The most significant rainfall intensities for Mt Brigalow AL in January 2011 occurred on the 11/01/2011. Intensities for all durations were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.

Table 1. Recorded Maximum Rainfall Intensities for Cooringa AL and Mt Brigalow AL on Myall

Creek for January 2011.

Rainfall		Cooringa AL	. Mt Brigalow AL			
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
3hr	36	10:55 06/01/2011	<1	63	03:50 11/01/2011	5-10
6hr	52	19:50 09/01/2011	1-2	75	04:00 11/01/2011	5-10
12hr	63	22:35 09/01/2011	1-2	82	06:10 11/01/2011	2-5
24hr	67	00:40 10/01/2011	1-2	93	06:10 11/01/2011	2-5
48hr	104	05:45 11/01/2011	2-5	174	10:20 11/01/2011	20-50
72hr	107	05:45 11/01/2011	2-5	187	14:30 11/01/2011	20-50

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Dalby.

Time/Date	Event Description	Gauge height (metres)	Comment
18/12/2010	First warning issued	1.34	
27/12/2010	Exceeded minor flood level	2.00	Remained above minor flood levels for ~2 days.
27/12/2010	Exceeded moderate flood level	3.00	Remained above moderate flood levels for ~1.5 days.
27/12/2010	Exceeded major flood level	3.50	Remained above major flood levels for ~5 hours.
6:48 PM 27/12/2010	Major flood peak	3.54	Equal 10th highest on record.
27/12/2010	Fell below major flood level	3.50	
28/12/2010	Fell below moderate flood level	3.00	
29/12/2010	Fell below minor flood level	2.00	
09/01/2011	Exceeded minor flood level	2.00	Remained above minor flood levels for ~3 days.
10/01/2011	Exceeded moderate flood level	3.00	Remained above minor flood levels for ~2.5 days.
10/01/2011	Exceeded major flood level	3.50	Remained above minor flood levels for ~18 hours.
4:45 PM 10/01/2011	Major flood peak	3.74	Largest since 1983 and 5 th highest on record.
11/01/2011	Fell below major flood level	3.50	
12/01/2011	Fell below moderate flood level	3.00	
13/01/2011	Fell below minor flood level	2.00	
7:41 AM 14/01/2011	Final warning issued		

Flood heights at Dalby

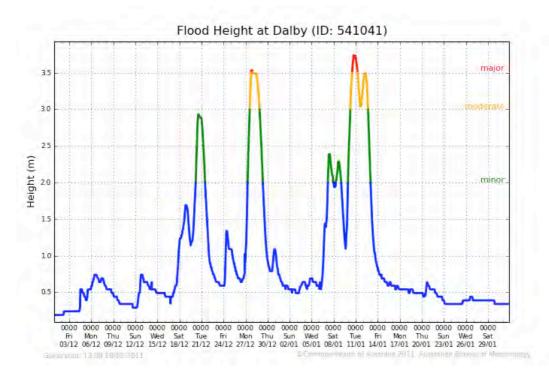


Figure 4. Flood heights at the Dalby AL gauge.

Comparison with previous floods

- Start of record 1908 with 11 major flood peaks in the record with 2 occurring in 1956 and 2 also in 1981.
- The last major flood recorded at Dalby was 3.80 metres in June 1983 and the record flood is 4.50 metres in February 1981.

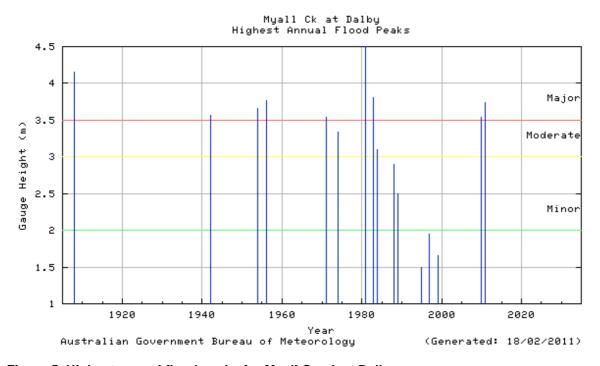


Figure 5. Highest annual flood peaks for Myall Creek at Dalby.

Warning and Forecast Service

- The catchment started to become saturated during October with flood warnings for the Condamine and Balonne Rivers issued between 10/10/2010 and 25/10/2010.
- A total of 103 warnings were issued for the Condamine and Balonne River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Dalby.

Time of Height Forecast	eight predictions for Dalby. Forecast	Peak	
18/12/2010 Firs	st warning issued. Height at the time was 1.34m (belo	ow minor)	
6:43 PM on Sunday the 19th of December 2010			
9:01 AM on Monday the 20th of December 2010			
6:47 AM on Monday the 27th of December 2010	River levels downstream at Dalby are rising with minor flood levels expected to about 2.6 metres during Monday afternoon.		
12:36 PM on Monday the 27th of December 2010	Minor flood levels downstream at Dalby continue to rise with moderate flooding and higher levels possible during Monday afternoon.	3.54 metres at 6:50 PM Mon 27/12/2010.	
5:26 PM on Monday the 27th of December 2010	A peak of about 3.8 metres at Dalby is expected by midnight tonight causing major flooding.		
11:46 PM on Sunday the 9th of January 2011	Reach 3 metres (moderate) by midday Monday. Possibly reach 3.5 metres (major) Monday night.		
1:44 AM on Monday the 10th of January 2011	Peak up to 3 metres (moderate flood level) by 8am Monday.	3.74 metres at 4:45 PM Mon	
6:13 AM on Monday the 10th of January 2011	Reach 3.5 metres (major flood level) by midday Monday.	10/01/2011.	
5:25 PM on Monday the 10th of January 2011	Major flood peak in the next 3 to 6 hours. Remain high during Tuesday.		
10:32 PM on Monday the 10th of January 2011	Further rises and high level major flooding possible if heavy rainfall returns to the catchment.		
6:55 AM on Tuesday the 11th of January 2011	Fall this morning before rising again with a peak expected overnight to around 3.7 metres again.	3.49 metres at 3:30 AM Wed	
2:15 PM on Tuesday the 11th of January 2011	Fall this morning before rising again with a peak expected overnight to around 3.8 metres.	12/01/2011.	
6:44 PM on Tuesday the 11th of January 2011	Reach 3.8 metres (major) during Wednesday morning.		

Flood summary for the Nogoa River at Emerald

- The town of Emerald is on the Nogoa River in the Fitzroy catchment
- The flood heights at Emerald are measured using a combination of an automatic gauge owned by the Central Highlands Regional Council and a manual gauge owned by the Bureau of Meteorology (Bureau station number: Automatic 535076, Manual 053260).
- Emerald recorded major flooding in December 2010 causing significant inundation to the town.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

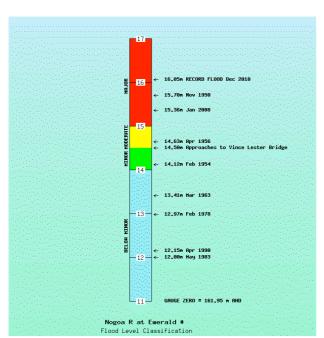
Location map



Figure 1. Map showing location of Emerald.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 16.05 metres on 31/12/2010.
- Minor: 14 metres
 Moderate: 14.5 metres
 Major: 15 metres.
- Gauge zero is 161.95 metres AHD.
- Estimated 1000 houses and 95% of properties inundated (ABC News).
- The river peaked at 16.05 metres on 31/12/2010. This peak is a new record, higher than the previous record of 15.7 metres in 1950.
- Above major flood level (15 metres) from 30/12/2010 to 02/01/2011.
- Remained above minor flood level (14 metres) from 29/12/2010 to 03/01/2011.

Figure 2. Flood level classifications and flood effects for Emerald.

Rainfall summary

- Over 600mm was recorded in parts of the Nogoa River catchment during December 2010 and January 2011.
- Very heavy rainfall of over 400mm in the Carnarvon ranges between 9am on 26/12/2010 and 9am on 28/12/2010.

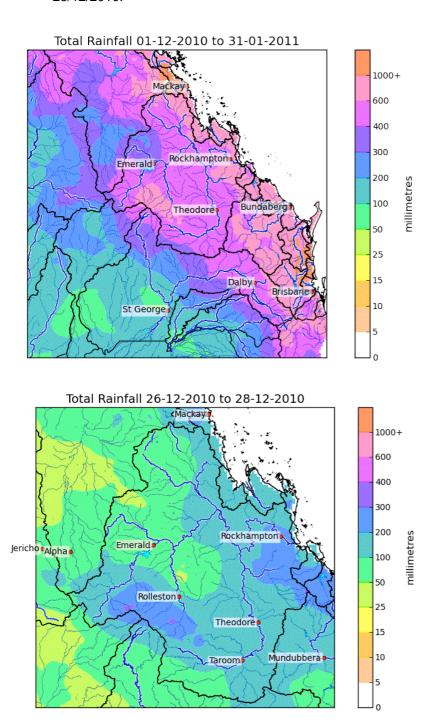


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9am on 28/12/2010 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for four selected stations at Penjobe TM on Cona Creek, Upper Van Dyke AL near Vandyke Creek, Upper Claude AL near Clyde River and Glen Rock AL are shown in Tables 1 and 2.
- The most significant rainfall intensities for December 2010 and January 2011 occurred in the 12 to 72
 hours prior to the 27/12/2010, with mainly a 1-2% Annual Exceedence Probability (50-100 year Average
 Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Penjobe TM on Cona Creek and Upper Van Dyke AL

near Vandyke Creek for December 2010 and January 2011.

Rainfall	Penjobe TM			Upper Van Dyke AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	158	11:55 AM 27/12/2010	50-100	189	5:55 AM 27/12/2010	> 100
24hr	239	12:35 PM 27/12/2010	> 100	248	1:05 PM 27/12/2010	> 100
48hr	261	12:35 PM 27/12/2010	50-100	268	2:55 PM 27/12/2010	> 100
72hr	264	1:30 PM 27/12/2010	50-100	272	3:30 PM 27/12/2010	50-100

Table 2. Recorded maximum rainfall Intensities for Upper Claude AL near Clyde River and Glen Rock AL

for December 2010 and January 2011.

Rainfall	Upper Claude AL			Glen Rock AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	180	1:10 AM 27/12/2010	> 100	210	5:40 AM27/12/2010	> 100
24hr	198	12:35 PM 27/12/2010	50-100	271	12:25 PM 27/12/2010	> 100
48hr	221	2:30 PM 27/12/2010	20-50	290	2:25 PM 27/12/2010	> 100
72hr	222	2:30 PM 27/12/2010	20-50	292	2:25 PM 27/12/2010	> 100

Flood event timeline

Table 3. Flood timeline for Emerald

Time/Date	Event Description	Gauge Height (metres)	Comment
6:51 AM 27/12/2010	First warning issued	10.65	First warning issued with reference to Emerald flooding.
29/12/2010	First time it exceeded minor flood level	14.0	Remained above minor flood level for ~6 days
29/12/2010	First time it exceeded moderate flood level	14.5	Total time above moderate flood was ~ 5 days
30/12/2010	First time it exceeded major flood level	15.00	Total time above major flood was ~4 days
4:00AM 31/12/2010	Major flood peak	16.05	New record
02/01/2011	Final fall below major	15.00	
02/01/2011	Final fall below moderate	14.5	
03/01/2011	Final fall below minor	14.0	
6:01 PM 03/01/2011	Final warning issued		

Flood Heights at Emerald

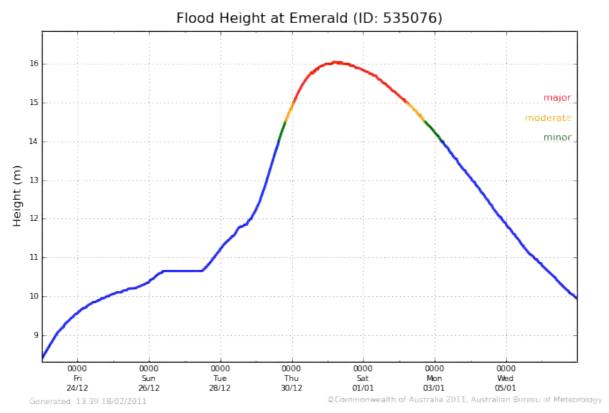


Figure 4. Flood Heights for the Emerald Alert.

Comparison with previous floods

- Start of record 1950 with 3 major flood peaks in the record
- Last major flood was 15.36 metres January 2008 but previous to that was 15.7 metres in 1950.

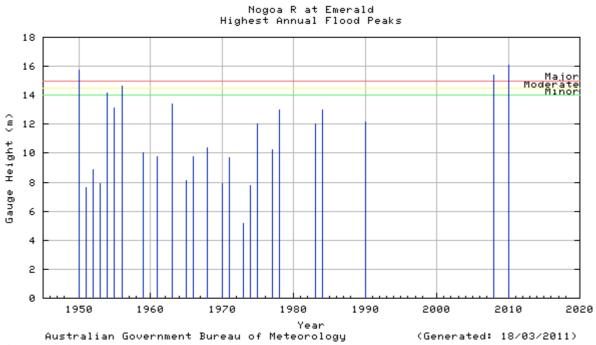


Figure 5. Highest annual flood peaks for the Nogoa River at Emerald.

Warning and Forecast Service

- Significant runoff commenced during early December with flood warnings for the Nogoa River issued between 03/12/2010 and 06/12/2010.
- Heavy rainfall occurred in late December with warnings commencing 27/12/2010 and continuing through to 03/01/2011.
- A total of 79 warnings were issued for the Fitzroy River system including the Nogoa River during December 2010 and January 2011.

Table 4. Table of peak height predictions for Emerald.

Time of Height Forecast	Forecast	Peak			
27/12/2010 First warning issued. Height at the time was 10.65m (below minor)					
7:06 AM on Tuesday the 28th of December 2010	Exceed 14.5 metres (moderate) early Thursday	Rising limb forecasts – reach a level and			
1:09 PM on Tuesday the 28th of December 2010	Exceed 14.5 metres (moderate) late Wednesday. Reach near 15.3 metres (major) during Friday.	expected to continue rising			
6:51 PM on Tuesday the 28th of December 2010	Exceed 15 metres (major) overnight Wednesday. Reach near 15.3 metres (major) during Friday.	14.55 metres at 8:10 PM Wed 29/12/2010 15.0 metres at 1:15 AM Thurs 30/12/2010 15.3 metres at 4:36 AM Thurs 30/12/2010			
8:59 AM on Wednesday the 29th of December 2010	Reach about 15.7 metres during Friday.	15.7 metres at 11:18 AM Thurs 30/12/2010			
9:59 PM on Wednesday the 29th of December 2010	Reach up to 15.9 metres during Friday.	15.9 metres at 5:16 PM Thurs 30/12/2010			
7:12 AM on Thursday the 30th of December 2010	Reach up to 16.2 metres during Friday.	16.05 metres at 4:00 AM Fri			
7:34 AM on Friday the 31st of December 2010	Currently peaking at Emerald with latest reading of 16.05 metres at 6am Friday.	31/12/2010			

Flood summary for the Macintyre River at Goondiwindi

- The town of Goondiwindi is in the Macintyre River catchment.
- The flood heights at Goondiwindi are measured using a combination of an automatic gauge which is owned by the Department of Environment and Resource Management (DERM) and a manual station which is co-owned by the Bureau of Meteorology and DERM (Bureau station number: automatic gauge 041500 and manual gauge 041350).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/gld/brochures/river_maps.shtml

Location map

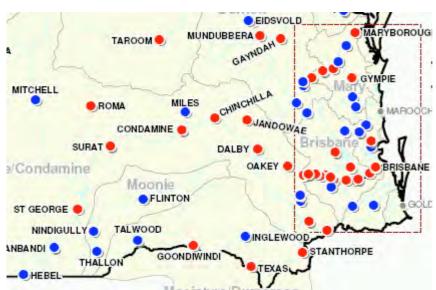
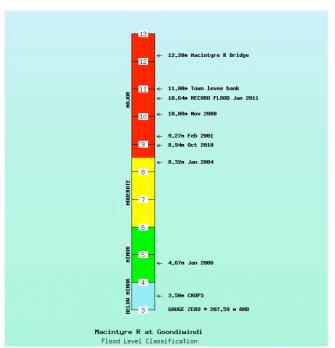


Figure 1. Map showing location of Goondiwindi.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 10.64 metres on 14/01/2011.
- Minor: 4.0 metres
 Moderate: 6.0 metres
 Major: 8.5 metres.
- Gauge zero is 207.590 metres AHD.
- Goondiwindi Hospital and Aged Care Facility were evacuated. (WDRC)
- Goondiwindi was above major flood level (8.5 metres) from 09/01/2011 to 10/01/2011 and between the 13/01/2011 and 17/01/2011.
- It remained above minor flood level (4.0 metres) from 06/01/2011 to 23/01/2011.

Figure 2. Flood level classifications and flood effects for Goondiwindi.

Rainfall summary

- In excess of 400mm or rainfall was recorded in the Macintyre River catchment during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011and 13/01/2011.

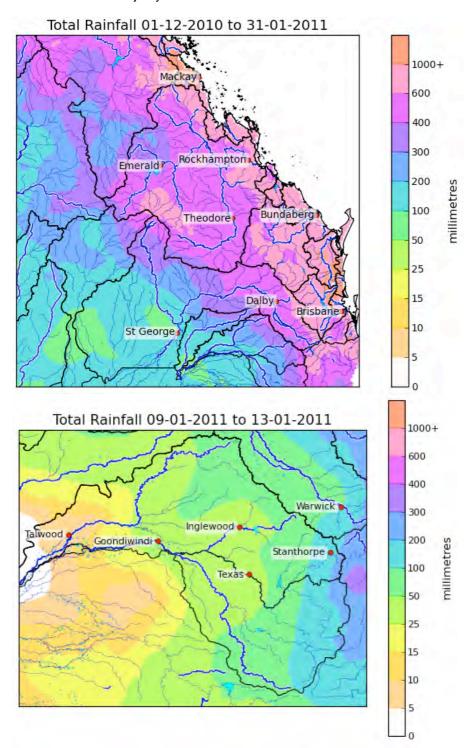


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period 09/01/2011 to the 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the upper Dumaresq River which is in the Macintyre River catchment are shown in Table 1.
- The most significant rainfall intensity for Broadwater Creek AL in January 2011 occurred in the 20 minutes ending 3:10pm on 03/01/2011 producing a 10-20 ARI, however all periods were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most significant rainfall intensity for Amiens Knob AL in January 2011 occurred in the 30 minutes to 2:45pm on 03/01/2011 producing a 50-100 ARI, which represents close to a 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the Macintyre River for January 2011.

Dainfall	Broadwater Creek AL Amiens Knob A		Amiens Knob AL			
Rainfall Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	11	3:05 PM 03/01/2011	5	11	2:25 PM 03/01/2011	5
6 min	12	3:06 PM 03/01/2011	5	13	2:26 PM 03/01/2011	5-10
10 min	18	3:05 PM 03/01/2011	5-10	19	2:45 PM 03/01/2011	10
20 min	29	3:10 PM 03/01/2011	10-20	36	2:40 PM 03/01/2011	20-50
30 min	31	3:20 PM 03/01/2011	5-10	49	2:45 PM 03/01/2011	50-100
1hr	33	3:45 PM 03/01/2011	2-5	57	3:15 PM 03/01/2011	20-50
2hr	35	4:30 PM 03/01/2011	1-2	58	4:15 PM 03/01/2011	10-20
3hr	36	5:05 PM 03/01/2011	1-2	59	4:20 PM 03/01/2011	5-10
6hr	36	5:05 PM 03/01/2011	<1	60	4:20 PM 03/01/2011	2-5
12hr	50	12:50 PM 27/12/2010	<1	61	10:35 PM 03/01/2011	1-2
24hr	63	12:50 PM 27/12/2010	1	61	10:35 PM 03/01/2011	1
48hr	92	11:30 PM 11/01/2011	1-2	72	10:45 PM 11/01/2011	<1
72hr	104	4:40 PM 11/01/2011	1-2	98	1:10 PM 06/01/2011	1-2

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Goondiwindi.

Table 2. Flood event timeline for Goondiwindi.					
Time/Date	Event Description	Gauge height (metres)	Comment		
27/12/2010	First warning issued	2.94			
06/01/2011	First time it exceeded minor flood level	4.00	Remained above minor flood levels for ~16 days.		
07/01/2011	First time it exceeded moderate flood level	6.00	Remained above moderate flood levels for ~10.5 days.		
09/01/2011	First time it exceeded major flood level	8.50	Remained above major flood levels for ~1.5 days.		
7:00 PM 09/01/2011	Major flood peak	8.94	·		
10/01/2011	Fell below major	8.50			
13/01/2011	First time it exceeded major flood level	8.50	Remained above major flood levels for ~4 days.		
7:00 AM 14/01/2011	Major flood peak	10.64	Highest on record.		
16/01/2011	Final fall below major	8.50			
18/01/2011	Final fall below moderate	6.00			
23/01/2011	Final fall below minor	4.00	River level exceeded the minor flood level on the high tide on the 15/01/2011.		
7:43 AM 21/01/2011	Final warning issued				

Flood Heights at Goondiwindi

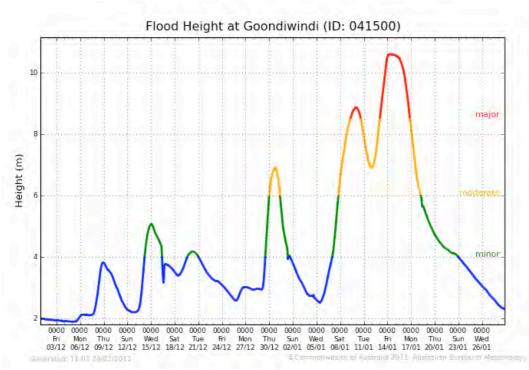


Figure 4. Flood Heights at the Goondiwindi TM gauge for December 2010 and January 2011.

Comparison with previous floods

- River height records for Goondiwindi commenced in 1886 with 82 major flood peaks since that time, with many occurring in the same year.
- The peak of 10.64 metres recorded at Goondiwindi in January has replaced the previous record flood of 10.60 metres recorded in 1996.

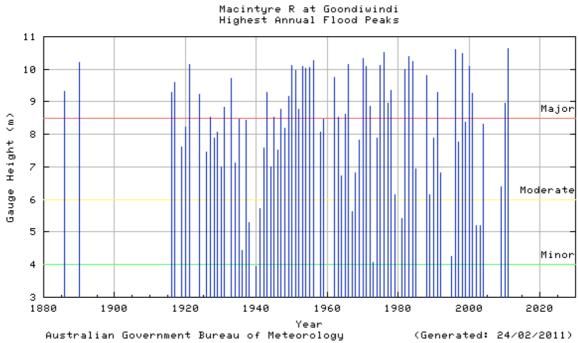


Figure 5. Highest annual flood peaks for the Macintyre River at Goondiwindi.

Warning and Forecast Service

- The catchment received well above average rainfall and subsequently recorded multiple flood peaks throughout August, September and October with 6 periods of flood warnings issued for the Border Rivers during this period.
- Flood warnings for the Border Rivers were next issued between the 11/12/2010 and 15/12/2010 and begun again on the 27/12/2010 and continued until the 30/01/2011.
- A total of 59 warnings were issued for the Border Rivers during December 2010 and January 2011.

Table 3. Table of peak height predictions for Goondiwindi.

Time of Height Forecast	Forecast	Peak
27/12/2011 Firs	st warning issued. Height at the time was 2.94m (bel	ow minor)
1:44 AM on Thursday the 6th of January 2011	Minor flooding to develop going into the weekend between New Kildonan and Goondiwindi.	
4:17 PM on Thursday the 6th of January 2011	Moderate flood levels during the weekend.	Rising limb forecasts
6:22 AM on Friday the 7th of January 2011	Major flood levels above 9 metres expected during the weekend.	
6:51 AM on Saturday the 8th of January 2011	Major flood peak around 9.2 metres during Sunday.	8.94 metres at 7:00 PM Thurs
6:32 AM on Sunday the 9th of January 2011		
11:13 AM on Tuesday the 11th of January 2011	Major flood levels are expected along the lower Macintyre River from Glenarbon to Goondiwindi during the next 48 hours.	
5:48 PM on Tuesday the 11th of January 2011	At Goondiwindi, river levels have eased below the major flood level but are expected to rise again and peak around the January 1996 flood level of 10.6 metres late Thursday.	Rising limb forecasts
11:31 PM on Tuesday the 11th of January 2011	Peak around the January 1996 flood level of 10.6 metres late Thursday.	
7:23 PM on Wednesday the 12th of January 2011	Reach around the January 1996 flood level of 10.6 metres late Thursday with further rises possible.	
12:09 PM on Thursday the 13th of January 2011	Reach above the 1996 flood level of 10.6 metres late Thursday. A record flood peak is expected.	10.64 metres at 7:00 AM Thurs
2:04 PM on Thursday the 13th of January 2011	Reach above the 1996 flood level of 10.6 metres late Thursday. A record flood peak of 10.85 metres with possible further rises.	14/01/2011
8:14 PM on Thursday the 13th of January 2011	Reach above the 1996 flood level of 10.6 metres overnight Thursday. A record flood level of higher than 10.85 metres is likely.	
7:28 AM on Friday the 14th of January 2011	Rises continuing this morning. Record flood peak today of 10.85 metres, possibly higher.	

Flood summary for the Mary River at Gympie

- The town of Gympie is on the Mary River in the Mary catchment
- The flood heights at Gympie are measured by an alert gauge (Bureau station number: 040993) and a manual gauge (Bureau station number: 040426) both owned by the Bureau of Meteorology.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

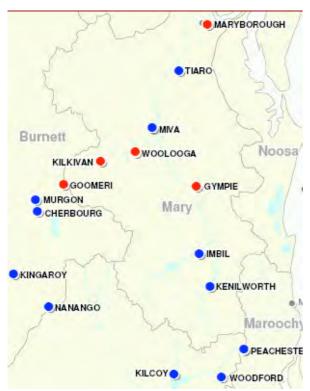
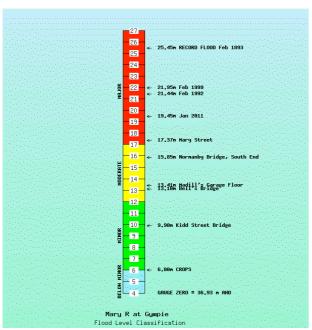


Figure 1. Map showing location of Gympie.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity

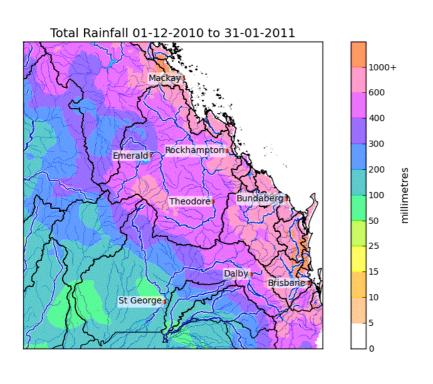


- Peaked at 19.45 metres on 11/01/2011.
- Minor: 6 metres
 Moderate: 12 metres
 Major: 17 metres.
- Gauge zero is 36.93 metres AHD.
- Houses and businesses in the main street of Gympie were inundated. (Total properties affected is unknown at this stage.)
- Above major flood level (17 metres) from 10/01/2011 to 12/01/2011.
- Remained above minor flood level (6 metres) from 27/12/2010 to 31/12/2010 and again from 06/01/2011 to 15/01/2011.

Figure 2. Flood level classifications and flood effects for Gympie.

Rainfall summary

- Over 400mm recorded in the Mary River catchment during December 2010 and January 2011.
- Very heavy rainfall of over 600mm in the Upper Mary between 9am on 06/01/2011and 9am on 13/01/2011. Most of the Mary catchment received over 400mm between 9am on 06/01/2011and 9am on 13/01/2011.



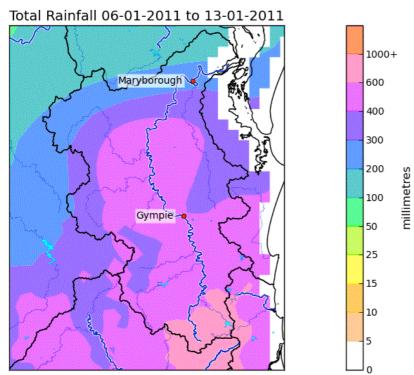


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for 9am on 06/01/2011 to 9am on 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for one selected station at West Bellthorpe AL in the upper part of the Mary River catchment, is shown in Table 1.
- The most significant rainfall intensities for December 2010 and January 2011 occurred in the 12 to 72 hour duration periods ending on the 12/01/2011, with less than a 1% Annual Exceedence Probability (greater than 100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for West Bellthorpe AL in the upper part of the Mary River catchment for December 2010 and January 2011.

Rainfall	West Bellthorpe AL				
Duration	Rainfall (mm)	Period ending	ARI (years)		
12hr	245	9:05 PM 09/01/2011	50-100		
24hr	349	4:20 AM 10/01/2011	> 100		
48hr	481	4:35 AM 11/01/2011	> 100		
72hr	605	1:20 AM 12/01/2011	> 100		

Flood event timeline

Table 2. Flood timeline for Gympie

Time/Date	Event Description	Gauge Height (metres)	Comment
8:17 AM 27/12/2011	First time it exceeded minor flood level	6.0	Remained above minor flood level for ~5 days
31/12/2011	Fall below minor	6.0	
5:19 PM 06/01/2011	First warning issued		
06/01/2011	Exceeded minor flood level	6.0	Remained above minor flood level for ~10 days
07/01/2011	First time it exceeded moderate flood level	12.0	Total time above moderate flood was ~8 days
10/01/2011	First time it exceeded major flood level	17.0	Total time above major flood was ~2 days
5:00 AM 11/01/2011	Major flood peak	19.45	
12/01/2011	Final fall below major	17.0	
14/01/2011	Final fall below moderate	12.0	
15/01/2011	Final fall below minor	6.0	
8:54 AM 15/01/2011	Final warning issued		

Flood Heights at Gympie

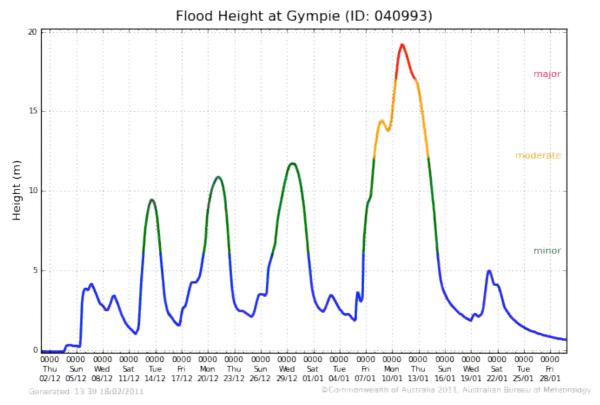


Figure 4. Flood heights at Gympie Alert gauge.

Comparison with previous floods

- · Start of record 1870 with 21 major flood peaks in the record
- Last major flood was 21.95 metres February 1999 but previous to that was 21.40 metres in 1992.
- Highest flood on record was in 1893 at 25.45 metres.

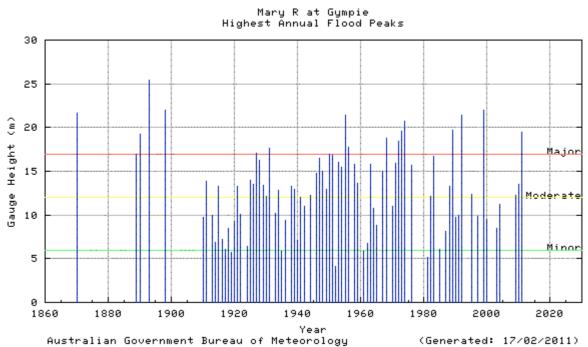


Figure 5. Highest annual flood peaks for the Mary River at Gympie.

Warning and Forecast Service

- Significant runoff commenced during early December with flood warnings for the Mary River issued between 12/12/2010 and 14/12/2010 and again between 19/12/2010 and 22/12/2010.
- Further heavy rainfall occurred in early January with warnings commencing on 06/01/2011 and continuing through to 15/01/2011.
- A total of 43 warnings were issued for the Mary River system including Gympie during December 2010 and January 2011.

Table 3. Table of peak height predictions for Gympie

Time of Height Forecast	Forecast	Peak
06/01/2011	First warning issued. Height at the time was 6.14m (minor)
of January 2011	Reach at least 12 metres overnight Friday with further rises as rainfall continues.	Rising limb forecasts – reach a level and
7:12 PM on Friday the 7th of January 2011	Reach at least 12 metres (moderate flood level) overnight Friday, with further rises and 13 metres possible as the heavy rainfall remains in the catchment.	expected to continue rising
11:15 PM on Friday the 7th of January 2011	Further rises to 13 metres likely as the heavy rainfall remains in the catchment.	12.04 metres at 9:15 PM Fri 07/01/2011
2:09 AM on Saturday the 8th of January 2011	Further rises to above 13 metres expected. Peak around 13.5 metres during Saturday morning.	13.09 metres at 3:36 AM Sat 08/01/2011 13.54 metres at 6:24 AM Sat 08/01/2011
5:57 AM on Saturday the 8th of January 2011	Reach at least 14 metres during Saturday with further rises possible.	14.04 metres at 11:04 AM Sat 08/01/2011
10:05 AM on Saturday the 8th of January 2011	Peak around 14.3 metres during Saturday.	14.34 metres at 3:16 PM Sat 08/01/2011
6:36 PM on Saturday the 8th of January 2011	14.4 metres at 4:30pm and close to peak.	14.44 metres at 5:53 PM Sat 08/01/2011
6:08 AM on Sunday the 9th of January 2011	Remain above 13 metres today with further rises possible as rainfall continues.	
11:01 AM on Sunday the 9th of January 2011	Reach at least 16 metres overnight. A major flood level above 17 metres is possible if rainfall continues.	16.04 metres at 5:22 AM Mon 10/01/2011
of January 2011	Reach at least 17 metres early on Monday. Higher levels above 17 metres are likely as rainfall continues.	17.04 metres at 9:51 AM Mon 10/01/2011
of January 2011	Exceed 17 metres early Monday. Higher levels expected during Monday.	
10:10 PM on Sunday the 9th of January 2011	Exceed 17 metres early Monday. Reach at least 19 metres during Monday afternoon.	19.04 metres at 9:40 PM Mon 10/01/2011
6:12 AM on Monday the 10th of January 2011	Exceed 20 metres overnight Monday.	19.45 metres
11:29 AM on Monday the 10th of January 2011	Reach around 20 metres overnight Monday.	at 5:00 AM Tues 11/01/2011
11:00 PM on Monday the 10th of January 2011	Peak around 20 metres overnight Monday.	

Flood summary for the Bremer River at Ipswich

- The city of Ipswich is on the Bremer River in the Brisbane River catchment.
- The flood heights at Ipswich are measured with a combination of a manual and an automatic gauge co-owned by the Bureau of Meteorology and the Ipswich City Council (Bureau station number: manual gauge 040101 and automatic gauge 040831).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

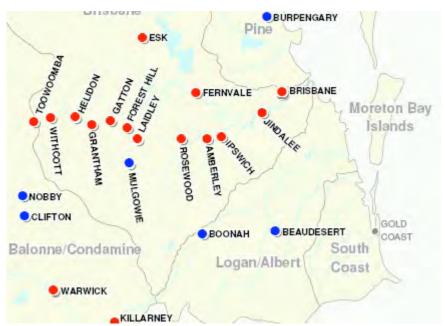
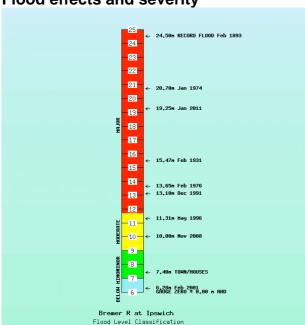


Figure 1. Map showing location of Ipswich.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- The river peaked at 19.25 metres on 12/01/2011.
- Minor: 7 metres
 Moderate: 9 metres
 Major: 11.7 metres
- Gauge zero is 0.0 metres AHD.
- 3000 properties were inundated in the Ipswich area. (ABC 612 Radio)
- Ipswich was above major flood level (11.7 metres) from 11/01/2011 to the 14/01/2011.
- It remained above minor flood level (7 metres) from 10/01/2011 to 18/1/2011.

Figure 2. Flood level classifications and flood effects for Ipswich.

Rainfall summary

- Rainfalls in excess of 1000mm were recorded in parts of the Brisbane River catchment during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011and 13/01/2011.

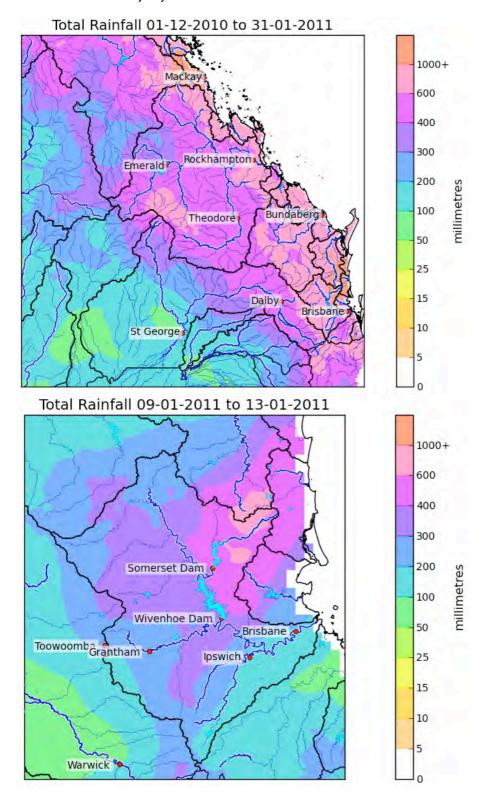


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 96 hours to 9am on 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at Tallegalla AL and Spressers Bridge AL on the Bremer River upstream of Ipswich are shown in Table 1.
- The most significant rainfall intensities for Tallegalla AL in January 2011 exceeded the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities for multiple durations.
- The most significant rainfall intensities for Spressers Bridge AL in January 2011 exceeded the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities for multiple durations.

Table 1. Recorded maximum rainfall intensities for Tallegalla AL and Spressers Bridge AL on the Bremer River for January 2011.

Rainfall		Tallegalla AL			Spressers Bridge AL	
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	9	07:45 11/01/2011	1	9	09:10 11/01/2011	1
6 min	11	07:46 11/01/2011	1-2	11	09:11 11/01/2011	1-2
10 min	16	07:50 11/01/2011	1-2	18	09:10 11/01/2011	2
20 min	33	08:05 11/01/2011	2-5	28	09:15 11/01/2011	2-5
30 min	45	08:30 11/01/2011	5-10	41	09:30 11/01/2011	2-5
1hr	73	09:25 11/01/2011	10-20	58	09:35 11/01/2011	5-10
2hr	122	09:45 11/01/2011	50-100	86	09:35 11/01/2011	10-20
3hr	159	12:45 11/01/2011	>100	104	09:50 11/01/2011	20-50
6hr	241	17:45 11/01/2011	>100	172	14:05 11/01/2011	>100
12hr	336	19:10 11/01/2011	>100	233	17:55 11/01/2011	>100
24hr	360	14:05 11/01/2011	>100	241	19:25 11/01/2011	>100
48hr	424	15:10 11/01/2011	>100	290	17:55 11/01/2011	50-100
72hr	450	19:15 11/01/2011	>100	324	21:40 11/01/2011	50-100

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Ipswich.

Time/Date	Event Description	Gauge height (metres)	Comment
06/01/2011	First warning issued	1.00	
10/01/2011	First time exceeded minor flood level	7.00	Remained above minor flood levels for ~7.5 days.
11/01/2011	First time exceeded moderate flood level	9.00	Remained above moderate flood levels for ~4 days.
11/01/2011	First time exceeded major flood level	11.70	Remained above major flood levels for ~2.5 days.
1:45 PM 12/01/2011	Major flood peak	19.25	Highest since 1974.
14/01/2011	Final fall below major	11.70	
14/01/2011	Final fall below moderate	9.00	
18/01/2011	Final fall below minor	7.00	
6:50 AM 21/01/2011	Fir	nal warning	issued

Flood heights at Ipswich

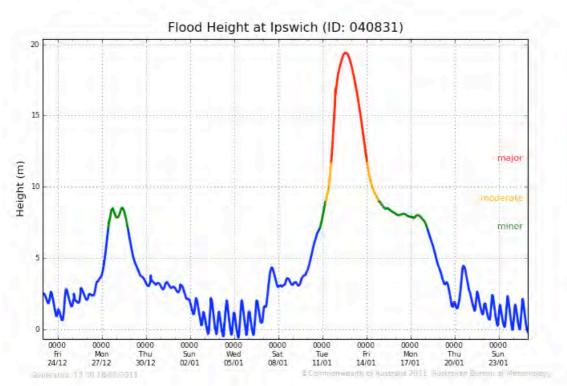


Figure 4. Flood heights at the Ipswich AL gauge.

Comparison with previous floods

- Start of record 1840 with 18 major flood peaks in the record.
- The last major flood recorded at Ipswich was 13.10 metres in December 1991 with major floods also occurring in 1976 (13.65 metres) and 1974 (20.70 metres).
- The highest floods in 1893, 1974 and 2011 were all as a result of backwater from the Brisbane River. (Note: the 1893 record flood reached 24.5 metres.)

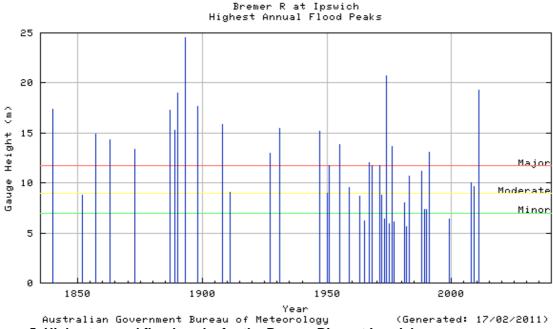


Figure 5. Highest annual flood peaks for the Bremer River at Ipswich.

Warning and Forecast Service

- The catchment started to become saturated during October with flood warnings for the Stanley, upper Brisbane and Bremer Rivers and Lockyer Creek issued between 10/10/2010 and 19/10/2010. This included the first large scale release from Wivenhoe Dam since 2001.
- A total of 96 warnings were issued for the Brisbane River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Ipswich.

Time of Height Forecast	Forecast/Time	Peak
06/01/2011 Firs	ow minor)	
10:55 PM on Sunday 9th of January 2011	At least minor flood levels expected in the Bremer River at Ipswich during Monday night.	
12:36 AM on Monday 10th of January 2011	At least minor flood levels expected in the Bremer River at Ipswich during Monday night and continuing into Tuesday.	
	Reach at least 9.5 metres (moderate) during the early hours of Tuesday.	
4:16 PM on Monday 10th of January 2011	Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.	expected to continue
12:06 AM on Tuesday 11th of January 2011	Reach about 12.7 metres (major) during Tuesday afternoon.	rising
9:28 AM on Tuesday 11th of January 2011	Reach at least 16 metres (major) during Wednesday; further rises.	
3:24 PM on Tuesday 11th of January 2011	Reach at least 22 metres (major) during Wednesday; further rises.	
8:05 PM on Tuesday 11th of January 2011	Reach about 21.5 metres (major) during Wednesday; further rises possible.	
7:33 AM on Wednesday 12th of January 2011	Peak about 20.5 metres (major) during Wednesday afternoon.	19.25 metres at 1:45 PM Wed
4:29 PM on Wednesday 12th of January 2011	Peak around 19.5 metres (major) during Wednesday evening.	12/01/2011.

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Jordan River at Jericho and Alpha Creek at Alpha

- Jericho is on the Jordan River a tributary of the Alice River in the Cooper Creek catchment. Alpha is on Alpha Creek, a tributary of the Belyando River in the Burdekin River Catchment.
- The flood heights at Jericho are measured on a manual gauge co-owned by the Bureau of Meteorology and Barcaldine Regional Council (Bureau station number: 035285). The flood heights at Alpha are recorded on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 035229).
- On the 28/12/2010 Jericho experienced flood levels equal to the record flood levels of April 1990. Peak heights recorded at Alpha on 28/12/2010 were the 3rd highest on record and more than 1 metre lower than the record flood peak of April 1990.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/gld/brochures/river_maps.shtml

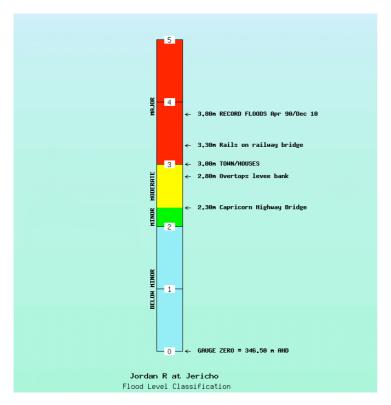
Location map



Figure 1. Map showing the location of Jericho and Alpha.

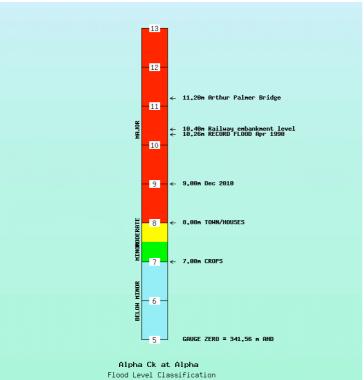
Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



Jordan River at Jericho

- The river peaked at:
 3.08 metres at 6:00 AM on 20/12/2010
 3.8 metres at 11:00 PM on 28/12/2010
- Minor: 2.0 metres Moderate: 2.3 metres Major: 3.0 metres
- Gauge Zero is 346.5 metres AHD.
- Several properties were inundated and damage was caused to roads, railway lines, businesses and schools. (Source: ABC).
- About 16 residents were evacuated from homes in Alpha and Jericho with water at least waist to chest high. (Source: ABC).



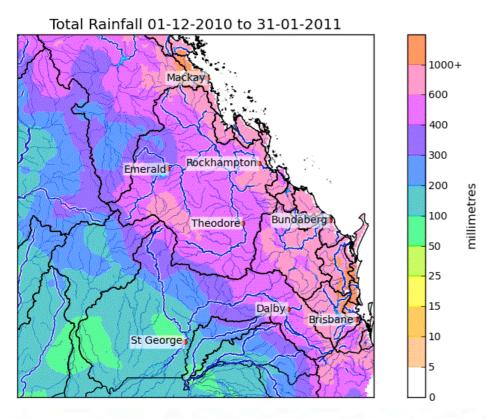
Alpha Creek at Alpha

- The creek peaked at:
- 6.8 metres at 7:40 PM on 20/12/2010
 9.0 metres at 8:00 AM on 28/12/2010
- Minor: 7.0 metres
 Moderate: 7.5 metres
 Major: 8.0 metres.
- Gauge Zero is 341.562 metres AHD.
- Several properties were inundated and damage was caused to roads, railway lines, businesses and schools. (Source: ABC).
- About 16 residents were evacuated from homes in Alpha and Jericho with water at least waist to chest high. (Source: ABC).

Figure 2. Flood level classifications and flood effects for Jericho and Alpha.

Rainfall summary

- Between 300 and 400 mm of rainfall was recorded over the Alpha-Jericho area between the 01/12/2010 and 31/01/2011 with falls between 400 and 600 mm of rainfall over the upper reaches of Alpha Creek upstream from Alpha. See Figure 3 (top).
- The heaviest rainfall period occurred between the 24/12/2010 and 28/12/2010 with the area receiving up to 200 mm of rainfall, as shown in Figure 3 (bottom).



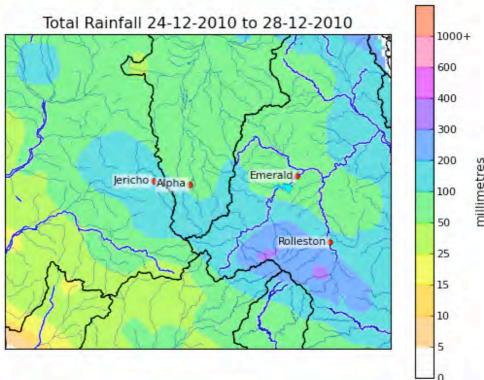


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and from 9am on 24/12/2010 to 9am on 28/12/2010.

Rainfall Intensity

• The December 2010 floods at Jericho and Alpha were the result of heavy rainfall in the area over a period of 4 days. All rainfall stations in the near vicinity are daily reporting rainfall stations (reporting a 24-hour rainfall at 9am each day) and therefore provide no sub-daily data to perform an informative rainfall intensity analysis.

Flood event timelines

Table 2. Flood timeline for Jericho

Time/Date	Gauge Event Description Height (metres)		Comment
6:36 PM 24/12/2010	First warning issued		
9:00 AM 27/12/2010	24-hour rainfall of 80 mm recorded upstream at Glencoe.		am at Glencoe.
11:00 PM 28/12/2010	Major flood peak 3.80 Equal record flood peak.		Equal record flood peak.
10:18 AM 30/12/2010	Final warning issued		

Table 3. Flood timeline for Alpha

Time/Date	Event Description	Gauge Height (metres)	Comment
9:41 AM 27/12/2010	First warning issued		
9:00 AM 27/12/2010	Heavy rainfall recorded over the catchment upstream from Alpha.		nt upstream from Alpha.
8:00 AM 28/12/2010	Major flood peak 9.0 3 rd highest on record.		3 rd highest on record.
9:05 AM 30/12/2010	Final warning issued		

Comparison with previous floods

- River height records for Jericho and Alpha commenced in 1950.
- River height peak of 3.80 metres at Jericho on 28/12/2010 equals the record river height set in April 1990.
- The record flood height for Alpha is 10.26 metres which occurred in April 1990. The peak that occurred
 on 28/12/2010 ranks as the 3rd highest on record and was more than 1 metre below the record flood
 height for the town.

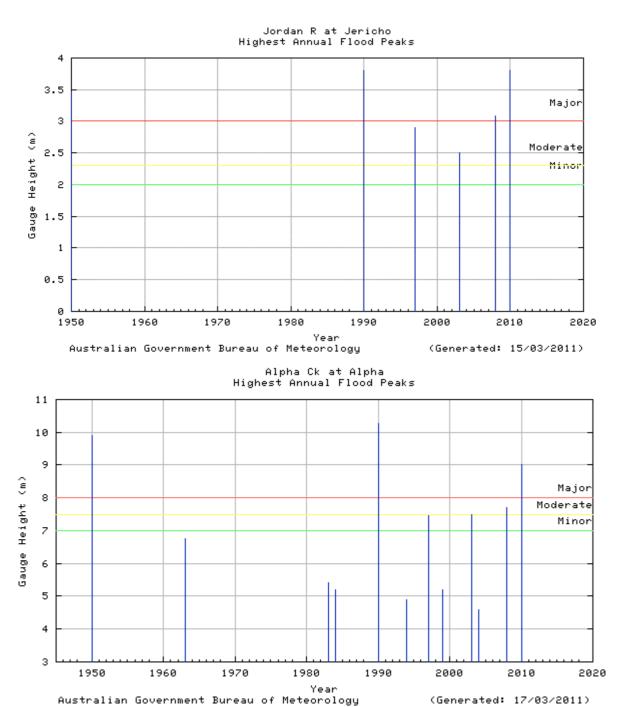


Figure 4. Highest annual flood peaks for Jericho on the Jordan River (top) and Alpha on Alpha Creek (bottom).

Warning and Forecast Service

- Warnings for the Jordan River are incorporated in the Cooper Creek flood warning. The first flood warning for the Jordan River was issued on 24/12/2010.
- Major flooding was first predicted for Jericho in the Flood Warning issued at 6:36 PM on 24/12/2010.
 Renewed rises were caused by further rainfall over the catchment area.
- A total of 8 warnings were issued for the Jordan River during December 2010.

Table 4. Table of peak height predictions for Jericho on the Jordan River

Time of Height Forecast	Forecast	Peak
24/	12/2010 First warning issued for the Jordan River.	
6:36 PM on Friday the 24th of December 2010	Reach at least 3 metres by midday Saturday with possible further.	
10:19 AM on Saturday the 25th of December 2010	Peak around 3 metres by midday Saturday.	
10:45 AM on Sunday the 26th of December 2010	Minor flooding is easing in the Jordan River at Glencoe, with rises expected downstream at Jericho and the Capricorn Highway during this week.	Rising limb forecasts – reach a level and expected to continue
10:45 AM on Monday the 27th of December 2010	Minor flooding is rising slowly in the Jordan River at Glencoe, with rises expected downstream at Jericho and the Capricorn Highway during this week.	rising.
12:02 AM on Tuesday the 28th of December 2010	The Jordan River at Jericho is expected to rise above the major flood level of 3 metres tonight. Glencoe reported a peak of 3.5 metres at 8pm Monday night.	
10:17 AM on Tuesday the 28th of December 2010	Major flooding is occurring in the Jordan River at Glencoe and Jericho.	3.8 metres at 11:00 PM on 28/12/2010
30/	12/2010 Final warning issued for the Jordan River.	

- Warnings for Alpha Creek at Alpha are incorporated in the Burdekin River Catchment flood warning.
 The first flood warning for the Alpha Creek was issued on 27/12/2010.
- Major flooding was first predicted for Alpha in the Flood Warning issued at 11:49 PM on 27/12/2010.
- A total of 6 warnings were issued for the Alpha Creek during December 2010.

Table 5. Table of peak height predictions for Alpha on Alpha Creek.

Time of Height Forecast	Forecast	Peak		
2	27/12/2010 First warning issued for Alpha Creek.			
9:41 AM on Monday the 27th of December 2010	Further heavy rainfall overnight Sunday is causing renewed rises and major flooding in the Belyando River at Albro and in Alpha Creek at Rivington. River level rises to at least the minor flood level of 7 metres are expected at Alpha during this week.	Diging limb forcessts		
11:49 PM on Monday the 27th of December 2010	At 8pm Monday, Alpha Creek at Alpha was 7.9 metres rising. A major flood peak is expected at Alpha during Tuesday, possibly near or exceeding 9 metres. In April 1990, Alpha peaked at 10.26 metres.	Rising limb forecasts – reach a level and expected to continue rising.		
12:06 AM on Tuesday the 28th of December 2010	At 8pm Monday, Alpha Creek at Alpha was 7.9 metres rising. A major flood peak is expected at Alpha during Tuesday, possibly near or exceeding 9 metres. In April 1990, Alpha peaked at 10.26 metres.			
8:55 AM on Tuesday the 28th of December 2010	Creek levels in Alpha Creek at Alpha have recorded a 9.0 metre major flood peak at 8am Tuesday with creek currently easing at 8.95 metres.	9.0 metres at 8:00 AM on 28/12/2010		
3	0/12/2010 Final warning issued for Alpha Creek.	_		

Note: Table 4 and Table 5 do not include all forecasts issued during these flood events.

Flood summary for Helidon, Grantham, Gatton, Laidley and Forest Hills

- The towns affected by flooding in the Lockyer Valley included Withcott, Helidon, Grantham, Gatton, Laidley and Forest Hill.
- Withcott is on Gatton Creek and no water level observations are available.
- Helidon is on Lockyer Creek and water level observations are available from two automatic gauges:
 - Helidon TM (Bureau station number: 040829, Owner: DERM)
 - Helidon Alert (Bureau station number: 540143, Owner: Segwater).
- Grantham is affected by both Lockyer and Sandy Creeks. An automatic gauge exists on Sandy Creek:
 - Sandy Creek Road (Bureau station number: 540386, Owner: Lockyer Valley Regional Council).
- Gatton is on Lockyer Creek and has two automatic gauges and one manual gauge:
 - o Gatton TM (Bureau station number: 540363, Owner: Seqwater)
 - o Gatton AL (Bureau station number: 540156, Owner: Seqwater)
 - Gatton manual (Bureau station number: 040444, Owner: Bureau of Meteorology)
 - All three gauges are at slightly different locations and the measured heights for the same flood will be different.
- Laidley is on Laidley Creek and has two automatic water level gauges and one manual gauge:
 - Showground Weir AL (Bureau station number: 540158, Owner: Seqwater)
 - Showground Weir HW TM (Bureau station number: 540047, Owner: Seqwater)
 - o Laidley manual (Bureau station number: 040716, Owner: Bureau of Meteorology)
- Forest Hill is near the junction of Laidley Creek and Sandy Creek. The closest gauging station is owned by DERM (Site ID 143232A Sandy Creek @ Forest Hill). The Bureau does not currently collect data for this location.
- There are two Sandy Creeks described in this document. The first Sandy Creek flows into Lockyer Creek at Grantham and the second flows into Laidley Creek near Forest Hill.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

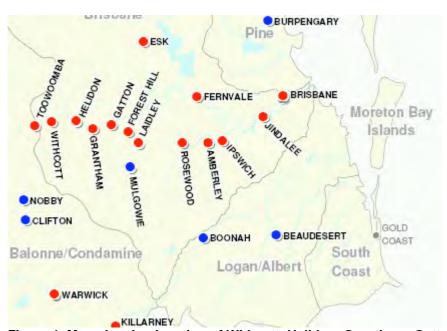
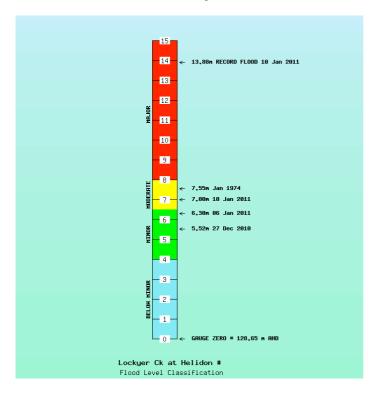


Figure 1. Map showing location of Withcott, Helidon, Grantham, Gatton, Laidley and Forest Hill in the Lockyer Valley.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity

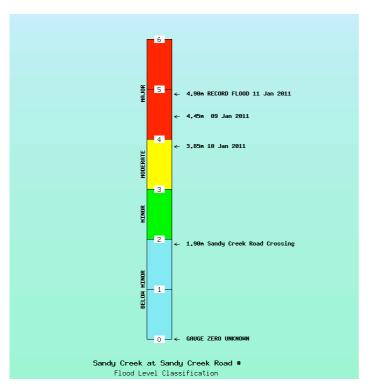


Lockyer Creek at Helidon AL

The creek peaked at: 4.76 metres on 26/12/2010 5.52 metres on 27/12/2010 6.30 metres on 06/01/2011 4.20 metres on 07/01/2011 6.98 metres on 09/01/2011 7.00 metres on 10/01/2011 13.88 metres on 10/01/2011 (9th to 10th several closely spaced

peaks observed)

- Minor: 4.0 metres Moderate: 6.5 metres Major: 8.0 metres
- Gauge Zero is 128.65 metres AHD.
- A post flood survey of debris found the flood peak to be 13.88 metres at the Helidon gauge. This is over 6 metres higher than the previous record flood in 1974.
- Above the major flood level on 10/01/2011
- Above the minor flood level from the 26/12/2010 to 27/12/2010, on the 06/01/2011 and 07/01/2011 and from 09/01/2011 to 10/01/2011

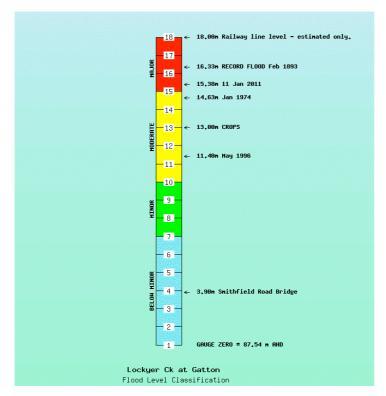


Sandy Creek Rd AL (Grantham)

- The creek peaked at: 2.40 metres on 06/01/2011 2.40 metres on 07/01/2011 4.45 metres on 09/01/2011 4.45 metres on 10/01/2011 4.90 metres on 11/01/2011
- Minor: 2.0 metres Moderate: 3.0 metres Major: 4.0 metres.
- Above the major flood level on the 9/10/2011, 10/01/2011 and 11/01/2011.
- Above the minor flood level from the 26/12/2010 to 27/12/2010, on the 06/01/2011 and 07/01/2011 and from 09/01/2011 to 12/01/2011.

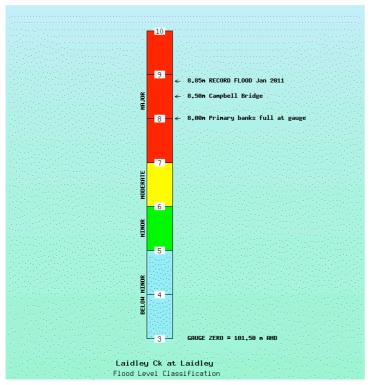
Figure 2. Flood level classifications and flood effects for Helidon and Sandy Creek Rd AL.

Flood effects and severity (cont)



Lockyer Ck at Gatton

- Post flood survey determined that Lockyer Creek at the Gatton manual gauge peaked at 15.38 metres on 11/01/2011
- The peak on the 10/01/2011 is estimated to be about 1 metre lower than recorded on the 11th.
- Minor: 7.0 metres
 Moderate:10.0 metres
 Major: 15.0 metres
- Gauge zero is 87.54 metres AHD.
- Above major flood level on the 11/01/2011.
- Above minor flood level on the 20/12/2010, 27/12/2010 to 28/12/2010, 06/01/2011 and 10/01/2011 to 12/01/2011.



Laidley Ck at Laidley

- The creek peaked at:
 7.60 metres on 26/12/2010
 8.80 metres on 27/12/2010
 8.10 metres on 06/01/2011
 8.70 metres on 10/01/2011
 8.85 metres on 11/01/2011
 7.60 metres on 19/01/2011
- Minor: 5.0 metres
 Moderate: 6.0 metres
 Major: 7.0 metres
- Gauge zero is 101.5 metres AHD.
- Above major flood level 5 times between 26/12/2010 and 19/1/2011.
- Above minor flood level from 26/12/2010 to 27/12/2010, on the 06/01/2011, from 10/01/2011 to 12/01/2011 and on 19/1/2011.

Figure 3. Flood level classifications and flood effects for Gatton and Laidley.

Rainfall summary

- Rainfalls between 600 and 1000mm were recorded in the Lockyer Valley area during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011 and 13/01/2011 as shown in the rainfall maps in Figure 3 below.

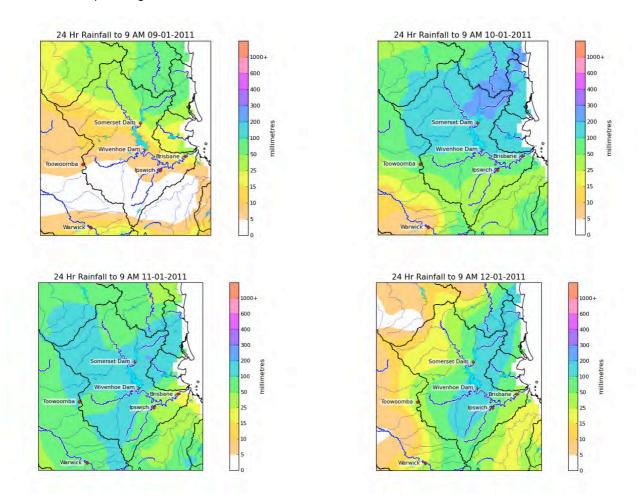


Figure 4. 24-Hour rainfall maps from 9am on 08/01/2011 to 9am on 12/01/2011.

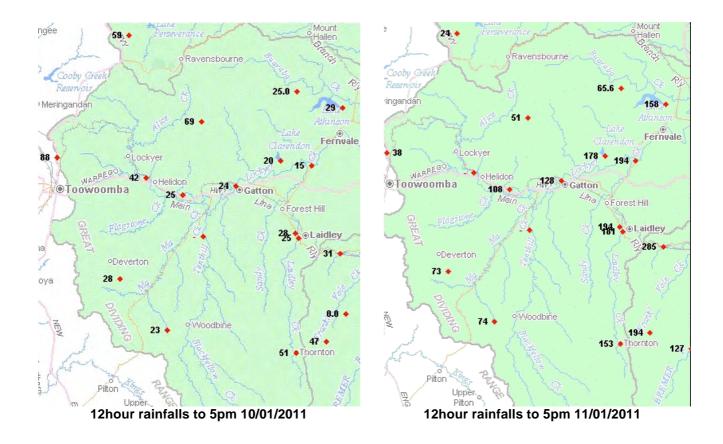


Figure 5 Rainfall for the 12 hours to 5pm 10/01/2011 and 5pm 11/01/2011.

Rainfall Intensity

- The heaviest recorded rainfall associated with the flash floods in the Lockyer Creek system
 on 10/01/2011 was the Toowoomba AL station on the top of the range, with much lighter rain
 recorded to the east in the Helidon and Grantham areas. There are no flood warning rainfall
 stations in the upper Lockyer Creek catchment (i.e. in tributary creek areas including
 Murphys Ck, Six Mile Ck, Rocky Ck, Gatton Ck).
- Review of the radar information suggests that the higher rainfalls and higher rainfall
 intensities occurred between the top of the range and the Helidon area and fell between the
 rain gauge network. This is further substantiated by a later report from Withcott which
 indicated a rainfall reading at 180.8mm for the 24 hour period ending 9am Tuesday 11
 January 2011.
- The intensities for Toowoomba AL are provided in Table 1. The most significant rainfall
 intensities for Toowoomba AL in January 2011 occurred on the 10/01/2011 in the 1 hour
 duration periods with rainfall amounts equalling the 2-5% Annual Exceedence Probability
 (20-50 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall Intensities for Toowoomba AL for January 2011.

Rainfall		Toowoomba AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	
5 min	9	13:45:00 10/01/2011	2	
6 min	10	13:46:00 10/01/2011	1-2	
10 min	14	13:45:00 10/01/2011	1-2	
20 min	27	13:45:00 10/01/2011	5	
30 min	36	13:50:00 10/01/2011	10	
1hr	58	13:50:00 10/01/2011	20-50	
2hr	65	14:15:00 10/01/2011	10-20	
3hr	67	15:40:00 10/01/2011	5-10	
6hr	75	16:55:00 10/01/2011	2-5	
12hr	88	16:55:00 10/01/2011	2-5	
24hr	134	6:00:00 10/01/2011	5-10	
48hr	197	11:20:00 11/01/2011	10-20	
72hr	218	19:15:00 11/01/2011	10-20	

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

- The heaviest recorded rainfall associated with the flash floods in the Lockyer Creek system
 that affected Gatton, Laidley and Forest Hill on 11/01/2011 were in the Grandchester and
 Laidley areas.
- The most statistically significant rainfall intensities for Grandchester AL were for the 6 hour to 72 hour durations. The recorded rainfall amounts for these durations were all greater than 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most statistically significant rainfall intensities for Showground Weir near Laidley were for the 12 hour to 72 hour durations. The recorded rainfall amounts for these durations were all greater than 1% Annual Exceedence Probability (100 year Average Recurrence Interval)

Table 2. Recorded maximum rainfall intensities for Grandchester AL and Showground Weir AL for January 2011.

Rainfall	Grandchester AL			Showground Weir Alert		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfal I (mm)	Period ending	ARI (years)
5 min	8	07:00:00 11/01/2011	1	9	06:40:00 11/01/2011	1-2
6 min	9	06:56:00 11/01/2011	1	10	06:41:00 11/01/2011	1-2
10 min	16	07:00:00 11/01/2011	1-2	13	06:40:00 11/01/2011	1
20 min	26	07:00:00 11/01/2011	2-5	25	06:55:00 11/01/2011	2
30 min	36	07:15:00 11/01/2011	2-5	33	06:55:00 11/01/2011	2-5
1hr	58	07:45:00 11/01/2011	5-10	45	07:20:00 11/01/2011	2-5
2hr	88	08:40:00 11/01/2011	20-50	66	07:45:00 11/01/2011	5-10
3hr	115	08:40:00 11/01/2011	50-100	69	08:25:00 11/01/2011	2-5
6hr	167	12:40:00 11/01/2011	> 100	104	16:20:00 11/01/2011	10-20
12hr	289	17:40:00 11/01/2011	> 100	181	17:45:00 11/01/2011	> 100
24hr	321	17:55:00 11/01/2011	> 100	203	20:50:00 11/01/2011	50-100
48hr	380	15:25:00 11/01/2011	> 100	258	15:25:00 11/01/2011	50-100
72hr	418	00:00:00 12/01/2011	> 100	292	02:55:00 12/01/2011	50-100

Flood event timeline

Table 3. Flood event timeline for Lockyer Creek for the 10/01/2011.

	od event timeline for Lockyer Creek for the 10/01/2011. RAINFALLS	
11am to 1pm		ssbrook Dam area (e.g. highest
	total of 111mm at Redbank Creek rainfall station; locate	` ` ` `
	and 40km to the north west of Toowoomba.	• •
1pm to 2pm	Heavy rainfall in excess of 50mm recorded in the Toow	voomba area (55mm at
	Toowoomba ALERT rainfall station approx 6km nor city	
1pm to 2pm	Lighter rainfalls of generally less than 10mm at Gatton	(1mm), Sandy Creek Road near
	Grantham (5mm) and Helidon (11mm).	. , ,
	WATER LEVELS	
14		
	Gauge failed. May be incorrect.	
Alte selection		50
12	<u> </u>	
	Readings after gauge failure. Disregard	44
10		
2		
8 Eight (a)		-3
<u>ş</u> 8		
River		
6		
N LOT		
		V - 10
*		/1
2	12:00 15:00 18:00 21:00 00:00	03:00 06:00 09:00
2 09:00 Mon 10/01 Mo	12:00 15:00 18:00 21:00 00:00 Mon 10/01 Mon 10/01 Mon 10/01 Tue 11/01	03:00 06:00 09:00 Tue 11/01 Tue 11/01 Tue 11/
09:00 Mon 10/01 No	12:00 15:00 15:00 21:00 00:00 Mon 10/01 Mon 10/01 Mon 10/01 Tue 11/01 Date/Time TOURDONER FLERT Reinfell HELIDON HLERT River Height	03:00 06:00 09:00 Tue 11/01 Tue 11/01 SHADY CREEK ROAD ALERT River Height
2 09:00 Mon 10/01 Ms	Non 10/01 Mon 10/01 Mon 10/01 Mon 10/01 Tue 11/01 Date/Time	Tue 11/01 Tue 11/01 Tue 11/
2 99:00 Hon 10/01 He	Non 10/01 Non 10/01 Non 10/01 Non 10/01 Tue 11/01 TOURDOMEN ALERT Rainfall HELIDON ALERT River Height Very rapid rise in Lockyer Creek at Helidon. Automatic	Tue 11/01 Tue 11/01 Tue 11/01 SHADY CREEK ROAD ALERT RIVER HEIGHT. gauge indicated a water level rise,
Mon 10/01 No	Very rapid rise in Lockyer Creek at Helidon . Automatic commencing at about 2pm, of more than 8 metres in or	squage indicated a water level rise, ne hour, from about 4 metres to
Mon 10/01 No	Very rapid rise in Lockyer Creek at Helidon . Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing	squage indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have
Mon 10/01 No	Very rapid rise in Lockyer Creek at Helidon . Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed.	spauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to
2pm to 3pm	Very rapid rise in Lockyer Creek at Helidon . Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous	re 11/01 Tue 11/01 Tue 11/01 space gauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have as 13.88 metres and estimated to record was 7.55 metres in 1974.
2pm to 3pm	Very rapid rise in Lockyer Creek at Helidon . Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water	re 11/01 Tue 11/01 Tue 11/01 squage indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to record was 7.55 metres in 1974. Ilevel station in Sandy Creek at
2pm to 3pm	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indicated to the state of the same	regauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have as 13.88 metres and estimated to record was 7.55 metres in 1974. level station in Sandy Creek at
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2pm to 3pm 3pm to 5pm	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indicated Grantham area of Lockyer Creek. Very rapid rise in Lockyer Creek at Gatton. Automatic grise, commencing at about 5pm, of about 7 metres in two	squage indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to record was 7.55 metres in 1974. Ievel station in Sandy Creek at ating passage of floodwaters in the gauge (TM) indicated a water level we hours before failing. The
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2pm to 3pm 3pm to 5pm	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indica Grantham area of Lockyer Creek. Very rapid rise in Lockyer Creek at Gatton. Automatic rise, commencing at about 5pm, of about 7 metres in the Lockyer flash flood did not cause the highest flooding at flood levels were experienced at Gatton on the following further heavy rainfall in the Lockyer-Laidley valley. A possibly indication of the possible of the previous flood peak of 15.38 metres (occurring on Tuesday 11) and gauge. This compares with a 1974 flood peak of 14.63	regauge indicated a water level rise, ne hour, from about 4 metres to gauge endicated a water level rise, ne hour, from about 4 metres to gauge endicated a water level as 13.88 metres and estimated to record was 7.55 metres in 1974. Ilevel station in Sandy Creek at ating passage of floodwaters in the gauge (TM) indicated a water level wo hours before failing. The at Gatton and downstream. Higher g day, Tuesday 11 January, due to lost flood survey indicates a 2011 at the long-term flood warning
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2pm to 3pm 3pm to 5pm 5pm to 7pm	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indicated Grantham area of Lockyer Creek. Very rapid rise in Lockyer Creek at Gatton. Automatic rise, commencing at about 5pm, of about 7 metres in the Lockyer flash flood did not cause the highest flooding at flood levels were experienced at Gatton on the following further heavy rainfall in the Lockyer-Laidley valley. A possibly indicated the possible of 15.38 metres (occurring on Tuesday 11) at gauge. This compares with a 1974 flood peak of 14.63 at Gatton is 16.33 metres in 1893. Rapid rise in Lockyer Creek at Glenore Grove. Automatic services at Gatton of the following flood peak of 15.38 metres in 1893.	gauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to record was 7.55 metres in 1974. Ievel station in Sandy Creek at ating passage of floodwaters in the gauge (TM) indicated a water level wo hours before failing. The at Gatton and downstream. Higher g day, Tuesday 11 January, due to lost flood survey indicates a 2011 at the long-term flood warning metres The highest recorded flood atic gauge indicated a water level
2pm to 3pm 3pm to 5pm 5pm to 7pm	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indica Grantham area of Lockyer Creek. Very rapid rise in Lockyer Creek at Gatton. Automatic rise, commencing at about 5pm, of about 7 metres in the Lockyer flash flood did not cause the highest flooding at flood levels were experienced at Gatton on the following further heavy rainfall in the Lockyer-Laidley valley. A possibly indicated the possible of 15.38 metres (occurring on Tuesday 11) and gauge. This compares with a 1974 flood peak of 14.63 at Gatton is 16.33 metres in 1893. Rapid rise in Lockyer Creek at Glenore Grove. Automatics, commencing at about 6pm, of about 3.8 metres in	gauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to record was 7.55 metres in 1974. Ilevel station in Sandy Creek at ating passage of floodwaters in the gauge (TM) indicated a water level wo hours before failing. The at Gatton and downstream. Higher g day, Tuesday 11 January, due to lost flood survey indicates a 2011 at the long-term flood warning metres The highest recorded flood atic gauge indicated a water level two hours from about 10.7 metres
Mon 10/01 No	Very rapid rise in Lockyer Creek at Helidon. Automatic commencing at about 2pm, of more than 8 metres in or possibly about 12.7 metres at about 3pm, before failing advised that the Helidon flood peak has been surveyed have occurred at 3:10pm on 10 January. The previous Rise of approx one metre recorded at automatic water Sandy Creek Road AL, near Grantham, possibly indicated Grantham area of Lockyer Creek. Very rapid rise in Lockyer Creek at Gatton. Automatic rise, commencing at about 5pm, of about 7 metres in the Lockyer flash flood did not cause the highest flooding at flood levels were experienced at Gatton on the following further heavy rainfall in the Lockyer-Laidley valley. A possibly indicated the possible of 15.38 metres (occurring on Tuesday 11) at gauge. This compares with a 1974 flood peak of 14.63 at Gatton is 16.33 metres in 1893. Rapid rise in Lockyer Creek at Glenore Grove. Automatic services at Gatton of the following flood peak of 15.38 metres in 1893.	gauge indicated a water level rise, ne hour, from about 4 metres to g. Subsequently, DERM have I as 13.88 metres and estimated to record was 7.55 metres in 1974. Ilevel station in Sandy Creek at ating passage of floodwaters in the gauge (TM) indicated a water level wo hours before failing. The at Gatton and downstream. Higher g day, Tuesday 11 January, due to lost flood survey indicates a 2011 at the long-term flood warning metres The highest recorded flood atic gauge indicated a water level two hours from about 10.7 metres

midday	commencing at about midnight Monday, of about 2 metres in twelve hours from about
Tuesday 11	15.2 metres to about 17.1 metres at about midday Tuesday.
Jan	

	od event timeline for Laidley and Lockyer Creek for the 11/01/2011. RAINFALLS		
5am to 6am	Heavy rainfall of up to 50 mm in the Grantham, Gatton, and Glenore Grove Areas. Less in		
	the Laidley and Grandchester areas.		
6am to 7am	Heavy rainfall of up to 46 mm in the Laidley and Granchaster area.		
7am to 8am	Rainfall generally eases to less than 20 mm but continues at 41 mm in the hour at		
	Grandchester and 35 mm at Thornton which is higher in the Laidley Creek catchment.		
8am to 5pm	Rainfall continues with maximum hourly intensities of around 25 mm. The 12 hour total to		
	5pm at Grandchester was 285 mm and at Showground Weir in Laidley was 194 mm. See		
	Figure 4. WATER LEVELS		
16			
14			
	35		
	——————————————————————————————————————		
12			
是 10 —			
	Topula Rainfall		
River	720 =		
8			
	10		
6			
06:00 Mon 10/01	12:00 18:00 00:00 06:00 12:00 18:00 00:00 06:00 12:00 10:00 06:00 12:00 10:00		
	Date/Time SHOWGROUND WEIR ALERT Rainfall — GLENORE GROVE ALERT River Height — GLENORE GROVE ALERT River Height —		
1am to 6am	Rises started on Laidley Creek at Mulgowie TM (owned by DERM) at around midnight with		
	what looks like a fast rise starting at about 6am but the station fails at around this time.		
6am to 1pm	Renewed rises also commenced at Showground Weir in Laidley at around 3am and		
	reached a relatively steady level of over 9 metres about 10am. The manually recorded peak		
	at the Bureau Laidley site was 8.85 metres at 1.20pm.		
	Egreet Hill was reported to have been flooded at around 0.10 am on 11/01/2011. This is		
	Forest Hill was reported to have been flooded at around 9-10 am on 11/01/2011. This is believed to be a result of very heavy rainfall in the immediate area and flows in Laidley and		
	Sandy Creeks.		
	Guildy Glocks.		
	Rises were also occurring in Lockyer Creek at Gatton . A post flood survey indicates a		
	flood peak of 15.38 metres occurred at around midday on Tuesday 11/01/2011 at the long-		
	term flood warning gauge. This compares with a 1974 flood peak of 14.63 metres The		
	highest recorded flood at Gatton is 16.33 metres in 1893.		
1pm to 5pm	Rapid rises started in Lockyer Creek at Glenore Grove at about 8am with the peak		
<u> </u>	occurring around 5pm. The peak at the automatic gauge was about 15.34 metres.		
Midnight to	Rise in Lockyer Creek at Lyons Bridge. Automatic gauge indicated a water level rise,		
midday	commencing at about midnight Monday, of about 2 metres in twelve hours from about 15.2		
Tuesday 11	metres to about 17.1 metres at about midday Tuesday. The final peak was 17.50 metres at		
Jan	about 5.30pm on Tuesday 11/01/2011.		

Flood Heights at Sandy Creek Road and Helidon

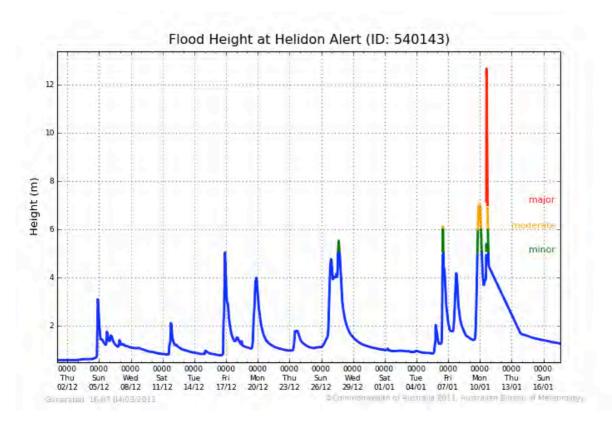


Figure 6. Flood Heights at Helidon for 02/12/2010 to 17/01/2011.

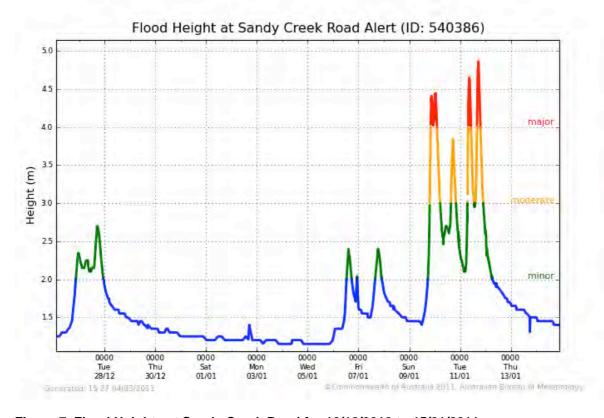


Figure 7. Flood Heights at Sandy Creek Road for 16/12/2010 to 15/01/2011.

Flood Heights at Gatton and Laidley

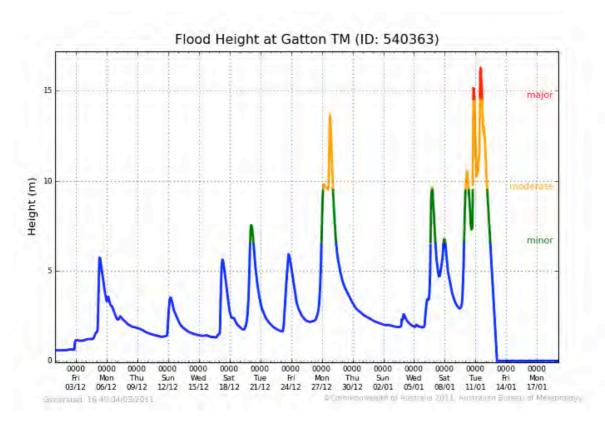


Figure 8. Flood Heights at Gatton TM for 01/12/2010 to 18/01/2011. Reconstructed using post flood surveys. Gatton TM has been used because it provides the best time series data for the December 2010 and January 2011 period.

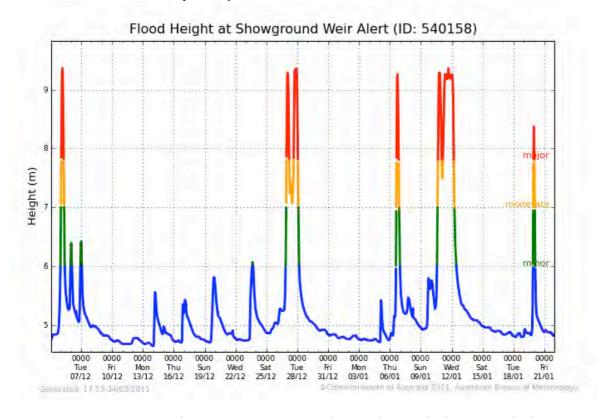


Figure 9. Flood Heights at Showground Weir Alert (Laidley) for 04/12/2010 to 21/01/2011.

Comparison with previous floods

- Record flood peaks were recorded at Helidon, Sandy Creek and Laidley.
- The highest peak of 15.38 metres at Gatton on 11-01-2011 was higher than 1974 peak of 14.63 metres but less than the 16.33 metre peak in 1893.
- The Helidon peak of 13.88 metres is over 6 metres higher than the previous record of 7.55 metres in 1974.
- The site at Sandy Creek Road AL has no historical flood records. The station was opened in 2006.

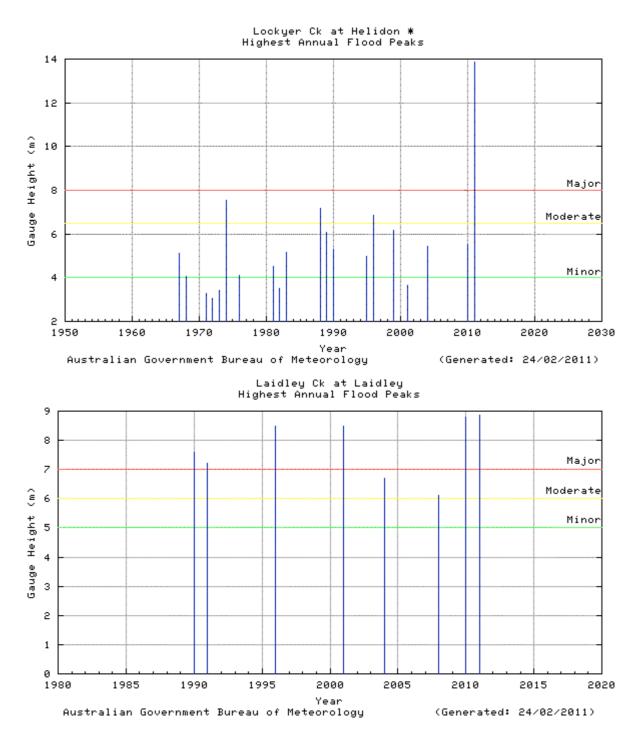


Figure 10. Highest annual flood peaks for Helidon and Laidley.

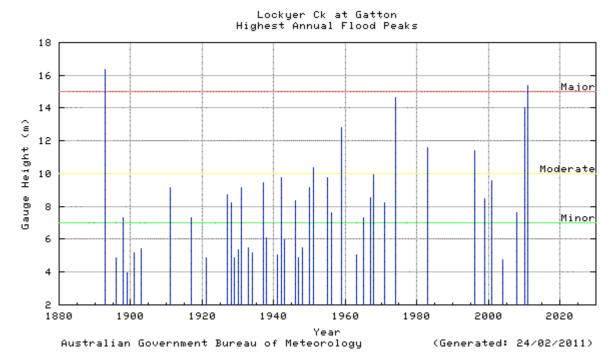


Figure 11. Highest annual flood peaks for Gatton manual gauge. Gatton has been used because it has the longest record.

Warning and Forecast Service

- Significant runoff commenced during early December with the first flood warnings for the
 Lockyer Creek for the 2010-2011 wet season, issued on 05/12/2010. Further heavy rainfall
 throughout December saw flood warnings issued between the 20/12/2010 and 22/12/2010
 and again from 27/12/2010 to 30/12/2010. Further heavy rainfall in early January again
 caused creek rises and flood warnings were issued on 06/01/2011. The major flood event of
 the 10/01/2011 and 11/01/2011 then followed. A summary of the flood warnings for this
 major flood event is presented in Table 5 below.
- A total of 58 warnings were issued for Lockyer Creek during December 2010 and January 2011 as part of the Lower Brisbane Flood Warning.
- Severe weather warnings for heavy rainfall and flash flooding were issued between 9/01/2011 and 11/01/2011. These are summarised in Table 7.
- On the afternoon of 10/01/2011 an extraordinary "Flash Flood Warning" was created using the Warning for Coastal Streams from Maryborough to the NSW Border. It was retitled and the content changed to become a top priority flash flood warning for Lockyer Creek and broadcasters were requested to use the Standard Emergency Warning Signal (SEWS). A summary of the extraordinary "Flash Flood Warnings" is presented in Table 6.

Table 5. Summary of flood warnings issued that refer to Lockyer Creek. Warnings for Lockyer Creek are included in the Lower Brisbane Warning.

Time of Forecast	Forecast
10:55 PM on Sunday the 9th of	Lockyer Creek levels in the Helidon area have peaked at about 7 metres with further rises and moderate to major flooding expected downstream to the O'Reilly's area during Monday. Further rainfall is forecast for the region during Monday which may produce higher levels.
12:36 AM on Monday the 10th of January 2011	Moderate to major flood levels have developed in Lockyer Creek upstream of Gatton. Levels in the Helidon area have peaked at about 7 metres and rises continue at Gatton. Rises to major flood levels are expected during

	Monday at Glenore Grove and Lyons Bridge. Further heavy rainfall is forecast for the catchments of the Bremer River and Warrill and Lockyer Creeks during Monday.
10:28 AM on Monday the 10th of January 2011	A major flood peak is currently around Glenore Grove of around 13 metres. Rises to around 14.5 metres are expected at Lyons Bridge later today and around 15 metres at Rifle Range Road. Higher levels are possible as rainfall continues.
4:16 PM on Monday the 10th of January 2011	Further rainfall during Monday has led to renewed rises in the Lockyer Creek catchment. Rainfall is forecast to continue this evening and a return to moderate to major flood levels is expected overnight and during Tuesday.
6:12 PM on Monday the 10th of January 2011	Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Laidley Creek at Mulgowie. These will extend to Gatton and areas downstream during the evening and overnight. High level record major flooding is expected in areas downstream of Gatton overnight and during Tuesday.
	Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Gatton and Laidley Creek at Mulgowie. These will extend to Lyons Bridge in the next few hours and areas downstream later Monday and early Tuesday. High level major flooding is expected in areas downstream of Gatton overnight and during Tuesday.
12:06 AM on Tuesday the 11th of January 2011	Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood. The main flood waters are currently around Glenore Grove, with strong stream rises at Lyons Bridge expected in the next few hours. The Lockyer Creek at Glenore Grove has reached 14.60 metres at 11:30pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.
3:24 PM on Tuesday the 11th	Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed. Major flooding will continue this evening throughout the catchment. Flood levels at Glenore Grove were at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level. The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.
12:19 AM on Wednesday the 12th of January 2011	Major flooding will continue tonight in the Lockyer Creek catchment. Flood levels at Glenore Grove peaked at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level. The Lockyer Creek at Lyons Bridge peaked at 17.25 metres around 6pm Tuesday.

Note: This table does not include all forecasts issued during these flood events.

Table 6. Table of flood warnings showing the use of the Coastal Streams from Maryborough to the NSW Border warning to create a Flash Flood Warning for Lockyer Creek.

Date	Time	Header
Cundou O January 2011	0:40 DM	FLOOD WADNING FOR COASTAL STREAMS FROM
Sunday 9 January 2011	2:48 PM	FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER
		Issued at 2:48 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	7:05 PM	FLOOD WARNING FOR COASTAL STREAMS FROM
Guilday 5 Saildary 2011	7.001 W	MARYBOROUGH TO THE NSW BORDER
		Issued at 7:05 PM on Sunday the 9th of January 2011
Sunday 9 January 2011	11:02 PM	FLOOD WARNING FOR COASTAL STREAMS FROM
		MARYBOROUGH TO THE NSW BORDER
		Issued at 11:02 PM on Sunday the 9th of January 2011
Monday 10 January 2011	9:19 AM	FLOOD WARNING FOR COASTAL STREAMS FROM
		MARYBOROUGH TO THE NSW BORDER
		Issued at 9:19 AM on Monday the 10th of January 2011
Monday 10 January 2011	5:00 PM	FLASH FLOOD WARNING FOR LOCKYER CREEK
		Issued at 5:00 PM on Monday the 10th of January 2011
		Very heavy rainfalls have been recorded in the
		Toowoomba area and caused extreme flash flooding.
		This rainfall is also causing extreme rises in the upper
		Lockyer Creek at Helidon with very fast and dangerous
		rises possible downstream at Gatton in the next few
		hours. Rises will extend downstream of Gatton during
		tonight.
Monday 10 January 2011	8:37 PM	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 8:37 PM on Monday the 10th of January 2011
		Very heavy rainfalls have been recorded in the Toowoomba, Crows Nest and Gatton area and have caused extreme rises in the upper Lockyer Creek between Helidon and Gatton with the peak currently arriving in the Glenore Grove area.
		Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood.
		Very fast and dangerous rises are occurring downstream of Gatton to Glenore Grove and will extend downstream to Lyons Bridge and O'Reilly Weir during Monday night and Tuesday morning.
Tuesday 11 January 2011	12:19 AM	FLASH FLOOD WARNING FOR LOCKYER CREEK Issued at 12:19 AM on Tuesday the 11th of January
		2011
Tuesday 11 January 2011	4:10 AM	FLASH FLOOD WARNING FOR LOCKYER CREEK
, , , , , , , , , , , , , , , , , , , ,		Issued at 4:10 AM on Tuesday the 11th of January 2011
Tuesday 11 January 2011	7:27 AM	FINAL FLASH FLOOD WARNING FOR LOCKYER
		CREEK Issued at 7:27 AM on Tuesday the 11th of
		January 2011

Table 7. Table of Severe Weather warnings that covered the area of Lockyer Creek during the period 9/11/2011 to 11/01/2011.

Date	Time	Header
Sunday 9 January 2011	4:40 am	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett. Issued at 4:40 am on Sunday 9 January 2011
Sunday 9 January 2011	10:55 am	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District. Issued at 10:55 am on Sunday 9 January 2011
Sunday 9 January 2011	4:55 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District. Issued at 4:55 pm on Sunday 9 January 2011
Sunday 9 January 2011	11:00 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:00 pm on Sunday 9 January 2011
Monday 10 January 2011	5:00 am	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 5:00 am on Monday 10 January 2011
Monday 10 January 2011	11:00 am	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:00 am on Monday 10 January 2011
Monday 10 January 2011	11:05 am	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 11:05 am on Monday 10 January 2011
Monday 10 January 2011	5:05 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district. Issued at 5:05 pm on Monday 10 January 2011
Monday 10 January 2011	6:30 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts. Issued at 6:30 pm on Monday 10 January 2011
Monday 10 January 2011	7:50 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 7:50 pm on Monday 10 January 2011
Monday 10 January 2011	11:00 pm	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 11:00 pm on Monday 10 January 2011
Tuesday	5:05	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash

11 January 2011	am	flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts. Issued at 5:05 am on Tuesday 11 January 2011
Tuesday	8:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
11 January	am	flooding and worsening the existing river flood situation For people in the
2011	am	Southeast Coast District and the Darling Downs and Granite Belt District
2011		southeast of Dalby to Goondiwindi. Issued at 8:00 am on Tuesday 11 January
		2011
Tuesday	11:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	am	and worsening the existing river flood situation For people in the Southeast
2011		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 11:00 am on Tuesday 11 January 2011
Tuesday	2:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 2:00 pm on Tuesday 11 January 2011
Tuesday	5:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011	-	Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011
Tuesday	10:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011	-	Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011

Flood summary for the Mary River at Maryborough

- The town of Maryborough is on the Mary River in the Mary catchment
- The flood heights at Maryborough are measured using a manual gauge owned by the Bureau of Meteorology (Bureau station number: 040443).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

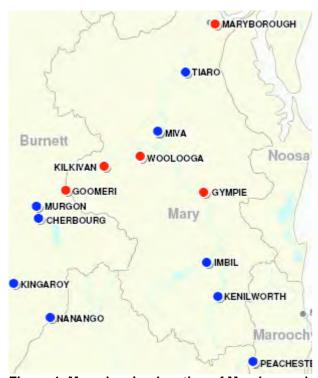
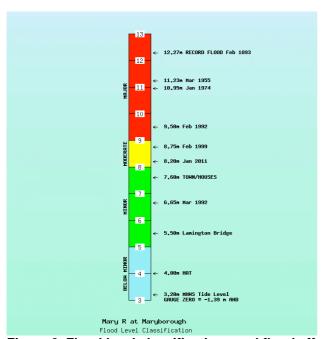


Figure 1. Map showing location of Maryborough.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity

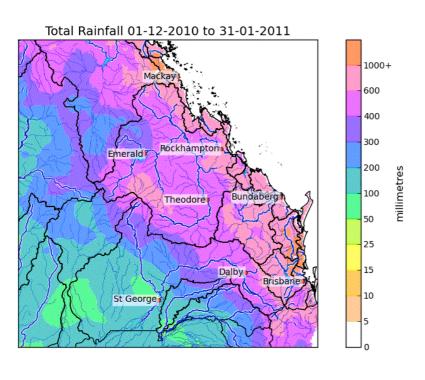


- Peaked at 8.2 metres on 09/01/2011.
- Minor: 5 metres Moderate: 8 metres Major: 9 metres.
- Gauge zero is -1.390 metres AHD.
- There was second peak of at 7.95 metres (minor) on 12/01/2011.
- Above moderate flood level (8 metres) from 09/01/2011 to 10/01/2011.
- Remained above minor flood level (5 metres) from 08/01/2011 to 14/01/2011.

Figure 2. Flood level classifications and flood effects for Maryborough.

Rainfall summary

- Over 600mm was recorded in most of the Mary River catchment during December 2010 and January 2011 with parts of the catchment receiving in excess of 1000mm.
- Very heavy rainfall of over 600mm in the Upper Mary between 9am on 06/01/2011and 9am on 13/01/2011. Most of the Mary catchment received over 400mm between 9am on 06/01/2011and 9am on 13/01/2011.



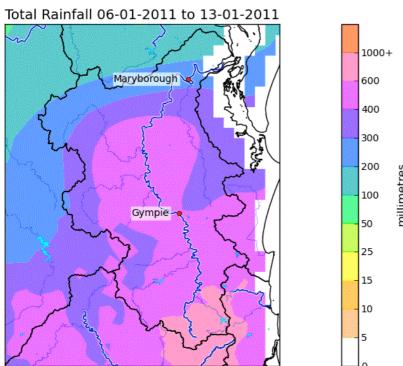


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for 9am on 06/01/2011 to 9am on 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at West Bellthorpe AL and Miva in the Mary River catchment are shown in Table 1.
- The most significant rainfall intensities for January 2011 at West Bellthorpe AL occurred in the 24, 48 and 72 hour durations ending at 4:20am on the 10/01/2011, 04:35am on the 11/01/2011 and 01:20am on the 12/01/2011 respectively. Smaller than a 1% Annual Exceedence Probability (greater than 100 year Average Recurrence Interval) was recorded.

Table 1. Recorded maximum rainfall intensities for West Bellthorpe AL and Miva in the Mary River catchment for December 2010 and January 2011.

Rainfall	West Bellthorpe AL		Miva			
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	245	9:05 PM 09/01/2011	50-100			
24hr	349	4:20 AM 10/01/2011	> 100	304	9:00 AM 08/01/2011	50-100
48hr	481	4:35 AM 11/01/2011	> 100	381	9:00 AM 09/01/2011	50-100
72hr	605	1:20 AM 12/01/2011	> 100	444	9:00 AM 09/01/2011	50-100

Flood event timeline

Table 2. Flood timeline for Theodore

Time/Date	Event Description	Gauge Height (metres)	Comment
8:43 AM 7/01/2011	First warning issued		
8/01/2011	First time it exceeded minor flood level	5.0	Remained above minor flood level for ~7 days
9/01/2011	First time it exceeded moderate flood level	8.0	Total time above moderate flood was ~1 day
12:30 PM 9/01/2011	Moderate flood peak	8.2	
10/01/2011	Final fall below moderate	8.0	
9:00 PM 12/01/2011	Minor flood peak	7.95	
14/01/2011	Final fall below minor	5.0	
8:54 AM 15/01/2011	Final warning issued		

Flood Heights at Maryborough

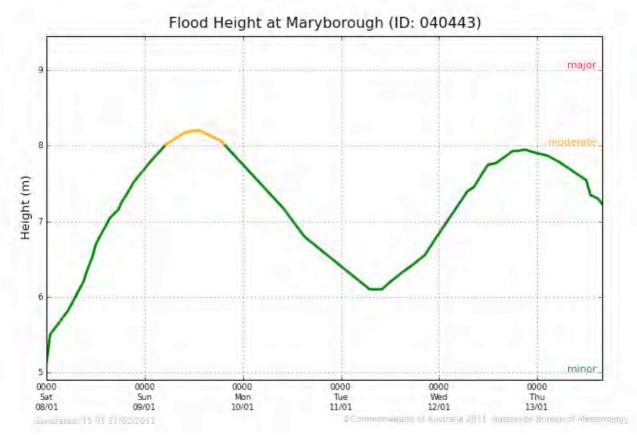


Figure 4. Flood heights at the Maryborough manual gauge.

Comparison with previous floods

- Start of record 1864 with 7 major and 4 moderate flood peaks in the record
- Last moderate flood was 8.75 metres February 1999.

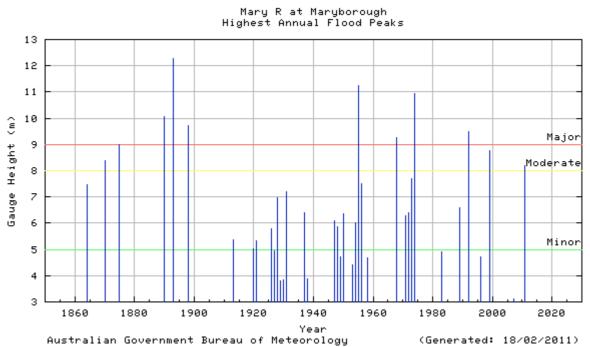


Figure 5. Highest annual flood peaks for the Mary River at Maryborough.

Warning and Forecast Service

- Significant runoff commenced during early December with flood warnings for the Mary River issued between 12/12/2010 and 14/12/2010 and again between 19/12/2010 and 22/12/2010.
- Further heavy rainfall occurred in early January with warnings commencing 06/01/2011 and continuing through to 15/01/2011.
- A total of 43 warnings were issued for the Mary River system including Maryborough during December 2010 and January 2011.

Table 3. Table of peak height predictions for Maryborough

Time of Height Forecast	Forecast	Peak			
07/01/2011 First warning issued. Height at the time was below minor					
11:15 PM on Friday the 7th of January 2011	Exceed 5 metres (minor flood) overnight. Reach at least 6 metres during Saturday.	Rising limb forecasts – reach a level and expected to continue rising			
2:09 AM on Saturday the 8th of January 2011	Reach at least 6 metres during Saturday morning with further rises above 7 metres possible.	6.05 metres at 7:30 AM Sat 8/01/2011 7.05 metres at 3:30 PM Sat			
5:57 AM on Saturday the 8th of January 2011	Reach at least 7.5 metres during Saturday morning with further rises possible.	8/01/2011 7.5 metres at 9:00 PM Sat 8/01/2011			
10:05 AM on Saturday the 8th of January 2011	Continue rising during Saturday with a peak expected during Sunday of about 9 metres, possibly higher.	6/01/2011			
12:21 PM on Saturday the 8th of January 2011	Continue rising during Saturday with a peak expected during Sunday of about 9 metres, possibly higher.				
6:36 PM on Saturday the 8th of January 2011	Continue rising overnight Saturday with a peak expected during Sunday of about 9 metres. Further heavy rainfall may result in higher levels.	8.2 metres			
6:08 AM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.	at 12:30 PM Sun 9/01/2011			
11:01 AM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.				
1:55 PM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.				
5:50 PM on Sunday the 9th of January 2011	Fall slowly during Sunday night and Monday.				
6:33 AM on Tuesday the 11th of January 2011	River rises during Tuesday and a continuation of minor flooding.				
4:41 PM on Tuesday the 11th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.				
10:09 PM on Tuesday the 11th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.	7.95 metres			
7:16 AM on Wednesday the 12th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.	at 9:00 PM Wed 12/01/2011			
the 12th of January 2011	Peak near the moderate flood level (8 metres) early Wednesday afternoon.				
,	Peak near the moderate flood level (8 metres) early Wednesday afternoon.				

10:33 PM on Wednesday	Peak near the moderate flood level (8 metres)	
the 12th of January 2011	Wednesday evening.	

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Fitzroy River at Rockhampton

- The town of Rockhampton is on the Fitzroy River in the Capricornia district.
- The river heights at Rockhampton are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 039264).
- Rockhampton experienced major flooding in January 2011 that continued for more than 13 days and cut the Bruce Highway which connects North Queensland with Brisbane.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

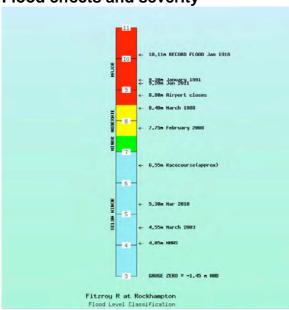
Location map



Figure 1. Map showing location of Rockhampton.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 9.2 metres on 04/01/2011.
- Minor: 7.0 metres Moderate: 7.5 metres Major: 8.5 metres
- Gauge Zero is -1.488 metres AHD.
- Rockhampton was isolated for several weeks with the main highways to the south and west and the airport flooded (Source: Ninemsn).
- Many properties were flood affected and many residents were evacuated from parts of the town (Source: ABC).
- Above major flood level (8.5 metres) from 01/01/2011 to 14/01/2011.
- Above minor flood level (7.0 metres) from 13/12/2010 to 20/12/2010 and again from 27/12/2010 to 17/01/2011.

Figure 2. Flood level classifications and flood effects for Rockhampton

Rainfall summary

- Between 200 and 1000 millimetres of rainfall was recorded over the Fitzroy River catchment from the start of December 2010 to the end of January 2011.
- The heaviest rainfall periods during December and January occurred from the 26/12/2010 to 28/12/2010, with falls between 100 and 300 millimetres over a large part of the catchment with some areas receiving over 400mm during this period.

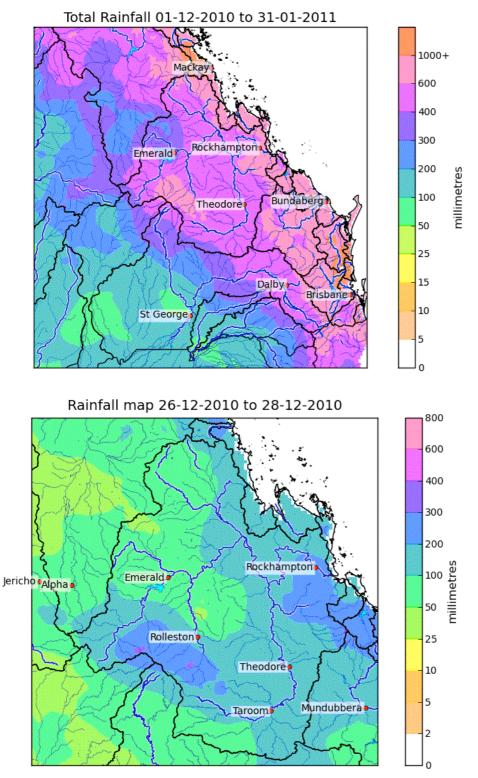


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9 AM on 28/12/2010 (bottom).

Rainfall Intensity

- Coolmaringa TM on the Mackenzie River and Kingsborough TM on the Don River, both upstream from Rockhampton, have been selected as examples of recorded rainfall intensities across the eastern parts of the Fitzroy River catchment during December 2010 and January 2011. The rainfall intensity data is shown in Table 1.
- The most significant rainfall intensities for December 2010 and January 2011 at these two sites occurred on 3/12/2010, 27/12/2010 and on 28/12/2010 however they were all well above the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Coolmaringa TM on the Mackenzie River and

Kingsborough TM on the Don River for December 2010 and January 2011.

Rainfall	Coolmaringa TM			Kingsborough TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
30 mins	22	10:25 AM 22/12/2010	< 1	45	12:05 PM 27/12/2010	10-20
60 min	33	10:45 AM 22/12/2010	1-2	53	12:15 PM 27/12/2010	5
2 hr	49	5:10 PM 27/12/2010	1-2	63	7:50 PM 27/12/2010	2-5
3 hr	61	5:40 PM 27/12/2010	2-5	78	8:15 PM 27/12/2010	5-10
6 hr	103	9:00 PM 27/12/2010	10-20	93	10:00 PM 27/12/2010	5-10
12hr	117	2:40 AM 28/12/2010	5-10	147	11:10 PM 27/12/2010	20
24hr	167	1:15 PM 03/12/2010	10-20	155	10:55 AM 28/12/2010	5-10
48hr	174	1:15 PM 03/12/2010	5-10	232	10:00 PM 27/12/2010	10-20
72hr	259	12:15 PM 03/12/2010	10-20	265	10:55 AM 28/12/2010	10-20

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Rockhampton

Table 2. I lood timeline		Gauge	
Time/Date	Event Description	Height (metres)	Comment
11:06 AM 04/12/2010	First warning issued		First warning issued with reference to Rockhampton flooding.
2:00 AM 13/12/2010	River level first exceeds the minor flood level.	7.00	Remained above the minor flood level for ~7 days
2:00 PM 14/12/2010	River level first exceeds the moderate flood level	7.50	Remained above the moderate flood level for ~3 days.
5:30 AM 16/12/2010	Moderate flood peak	7.65	
5:30 AM 27/12/2010	River level exceeds the minor flood level again.	7.00	Remained above the minor flood level for ~21 days.
5:00 AM 28/12/2010	River level exceeds the moderate flood level again.	7.50	Remained above the moderate flood level for ~19.5 days.
8:45 AM 01/01/2011	River level first exceeds the major flood level	8.50	Remained above the major flood level for ~13.5 days.
3:15 PM 04/01/2011	Major flood peak	9.20	5 th highest flood peak on record for Rockhampton.
5:45 AM 14/01/2011	Final fall below major	8.50	
1:45 AM 16/01/0211	Final fall below moderate	7.00	
10:45 AM 17/01/2011	Final fall below minor	5.00	
7:54 AM 17/01/2011	Final warning issued		

Flood Heights at Rockhampton

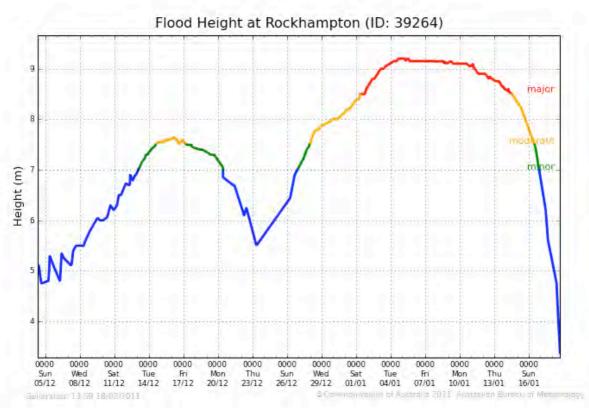


Figure 4. Flood Heights at Rockhampton manual gauge for December 2010 and January 2011

Comparison with previous floods

- River height records for Rockhampton date back to 1859.
- The 2011 major flood level of 9.2 metres is the fifth highest peak on record (two peaks recorded in 1918).
- The previous time the river level exceeded 9 metres was in January 1991 when the Fitzroy River rose to 9.30 metres.

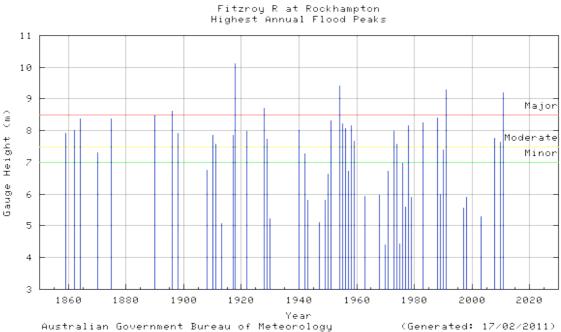


Figure 5. Highest annual flood peaks for the Fitzroy River at Rockhampton

Warning and Forecast Service

- The first warning issued for the Fitzroy River that included references to expected river height rises at Rockhampton was issued on 04/12/2010. Warnings then continued for the catchment throughout the month, finalising on 17/01/2011 following the major flood peak at Rockhampton.
- This period of warnings included the moderate flood peak at Rockhampton in December and the major flood peak at Rockhampton in January 2011.
- A total of 86 warnings were issued for the Fitzroy River system during December 2010 and January 2011 that referred to river rises and flooding at Rockhampton.

Table 3. Table of peak height predictions for Rockhampton

Time of Height Forecast	Time of Height Forecast Forecast				
04/12/2010 F	04/12/2010 First warning issued referencing flooding at Rockhampton.				
11:06 AM on Saturday the 4th of December 2010	Slow river rises will also continue at Rockhampton during next week and possibly reach near the minor flood level of 7 metres by the end of next week.				
11:11 AM on Sunday the 5th of December 2010	Possibly reach near the minor flood level of 7 metres by next weekend 11-12 December.				
10:25 AM on Monday the 6th of December 2010	Reach the minor flood level of 7 metres by this weekend				
10:13 AM on Tuesday the 7th of December 2010	Rising limb forecasts – reach a level and expected to continue				
10:27 AM on Wednesday the 8th of December 2010	Exceed the minor flood level of 7 metres during this weekend and reach 7.8 metres early next week with further rises possible.	rising			
11:19 AM on Monday the 13th of December 2010*	Peak up to 7.8 metres late this week. Levels remaining above 7 metres into next week.				
9:28 AM on Tuesday the 14th of December 2010	Reach up to 7.8 metres late this week. Levels remaining above 7 metres into next week.				
10:53 AM on Wednesday the 15th of December 2010	The Fitzroy River at Rockhampton is expected to peak up to 7.8 metres during the next 24 hours. Once a peak has been observed, river levels will fall very slowly and will remain above the minor flood level of 7 metres until at least 21/12/10.	7.65 metres at 05:30 AM Thur 16/12/2010			

	River levels will rise again over the weekend and	
	through next week	
12:21 PM on Saturday the	River levels at Rockhampton will rise again to around	
25th of December 2010	the 7 metres mark by late next week.	
5:19 PM on Sunday the 26th of December 2010	Remain around at least the 7 metre minor flood level during this week, with possible higher levels later in the week and during the New Year weekend	
1:25 PM on Monday the 27th of December 2010	Reach at 7.5 metres (moderate) later this week.	Rising limb forecasts –
7:06 AM on Tuesday the 28th of December 2010	Reach 8 metres later this week and continue rising. Major flood levels (8.5 metres) possible early next week.	reach a level and expected to continue rising
4:21 PM on Wednesday the 29th of December 2010	Reach 8 metres (moderate) later this week and continue rising. Reach 8.5 metres (major) late in the weekend.	nonig
9:50 AM on Thursday the 30th of December 2010	Reach 9 metres on Sunday morning with further rises. Reach about 9.4 metres by Tuesday with possible further rises.	
8:11 PM on Friday the 31st of December 2010	Reach 9 metres by Monday with further rises. Reach up to 9.4 metres by Wednesday with possible further rises.	
6:41 AM on Monday the 3rd of January 2011	Peak up to 9.4 metres on Wednesday, remaining above 8.5 metres for 1 week after the peak.	
6:25 AM on Wednesday the 5th of January 2011	Further small rises above 9.2 metres are expected during today. Remain above 8.5 metres for 1 week after the peak which is expected to last for at least 36 hours.	9.2 metres at 3:15 PM Tue 04/01/2011
6:47 PM on Wednesday the	Remain around the current peak level overnight. Remain above 8.5 metres (major) for 1 week after the peak.	

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Comet River at Rolleston

- The town of Rolleston is on the Comet River in the Fitzroy River catchment
- The flood heights at Rolleston are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 035145).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/gld/brochures/river_maps.shtml

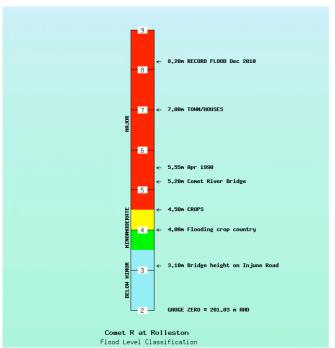
Location map



Figure 1. Map showing location of Rolleston.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



 Peaked at:
 8.54 metres at 1:00 PM on 27/12/2010

Additional flood peaks have occurred in December 2010 and January 2011 but were not recorded.

- Minor: 3.5 metres
 Moderate: 4.0 metres
 Major: 4.5 metres
- Gauge zero is 201.030 AHD.
- The peak height recorded on 27/12/2010 exceeds the previous record flood height by 2.67 metres.
- Above major flood level (4.5 metres) from 03/12/2010 to 09/12/2010 and again from 21/12/2010 to 09/01/2011.*
- Above minor flood level (3.5 metres) from 01/12/2010 to 17/12/2010 and again from 19/12/2010 to 12/01/2011.*.

Figure 2. Flood level classifications and flood effects for Rolleston.

^{*} Data from the Rolleston Manual Gauge was incomplete for the period from 01/12/2010 to 12/01/2011 so these dates have been estimated from peak stage relationships using river heights recorded downstream at The Lake Alert.

Rainfall summary

- Between 600 and 1000 mm of rainfall was recorded over the upper Comet River and its tributaries from 01/12/2010 to 31/01/2011.
- Very heavy rainfall of between 300 and 400 mm and isolated falls above 400 mm were recorded over the upper tributaries of the Comet River in the 48 hours to 9am on 28/12/2010 which led to record flood levels at Rolleston on the 27/12/2010.

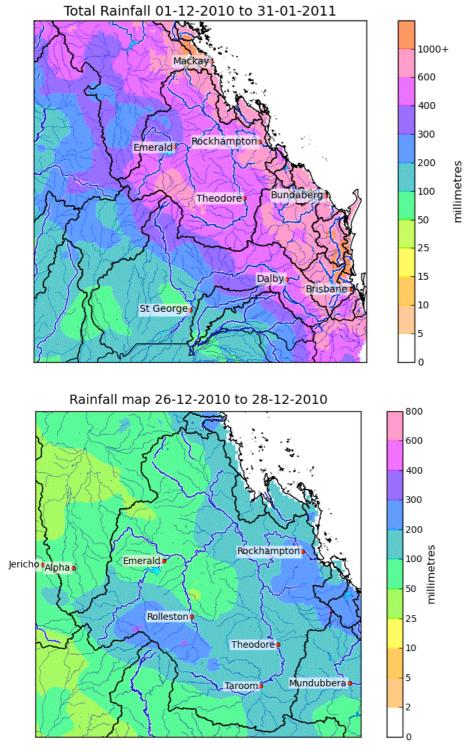


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9 AM on the 28/12/2010 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for Lake Brown TM on the Brown River and Rewan TM on Carnarvon Creek, both upstream from Rolleston, have been selected as examples of recorded rainfall intensities across the Comet River catchment during December 2010. The rainfall intensity data is shown in Table
- The most significant rainfall intensities at Lake Brown TM for December 2010 occurred in the 12 to 24 hour duration periods ending on 27/12/2010 and equalled the 2–5% Annual Exceedence Probability (20-50 year Average Recurrence Interval).
- The most significant rainfall intensities at Rewan TM for December 2010 also occurred in the 12 to 24 hour durations ending on 27/12/2010, exceeding the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Lake Brown TM on Brown River and Rewan TM on Canarvon Creek for December 2010.

Rainfall	Lake Brown TM			Rewan TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
6hr	86	8:40 AM 27/12/2010	5-10	118	5:50 AM 27/12/2010	20-50
12hr	144	9:45 AM 27/12/2010	20-50	183	7:35 AM 27/12/2010	> 100
24hr	186	4:15 PM 27/12/2010	20-50	237	3:25 PM 27/12/2010	> 100
48hr	208	3:50 PM 27/12/2010	10-20	268	3:45 PM 27/12/2010	20-50
72hr	213	4:15 PM 27/12/2010	10-20	276	3:45 PM 27/12/2010	20-50

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Rolleston

Time/Date	Event Description	Gauge Height (metres)	Comment
5:30 PM 01/12/2010	First warning issued for the	Comet River.	
01/12/2010*	First time it exceeded minor flood level	3.50	Remained above minor flood level for ~16 days
03/12/2010*	First time it exceeded major flood level	4.50	Remained above the major flood level for ~6 days.
05/12/2010*	Major flood peak	Flood peak	not measured
09/12/2010*	Below major flood level	4.50	
17/12/2010*	Below minor flood level	3.50	
19/12/2010*	Exceeded the minor flood level	3.50	Remained above minor flood level for ~24 days.
21/12/2010*	Exceeded the major flood level	4.50	Remained above the major flood level for ~19 days
1:00 PM 27/12/2010*	Major flood peak	8.54	New Record
09/01/2011*	Below the major flood level	4.50	
12/01/2011*	Final fall below minor	3.50	
10:07 AM 13/01/2011	Final warning issued for the	Comet River	

^{*} Times are estimated by applying the peak stage relationship to river height observations recorded downstream at The Lakes Alert.

Comparison with previous floods

- Flood peak records for Rolleston date back to 1958 with 25 major flood peaks in the record.
- The flood peak of 8.54* metres on the 27/12/2010 sets a new record for Rolleston and exceeds the previous record peak of 5.87 metres that occurred on 19/02/2010 by 2.67 metres.

^{*} Flood peak estimated from post flood survey.

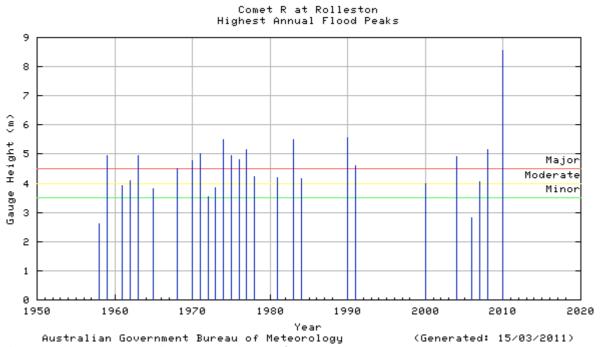


Figure 5. Highest annual flood peaks for the Comet River at Rolleston.

Warning and Forecast Service

- Significant runoff commenced during September with flood warnings for the Comet River issued between 05/09/2010 and 09/09/2010 and again between 27/09/2010 and 01/10/2010.
- Further rainfall occurred over the Fitzroy River catchment in late November but no warnings were required for towns along the Comet River.
- Rainfall in early December saw warnings recommence for the Comet River on 01/12/2010 and continuing through to 14/12/2010. Further warnings were then required between the 19/12/2010 to 15/01/2011 with record flooding occurring at Rolleston.
- A total of 73 warnings were issued for the Comet River in the Fitzroy River catchment during December 2010 and January 2011.
- Flood height predictions are not made for the town of Rolleston.

Flood summary for the Balonne River at St George

- The town of St George is on the Balonne River in the Condamine-Balonne River catchment.
- St George has a manual river height gauge jointly owned by the Bureau of Meteorology and Sunwater (Bureau station number: 043053) and an automatic river height gauge owned by the Queensland Department of Environment and Resource Management (Bureau station number: 043104). River level heights and peaks in this report are in reference to the manual gauge data.
- St George experienced two major flood peaks in January 2011 which rank as the 2nd and 3rd highest peaks on record
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

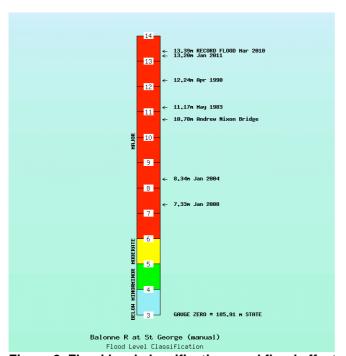
Location map



Figure 1. Map showing location of St George.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at:
 13.2 metres on 08/01/2011
 12.49 metres on 23/01/2011
- Minor: 4 metres
 Moderate: 5 metres
 Major: 6 metres
- Gauge zero is 185.907 metres State Datum.
- Residents of the nursing home were evacuated to Brisbane (Source: ABC).
- 30 homes were expected to be inundated (Source: ABC).
- Above major flood level (6 metres) from 07/12/2010 to 13/12/2010, 16/12/2010 to 20/12/2010 and 21/12/2010 to 02/02/2011.
- Above minor flood level (4 metres) from 05/12/2010 to 04/02/2011.

Figure 2. Flood level classifications and flood effects for St George.

Rainfall summary

- Rainfall recorded in December 2010 and January 2011, which led to major flooding at St George, was heaviest over the eastern half of the catchment.
- Between 300 to 600 millimetres of rainfall was recorded over most of the Condamine River catchment from the start of December 2010 to the end of January 2011 with falls up to 1000mm over the far east of the catchment. Falls between 50 and 300 millimetres were recorded over the Balonne River catchment
- The heaviest rainfall periods during December 2010 and January 2011 occurred from 27/12/2010 to 28/12/2010, with falls between 100 and 200 millimetres and from 06/01/2011 to 12/01/2011 with falls between 200 and 400 millimetres.

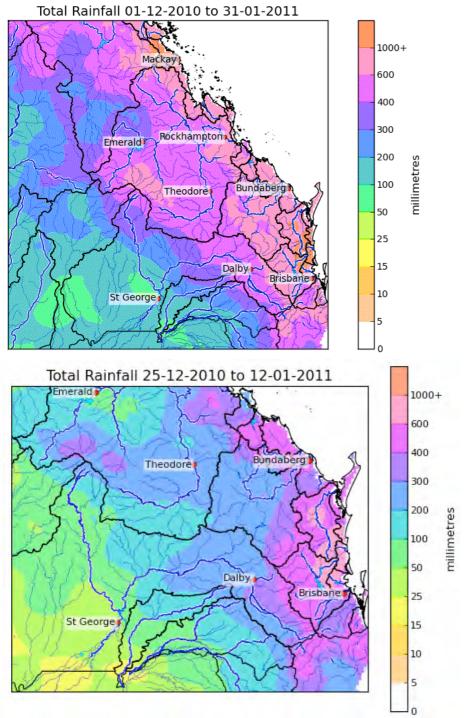


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period from 9 AM on 25/12/2010 to 9 AM on 12/01/2011 (bottom).

Rainfall Intensity

- The December and January floods at St George were not caused by local area intense rainfall and rainfall intensity analysis of single sites in the large catchment above St George is not informative.
- The flood levels at St George were the result of the combination of large flows in Charleys Creek, Myall Creek, Upper Condamine and Maranoa Rivers.

Flood event timeline

Table 2. Flood timeline for St George

Time/Date	Event Description	Gauge Height (metres)	Comment
05/12/2010	First warning issued		
05/12/2010	River level first exceeds the minor flood level.	4.00	Remained above the minor flood level for ~61 days.
06/12/2010	River level first exceeds the moderate flood level.	5.00	Remained above the moderate flood level for ~59 days.
07/12/2010	River level exceeds the major flood level.	6.00	Remained above the major flood level for ~6 days.
9:00 AM 11/12/2010	Major flood peak.	8.05	
13/12/2010	River level falls below major	6.00	
16/12/2010	River level exceeds the major flood level.	6.00	Remained above the major flood level for ~4 days.
9:00 AM 17/12/2010	Major flood peak.	7.49	
20/12/2010	River level falls below major		
21/12/2010	River level exceeds the major flood level.	6.00	Remained above the major flood level for ~43 days.
9:00 PM 25/12/2010	Major flood peak.	8.75	
12:00 PM 08/01/2011	Major flood peak	13.2	2 nd highest flood peak on record.
9:00 PM 23/01/2011	Major flood peak	12.49	3 rd highest flood peak on record.
02/02/2011	River level falls below major	6.00	
03/02/2011	Final fall below moderate	5.00	
04/02/2011	Final fall below minor	4.00	
10/02/2011	Final warning issued		

Flood Heights at St George

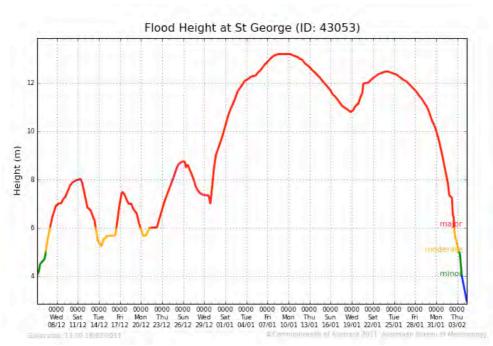


Figure 4. Flood Heights at St George manual gauge for December 2010 and January 2011

Comparison with previous floods

- River height records for the manual river height recording gauge at St George at its current site commenced in 1968.
- River height peaks on 08/01/2011 and 23/01/2011 ranked as the 2nd and 3rd highest on record.
- The previous time the river level at St George exceeded 13 metres was in March 2010.

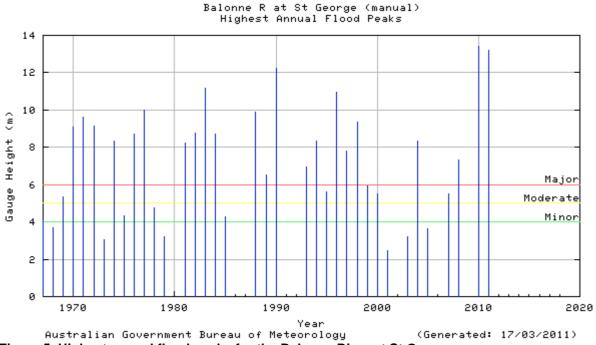


Figure 5. Highest annual flood peaks for the Balonne River at St George

Note: Records for St George date back to 1890 however only peak heights from 1968 to now can be compared. Heights before 1968 were recorded from a different site.

Warning and Forecast Service

- The first warning for the Condamine-Balonne River was issued on 05/12/2010 for minor flooding in the Condamine River and more significant flooding in the Maranoa and Balonne Rivers. However, further rainfall in December saw the continuation of the Condamine-Balonne River Flood Warning through to 10/02/2011.
- Major flooding was first predicted for St George in the Flood Warning issued at 9:43 AM on 07/12/2010.
- Thunderstorm activity caused river rises and 3 major flood peaks in December 2010. Heavy rainfall
 over the Upper Condamine River catchment area including Myall and Charleys Creek during late
 December 2010 and again in early January 2011 resulted in the two major flood peaks of 13.2 metres
 and 12.49 metres at St George during January 2011.
- A total of 103 warnings were issued for the Condamine-Balonne River system during December 2010 and January 2011.

Table 3. Table of peak height predictions for St George.

Time of Height Forecast	Forecast	Peak		
05/12/2010 First warning issued. St George had just exceeded the minor flood level.				
9:43 AM on Tuesday the 7th of December 2010	Further rises are expected during the next few days as upstream floodwaters arrive. A forecast for St George will be given once upstream peaks have been observed.	Rising limb forecasts – reach a level and		
10:22 AM on Thursday the 9th of December 2010	Levels are expected to reach at least 8 metres during the weekend.	expected to continue rising.		
9:30 AM on Friday the 10th of December 2010	Peak around 8.3 metres during the weekend.	8.05 metres at		
11:35 AM on Sunday the 12th of December 2010	Major flood levels in the Balonne River at St George have recorded a peak at 8.05 metres during Saturday.	9:00 AM Sat 11/12/2010		
9:49 AM on Monday the 13th of December 2010	Renewed rises expected later this week which will maintain high river levels going into next week.	Rising limb forecasts – reach a level and		
9:50 AM on Friday the 17th of December 2010	Major flooding is rising at St George, with further rises expected during the weekend which will maintain high river levels during next week.	expected to continue rising.		
10:30 AM on Saturday the 18th of December 2010	Major flood levels remain steady at St George, with further small rises expected during the weekend which will maintain high river levels during next week.	7.49 metres at 9:00 AM Fri 17/12/2010		
11:17 AM on Sunday the 19th of December 2010	Major flood levels are easing at St George, with further rises expected which will maintain high river levels during this week.			
6:43 PM on Sunday the 19th of December 2010	Major flood levels are easing at St George, with further rises expected to at least 10 metres during this week.	Rising limb forecasts – reach a level and		
12:03 PM on Tuesday the 21st of December 2010	Rises are expected over the new year period at St George. Further predictions will be made as peaks are observed upstream.	expected to continue rising.		
4:29 PM on Thursday the 23rd of December 2010	High river levels and major flooding expected to continue at St George late next week.			
	High river levels are nearing an initial major flood peak at St George, however high river levels will continue into next week. Further predictions will be made for St George as upstream peaks are observed.	8.75 metres at 9:00 PM Sat 25/12/2010		
6:47 AM on Monday the 27th of December 2010	Major flooding is easing at St George. Renewed rises and higher river levels to at least 9 metres expected during this week and higher levels during next week.	Rising limb forecasts – reach a level and expected to continue		

3:40 PM on Sunday the 2nd of January 2011	renewed river rises are expected and will continue for at least the next 2 weeks as upstream floodwaters arrive which will prolong major flooding in the area.	rising.	
7:08 AM on Tuesday the 28th of December 2010	Major flood levels (at least 10 metres) later this week with continued river rises.		
2:43 PM on Thursday the 30th of December 2010	Reach 10 metres (major) later this week and continue rising.		
9:00 PM on Thursday the 30th of December 2010	Reach 10 metres (major) during the weekend. Further rises to 12 metres expected during the next two weeks.		
7:27 AM on Saturday the 1st of January 2011	An initial assessment indicates levels higher than 12 metres. The main peak will not reach the St George area until about mid January.		
9:11 PM on Saturday the 1st of January 2011	Reach 12 metres during Monday 3rd January. Reach 13 metres during Thursday 6th with further rises. Peak higher than 13 metres during the weekend 8th/9th January.		
8:27 AM on Monday the 3rd of January 2011	Reach 12 metres during Monday 3/1/2011. Reach 13 metres by Thursday 6/1/201. Peak similar to or higher than the March 2010 flood during the weekend starting 8/1/2011		
8:27 AM on Tuesday the 4th of January 2011	Reach 13 metres on Thursday 6 Jan; Reach 13.4 metres (Mar 2010 level) overnight Friday 7 Jan; Reach 14 metres on Sunday 9 Jan; Peak possibly higher than 14 metres on Monday 10 Jan or Tuesday 11 Jan.	13.2 metres at 12:00 PM Sat	
9:26 AM on Thursday the 6th of January 2011	Reach 13 metres overnight; Reach 13.4 metres (Mar 2010 level) overnight Friday 7 Jan; Peak below 14 metres during weekend.	08/01/2011	
Friday the 7th of January 2011	Reach 13.4 metres (Mar 2010 level) during Saturday; Peak below 14 metres late in the weekend.		
7:56 AM on Saturday the 8th of January 2011	Peak near the March 2010 flood level (13.4 metres)during today and Sunday; Remain above 13 metres until mid next week.		
7:27 AM on Sunday the 9th of January 2011	Remain above 13 metres during the next few days.		
6:44 PM on Tuesday the 11th of January 2011	Remain around 13 metres until Thursday.	Rising limb forecasts – reach a level and expected to continue	
10:55 AM on Saturday the 15th of January 2011	Return to above 12 metres this week with further rises. A peak is expected mid/late in the week beginning 22nd January.	rising.	
9:04 AM on Wednesday the 19th of January 2011	Exceed 12 metres later this week with further rises. Peak near 12.5 metres(major) late in the weekend or early next week.		
8:40 AM on Saturday the 22nd of January 2011	Reach the peak of about 12.5 metres on Sunday or Monday. Remain at peak level for around 3 days.	12.49 metres at 9:00 PM Sun 23/01/2011	
9:33 AM on Monday the 24th of January 2011	Currently at a peak just under 12.5 metres and expected to remain steady around that level until about Thursday.		
10/02/2011 Final warning issu	ed for the Condamine-Balonne River System.		

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Quart Pot Creek at Stanthorpe

- The town of Stanthorpe is located on Quart Pot Creek which is a tributary of the Severn River which is in the Macintyre River catchment.
- The flood heights at Stanthorpe are measured using two automatic gauges one owned by the Department of Environment and Resource Management and the second is owned by the Southern Downs Regional Council. (Bureau station number: DERM – 541073 and SDRC -541087).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

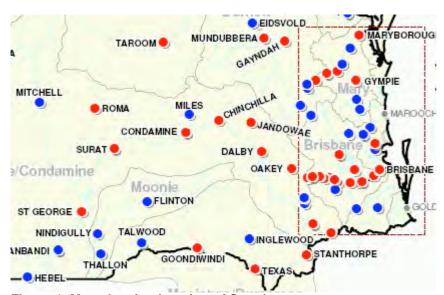
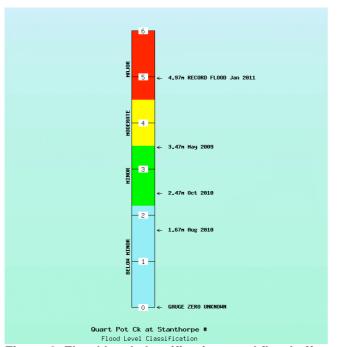


Figure 1. Map showing location of Stanthorpe.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- First peak at 4.87 metres on 10/01/2011.
- Second peak at 4.97 metres on 11/01/2011.
- Minor: 2.2 metres.
 Moderate: 3.5 metres.
 Maior: 4.5 metres.
- Gauge zero is 779.317m AHD.
- 12 houses inundated with the first peak and 50 people evacuated. (NineMSN)
- Stanthorpe was above major flood level (4.5 metres) twice both for a matter of hours on the 10/01/2011 and 11/01/2011.
- It remained above minor flood level (2.2 metres) from 09/01/2011 to 12/01/2011.

Figure 2. Flood level classifications and flood effects for Stanthorpe.

Rainfall summary

- In excess of 400mm of rainfall was recorded in the upper reaches of the Macintyre River catchment during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011and 13/01/2011.

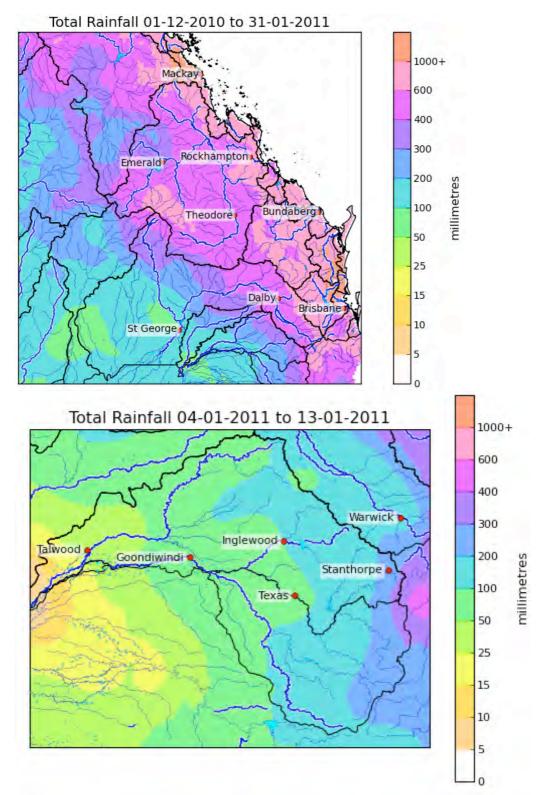


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period 04/01/2010 to the 13/01/2010 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for Mountain Station Creek AL and Storm King Dam Headwater AL on the upper Severn River are shown in Table 1.
- The most significant rainfall intensities for Mountain Station Creek AL in January 2011 occurred in the 48 and 72 hours prior to 4:45pm and 8:30pm respectively on the 11/01/2011. Both durations produced a 50-100 year ARI, which is just less then the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most significant rainfall intensities for Storm King Dam Headwater AL in January 2011 occurred in the 24, 48 and 72 hours prior 9:25am, 11:50pm and 4:50pm respectively on the 11/01/2011. The 24, 48 and 72 hour durations produced 50-100 year ARI's, which is just less then the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Mountain Station Creek AL and Storm King

Dam Headwater AL in the upper Dumaresq River catchment for January 2011.

Rainfall	Mountain Station Creek AL			Storm King Dam Headwater AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
1hr	33	11:20 AM 10/01/2011	2-5	42	11:20 AM 10/01/2011	5-10
2hr	46	11:25 AM 10/01/2011	2-5	53	11:25 AM 10/01/2011	5-10
3hr	50	11:25 AM 10/01/2011	2-5	59	11:30 AM 10/01/2011	5-10
6hr	74	10:35 AM 11/01/2011	10-20	76	10:25 AM 11/01/2011	10-20
12hr	88	4:15 PM 11/01/2011	5-10	91	4:20 PM 11/01/2011	10
24hr	151	9:25 AM 11/01/2011	50	164	9:25 AM 11/01/2011	50-100
48hr	196	4:45 PM 11/01/2011	50-100	211	11:50 PM 11/01/2011	50-100
72hr	217	8:30 PM 11/01/2011	50-100	233	4:50 PM 11/01/2011	50-100

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Stanthorpe.

Time/Date	Event Description	Gauge height (metres)	Comment
11/01/2011	First warning issued	1.86	
09/01/2011	First time it exceeded minor flood level	2.20	Remained above minor flood levels for ~1.5 days.
10/01/2011	First time it exceeded moderate flood level	3.50	Remained above moderate flood levels for ~6 hours.
10/01/2011	First time it exceeded major flood level	4.50	Remained above major flood levels for ~2 hours.
2:40 PM 10/01/2011	Major flood peak	4.87	2nd highest flood on record.
10/01/2011	Fall below major	4.50	
10/01/2011	Fall below moderate	3.50	
11/01/2011	Exceed moderate flood level	3.50	Remained above moderate flood levels for ~10 hours.
11/01/2011	Exceed major flood level	4.50	Remained above major flood levels for ~4.5 hours.
11:00 AM 11/01/2011	Major flood peak	4.97	Largest flood on record.
11/01/2011	Final fall below major	4.50	
11/01/2011	Final fall below moderate	3.50	
12/01/2011	Final fall below minor	2.20	
7:43 AM 21/01/2011	Final warning issued		

Flood Heights at Stanthorpe

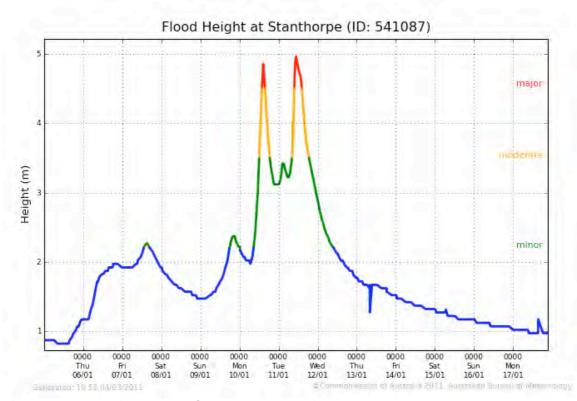


Figure 4. Flood Heights at the Stanthorpe gauge for January 2011.

Comparison with previous floods

• River height records for Stanthorpe commenced in 2005 with 2 major flood peaks occurring in that time both in January of 2011.

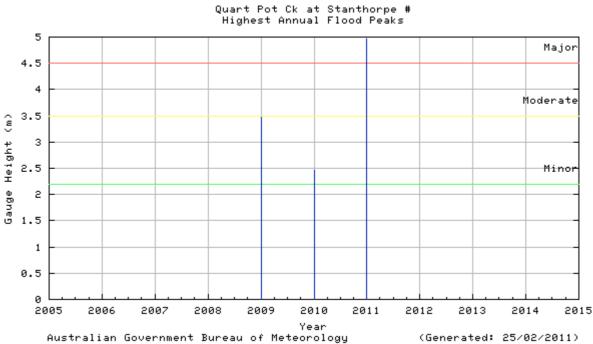


Figure 5. Highest annual flood peaks for Quart Pot Creek at Stanthorpe.

Warning and Forecast Service

- The Bureau does not provide a forecasting service for Quart Pot Creek at Stanthorpe
- Stanthorpe was mentioned in the Flood Warnings for the Macintyre and Weir Rivers but no forecasts were provided.

Flood summary for the Balonne River at Surat

- The town of Surat is on the Balonne River in the Condamine-Balonne River catchment.
- The flood heights at Surat are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 043063).
- Surat recorded two major flood peaks in January 2011 and a new record peak height of 12.75 metres.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/gld/brochures/river_maps.shtml

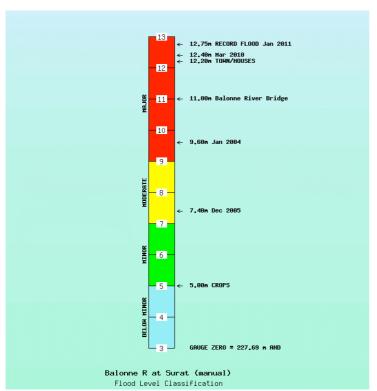
Location map



Figure 1. Map showing location of Surat.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- 12.75 metres on 04/01/2011 (New record).
 12.4 metres on 18/01/2011.

 Minor: 5 metres
- Minor: 5 metres
 Moderate: 7 metres
 Major: 9 metres

Peaked at:

- Gauge Zero is 227.695 AHD
- Above major flood level (9 metres) from 23/12/2010 to 29/01/2011.
- Above minor flood level (5 metres) from 04/12/2010 to 01/02/2011.

Figure 2. Flood level classifications and flood effects for Surat.

Rainfall summary

- Rainfall recorded in December 2010 and January 2011, which led to major flooding at Surat, was heaviest over the eastern half of the catchment.
- Between 300 to 600 millimetres of rainfall was recorded over the Condamine River catchment from the start of December 2010 to the end of January 2011 with falls up to 1400mm over the far east of the catchment. Falls between 100 and 300 millimetres were recorded over the Balonne River catchment.
- The heaviest rainfall periods during December 2010 and January 2011 occurred from 26/12/2010 to 28/12/2010, with falls between 100 and 200 millimetres and from 06/01/2011 to 12/01/2011 with falls between 200 and 400 millimetres.

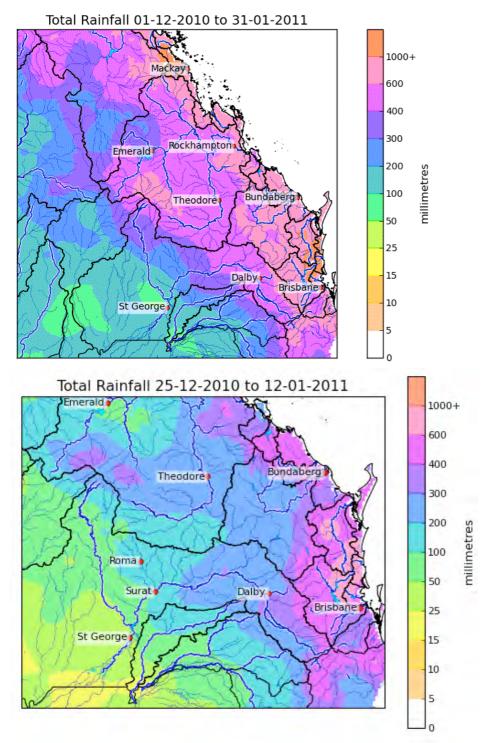


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period from 9 AM on 25/12/2010 to 9 AM on 12/01/2011 (bottom).

Rainfall Intensity

- The December and January floods at Surat were not caused by local area intense rainfall and rainfall intensity analysis of single sites in the large catchment above Surat is not informative.
- The flood levels at Surat were the result of the combination of large flows in Dogwood Creek, Bungil Creek, Charleys Creek, Myall Creek and the Upper Condamine River.

Flood event timeline

Table 2. Flood timeline for Surat

Time/Date	Event Description	Gauge Height (metres)	Comment
05/12/2010	First warning issued		
04/12/2010	River level first exceeds the minor flood level.	5.00	Remained above the minor flood level for ~59 days.
07/12/2010	River level first exceeds the moderate flood level.	7.00	Remained above the moderate flood level for ~5 days.
6:00 AM 09/12/2010	Moderate flood peak	8.05	
12/12/2010	River level falls below moderate	7.00	
14/12/2010	River level exceeds the moderate flood level	7.00	Remained above the moderate flood level for ~48 days.
9:00 AM 19/12/2010	Moderate flood peak	8.80	
23/12/2010	River level exceeds the major flood level.	9.00	Remained above the major flood level for ~37 days.
5:45 AM 04/01/2011	Major flood peak.	12.75	New Peak Height Record.
10:00 PM 18/01/2011	Major flood peak	12.40	Equal 2 nd highest peak on record.
29/01/2011	River level falls below major	9.00	
31/01/2011	Final fall below moderate	7.00	
01/02/2011	Final fall below minor	5.00	
10/02/2011	Final warning issued		

Flood Heights at Surat

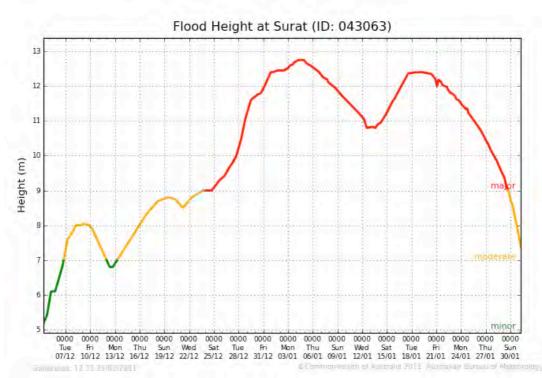


Figure 4. Flood Heights at Surat manual gauge for December 2010 and January 2011

Comparison with previous floods

- River height records for the manual river height recording gauge at Surat at its current site commenced in 1943.
- River height peak of 12.75 metres on 04/01/2011 is a new record. River height peak of 12.4 metres on 18/01/2011 equals the height recorded in March 2010 and is the second highest on record.

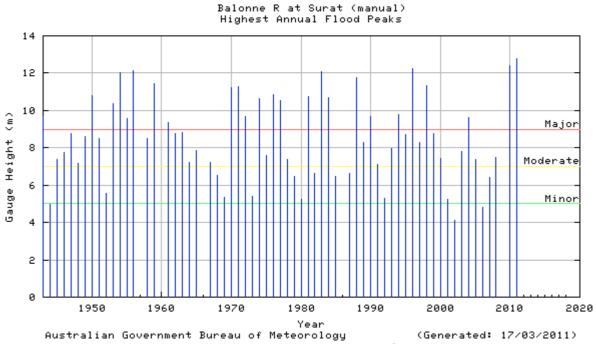


Figure 5. Highest annual flood peaks for the Balonne River at Surat

Note: Records for Surat date back to 1910 however only peak heights from 1943 to now can be compared. Heights before 1943 were recorded from a different site.

Warning and Forecast Service

- The first warning for the Condamine-Balonne River was issued on 05/12/2010 for minor flooding in the Condamine River and more significant flooding in the Maranoa and Balonne Rivers. However, further rainfall in December saw the continuation of the Condamine-Balonne River Flood Warning through to 10/02/2011.
- Thunderstorm activity caused river rises and 2 moderate flood peaks at Surat in December 2010. Heavy rainfall over the Upper Condamine River catchment area including Myall and Charleys Creek during late December and again in early January resulted in the two major flood peaks of 12.75 metres and 12.40 metres at Surat during January 2011
- A total of 103 warnings were issued for the Condamine-Balonne River system during December 2010 and January 2011.

Table 3. Table of peak height predictions for Surat.			
Time of Height Forecast	Forecast	Peak	
05/12/2010 First warning issu	ed. Minor flooding at Surat at this time.		
7:48 AM on Sunday the 5th of December 2010	Recent rains have also caused rises and minor flooding in the Balonne River from the Surat area to Beardmore Dam. Rises will continue in these areas today causing some minor to moderate flooding.	Rising limb forecasts – reach a level and	
11:00 AM on Monday the 6th	In the Balonne River from the Surat area to Beardmore Dam, moderate flood levels are expected this week.	expected to continue rising.	
	Further rises are expected between Surat and Beardmore Dam during the next few days.		
10:22 AM on Thursday the 9th of December 2010	Moderate flood levels continue in the Balonne River between Surat and Weribone. The flood peak is currently in the Surat area. River level rises will continue between Surat and Beardmore Dam into the weekend.	8.05 metres at 6:00 AM Thu 09/12/2010	
	Renewed rises with a smaller peak should be expected during next week as waters from the Condamine River arrive.		
0:40 AM on Monday the 13th	Renewed rises are expected along the Balonne River during this week as waters from the Condamine River and local tributaries arrive.		
9:14 AM on Tuesday the 14th of December 2010	Further rises are expected along the Balonne River during this week as waters from the Condamine River and local tributaries arrive. Major flood levels are possible at Surat during this week.	Rising limb forecasts – reach a level and	
of December 2010	River rises and moderate flood levels extending along the Balonne River between Surat and Beardmore Dam. Major flood levels are possible during the weekend at Surat.	expected to continue rising.	
11:17 AM on Sunday the 19th of December 2010	Moderate flood levels extend along the Balonne River between Warkon and Weribone. Major flood levels are possible at Surat during the next 24 hours.		
12:03 PM on Monday the 20th of December 2010	Major flood levels are possible at Surat this week		
12:03 PM on Tuesday the 21st of December 2010	Major flood levels are forecast at Warkon and Surat through the weekend and continuing next week. River levels of at least 10 metres are expected at Surat.		
	Moderate flood levels at Surat are expected to continue to rise through the weekend with major flood levels of at least 10 metres expected next week.		
10:07 AM on Sunday the 26th of December 2010	Major flooding is rising at Surat, with a flood peak of at least 10 metres expected later this week.	12.75 metres at 5:45 AM Tue	
5:26 PM on Monday the 27th of December 2010	Major flood peak (at least 11 metres) later this week.	04/01/2011	
29th of December 2010	Initial major flood peak (up to 12 metres) later this week.		
12:48 PM on Wednesday the 29th of December 2010	Peak up to 12 metres next week.		

9:00 PM on Thursday the 30th of December 2010	Reach 12 metres during next week.	
	Exceed 12 metres during the weekend. Possibly reach near the March 2010 flood level of 12.4 metres by Thursday 6th.	
	Exceed the March 2010 flood level of 12.4 metres by Thursday 6th January.	
	Record levels higher than 12.4 metres during this week. Peak expected by Thursday 6th January.	
	Levels over 13 metres are possible with the peak expected by Wednesday 5th January.	
	Levels over 13 metres are possible with the peak expected by Tuesday 4th January.	
8:27 AM on Tuesday the 4th of January 2011	Peak around the current level of 12.8 metres today.	
7:04 PM on Tuesday the 4th of January 2011	Remain around the major flood peak overnight.	
2:11 PM on Wednesday the 5th of January 2011	Major flood levels will continue to fall slowly during the remainder of this week and into next week.	Dialog limb forces
10:53 AM on Monday the 10th of January 2011	Major flooding continues to fall slowly around Surat and Weribone, with some renewed rises expected over the next several days.	Rising limb forecasts – reach a level and expected to continue
•	Renewed rises are occuring at Warkon as upstream floodwaters arrive.	rising.
10:55 AM on Saturday the 15th of January 2011	Reach 12 metres on Tuesday/Wednesday with further rises.	
8:28 AM on Sunday the 16th of January 2011	Exceed 12 metres on Tuesday/Wednesday with further rises. Peak expected later this week.	
9:00 AM on Monday the 17th of January 2011	Peak near 12.6 metres (major) on Tuesday/Wednesday.	12.40 metres at 10:00 PM Tue
3:46 PM on Tuesday the 18th of January 2011	Peak near 12.6 metres (major) overnight tonight.	18/01/2011
9:04 AM on Wednesday the 19th of January 2011	Remain steady at 12.4 metres (major) during Wednesday.	
10/02/2011 Final warning issu	ned for the Condamine-Balonne River System.	

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Dawson River at Taroom

- The town of Taroom is on the Dawson River in the Fitzroy catchment
- The flood heights at Taroom are measured on an automatic gauge owned by the Queensland Department of Environment and Resource Management (DERM) (Bureau station number: 035282) and a manual gauge owned by the Bureau of Meteorology (Bureau station number: 035115).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

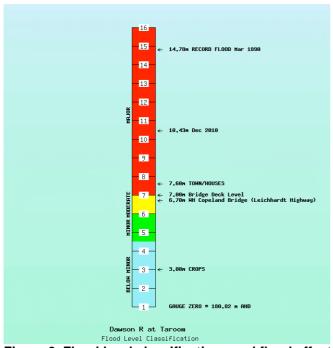
Location map



Figure 1. Map showing location of Taroom.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 10.43 metres on 29/12/2010.
- Minor: 4.5 metres
 Moderate: 6 metres
 Major: 7 metres.
- Gauge zero is 180.82 metres AHD.
- Many houses were inundated (Source ABC)
- The highest river peak for December 2010 was 10.43 metres, recorded on 29/12/2010. This peak was the highest recorded since February 1956.
- Three other major flood peaks were recorded on 05/12/2010, 13/12/2010 and 20/12/2010.
- Above major flood level (7 metres) from 04/12/2010 to 07/12/2010, 13/12/2010 to 14/12/2010, 20/12/2010 to 21/12/2010 and again from 27/12/2010 to 01/01/2011.

Figure 2. Flood level classifications and flood affects for Taroom.

Rainfall summary

- Over 600 mm of rainfall was recorded in the upper Dawson and over 400 mm in the middle Dawson during December 2010.
- Very heavy rainfall of over 200 mm was recorded in the upper Dawson River between 9 AM on the 26/12/2010 and 9am on the 28/12/2010. The area around Taroom recorded between 100 and 200 mm in the same time period. This rainfall was the most significant during December.

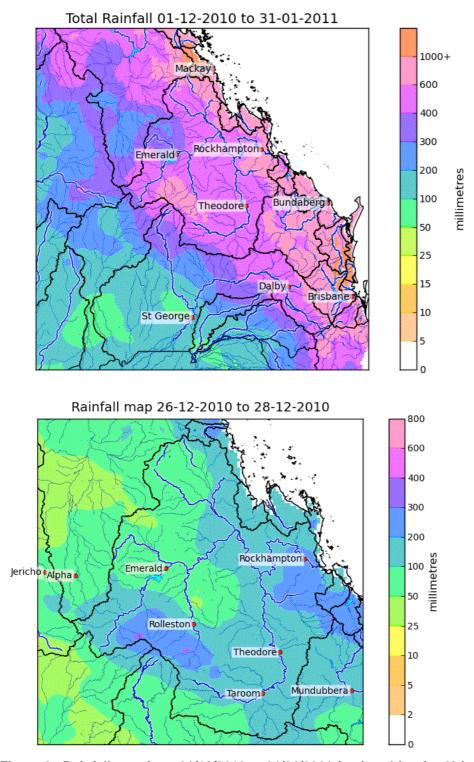


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9 AM on the 28/12/2010 (bottom).

Rainfall Intensity

 Maximum rainfall intensities for two selected stations at Boxvale TM on the Upper Dawson River and Windamere TM on Jundah Creek are shown in Table 1, however they were all well above the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Windamere and Boxvale on the Upper Dawson River

for December 2010 and January 2011.

Rainfall	Windamere TM			Boxvale TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	72	10:40 AM 27/12/2010	2-5	107	02:35 AM 27/12/2010	5-10
24hr	107	10:40 AM 27/12/2010	2-5	134	2:35 PM 27/12/2010	5-10
48hr	134	3:15 PM 27/12/2010	5-10	149	2:40 PM 27/12/2010	2-5
72hr	140	6:25 PM 27/12/2010	2-5	158	2:45 PM 27/12/2010	2-5

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Taroom

Time/Date	Event Description	Gauge Height (metres)	Comment	
5:29 PM 01/12/2010	First warning issued		First warning issued referencing flooding at Taroom	
01/12/2010	First time it exceeded minor flood level	4.5	Remained above the minor flood level for ~11 days.	
03/12/2010	First time it exceeded moderate flood level	6.0	Remained above the moderate flood level for ~7 days.	
04/12/2010	First time it exceeded major flood level	7.0	Remained above the major flood level for ~3 days.	
9:00 AM 05/12/2010	Major flood peak	7.28		
07/12/2010	Fall below major	7.0		
10/12/2010	Fall below moderate	6.0		
11/12/2010	Fall below minor	4.5		
12/12/2010	Exceeded minor flood level	4.5	Remained above the minor flood level for ~ 5days.	
12/12/2010	Exceeded moderate flood level	6.0	Remained above the moderate flood level for ~ 4days.	
13/12/2010	Exceeded major flood level	7.0	Remained above the major flood level for ~ 1 day.	
12:30 PM 13/12/2010	Major flood peak	7.20		
14/12/2010	Fall below major	7.0		
16/12/2010	Fall below moderate	6.0		
17/12/2010	Fall below minor	4.5		
19/12/2010	Exceeded minor flood level	4.5	Remained above the minor flood level for ~ 16 days.	
19/12/2010	Exceeded moderate flood level	6.0	Remained above the moderate flood level for ~ 5 days.	
20/12/2010	Exceeded major flood level	7.0	Remained above the major flood level for ~ 1 day.	
7:00 PM 20/12/2010	Major flood peak	7.09		
21/12/2010	Fall below major	7.0		
24/12/2010	Fall below moderate	6.0		
27/12/2010	Exceeded moderate flood level	6.0	Remained above the moderate flood level for ~ 7 days.	
27/12/2010	Exceeded major flood level	7.0	Remained above the major flood	

7:00 PM 29/12/2010	Major flood peak	10.43	3 rd highest flood peak on record for Taroom. Greater than February 1956.
01/01/2011	Final fall below major	7.0	
02/01/2011	Final fall below moderate	6.0	
03/01/2011	Final fall below minor	4.5	
3:55 PM 10/01/2011	Final warning issued referencing flooding at Taroom		

Flood Heights at Taroom

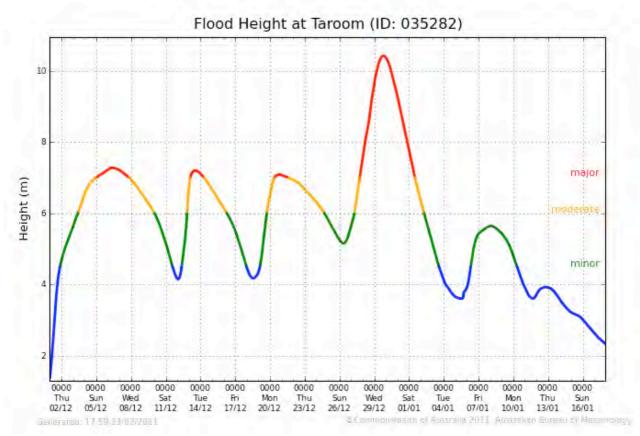


Figure 4. Flood Heights at Taroom automatic gauge for December 2010 and January 2011.

Comparison with previous floods

- Start of record 1864.
- Third highest flood peak on record for Taroom.
- Last major flood was 7.26 metres in March 2010 but previous to that was 7.46 metres in 1998.
- Record flood: 14.78 metres in 1890.

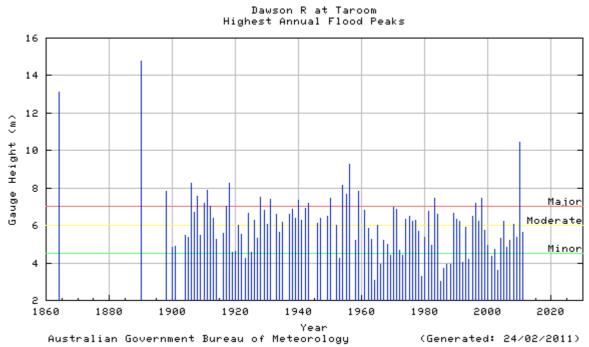


Figure 5. Highest annual flood peaks for the Dawson River at Taroom

Warning and Forecast Service

- Significant runoff commenced during September with flood warnings for the Dawson River issued between 5/9/2010 and 13/9/2010 and again between 22/9/2010 and 4/10/2010.
- Further rainfall occurred in late November with warnings commencing 22/11/2010 and continuing through to 17/1/2011.
- A total of 94 warnings were issued for the Fitzroy River system including the Dawson River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Taroom.

Time of Height Forecast	me of Height Forecast Forecast				
5:29 PM 01/12/2010 F	5:29 PM 01/12/2010 First warning issued. River height at the time was 3.95m (below minor)				
5:29 PM on Wednesday the 1st of December 2010					
10:13 AM on Thursday the 2nd of December 2010	Further rises and moderate flooding is expected at Taroom within the next 24 to 36 hours, however river levels are not expected to reach the major flood level of 7 metres.	Rising limb forecasts – reach a level and			
9:59 AM on Friday the 3rd of December 2010 Moderate flood levels at Utopia Downs and Tarana Crossing are continuing and will extend to Taroom to morning. Further rises to the major flood level of 7 metres are possible over the weekend.		expected to continue rising			
4:31 PM on Friday the 3rd	Moderate flood levels are continuing at Utopia Downs, Tarana Crossing and Taroom. Further rises to the major flood level of 7 metres at Taroom are possible over the weekend.				

	T		
11:06 AM on Saturday the 4th of December 2010	7.28 metres		
10:25 AM on Monday the 6th of December 2010	The Dawson River at Taroom continues to rise very slowly with major flooding in the area. Levels are expected to peak around the current levels of 7.25 metres but will remain above 7 metres into Tuesday.	at 9:00 AM Sun 05/12/2010	
10:27 AM on Wednesday the 8th of December 2010	Moderate flood levels continue to fall at Taroom.		
10:50 AM on Saturday the 11th of December 2010	Renewed rises are expected above Taroom during the weekend.		
6:28 PM on Saturday the 11th of December 2010	A return to at least moderate flood levels should be expected at Taroom next week.	Rising limb forecasts – reach a level and expected to continue rising	
6:28 PM on Saturday the 11th of December 2010	Reach at least 6.5 metres early next week.		
11:20 AM on Sunday the 12th of December 2010	A return to flood levels of around 7 metres should be expected at Taroom this week.		
6:08 PM on Sunday the 12th of December 2010	A return to flood levels of around 7 metres should be expected at Taroom this week.		
11:19 AM on Monday the 13th of December 2010	Peak around 7 metres on Monday.	7.20 metres at 12:30 PM Mon 13/12/2010	
9:28 AM on Tuesday the 14th of December 2010	Flood levels at Taroom are falling and will continue to do so.		
10:57 AM on Saturday the 18th of December 2010	Further rises and minor to moderate flooding is expected downstream to Taroom during the weekend and early next week.	Rising limb forecasts – reach a level and	
11:06 AM on Sunday the 19th of December 2010	A return to moderate flood level is likely at Taroom today.	expected to continue rising	
5:54 PM on Sunday the 19th of December 2010	Minor flood levels are rising at Taroom. River levels are forecast to reach around 7 metres again early this week.		
11:30 AM on Monday the 20th of December 2010 Major flood levels continue to rise at Taroom with river levels forecast to peak just over 7 metres during Tuesday.		7.09 metres	
	Major flood levels have peaked around 7 metres at Taroom and will continue easing during Tuesday.	at 7:00 PM Mon 20/12/2010	
10:16 AM on Wednesday the 22nd of December 2010	Moderate flood levels will continue to fall slowly at Taroom.		
10:49 AM on Thursday the 23rd of December 2010	At this stage, moderate flood levels will continue to fall at Taroom although further rainfall is forecast for the area.		
6:51 AM on Monday the 27th of December 2010	Overnight heavy rainfall in the Upper Dawson River is expected to produce fast river level rises and a return to moderate to major flood levels at Taroom.	Rising limb forecasts	
1:25 PM on Monday the 27th of December 2010	Overnight heavy rainfall in the Upper Dawson River is expected to produce fast river level rises and a return major flood levels at Taroom.	reach a level and expected to continue rising	
5:57 PM on Monday the 27th of December 2010	Possibly exceed 8 metres by Wednesday with further rises.		
7:06 AM on Tuesday the 28th of December 2010	Peak around 8.3 metres by Wednesday	10.43 metres at 7:00 PM Wed	
1:09 PM on Tuesday the 28th of December 2010	Peak near 9 metres (major) during Wednesday	29/12/2010	
6:51 PM on Tuesday the 28th of December 2010	Peak near 9.5 metres (major) overnight Wednesday		
12:24 AM on Wednesday the 29th of December 2010	Expected to peak below or at 10 metres (major) overnight.		

8:59 AM on Wednesday	Peak above 10 metres Wednesday or overnight	
the 29th of December 2010		
4:21 PM on Wednesday	Peak around 10.6 metres overnight	
the 29th of December 2010	r cak around 10.0 metres overnight	
7:12 AM on Thursday the	Levels will remain high through Thursday.	
30th of December 2010	Levels will remain high through Thursday.	
3:55 PM on Monday the 10th of January 2011	Final warning issued referencing flooding at Taroom	1
7:54 AM on Monday the 17th of January 2011	Final Fitzroy River warning	

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Dumaresq River at Texas

- The town of Texas is located on the Dumaresq River in the Macintyre River catchment.
- The flood heights at Texas are measured using a combination of an automatic gauge coowned by the Bureau of Meteorology and Goondiwindi Regional Council and a manual station owned by the Bureau of Meteorology. (Bureau station number: Manual – 041403 and Automatic – 041548).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

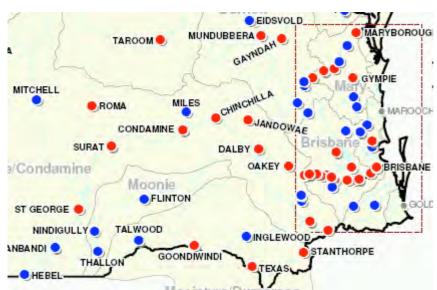
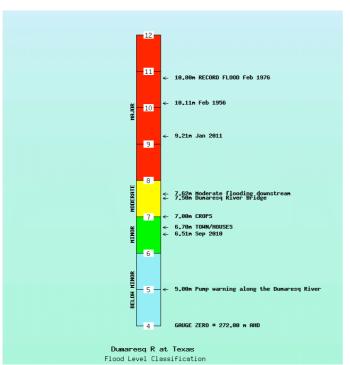


Figure 1. Map showing location of Texas.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 9.21 metres on 12/01/2011.
- Minor: 6.0 metres,
 Moderate: 7.0 metres,
 Major: 8.0 metres.
- Gauge zero is 271.997 metres AHD.
- Town and houses begin to be affected at 6.7 metres.
- Large crop losses and stock losses.
- Texas was above major flood level (8.0 metres) from 12/01/2011 to 13/01/2011.
- It remained above minor flood level (6.0 metres) from 11/01/2011 to 14/01/2011.

Figure 2. Flood level classifications and flood effects for Texas.

Rainfall summary

- In excess of 400mm of rainfall was recorded in the upper reaches of the Macintyre River catchment during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011 and 13/01/2011.

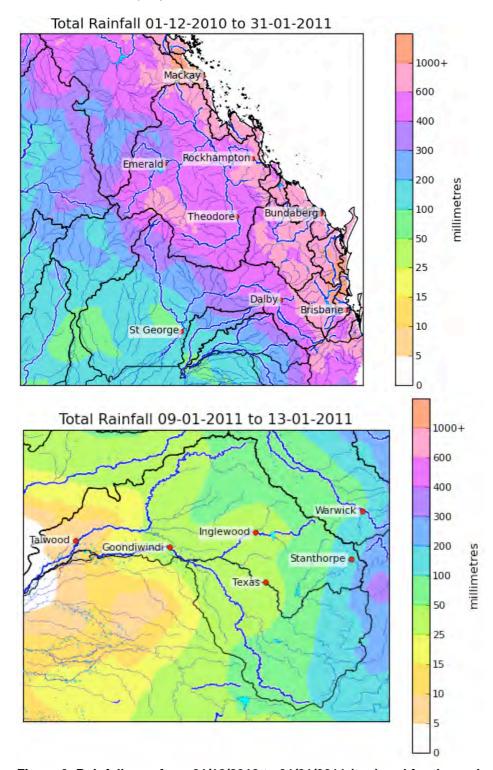


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period 09/01/2011 to the 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the upper Dumaresq River are shown in Table 1.
- The most significant rainfall intensity for Broadwater Creek AL in January 2011 occurred in the 20 minutes ending 3:10pm on 03/01/2011 producing a 10-20 ARI, however all periods were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most significant rainfall intensity for Amiens Knob AL in January 2011 occurred in the 30 minutes to 2:45pm on 03/01/2011 producing a 50-100 ARI, which represents close to a 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the Macintyre River for January 2011.

Rainfall	Broadwater Creek AL			Amiens Knob AL		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	11	3:05 PM 03/01/2011	5	11	2:25 PM 03/01/2011	5
6 min	12	3:06 PM 03/01/2011	5	13	2:26 PM 03/01/2011	5-10
10 min	18	3:05 PM 03/01/2011	5-10	19	2:45 PM 03/01/2011	10
20 min	29	3:10 PM 03/01/2011	10-20	36	2:40 PM 03/01/2011	20-50
30 min	31	3:20 PM 03/01/2011	5-10	49	2:45 PM 03/01/2011	50-100
1hr	33	3:45 PM 03/01/2011	2-5	57	3:15 PM 03/01/2011	20-50
2hr	35	4:30 PM 03/01/2011	1-2	58	4:15 PM 03/01/2011	10-20
3hr	36	5:05 PM 03/01/2011	1-2	59	4:20 PM 03/01/2011	5-10
6hr	36	5:05 PM 03/01/2011	<1	60	4:20 PM 03/01/2011	2-5
12hr	50	12:50 PM 27/12/2010	<1	61	10:35 PM 03/01/2011	1-2
24hr	63	12:50 PM 27/12/2010	1	61	10:35 PM 03/01/2011	1
48hr	92	11:30 PM 11/01/2011	1-2	72	10:45 PM 11/01/2011	<1
72hr	104	4:40 PM 11/01/2011	1-2	98	1:10 PM 06/01/2011	1-2

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Texas.

Table 2. Flood event timeline for Texas.					
Time/Date	Event Description	Gauge height (metres)	Comment		
11/01/2011	First warning issued	1.86			
07/01/2011	First time it exceeded minor flood level	6.00	Remained above minor flood levels for ~16.5 hours.		
11:45 AM 07/01/2011	Minor flood peak	6.86			
08/01/2011	Fall below minor	6.00			
11/01/2011	First time it exceeded minor flood level	6.00	Remained above minor flood levels for ~3 days.		
11/01/2011	First time it exceeded moderate flood level	7.00	Remained above moderate flood levels for ~2 days.		
12/01/2011	First time it exceeded major flood level	8.00	Remained above major flood levels for ~1.5 days.		
8:35 AM 12/01/2011	Major flood peak	9.21	Highest since 1956.		
13/01/2011	Final fall below major	8.00			
13/01/2011	Final fall below moderate	7.00			
14/01/2011	Final fall below minor	6.00			
7:43 AM 21/01/2011	1 Final warning issued				

Flood Heights at Texas

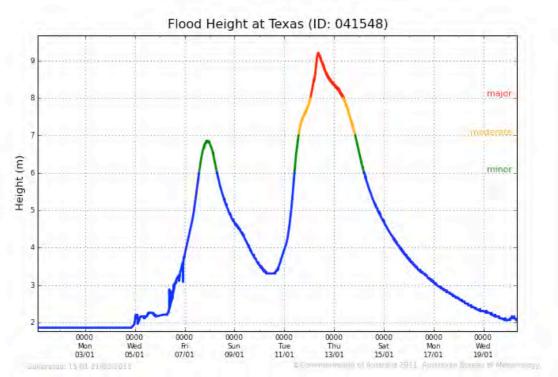


Figure 4. Flood Heights at the Texas automatic gauge for January 2011.

Comparison with previous floods

- River height records for Texas commenced in 1890 with 14 major flood peaks since that time, with 1893 and 1921 both recording two major flood peaks.
- The last major flood recorded at Texas was the record flood in February 1976 of 10.80 metres.

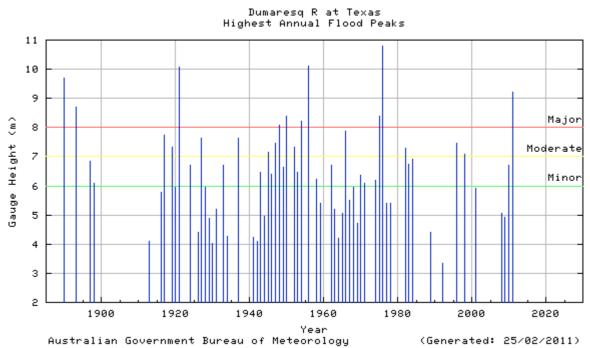


Figure 5. Highest annual flood peaks for the Dumaresq River at Texas.

Warning and Forecast Service

- The catchment received well above average rainfall and subsequently recorded multiple flood peaks throughout August, September and October with 6 periods of flood warnings issued for the Border Rivers during this period.
- Flood warnings for the Border Rivers were next issued between the 11/12/2010 and 15/12/2010 and begun again on the 27/12/2010 and continued until the 30/01/2011.
- A total of 59 warnings were issued for the Border Rivers during December 2010 and January 2011.

Table 3. Table of peak height predictions for Texas.

Time of Height Forecast	Peak			
10/01/2011 Firs	st warning issued. Height at the time was 3.36m (bel	ow minor)		
5:14 AM on Tuesday the 11th of January 2011	imaint finnd levels are expected at Texas overhight.			
11:13 AM on Tuesday the 11th of January 2011	Flood levels at Texas to around 9 metres are expected tonight.			
5:48 PM on Tuesday the 11th of January 2011	Flood levels at Texas are expected to reach at least 10 metres during Wednesday.			
11:31 PM on Tuesday the 11th of January 2011	Peak around the major flood level of 8 metres expected at Texas during Wednesday.	9.21 metres at 8:35 AM Tues 12/01/2011		
8:38 AM on Wednesday the 12th of January 2011	Rises are continuing downstream at Texas where river levels to around the 1976 flood level of 10.8 metres are expected during Wednesday.			
1:15 PM on Wednesday the 12th of January 2011	Rises are continuing downstream at Texas where river levels to around the 1976 flood level of 10.8 metres are expected during Wednesday.			

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Dawson River at Theodore

- The town of Theodore is on the Dawson River in the Fitzroy catchment
- The flood heights at Theodore are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 039315).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

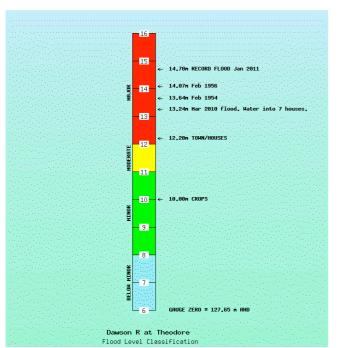
Location map



Figure 1. Map showing location of Theodore.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at:
 13.00 metres on 10/12/2010
 12.09 metres on 17/12/2010
 13.56 metres on 25/12/2010
 14.60 metres on 28/12/2010
 14.70 metres on 01/01/2011
- Minor: 8 metres Moderate: 11 metres Major: 12 metres
- Gauge zero is 127.654 AHD.
- All 350 residents were evacuated on 28/12/2010 (Source: ABC).
- Above major flood level (12 metres) from 07/12/2010 to 13/12/2010, 17/12/2010 to 18/12/2010 and again from 23/12/2010 to 6/01/2011.
- Above minor flood level (8 metres) from 04/12/2010 to 17/1/2011.

Figure 2. Flood level classifications and flood affects for Theodore.

Rainfall summary

- Over 600 mm of rainfall was recorded in the upper Dawson and over 400 mm in the middle Dawson during December 2010.
- Very heavy rainfall of over 200 mm was recorded in the upper Dawson River between 9 AM on the 26/12/2010 and 9am on the 28/12/2010. The area around Theodore recorded between 100 and 200 mm in the same time period. This rainfall was the most significant during December and led to the new river height record on the 01/01/2011.

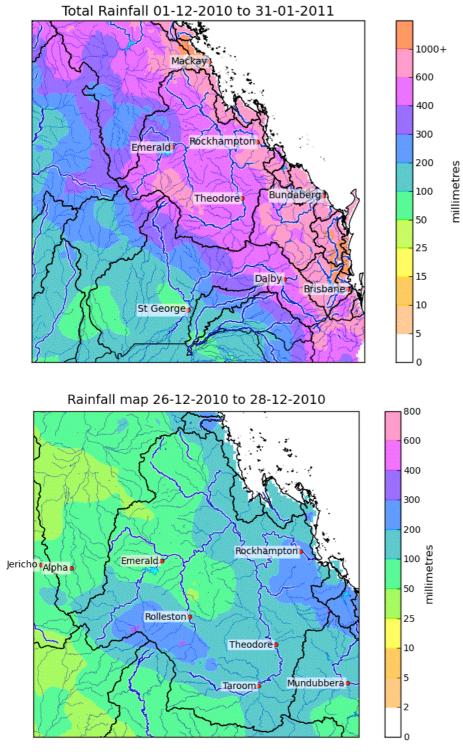


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9 AM on the 28/12/2010 (bottom).

Rainfall Intensity

 Maximum rainfall intensities for Boxvale TM on the Upper Dawson River and Windamere TM on Jundah Creek, both upstream from Theodore, have been selected as examples of recorded rainfall intensities across the Dawson River catchment during December 2010 and January 2011. The rainfall intensity data is shown in Table 1, however intensities are all well above the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded Maximum Rainfall Intensities for Windamere and Boxvale on the Upper Dawson River

for December 2010 and January 2011.

Rainfall	Windamere TM			Boxvale TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	72	10:40 AM 27/12/2010	2-5	107	2:35 PM 27/12/2010	5-10
24hr	107	10:40 AM 27/12/2010	2-5	134	2:35 PM 27/12/2010	5-10
48hr	134	3:15 PM 27/12/2010	5-10	149	2:40 PM 27/12/2010	2-5
72hr	140	6:25 PM 27/12/2010	2-5	158	2:45 PM 27/12/2010	2-5

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Theodore

Time/Date	Event Description	Gauge Height (metres)	Comment
4:34 AM 22/11/2010	First warning issued	7.40	
4/12/2010	First time it exceeded minor flood level	8.00	Remained above minor flood level for about 44 days
7/12/2010	First time it exceeded moderate flood level	11.00	Remained above moderate flood level for ~7 days
8/12/2010	First time it exceeded major flood level	12.00	Remained above the major flood level for ~5 days.
2:00 PM 10/12/2010	Major flood peak	13.00	
13/12/2010	Below major flood level	12.00	
14/12/2010	Below moderate flood level	11.00	
16/12/2010	Exceeded the moderate flood level	11.00	Remained above moderate flood level for ~3 days.
17/12/2010	Exceeded the major flood level	12.00	Remained above the major flood level for ~27 hours.
7:30 PM 17/12/2010	Major flood peak	12.09	
18/12/2010	Below the major flood level	12.00	
19/12/2010	Below the moderate flood level	11.00	
22/12/2010	Exceeded the moderate flood level	11.00	Remained above the moderate flood level for ~16 days.
23/12/2010	Exceeded the major flood level	12.00	Remained above the major flood level for ~14 days.
3:00 PM 25/12/2010	Major flood peak	13.56	Greater than March 2010
7:00 PM 28/12/2010	Major flood peak	14.60	New record
10:00 AM 01/01/2011	Major flood peak	14.70	New record
06/01/2011	Final fall below major	12.00	
07/01/2011	Final fall below moderate	11.00	
17/01/2011	Final fall below minor	8.00	
7:54 AM 17/01/2011	Final warning issued		

Flood Heights at Theodore

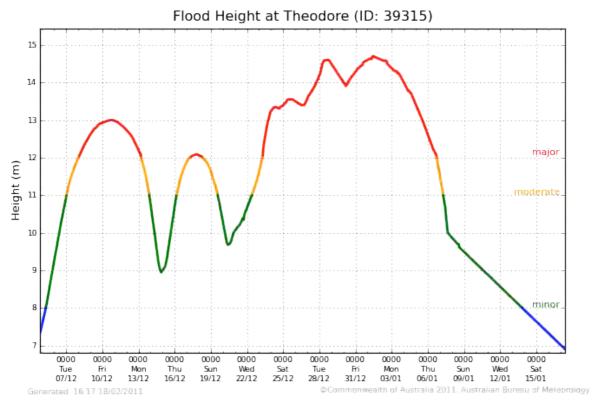


Figure 4. Flood Heights at Theodore manual gauge for December 2010 and January 2011

Comparison with previous floods

- Start of record 1924 with 20 major flood peaks in the record including 4 in 2010.
- Last major flood was 13.45 metres in March 2010 but previous to that was 12.22 metres in 1996.

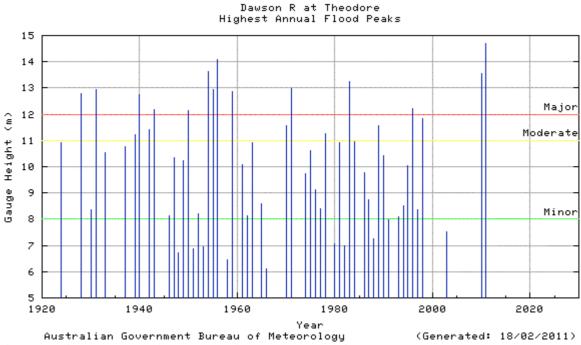


Figure 5. Highest annual flood peaks for the Dawson River at Theodore

Warning and Forecast Service

- Significant runoff commenced during September with flood warnings for the Dawson River issued between 05/09/2010 and 13/09/2010 and again between 22/09/2010 and 04/10/2010.
- Further rainfall occurred in late November with warnings commencing 22/11/2010 and continuing through to 17/01/2011.
- A total of 94 warnings were issued for the Fitzroy River system including the Dawson River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Theodore

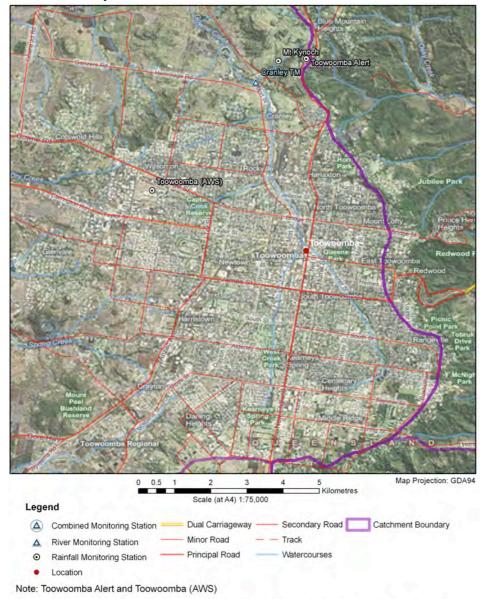
Time of Height Forecast	ght predictions for Theodore. Forecast	Peak		
22/11/2010 First warning issued. River height at the time was 7.40m (below minor)				
10:27 AM on Wednesday the 8th of December 2010	peak to 13 metres is possible during Friday	42.00 materia		
9:41 AM on Thursday the 9th of December 2010	peak around 13.2 metres overnight Friday	13.00 metres at 2:00 PM Fri 10/12/2010		
10:06 AM on Friday the 10th of December 2010	peak around 13.2 metres overnight Friday	10/12/2010		
I TOUT OF DECERTIBET 2010	Peak just over 12 metres overnight Friday.	12.09 metres at 7:30 PM Fri		
9:01 AM on Friday the 17th of December 2010	Peak around 12.3 metres overnight Friday.	17/12/2010		
2:37 PM on Thursday the 23rd of December 2010	Reach at least 13.2 metres during Friday			
5:48 PM on Thursday the 23rd of December 2010	Reach at least 13.5 metres during Friday	13.56m at 3:00 PM Sat		
9:59 AM on Friday the 24th of December 2010	Reach at least 13.5 metres during Friday.	25/12/2010		
12:21 PM on Saturday the 25th of December 2010	Stay around the 13.4 metre mark for the rest of the weekend			
1:25 PM on Monday the 27th of December 2010	Possibly exceed 14 metres (major) during Monday/Tuesday			
5:57 PM on Monday the 27th of December 2010	Exceed 14 metres during Monday/Tuesday	14.6m at 7:00 PM Tue		
7:06 AM on Tuesday the 28th of December 2010	Rises to 15 metres possible during Tuesday/Wednesday	28/12/2010		
6:51 PM on Tuesday the 28th of December 2010	Rises to 15 metres (major) still possible during Wednesday			
	Continue rising and exceed 14.5 metres early next week			
7:34 AM on Friday the 31st of December 2010	Continue rising slowly and exceed 14.5 metres during the weekend	14.7m at		
6:48 AM on Saturday the 1st of January 2011	Continue to rise slowly and exceed 14.5 metres during the weekend	10:00 AM Sat 1/1/2011		
12:17 PM on Saturday the 1st of January 2011	Continue to rise slowly with levels up to 15 metres possible.	1/1/2011		
12:21 DM on Sunday tha	Remain near the flood peak during Sunday			

Note: This table does not include all forecasts issued during these flood events.

Flood summary for Toowoomba

- Rainfall over Toowoomba drains into Gowrie Creek and its tributaries East and West Creek and Black Gully. The headwaters of East and West Creek are to the south of the town centre and meet to become Gowrie Creek just to the north of the Toowoomba Central Business District.
- There are no river height recording stations on East and West Creek. Heights at Gowrie Creek are measured at Cranley TM owned by the Department of Environment and Resource Management (DERM) (Bureau station number: 541093). The Cranley TM gauge is located about 6 kilometres north of Toowoomba CBD.
- Very intense localised rainfall in the Toowoomba area caused severe flash flooding through the Toowoomba CBD during the early afternoon of the 10/01/2011.

Location map



Data sources: Watercourses from the Bureau of Meteorology's Geofabric 1.0. Roads from Geoscience Australia Topo 250K (Series 3). Imagery from Bing Maps under the ESRI ArcGIS licence. Catchment boundaries and stations from the Bureau of Meteorology. Location points are from the Geoscience Australia Gazetteer 2008.

Figure 1. Map showing Toowoomba and locations of Toowoomba AL and Toowoomba AWS.

Rainfall summary

- Rainfall of between 600 and 1000mm was recorded in the Toowoomba area from 01/12/2010 to 31/01/2011 as shown in Figure 3.
- The vast majority of this rain fell between 09/01/2011 and 13/01/2011 as shown in the rainfall maps in Figure 3 below.
- Rainfall in the Toowoomba area is recorded at the Toowoomba AWS owned by Bureau of Meteorology (Bureau station number: 540162) and Toowoomba Alert owned by Seqwater (Bureau station number: 041529). The Toowoomba Regional Council also has a mesonetwork of rainfall recording stations.
- A table listing the 24 hour rainfall figures recording at rainfall stations in the Toowoomba area to 9am on 11/01/2010 is shown in Table 1.

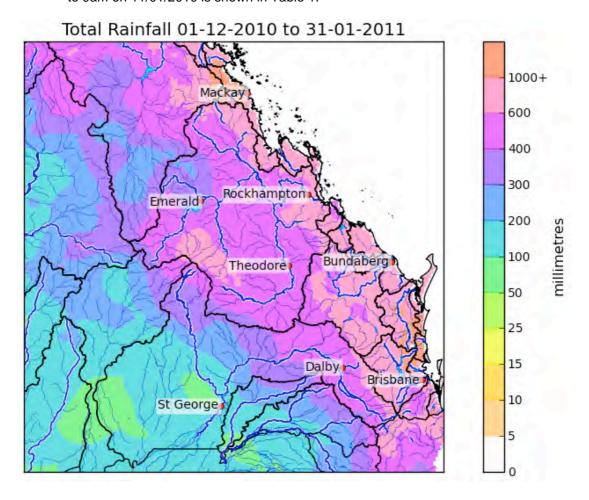


Figure 2. 24 Rainfall over the southeast guarter of Queensland from 01/12/2010 to 31/01/2011.

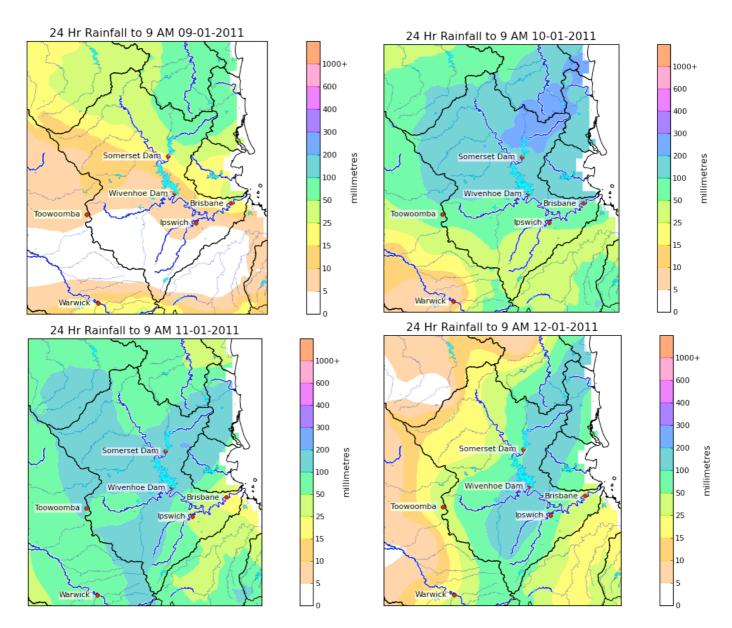


Figure 3. 24-Hour rainfall maps from 9am on 08/01/2011 to 9am on 12/01/2011.

Table 1. Rainfall recorded in the Toowoomba area in the 24-hours to 9am on 11/01/2011.

Station	24-hour rainfall to 9am on 11/01/2011
Toowoomba AWS	123.4
Toowoomba Alert	117
Middle Ridge	149.6
Withcott	180.8

Rainfall Intensity

- Maximum rainfall intensities for Toowoomba AL, which is located northeast of Toowoomba and Toowoomba Airport, are shown in Table 2.
- The most significant rainfall intensity for Toowoomba AL in January 2011 occurred in the 1 hour to 1:50pm on 10/01/2011, with rainfall amounts equalling the 2-5% Annual Exceedence Probability (20-50 year Average Recurrence Interval).
- The most significant rainfall intensities for Toowoomba Airport in January 2011 occurred in the 1 hour to 2:00pm on 10/01/2011 and 48 hours to 11:50am on 11/01/2011 with both equalling the 2-5% Annual Exceedence Probability (20-50 year Average Recurrence Interval).

Table 2. Recorded maximum rainfall intensities for Toowoomba AL and Toowoomba Airport for January 2011.

Deinfall		Toowoomba AL			Toowoomba Airport	
Rainfall Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	9	13:45:00 10/01/2011	2			
6 min	10	13:46:00 10/01/2011	1-2			
10 min	14	13:45:00 10/01/2011	1-2			
20 min	27	13:45:00 10/01/2011	5			
30 min	36	13:50:00 10/01/2011	10			
1hr	58	13:50:00 10/01/2011	20-50	60	2:00 PM 10/01/2011	20-50
2hr	65	14:15:00 10/01/2011	10-20	68	2:00 PM 10/01/2011	20
3hr	67	15:40:00 10/01/2011	5-10	73	4:00 PM 10/01/2011	10-20
6hr	75	16:55:00 10/01/2011	2-5	87	5:00 PM 10/01/2011	10-20
12hr	88	16:55:00 10/01/2011	2-5	99	5:00 PM 10/01/2011	5-10
24hr	134	6:00:00 10/01/2011	5-10	154	4:00 PM 10/01/2011	10-20
48hr	197	11:20:00 11/01/2011	10-20	208	11:00 AM 11/01/2011	20-50
72hr	218	19:15:00 11/01/2011	10-20	233	9:00 AM 12/01/2011	10-20

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flash Flood event timeline

Table 3. Flash flood event timeline for Toowoomba on the 10/01/2011.

Time/Date	Event Description
10:55 AM 09/01/2011	First Severe Weather Warning for Flash Flooding over the Darling Downs and Southeast Coast region.
12:45 PM 10/01/2011	Redbank Creek AL recorded intense hourly rainfall of 87 mm.
12:45 PM 10/01/2011	Heavy rainfall commenced in eastern parts of Toowoomba CBD. The peak rainfall occurred sometime between 12.45pm and 2.15pm. Totals of 138mm were recorded at Toowoomba Regional Council rain gauges. Higher rainfalls are considered likely.
2:00 PM 10/01/2011	Estimated time water level peaked in the Toowoomba CBD (Source: Insurance Council Australia – "The nature and causes of flooding in Toowoomba 10 January 2011.")
2:20 PM 10/01/2011*	The flood peak at Cranley TM reached an estimated peak of 4.6 metres. This figure followed a post flood survey conducted by DERM.
5:06 PM 11/01/2011	Final Severe Weather warning for flash flooding over the Darling Downs.

^{*} Time was estimated from observations.

Flood Heights at Cranley TM on Gowrie Creek

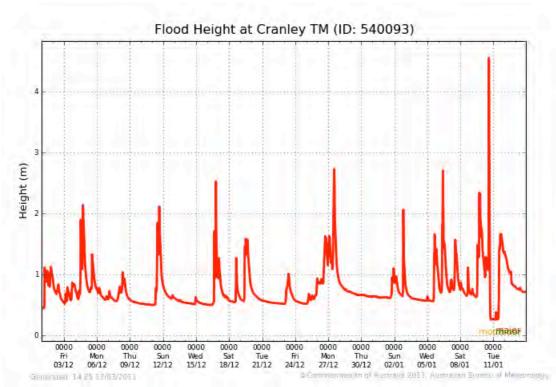


Figure 4. Flood Heights at Cranley TM for the 01/12/2010 to 14/01/2011. Reconstructed by adding in surveyed peak height. No flood classifications exist for Cranley TM.

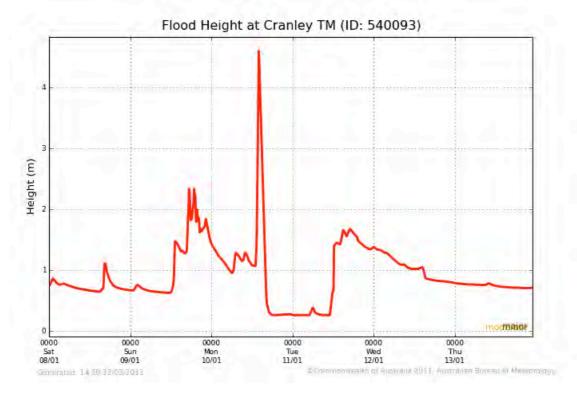


Figure 5. Flood Heights at Cranley TM for the 08/01/2010 to 14/01/2011. Reconstructed by adding in surveyed peak height. No flood classifications exist for Cranley TM.

Note: The recession at Cranley TM (above) was not recorded as gas line was washed away during flood. Therefore the above diagram does not represent a normal recession of heights at Cranley TM.

Warning and Forecast Service

- The Bureau does not provide a flood warning service for Toowoomba
- Severe Weather warnings for heavy rainfall and flash flooding were issued covering the Toowoomba area from 4.40am Sunday 9/1/2010 until 10pm Tuesday 11/01/2011.

Date	Time	Header
Sunday 9	4:40	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	am	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast district and southern parts of the Wide Bay and
		Burnett. Issued at 4:40 am on Sunday 9 January 2011
Sunday 9	10:55	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	am	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast district, southern parts of the Wide Bay and Burnett,
		and eastern Darling Downs and Granite Belt District. Issued at 10:55 am on
Our day 0	4.55	Sunday 9 January 2011
Sunday 9	4:55	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January 2011	pm	flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett,
2011		and eastern Darling Downs and Granite Belt District. Issued at 4:55 pm on
		Sunday 9 January 2011
Sunday 9	11:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	pm	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast district, southern parts of the Wide Bay and Burnett
		district and eastern parts of the Darling Downs and Granite Belt district.
		Issued at 11:00 pm on Sunday 9 January 2011
Monday 10	5:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	am	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast district, southern parts of the Wide Bay and Burnett
		district and eastern parts of the Darling Downs and Granite Belt district.
Monday 10	11:00	Issued at 5:00 am on Monday 10 January 2011 SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	am	flooding and potentially worsening the existing river flood situation For people
2011	am	in the Southeast Coast district, southern parts of the Wide Bay and Burnett
2011		district and eastern parts of the Darling Downs and Granite Belt district.
		Issued at 11:00 am on Monday 10 January 2011
Monday 10	11:05	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	am	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast district, southern parts of the Wide Bay and Burnett
		district and eastern parts of the Darling Downs and Granite Belt district.
14 1 10		Issued at 11:05 am on Monday 10 January 2011
Monday 10	5:05	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January 2011	pm	flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett
2011		district and eastern parts of the Darling Downs and Granite Belt district.
		Issued at 5:05 pm on Monday 10 January 2011
Monday 10	6:30	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
January	pm	flooding and potentially worsening the existing river flood situation For people
2011	'	in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of
		the Maranoa and Warrego districts. Issued at 6:30 pm on Monday 10 January
Monday 10	7.50	2011
Monday 10 January	7:50	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people
2011	pm	in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of
2011		the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego
		districts. Issued at 7:50 pm on Monday 10 January 2011
Monday 10	11:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash

January	pm	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of
		the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego
		districts. Issued at 11:00 pm on Monday 10 January 2011
Tuesday	5:05	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
11 January	am	flooding and potentially worsening the existing river flood situation For people
2011		in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of
		the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego
		districts. Issued at 5:05 am on Tuesday 11 January 2011
Tuesday	8:00	SEVERE WEATHER WARNING for heavy rainfall leading to localised flash
11 January	am	flooding and worsening the existing river flood situation For people in the
2011	Q. I I	Southeast Coast District and the Darling Downs and Granite Belt District
2011		southeast of Dalby to Goondiwindi. Issued at 8:00 am on Tuesday 11 January
		2011
Tuesday	11:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	am	and worsening the existing river flood situation For people in the Southeast
2011	am	Coast District and the Darling Downs and Granite Belt District southeast of
2011		Dalby to Goondiwindi. Issued at 11:00 am on Tuesday 11 January 2011
Tuesday	2:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
Tuesday		
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011		Coast District and the Darling Downs and Granite Belt District southeast of
T	5.00	Dalby to Goondiwindi. Issued at 2:00 pm on Tuesday 11 January 2011
Tuesday	5:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011
Tuesday	10:00	SEVERE WEATHER WARNING for heavy rainfall leading to flash flooding
11 January	pm	and worsening the existing river flood situation For people in the Southeast
2011		Coast District and the Darling Downs and Granite Belt District southeast of
		Dalby to Goondiwindi. Issued at 5:00 pm on Tuesday 11 January 2011

Flood summary for the Condamine River at Warwick

- The town of Warwick is on the Condamine River in the Condamine-Balonne catchment.
- The flood heights at Warwick are measured on a combination of two automatic gauges and a
 manual gauge. The manual gauge is owned by the Bureau of Meteorology (Bureau station
 number: 041357), one of the automatic gauges is owned by the Queensland Department of
 Environment and Resource Management (DERM) (Bureau station number: 41503) and the
 other automatic gauge is owned by the Southern Downs Regional Council and the Bureau of
 Meteorology (Bureau station number: 041534).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/gld/brochures/river_maps.shtml

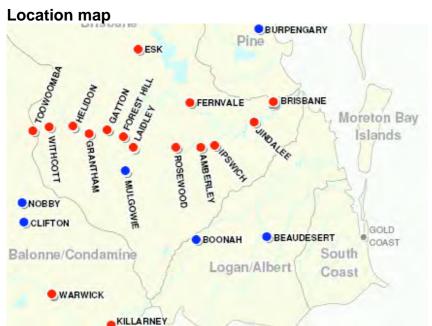
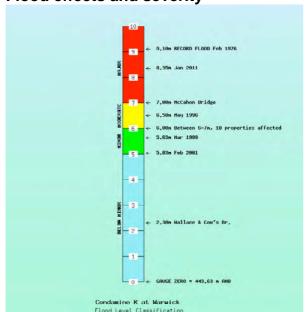


Figure 1. Map showing location of Warwick.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 7.9 metres on 27/12/2010,
 Peaked at 8.35 metres on 11/01/2011.
- Minor: 5.0 metres
 Moderate: 6.0 metres
 Major: 7.0 metres.
- Gauge zero is 443.627 metres AHD.
- 150 homes and 25-30 businesses were inundated during the second flood peak at Warwick. (ABC News online)
- Warwick was above major flood level (7 metres) during the 27/12/2010 and again on 11/01/2011.*

Figure 2. Flood level classifications and flood effects for Warwick.

^{*} Indicates dates and times were estimated due to station failure.

Rainfall summary

- Between 300 to 400 millimetres of rainfall was recorded over the Condamine River and nearby creeks during the month of December 2010. Further heavy rainfall of between 200 and 400 millimetres were recorded during early January 2011.
- The heaviest rainfall was recorded between 06/01/2011 and 12/01/2011 with falls between 200 and 400 millimetres.

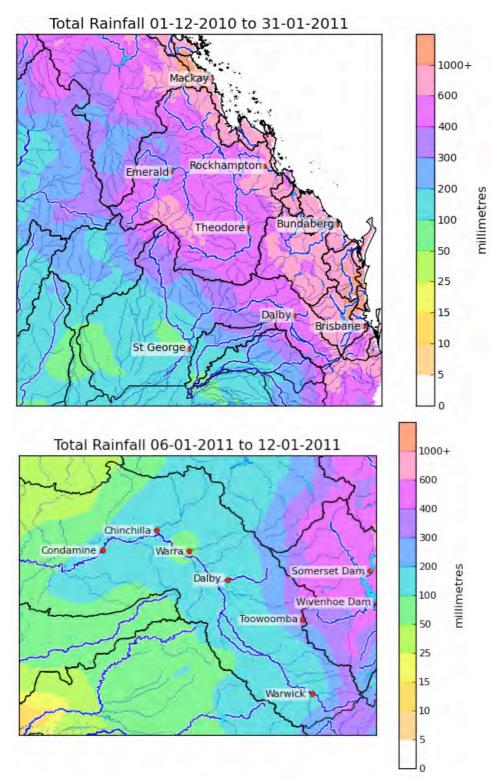


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period between 06/01/2011 and 12/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at Mosely's AL and Yangan AL in the upper Condamine River catchment are shown in Table 1.
- The most significant rainfall intensities for Mosely's AL in December 2010 and January 2011 occurred on the 27/12/2010 and 11/01/2011 and 12/01/2011. Intensities for all durations were below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.
- The most significant rainfall intensities for Yangan AL in December 2010 occurred on the 27/12/2010. Intensities for all durations were below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval) intensities.

Table 1. Recorded maximum rainfall intensities for Mosely's AL and Yangan AL on the upper Condamine River for December 2010 and January 2011.

Rainfall Mosely's AL			Yangan AL			
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
3hr	55	10:45 AM 11/01/2011	2-5	45	12:35 PM 27/12/2010	1-2
6hr	92	1:15 PM 27/12/2010	20-50	70	1:30 PM 27/12/2010	5-10
12hr	120	2:20 PM 27/12/2010	20-50	80	1:45 PM 27/12/2010	5-10
24hr	159	1:30 PM 27/12/2010	50	106	1:45 PM 27/12/2010	5-10
48hr	193	1:30 AM 12/01/2011	20-50	114	1:50 PM 27/12/2010	2-5
72hr	198	9:40 PM 11/01/2011	20-50	122	1:50 PM 27/12/2010	2-5

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Warwick.

Time/Date	Event Description	Gauge height (metres)	Comment
05/12/2010	First warning issued	2.44	
27/12/2010	First time exceeded minor	5.00	Remained above minor flood levels for ~1 day.
27/12/2010	First time exceeded moderate	6.00	Remained above minor flood levels for ~1 day
27/12/2010	First time exceeded major	7.00	Remained above minor flood levels for ~12 hours.
9:45 PM 27/12/2010	Major flood peak	7.90	8th highest on record
28/12/2010 - Est.*	Fall below major	7.00	
28/12/2010 - Est.*	Fall below moderate	6.00	
28/12/2010 - Est.*	Fall below minor	5.00	
10/01/2011	First time exceeded minor	5.00	Remained above minor flood levels for ~2.5 days.
10/01/2011	First time exceeded moderate	6.00	Remained above moderate flood levels for ~2.5 days.
11/01/2011	First time exceeded major	7.00	Remained above major flood levels for ~16 hours.
8:00 PM 11/01/2011	Major flood peak	8.35	Largest since 1976 and 4 th highest on record.
12/01/2011	Fall below major	7.00	
12/01/2011	Fall below moderate	6.00	
12/01/2011	Fall below minor	5.00	
10:55 AM 15/01/2011	Final warning issued		

^{*} Indicates dates and times were estimated due to station failure.

Flood height at Warwick

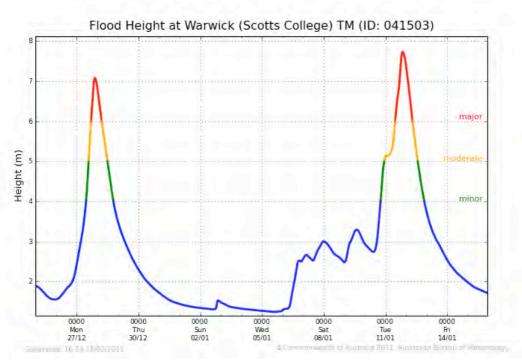


Figure 4. Flood height at the Scotts College gauge in Warwick.

Please note that the above hydrograph was recorded from Warwick (Scott's College) TM as the Alert gauge was unserviceable during both events. The sites are different. All other reference to peaks heights are at the Warwick gauge where some manual reports were recorded at the peaks. (The heights at the Scott's College gauge are about 0.8m less then Warwick.)

Comparison with previous floods

- Start of record 1887 with 12 major flood peaks in the record including 2 in 1887 and in 1890.
- Last major flood was 9.10 metres February 1976 but previous to that was 7.01 metres in 1974.

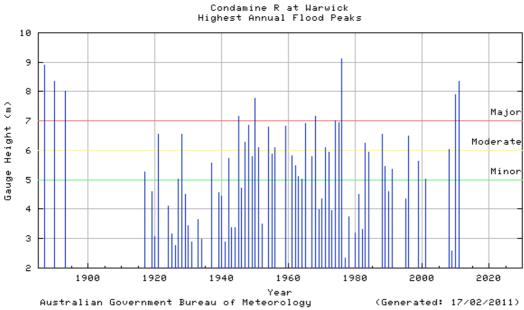


Figure 5. Highest annual flood peaks for the Condamine River at Warwick.

Warning and Forecast Service

- The catchments started to become saturated during October with flood warnings for the Condamine and Balonne Rivers issued between 10/10/2010 and 25/10/2010.
- A total of 103 warnings were issued for the Condamine and Balonne River during December 2010 and January 2011.

Table 3. Table of peak height predictions for Warwick.

Time of Height Forecast	Forecast	Peak			
05/12/2010 Firs	05/12/2010 First warning issued. Height at the time was 2.44m (below minor)				
6:47 AM on Monday the 27th of December 2010	A minor flood peak up to 5.5 metres can be expected at Warwick during Monday.				
12:36 PM on Monday the 27th of December 2010	Moderate flood levels will occur downstream at Warwick during Monday, with further rises and major flooding possible overnight.	7.90 metres at 9:45 PM Mon 27/12/2010.			
5:26 PM on Monday the 27th of December 2010	Warwick is predicted to peak at about 8 metres by midnight tonight causing major flooding in the area.				
11:46 PM on Sunday the 9th of January 2011	Renewed rises are possible during the next couple of days with the forecast heavy rainfall.				
1:44 AM on Monday the 10th of January 2011	Renewed rises are possible during the next couple of days with the forecast heavy rainfall.	Forecast of heavy rainfall and renewed			
6:13 AM on Monday the 10th of January 2011	Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.	rises.			
10:53 AM on Monday the 10th of January 2011	Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.				
5:25 PM on Monday the 10th of January 2011	Rises to 6 metres (moderate flood level) are expected downstream at Warwick during Monday night.				
10:32 PM on Monday the 10th of January 2011	Peak up 6.5 metres (moderate) by midnight Monday.				
6:55 AM on Tuesday the 11th of January 2011	Peak up 6.5 metres (moderate) during Tuesday. Further rises are possible as rainfall continues.	8.35 metres			
12:30 PM on Tuesday the 11th of January 2011	Major flood levels of 7.3 metres later today and overnight. Further rises are possible as rainfall continues.	at 8:00 PM Tue 11/01/2011.			
2:15 PM on Tuesday the 11th of January 2011	Major flood levels of 7.3 metres during this afternoon. Further rises are possible as rainfall continues.				
6:44 PM on Tuesday the 11th of January 2011	Reach 8.5 metres during this evening. Further rises are possible as rainfall continues.				

Note: This table does not include all forecasts issued during these flood events.

Flood summary for the Fitzroy River at Yaamba

- The town of Yaamba is on the Fitzroy River in the Fitzroy catchment.
- The river heights at Yaamba are measured on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 033076).
- Yaamba experienced major flooding in January 2011 that isolated the town and affected around 3000 properties in the area.
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

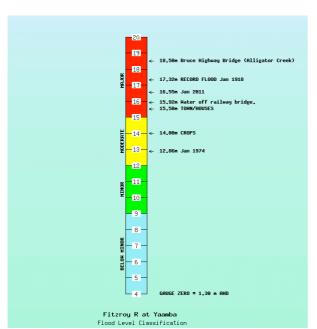
Location map



Figure 1. Map showing location of Yaamba.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



- Peaked at 16.55 metres on 04/01/2011.
- Minor: 9 metres Moderate: 12 metres Major: 15 metres.
- Gauge zero is 1.30 metres AHD.
- The township of Yaamba was isolated and many properties in the area were affected (Courier Mail).
- The major flood peak for Yaamba in January 2011 is the fourth highest on record.
- Above major flood level (15 metres) from 30/12/2010 to 14/01/2011.
- Remained above minor flood level (9 metres) from 03/12/2010 to 17/01/2011.

Figure 2. Flood level classifications and flood effects for Yaamba.

Rainfall summary

- Between 400 to 1000 millimetres of rainfall was recorded over the Fitzroy River catchment from the start of December 2010 to the end of January 2011.
- The heaviest rainfall periods during December and January occurred from the 26/12/2010 to 28/12/2010, with falls between 200 and 300 millimetres over most of the catchment with some areas receiving over 400 millimetres.

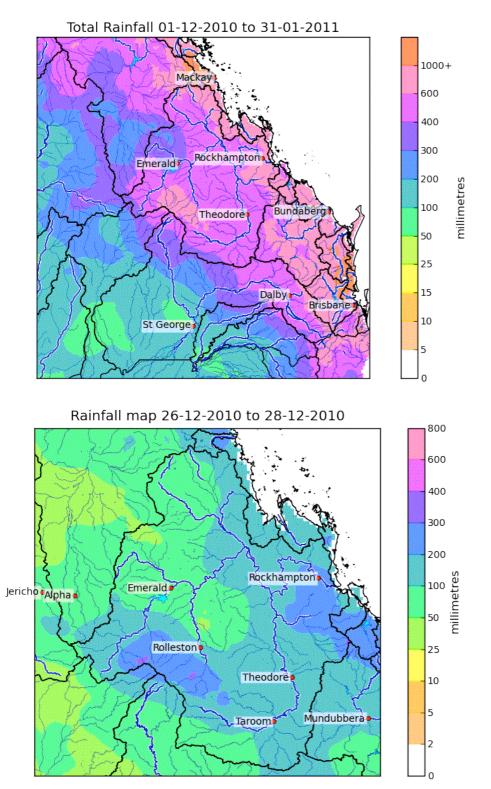


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the 48 hours to 9 AM on 28/12/2010 (bottom).

Rainfall Intensity

- Coolmaringa TM on the Mackenzie River and Kingsborough TM on the Don River, both upstream from Rockhampton, have been selected as examples of recorded rainfall intensities across the eastern parts of the Fitzroy River catchment during December 2010 and January 2011. The rainfall intensity data is shown in Table 1.
- The most significant rainfall intensities for December 2010 and January 2011 at these two sites can be seen below. All durations were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Coolmaringa TM on the Mackenzie River and

Kingsborough TM on the Don River for December 2010 and January 2011.

Rainfall	Coolmaringa TM			Kingsborough TM		
Duration	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
30 mins	22	10:25 AM 22/12/2010	< 1	45	12:05 PM 27/12/2010	10-20
60 min	33	10:45 AM 22/12/2010	1-2	53	12:15 PM 27/12/2010	5
2 hr	49	5:10 PM 27/12/2010	1-2	63	7:50 PM 27/12/2010	2-5
3 hr	61	5:40 PM 27/12/2010	2-5	78	8:15 PM 27/12/2010	5-10
6 hr	103	9:00 PM 27/12/2010	10-20	93	10:00 PM 27/12/2010	5-10
12hr	117	2:40 AM 28/12/2010	5-10	147	11:10 PM 27/12/2010	20
24hr	167	1:15 PM 03/12/2010	10-20	155	10:55 AM 28/12/2010	5-10
48hr	174	1:15 PM 03/12/2010	5-10	232	10:00 PM 27/12/2010	10-20
72hr	259	12:15 PM 03/12/2010	10-20	265	10:55 AM 28/12/2010	10-20

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood timeline for Yaamba

Time/Date	Event Description	Gauge Height (metres)	Comment
11:06 AM 04/12/2010	First warning issued		First warning issued with reference to Yaamba flooding.
04/12/2010	River level first exceeds the minor flood level.	9.00	Remained above the minor flood level for ~46 days.
6:00 PM 04/12/2010	Minor flood peak	10.50	
09/12/2010	River level first exceeds the moderate flood level	12.00	Remained above the moderate flood level for ~13 days.
9:00 AM 14/12/2010	Moderate flood peak	14.10	
21/12/2010	Fall below moderate	12.00	
26/12/2010	River level exceeds the moderate flood level again.	12.00	Remained above the moderate flood level for ~22 days.
30/12/2010	River level first exceeds the major flood level	15.00	Remained above the major flood level for ~ 16 days.
9:00 AM 04/01/2011	Major flood peak	16.55	4 th highest flood peak on record for Yaamba.
14/01/2011	Final fall below major	15.00	
16/01/2011	Final fall below moderate	12.00	
18/01/2011	Final fall below minor	9.00	
7:54 AM 17/01/2011	Final warning issued		

Flood Heights at Yaamba

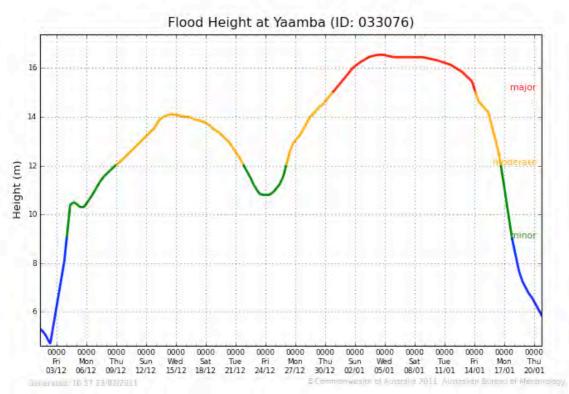


Figure 4. Flood Heights at Yaamba for December 2010 and January 2011

Comparison with previous floods

- River height records for Yaamba date back to 1889 with 11 major flood peaks in the record, including two major floods in 1918 and in 1991.
- The major flood level of 16.55 metres is the fourth highest peak on record. (The highest flood on record is 17.32m in 1918).
- The previous time the river level exceeded 15 metres was in January 1991.

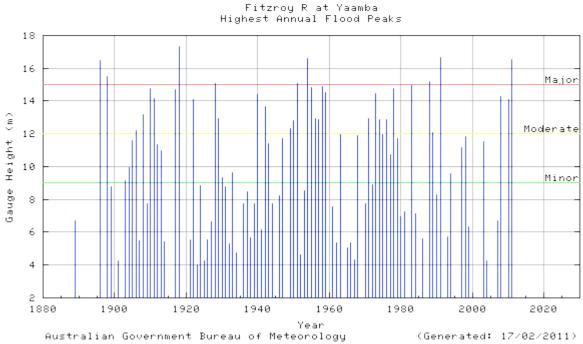


Figure 5. Highest annual flood peaks for the Fitzroy River at Yaamba

Warning and Forecast Service

- The first warning issued for the Fitzroy River that included reference to expected river height rises at Yaamba was issued on 04/12/2010. Warnings then continued for the catchment throughout the month, finalising on 17/01/2011 following the major flood peak at Yaamba.
- This period of warnings included the moderate flood peak at Yaamba in December and the major flood peak at Yaamba in January 2011.
- A total of 86 warnings were issued for the Fitzroy River system during December 2010 and January 2011 that referred to river rises and flooding at Yaamba.

Table 3. Table of peak height predictions for Yaamba

Time of Height Forecast Forecast		Peak		
11:06 AM 04/12/2010 First warning issued referencing flooding at Yaamba. Height at 9:00 AM on 04/12/2010 was 10.4m (minor).				
2:39 PM on Thursday the 30th of December 2010	Reach around 16.1 metres during Saturday with further rises.	Rising limb forecasts –		
12:07 PM on Friday the 31st of December 2010	Expected to reach 16.1 metres on Saturday with further rises to around 16.6 metres on Monday.	reach a level and expected to continue rising		
7:04 AM on Sunday the 2nd of January 2011	Reach about 16.5 metres on Monday with possible further rises.			
6:41 AM on Monday the 3rd of January 2011	Peak about 16.5 metres overnight Monday, remaining high for several days.	16.55 metres at 0900 Tues 04/01/2011		
7:14 PM on Tuesday the 4th of January 2011	Remain around the major flood peak of 16.55 metres overnight. River levels to remain high for several days.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

Note: This table does not include all forecasts issued during these flood events.



Appendix J

Specific briefings and activities conducted by the Bureau

June 2010 to February 2011

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Appendix J: Specific activities and briefings

- [1] During the floods, the RFC and FWC received numerous ad hoc telephone requests for elaboration on forecasts and warnings issued. The FWC also provided direct briefings and advice to at least the following agencies:
 - a. Rockhampton Regional Council Rockhampton 11th Dec to 20th Dec and 26th December to January 10th.
 - b. Balonne Shire Council Dirranbandi/St George/Surat 1st January to the 10th January.
 - c. Brisbane City Council, through Flood Information Centre (FIC) Brisbane Saturday 8th January to Saturday 15th January.
 - d. Seqwater Flood Operations Centre (responsible for operating Wivenhoe Dam and other dams)– continuous through period and multiple times per day.
 - e. SunWater (responsible for operating Beardmore Dam and other dams).
 - f. Murweh Shire Council Charleville -11th to 18th December then 'ad hoc' advice.
 - g. Ipswich City Council Ipswich- Saturday 8th January to Saturday 15th January.
 - h. Bundaberg Regional Council Bundaberg 26th December to 30th December and again 12th January to 14th January.
 - i. Goondiwindi Regional Council Goondiwindi/Inglewood 12th January to 14th January.
 - j. Gympie Regional Council Gympie 9th January 11th January.
 - k. Western Downs Regional Council Dalby/Condamine/Chinchilla 18th December to 10th January (on and off).
 - I. Fraser Coast Regional Council Maryborough 8th and 9th January.
 - m. Central Highlands Regional Council Emerald/Comet 27th December to 31st December.
 - n. Banana Shire Council Theodore/Moura/Baralaba/Taroom most of December.
 - o. Hinchinbrook Shire Council Ingham 2nd/3rd February.
 - p. Southern Downs Regional Council Warwick -12th 13th January.
 - g. Cairns Regional Council Cairns ad hoc advice before TC Yasi.
 - r. Burdekin Shire Council Giru/Burdekin ad hoc advice.
 - s. North Burnett Regional Council Mundubbera/Gayndah 26th December to 29th December.



Appendix K

Rainfall statistics and ARI/AEP definitions

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Appendix K: Rainfall Statistics and ARI/AEP definitions

In order to explain the statistics of rainfall, it is useful to define some terms. The Bureau of Meteorology does not use depth of rainfall in this particular context but prefers to use rainfall rate (in mm per hour), known as intensity. It is calculated by dividing the depth of rainfall by the duration.

The period of time over which the rainfall is measured is called the duration. For example: one year - in the case of annual rainfall; one month (for many climate purposes); or so many days, hours or minutes.

Frequency is used to compare the severity of different rainfall events and is a time period of how often a particular rainfall intensity may be expected to occur. Curves representing these values are known as rainfall intensity-frequency-duration (IFD) curves. Analyses of data from rainfall gauges and the use of statistical theory enables the Bureau to estimate the probability that a particular rainfall depth will be equalled or exceeded at a particular place, within a particular time interval (duration), and over any given period of time. Rainfall IFD analyses are available for all locations in Australia.

The Average Recurrence Interval (ARI) and the Annual Exceedance Probability (AEP) are both a measure of the rarity of a rainfall event. The probability of a particular rainfall amount for a specified duration being equalled or exceeded in any 1 year period can be expressed as a percentage (the annual exceedance probability or AEP) or as "on the average once in every x years" (an average recurrence interval, or ARI, of x years). As an example, for a single location in Melbourne, a rainfall amount of 48.2 mm in 1 hour can be expected to be equalled or exceeded on average once every 100 years. In this case, the ARI is 100 years and the AEP is 1%.

It is important to note that an ARI of 100 years does not mean that the event will only occur once every 100 years. In fact, for each and every year, there is a 1% chance that the event (in this example, 48.2 mm in 1 hour) will be equalled or exceeded (once or more than once). As the use of the term ARI can lead to confusion, it is preferable to use annual exceedance probability (AEP) to describe the chance of a particular rainfall as the AEP conveys the probability or chance that exists for each year. For example, a rainfall total of 159mm falling in 3 hours at Darwin Regional Office has a 1% probability of being equalled or exceeded in any one year can be easier to understand than the equivalent statement of a rainfall total of 159mm in 3 hours has an average recurrence interval (ARI) of 100 years.

Additional clarification may be required to explain the effects of duration. If a thunderstorm occurs, it would be most severe in terms of rainfall intensity and expected probability of occurrence for some particular duration, e.g. it may be a 0.5% AEP (200-year ARI) event at a duration of 1 hour but a 2% AEP (50 year ARI) event for a 30 minute duration, and a 1% AEP (100 year ARI) event for 2 hours duration.

The duration of thunderstorm necessary to produce the maximum peak flow for any location in a drainage system is a period known as the critical duration for that location. This is the time taken for water to flow from the outermost point in the system to the subject location. Thunderstorms of a shorter duration (and higher intensity) may cause the maximum flows in part of the catchment upstream of the subject location, but not at that location. Longer thunderstorms will not produce a flow in excess of the maximum peak flow of this critical duration thunderstorm; however, there could be embedded burst of rainfall over a period of time equal to the critical duration within the longer thunderstorm.

Importantly, a rainfall event of a particular AEP (say 1%) does not necessarily produce a flood magnitude of the same AEP. For example, a 1% AEP rainfall event may occur when the catchment is particularly dry and the resulting flood magnitude may be considerably less than the 1% AEP flood.

For more information on statistic analysis of rainfall please go to:

http://reg.bom.gov.au/water/designRainfalls/ifd/ifdFAQ.shtml



Appendix L

Copies of warnings issued for Toowoomba and the Lockyer Valley Location

9 to 11 January 2011

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IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett.

Issued at 4:40 am on Sunday 9 January 2011

Synoptic Situation: At 4am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- $\boldsymbol{\cdot}$ avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



IDQ20825

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 7:27 AM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

The Balonne River at St George reached a peak of 13.2 metres during Saturday and remains at that level now (Sunday morning). Major flood levels will remain high (above 13 metres) during the next few days.

Moderate to major flooding extends along the Condamine and Balonne River system. Rises will extend downstream of the Loudoun Bridge area to the Chinchilla Weir area during the next few days causing renewed major flooding, but river levels will remain well below the peaks recorded during the Christmas-New Year period.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing again, although a renewed minor flood peak is expected at Warwick today. Further rain is forecast for the eastern Darling Downs area from today through to Tuesday which will cause renewed rises in creeks in the area, and may produce renewed Condamine River rises.

MYALL CREEK:

A second minor flood peak of 2.3 metres occurred at Dalby during Saturday afternoon and creek levels are now falling again below minor flood level. Renewed rises are possible with the forecast rain.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone. Record flood levels peaked in the Barrackdale area during Friday night about 1.5 metres higher than the March 2010 flood level, but have only fallen about 20 centimetres. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days.

The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6am Sunday, the Balonne River at St George was 13.2 metres and holding at its peak which was reached during Saturday.

Major flood levels will remain high (above 13 metres) during the next few days.

High level major flooding is expected to continue in the Balonne River system



downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi to Hebel area around mid-January.

Predicted River Heights/Flows: Balonne River at:

St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 4pm Sunday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Murrays Br # 06:29 AM SUN 09/01/11 6.4m rising Condamine R at Warwick # 4.84m rising 06:15 AM SUN 09/01/11 Condamine R at Tummaville * 7.53m falling 05:00 AM SUN 09/01/11 Condamine R at Centenary Br 6.94m falling slowly 05:00 AM SUN 09/01/11 North Condamine R at Lone Pine * 3.26m falling 05:00 AM SUN 09/01/11 Oakey Ck at Fairview * 4.18m steady 05:00 AM SUN 09/01/11 Condamine R at Loudoun Br * 5.02m falling 05:00 AM SUN 09/01/11 Myall Ck at Dalby # 1.59m falling 06:09 AM SUN 09/01/11 Condamine R at Warra-Kogan Rd Br 10.98m rising 06:00 PM SAT 08/01/11 Condamine R at Chinchilla Weir TW * 10.55m rising 05:40 AM SUN 09/01/11 Condamine R at Cotswold * 13.45m falling 05:10 AM SUN 09/01/11 Balonne R at Warkon 11.09m falling slowly 06:00 AM SUN 09/01/11 Balonne R at Surat (manual) 11.8m falling slowly 06:00 AM SUN 09/01/11 Balonne R at Weribone * 12.81m falling 05:30 AM SUN 09/01/11 Balonne R at Warroo 14.98m falling slowly 05:30 AM SUN 09/01/11 Maranoa R at Old Cashmere * 3.36m rising 05:40 AM SUN 09/01/11 Balonne R at St George (manual) 13.2m steady 06:00 AM SUN 09/01/11 Balonne R at Whyenbah 8.1m rising slowly 09:00 AM SAT 08/01/11 Culgoa R at Woolerbilla * 6.3m rising 04:00 AM SUN 09/01/11 Balonne R Minor at Dirranbandi 5.3m rising slowly 06:00 AM SUN 09/01/11 Narran R at Dirranbandi-Hebel Rd * 5.21m rising slowly 03:00 PM SAT 08/01/11 Ballandool R at Hebel-Bollon Rd * 3.68m rising slowly 05:30 AM SUN 09/01/11 1.84m rising slowly 05:20 AM SUN 09/01/11 Bokhara R at Hebel *

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



IDQ20805

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR WARRILL CREEK THE LOWER BRISBANE BELOW WIVENHOE

Issued at 9:13 AM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Minor flood levels are falling at Amberley along Warrill Creek.

SEQ Water advises releases from Wivenhoe Dam will continue through Sunday. Minor flooding will continue downstream along the Brisbane River to Mt Crosby today and tomorrow.

Weather Forecast:

Rain periods with moderate falls possible.

Next Issue:

The next warning will be issued at about 9am Monday or earlier if needed.

Latest River Heights:

Brisbane R at Savages Crossing * 10.34m falling 08:10 AM SUN 09/01/11
Brisbane R at Savages Crossing # 10.31m falling 09:03 AM SUN 09/01/11
Brisbane R at Burtons Br # 7.76m falling 08:59 AM SUN 09/01/11
Cabbage Tree Ck at L Manchester # 51.19m steady 07:55 AM SUN 09/01/11
Brisbane R at Kholo Br # 2.61m falling 08:59 AM SUN 09/01/11
Brisbane R at Mt Crosby # 11.21m steady 08:55 AM SUN 09/01/11
Brisbane R at Mt Crosby # 11.14m falling 09:06 AM SUN 09/01/11
Brisbane R at Colleges Crossing # 8.91m steady 09:07 AM SUN 09/01/11
Warrill Ck at Amberley DNR * 5.07m falling 08:20 AM SUN 09/01/11

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*}automatic station



IDQ20800

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 9:28 AM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Heavy rainfall has returned to the Brisbane River catchment overnight and will continue through today.

Minor flood levels are occurring along the Stanley River at Peachester. Some moderate flood levels are expected today at Woodford with higher levels possible as rainfall continues.

A return to moderate and major flood levels is likely from Linville to Gregor Creek today.

Next Issue:

The next warning will be issued by 2pm Sunday.

Latest River Heights:

Stanley R at Peachester * 5.19m rising 08:00 AM SUN 09/01/11 Stanley R at Peachester # 5.88m rising 09:10 AM SUN 09/01/11 Stanley R at Woodford * 4.4m rising 08:20 AM SUN 09/01/11 Kilcoy Ck d/s Mt Kilcoy Weir * 4.88m rising 08:20 AM SUN 09/01/11 Stanley R at Somerset Dam HW # 100.12m rising 09:03 AM SUN 09/01/11 Cooyar Ck at Cooyar Ck * 2.71m steady 08:00 AM SUN 09/01/11 Brisbane R at Linville # 3.52m rising 09:12 AM SUN 09/01/11 Brisbane R at Devon Hills # 5.25m falling 09:12 AM SUN 09/01/11 Emu Ck at Boat Mountain * 2.13m falling 08:00 AM SUN 09/01/11 Maronghi Ck at Glendale * 2.01m rising 08:00 AM SUN 09/01/11 4.92m rising 08:30 AM SUN 09/01/11 Brisbane R at Gregor Ck * Cressbrook Ck at Rosentreters Br * 2.29m steady 08:00 AM SUN 09/01/11 Cressbrook Ck at Rosentreters Br # 2.28m falling 07:36 AM SUN 09/01/11 Esk Ck at Falls Rd * 1.96m falling 08:20 AM SUN 09/01/11 Splityard Creek Dam # 163.2m steady 07:19 AM SUN 09/01/11 Brisbane R at Wivenhoe Dam HW # 68.55m rising 09:00 AM SUN 09/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*}automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 10:55 am on Sunday 9 January 2011

Synoptic Situation: At 10am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. The heavy rain areas are expected to move into the eastern parts of the Darling Downs and Granite Belt District overnight. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall over 100mm was recorded in the last 24 hours about parts of the Sunshine Coast and Hinterland.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



IDQ20800

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 2:12 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfall of up to 85 millimetres has been been recorded in the catchments of the Upper Brisbane and Stanley Rivers during the 5 hours since 9am Sunday. Heavy rainfall is expected to continue in the catchments during Sunday and Monday with major flood levels expected in the Upper Brisbane River during Sunday and into Monday.

UPPER BRISBANE RIVER:

The heavy rainfall is causing very fast rises in the Upper Brisbane River at Linville with major flood levels expected during Sunday afternoon. Fast rises to major flood levels are expected downstream to Gregor Creek during Sunday and into Monday.

STANLEY RIVER:

Minor flood levels are currently steady in the Stanley River at Peachester but renewed rises are possible during the next 24 hours. Moderate flood levels are expected later today at Woodford with higher levels possible as rainfall continues. Rises and flooding are also possible in Kilcoy Creek during the next 24 hours.

Next Issue:

The next warning will be issued by 10pm Sunday.

Latest River Heights:

Stanley R at Peachester #	7.68m steady	01:37 PM SUN 09/01/11
Stanley R at Woodford #	4.92m rising	01:31 PM SUN 09/01/11
Kilcoy Ck d/s Mt Kilcoy Weir #	6.48m steady	01:43 PM SUN 09/01/11

Cooyar Ck at Cooyar Ck #	5.1m rising	01:45 PM SUN 09/01/11
Brisbane R at Linville *	3.41m rising	08:10 AM SUN 09/01/11
Brisbane R at Devon Hills #	5.61m rising	01:46 PM SUN 09/01/11
Emu Ck at Boat Mountain #	2.82m rising	01:43 PM SUN 09/01/11
Maronghi Ck at Glendale *	2.08m rising	12:17 PM SUN 09/01/11
Brisbane R at Gregor Ck #	6.48m rising	01:44 PM SUN 09/01/11
Cressbrook Ck at Rosentrete	rs Br # 3.12m rising	g 01:30 PM SUN 09/01/11

^{*,#} automatic

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



IDQ20780

Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER

Issued at 2:48 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Very heavy rainfall is being recorded in a rainband that stretches from Gympie to the northern suburbs of Brisbane and inland to Dalby. Totals of up to 25 to 50 millimetres have been recorded in the last hour within this rainband with the heaviest rainfall currently in the upper reaches of the Caboolture River and Kilcoy Creek.

This rainband is expected to move south during this afternoon and during Sunday night. Fast rises and flash flooding are possible during tonight in the Caboolture and Pine River catchments and in the Brisbane Metropolitan creeks.

A flood warning is current for the Mary River, Sunshine Coast Streams, Upper Brisbane and Lower Brisbane Rivers.

The heaviest rainfall during the 6 hours to 3pm Sunday includes Wamuran 94mm, Mt Mee 99mm and Maleny 92mm.

Next Issue:

The next warning will be issued at about 7pm.

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 3:28 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

The Balonne River at St George reached a peak of 13.2 metres during Saturday and has remained steady at that level during Sunday. Major flood levels will remain high (above 13 metres) during the next few days.

Moderate to major flooding extends along the Condamine and Balonne River system. Rises will extend downstream of the Loudoun Bridge area to the Chinchilla Weir area during the next few days causing renewed major flooding, but river levels will remain well below the peaks recorded during the Christmas-New Year period.

Further rain is forecast for the eastern Darling Downs area from today through to Tuesday which will cause renewed rises in creeks in the area, and may produce renewed Condamine River rises.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing in the Upper Condamine with levels at Warwick currently steady just above minor flood level. Further rises are possible during the next couple of days with the forecast heavy rainfall.

MYALL CREEK:

Flood levels have fallen below minor in Myall Creek at Dalby but rainfall has started to fall in the upper reaches and renewed rises are expected during Sunday night.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone. Record flood levels peaked in the Barrackdale area during Friday night about 1.5 metres higher than the March 2010 flood level, but have only fallen about 20 centimetres. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days.

The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6am Sunday, the Balonne River at St George was 13.2 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) during the next few days.



High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi area by mid-week and in the Hebel area later this week.

Predicted River Heights/Flows: Balonne River at:

St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 11pm Sunday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 0.85m rising 02:24 PM SUN 09/01/11 Condamine R at Elbow Vallev # 4.18m risina 02:52 PM SUN 09/01/11 Condamine R at Murrays Br # 6.3m falling 02:52 PM SUN 09/01/11 Condamine R @ Warwick(Scots Col.) * 3.29m steady 02:00 PM SUN 09/01/11 Condamine R at Warwick # 5.09m steady 02:34 PM SUN 09/01/11 Glengallan Ck near Backwater Ck # 1.35m steady 01:58 PM SUN 09/01/11 Condamine R at Tummaville * 7.16m falling 02:00 PM SUN 09/01/11 Condamine R at Centenary Br 6.9m falling slowly 09:00 AM SUN 09/01/11 North Condamine R at Lone Pine * 3.08m falling 01:00 PM SUN 09/01/11 Oakey Ck at Fairview * 4m falling 02:00 PM SUN 09/01/11 Condamine R at Loudoun Br * 5.09m rising 02:00 PM SUN 09/01/11 Myall Ck at Dalby # 1.09m falling 02:48 PM SUN 09/01/11 Condamine R at Warra-Kogan Rd Br 11.4m steady 06:00 AM SUN 09/01/11 Condamine R at Chinchilla Weir TW * 11.08m rising 02:30 PM SUN 09/01/11 Condamine R at Condamine 8.45m rising slowly 12:00 PM SUN 09/01/11 Condamine R at Cotswold * 02:20 PM SUN 09/01/11 13.22m steady Balonne R at Warkon 02:00 PM SUN 09/01/11 11.09m steady Yuleba Ck at Yuleba Forestry * 2.65m falling 02:20 PM SUN 09/01/11 Balonne R at Surat * (auto) 11.22m falling 02:40 PM SUN 09/01/11 Balonne R at Surat (manual) 11.8m falling slowly 06:00 AM SUN 09/01/11 Balonne R at Weribone * 12.72m falling 02:10 PM SUN 09/01/11 Balonne R at Warroo 14.98m falling slowly 05:30 AM SUN 09/01/11 Maranoa R at Old Cashmere * 3.53m steady 02:30 PM SUN 09/01/11 Balonne R at St George (manual) 13.2m steady 03:00 PM SUN 09/01/11 Balonne R at St George * (auto) 12.83m steady 02:30 PM SUN 09/01/11 Balonne R at Whyenbah 09:00 AM SUN 09/01/11 8.1m steady Culgoa R at Woolerbilla * 07:00 AM SUN 09/01/11 6.31m rising Balonne R Minor at Dirranbandi 5.3m rising slowly 06:00 AM SUN 09/01/11 Narran R at Dirranbandi-Hebel Rd * 5.25m steady 09:00 AM SUN 09/01/11 Ballandool R at Hebel-Bollon Rd * 3.69m steady 01:00 PM SUN 09/01/11 Bokhara R at Hebel * 1.85m steady 12:30 PM SUN 09/01/11



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 4:55 pm on Sunday 9 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located near the Wide Bay coast. A surface trough was located near the southern Queensland coast. Both of these systems are moving towards the west and southwest.

Rain areas and thunderstorms are expected to continue about the northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to move into the southern parts towards the border with New South Wales and west to the Granite Belt overnight. Heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 239mm, West Bellthorpe 233mm and Lindfield 226mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER

Issued at 7:05 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

A rainband stretches from Gympie to the northern suburbs of Brisbane and inland to Dalby. Rainfall totals of up 180 millimetres have been recorded in the Sunshine Coast region in the six hours to 7pm. The heaviest rainfall in the past two hours has been in the Killcoy, Stanley and Upper Mary catchments, with totals up to 60 millimetres recorded. The rainband is expected to move south during Sunday night.

Fast river rises have occurred in the Caboolture River resulting in minor flooding at Caboolture. Further rises in the Caboolture River and Pine River catchments are expected overnight Sunday.

Fast river rises have occurred in Woogaroo Creek resulting in moderate flooding at Opossum. Further flooding is possible in the Brisbane and Ipswich metropolitan creeks overnight Sunday.

Flood warnings are current for the Mary River, Sunshine Coast streams and the Upper Brisbane and Lower Brisbane rivers.

Next Issue:

The next warning will be issued at about 11pm.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 10:38 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfall of between 100 and 250 millimetres has been been recorded in the catchments of the Upper Brisbane and Stanley Rivers during the 13 hours since 9am Sunday. The heavy rainfall is expected to continue in the catchments with major flood levels being maintained during Sunday and Monday.

UPPER BRISBANE RIVER:

Major flooding has developed in Cooyar and Cressbrook Creeks and in the Upper Brisbane River from Linville downstream to Gregor Creek. Further rises and high level major flooding are possible during Sunday and into Monday.

STANLEY RIVER:

Major flood levels are continuing to rise in the Stanley River at Peachester and Woodford. Further rises and high level major flooding are possible during Sunday and into Monday.

Further rises and flooding are also possible in Kilcoy Creek during the next 24 hours.

Next Issue:

The next warning will be issued by 9am Monday.

Latest River Heights:

Stanley R at Peachester #	8.92m steady	10:07 PM SUN 09/01/11
Stanley R at Woodford #	8.18m rising	10:11 PM SUN 09/01/11
Kilcoy Ck d/s Mt Kilcoy Weir #	7.12m steady	10:11 PM SUN 09/01/11
Cooyar Ck at Cooyar Ck #	8.1m rising	10:00 PM SUN 09/01/11
Brisbane R at Linville #	9.66m steady	10:06 PM SUN 09/01/11
Brisbane R at Devon Hills #	11.19m falling	10:00 PM SUN 09/01/11
Emu Ck at Boat Mountain #	9.72m steady	10:06 PM SUN 09/01/11
Brisbane R at Gregor Ck #	14.52m falling	10:11 PM SUN 09/01/11
Cressbrook Ck at Rosentreters	Br # 5.16m falling	10:06 PM SUN 09/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE

Issued at 10:55 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek upstream of Gatton and in the Bremer River in the Rosewood area. Further rainfall is forecast for the region during Monday which may produce higher levels.

LOCKYER CREEK:

Lockyer Creek levels in the Helidon area have peaked at about 7 metres with further rises and moderate to major flooding expected downstream to the O'Reilly's area during Monday.

BREMER RIVER:

River level rises and moderate to major flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with at least minor flood levels expected in the Bremer River at Ipswich during Monday night.

MIDDLE AND LOWER BRISBANE:

SEQ Water advises releases from Wivenhoe Dam will continue. Minor flooding will continue along the middle Brisbane River at Savages and Mt Crosby with moderate flood levels expected at Mt Crosby overnight Monday.

Next Issue:

The next warning will be issued at about 9am Monday.

Latest River Heights:

Lockyer Ck at Helidon # 6.68m falling 10:08 PM SUN 09/01/11 Flagstone Ck at Brown-Zirbels Rd * 4.65m rising 08:40 PM SUN 09/01/11 Sandy Creek at Sandy Creek Road # 4.25m falling 10:03 PM SUN 09/01/11 Ma Ma Ck at Harm's * 1.92m steady 08:00 AM SUN 09/01/11 Tenthill Ck at Tenthill * 2.45m steady 08:33 PM SUN 09/01/11 Lockyer Ck at Gatton # 9.62m falling 09:58 PM SUN 09/01/11 Laidley Ck at Mulgowie * 3.33m rising 08:00 PM SUN 09/01/11 Laidley Ck at Laidley 3.95m falling slowly 08:00 PM SUN 09/01/11 Laidley Ck at Showground Weir # 5.6m falling 08:55 PM SUN 09/01/11 Bill Gunn Dam # 110.06m steady 09:44 PM SUN 09/01/11 Laidley Ck at Warrego Hwy * 4.36m rising 08:00 PM SUN 09/01/11 LLockyer Ck at Glenore Grove # 8.8m rising 10:09 PM SUN 09/01/11 Lockyer Ck at Lyons Br # 10.03m rising 10:08 PM SUN 09/01/11 Lockyer Ck at Rifle Range Rd * 9.47m rising 08:40 PM SUN 09/01/11 Atkinson Dam # 65.76m steady 09:52 PM SUN 09/01/11 Lockyer Ck at O'Reilly's Weir # 12m rising 10:05 PM SUN 09/01/11



Brisbane R at Lowood Pump Stn # 10.87m falling 10:07 PM SUN 09/01/11 11.47m rising Brisbane R at Savages Crossing # 10:09 PM SUN 09/01/11 Brisbane R at Burtons Br # 8.78m rising 10:08 PM SUN 09/01/11 Cabbage Tree Ck at L Manchester # 51.97m rising 10:10 PM SUN 09/01/11 Brisbane R at Kholo Br # 3.61m rising 10:10 PM SUN 09/01/11 Brisbane R at Mt Crosby # 11.9m rising 10:09 PM SUN 09/01/11 Brisbane R at Colleges Crossing # 9.71m rising 10:11 PM SUN 09/01/11 Bremer R at Adams Br # 2.15m falling 10:03 PM SUN 09/01/11 Bremer R at Stokes Crossing # 2.65m rising 09:53 PM SUN 09/01/11 Bremer R at Spressers Br # 4.87m rising 09:56 PM SUN 09/01/11 Spring Ck at Greys Plains Rd # 1.14m steady 09:48 PM SUN 09/01/11 Western Ck at Grandchester # 10:07 PM SUN 09/01/11 3.38m rising Western Ck at Rosewood WWTP # 08:45 PM SUN 09/01/11 6.43m rising Bremer R at Rosewood # 10:05 PM SUN 09/01/11 5.02m rising Bremer R at Five Mile Br Walloon # 4m rising 10:09 PM SUN 09/01/11 Bremer R at Walloon DERM * 4.54m rising 08:00 PM SUN 09/01/11 Reynolds Ck at Moogerah Dam # 155.5m steady 09:01 PM SUN 09/01/11 Warrill Ck at Kalbar Weir HW # 75.75m steady 09:59 PM SUN 09/01/11 Warrill Ck at Kalbar Weir TW * 5.25m falling 08:40 PM SUN 09/01/11 Warrill Ck at Harrisville# 2.45m rising 10:08 PM SUN 09/01/11 Warrill Ck at Churchbank Weir # 07:29 PM SUN 09/01/11 0.76m steady Warrill Ck at Greens Rd Amberley # 4.52m rising 10:05 PM SUN 09/01/11 Warrill Ck at Amberley DNR * 5.43m rising 08:40 PM SUN 09/01/11 Purga Ck at Peak Crossing # 08:08 PM SUN 09/01/11 1.16m rising Purga Ck at Loamside * 4.19m falling 08:40 PM SUN 09/01/11 Bremer R at Berry's Lagoon * 17.66m rising 08:30 PM SUN 09/01/11 Bremer R at One Mile Br # 8.9m rising 10:11 PM SUN 09/01/11 Bremer R at Hancocks Br Brassall # 5.98m steady 10:11 PM SUN 09/01/11 Bremer R at Ipswich # 3.95m rising 09:58 PM SUN 09/01/11 Brisbane R at Moggill # 3.57m rising 09:46 PM SUN 09/01/11 Brisbane R at City Gauge # 08:12 PM SUN 09/01/11 0.1m steady 0.45m rising Moreton Bay at Whyte Island # 10:07 PM SUN 09/01/11

*,# from automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 pm on Sunday 9 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue about northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to extend further south to the New South Wales border and west to the Granite Belt overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 336mm, West Bellthorpe 331mm and Lindfield 301mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER

Issued at 11:02 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

A rainband stretches from Gympie to the northern suburbs of Brisbane and inland to Dalby. Rainfall totals of up 260 millimetres have been recorded in the Sunshine Coast region since 9am Sunday. Rainfall has generally eased in the past two hours, however, further heavy rainfall is expected overnight and during Monday.

Minor flood levels are easing in the Caboolture River at Caboolture. Renewed rises are still possible in the Caboolture and Pine River catchments during Monday.

Minor flooding is easing in Woogaroo Creek at Opossum. Heavy rainfall and flash flooding are possible in the Brisbane and Ipswich metropolitan creeks during Monday.

Flood warnings are current for the Mary River, Sunshine Coast streams and the Upper Brisbane and Lower Brisbane rivers. A severe weather warning is also current for this region.

Next Issue:

The next warning will be issued at about 9am Monday or earlier if needed.

Latest River Heights:

nil.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 11:46 PM on Sunday the 9th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfalls of between 50-80mm have been recorded in the Myall Creek catchment since 9am Sunday. River level rises and major flooding is being recorded at Clydesdale with at least moderate and possibly major floods levels likely at Dalby during Monday. Further rainfall is possible in the catchment overnight Sunday.

The Balonne River at St George reached a peak of 13.2 metres during Saturday and has remained steady at that level during Sunday. Major flood levels will remain high (above 13 metres) during the next few days.

Moderate to major flooding extends along the Condamine and Balonne River system. Rises will extend downstream of the Loudoun Bridge area to the Chinchilla Weir area during the next few days causing renewed major flooding, but river levels will remain well below the peaks recorded during the Christmas-New Year period.

Further rain is forecast for the eastern Darling Downs area during Monday into Tuesday which will cause renewed rises in creeks in the area, and may produce renewed Condamine River rises.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing in the Upper Condamine with levels at Warwick currently steady just above minor flood level. Further rises are possible during the next couple of days with the forecast heavy rainfall.

MYALL CREEK:

Major flood levels continue to rise in Myall Creek in the Clydesdale area and minor flood levels are possible in the north Myall Creek at Moffatt during Monday morning. Minor flood levels at Dalby are rising with moderate flood levels likely during Monday and major flood levels possible during Monday night. Higher levels are possible with the forecast of further heavy rainfall.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone. Record flood levels peaked in the Barrackdale area during Friday night about 1.5 metres higher than the March 2010 flood level, but have only fallen about 20 centimetres. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days.



The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 9pm Sunday, the Balonne River at St George was 13.2 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) during the next few days.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi area by mid-week and in the Hebel area later this week.

Predicted River Heights/Flows:

Myall Creek at Dalby: Reach 3 metres (moderate) by midday Monday Possibly reach 3.5 metres (major) Monday night.

Balonne River at:

St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 8am Sunday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 0.95m rising 10:33 PM SUN 09/01/11
Condamine R at Elbow Valley # 3.83m falling 10:43 PM SUN 09/01/11 Condamine R at Murrays Br # 6.2m rising 10:47 PM SUN 09/01/11
Condamine R at Murrays Br # 6.2m rising 10:47 PM SUN 09/01/11
Condamine R @ Warwick(Scots Col.) * 3.11m falling 08:00 PM SUN 09/01/11
Condamine R at Warwick # 4.89m falling 10:19 PM SUN 09/01/11
Glengallan Ck near Backwater Ck # 2.3m rising 10:53 PM SUN 09/01/11
Condamine R at Tummaville * 6.96m falling 09:00 PM SUN 09/01/11
Condamine R at Centenary Br 6.87m falling slowly 06:00 PM SUN 09/01/11
North Condamine R at Lone Pine * 3.04m rising 09:00 PM SUN 09/01/11
Oakey Ck at Fairview * 3.8m falling 09:00 PM SUN 09/01/11
Condamine R at Loudoun Br * 5.29m rising 09:00 PM SUN 09/01/11
Myall Ck at Dalby # 2.09m rising 10:46 PM SUN 09/01/11
Condamine R at Warra-Kogan Rd Br 11.18m falling slowly 06:00 PM SUN 09/01/11
Condamine R at Chinchilla Weir TW * 11.34m steady 08:40 PM SUN 09/01/11
Condamine R at Condamine 8.35m falling slowly 04:00 PM SUN 09/01/11
Condamine R at Cotswold * 13.05m falling 08:40 PM SUN 09/01/11 Balonne R at Warkon 11.07m falling slowly 09:00 PM SUN 09/01/11
Yuleba Ck at Yuleba Forestry * 2.42m falling 08:40 PM SUN 09/01/11
Balonne R at Surat * (auto) 11.18m falling 08:50 PM SUN 09/01/11
Balonne R at Surat (manual) 11.65m falling slowly 08:00 PM SUN 09/01/11
Bungil Ck at Roma 2.2m steady 07:00 PM SUN 09/01/11
Balonne R at Weribone * 12.66m steady 08:40 PM SUN 09/01/11 Balonne R at Warroo 14.5m falling slowly 05:00 PM SUN 09/01/11
Balonne R at Warroo 14.5m falling slowly 05:00 PM SUN 09/01/11
Maranoa R at Old Cashmere * 3.61m steady 08:00 PM SUN 09/01/11
Balonne R at St George (manual) 13.2m steady 09:00 PM SUN 09/01/11



08:30 PM SUN 09/01/11 Balonne R at St George * (auto) 12.85m rising Balonne R at Whyenbah 8.1m steady 09:00 AM SUN 09/01/11 Culgoa R at Woolerbilla * 6.39m rising 10:10 PM SUN 09/01/11 Balonne R Minor at Dirranbandi 5.3m rising slowly 06:00 AM SUN 09/01/11 Narran R at Dirranbandi-Hebel Rd * 5.26m steady 03:00 PM SUN 09/01/11 Ballandool R at Hebel-Bollon Rd * 3.71m steady 08:00 PM SUN 09/01/11 Bokhara R at Hebel * 1.87m rising 08:20 PM SUN 09/01/11

*,# from automatic station

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

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Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOWER BRISBANE BELOW WIVENHOE

Issued at 12:36 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek upstream of Gatton and in the Bremer River in the Rosewood area. Further heavy rainfall is forecast for the catchments of the Bremer River and Warrill and Lockyer Creeks during Monday.

LOCKYER CREEK:

Moderate to major flood levels have developed in Lockyer Creek upstream of Gatton. Levels in the Helidon area have peaked at about 7 metres and rises continue at Gatton. Rises to major flood levels are expected during Monday at Glenore Grove and Lyons Bridge.

BREMER RIVER:

River level rises and moderate to major flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with at least minor flood levels expected in the Bremer River at Ipswich during Monday night and continuing into Tuesday.

MIDDLE AND LOWER BRISBANE:

SEQ Water advises releases from Wivenhoe Dam will continue. Minor flooding will continue along the middle Brisbane River at Savages and Mt Crosby during Monday with moderate flood levels expected overnight Monday.

Higher than predicted tides are expected to continue in the Lower Brisbane area during Monday. Minor flood levels are possible on the high tide at the Brisbane City (Port Office) gauge during Tuesday and Wednesday.

Next Issue:

The next warning will be issued at about 9.30am Monday.

Latest River Heights:

Lockyer Ck at Helidon #	6.5m rising	11:47 PM SUN 09/01/11
Flagstone Ck at Brown-Zirbel	s Rd * 4.65m rising	08:40 PM SUN 09/01/11
Sandy Creek at Sandy Creek	Road # 4.2m risin	g 11:39 PM SUN 09/01/11
Lockyer Ck at Gatton #	12.98m steady	11:46 PM SUN 09/01/11
Laidley Ck at Mulgowie *	3.45m rising	10:00 PM SUN 09/01/11
Laidley Ck at Laidley	3.95m falling slowly	y 08:00 PM SUN 09/01/11
Laidley Ck at Showground We	eir * 5.62m falling	08:30 PM SUN 09/01/11
Laidley Ck at Showground We	eir # 5.72m rising	11:37 PM SUN 09/01/11
Laidley Ck at Warrego Hwy *	4.75m rising	10:00 PM SUN 09/01/11
Lockyer Ck at Glenore Grove	# 9.98m rising	11:48 PM SUN 09/01/11
Lockyer Ck at Lyons Br #	10.73m rising	11:47 PM SUN 09/01/11
Lockyer Ck at Rifle Range Rd	* 9.47m rising	08:40 PM SUN 09/01/11



Lockyer Ck at O'Reilly's Weir # 12.34m rising 11:45 PM SUN 09/01/11

Brisbane R at Lowood Pump Stn # 11.19m falling 11:46 PM SUN 09/01/11 Brisbane R at Savages Crossing # 11.73m rising 11:48 PM SUN 09/01/11 Brisbane R at Burtons Br # 11:32 PM SUN 09/01/11 9.06m rising Brisbane R at Kholo Br # 3.91m rising 11:44 PM SUN 09/01/11 Brisbane R at Mt Crosby # 12.24m steady 11:49 PM SUN 09/01/11 Brisbane R at Colleges Crossing # 9.91m rising 11:46 PM SUN 09/01/11

Bremer R at Spressers Br # 11:08 PM SUN 09/01/11 4.97m rising Western Ck at Grandchester # 4.23m rising 11:45 PM SUN 09/01/11 Western Ck at Rosewood WWTP # 6.63m rising 11:49 PM SUN 09/01/11 Bremer R at Rosewood # 5.14m rising 11:41 PM SUN 09/01/11 Bremer R at Five Mile Br Walloon # 4.66m rising 11:48 PM SUN 09/01/11 Bremer R at Walloon DERM * 5.04m rising 10:30 PM SUN 09/01/11 Reynolds Ck at Moogerah Dam # 155.48m falling 11:34 PM SUN 09/01/11

Warrill Ck at Harrisville # 2.74m rising 11:44 PM SUN 09/01/11
Warrill Ck at Harrisville# 2.65m rising 11:32 PM SUN 09/01/11
Warrill Ck at Greens Rd Amberley # 4.4m falling 11:47 PM SUN 09/01/11
Warrill Ck at Amberley DNR * 5.43m rising 08:40 PM SUN 09/01/11

Bremer R at Berry's Lagoon * 17.66m rising 08:30 PM SUN 09/01/11 Bremer R at One Mile Br # 9.25m rising 11:33 PM SUN 09/01/11 Bremer R at Hancocks Br Brassall # 6.23m rising 11:33 PM SUN 09/01/11 Bremer R at Ipswich # 4.1m rising 11:34 PM SUN 09/01/11 Brisbane R at Moggill # 3.72m rising 11:44 PM SUN 09/01/11 Brisbane R at City Gauge # 0.9m rising 11:12 PM SUN 09/01/11



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 1:44 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfalls have eased in the catchment of Myall Creek during the last 3 hours and further heavy rainfall is now more likely in south eastern Darling Downs. Major flooding has peaked at Clydesdale and levels have remained below minor at Moffatt. Rises continue at Dalby but flood levels are now expected to peak up to the moderate flood level of 3 metres by 8am Monday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Warra-Kogan Road Bridge to Dirranbandi.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine and Oakey Creek during Monday into Tuesday.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing in the Upper Condamine with river levels at Warwick currently steady just above minor flood level. Further rises are possible during the next couple of days with the forecast heavy rainfall.

MYALL CREEK:

Rainfalls have eased in the catchment of Myall Creek during the last 3 hours and further heavy rainfall is now more likely in south eastern Darling Downs. Major flooding has peaked at Clydesdale and levels have remained below minor at Moffatt. Rises continue at Dalby but flood levels are now expected to peak up to the moderate flood level of 3 metres by 8am Monday.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 9pm Sunday, the Balonne River at St George was 13.2 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) during the next few days.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes



the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi area by mid-week and in the Hebel area later this week.

Predicted River Heights/Flows:

Myall Creek at Dalby: Peak up to 3 metres (moderate flood level) by 8am Monday

Balonne River at:

St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 10am Monday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 1.2m rising 01:01 AM MON 10/01/11 Condamine R at Elbow Vallev # 3.73m falling 12:24 AM MON 10/01/11 6.15m falling Condamine R at Murrays Br # 12:38 AM MON 10/01/11 Condamine R @ Warwick(Scots Col.) * 2.97m falling 11:00 PM SUN 09/01/11 Condamine R at Warwick # 4.84m falling 11:53 PM SUN 09/01/11 Glengallan Ck near Backwater Ck # 2.65m rising 12:15 AM MON 10/01/11 Condamine R at Tummaville * 6.87m falling 11:00 PM SUN 09/01/11 Condamine R at Centenary Br 6.87m falling slowly 06:00 PM SUN 09/01/11 North Condamine R at Lone Pine * 3.13m rising 11:00 PM SUN 09/01/11 Oakey Ck at Fairview * 3.75m falling 11:00 PM SUN 09/01/11 Condamine R at Loudoun Br * 5.38m rising 11:00 PM SUN 09/01/11 Myall Ck at Dalby # 2.39m rising 12:52 AM MON 10/01/11 Condamine R at Warra-Kogan Rd Br 11.18m falling slowly 06:00 PM SUN 09/01/11 Condamine R at Chinchilla Weir TW * 11.44m rising 11:40 PM SUN 09/01/11 Condamine R at Condamine 8.35m falling slowly 04:00 PM SUN 09/01/11 Condamine R at Cotswold * 11:40 PM SUN 09/01/11 12.97m falling Balonne R at Warkon 11.07m falling slowly 09:00 PM SUN 09/01/11 Yuleba Ck at Yuleba Forestry * 2.34m falling 11:40 PM SUN 09/01/11 Balonne R at Surat * (auto) 11.13m falling 11:50 PM SUN 09/01/11 Balonne R at Surat (manual) 11.65m falling slowly 08:00 PM SUN 09/01/11 Bungil Ck at Roma 2.2m steady 07:00 PM SUN 09/01/11 Balonne R at Weribone * 12.62m falling 11:40 PM SUN 09/01/11 Balonne R at Warroo 14.5m falling slowly 05:00 PM SUN 09/01/11 Maranoa R at Old Cashmere * 3.6m steady 11:00 PM SUN 09/01/11 Balonne R at St George (manual) 13.2m steady 09:00 PM SUN 09/01/11 12.81m falling 11:30 PM SUN 09/01/11 Balonne R at St George * (auto) Balonne R at Whyenbah 8.1m steady 09:00 AM SUN 09/01/11 Culgoa R at Woolerbilla * 10:10 PM SUN 09/01/11 6.39m rising Balonne R Minor at Dirranbandi 5.3m rising slowly 06:00 AM SUN 09/01/11 Narran R at Dirranbandi-Hebel Rd * 5.26m steady 03:00 PM SUN 09/01/11 Ballandool R at Hebel-Bollon Rd * 3.71m steady 08:00 PM SUN 09/01/11 Bokhara R at Hebel * 1.87m rising 08:20 PM SUN 09/01/11

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on



telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:00 am on Monday 10 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, West Bellthorpe recorded 343mm, Maleny 337mm, and Lindfield 313mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 6:13 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfalls have eased in the catchment of Myall Creek during the last 6 hours, although further rain periods will continue today. At 6am, Dalby was 3 metres and rising. Dalby is expected to reach about 3.5 metres by middday today, with possible further rises during the afternoon depending on upstream river levels and further rain.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine and Oakey Creek during Monday into Tuesday. Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Warra-Kogan Road Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing in the Upper Condamine with river levels at Warwick falling below minor flood level. Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.

MYALL CREEK:

Rainfalls have eased in the catchment of Myall Creek during the last 6 hours, although further rain periods will continue today. At 6am, Dalby was 3 metres and rising. Dalby is expected to reach about 3.5 metres by middday today, with possible further rises during the afternoon depending on upstream river levels and further rain.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with some renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6am Monday, the Balonne River at St George was 13.2 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) until midweek.



High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi area by mid-week and in the Hebel area later this week.

Predicted River Heights/Flows:

Myall Creek at Dalby: Reach 3.5 metres (major flood level) by midday Monday

Balonne River at:

St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 11am Monday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarnev # 1.5m falling 05:23 AM MON 10/01/11 Condamine R at Elbow Valley # 3.68m steady 05:08 AM MON 10/01/11 Condamine R at Murrays Br # 5.95m falling 05:12 AM MON 10/01/11 Condamine R @ Warwick(Scots Col.) * 2.87m falling 03:00 AM MON 10/01/11 Condamine R at Warwick # 4.74m falling 04:35 AM MON 10/01/11 Condamine R at Tummaville * 6.72m falling 03:00 AM MON 10/01/11 Condamine R at Centenary Br 6.8m falling slowly 05:00 AM MON 10/01/11 North Condamine R at Lone Pine * 3.16m falling 03:00 AM MON 10/01/11 Oakey Ck at Fairview * 3.98m rising 03:00 AM MON 10/01/11 Condamine R at Loudoun Br * 5.55m rising 03:00 AM MON 10/01/11 Myall Ck at Dalby # 3.00m rising 06:00 AM MON 10/01/11 Condamine R at Warra-Kogan Rd Br 11.18m falling slowly 06:00 PM SUN 09/01/11 Condamine R at Chinchilla Weir TW * 11.53m rising 02:40 AM MON 10/01/11 Condamine R at Condamine 8.35m falling slowly 04:00 PM SUN 09/01/11 Condamine R at Cotswold * 12.88m falling 02:50 AM MON 10/01/11 Balonne R at Warkon 11.07m falling slowly 09:00 PM SUN 09/01/11 Yuleba Ck at Yuleba Forestry * 2.34m falling 11:40 PM SUN 09/01/11 Balonne R at Surat * (auto) 11.12m falling 02:50 AM MON 10/01/11 Balonne R at Surat (manual) 11.65m falling slowly 08:00 PM SUN 09/01/11 Bungil Ck at Roma 2.2m steady 07:00 PM SUN 09/01/11 Balonne R at Weribone * 12.6m falling 02:50 AM MON 10/01/11 Balonne R at Warroo 14.5m falling slowly 05:00 PM SUN 09/01/11 Maranoa R at Old Cashmere * 3.6m steady 02:00 AM MON 10/01/11 Balonne R at St George (manual) 13.2m steady 09:00 PM SUN 09/01/11 09:00 AM SUN 09/01/11 Balonne R at Whyenbah 8.1m steady Culgoa R at Woolerbilla * 04:00 AM MON 10/01/11 6.41m steady Balonne R Minor at Dirranbandi 5.3m rising slowly 06:00 AM SUN 09/01/11 Narran R at Dirranbandi-Hebel Rd * 5.26m rising slowly 03:00 PM SUN 09/01/11 Ballandool R at Hebel-Bollon Rd * 3.71m rising slowly 12:00 AM MON 10/01/11 Bokhara R at Hebel * 1.9m rising slowly 02:30 AM MON 10/01/11



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 9:16 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfall of up to 300mm has been been recorded in the catchments of the Upper Brisbane and Stanley Rivers during the 24 hours to 9am Monday. Major flood levels continue although levels are currently easing. Further rises are possible and the heavy rainfall is expected to continue today.

UPPER BRISBANE RIVER:

Moderate to major flooding continues in much of the upper Brisbane catchment. Flood levels are now easing although further rainfall is expected today.

STANLEY RIVER:

Major flood levels are easing in the Stanley River at Peachester and Woodford. Further rises and high level major flooding are possible during Monday as rainfall continues.

Next Issue:

The next warning will be issued by 4pm Monday.

Latest River Heights:

08:16 AM MON 10/01/11 Stanley R at Peachester # 7.36m falling Stanley R at Woodford # 8.28m falling 08:10 AM MON 10/01/11 Kilcoy Ck d/s Mt Kilcoy Weir * 6.36m falling 06:00 AM MON 10/01/11 Kilcov Ck d/s Mt Kilcov Weir # 5.92m steady 08:16 AM MON 10/01/11 102.84m rising Stanley R at Somerset Dam HW # 08:18 AM MON 10/01/11 Cooyar Ck at Cooyar Ck # 08:18 AM MON 10/01/11 6.36m falling Brisbane R at Linville * 06:00 AM MON 10/01/11 7.54m falling Brisbane R at Linville # 6.94m falling 08:15 AM MON 10/01/11 Brisbane R at Devon Hills # 8.25m falling 08:19 AM MON 10/01/11 Emu Ck at Boat Mountain * 7.01m falling 07:28 AM MON 10/01/11 Emu Ck at Boat Mountain # 08:13 AM MON 10/01/11 6.62m falling Maronghi Ck at Glendale * 3.23m falling 07:17 AM MON 10/01/11 Brisbane R at Gregor Ck * 9.6m falling 07:30 AM MON 10/01/11 Brisbane R at Gregor Ck # 11.44m falling 08:17 AM MON 10/01/11 Cressbrook Ck at Rosentreters Br * 4.3m falling 07:20 AM MON 10/01/11 Cressbrook Ck at Rosentreters Br # 4.2m falling 08:18 AM MON 10/01/11 Esk Ck at Falls Rd * 4.05m steady 06:00 AM MON 10/01/11 Splityard Creek Dam # 166.1m rising 07:57 AM MON 10/01/11 Brisbane R at Wivenhoe Dam 68.55m falling slowly 09:00 AM SUN 09/01/11



Brisbane R at Wivenhoe Dam HW # 71.45m falling 08:18 AM MON 10/01/11 Brisbane R at Wivenhoe Dam HW # 71.47m rising 08:17 AM MON 10/01/11 Brisbane R at Wivenhoe Dam TW # 38.6m falling 08:18 AM MON 10/01/11 08:18 AM MON 10/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR COASTAL STREAMS FROM MARYBOROUGH TO THE NSW BORDER

Issued at 9:19 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

A rainband stretches from Maroochydore to the Beenleigh area and inland to Stanthorpe. Rainfall totals of between 150-250mm and up to 320mm have been recorded in the Sunshine Coast region in the past 24 hours. Rainfall in the past six hours has been between 25-50mm across the Sunshine Coast Rivers and streams and in the lower Brisbane River and tributary creeks.

Further rainfall is expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district.

Minor flood levels are occurring in:

- North Pine River at Youngs Crossing
- Enoggera Creek between Enoggera Dam and Kelvin Grove
- Woogaroo Creek at Opossum
- Oxley Creek at Archerfield
- Upper Logan River at Diekman's Bridge and in the Rathdowney area.

Further rises and flash flooding are likely in the creeks and streams around Brisbane and Ipswich associated with the heaviest rainfall.

Flood warnings are current for the Mary River, Sunshine Coast streams and the Upper Brisbane and Lower Brisbane rivers. A severe weather warning is also current for this region.

Next Issue:

The next warning will be issued at about 4:30pm Monday.

Latest River Heights:

nil.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE

Issued at 10:28 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek and along the Bremer River. Moderate flood levels are likely at Ipswich. Further heavy rainfall is forecast for the catchments of the Brisbane and Bremer Rivers and Warrill and Lockyer Creeks during Monday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday. At the Brisbane City Gauge, river levels of about 2.3 metres are expected with the high tides on Tuesday and Wednesday causing minor flooding.

LOCKYER CREEK:

A major flood peak is currently around Glenore Grove of around 13 metres. Rises to around 14.5 metres are expected at Lyons Bridge later today and around 15 metres at Rifle Range Road. Higher levels are possible as rainfall continues.

BREMER RIVER:

River level rises and moderate flooding continue in the Rosewood area. Further rises are expected downstream during the next 24 hours with moderate flood levels of at least 10 metres expected in the Bremer River at Ipswich early on Tuesday.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Minor flooding is expected at Savages and moderate flooding at Mt Crosby overnight tonight.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.3 metres with the high tides on Tuesday and Wednesday. Further rises are possible as rainfall continues.

Predicted River Heights/Flows:

Ipswich: Reach at least 9.5 metres (moderate) during the early hours of Tuesday.

Moggill: Reach around 8 metres (below minor) on Tuesday morning.

Jindalee: Reach at least 5 metres (below minor) during Tuesday.

Brisbane: Reach about 2.3 metres (minor) with the high tides on Tuesday and



Wednesday.

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 3:30pm Monday.

Latest River Heights:

Lockyer Ck at Gatton *	9.49m falling	08:20 AM MON 10/01/11
Laidley Ck at Laidley		08:55 AM MON 10/01/11
Laidley Ck at Showground We		
Laidley Ck at Warrego Hwy *		
Lockyer Ck at Glenore Grove	# 12.86m fallir	g 09:18 AM MON 10/01/11
Lockyer Ck at Lyons Br #	14.07m rising	09:17 AM MON 10/01/11
Lockyer Ck at Rifle Range Rd	* 13.4m rising	08:20 AM MON 10/01/11
Brisbane R at Lowood Pump	Stn # 13.21m ris	sing 09:13 AM MON 10/01/11
Brisbane R at Savages Cross	ing # 12.95m risi	ng 09:18 AM MON 10/01/11
Brisbane R at Burtons Br #		
Brisbane R at Kholo Br #		
Brisbane R at Mt Crosby #	13.43m rising	09:16 AM MON 10/01/11
Brisbane R at Colleges Cross	ing # 11.11m risir	ng 09:20 AM MON 10/01/11
Bremer R at Adams Br *	1.93m rising	08:30 AM MON 10/01/11
Bremer R at Stokes Crossing	# 2.3m rising	09:01 AM MON 10/01/11
Bremer R at Spressers Br #	5.02m falling	09:03 AM MON 10/01/11
Western Ck at Rosewood WW		
Bremer R at Rosewood #	5.06m falling	09:08 AM MON 10/01/11
Bremer R at Five Mile Br Wall		g 08:24 AM MON 10/01/11
Bremer R at Walloon DERM *	6.49m rising	08:00 AM MON 10/01/11
Warrill Ck at Harrisville#	2.65m steady	08:17 AM MON 10/01/11
Warrill Ck at Amberley DNR *	5.34m rising	08:10 AM MON 10/01/11
Bremer R at Ipswich #	5.7m rising	09:08 AM MON 10/01/11
Brisbane R at Moggill #	4.72m rising	09:14 AM MON 10/01/11
Brisbane R at Jindalee Br #	2.8m rising	09:17 AM MON 10/01/11
Brisbane R at City Gauge #	0.65m rising	09:09 AM MON 10/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 10:53 AM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfalls have eased in the catchment of Myall Creek during the last 6 hours, although further rain periods will continue today. At 11am, Dalby was 3.4 metres and rising. Dalby is expected to reach about 3.5 metres by middday today, with possible further rises during the afternoon depending on upstream river levels and further rain.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine and Oakey Creek during Monday into Tuesday. Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Warra-Kogan Road Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Minor to moderate flooding is generally easing in the Upper Condamine with river levels at Warwick falling below minor flood level. Renewed rises and flooding is likely in tributary creeks and at Killarney to Warwick during the next 2 days with the forecast heavy rainfall.

MYALL CREEK:

Rainfalls have eased in the catchment of Myall Creek during the last 6 hours, although further rain periods will continue today. At 11am, Dalby was 3.4 metres and rising. Dalby is expected to reach about 3.5 metres by midday today, with possible further rises during the afternoon depending on upstream river levels and further rain.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with some renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 9am Monday, the Balonne River at St George was 13.18 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) until mid-week.

High level major flooding is expected to continue in the Balonne River system



downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi area by mid-week and in the Hebel area later this week.

Predicted River Heights/Flows:

Myall Creek at Dalby: Reach 3.5 metres (major flood level) by midday Monday

Balonne River at: St George (manual) Remain above 13 metres during the next few days.

Next Issue:

The next warning will be issued at about 5pm Monday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 4.1m falling 10:38 AM MON 10/01/11 Condamine R at Elbow Valley # 4.78m rising 10:34 AM MON 10/01/11 Condamine R at Murrays Br # 5.95m rising 10:26 AM MON 10/01/11 Condamine R @ Warwick(Scots Col.) * 2.75m steady 09:24 AM MON 10/01/11 4.69m steady Condamine R at Warwick # 08:34 AM MON 10/01/11 Glengallan Ck near Backwater Ck # 2.15m falling 09:36 AM MON 10/01/11 Condamine R at Tummaville * 6.56m falling 09:00 AM MON 10/01/11 Condamine R at Centenary Br 6.77m falling slowly 09:00 AM MON 10/01/11 North Condamine R at Lone Pine * 3.11m rising 09:00 AM MON 10/01/11 Oakey Ck at Fairview * 5.83m rising 09:30 AM MON 10/01/11 Condamine R at Loudoun Br * 5.94m rising 09:00 AM MON 10/01/11 Myall Ck at Dalby # 3.39m rising 10:26 AM MON 10/01/11 Condamine R at Warra-Kogan Rd Br 10.86m falling 09:00 AM MON 10/01/11 Condamine R at Chinchilla Weir TW * 11.65m rising 08:10 AM MON 10/01/11 Condamine R at Condamine 8.35m steady 08:00 AM MON 10/01/11 Condamine R at Cotswold * 12.73m falling 08:30 AM MON 10/01/11 Balonne R at Warkon 10.99m falling slowly 09:00 AM MON 10/01/11 Yuleba Ck at Yuleba Forestry * 08:00 AM MON 10/01/11 2.24m falling Balonne R at Surat * (auto) 11.07m falling 08:50 AM MON 10/01/11 Balonne R at Surat (manual) 11.55m falling slowly 06:00 AM MON 10/01/11 Bungil Ck at Roma 2.2m steady 07:00 PM SUN 09/01/11 Balonne R at Weribone * 12.54m falling 08:50 AM MON 10/01/11 Balonne R at Warroo 14.9m falling slowly 06:00 AM MON 10/01/11 Maranoa R at Old Cashmere * 3.57m steady 08:00 AM MON 10/01/11 Balonne R at St George (manual) 13.18m falling 09:00 AM MON 10/01/11 Balonne R at St George * (auto) 12.8m falling 08:50 AM MON 10/01/11 Balonne R at Whyenbah 8.11m steady 09:00 AM MON 10/01/11 Culgoa R at Woolerbilla * 07:00 AM MON 10/01/11 6.42m steady 06:00 AM MON 10/01/11 Balonne R Minor at Dirranbandi 5.3m steady Narran R at Dirranbandi-Hebel Rd * 5.3m steady 08:00 AM MON 10/01/11 Ballandool R at Hebel-Bollon Rd * 3.74m rising 08:00 AM MON 10/01/11 Bokhara R at Hebel * 1.92m rising 08:00 AM MON 10/01/11 *automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:05 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 4:16 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to renewed rises in the Lockyer Creek catchment. Rainfall is forecast to continue this evening and a return to moderate to major flood levels is expected overnight and during Tuesday. Major flood levels are expected to continue at Lyons Bridge with rises above 15 metres likely during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley overnight.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.



(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday.

Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 9pm Monday.

Latest River Heights:

Lockyer Ck at Gatton #	10.36m steady	03:04 PM MON 10/01/11
Laidley Ck at Laidley 6	m rising 02:4	15 PM MON 10/01/11
Laidley Ck at Showground Weir	# 6.98m rising	g 03:07 PM MON 10/01/11
Laidley Ck at Warrego Hwy *	5.43m falling	01:00 PM MON 10/01/11
Lockyer Ck at Glenore Grove #	11.36m fallin	g 03:05 PM MON 10/01/11
Lockyer Ck at Lyons Br #	14.79m rising	03:02 PM MON 10/01/11
Lockyer Ck at Rifle Range Rd *	13.4m rising	08:20 AM MON 10/01/11
Brisbane R at Lowood Pump St	n # 14.13m fal	ling 03:07 PM MON 10/01/11
Brisbane R at Savages Crossing	g # 14.15m risi	ng 03:09 PM MON 10/01/11
Brisbane R at Burtons Br #	10.88m rising	03:05 PM MON 10/01/11
Brisbane R at Kholo Br #		
Brisbane R at Mt Crosby #		
Brisbane R at Colleges Crossing		
•		03:09 PM MON 10/01/11
		03:02 PM MON 10/01/11
Bremer R at Five Mile Br Walloo		U
Warrill Ck at Harrisville # 3	.82m rising 03	:05 PM MON 10/01/11
Warrill Ck at Amberley DNR *	5.34m rising	
Bremer R at Ipswich #		
Brisbane R at Moggill #		
Brisbane R at Jindalee Br #		02:50 PM MON 10/01/11
Brisbane R at City Gauge #	1.36m falling	03:09 PM MON 10/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

Broadcasters are directed to use the SEWS for this warning.

TOP PRIORITY

FLASH FLOOD WARNING FOR LOCKYER CREEK

Issued at 5:00 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Very heavy rainfalls have been recorded in the Toowoomba area and caused extreme flash flooding. This rainfall is also causing extreme rises in the upper Lockyer Creek at Helidon with very fast and dangerous rises possible downstream at Gatton in the next few hours. Rises will extend downstream of Gatton during tonight.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Further rises and flash flooding are likely in the creeks and streams around Brisbane and Ipswich associated with the heaviest rainfall.

Flood warnings are current for the Mary River, Sunshine Coast streams and the Upper Brisbane and Lower Brisbane rivers. A severe weather warning is also current for this region.

Next Issue:

The next warning will be issued at about 8:30pm Monday.

Latest River Heights:

nil.



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:05 pm on Monday 10 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards and gradually ease in the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district later on Tuesday.

Rainfall has eased in far southern parts of the Wide Bay and Burnett district and therefore the warning for this district is now CANCELLED.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 5:22 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Rainfall of between 50-75mm has been been recorded in the Cressbrook Creek catchment with localised totals in excess of 125mm. Major flood levels continue at Gregor Creek and at Rosentretter's Bridge although levels are currently easing. Further rises are possible as heavy rainfall is forecast into Tuesday.

UPPER BRISBANE RIVER:

Moderate to major flooding continues in much of the upper Brisbane catchment. Flood levels are now easing although further rainfall is forecast for the remainder of today and into Tuesday.

STANLEY RIVER:

Minor to moderate flood levels are easing in the Stanley River at Peachester and Woodford. Further rises are possible during the next 24 hours as rainfall continues.

Next Issue:

The next warning will be issued by 9am Tuesday.

Latest River Heights:

Stanley R at Peachester # 7.06m falling 05:07 PM MON 10/01/11 Stanley R at Woodford # 7.38m falling 05:07 PM MON 10/01/11 Kilcoy Ck d/s Mt Kilcoy Weir # 5.55m steady 05:09 PM MON 10/01/11 Stanley R at Somerset Dam HW # 103.34m rising 04:20 PM MON 10/01/11 Cooyar Ck at Cooyar Ck # 4.48m falling 05:09 PM MON 10/01/11 Brisbane R at Linville # 4.94m falling 05:09 PM MON 10/01/11 Brisbane R at Devon Hills # 6.11m falling 05:02 PM MON 10/01/11 5.84m rising 05:01 PM MON 10/01/11 Emu Ck at Boat Mountain # Maronghi Ck at Glendale * 4.37m rising 04:30 PM MON 10/01/11 Brisbane R at Gregor Ck # 8.62m steady 04:53 PM MON 10/01/11 Cressbrook Ck at Rosentreters Br # 6.66m falling 05:06 PM MON 10/01/11 3.95m falling 10:40 AM MON 10/01/11 Esk Ck at Falls Rd * Splityard Creek Dam # 162.7m rising 05:06 PM MON 10/01/11 Brisbane R at Wivenhoe Dam HW # 72.83m falling 05:07 PM MON 10/01/11 Brisbane R at Wivenhoe Dam TW # 39.92m rising 05:03 PM MON 10/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*,#} from automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 5:25 PM on Monday the 10th of January 2011

by the Bureau of Meteorology, Brisbane.

Rainfalls have eased in the catchment of Myall Creek during Monday although although further rain periods are likely during tonight and Tuesday morning. At 5pm, Myall Creek at Dalby was 3.74 metres and rising slowly at major flood level. A peak is expected at Dalby in the next 3 to 6 hours but renewed rises are still possible overnight Monday but dependent on further heavy rainfall.

Rises have been recorded during Monday in the Upper Condamine with moderate flood levels expected at Warwick overnight Monday.

Very heavy rainfall and flash flooding has been recorded in the Toowoomba area during Monday afternoon. Rises are expected in Gowrie Creek to Oakey during tonight and Tuesday.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine and Oakey Creek during Monday into Tuesday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Warra-Kogan Road Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Rises and major flooding has developed in the upper Condamine river at Murrays Bridge. Rises to 6 metres (moderate flood level) are expected downstream at Warwick during Monday night.

MYALL CREEK:

Rainfalls have eased in the catchment of Myall Creek during Monday although further rain periods are likely during tonight and Tuesday morning. At 5pm, Myall Creek at Dalby was 3.74 metres and rising at major flood level. This level is about 0.2 metres higher then peak recorded on 27th December 2010.

A peak is expected at Dalby in the next 3 to 6 hours but renewed rises are still possible overnight Monday but dependent on further heavy rainfall.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with some renewed rises expected during the next several days. The river levels will however remain metres below the record peaks recorded during the first week of January.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with some renewed rises expected over the next several days. River levels in the area



between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 3pm Monday, the Balonne River at St George was 13.14 metres and holding at its peak which was reached during Saturday. Major flood levels will remain high (above 13 metres) until mid-week.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek. The peak flow will be in the Dirranbandi during Wednesday and in the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at Warwick Reach 6 metres (moderate) during Monday night.

Myall Creek at Dalby Major flood peak in the next 3 to 6 hours. Remain high during Tuesday.

Balonne R at St George (manual) Remain above 13 metres for the next few days.

Next Issue:

The next warning will be issued at about 10pm Monday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:



02:30 PM MON 10/01/11 Balonne R at St George * (auto) 12.77m rising Balonne R at Whyenbah 8.11m steady 09:00 AM MON 10/01/11 Culgoa R at Woolerbilla * 6.43m steady 01:00 PM MON 10/01/11 Balonne R Minor at Dirranbandi 5.3m steady 06:00 AM MON 10/01/11 Narran R at Dirranbandi-Hebel Rd * 5.31m steady 03:00 PM MON 10/01/11 Ballandool R at Hebel-Bollon Rd * 3.76m steady 01:10 PM MON 10/01/11 Bokhara R at Hebel * 1.97m rising 01:40 PM MON 10/01/11

*,# automatic station



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 6:12 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

LOCKYER CREEK: Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Laidley Creek at Mulgowie. These will extend to Gatton and areas downstream during the evening and overnight. Severe record major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Laidley Creek at Mulgowie. These will extend to Gatton and areas downstream during the evening and overnight. High level record major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley



overnight.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 9pm Monday.

Latest River Heights:

Lockyer Ck at Helidon * 12.66m rising 02:50 PM MON 10/01/11 12.68m steady 03:02 PM MON 10/01/11 Lockyer Ck at Helidon # Flagstone Ck at Brown-Zirbels Rd * 3.27m falling 08:20 AM MON 10/01/11 Sandy Creek at Sandy Creek Road # 3.8m falling 05:22 PM MON 10/01/11 2.28m falling 08:10 AM MON 10/01/11 Ma Ma Ck at Harm's * Tenthill Ck at Tenthill * 4.53m rising 04:10 PM MON 10/01/11 Lockyer Ck at Gatton * 9.07m rising 05:30 PM MON 10/01/11 Lockyer Ck at Gatton # 13.22m rising 05:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 7.88m rising 04:00 PM MON 10/01/11 Laidley Ck at Laidley 6m rising 02:45 PM MON 10/01/11 Laidley Ck at Showground Weir * 8.95m rising 05:30 PM MON 10/01/11 Laidley Ck at Showground Weir # 9m rising 05:31 PM MON 10/01/11 Laidley Ck at Warrego Hwy * 5.28m falling 03:00 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 10.78m falling 05:24 PM MON 10/01/11 14.93m rising 05:05 PM MON 10/01/11 Lockyer Ck at Lyons Br #



Lockyer Ck at Rifle Range Rd * 14.85m rising 05:30 PM MON 10/01/11 Lockyer Ck at O'Reilly's Weir # 16.38m rising 05:29 PM MON 10/01/11 Brisbane R at Lowood Pump Stn # 14.53m falling 05:28 PM MON 10/01/11 Brisbane R at Savages Crossing # 14.37m rising 05:29 PM MON 10/01/11 Brisbane R at Burtons Br # 11.08m rising 05:23 PM MON 10/01/11 Brisbane R at Kholo Br # 6.63m rising 05:28 PM MON 10/01/11 Brisbane R at Mt Crosby # 14.64m rising 05:31 PM MON 10/01/11 Brisbane R at Mt Crosby # 14.08m falling 04:39 PM MON 10/01/11 Brisbane R at Colleges Crossing # 12.41m rising 05:33 PM MON 10/01/11 Bremer R at Stokes Crossing # 4.6m falling 05:20 PM MON 10/01/11 Warrill Ck at Churchbank Weir * 2.35m rising 05:30 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.6m rising 05:26 PM MON 10/01/11 Bremer R at One Mile Br # 11.8m steady 05:03 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 9.28m rising 04:33 PM MON 10/01/11 Bremer R at Ipswich # 6.85m steady 05:27 PM MON 10/01/11 Brisbane R at Moggill # 5.87m rising 05:18 PM MON 10/01/11 Brisbane R at Jindalee Br # 3.75m steady 04:07 PM MON 10/01/11 Brisbane R at City Gauge # 0.81m falling 05:21 PM MON 10/01/11

^{*}automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts.

Issued at 6:30 pm on Monday 10 January 2011

Synoptic Situation: At 6pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts this evening. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

Broadcasters in the Lockyer Valley area are directed to use the SEWS for this warning.

TOP PRIORITY

FLASH FLOOD WARNING FOR LOCKYER CREEK

Issued at 8:37 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Very heavy rainfalls have been recorded in the Toowoomba, Crows Nest and Gatton area and have caused extreme rises in the upper Lockyer Creek between Helidon and Gatton with the peak currently arriving in the Glenore Grove area.

Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood.

Very fast and dangerous rises are occurring downstream of Gatton to Glenore Grove and will extend downstream to Lyons Bridge and O'Reilly Weir during Monday night and Tuesday morning.

Contact the SES on 132 500 for emergency assistance if required.

Next Issue:

The next warning will be issued at about midnight Monday.



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST **SEVERE WEATHER WARNING**

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 7:50 pm on Monday 10 January 2011

Synoptic Situation: At 7pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts this evening and overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/gld] for further information.

The State Emergency Service advises that people in the affected area should:

- avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 9:44 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

LOCKYER CREEK: Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Gatton and Laidley Creek at Mulgowie. Lockyer Creek at Gatton reached 19 metres, which is more than 2.5 metres above the previous record.

Rapid stream rises are occurring at Glenore Grove, and the river has reached 14.42 metres at 9pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.

Stream rises in the Lockyer Creek downstream are expected overnight, with the main flood waters reaching Lyons Bridge overnight.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment at Helidon and Gatton and Laidley Creek at Mulgowie. These will extend to Lyons Bridge in the next few hours and areas downstream later Monday and early Tuesday. High level major flooding is expected in areas downstream of Gatton overnight and during Tuesday.

BREMER RIVER:

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.



The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley overnight.

MIDDLE AND LOWER BRISBANE:

SEQwater advises releases from Wivenhoe Dam will increase during Monday. Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.

The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday. Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about midnight Monday.

Latest River Heights:

Lockyer Ck at Helidon * 02:50 PM MON 10/01/11 12.66m rising Flagstone Ck at Brown-Zirbels Rd * 4.28m falling 08:40 PM MON 10/01/11 Sandy Creek at Sandy Creek Road # 2.85m falling 08:49 PM MON 10/01/11 Ma Ma Ck at Harm's * 2.28m falling 08:10 AM MON 10/01/11 Tenthill Ck at Tenthill * 4.52m falling 08:40 PM MON 10/01/11 Lockyer Ck at Gatton * 18.92m rising 18:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 6.68m falling 07:30 PM MON 10/01/11 Laidley Ck at Laidley 8.6m rising slowly 06:00 PM MON 10/01/11 Laidley Ck at Showground Weir # 9.22m rising 08:58 PM MON 10/01/11



Laidley Ck at Warrego Hwy * 5.38m rising 08:00 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 14.42m rising 08:58 PM MON 10/01/11 Lockyer Ck at Lyons Br # 15.07m rising 08:56 PM MON 10/01/11 Lockyer Ck at Rifle Range Rd * 14.99m rising 08:40 PM MON 10/01/11 Lockyer Ck at O'Reilly's Weir # 17.14m rising 08:55 PM MON 10/01/11 Brisbane R at Lowood Pump Stn # 15.17m falling 08:58 PM MON 10/01/11 Brisbane R at Savages Crossing * 14.76m falling 08:40 PM MON 10/01/11 Brisbane R at Savages Crossing # 14.87m steady 08:53 PM MON 10/01/11 Brisbane R at Burtons Br # 11.44m rising 08:47 PM MON 10/01/11 Brisbane R at Kholo Br # 7.09m rising 08:47 PM MON 10/01/11 Brisbane R at Mt Crosby # 15.05m rising 08:57 PM MON 10/01/11 Brisbane R at Colleges Crossing # 12.91m rising 09:00 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.92m falling 08:56 PM MON 10/01/11 Bremer R at One Mile Br # 12.2m rising 08:59 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 9.58m rising 08:27 PM MON 10/01/11 Bremer R at Ipswich # 7.2m rising 08:56 PM MON 10/01/11 Brisbane R at Moggill # 6.12m rising 08:53 PM MON 10/01/11 Brisbane R at Jindalee Br # 3.75m steady 07:07 PM MON 10/01/11 Brisbane R at City Gauge * 0.41m steady 08:40 PM MON 10/01/11



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM Issued at 10:32 PM on Monday the 10th of January 2011

by the Bureau of Meteorology, Brisbane.

Major flood levels have steadied in Myall Creek at Dalby and a moderate flood peak is expected in the upper Condamine River at Warwick by midnight Monday. Fast rises and major flooding is developing in Hodgson and Dalrymple Creeks and is expected in the Condamine River downstream of Warwick to Tummaville during Tuesday and Wednesday.

Heavy rainfall of up to 200 millimetres has been recorded in the catchment of Charleys Creek just upstream of the Chinchilla area and fast rises to major flood levels are expected at Chinchilla during Tuesday.

Very heavy rainfall and flash flooding has been recorded in the Toowoomba area during Monday afternoon and rises are occurring in Gowrie Creek.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine, Myall Creek and Charleys Creek during Monday night and into Tuesday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Loudoun Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is easing in the upper Condamine River at Murrays Bridge. A moderate flood peak is expected in the upper Condamine River at Warwick by midnight Monday. Fast rises are occuring in the tributary streams downstream of Warwick with renewed rises and major flooding expected downstream to Tummaville during the next few days. These rises will extend downstream to Loudoun Bridge by the end of this week.

MYALL CREEK:

River levels have steadied at around 3.74 metres in Myall Creek at Dalby. This level is about 0.2 metres higher then peak recorded on 27th December 2010. Further heavy rainfall and renewed rises are possible at Dalby during tonight and Tuesday.

CHARLEYS CREEK:

Very heavy rainfall of up to 200 millimetres has been reported in the catchment of Charleys Creek in the area near Chinchilla. Fast rises will continue during tonight at Chinchilla with levels expected to reach 7 metres (major) during Tuesday morning and possibly above 7.5 metres later Tuesday.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:



Major flooding continues with renewed rises expected during the next several days. Flood levels could reach the high levels of late December 2010 at Condamine but it is too early to make peak predictions.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 9pm Monday, the Balonne River at St George was 13.12 metres and falling slowly. Major flood levels will remain high (above 13 metres) until mid-week.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow will be in the Dirranbandi during Wednesday and in the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at Warwick Peak up 6.5 metres (moderate) by midnight Monday.

Charleys Creek at Chinchilla Reach 7 metres (major) during Tuesday morning Possibly reach 7.5 metres Tuesday afternoon

Myall Creek at Dalby Further rises and high level major flooding possible if heavy rainfall returns to the catchment.

Balonne R at St George (manual) Remain above 13 metres for the next few days.

Next Issue

The next warning will be issued at about 7am Monday or earlier if required. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney #	2.75m falling	09:37 PM MON 10/01/11		
Condamine R at Elbow Valley #	5.43m rising	09:15 PM MON 10/01/11		
Condamine R at Murrays Br #	7.45m falling	09:39 PM MON 10/01/11		
Condamine R @ Warwick(Scots	Col.) * 4.62m risin	g 08:20 PM MON 10/01/11		
Condamine R at Warwick #	6.2m rising	04:41 PM MON 10/01/11		
Glengallan Ck near Backwater C	k # 4.55m falling	09:06 PM MON 10/01/11		
Condamine R at Tummaville *	7.1m rising	08:00 PM MON 10/01/11		
Condamine R at Centenary Br	6.72m falling sl	owly 06:00 PM MON 10/01/11		
North Condamine R at Lone Pine	* 3.12m falling	09:00 PM MON 10/01/11		
Oakey Ck at Fairview * 6	3.39m steady	08:00 PM MON 10/01/11		
Condamine R at Loudoun Br *	6.45m rising	08:00 PM MON 10/01/11		
Myall Ck at Dalby # 3.6	9m steady C	9:03 PM MON 10/01/11		
Condamine R at Warra-Kogan Rd Br 10.58m falling slowly 06:00 PM MON 10/01/11				
Condamine R at Chinchilla Weir TW * 11.96m rising 08:30 PM MON 10/01/11				
Charleys Ck at Chinchilla	1.93m rising	09:10 PM MON 10/01/11		



Condamine R at Condamine 9.55m rising fast 08:30 PM MON 10/01/11 Condamine R at Cotswold * 12.59m rising 08:00 PM MON 10/01/11 Balonne R at Warkon 10.99m falling slowly 09:00 AM MON 10/01/11 Yuleba Ck at Yuleba Forestry * 2.17m rising 08:10 PM MON 10/01/11 Balonne R at Surat * (auto) 10.92m rising 08:50 PM MON 10/01/11 Balonne R at Surat (manual) 11.55m falling slowly 06:00 AM MON 10/01/11 Balonne R at Weribone * 12.41m falling 08:50 PM MON 10/01/11 Balonne R at Warroo 14.9m falling slowly 06:00 AM MON 10/01/11 Maranoa R at Old Cashmere * 08:00 PM MON 10/01/11 3.57m steady Balonne R at St George (manual) 13.12m falling slowly 09:00 PM MON 10/01/11 Balonne R at St George * (auto) 12.74m falling 08:20 PM MON 10/01/11 Balonne R at Whyenbah 09:00 AM MON 10/01/11 8.11m steady Culgoa R at Woolerbilla * 07:30 PM MON 10/01/11 6.47m rising Balonne R Minor at Dirranbandi 06:00 AM MON 10/01/11 5.3m steady Narran R at Dirranbandi-Hebel Rd * 5.31m steady 03:00 PM MON 10/01/11 Ballandool R at Hebel-Bollon Rd * 3.8m steady 08:00 PM MON 10/01/11 Bokhara R at Hebel * 2.03m rising 08:30 PM MON 10/01/11

^{*,#} from automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 11:00 pm on Monday 10 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the far southeast of the Central Highlands and Coalfields district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during Tuesday.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts tonight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 1 hour to 11pm EST Monday, Monsildale and Mt Stanley [situated in northern parts of the Southeast Coast district] both received 58mm. In the 13 hours since 9am EST Monday, Redbank Creek received 132mm, Ballon 124mm and Mt Castle 103mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 12:06 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The main flood waters in the Lockyer Creek are now at Glenore Grove, with strong stream rises expected overnight and early Tuesday morning in the Lockyer Creek downstream of Glenore Grove.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently around Glenore Grove, with strong stream rises at Lyons Bridge expected in the next few hours. The Lockyer Creek at Glenore Grove has reached 14.60 metres at 11:30pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.

Renewed stream rises have commenced at the Lockyer River at Lyons Bridge with a peak between 16 and 16.5 metres expected early Tuesday morning.

BREMER RIVER:

The rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels between 5 and 6 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.



WARRILL CREEK

The rainfall during Monday has lead to increases in Warrill Creek with Amberley currently peaking around 6 metres.

MIDDLE AND LOWER BRISBANE:

Moderate flooding is developing at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres (minor) with the afternoon high tide on Tuesday. Reach about 3 metres (moderate) with the high tides on Wednesday.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 4am Tuesday.

Latest River Heights:

Lockyer Ck at Helidon # 12.68m steady 03:02 PM MON 10/01/11 Flagstone Ck at Brown-Zirbels Rd * 4.28m falling 08:40 PM MON 10/01/11 Sandy Creek at Sandy Creek Road # 2.45m rising 11:01 PM MON 10/01/11 Ma Ma Ck at Harm's * 2.28m falling 08:10 AM MON 10/01/11 4.07m falling Tenthill Ck at Tenthill * 10:30 PM MON 10/01/11 Lockyer Ck at Gatton * 18.92m rising 6:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 10:10 PM MON 10/01/11 5.63m falling Laidley Ck at Laidley 8.7m falling slowly 10:00 PM MON 10/01/11 Laidley Ck at Showground Weir # 8.56m falling 11:16 PM MON 10/01/11 Bill Gunn Dam # 110.1m steady 11:14 PM MON 10/01/11 Laidley Ck at Warrego Hwy * 5.8m rising 09:50 PM MON 10/01/11 Lockyer Ck at Glenore Grove # 11:12 PM MON 10/01/11 14.6m rising Lockyer Ck at Lyons Br # 15.17m rising 10:38 PM MON 10/01/11 Lockyer Ck at Rifle Range Rd * 14.99m rising 08:40 PM MON 10/01/11 Lockyer Ck at O'Reilly's Weir # 17.5m rising 11:16 PM MON 10/01/11 Brisbane R at Lowood Pump Stn # 15.45m rising 11:10 PM MON 10/01/11



Brisbane R at Savages Crossing # 15.25m falling 11:17 PM MON 10/01/11 Brisbane R at Burtons Br # 11:14 PM MON 10/01/11 11.8m rising Brisbane R at Kholo Br # 7.41m rising 11:15 PM MON 10/01/11 Brisbane R at Mt Crosby # 15.31m rising 11:15 PM MON 10/01/11 Brisbane R at Colleges Crossing # 13.21m rising 11:18 PM MON 10/01/11 Warrill Ck at Greens Rd Amberley # 5.94m rising 11:08 PM MON 10/01/11 Bremer R at One Mile Br # 12.75m rising 11:08 PM MON 10/01/11 Bremer R at Hancocks Br Brassall # 10.13m rising 11:17 PM MON 10/01/11 11:17 PM MON 10/01/11 Bremer R at Ipswich # 7.6m rising 11:14 PM MON 10/01/11 Brisbane R at Moggill # 6.42m rising Brisbane R at Jindalee Br # 3.9m rising 10:59 PM MON 10/01/11 Brisbane R at City Gauge # 11:09 PM MON 10/01/11 1.05m rising



Australian Government Bureau of Meteorology Queensland

TOP PRIORITY

FLASH FLOOD WARNING FOR LOCKYER CREEK

Issued at 12:19 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Further rainfall during Monday has led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton this evening before the station failed. This level is well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently around Glenore Grove, with strong stream rises at Lyons Bridge expected in the next few hours. The Lockyer Creek at Glenore Grove has reached 14.60 metres at 11:30pm. A peak in the next few hours is expected, with flood levels in excess of 15 metres possible.

Renewed stream rises have commenced at the Lockyer River at Lyons Bridge with a peak between 16 and 16.5 metres expected early Tuesday morning.

Contact the SES on 132 500 for emergency assistance if required.

Next Issue:

The next warning will be issued at about 4am Tuesday.

Latest River Heights:

nil.

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

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Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 4:06 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge, with strong stream rises expected during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane during Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

LOCKYER CREEK:

Extremely heavy rainfall during Monday led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton Monday evening before the station failed. This level was well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently arriving at Lyons Bridge, with strong stream rises expected in the next few hours. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood.

Renewed stream rises have commenced in Lockyer Creek at Lyons Bridge with a peak between 16 and 16.5 metres expected Tuesday morning. This is likely to be similar in level to the 1996 flood.

BREMER RIVER:

The Bremer River at Walloon has exceeded the moderate flood level. The Bremer River at Rosewood peaked at 5.8 metres around midnight monday.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

WARRILL CREEK

Warrill Creek at Amberley peaked at 5.98 metres around 9pm Monday.



MIDDLE AND LOWER BRISBANE:

Moderate flooding is developing at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres (minor) with the afternoon high tide on Tuesday. Reach about 3 metres (moderate) with the high tides on Wednesday.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

Next Issue:

The next warning will be issued at about 8am Tuesday.

Latest River Heights:

03:02 PM MON 10/01/11 Lockyer Ck at Helidon # 12.68m steady Flagstone Ck at Brown-Zirbels Rd * 3.49m falling 02:10 AM TUE 11/01/11 Sandy Creek at Sandy Creek Road # 2.15m falling 03:19 AM TUE 11/01/11 Ma Ma Ck at Harm's * 02:30 AM TUE 11/01/11 3.26m rising Tenthill Ck at Tenthill * 5.57m rising 02:40 AM TUE 11/01/11 Lockyer Ck at Gatton # 18.92m rising 06:30 PM MON 10/01/11 Laidley Ck at Mulgowie * 02:20 AM TUE 11/01/11 6.39m rising Laidley Ck at Laidley 8.7m falling slowly 10:00 PM MON 10/01/11 Laidley Ck at Showground Weir # 7.84m rising 03:25 AM TUE 11/01/11 Laidley Ck at Warrego Hwy * 6.41m rising 02:00 AM TUE 11/01/11 13.8m falling Lockyer Ck at Glenore Grove # 03:24 AM TUE 11/01/11 Lockyer Ck at Lyons Br # 03:23 AM TUE 11/01/11 15.55m rising Lockyer Ck at Rifle Range Rd * 15.39m rising 02:40 AM TUE 11/01/11 Lockyer Ck at O'Reilly's Weir # 18m falling 03:28 AM TUE 11/01/11 Brisbane R at Lowood Pump Stn # 15.93m falling 03:31 AM TUE 11/01/11 Brisbane R at Savages Crossing # 15.89m rising 03:29 AM TUE 11/01/11 Brisbane R at Burtons Br # 12.22m rising 03:29 AM TUE 11/01/11 Brisbane R at Kholo Br # 7.99m rising 03:29 AM TUE 11/01/11 Brisbane R at Mt Crosby # 15.82m steady 03:30 AM TUE 11/01/11 Brisbane R at Mt Crosby # 14.08m falling 04:39 PM MON 10/01/11 03:32 AM TUE 11/01/11 Brisbane R at Colleges Crossing # 13.91m rising



03:11 AM TUE 11/01/11 Bremer R at Rosewood# 5.56m falling Bremer R at Five Mile Br Walloon # 6.4m rising 03:15 AM TUE 11/01/11 Warrill Ck at Greens Rd Amberley # 5.84m falling 03:29 AM TUE 11/01/11 Bremer R at One Mile Br # 13.75m rising 03:31 AM TUE 11/01/11 Bremer R at Hancocks Br Brassall # 11.33m rising 03:22 AM TUE 11/01/11 Bremer R at Ipswich # 03:31 AM TUE 11/01/11 8.55m rising Brisbane R at Moggill # 7.07m rising 03:29 AM TUE 11/01/11 Brisbane R at Jindalee Br # 4.5m rising 03:29 AM TUE 11/01/11 Brisbane R at City Gauge # 1.4m falling 03:15 AM TUE 11/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLASH FLOOD WARNING FOR LOCKYER CREEK

Issued at 4:10 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Extremely heavy rainfall during Monday led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton Monday evening before the station failed. This level was well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently arriving at Lyons Bridge, with strong stream rises expected in the next few hours. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood.

Renewed stream rises have commenced in Lockyer Creek at Lyons Bridge with a peak between 16 and 16.5 metres expected Tuesday morning. This is likely to be similar in level to the 1996 flood.

Contact the SES on 132 500 for emergency assistance if required.

Next Issue:

The next warning will be issued at about noon Tuesday.

Latest River Heights: nil.



IDQ20032 Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation

For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 5:05 am on Tuesday 11 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the Darling Downs and Granite Belt district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during the day.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts today. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract to the south by late today, before gradually easing.

Recent events: Rainfall since 9am Monday Monsildale 160mm, Mt Stanley 135mm, and Redbank Creek 134mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 6:55 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

A return to flood levels of around 3.7 metres is expected at Dalby later today. Moderate flooding is rising at Warwick. Fast rises and major flooding are developing in Hodgson and Dalrymple Creeks and are expected in the Condamine River downstream of Warwick to Tummaville during Tuesday and Wednesday.

Heavy rainfall of up to 200 millimetres has been recorded in the catchment of Charleys Creek just upstream of the Chinchilla area and fast rises to major flood levels are expected at Chinchilla during Tuesday.

Very heavy rainfall and flash flooding has been recorded in the Toowoomba area during Monday afternoon and rises continue in Gowrie Creek.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine, Myall Creek and Charleys Creek during Tuesday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Loudoun Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is rising again in the upper Condamine River at Murrays Bridge. Moderate flood leves will continue in the upper Condamine River at Warwick. It is not possible to foreacst a peak at this stage with continued rainfall.

Further heavy rainfall is occurring this morning and renewed fast rises are likely in the tributary streams downstream of Warwick with renewed rises and major flooding expected downstream to Tummaville during the next few days. These rises will extend downstream to Loudoun Bridge by the end of this week.

MYALL CREEK:

River levels have fallen slightly and are currently around 3.5 metres at 6am at Dalby. Levels are likley to fall slightly during today but further rises are forecast with levels returning to about 3.7 metres today.

CHARLEYS CREEK:

Very heavy rainfall of up to 200 millimetres was reported in the catchment yesterday. Fast rises will continue during today at Chinchilla with levels expected to reach 7 metres (major) during Tuesday and possibly above 7.5 metres.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with renewed rises expected during the next several days. Flood levels could reach the high levels of late December 2010 at

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Condamine but it is too early to make peak predictions.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6am Tuesday, the Balonne River at St George was 13.1 metres and falling slowly. Major flood levels will remain high (above 13 metres) until Wednesday.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow will be in the Dirranbandi during Wednesday and in the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at Warwick Peak up 6.5 metres (moderate) during Tuesday. Further rises are possible as rainfall continues.

Charleys Creek at Chinchilla Reach 7 metres (major) during Tuesday morning Possibly reach 7.5 metres Tuesday afternoon

Myall Creek at Dalby Fall this morning before rising again with a peak expected overnight to around 3.7 metres again.

Balonne R at St George (manual) Remain above 13 metres for the next few days.

Next Issue:

The next warning will be issued at about 2pm Tuesday or earlier if required. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney #	4.5m rising	06:10 AM TUE 11/01/11		
Condamine R at Elbow Valley #	5.53m rising	05:31 AM TUE 11/01/11		
Condamine R at Murrays Br #	7.5m rising	05:45 AM TUE 11/01/11		
Condamine R @ Warwick(Scots Col.) * 5.18m steady 05:08 AM TUE 11/01/11				
Glengallan Ck near Backwater (Ck # 4.5m falling	06:05 AM TUE 11/01/11		
Condamine R at Tummaville *	9.77m rising	05:00 AM TUE 11/01/11		
Condamine R at Centenary Br		05:00 AM TUE 11/01/11		
North Condamine R at Lone Pin	e * 3.76m rising	05:00 AM TUE 11/01/11		
Oakey Ck at Fairview *	6.39m steady	05:00 AM TUE 11/01/11		
Condamine R at Loudoun Br *	6.65m rising	05:00 AM TUE 11/01/11		
Myall Ck at Dalby # 3.	49m falling 06	6:08 AM TUE 11/01/11		
Condamine R at Warra-Kogan Rd Br 10.58m falling slowly 06:00 PM MON 10/01/11				
Condamine R at Chinchilla Weir TW * 12.18m rising 05:20 AM TUE 11/01/11				
Charleys Ck at Chinchilla	6.24m rising slowly	y 06:00 AM TUE 11/01/11		
Condamine R at Condamine	9.95m rising	12:00 AM TUE 11/01/11		
Condamine R at Cotswold *	12.74m steady	05:30 AM TUE 11/01/11		



05:30 AM TUE 11/01/11 Yuleba Ck at Yuleba Forestry * 2.46m rising Balonne R at Surat * (auto) 10.83m falling 05:30 AM TUE 11/01/11 Balonne R at Weribone * 12.34m steady 05:00 AM TUE 11/01/11 Maranoa R at Old Cashmere * 3.52m steady 05:20 AM TUE 11/01/11 Balonne R at St George (manual) 13.08m falling slowly 06:00 AM TUE 11/01/11 Balonne R at St George * (auto) 12.69m falling 05:20 AM TUE 11/01/11 Balonne R at Whyenbah 8.11m steady 09:00 AM MON 10/01/11 Culgoa R at Woolerbilla * 6.48m steady 04:00 AM TUE 11/01/11 Narran R at Dirranbandi-Hebel Rd * 5.31m steady 03:00 PM MON 10/01/11 Ballandool R at Hebel-Bollon Rd * 3.84m rising 11:40 PM MON 10/01/11 Bokhara R at Hebel * 2.1m steady 05:30 AM TUE 11/01/11

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 6:56 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Further widespread rainfall totals of between 30-60mm has been been recorded in the last 6 hours to 6am Tuesday across the upper Brisbane River catchment. Renewed rises and major flooding continues at Cooyar, Gregor and Cressbrook Creeks and along the upper Brisbane River at Linville at Devon Hills.

UPPER BRISBANE RIVER:

Further rises and major flooding continues in much of the upper Brisbane catchment during Tuesday morning. Further rainfall is forecast for the remainder of today.

STANLEY RIVER:

Renewed rises are occurring with the heavy rainfall in the Stanley River causing minor to moderate flooding at Peachester and Woodford. Rises are also occurring in Kilcoy Creek.

Weather Forecast:

Rain periods with possible thunder. Rain gradually easing later in the day.

Next Issue:

The next warning will be issued by 1pm Tuesday.

Latest River Heights:

Stanley R at Peachester # 06:22 AM TUE 11/01/11 5.52m falling Stanley R at Woodford # 6.42m rising 06:32 AM TUE 11/01/11 Kilcoy Ck d/s Mt Kilcoy Weir # 4.82m steady 06:32 AM TUE 11/01/11 Stanley R at Somerset Dam HW # 103.26m rising 06:29 AM TUE 11/01/11 Cooyar Ck at Cooyar Ck # 8.92m falling 06:33 AM TUE 11/01/11 Brisbane R at Linville # 9.42m falling 06:33 AM TUE 11/01/11 Brisbane R at Devon Hills # 06:03 AM TUE 11/01/11 10.81m rising Emu Ck at Boat Mountain # 7.66m rising 06:07 AM TUE 11/01/11 Maronghi Ck at Glendale * 2.81m steady 05:00 AM TUE 11/01/11 Brisbane R at Gregor Ck # 11.08m rising 06:32 AM TUE 11/01/11 Cressbrook Ck at Rosentreters Br # 5.68m rising 06:12 AM TUE 11/01/11 Esk Ck at Falls Rd * 05:40 AM TUE 11/01/11 3.71m rising Splityard Creek Dam # 162.7m rising 05:54 AM TUE 11/01/11 Brisbane R at Wivenhoe Dam HW # 73.59m rising 06:30 AM TUE 11/01/11 Brisbane R at Wivenhoe Dam TW # 41.9m falling 06:29 AM TUE 11/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*,#} denotes automatic station.



Australian Government Bureau of Meteorology Queensland

FINAL FLASH FLOOD WARNING FOR LOCKYER CREEK

Issued at 7:27 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Moderate to major flooding continues along Lockyer Creek during Tuesday morning, where the main flood waters are currently arriving at Lyons Bridge.

A flood warning is current for the Lockyer, Bremer, Warrill and Brisbane River below Wivenhoe including Brisbane City.

A Severe Weather Warning for heavy rainfall and localised flash flooding is also current.

Weather Forecast:

Rain periods with possible thunder. Rain gradually easing later in the day.

Next Issue:

This is the final warning. River Height Bulletins will continue to be issued.



IDQ20032 Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE WEATHER WARNING

for heavy rainfall leading to localised flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 8:00 am on Tuesday 11 January 2011

Synoptic Situation: At 8am AEST, an upper level low was located over the Darling Downs and Granite Belt district and is forecast to move to the southwest and slowly weaken.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to localised flash flooding and will worsen existing river flooding.

Currently, an intense slow moving band of rainfall extends from about Maroochydore to Warwick. Rainfall rates in this band are reaching 80 to 100 mm per hour.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The Severe Weather Warning for the southern parts of Wide Bay and Burnett and eastern Maranoa and Warrego and northwestern parts of Darling Downs and Granite Belt districts has been cancelled. However showers and thunderstorms will persist through the area and may produce heavy rainfall in these parts.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 9:28 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Continuing heavy rainfall in the Lockyer Creek catchment is causing very fast rises along Tenthill Creek.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge, with strong stream rises during Tuesday and levels of above 17 metres are forecast.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will increase levels in Brisbane during Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and moderate flood levels of 2.6 metres with the overnight high tide. Further rises to 3.5 metres (major) is expected with the high tide on Wednesday afternoon with higher levels likely on Thursday.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed along Tenthill Creek this morning. Renewed rises are likely in the lower catchment during Tuesday prolonging major flooding. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood. Renewed rises are likely at Glenore Grove today with a return to above 14 metres.

The main flood peak from Monday is currently approaching Lyons Bridge, with strong stream rises expected in the next few hours. A peak is expected above 17 metres at Lyons Bridge later today.

BREMER RIVER:

The Bremer River at Walloon has exceeded the moderate flood level. The Bremer River at Rosewood peaked at 5.8 metres around midnight Monday but renewed rises are expected as rainfall continues.

The Bremer River at Ipswich is expected to reach about 16 metres during Wednesday. Higher levels are expected.

WARRILL CREEK



Further rises are likely today as rainfall continues.

MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and moderate flood levels of 2.6 metres with the overnight high tide. Higher flood levels to 3.5 metres (major) are expected with the high tide on Wednesday afternoon. Levels above 3.5 metres are expected on Thursday.

(3.5 metres at the Brisbane City gauge is about 2.5 metres higher than the highest tide of the year at this location).

Predicted River Heights/Flows:

Ipswich: Reach at least 16 metres (major) during Wednesday; further rises.

Moggill: Reach at least 15 metres (moderate) during Wednesday; further rises.

Jindalee: Reach at least 9 metres (moderate) late Wednesday; further rises.

Brisbane City: Reach about 2.6 metres (moderate) with the overnight high tide tonight. Reach 3.5 metres (major) with the high tides on Wednesday. Higher levels are expected on Thursday with the high tides.

(3.5 metres at the Brisbane City gauge is about 2 metres higher than the highest tide of the year at this location).

Further rises are expected at all four locations with continued rainfall.

Next Issue:

The next warning will be issued at about 3:30pm Tuesday.

Latest River Heights:

Flagstone Ck at Brown-Zirbels Rd * 3.53m rising 05:40 AM TUE 11/01/11 Sandy Creek at Sandy Creek Road # 2.9m rising 06:56 AM TUE 11/01/11 Ma Ma Ck at Harm's * 2.96m rising 05:40 AM TUE 11/01/11 Tenthill Ck at Tenthill * 5.57m rising 05:46 AM TUE 11/01/11 Laidley Ck at Mulgowie * 05:00 AM TUE 11/01/11 6.83m rising Laidley Ck at Laidley 8.7m falling slowly 10:00 PM MON 10/01/11 Laidley Ck at Showground Weir * 8.74m rising 05:40 AM TUE 11/01/11 Laidley Ck at Warrego Hwy * 6.28m rising 05:00 AM TUE 11/01/11 Lockyer Ck at Glenore Grove # 13.48m rising 06:52 AM TUE 11/01/11 Lockyer Ck at Lyons Br # 16.09m rising 06:56 AM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 15.78m rising 05:40 AM TUE 11/01/11 Brisbane R at Lowood Pump Stn # 16.21m rising 06:55 AM TUE 11/01/11 Brisbane R at Savages Crossing # 16.17m rising 06:53 AM TUE 11/01/11 Brisbane R at Burtons Br # 06:50 AM TUE 11/01/11 12.92m rising 06:36 AM TUE 11/01/11 Brisbane R at Mt Crosby # 16.23m rising



Brisbane R at Colleges Crossing # 14.51m rising 06:57 AM TUE 11/01/11 Bremer R at Rosewood # 5.32m rising 06:41 AM TUE 11/01/11 Warrill Ck at Amberley DNR * 6.78m rising 05:20 AM TUE 11/01/11 Bremer R at Ipswich # 9.25m rising 06:50 AM TUE 11/01/11 Brisbane R at Moggill # 7.62m rising 06:45 AM TUE 11/01/11 Brisbane R at Jindalee Br # 4.75m rising 06:26 AM TUE 11/01/11 Brisbane R at City Gauge # 0.95m falling 06:30 AM TUE 11/01/11

^{*}automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST **SEVERE WEATHER WARNING**

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 11:00 am on Tuesday 11 January 2011

Synoptic Situation: At 10am AEST, an upper level low was located over the southern Queensland interior and is forecast to move to the southwest and continue weakening. A surface trough lying over the Southeast Queensland Coast is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently, an intense band of rainfall extends from about Tewantin to Warwick. Recent rainfall rates in this band have reached 80 to 100 mm per hour, particularly about the Brisbane and Lockyer Valleys. This rainfall band is expected to remain slow moving during the remainder of today.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 2pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 12:30 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

A return to flood levels of around 3.7 metres is expected at Dalby later today. Major flood levels are forecast of at least 7.3 metres at Warwick. Fast rises and major flooding are developing in Hodgson and Dalrymple Creeks and are expected in the Condamine River downstream of Warwick to Tummaville during Tuesday and Wednesday.

Heavy rainfall of up to 200 millimetres has been recorded in the catchment of Charleys Creek just upstream of the Chinchilla area and fast rises to major flood levels are expected at Chinchilla during Tuesday.

Very heavy rainfall and flash flooding has been recorded in the Toowoomba area during Monday afternoon and rises continue in Gowrie Creek.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine, Myall Creek and Charleys Creek during Tuesday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Loudoun Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is rising again in the upper Condamine River at Murrays Bridge. Moderate flood leves will continue in the upper Condamine River at Warwick. Major flood levels to at least 7.3 metres are foreacst during today and overnight tonight.

Further heavy rainfall is occurring this morning and renewed fast rises are likely in the tributary streams downstream of Warwick with renewed rises and major flooding expected downstream to Tummaville during the next few days. These rises will extend downstream to Loudoun Bridge by the end of this week.

MYALL CREEK:

River levels have fallen slightly and are currently around 3.5 metres at 6am at Dalby. Levels are likley to fall slightly during today but further rises are forecast with levels returning to about 3.7 metres today.

CHARLEYS CREEK:

Very heavy rainfall of up to 200 millimetres was reported in the catchment yesterday. Fast rises will continue during today at Chinchilla with levels expected to reach 7 metres (major) during Tuesday and possibly above 7.5 metres.



CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with renewed rises expected during the next several days. Flood levels could reach the high levels of late December 2010 at Condamine but it is too early to make peak predictions.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6am Tuesday, the Balonne River at St George was 13.1 metres and falling slowly. Major flood levels will remain high (above 13 metres) until Wednesday.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow will be in the Dirranbandi during Wednesday and in the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at Warwick Major flood levels of 7.3 metres later today and overnight. Further rises are possible as rainfall continues.

Charleys Creek at Chinchilla Reach 7 metres (major) during Tuesday morning Possibly reach 7.5 metres Tuesday afternoon

Myall Creek at Dalby Fall this morning before rising again with a peak expected overnight to around 3.7 metres again.

Balonne R at St George (manual) Remain above 13 metres for the next few days.

Next Issue:

The next warning will be issued at about 2pm Tuesday or earlier if required. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney #	6.25m rising	11:53 AM TUE 11/01/11
Condamine R at Elbow Valley	# 6.33m rising	12:20 PM TUE 11/01/11
Condamine R at Murrays Br #	8.15m rising	12:09 PM TUE 11/01/11
Condamine R @ Warwick(Sco	ots Col.) * 6.05m rising	g 11:30 AM TUE 11/01/11
Condamine R at Warwick #	6.2m rising	04:41 PM MON 10/01/11
Glengallan Ck near Backwate	r Ck # 4.75m falling	12:17 PM TUE 11/01/11
Condamine R at Tummaville *	10.07m falling	11:00 AM TUE 11/01/11
Condamine R at Centenary Br	7.1m rising	10:45 AM TUE 11/01/11
North Condamine R at Lone P	Pine * 4.42m rising	11:00 AM TUE 11/01/11
Oakey Ck at Fairview *	6.39m steady	11:00 AM TUE 11/01/11
Condamine R at Loudoun Br *	6.78m rising	11:00 AM TUE 11/01/11
Myall Ck at Dalby #	3.14m falling 12:	03 PM TUE 11/01/11



Condamine R at Warra-Kogan Rd Br 12.4m rising fast 12:00 PM TUE 11/01/11 Condamine R at Chinchilla Weir TW * 12.22m rising 11:30 AM TUE 11/01/11 Charleys Ck at Chinchilla 6.37m rising slowly 09:50 AM TUE 11/01/11 Condamine R at Condamine 10.35m rising slowly 07:00 AM TUE 11/01/11 Condamine R at Cotswold * 12.87m rising 11:40 AM TUE 11/01/11 Yuleba Ck at Yuleba Forestry * 2.49m falling 11:20 AM TUE 11/01/11 Balonne R at Surat * (auto) 10.73m rising 11:50 AM TUE 11/01/11 12.22m falling Balonne R at Surat (manual) 12:00 PM TUE 11/01/11 5m rising Bungil Ck at Roma 11:45 AM TUE 11/01/11 Balonne R at Weribone * 12.26m falling 11:50 AM TUE 11/01/11 11:50 AM TUE 11/01/11 3.43m falling Maranoa R at Old Cashmere * 11:45 AM TUE 11/01/11 Balonne R at St George (manual) 13.02m falling Balonne R at St George * (auto) 12.68m steady 11:00 AM TUE 11/01/11 Culgoa R at Woolerbilla * 10:00 AM TUE 11/01/11 6.49m steady Balonne R Minor at Dirranbandi 5.33m rising slowly 06:00 AM TUE 11/01/11 Narran R at Dirranbandi-Hebel Rd * 5.32m rising 12:00 PM TUE 11/01/11 Ballandool R at Hebel-Bollon Rd * 4.01m rising 11:20 AM TUE 11/01/11 Bokhara R at Hebel * 2.13m rising 10:10 AM TUE 11/01/11

^{*}automatic station



IDQ20800 Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE

Issued at 1:02 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Further very heavy rainfall totals of between 100-150mm has been been recorded in the 3 hours to 1pm Tuesday across the Stanley catchment above Somerset Dam. Fast rises and minor to moderate flooding is occurring along the Stanley River with higher levels expected. Moderate to major flooding has commenced to ease in Cooyar, Gregor and Cressbrook Creeks. Major flooding continues along the upper Brisbane River at Linville at Devon Hills where river levels are also easing.

UPPER BRISBANE RIVER:

The rainfall has eased in the upper Brisbane catchment above Wivenhoe Dam with less than 20mm recorded in the 3 hours to 1pm Tuesday. Whilst moderate to major flooding is generally easing, further rainfall is forecast for the remainder of today.

STANLEY RIVER:

Fast rises and minor to moderate flooding is occurring in the Stanley River above Somerset Dam, with further rises and higher flood levels expected during Tuesday afternoon with the continued very heavy rainfall. Creek rises continue in Kilcoy Creek.

Weather Forecast:

Rain periods with possible thunder. Moderate to heavy falls possible.

Next Issue:

The next warning will be issued at about 5pm Tuesday.

Latest River Heights:

Stanley R at Peachester # 8.1m rising 12:55 PM TUE 11/01/11 Stanley R at Woodford # 7.94m rising 12:56 PM TUE 11/01/11 Kilcoy Ck d/s Mt Kilcoy Weir # 5.6m steady 12:54 PM TUE 11/01/11 Stanley R at Somerset Dam HW # 103.7m rising 12:53 PM TUE 11/01/11 Coovar Ck at Coovar Ck # 6.78m falling 12:39 PM TUE 11/01/11 Brisbane R at Linville # 7.16m falling 12:57 PM TUE 11/01/11 Brisbane R at Devon Hills # 9.33m falling 12:46 PM TUE 11/01/11 9.32m steady 12:19 PM TUE 11/01/11 Emu Ck at Boat Mountain # Maronghi Ck at Glendale * 3.55m falling 11:50 AM TUE 11/01/11 Brisbane R at Gregor Ck # 12.96m falling 12:56 PM TUE 11/01/11 Cressbrook Ck at Rosentreters Br # 6.1m rising 12:54 PM TUE 11/01/11 Esk Ck at Falls Rd * 5.3m falling 11:40 AM TUE 11/01/11 Splityard Creek Dam # 162.25m rising 12:57 PM TUE 11/01/11 Brisbane R at Wivenhoe Dam HW # 74.23m falling 12:54 PM TUE 11/01/11 Brisbane R at Wivenhoe Dam TW # 44.8m rising 12:56 PM TUE 11/01/11 *,# denotes automatic station.

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



IDQ20032 Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 2:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 2 pm AEST, a surface trough was lying over the Southeast Queensland Coast and is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently the focus of the heaviest rainfall extends from about Maroochydore to Warwick, including the Brisbane and Lockyer Valleys and Ipswich area. Recent rainfall rates in this band have reached 60 to 80 mm per hour. This rainfall band is expected to remain slow moving during the remainder of today and gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 2:15 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

A return to flood levels of around 3.8 metres is expected at Dalby tonight. Major flood levels are forecast of at least 7.3 metres at Warwick during this afternoon. Major flooding has developed along the Condamine River downstream from Warwick to Tummaville and will continue during Wednesday.

Heavy rainfall of up to 200 millimetres has been recorded in the catchment of Charleys Creek just upstream of the Chinchilla area and fast rises and major flooding has developed at Chinchilla.

Very heavy rainfall and flash flooding has been recorded in the Toowoomba area during Monday afternoon and rises continue downstream in Gowrie Creek.

Further heavy rain is forecast for the south east Darling Downs including the catchments of the Upper Condamine and Myall Creek during Tuesday.

Moderate to major flooding extends along the Condamine and Balonne River system with major flooding extending from Loudoun Bridge to Dirranbandi.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is extending along the Condamine River from Murrays Bridge to Loudoun Bridge. Rises continue at Warwick where river levels are expected to reach at leat 7.3 metres during this afternoon.

Heavy rainfall continues to fall over the Upper Condamine area which may cause further rises.

MYALL CREEK:

River levels at Dalby have fallen and are currently around 3.1 metres at 1pm Tuesday. Further rises are expected with river levels returning to about 3.8 metres tonight.

CHARLEYS CREEK:

Very heavy rainfall of up to 200 millimetres was reported in the catchment yesterday. Fast rises will continue during today at Chinchilla with levels expected to reach 7 metres (major) later Tuesday and possibly above 7.5 metres overnight.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with renewed rises expected during the next several days. Flood levels should exceed 13 metres during Thursday and reach near the high levels of late December 2010 at Condamine, but it is too early to make peak



predictions.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. River levels in the area between Weribone and Barrackdale will be very slow to recede over the next few days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 11am Tuesday, the Balonne River at St George was 13.02 metres and falling slowly. Major flood levels will remain high (around 13 metres) until Wednesday.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow will be in the Dirranbandi during Wednesday and in the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at:

Warwick Major flood levels of 7.3 metres during this

afternoon. Further rises are possible as rainfall

continues.

Condamine Exceed 13 metres during Thursday. Reach higher

levels going into the weekend.

Charleys Creek at:

Chinchilla Reach 7 metres (major) during Tuesday night.

Possibly reach 7.5 metres overnight and Wednesday.

Myall Creek at:

Dalby Fall this morning before rising again with a peak

expected overnight to around 3.8 metres.

Balonne R at:

St George (manual) Remain above 13 metres for the next few days.

Next Issue:

The next warning will be issued at about 6pm Tuesday or earlier if required. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 6.25m rising 11:53 AM TUE 11/01/11
Condamine R at Elbow Valley # 6.48m rising 01:02 PM TUE 11/01/11
Condamine R at Murrays Br # 8.25m rising 01:07 PM TUE 11/01/11
Condamine R @ Warwick(Scots Col.) * 6.27m rising 12:22 PM TUE 11/01/11
Condamine R at Warwick # 6.2m rising 04:41 PM MON 10/01/11



Glengallan Ck near Backwater Ck # 4.75m falling 01:07 PM TUE 11/01/11 Condamine R at Tummaville * 10.05m falling 12:00 PM TUE 11/01/11 Condamine R at Centenary Br 7.1m rising 10:45 AM TUE 11/01/11 North Condamine R at Lone Pine * 4.45m rising 12:00 PM TUE 11/01/11 Oakey Ck at Fairview * 6.4m steady 12:00 PM TUE 11/01/11 Condamine R at Loudoun Br * 6.8m rising 12:00 PM TUE 11/01/11 Myall Ck at Dalby # 3.09m falling 01:03 PM TUE 11/01/11 Condamine R at Warra-Kogan Rd Br 12.4m rising fast 12:00 PM TUE 11/01/11 Condamine R at Chinchilla Weir TW * 12.22m rising 11:30 AM TUE 11/01/11 Charleys Ck at Chinchilla 6.68m rising 12:30 PM TUE 11/01/11 Condamine R at Condamine 10.5m rising slowly 12:00 PM TUE 11/01/11 Condamine R at Cotswold * 11:40 AM TUE 11/01/11 12.87m rising Yuleba Ck at Yuleba Forestry * 11:20 AM TUE 11/01/11 2.49m falling Balonne R at Surat * (auto) 11:50 AM TUE 11/01/11 10.73m rising Balonne R at Surat (manual) 12.22m falling 12:00 PM TUE 11/01/11 Bungil Ck at Roma 5m rising 11:45 AM TUE 11/01/11 Balonne R at Weribone * 12.26m falling 11:50 AM TUE 11/01/11 Maranoa R at Old Cashmere * 3.43m falling 11:50 AM TUE 11/01/11 Balonne R at St George (manual) 13.02m falling 11:45 AM TUE 11/01/11 Balonne R at St George * (auto) 12.68m steady 11:00 AM TUE 11/01/11 Culgoa R at Woolerbilla * 6.49m steady 10:00 AM TUE 11/01/11 Balonne R Minor at Dirranbandi 5.33m rising slowly 06:00 AM TUE 11/01/11 Narran R at Dirranbandi-Hebel Rd * 5.32m rising 12:00 PM TUE 11/01/11 Ballandool R at Hebel-Bollon Rd * 4.01m rising 11:20 AM TUE 11/01/11 10:10 AM TUE 11/01/11 Bokhara R at Hebel * 2.13m rising

*, # denotes automatic station.

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

PRIORITY - FOR IMMEDIATE BROADCAST

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 3:24 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected with the overnight high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed. Major flooding will continue this evening throughout the catchment. Flood levels at Glenore Grove were at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood is expected to reach at least 7.6 metres during the next few hours.

The Bremer River at Ipswich is expected to reach about 22 metres during Wednesday. Higher levels are possible as rainfall continues.

WARRILL CREEK

Further rises are likely today as rainfall continues with major flooding from Kalbar to Amberley continuing. Levels at Amberley are expected to reach at least 7.5 metres overnight.

MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir with major flood levels exceeded overnight.

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At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected tonight with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach at least 22 metres (major) during Wednesday; further rises.

Moggill: Reach at least 22 metres (moderate) during Wednesday; further rises.

Jindalee: Reach at least 14.2 metres (moderate) late Wednesday; further rises.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday.

Reach 4.5 metres (major) at 3pm Wednesday. Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about 7pm Tuesday.

Latest River Heights:

Tenthill Ck at Tenthill * 5.58m rising 02:30 PM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 9.26m rising 03:10 PM TUE 11/01/11 Laidley Ck at Warrego Hwy * 7.37m steady 02:00 PM TUE 11/01/11 Lockyer Ck at Glenore Grove # 15.24m rising 03:04 PM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 16.65m rising 02:20 PM TUE 11/01/11 Brisbane R at Savages Crossing * 20.48m rising 02:40 PM TUE 11/01/11 20.10m rising 03:20 PM TUE 11/01/11 Brisbane R at Mt Crosby # Brisbane R at Colleges Crossing # 15.41m rising 03:21 PM TUE 11/01/11 Bremer R at Rosewood # 7.48m rising 03:08 PM TUE 11/01/11 Bremer R at Walloon DERM * 9.85m rising 02:40 PM TUE 11/01/11 Warrill Ck at Amberley DNR * 8.09m rising 02:40 PM TUE 11/01/11 Bremer R at Ipswich # 12.05m rising 03:18 PM TUE 11/01/11 Brisbane R at Moggill # 10.22m rising 03:14 PM TUE 11/01/11 Brisbane R at Jindalee Br # 6.7m rising 03:11 PM TUE 11/01/11 Brisbane R at City Gauge # 1.9m rising 01:01 PM TUE 11/01/11

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*}automatic station



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 4:52 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The rainfall in the catchments of the Upper Brisbane and Stanley Rivers has eased to around 20-30 millimetres in the last three hours.

Fast rises are causing major flooding in the Stanley River at Peachester and Woodford.

Moderate to major flooding continues to ease in Cooyar, Gregor and Cressbrook Creeks. Major flooding continues along the upper Brisbane River from Linville to Gregor Creek with levels now easing slowly.

Creek rises continue in Kilcoy Creek with levels expected to peak overnight.

Weather Forecast:

Rain periods with possible thunder. Moderate to heavy falls possible.

Next Issue:

The next warning will be issued at about 11pm Tuesday.

Latest River Heights:

Stanley R at Peachester # 8.86m falling 04:01 PM TUE 11/01/11 Stanley R at Woodford # 9.24m rising 03:58 PM TUE 11/01/11 Kilcoy Ck d/s Mt Kilcoy Weir # 5.68m steady 03:56 PM TUE 11/01/11 Stanley R at Somerset Dam HW # 104.16m rising 04:02 PM TUE 11/01/11 Cooyar Ck at Cooyar Ck # 5.6m falling 04:00 PM TUE 11/01/11 Brisbane R at Linville # 6.12m falling 03:51 PM TUE 11/01/11 Brisbane R at Devon Hills # 7.51m falling 04:02 PM TUE 11/01/11 Emu Ck at Boat Mountain # 6.52m falling 04:01 PM TUE 11/01/11 2.92m steady 02:18 PM TUE 11/01/11 Maronghi Ck at Glendale * Brisbane R at Gregor Ck # 10.94m falling 04:02 PM TUE 11/01/11 Cressbrook Ck at Rosentreters Br # 6.06m falling 03:54 PM TUE 11/01/11 Esk Ck at Falls Rd * 5.06m rising 02:30 PM TUE 11/01/11 Splityard Creek Dam # 160m falling 03:59 PM TUE 11/01/11 Brisbane R at Wivenhoe Dam HW # 74.59m rising 04:02 PM TUE 11/01/11 Brisbane R at Wivenhoe Dam TW # 26.45m steady 03:59 PM TUE 11/01/11

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*,#} from automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

Transmitters in areas of the Southeast Coast district and the Darling Downs and Granite Belt district southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST SEVERE WEATHER WARNING

for heavy rainfall leading to flash flooding and worsening the existing river flood situation

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 5:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 4 pm AEST, southeast Queensland was under the influence of a deep moist easterly airstream, with an upper trough located over the Darling Downs.

Heavy rain areas and local thunderstorms are expected to continue tonight through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to further localised flash flooding and will worsen existing river flooding.

The heavy rain areas are expected to gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts. Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · take care on the roads, especially in heavy downpours
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 6:44 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Major flooding continues to rise and effect the towns of Warwick, Dalby and Chinchilla in the Upper Condamine River system. Moderate to major flooding extends along the entire Condamine and Balonne Rivers.

Heavy rain areas and local thunderstorms are expected to continue tonight through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to further localised flash flooding and will worsen existing river flooding.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is extending along the Condamine River from Murrays Bridge to Loudoun Bridge. Rises continue at Warwick where river levels are forecast to reach 8.5 metres during tonight with major flooding. This is 0.6 metres higher than the peak reached in December 2010.

Heavy rainfall continues to fall over the Upper Condamine area which may cause further rises.

MYALL CREEK:

River levels at Dalby have fallen and are currently around 3.05 metres at 3pm Tuesday. Further rises are expected with river levels returning to about 3.8 metres tonight.

CHARLEYS CREEK:

At 5.30pm, Charleys Creek at Chinchilla was 6.9 metres and steady. Further rises are expected during Wednesday with levels up to 7.5 metres possible.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with renewed rises expected during the next few days. At Condamine Township, flood levels should exceed 13 metres during Thursday and continue rising.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6pm Tuesday, the Balonne River at St George was 12.99 metres and falling slowly. Major flood levels will remain high (around 13 metres) into Wednesday.

High level major flooding is expected to continue in the Balonne River system



downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow is currently in the Dirranbandi area and will reach the Hebel area later this week.

Predicted River Heights/Flows:

Condamine R at:

Warwick Reach 8.5 metres during this evening. Further rises

are possible as rainfall continues.

Condamine Exceed 13 metres during Thursday.

Reach higher levels going into the weekend.

Charleys Creek at:

Chinchilla Reach 7 metres (major) during Tuesday night.

Possibly reach 7.5 metres during Wednesday.

Myall Creek at:

Dalby Reach 3.8 metres (major) during Wednesday morning.

Balonne R at:

St George (manual) Remain around 13 metres until Thursday.

Next Issue:

The next warning will be issued at about 11pm Tuesday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 6.25m rising 11:53 AM TUE 11/01/11 Condamine R at Elbow Valley # 6.78m steady 05:08 PM TUE 11/01/11 Condamine R at Murrays Br# 05:56 PM TUE 11/01/11 8.9m falling Condamine R @ Warwick(Scots Col.) * 7.47m rising 05:50 PM TUE 11/01/11 Condamine R at Warwick # 8.05m rising 05:30 PM TUE 11/01/11 Glengallan Ck near Backwater Ck # 4.75m rising 05:55 PM TUE 11/01/11 Condamine R at Tummaville * 10.09m rising 05:00 PM TUE 11/01/11 Condamine R at Centenary Br 7.05m steady 05:00 PM TUE 11/01/11 North Condamine R at Lone Pine * 4.57m rising 05:00 PM TUE 11/01/11 Oakey Ck at Fairview * 05:00 PM TUE 11/01/11 6.4m steady 6.92m rising Condamine R at Loudoun Br * 05:00 PM TUE 11/01/11 Myall Ck at Dalby # 3.04m steady 03:03 PM TUE 11/01/11 Condamine R at Warra-Kogan Rd Br 12.73m rising 03:00 PM TUE 11/01/11 Condamine R at Chinchilla Weir TW * 12.28m rising 05:10 PM TUE 11/01/11 02:00 PM TUE 11/01/11 Charleys Ck at Chinchilla 6.8m rising Condamine R at Condamine 10.6m rising 03:00 PM TUE 11/01/11 Condamine R at Cotswold * 13.03m rising 05:20 PM TUE 11/01/11 Yuleba Ck at Yuleba Forestry * 2.3m falling 05:10 PM TUE 11/01/11 Balonne R at Surat * (auto) 10.72m rising 05:30 PM TUE 11/01/11 Balonne R at Surat (manual) 11.18m falling slowly 05:50 PM TUE 11/01/11 Bungil Ck at Roma 4.75m falling slowly 02:30 PM TUE 11/01/11 Balonne R at Weribone * 12.2m falling 05:30 PM TUE 11/01/11 Maranoa R at Old Cashmere * 3.36m steady 05:10 PM TUE 11/01/11



03:00 PM TUE 11/01/11 Balonne R at St George (manual) 13m falling Balonne R at St George * (auto) 12.62m rising 05:40 PM TUE 11/01/11 Culgoa R at Woolerbilla * 6.5m steady 01:00 PM TUE 11/01/11 Balonne R Minor at Dirranbandi 5.33m rising slowly 06:00 AM TUE 11/01/11 Narran R at Dirranbandi-Hebel Rd * 5.32m steady 05:00 PM TUE 11/01/11 Ballandool R at Hebel-Bollon Rd * 4.12m rising 05:20 PM TUE 11/01/11 Bokhara R at Hebel * 2.17m rising 05:30 PM TUE 11/01/11

*,# from automatic station

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

BROADCASTERS ARE REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

PRIORITY - FOR IMMEDIATE BROADCAST

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY

Issued at 8:05 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected with the overnight high tide. Higher flood levels to about 4.5 metres (major) are expected with the high tide on Wednesday afternoon. River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam will continue to increase flood levels in Brisbane during the next 36 hours.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

LOCKYER CREEK:

Very heavy rainfall is continuing in the Lockyer Creek catchment and further very fast rises are being observed. Major flooding will continue this evening throughout the catchment. Flood levels at Glenore Grove were at 15.2 metres at 3pm, which is 0.3 metres above the 1974 flood level.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge and are continuing to increase near record levels.

BREMER RIVER:

The Bremer River at Walloon has exceeded the major flood level. The Bremer River at Rosewood has peaked at 7.5 metres around 5pm Tuesday.

The Bremer River at Ipswich is expected to reach around 21.5 metres during Wednesday.

WARRILL CREEK

Further rises are likely today as rainfall continues with major flooding from Kalbar to Amberley continuing. Levels at Amberley are expected to reach at least 8.0 metres overnight.



MIDDLE AND LOWER BRISBANE:

Moderate flooding will continue to rise at Savages Crossing and at Mt Crosby Weir with major flood levels exceeded overnight.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), moderate flood levels of about 3 metres are expected tonight with the 3am high tide. Higher flood levels to 4.5 metres (major) are expected with the high tide on Wednesday afternoon (3pm). River rises will continue into Thursday with levels higher than 1974 expected. The 1974 flood peak was 5.45 metres at the Brisbane City gauge.

Predicted River Heights/Flows:

Ipswich: Reach about 21.5 metres (major) during Wednesday; further rises possible.

Moggill: Reach about 21 metres (moderate) during Wednesday; further rises possible.

Jindalee: Reach about 14.2 metres (moderate) late Wednesday; further rises possible.

Brisbane City: Reach about 3 metres (moderate) around 3am Wednesday.

Reach about 4.5 metres (major) at 3pm Wednesday. Exceed 1974 flood level (5.45 metres) on Thursday.

Next Issue:

The next warning will be issued at about midnight Tuesday.

Latest River Heights:

Tenthill Ck at Tenthill * 5.05m falling 06:20 PM TUE 11/01/11 Laidley Ck at Mulgowie * 1.9m steady 08:50 AM TUE 11/01/11 Laidley Ck at Laidley 8.85m steady 01:20 PM TUE 11/01/11 Laidley Ck at Showground Weir # 9.24m falling 07:31 PM TUE 11/01/11 Laidley Ck at Warrego Hwy * 7.37m steady 06:00 PM TUE 11/01/11 Lockyer Ck at Glenore Grove # 15.26m rising 07:31 PM TUE 11/01/11 Lockyer Ck at Rifle Range Rd * 16.66m rising 05:30 PM TUE 11/01/11 Brisbane R at Savages Crossing * 21.67m rising 05:40 PM TUE 11/01/11 Brisbane R at Kholo Br # 12.77m rising 03:28 PM TUE 11/01/11 Brisbane R at Colleges Crossing # 15.81m rising 04:05 PM TUE 11/01/11 Bremer R at Rosewood # 7.24m falling 07:29 PM TUE 11/01/11 Bremer R at Walloon DERM * 11.27m rising 06:00 PM TUE 11/01/11 Warrill Ck at Amberley DNR * 8.69m rising 05:40 PM TUE 11/01/11 Bremer R at Ipswich # 14.85m falling 07:33 PM TUE 11/01/11 Brisbane R at Moggill # 12.17m rising 07:32 PM TUE 11/01/11 7.95m rising 07:23 PM TUE 11/01/11 Brisbane R at Jindalee Br # Brisbane R at City Gauge # 1.75m falling 06:57 PM TUE 11/01/11

Warnings and River Height Bulletins are available at http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

^{*,#} denotes an automatic station



IDQ20032 Australian Government Bureau of Meteorology Queensland

Note: The Standard Emergency Warning Signal is no longer required.

TOP PRIORITY FOR IMMEDIATE BROADCAST CANCELLATION - SEVERE WEATHER WARNING

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 10:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 10 pm AEST, southeast Queensland was under the influence of a deep moist east to northeast airstream. A weakening upper trough was moving south.

Heavy rain areas have eased during the past few hours and further flash flooding due to rainfall is no longer expected.

Note that an extremely serious river and stream flood situation still exists. Refer to flood warnings [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:

- · avoid driving, walking or riding through flood waters
- · avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

No further warnings are expected to be issued for this event

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call 1300 659 219. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.



Australian Government Bureau of Meteorology Queensland

PRIORITY

FLOOD WARNING FOR THE CONDAMINE AND BALONNE RIVER SYSTEM

Issued at 11:07 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

Major flooding continues to rise and effect the towns of Warwick, Dalby and Chinchilla in the Upper Condamine River system. Moderate to major flooding extends along the entire Condamine and Balonne Rivers.

Heavy rain areas and local thunderstorms are expected to continue tonight through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to further localised flash flooding and will worsen existing river flooding.

CONDAMINE RIVER - UPPER CONDAMINE TO LOUDOUN BRIDGE:

Major flooding is extending along the Condamine River from Murrays Bridge to Loudoun Bridge. The Condamine River at Warwick peaked at 8.35 metres around 9pm Tuesday. This is 0.45 metres higher than the peak reached in December 2010.

MYALL CREEK:

River levels at Dalby are currently rising, with a peak around 3.8 metres expected overnight Tuesday or early Wednesday.

CHARLEYS CREEK:

At 5.30pm, Charleys Creek at Chinchilla was 6.9 metres and steady. Further rises are expected during Wednesday with levels up to 7.5 metres possible.

CONDAMINE RIVER - LOUDOUN BRIDGE TO COTSWOLD:

Major flooding continues with renewed rises expected during the next few days. At Condamine Township, flood levels should exceed 13 metres during Thursday and continue rising.

BALONNE RIVER TO BEARDMORE DAM:

Major flooding continues to fall slowly around Surat and Weribone, with renewed rises expected over the next several days. The river level at Warroo above Beardmore Dam is also falling very slowly.

BALONNE RIVER - ST GEORGE TO NSW BORDER:

At 6pm Tuesday, the Balonne River at St George was 12.99 metres and falling slowly. Major flood levels will remain high (around 13 metres) into Wednesday.

High level major flooding is expected to continue in the Balonne River system downstream from St George to the NSW border throughout January. This includes the Bokhara, Culgoa, Balonne Minor and Narran Rivers and Ballandool Creek.

The peak flow is currently in the Dirranbandi area and will reach the Hebel area later this week.

Predicted River Heights/Flows:



Condamine R at:

Warwick Fall slowly overnight.

Condamine Exceed 13 metres during Thursday. Reach higher levels going into the

weekend.

Charleys Creek at:

Chinchilla Possibly reach 7.5 metres during Wednesday.

Myall Creek at:

Dalby Reach 3.8 metres (major) during Wednesday morning.

Balonne R at:

St George (manual) Remain around 13 metres until Thursday.

Next Issue:

The next warning will be issued at about 7am Wednesday. (River heights are constantly updated on the Bureau website.)

Latest River Heights:

Condamine R at Killarney # 11:53 AM TUE 11/01/11 6.25m rising Condamine R at Elbow Valley # 6.23m falling 10:28 PM TUE 11/01/11 Condamine R at Murrays Br # 8.5m falling 10:16 PM TUE 11/01/11 Condamine R @ Warwick(Scots Col.) * 7.71m falling 09:00 PM TUE 11/01/11 Condamine R @ Warwick 8.20m falling 10:45 PM TUE 11/01/11 Glengallan Ck near Backwater Ck # 4.6m falling 10:35 PM TUE 11/01/11 Condamine R at Tummaville * 10.56m rising 09:00 PM TUE 11/01/11 Condamine R at Centenary Br 7.05m steady 07:00 PM TUE 11/01/11 North Condamine R at Lone Pine * 09:00 PM TUE 11/01/11 4.65m rising Oakey Ck at Fairview * 6.4m steady 08:00 PM TUE 11/01/11 Condamine R at Loudoun Br * 09:00 PM TUE 11/01/11 6.92m steady Myall Ck at Dalby # 3.24m rising 10:18 PM TUE 11/01/11 Condamine R at Warra-Kogan Rd Br 13m rising 06:00 PM TUE 11/01/11 Condamine R at Chinchilla Weir TW * 12.35m falling 08:40 PM TUE 11/01/11 Charleys Ck at Chinchilla 06:30 PM TUE 11/01/11 6.9m steady Condamine R at Condamine 11.07m rising 09:00 PM TUE 11/01/11 Condamine R at Cotswold * 13.15m rising 08:40 PM TUE 11/01/11 Yuleba Ck at Yuleba Forestry * 08:20 PM TUE 11/01/11 2.23m falling Balonne R at Surat * (auto) 10.7m rising 08:50 PM TUE 11/01/11 Balonne R at Surat (manual) 11.18m falling slowly 05:50 PM TUE 11/01/11 Bungil Ck at Roma 4.75m falling slowly 02:30 PM TUE 11/01/11 Balonne R at Weribone * 12.16m falling 08:50 PM TUE 11/01/11 Maranoa R at Old Cashmere * 3.32m falling 08:20 PM TUE 11/01/11 Balonne R at St George (manual) 12.98m falling 09:00 PM TUE 11/01/11 Balonne R at St George * (auto) 12.62m rising 05:40 PM TUE 11/01/11 Culgoa R at Woolerbilla * 6.51m steady 07:00 PM TUE 11/01/11 Balonne R Minor at Dirranbandi 5.33m rising slowly 06:00 AM TUE 11/01/11 Narran R at Dirranbandi-Hebel Rd * 5.33m steady 08:00 PM TUE 11/01/11 Ballandool R at Hebel-Bollon Rd * 4.2m rising 08:30 PM TUE 11/01/11 Bokhara R at Hebel * 2.18m rising 08:00 PM TUE 11/01/11

Warnings and River Height Bulletins are available at



http://www.bom.gov.au/qld/flood/ . Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Australian Government Bureau of Meteorology Queensland

FLOOD WARNING FOR THE STANLEY RIVER AND BRISBANE RIVER ABOVE WIVENHOE DAM

Issued at 11:18 PM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The rainfall in the catchments of the Upper Brisbane and Stanley Rivers have continued to ease, with rainfall totals in the last three hours generally less than 10 millimetres.

Major flooding is now falling in the Stanley River at Woodford, the Brisbane River at Gregor Creek and at Rosentreters on Cressbrook Creek.

River levels in the upper Brisbane and Stanley Rivers will continue to fall overnight.

Next Issue:

The next warning will be issued at about 10am Wednesday.

Latest River Heights:

Stanley R at Peachester # 7.86m steady 10:48 PM TUE 11/01/11
Stanley R at Woodford # 9.08m falling 10:50 PM TUE 11/01/11
Kilcoy Ck d/s Mt Kilcoy Weir # 5.41m steady 10:51 PM TUE 11/01/11
Cooyar Ck at Cooyar Ck # 4.22m falling 10:42 PM TUE 11/01/11

Brisbane R at Linville # 4.78m falling 10:48 PM TUE 11/01/11
Brisbane R at Devon Hills # 5.85m falling 10:50 PM TUE 11/01/11
Brisbane R at Gregor Ck # 8.04m falling 10:47 PM TUE 11/01/11
Cressbrook Ck at Rosentreters Br # 5.84m rising 10:51 PM TUE 11/01/11

automatic station

Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.



Appendix M

Interpreting Radar Images

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Appendix M

INTERPRETATION OF RADAR IMAGES

Weather Watch radars are very effective tools for the detection of rain. Bureau forecasters can interpret the patterns and intensity of the radar images to provide warnings of major weather events such as severe thunderstorms, tropical cyclones and areas of heavy rainfall.

The radar does not "see" clouds, as cloud droplets are too small, but does see the rainfall which those clouds produce. These areas of rain "seen" by the radar are often called radar echoes. The radar may sometimes detect echoes from aircraft, areas of smoke/ash from large fires, swarms of insects, flocks of birds or even the ground or sea surface, when unusual atmospheric conditions bend the radar beam back down to the surface. As a result, there may be patterns on the radar images that do not represent falling rain.

About radar measurement of rainfall

Radars do not directly measure rainfall rate; rather they send out pulses of high power electromagnetic energy and measure the small amount of energy that is reflected from the raindrops in a cloud. This returning energy can then be converted to a theoretical estimate of rainfall rate, but with many assumptions made along the way. In meteorological circles it is well known that even the best calibrated radars can produce poor estimates of rainfall rates in some situations, sometimes overestimating and sometimes under estimating rainfall rates by factors of 2 or more. Factors which affect the reliability of radar estimates of rainfall include:

- Variation in raindrop size distributions in space and time
- Radar calibration drift
- Attenuation of radar returns through radomes and in very heavy precipitation
- Vertical reflectivity variation, enhancement around the melting level and hail contamination
- Inability to measure rainfall near ground level at larger distances from the radar due to earth curvature
- evaporation, coalescence, horizontal displacement of raindrops by wind below the radar beam, especially as distance increases
- · elevation limits (near range) & limited volume sampling
- atmospheric temperature inversions causing the radar beam path to bend, sometimes striking the ground
- unwanted reflections from the ground and sea (clutter)
- · unwanted reflections from smoke, birds
- · beam blockage by terrain
- radar beam spreading at larger distances causing range dependent errors

In order to correct for these deficiencies there are techniques that can be employed that use evenly spaced telemetered rain gauge data to correct radar estimates of rainfall to within

acceptable limits on most occasions. Around 25 gauges spread one every 2500 square kilometres is thought to be sufficient to correct radar measurements to provide satisfactorily accurate estimates of rainfall, however experience has shown that while this may be successful for evenly spread 'stratiform' rainfall, many more rain gauges are required to adequately capture actual rainfalls in localised 'convective' heavy rainfall events.

Radar-Derived Rainfall Accumulations

The use of radar information in combination with rain gauge measurements helps to improve rainfall estimates over those based on either form of measurement alone. This improvement is accomplished by adjusting, or calibrating, radar-rainfall data with data from rain gauges situated within the radar boundary. The rain gauge data allows forecasters to calibrate the radar data in the form of ground truth, and the radar data allows us to fill in the "gaps" between rain gauges.

Rain gauges accurately measure rainfall on the ground at point locations. Generally, rain gauges are distributed evenly across catchment areas, but there may be many kilometres between each gauge. In contrast, radar reflectivity represents precipitation occurring in the atmosphere over a large geographic area, and therefore provides good spatial coverage. However because weather radars do not point at the ground, radar reflectivity does not accurately represent rainfall on the ground. The radar-derived rainfall accumulations combine the benefits of both these systems - the accurate point data from the rain gauges and the excellent spatial coverage of the radar.

The science behind radar-derived rainfall accumulations is still relatively new and the products are dependent on accurate radar reflectivity, accurate rain gauge measurement, and error and bias correction.

Future Developments

The Bureau is researching the use of advanced techniques to adjust radar returns with rain gauge reports and use these to provide a better (though by no means perfect) estimation of rain rates. These techniques aim to reduce the impact of various sources of error mentioned above. The technique currently employed in the Bureau is known as "Rainfields". This new technique is currently provided in experimental forms. As yet there is no direct application to quantitative flood forecasting, but this may developed as the data is better incorporated into forecasting techniques.



Appendix N

Climate monitoring and prediction advice leading up to the eastern Australian Floods

December 2010 to January 2011

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Appendix N - Climate Monitoring and Prediction advice leading up to the eastern Australian floods

The following document outlines Climate Prediction outputs in the lead-up to the summer of 2010-11, and the associated flooding events in eastern Australia.

1) Media Release

On June 24 2010 the Bureau of Meteorology issued a press release entitled "*La Nina increasingly likely for 2010*" ¹ This press release noted:

"Historically, La Niña events have often, but not always, brought above average rainfall to much of Australia, particularly inland eastern and northern regions. Night time temperatures are also usually warmer than average. Tropical Cyclone risk for northern Australia also increases during La Niña events.

Widespread wet conditions and flooding events have accompanied a number of La Niña events in the past. Substantial flooding impacted NSW and Queensland in the event of 1998, while the event of 1988-89 saw flooding also occur in SA and Victoria."

According to the Bureau Media interview records, this generated numerous media interviews for several Climate staff. News services (e.g., AAP) also issued copy using the press release alone, which appeared widely in both the Fairfax² and Murdoch³ press.

2) POAMA Climate Model

POAMA outlooks first hinted at the possibility of a La Niña event in May (**Figure 1**), when a small number of ensemble members touched on La Niña thresholds from August onwards. To some degree, other international models were ahead of POAMA in their predictions of a La Niña event: The National Climate Centre's model survey of early May showed that five of seven models were indicating an enhanced chance of a La Niña by the southern spring. By June (**Figure 2**), the POAMA ensemble mean was indicating the event would remain at La Niña thresholds for much of the remainder of 2010.

By the first of July (**Figure 3**) the ensemble mean was below La Niña thresholds until January 2011, while by August (**Figure 4**) the model was indicating the event would be significantly below La Niña thresholds until March.

This was arguably the first indication that the La Niña event would be a strong one.

2) ENSO Wrap Up.

The ENSO Wrap Up product is released fortnightly during or approaching a possible La Niña or El Niño event, and less frequently when conditions are neutral. Archives of the ENSO Wrap Up may be found at: http://www.bom.gov.au/climate/search/enso-wrap-up.shtml?bookmark=no-rm

The first mention of a possible La Niña event occurred in the May 12 release, when it was noted that "Historically, about 40% of El Niño events are immediately followed by a La Niña.

¹ http://www.bom.gov.au/announcements/media releases/ho/20100624.shtml

² E.g., http://www.smh.com.au/environment/water-issues/la-nina-more-likely-than-not-20100623-yy63.html

³ http://www.adelaidenow.com.au/move-over-el-nino-la-linas-coming/story-e6frea6u-1225883354245

Current conditions below the surface of the Pacific Ocean show large volumes of cooler than normal water, indicating that further cooling of the surface is likely. ... The majority of climate model predictions suggest the tropical Pacific will cool further during the coming months, with the possible development of La Niña conditions by late winter or spring. No climate models suggest a return to El Niño conditions."

The suggestion of a possible 2010 La Niña was increased gradually, in accordance with changing conditions in the Pacific and in increasingly emphatic model guidance. On June 9, the ENSO Wrap Up stated "The majority of international computer models are forecasting continued cooling of the tropical Pacific to below La Niña thresholds in the coming months. Some current indicators are consistent with these forecasts."

In association with the June 24 press release, the ENSO Wrap Up noted "Sea surface temperatures in the central equatorial Pacific have continued to cool over the past fortnight, and are now generally cooler than average in areas east of the date-line. Below the surface of the tropical Pacific, temperatures are now more than 4°C cooler than average in some areas. Trade winds in the western Pacific have strengthened, while cloudiness near the date-line has reduced. These indicators, together with the Southern Oscillation Index (SOI) which has been consistently positive since April, are consistent with the developing stages of a La Niña event.

The majority of climate models surveyed by the Bureau suggest current patterns and trends will continue, with a significant likelihood of further ocean cooling beyond La Niña thresholds before the end of the southern winter.

Historically, about 35 to 40% of El Niño events (such as occurred in 2009/10) are followed by a La Niña within the same year. The combination of current trends and model outlooks suggest the chance of a La Niña in 2010 is now clearly more likely than not."

As of July 21 issue, the ENSO Wrap Up, an explanation of possible impacts was included on the Wrap Up. The July 21 issue noted "La Niña periods are usually, but not always, associated with above normal rainfall during the second half of the year across large parts of Australia, most notably eastern and northern regions. Night time temperatures are typically warmer than average and Tropical Cyclone risk for northern Australia increases during the cyclone season (November-April)."

3) Tropical Cyclone Outlook

The 2010-11 Tropical Cyclone season outlook, issued on October 18 2010, can be found at: http://www.bom.gov.au/climate/ahead/tc.shtml. A set of "Key Messages" was distributed to Bureau staff to accompany the outlook and assist with their interactions with the public and media (Attachment A).

The tropical cyclone outlook noted that given the strength of La Niña conditions at the time (spring of 2010), there was a 98% chance of there being more tropical cyclones than normal during the season cyclone season with an 87% chance of more tropical cyclones than normal (average: 4) in the eastern region. Numerical values were assigned to the model outputs, with best estimates for the Australian region of 20 or 22 tropical cyclones, depending upon the predictor used compared to a long-term average of 12 cyclones. These values indicate the potential for a record number of tropical cyclones in the season.

4) External Briefings

During the lead up to the summer period, several briefings were given by Bureau staff to other government agencies and NGOs about the possibilities for the coming northern wet season/southern bushfire season and tropical cyclone period. While a significant factor was the outlook for tropical cyclones, the significantly wet outlook for November-January was also a noted factor.

In briefings given by Deputy Director (Services) Dr Ray Canterford to senior emergency managers in Canberra on 29 October 2010, and by Mr Perry Wiles to the Department of Human Services emergency management group, it was noted that the summer period had the potential for increased flooding frequency given the similarity between the current La Niña situation and past major La Niña years, as well as the fact that much of northern Australia was primed for flooding due to unusually heavy winter/spring rainfall. A copy of one of some of the relevant slides is in **Attachment B**. '

Importantly, It should also be noted that the Regional Director of Queensland (Mr Jim Davidson) briefed the Queensland Premier and Cabinet on 18th October. In that brief the following points were made:

- This is not a run-of-the-mill La Nina
- The current La Nina event is now quite strong and well established
- ... expect with some degree of confidence a fairly active cyclone season and a continuation of the above average rains and associated flooding
- Many catchments are saturated so runoff is likely to occur with less rainfall than normally required

Other major briefings to Queensland disaster managers during the lead-up to the floods appear in paragraph [107].

5) Seasonal Outlooks

Seasonal outlooks are typically issued by the Bureau in the last week of the month, valid for the following three month period. For predictors, they use information from the Indian and Pacific Oceans, for the previous month as well as two months prior to that. In effect, this means that the forecast issued is based upon data from a full month prior.

The seasonal outlook for the main wetting-up and flood period (November to January 2010-11) is shown in **Figure 5**. Significant high probabilities were observed for much of eastern and northern Australia, while odds were above 50% for virtually the entire continent. The verifying observations for the period (**Figure 6**) shows this indication of above average rainfall was true for much of the continent, with the main exception being in central Western Australia (it should be noted even this region had reduced odds in the seasonal outlook). Objective skill scores (final values shown on **Figure 7**) indicate that this period demonstrated high skill in Queensland, New South Wales and the Northern Territory. The resulting skill score for Australia was the highest recorded skill for a rainfall outlook in not only the previous 5 years (i.e., 60 seasonal outlooks) shown in **Figure 7**, but in the full independent (i.e., non model training) period back to year 2000 (126 outlooks).

The very high skill was primarily due to the strong La Niña conditions in the central equatorial Pacific, as well as some forcing from the Indian Ocean. A paper on the relative strength of the La Niña to previous events has been accepted for publication by the Bulletin of the Australian Meteorological and Oceanographic Society (Beard et. al., 2011). This paper indicates that in atmospheric terms, the August to December 2010 value of the Southern Oscillation Index of +21.1 was second only to the August to December 1917 value of +24.6. In considering other measures, the authors note; "the four strongest events in recorded history (1917-18, 1955-56, 1975-76 and 2010-11) are tightly grouped, with precise analysis made difficult by the global warming signal in ocean data and the lack of high quality ocean data prior to (around) 1950. The major La Niña events of 1973-74 and 1988-89 are also comparable to 2010-11 on some measures."

It should be mentioned that the seasonal prediction model used by the Bureau of Meteorology was changed slightly in September, with the NINO3.4 index replacing the "SST1" Empirical Orthogonal Function principle component as the models representation of the El Niño – Southern Oscillation (ENSO) predictor. This change was necessitated by the continued warming trend in the SST1 predictor, which resulted in it being very slow to respond to the emerging La Niña conditions (see early 2010 in **Figure 7**). The change in the model may

have contributed somewhat to the high skill score, though it remains likely that the majority of the high skill was due to the strong La Niña conditions.

Other outlooks related to the event may be found in the Bureau of Meteorology's public seasonal outlook archive (http://www.bom.gov.au/climate/ahead/archive/rainfall/index.shtml). These indicate that, beginning with the September-November outlook, increasingly strong chances for above average rainfall in SE Queensland and NE New South Wales were issued, with odds in this area above 60% for the Oct-Dec forecast, and around 70% (or above) in this area for the Nov-Jan, Dec-Feb, Jan-Mar outlooks. It is worth noting many of these forecasts singled out southeast Queensland and northeast New South Wales as having highest probabilities on the east coast.

Probability maps and tables on the Water and the Land (WATL) website (http://www.bom.gov.au/watl/rainfall/exceedance.shtml) indicated a very high probability of parts of southeast Queensland receiving well above average rainfall. Brisbane, for instance, typically receives 346 mm for the November to January period (i.e., the climatological forecast for exceeding 346 mm is 50%). The WATL tables indicated that the 50% likelihood value was shifted to 436 mm. The November to January total rainfall for Brisbane was 853.4 mm.

Similarly, the WATL chance of exceedance table indicated the likelihood of receiving above 700 mm was 13%. While this value may appear low, historical observations for Brisbane (site 40214 Brisbane Regional Office, 1840-1993; site 40223, Brisbane Aero, 1994-2000; site 040913 Brisbane, 2001-2010;) indicate just ten occasions on which rainfall exceeded 700 mm in the 171 year period, suggesting the base rate for >700mm rainfall during the season is around 6%. In other words, the forecast of a 13% chance for November-January 2010-11 totals of at least 700mm was around double the climatological normal risk.

6) Additional La Niña and rainfall information

The Bureau of Meteorology website has a range of information relating to La Niña events and their impacts. The page entitled "Australian rainfall patterns during El Niño and La Niña events" (http://www.bom.gov.au/climate/enso/ensorain.comp.shtml) not only lists all El Niño and La Niña events since 1900, but includes information about their impacts. Average La Niña rainfall patterns are also shown on a link via this page, including a season-by-season list of the mean La Niña impact for each three month period in the initial and subsequent years of a La Niña event. For the November to January period (Figure 8) it is clear that the average impact is greatest in the SE Queensland region.

Similarly, the web page (http://www.bom.gov.au/jsp/ncc/climate_averages/tropical-cyclones/index.jsp) shows climatologies for tropical cyclones during El Niño and La Niña events. It is clear from this page that during a La Niña event, more tropical cyclones occur within the vicinity of the Queensland coastline than during all years, neutral years or El Niño years.

7) References

Beard, G., Chandler, E., Watkins,. A.B and D.A. Jones, 2011. How does the 2010-11 La Niña compare with past La Niña events?, Bull. Aust. Met. Ocean. Soc., in press (February).

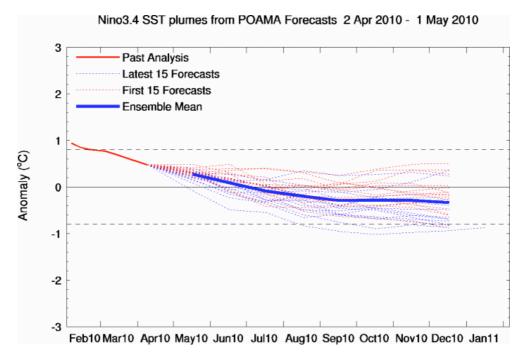


Figure 1. May 1 POAMA outlook

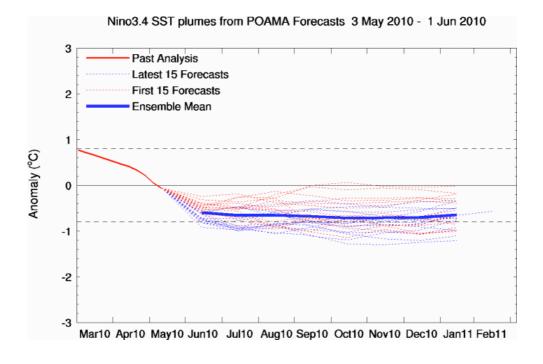


Figure 2. June 1 POAMA outlook

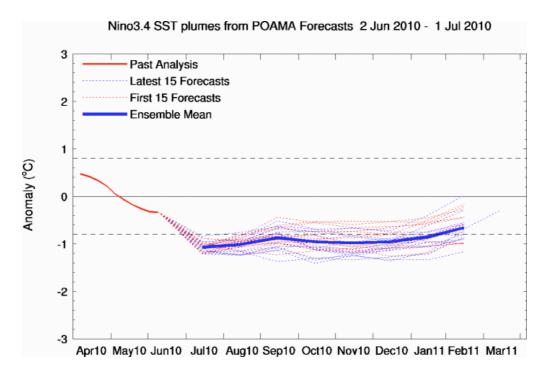


Figure 3. July 1 POAMA outlook

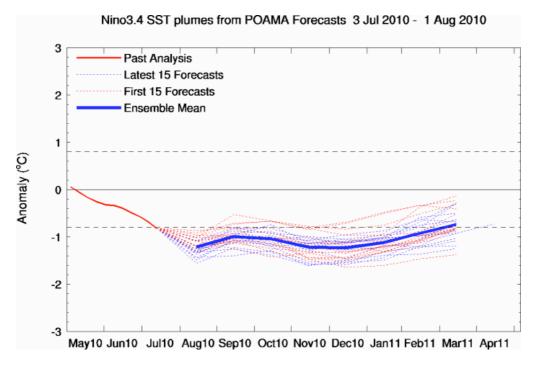


Figure 4. August 1 POAMA outlook

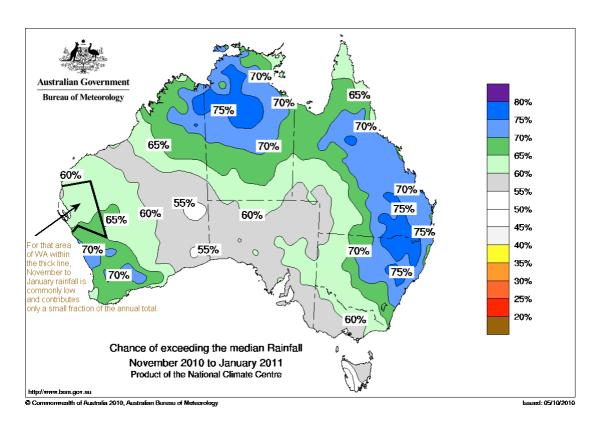
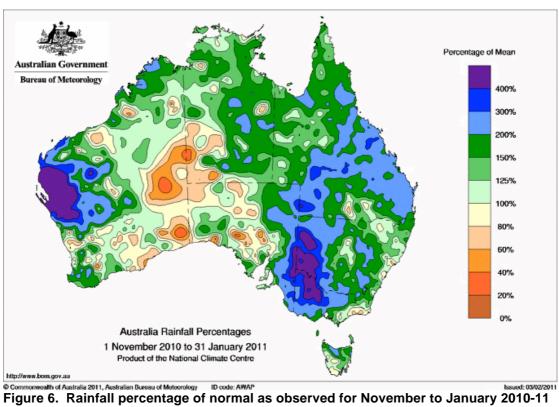


Figure 5. Seasonal Climate Outlook for rainfall over the November to January period.



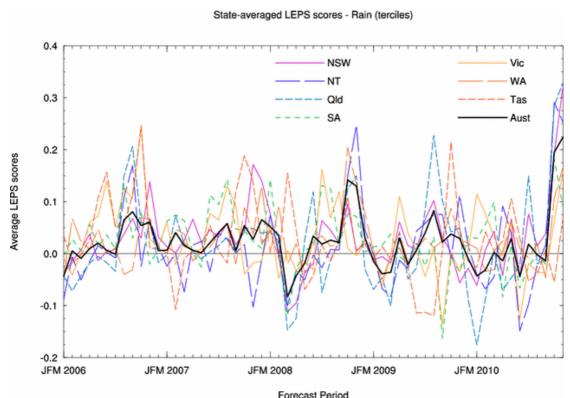


Figure 7. Linear Error in Probability space scores for the rainfall seasonal outlooks 2006-2010

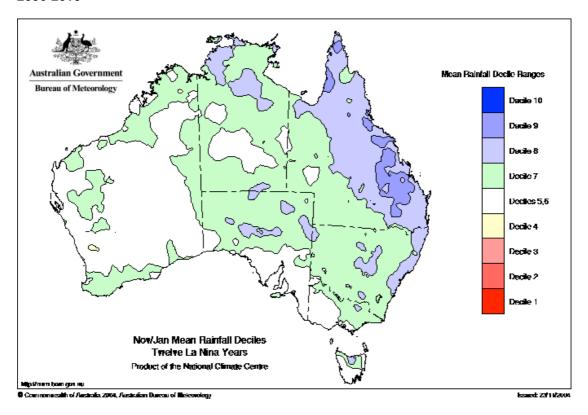


Figure 8. Average rainfall deciles for the twelve strongest La Niña events since 1900 for the November to January period.

Attachment A

Key messages for the 2010/11 Tropical Cyclone Season Outlook To be issued Monday 18 October 2010

Australian region: http://www.bom.gov.au/climate/ahead/tc.shtml
South Pacific region: http://www.bom.gov.au/climate/ahead/tc.shtml

Key messages:

- The Australian region is forecast to experience a significantly above average number of tropical cyclones during the 2010/11 tropical cyclone season, with the most likely number being around 20 to 22. The long term average is 12.
- There have been 19 tropical cyclones recorded in the seasons of 1962-63, 1973-74 and 1983-84, however data prior to the modern satellite era (i.e., prior to the 1980's) are unlikely to have correctly captured all tropical cyclones, particularly over the open oceans.
- Forecast numbers are indicative only. It is very likely (>90%) that tropical cyclone numbers will exceed the average of 12. Based upon past above/below average outlooks, forecasts for the Australian region have a high level of confidence.
- An above average number of tropical cyclones are likely to occur in the southwest South Pacific region, with the most likely number being around 7 to 8, against an average of 5.
- An above average tropical cyclone season for Australia and the southwest South Pacific is consistent with current well-developed La Niña conditions. During La Niña events, warmer waters than normal in the western Pacific and regions to the north of Australia, and associated changes in circulation, help focus tropical cyclone activity into the Coral and Timor seas. A map showing average La Niña tropical cyclone locations is available on the following page (Figure 1) or from: http://www.bom.gov.au/jsp/ncc/climate_averages/tropical-cyclones/index.jsp?period=lan#maps
- The current La Nina is already at moderate to strong levels with the typical peak of the event still some 2-3 months away. The Southern Oscillation Index (SOI) for September was +25, the highest September value since 1917 (+29.7), while temperatures below the surface of the central to eastern Pacific Ocean are up to 5°C cooler than normal indicating a very well developed event. The latest La Niña information is available from: http://www.bom.gov.au/climate/enso/
- This forecast is for the year from July 1 2010 to June 30 2011. Most tropical
 cyclones in the Southern Hemisphere occur between the months of November
 and the following April.

Additional information relating to potential questions:

- Why do the forecast regions differ from the standard regions?

 Tropical cyclone seasonal outlooks use a slightly different area to enable our model to have enough data to make a statistically sensible forecast. However, as the forecast regions are approximately the same as the official forecast regions, outlooks can be considered generally indicative for each area.
- What is the forecast for coastal crossings/tropical cyclone intensity?

 The statistical model we current use can only predict the likelihood of the total number of cyclones during a cyclone season, and at present cannot forecast coastal crossings or intensity. However, this season is forecast to have a large number of tropical cyclones and therefore it is reasonable to assume that this would increase the odds of landfall or intense

cyclones occurring in the Australian region. Future research may enable us to develop capabilities for such forecasts.

• Is the high forecast number due to climate change?

It is not possible to assign the higher number of tropical cyclones forecast to climate change. Trends over the past century in the two indicators used in the forecast model are opposite to those which produces a forecast for higher numbers of tropical cyclones in the Australian region. The central equatorial Pacific has warmed by around 0.5°C over the past half century, while the Southern Oscillation Index (SOI) has a downwards trend over a similar period. Both of these trends towards "warmer" ENSO conditions are opposite to the "cooler" ENSO conditions which would cause our model to predict high tropical cyclone numbers near Australia.

- What impact does climate change have on Tropical Cyclones?
 The lack of high quality historical tropical cyclone data, particularly prior to the satellite era, means it is difficult to make statements about overall trends in tropical cyclones in the past. Climate models suggest that in the future there is likely to be a shift towards fewer, but more intense, tropical cyclones, with greater rainfall in areas nearer the storms than previously observed for similar systems. Further reading on climate change and cyclones is available from Knutson et al., (2010): http://www.nature.com/ngeo/journal/v3/n3/abs/ngeo779.html
- Do you expect the outlooks to fall within that exact number range?

 The forecasts are indicative only, and are simply the most likely number of tropical cyclones that the two models (one using the SOI and one using central equatorial Pacific Ocean temperatures) forecast. We would expect the total number of tropical cyclones to be in the vicinity of the values, though not necessarily within any specific range. A good guide is to look at the probability of an above average number of tropical cyclones over the season. For Australia, this probability is extremely high, at 98%. When run over previous seasons, the model has a high degree of skill in forecasting above or below average seasons.
- Why does the sum of the three regions exceed the Australian total?

 Tropical cyclones numbers are simply the number of cyclones that may occur in each region, and hence if a tropical cyclone travels from one region to the next it will be counted in both areas. However it will only be counted once for Australia.

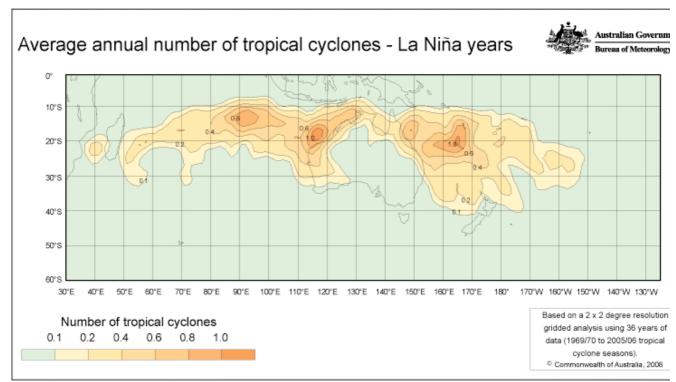
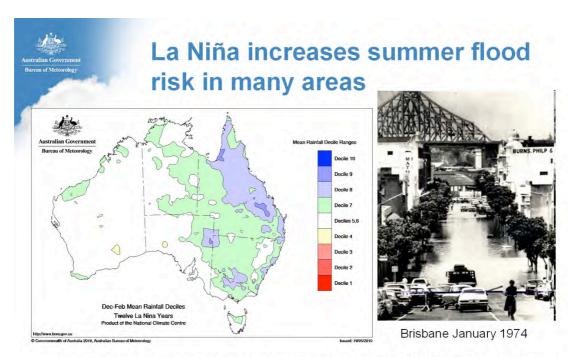
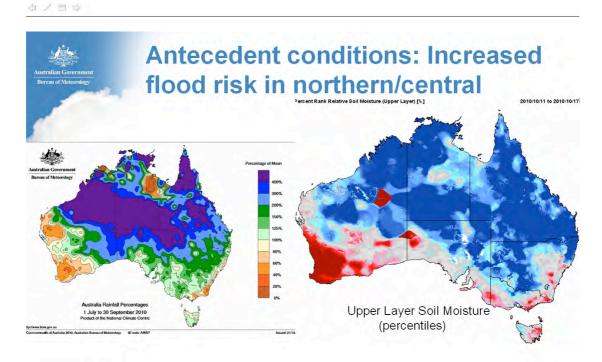


Figure 9. Tropical Cyclone activity during La Nina periods, using data from 1969-2006.



• La Niña summer periods are typically in the wettest 30% of summers for much of eastern Australia



- Large parts of the continent are already 'wet up' and primed if short term heavy rainfall occurs
- Heaviest falls in the past have accompanied land falling tropical cyclones



Appendix O

Table of all peak heights recorded in the Bureau's Peak Height Database

1 December 2010 - 12 March 2011

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Appendix O: Table of all peak heights recorded in the Bureau Peak Height Database between 1/12/2010 and 12/3/2011

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
		LOGAN-A	LBERT		·
Albert R					
40936	0	LUMEAH ALERT	10/01/2011 12:15	4.96	Below Minor
40936	0	LUMEAH ALERT	11/01/2011 10:45	5.16	Minor
540082	0	BEAUDESERT P/S TM	11/01/2011 11:30	7.24	Moderate
540082	0	BEAUDESERT P/S TM	11/01/2011 11:30	7.24	Moderate
40937	0	BENOBBLE ALERT	11/01/2011 8:00	3.64	Minor
40938	0	BROMFLEET ALERT	11/01/2011 18:00	11.82	Minor
40761	0	WOLFFDENE ALERT	12/01/2011 2:15	6.99	Minor
		Upper Lo	gan R		
40754	0	RATHDOWNEYTM	10/01/2011 16:00	8.75	Moderate
40754	0	RATHDOWNEYTM	11/01/2011 19:00	10.64	Major
40943	0	DIECKMANS BRIDGE ALERT	10/01/2011 9:50	5.29	Moderate
40714	0	ROUND MOUNTAIN TM	11/01/2011 21:30	14.07	Major
40939	0	BEAUDESERT ALERT	11/01/2011 15:15	6.64	Minor
Teviot Bk					
40841	0	CROFTBYTM	11/01/2011 17:00	5.46	Moderate
40949	0	BOONAH ALERT	10/01/2011 17:35	6.7	Major
40949	0	BOONAH ALERT	11/01/2011 17:00	7.2	Major
		Logan R d/s Ya	arrahappini		
40940	0	YARRAHAPPINI ALERT	12/01/2011 10:00	15.12	Moderate
540214	0	SOUTH MACLEAN TM	12/01/2011 16:15	13.77	Moderate
40542	0	MACLEAN BRIDGE	28/12/2010 20:00	14.63	Moderate
40542	0	MACLEAN BRIDGE	12/01/2011 20:00	15.65	Moderate
40665	0	WATERFORD	13/01/2011 12:15	7	Minor
40878	0	WATERFORD ALERT	13/01/2011 7:30	7.05	Minor
BRISBANE					
		Stanley R to Sor	merset Dam		
540059	0	PEACHESTER ALERT	20/12/2010 8:10	4.7	Below Minor
540059	0	PEACHESTER ALERT	9/01/2011 20:30	9.04	Major
540059	0	PEACHESTER ALERT	11/01/2011 15:20	8.96	Moderate
540337	0	WOODFORD ALERT-P	20/12/2010 6:50	5.22	Minor
540337	0	WOODFORD ALERT-P	7/01/2011 19:00	5.04	Minor
540337	0	WOODFORD ALERT-P	10/01/2011 2:30	8.68	Major
540337	0	WOODFORD ALERT-P	11/01/2011 18:30	9.38	Major
540482	0	MT KILCOY WEIR ALERT	21/12/2010 2:00	5.52	Unknown
540482	0	MT KILCOY WEIR ALERT	7/01/2011 21:00	5.85	Unknown
540482	0	MT KILCOY WEIR ALERT	9/01/2011 17:30	7.26	Unknown

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
		Brisbane R to	Wivenhoe		
540146	0	COOYAR CREEK ALERT	21/12/2010 1:15	5.58	Minor
540146	0	COOYAR CREEK ALERT	27/12/2010 17:40	6.98	Moderate
540146	0	COOYAR CREEK ALERT	6/01/2011 15:13	7.78	Moderate
540146	0	COOYAR CREEK ALERT	7/01/2011 18:45	6.02	Minor
540146	0	COOYAR CREEK ALERT	9/01/2011 17:00	9.48	Major
540146	0	COOYAR CREEK ALERT	11/01/2011 2:00	10.22	Major
540261	0	LINVILLE ALERT	20/12/2010 1:50	6.26	Moderate
540261	0	LINVILLE ALERT	24/12/2010 8:35	3.22	Minor
540261	0	LINVILLE ALERT	27/12/2010 21:44	6.12	Moderate
540261	0	LINVILLE ALERT	6/01/2011 19:20	6.38	Moderate
540261	0	LINVILLE ALERT	7/01/2011 23:15	6.88	Major
540261	0	LINVILLE ALERT	9/01/2011 20:25	10.14	Major
540261	0	LINVILLE ALERT	11/01/2011 2:00	10.22	Major
540188	0	DEVON HILLS ALERT	20/12/2010 2:50	6.81	Moderate
540188	0	DEVON HILLS ALERT	24/12/2010 12:13	3.35	Minor
540188	0	DEVON HILLS ALERT	28/12/2010 0:29	6.63	Moderate
540188	0	DEVON HILLS ALERT	6/01/2011 21:45	6.59	Moderate
540188	0	DEVON HILLS ALERT	8/01/2011 1:00	7.15	Major
540188	0	DEVON HILLS ALERT	9/01/2011 21:25	11.25	Major
540188	0	DEVON HILLS ALERT	11/01/2011 4:30	11.02	Major
540045	0	BOAT MOUNTAIN TM	11/01/2011 7:50	10.78	Major
540141	0	BOAT MOUNTAIN ALERT	20/12/2010 8:15	5.02	Minor
540141	0	BOAT MOUNTAIN ALERT	27/12/2010 19:59	5.58	Minor
540141	0	BOAT MOUNTAIN ALERT	7/01/2011 2:30	4.42	Below Minor
540141	0	BOAT MOUNTAIN ALERT	7/01/2011 22:00	4.5	Minor
540141	0	BOAT MOUNTAIN ALERT	10/01/2011 0:20	11.02	Major
540446	0	GLENDALETM	20/12/2010 2:00	2.61	Unknown
540446	0	GLENDALETM	27/12/2010 16:00	2.77	Unknown
540446	0	GLENDALETM	9/01/2011 20:10	8.23	Unknown
540139	0	GREGOR CK ALERT-P	20/12/2010 6:00	7.58	Major
540139	0	GREGOR CK ALERT-P	24/12/2010 14:21	4.02	Minor
540139	0	GREGOR CK ALERT-P	28/12/2010 2:36	7.72	Major
540139	0	GREGOR CK ALERT-P	7/01/2011 1:00	6.94	Moderate
540139	0	GREGOR CK ALERT-P	8/01/2011 3:30	7.92	Major
540139	0	GREGOR CK ALERT-P	9/01/2011 22:15	14.56	Major
540139	0	GREGOR CK ALERT-P	11/01/2011 11:15	13.38	Major
540139	0	GREGOR CK ALERT-P	11/01/2011 11:20	6.1	Moderate
540148	0	ROSENTRETERS BRIDGE AL	27/12/2010 17:00	3.38	Minor
540148	0	ROSENTRETERS BRIDGE AL	7/01/2011 15:15	3.16	Minor
540148	0	ROSENTRETERS BRIDGE AL	9/01/2011 19:00	5.7	Major
540148	0	ROSENTRETERS BRIDGE AL	10/01/2011 16:00	6.8	Major
540441	0	FALLS RD TM	19/12/2010 22:21	3.74	Unknown

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540441	0	FALLS RD TM	26/12/2010 23:00	3.63	Unknown
540441	0	FALLS RD TM	27/12/2010 18:30	3.82	Unknown
540441	0	FALLS RD TM	7/01/2011 16:20	4.56	Unknown
540441	0	FALLS RD TM	9/01/2011 19:20	6.77	Unknown
540441	0	FALLS RD TM	10/01/2011 15:00	8.84	Unknown
		Lockyer Ck to	Lyons Br	<u> </u>	
40829	0	HELIDONTM	10/01/2011 15:10	13.88	Major
540143	0	HELIDON ALERT	16/12/2010 21:30	5.14	Minor
540143	0	HELIDON ALERT	19/12/2010 20:50	3.98	Below Minor
540143	0	HELIDON ALERT	26/12/2010 22:12	4.76	Minor
540143	0	HELIDON ALERT	27/12/2010 15:33	5.52	Minor
540143	0	HELIDON ALERT	6/01/2011 12:00	6.3	Minor
540143	0	HELIDON ALERT	7/01/2011 18:15	4.2	Minor
540143	0	HELIDON ALERT	9/01/2011 21:00	6.98	Moderate
540143	0	HELIDON ALERT	10/01/2011 1:00	7	Moderate
540143	0	HELIDON ALERT	10/01/2011 15:00	12.74	Major
540405	0	FLAGSTONE CKTM	16/12/2010 23:30	4.28	Unknown
540405	0	FLAGSTONE CKTM	19/12/2010 19:30	4.49	Unknown
540405	0	FLAGSTONE CKTM	26/12/2010 21:00	5.5	Unknown
540405	0	FLAGSTONE CKTM	27/12/2010 14:30	7.16	Unknown
540405	0	FLAGSTONE CKTM	6/01/2011 11:30	7	Unknown
540405	0	FLAGSTONE CKTM	10/01/2011 16:50	6.74	Unknown
540386	0	SANDY CREEK ROAD ALERT	6/01/2011 14:31	2.4	Minor
540386	0	SANDY CREEK ROAD ALERT	7/01/2011 18:30	2.4	Minor
540386	0	SANDY CREEK ROAD ALERT	9/01/2011 21:02	4.45	Major
540386	0	SANDY CREEK ROAD ALERT	10/01/2011 0:28	4.45	Major
540386	0	SANDY CREEK ROAD ALERT	10/01/2011 17:21	3.85	Moderate
540386	0	SANDY CREEK ROAD ALERT	11/01/2011 8:42	4.65	Major
540386	0	SANDY CREEK ROAD ALERT	11/01/2011 17:27	4.9	Major
540406	0	MA MA CREEKTM	19/12/2010 16:40	3.17	Unknown
540406	0	MA MA CREEKTM	26/12/2010 21:40	3.91	Unknown
540406	0	MA MA CREEKTM	27/12/2010 13:50	5.5	Unknown
540067	0	TENTHILLTM	6/01/2011 13:40	3.93	Below Minor
540152	0	TENTHILL ALERT	19/12/2010 20:30	2.72	Below Minor
540152	0	TENTHILL ALERT	27/12/2010 16:33	8.74	Major
540156	0	GATTON ALERT	5/12/2010 7:56	7.6	Minor
540156	0	GATTON ALERT	17/12/2010 7:40	7.38	Minor
540156	0	GATTON ALERT	20/12/2010 2:50	10.12	Moderate
540156	0	GATTON ALERT	23/12/2010 18:40	7.82	Minor
540156	0	GATTON ALERT	6/01/2011 18:20	12.74	Moderate
540156	0	GATTON ALERT	10/01/2011 4:20	14.46	Moderate
540156	0	GATTON ALERT	11/01/2011 12:10	16.5	Major
40835	0	MULGOWIETM	4/12/2010 23:20	8.14	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
40835	0	MULGOWIETM	26/12/2010 22:00	7.52	Major
40835	0	MULGOWIETM	27/12/2010 17:00	9.1	Major
40835	0	MULGOWIETM	6/01/2011 14:00	7.79	Major
40835	0	MULGOWIETM	10/01/2011 16:00	7.88	Major
40716	0	LAIDLEY	26/12/2010 21:00	7.6	Major
40716	0	LAIDLEY	27/12/2010 20:03	8.8	Major
40716	0	LAIDLEY	10/01/2011 22:00	8.7	Major
40716	0	LAIDLEY	11/01/2011 13:20	8.85	Major
40716	0	LAIDLEY	19/01/2011 22:30	7.6	Major
540158	0	SHOWGROUND WEIR ALERT	5/12/2010 4:14	9.36	Major
540158	0	SHOWGROUND WEIR ALERT	19/12/2010 21:35	5.82	Below Minor
540158	0	SHOWGROUND WEIR ALERT	23/12/2010 15:40	6.08	Minor
540158	0	SHOWGROUND WEIR ALERT	27/12/2010 1:26	9.3	Major
540158	0	SHOWGROUND WEIR ALERT	27/12/2010 19:44	9.36	Major
540158	0	SHOWGROUND WEIR ALERT	6/01/2011 17:10	9.26	Major
540158	0	SHOWGROUND WEIR ALERT	10/01/2011 19:15	9.3	Major
540158	0	SHOWGROUND WEIR ALERT	11/01/2011 8:50	9.26	Major
540158	0	SHOWGROUND WEIR ALERT	19/01/2011 23:40	8.38	Major
540050	0	WARREGO HIGHWAYTM	20/12/2010 8:00	4.78	Minor
540050	0	WARREGO HIGHWAYTM	24/12/2010 1:00	4.85	Minor
540050	0	WARREGO HIGHWAYTM	27/12/2010 8:00	5.96	Major
540050	0	WARREGO HIGHWAYTM	28/12/2010 3:00	6.37	Major
540050	0	WARREGO HIGHWAYTM	7/01/2011 2:00	5.34	Moderate
540050	0	WARREGO HIGHWAYTM	11/01/2011 3:00	6.42	Major
540050	0	WARREGO HIGHWAYTM	20/01/2011 6:00	5.29	Moderate
540149	0	GLENORE GROVE ALERT	20/12/2010 8:50	9.66	Minor
540149	0	GLENORE GROVE ALERT	23/12/2010 23:55	8.4	Minor
540149	0	GLENORE GROVE ALERT	27/12/2010 11:20	12.76	Moderate
540149	0	GLENORE GROVE ALERT	27/12/2010 21:55	14.5	Major
540149	0	GLENORE GROVE ALERT	6/01/2011 22:15	11.36	Moderate
540149	0	GLENORE GROVE ALERT	10/01/2011 6:45	13.02	Major
540149	0	GLENORE GROVE ALERT	10/01/2011 23:30	14.62	Major
540149	0	GLENORE GROVE ALERT	11/01/2011 17:00	15.34	Major
540149	0	GLENORE GROVE ALERT	20/01/2011 4:50	8.62	Minor
40662	0	LYONS BRIDGE	11/01/2011 17:30	17.5	Major
540174	0	LYONS BRIDGE ALERT-P	20/12/2010 15:30	11.39	Minor
540174	0	LYONS BRIDGE ALERT-P	24/12/2010 8:40	10.41	Minor
540174	0	LYONS BRIDGE ALERT-P	28/12/2010 10:59	15.87	Major
540174	0	LYONS BRIDGE ALERT-P	11/01/2011 17:30	17.25	Major
540174	0	LYONS BRIDGE ALERT-P	20/01/2011 12:08	11.01	Minor
40817	0	RIFLE RANGE ROAD TM	20/12/2010 17:20	11.05	Minor
40817	0	RIFLE RANGE ROAD TM	24/12/2010 10:30	10.18	Below Minor
40817	0	RIFLE RANGE ROAD TM	28/12/2010 12:10	15.88	Major
40817	0	RIFLE RANGE ROAD TM	6/01/2011 7:00	12.38	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
40817	0	RIFLE RANGE ROAD TM	11/01/2011 16:10	16.67	Major
40817	0	RIFLE RANGE ROAD TM	20/01/2011 12:00	10.85	Minor
540153	0	O'REILLY'S WEIR ALERT	30/12/2010 22:40	12.28	Minor
		Brisbane RWive	nhoe-Moggill		
540183	0	LOWOOD PUMP STN ALERT-B	21/12/2010 23:14	10.25	Unknown
540183	0	LOWOOD PUMP STN ALERT-B	31/12/2010 7:30	10.79	Unknown
540183	0	LOWOOD PUMP STN ALERT-B	11/01/2011 23:43	22.87	Unknown
540150	0	SAVAGES CROSSING ALERT	22/12/2010 4:00	10.35	Minor
540150	0	SAVAGES CROSSING ALERT	30/12/2010 10:12	10.83	Minor
540150	0	SAVAGES CROSSING ALERT	12/01/2011 2:10	24.15	Major
540257	0	BURTONS BRIDGE ALERT	22/12/2010 7:30	8.54	Unknown
540257	0	BURTONS BRIDGE ALERT	30/12/2010 10:45	8.78	Unknown
540257	0	BURTONS BRIDGE ALERT	12/01/2011 9:34	18.82	Unknown
540256	0	KHOLO BRIDGE ALERT	22/12/2010 12:50	2.57	Unknown
540256	0	KHOLO BRIDGE ALERT	30/12/2010 18:45	3.09	Unknown
540199	0	MT CROSBY ALERT	22/12/2010 13:00	11.2	Minor
540199	0	MT CROSBY ALERT	30/12/2010 20:50	11.64	Minor
540199	0	MT CROSBY ALERT	12/01/2011 9:00	26.18	Major
		Bremer R to	Ipswich		
540157	0	ADAMS BRIDGE ALERT	4/12/2010 23:43	4.01	Minor
540157	0	ADAMS BRIDGE ALERT	16/12/2010 17:20	4.39	Minor
540157	0	ADAMS BRIDGE ALERT	26/12/2010 20:52	4.29	Minor
540157	0	ADAMS BRIDGE ALERT	27/12/2010 16:43	4.67	Minor
540157	0	ADAMS BRIDGE ALERT	6/01/2011 14:15	4.51	Minor
540157	0	ADAMS BRIDGE ALERT	11/01/2011 19:00	5.05	Moderate
540315	0	STOKES CROSSING ALERT	5/12/2010 2:30	4	Minor
540315	0	STOKES CROSSING ALERT	16/12/2010 19:40	4.25	Minor
540315	0	STOKES CROSSING ALERT	26/12/2010 22:40	4.45	Minor
540315	0	STOKES CROSSING ALERT	27/12/2010 18:26	4.65	Minor
540315	0	STOKES CROSSING ALERT	6/01/2011 17:20	4.5	Minor
540314	0	SPRESSERS BRIDGE ALERT	17/12/2010 2:00	3.2	Below Minor
540314	0	SPRESSERS BRIDGE ALERT	20/12/2010 1:00	3.2	Below Minor
540314	0	SPRESSERS BRIDGE ALERT	25/12/2010 21:47	4.42	Moderate
540314	0	SPRESSERS BRIDGE ALERT	27/12/2010 3:51	5.87	Major
540314	0	SPRESSERS BRIDGE ALERT	27/12/2010 22:24	5.87	Major
540314	0	SPRESSERS BRIDGE ALERT	6/01/2011 23:18	5.62	Major
540314	0	SPRESSERS BRIDGE ALERT	11/01/2011 16:25	7.17	Major
540314	0	SPRESSERS BRIDGE ALERT	20/01/2011 4:50	5.52	Major
540317	0	GREY'S PLAINS ROAD ALERT	4/12/2010 21:30	3.24	Unknown
540317	0	GREY'S PLAINS ROAD ALERT	16/12/2010 20:40	1.74	Unknown
540317	0	GREY'S PLAINS ROAD ALERT	19/12/2010 17:35	1.74	Unknown
540317	0	GREY'S PLAINS ROAD ALERT	26/12/2010 19:42	3.04	Unknown
540317	0	GREY'S PLAINS ROAD ALERT	27/12/2010 14:03	3.39	Unknown
540064	0	GRANDCHESTER ALERT	14/12/2010 19:20	3.18	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540064	0	GRANDCHESTER ALERT	19/12/2010 19:00	3.48	Minor
540064	0	GRANDCHESTER ALERT	6/01/2011 13:30	3.38	Minor
540064	0	GRANDCHESTER ALERT	11/01/2011 8:00	5.43	Major
540064	0	GRANDCHESTER ALERT	11/01/2011 14:30	5.28	Major
540064	0	GRANDCHESTER ALERT	19/01/2011 20:30	4.88	Moderate
540194	0	KUSS ROAD ALERT	5/12/2010 4:35	6.78	Minor
540194	0	KUSS ROAD ALERT	19/12/2010 23:00	6.86	Minor
540194	0	KUSS ROAD ALERT	6/01/2011 19:00	7.12	Moderate
540313	0	ROSEWOOD WWTP ALERT	5/12/2010 6:30	6.95	Below Minor
540313	0	ROSEWOOD WWTP ALERT	6/01/2011 21:30	6.58	Below Minor
540313	0	ROSEWOOD WWTP ALERT	11/01/2011 15:30	7.83	Minor
540313	0	ROSEWOOD WWTP ALERT	20/01/2011 3:30	6.63	Below Minor
540193	0	ROSEWOOD ALERT	5/12/2010 9:45	5.1	Moderate
540193	0	ROSEWOOD ALERT	15/12/2010 5:40	4.38	Minor
540193	0	ROSEWOOD ALERT	17/12/2010 4:30	4.96	Minor
540193	0	ROSEWOOD ALERT	20/12/2010 3:00	5.34	Moderate
540193	0	ROSEWOOD ALERT	24/12/2010 0:40	4.58	Minor
540193	0	ROSEWOOD ALERT	7/01/2011 0:18	5.58	Moderate
540193	0	ROSEWOOD ALERT	11/01/2011 15:30	7.5	Major
540193	0	ROSEWOOD ALERT	20/01/2011 5:15	5.48	Moderate
540147	0	WALLOON ALERT-P	15/12/2010 11:30	3.8	Minor
540147	0	WALLOON ALERT-P	17/12/2010 9:00	4.78	Minor
540147	0	WALLOON ALERT-P	20/12/2010 7:00	5.48	Minor
540147	0	WALLOON ALERT-P	24/12/2010 5:25	4.1	Minor
540147	0	WALLOON ALERT-P	7/01/2011 4:18	5.86	Moderate
540147	0	WALLOON ALERT-P	11/01/2011 17:00	8.9	Major
540147	0	WALLOON ALERT-P	20/01/2011 9:00	5.72	Moderate
540081	0	WALLOONTM	15/12/2010 15:00	4.73	Below Minor
540081	0	WALLOONTM	17/12/2010 11:00	5.76	Minor
540081	0	WALLOONTM	20/12/2010 9:00	6.43	Minor
540081	0	WALLOONTM	24/12/2010 8:00	5.07	Minor
540081	0	WALLOONTM	7/01/2011 6:00	6.82	Moderate
540081	0	WALLOONTM	11/01/2011 19:00	11.27	Major
540081	0	WALLOONTM	20/01/2011 11:00	6.69	Moderate
40838	0	THREE MILE BRIDGE ALERT	15/12/2010 16:40	12.7	Below Minor
40838	0	THREE MILE BRIDGE ALERT	17/12/2010 13:30	15.7	Minor
40838	0	THREE MILE BRIDGE ALERT	20/12/2010 11:10	16.75	Moderate
540364	0	MOOGERAH DAM HWTM	27/12/2010 17:30	2.22	Unknown
540364	0	MOOGERAH DAM HWTM	7/01/2011 17:20	0.94	Unknown
540364	0	MOOGERAH DAM HWTM	11/01/2011 18:50	2.7	Unknown
540474	0	MOOGERAH DAM ALERT	11/01/2011 18:36	157.6	Unknown
540365	0	TOOHILLS CROSSING TM	4/12/2010 20:20	3.76	Unknown
540365	0	TOOHILLS CROSSING TM	13/12/2010 22:20	5.84	Unknown

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540365	0	TOOHILLS CROSSING TM	27/12/2010 14:50	6.08	Unknown
540151	0	KALBAR WEIR ALERT	5/12/2010 0:20	77.57	Minor
540151	0	KALBAR WEIR ALERT	14/12/2010 1:15	78.15	Moderate
540151	0	KALBAR WEIR ALERT	19/12/2010 16:50	77.03	Minor
540151	0	KALBAR WEIR ALERT	27/12/2010 18:00	79.99	Major
540151	0	KALBAR WEIR ALERT	6/01/2011 15:40	77.35	Minor
540151	0	KALBAR WEIR ALERT	7/01/2011 8:00	77.07	Minor
540151	0	KALBAR WEIR ALERT	11/01/2011 19:35	80.29	Major
540057	0	KALBAR WEIR TW TM	5/12/2010 1:00	6.84	Minor
540057	0	KALBAR WEIR TW TM	14/12/2010 1:25	7.59	Moderate
540057	0	KALBAR WEIR TW TM	19/12/2010 17:00	6.27	Minor
540057	0	KALBAR WEIR TW TM	27/12/2010 19:10	9.24	Major
540057	0	KALBAR WEIR TW TM	6/01/2011 16:10	6.62	Minor
540057	0	KALBAR WEIR TW TM	7/01/2011 8:00	6.67	Minor
540057	0	KALBAR WEIR TW TM	11/01/2011 21:00	9.68	Major
40440	0	KALBAR	27/12/2010 18:00	10.6	Major
40440	0	KALBAR	10/01/2011 18:00	9.95	Major
40440	0	KALBAR	11/01/2011 0:00	10.9	Major
540154	0	HARRISVILLE ALERT	5/12/2010 11:30	4.62	Moderate
540154	0	HARRISVILLE ALERT	14/12/2010 8:00	4.54	Moderate
540154	0	HARRISVILLE ALERT	27/12/2010 21:15	5.76	Major
540154	0	HARRISVILLE ALERT	7/01/2011 18:40	4.38	Moderate
540154	0	HARRISVILLE ALERT	11/01/2011 20:00	5.98	Major
540316	0	CHURCHBANK WEIR ALERT	20/12/2010 6:00	2.36	Moderate
540316	0	CHURCHBANK WEIR ALERT	24/12/2010 1:20	1.46	Minor
540316	0	CHURCHBANK WEIR ALERT	28/12/2010 2:30	3.32	Major
540316	0	CHURCHBANK WEIR ALERT	7/01/2011 22:00	2.16	Moderate
540180	0	AMBERLEY ALERT-P	14/12/2010 20:00	4.4	Minor
540180	0	AMBERLEY ALERT-P	17/12/2010 13:30	4.78	Minor
540180	0	AMBERLEY ALERT-P	20/12/2010 11:40	5.28	Minor
540180	0	AMBERLEY ALERT-P	24/12/2010 6:00	4.48	Minor
540180	0	AMBERLEY ALERT-P	28/12/2010 10:10	7.32	Major
540180	0	AMBERLEY ALERT-P	8/01/2011 1:00	5.18	Minor
540180	0	AMBERLEY ALERT-P	20/01/2011 3:20	4.74	Minor
40816	0	AMBERLEY (DNR) TM	14/12/2010 21:40	5.16	Minor
40816	0	AMBERLEY (DNR) TM	17/12/2010 15:00	5.58	Minor
40816	0	AMBERLEY (DNR) TM	20/12/2010 14:00	6.06	Minor
40816	0	AMBERLEY (DNR) TM	24/12/2010 8:00	5.28	Minor
40816	0	AMBERLEY (DNR) TM	28/12/2010 12:00	8.24	Major
40816	0	AMBERLEY (DNR) TM	8/01/2011 4:00	6	Minor
40816	0	AMBERLEY (DNR) TM	20/01/2011 4:00	5.68	Minor
540065	0	PEAK CROSSING ALERT	20/12/2010 2:00	2.16	Minor
540065	0	PEAK CROSSING ALERT	26/12/2010 23:00	3.81	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540216	0	BERRY'S LAGOON TM	17/12/2010 15:00	19.07	Unknown
540216	0	BERRY'S LAGOON TM	20/12/2010 11:30	20.33	Unknown
540216	0	BERRY'S LAGOON TM	27/12/2010 14:30	23.42	Unknown
540216	0	BERRY'S LAGOON TM	28/12/2010 7:15	23.52	Unknown
540216	0	BERRY'S LAGOON TM	7/01/2011 10:15	20.1	Unknown
40836	0	ONE MILE BRIDGE ALERT	15/12/2010 18:55	7.55	Below Minor
40836	0	ONE MILE BRIDGE ALERT	17/12/2010 15:15	10.05	Minor
40836	0	ONE MILE BRIDGE ALERT	20/12/2010 12:50	11.55	Minor
40836	0	ONE MILE BRIDGE ALERT	27/12/2010 15:30	15	Major
40836	0	ONE MILE BRIDGE ALERT	28/12/2010 8:00	15.1	Major
40836	0	ONE MILE BRIDGE ALERT	7/01/2011 10:15	11.3	Minor
40836	0	ONE MILE BRIDGE ALERT	20/01/2011 13:40	11.05	Minor
540250	0	BRASSALL(HANCOCKS BR) AL	20/12/2010 13:00	8.33	Minor
540250	0	BRASSALL(HANCOCKS BR) AL	27/12/2010 14:20	12.68	Major
540250	0	BRASSALL(HANCOCKS BR) AL	28/12/2010 8:30	12.93	Major
40101	0	IPSWICH	12/01/2011 13:45	19.25	Major
40831	0	IPSWICH ALERT	27/12/2010 17:30	8.5	Minor
40831	0	IPSWICH ALERT	28/12/2010 8:15	8.5	Minor
40812	0	MOGGILL ALERT	22/12/2010 12:15	3.02	Below Minor
40812	0	MOGGILL ALERT	12/01/2011 14:15	17.87	Major
540192	0	JINDALEE ALERT	22/12/2010 11:15	2.4	Below Minor
540192	0	JINDALEE ALERT	12/01/2011 18:50	12.9	Major
40690	0	BRISBANE CITYTM	13/01/2011 3:00	4.46	Major
540198	0	BRISBANE CITY ALERT	22/12/2010 10:30	1.85	Minor
540198	0	BRISBANE CITY ALERT	13/01/2011 3:00	4.46	Major
		PINE			
		Pine/Caboo	Iture R		
540444	0	CEDAR CK RD ALERT	11/01/2011 10:00	5.31	Unknown
540205	0	DRAPERS CROSSING ALERT	11/01/2011 14:30	7.32	Major
540415	0	CASH'S CROSSING ALERT	11/01/2011 15:15	5.6	Below Minor
540414	0	NORMANBY WAY ALERT	11/01/2011 18:00	4.99	Major
540189	0	BAXTERS CREEK ALERT	11/01/2011 11:00	9.2	Unknown
540483	0	KOBBLE CK AL	11/01/2011 11:15	5.72	Unknown
540202	0	NORTH PINE DAM ALERT	11/01/2011 15:00	41.08	Unknown
540412	0	YOUNGS CROSSING ALERT	11/01/2011 17:25	13.27	Major
540439	0	LAWNTON ALERT	11/01/2011 17:00	5.92	Unknown
540417	0	MURRUMBA DOWNS ALERT	11/01/2011 18:25	3.74	Moderate
540242	0	BURPENGARY (DALE ST) AL	11/01/2011 12:35	11.19	Major
540244	0	WAMURAN ALERT	11/01/2011 12:55	30.67	Major
540357	0	UPPER CABOOLTURE ALERT	11/01/2011 10:50	13.01	Major
540243	0	CABOOLTURE WTP ALERT	11/01/2011 13:20	10.94	Major
		MAROO		1.5	.,
		Maroochy/Mo			
	0		9/01/2011 19:00	5.76	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540346	0	EWEN MADDOCK DAM AL	10/01/2011 4:25	26.58	Moderate
540344	0	JORDAN ST AL	9/01/2011 20:45	5.35	Major
540350	0	PALMVIEW AL	9/01/2011 22:45	5.04	Moderate
540351	0	MERIDAN WAY AL	10/01/2011 3:00	2.81	Minor
540421	0	TANAWHA ALERT	9/01/2011 18:15	1.7	Minor
540342	0	OLD GYMPIE RD AL	9/01/2011 17:50	4.9	Major
540093	0	EUMUNDI ALERT	9/01/2011 19:00	6.77	Major
540263	0	KIAMBATM	9/01/2011 15:00	3.77	Minor
540092	0	YANDINA ALERT	9/01/2011 15:15	3.58	Moderate
540092	0	YANDINA ALERT	20/01/2011 1:20	2.48	Minor
540095	0	DUNETHIN ROCK ALERT	9/01/2011 16:40	3	Moderate
540223	0	YANDINA CREEK ALERT	9/01/2011 19:25	5.56	Below Minor
540218	0	DOONAN CREEK ALERT	9/01/2011 16:10	4.45	Moderate
540088	0	WARANA BRIDGE ALERT	9/01/2011 16:35	6.64	Minor
540083	0	DIDDILLIBAH ALERT	10/01/2011 1:40	4.31	Moderate
540222	0	EUDLO ALERT	9/01/2011 18:00	4.55	Below Minor
540289	0	KIELS MOUNTAIN TM	10/01/2011 0:01	3.18	Minor
		NOO	SA		
		Noosa	a R		
540308	0	BOREEN POINT ALERT	10/01/2011 19:20	1.83	Minor
540309	0	LAKE COOROIBAH ALERT	11/01/2011 20:40	1.68	Moderate
40757	0	LAKE COOROIBAH	11/01/2011 21:00	1.55	Moderate
540310	0	TEWANTIN ALERT	11/01/2011 12:15	1.15	Minor
		MAF	RY		
		Mary R u/s	Gympie		
540332	0	BELLBIRD CREEK ALERT	7/01/2011 17:15	4.93	Below Minor
540332	0	BELLBIRD CREEK ALERT	9/01/2011 21:35	8.88	Major
540331	0	KENILWORTH H/S ALERT	20/12/2010 6:20	4.02	Minor
540331	0	KENILWORTH H/S ALERT	7/01/2011 19:00	5.62	Minor
540331	0	KENILWORTH H/S ALERT	9/01/2011 22:45	11.27	Major
540331	0	KENILWORTH H/S ALERT	10/01/2011 2:00	15.75	Major
540330	0	MOY POCKET ALERT	20/12/2010 9:40	8.5	Minor
540330	0	MOY POCKET ALERT	29/12/2010 0:15	7.5	Minor
540330	0	MOY POCKET ALERT	7/01/2011 23:30	9.7	Minor
540264	0	BORUMBA DAM HWTM	7/01/2011 20:00	1.92	Below Minor
540264	0	BORUMBA DAM HWTM	9/01/2011 16:45	3.21	Moderate
40099	0	IMBIL P.O	7/01/2011 3:00	5.9	Minor
40099	0	IMBIL P.O	9/01/2011 12:30	8.2	Major
40099	0	IMBIL P.O	9/01/2011 21:00	8.2	Major
40780	0	HYGAITTM	7/01/2011 23:40	6.25	Minor
40780	0	HYGAITTM	9/01/2011 17:30	6.53	Moderate
40778	0	ZACHARIAHTM	7/01/2011 22:10	8.04	Moderate
40781	0	DAGUN POCKET TM	13/12/2010 5:00	9.46	Minor
40781	0	DAGUN POCKET TM	29/12/2010 10:00	10.72	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540327	0	LAKE MACDONALD DRIVE AL	12/12/2010 23:50	3.15	Below Minor
540327	0	LAKE MACDONALD DRIVE AL	7/01/2011 19:00	4.8	Minor
540327	0	LAKE MACDONALD DRIVE AL	9/01/2011 17:30	5.6	Major
540326	0	COORAN ALERT	13/12/2010 2:30	5.57	Below Minor
540326	0	COORAN ALERT	29/12/2010 6:10	7.22	Minor
540326	0	COORAN ALERT	8/01/2011 6:00	8.92	Moderate
540326	0	COORAN ALERT	10/01/2011 1:35	10.22	Moderate
40426	0	GYMPIE	11/01/2011 5:00	19.45	Major
40993	0	GYMPIE ALERT	13/12/2010 13:15	9.44	Minor
40993	0	GYMPIE ALERT	20/12/2010 3:00	10.89	Minor
40993	0	GYMPIE ALERT	29/12/2010 14:45	11.74	Minor
		Mary R d/s (Gympie		
40824	0	FISHERMANS POCKETTM	13/12/2010 17:00	10.67	Minor
40824	0	FISHERMANS POCKETTM	21/12/2010 7:20	12.09	Minor
40824	0	FISHERMANS POCKETTM	29/12/2010 17:00	13	Moderate
540404	0	GLASTONBURYTM	7/01/2011 19:00	6.77	Unknown
40811	0	KILKIVANTM	7/01/2011 22:00	8.99	Major
40811	0	KILKIVANTM	11/01/2011 5:20	8.68	Major
540043	0	BROOYARTM	7/01/2011 4:30	12.94	Major
540043	0	BROOYARTM	11/01/2011 11:00	10.64	Major
40688	0	MIVA	8/01/2011 9:00	18.5	Major
40688	0	MIVA	11/01/2011 18:00	19.8	Major
40826	0	MIVATM	13/12/2010 13:00	9.52	Moderate
40826	0	MIVATM	20/12/2010 22:00	10.95	Moderate
40826	0	MIVATM	29/12/2010 14:00	12.55	Moderate
40826	0	MIVATM	8/01/2011 11:20	18.28	Major
40825	0	MARODIANTM	29/12/2010 5:00	10.99	Moderate
40825	0	MARODIANTM	7/01/2011 6:30	11.99	Moderate
40833	0	HOME PARKTM	13/12/2010 14:50	8.58	Minor
40833	0	HOME PARKTM	21/12/2010 5:30	9.62	Moderate
40833	0	HOME PARKTM	29/12/2010 18:00	12.28	Moderate
40833	0	HOME PARKTM	8/01/2011 21:00	18.7	Major
40833	0	HOME PARKTM	12/01/2011 6:00	18.73	Major
40203	0	TIARO	8/01/2011 0:00	17.1	Major
40203	0	TIARO	12/01/2011 8:00	17	Major
540039	0	THE BARRAGETM	21/12/2010 5:15	5.88	Below Minor
540039	0	THE BARRAGETM	29/12/2010 0:30	7.07	Minor
540039	0	THE BARRAGETM	9/01/2011 6:25	11.53	Major
540039	0	THE BARRAGETM	12/01/2011 17:30	11.41	Major
540288	0	TAGIGAN ROAD TM	10/01/2011 4:00	6.44	Minor
40679	0	BAUPLE EAST TM	21/12/2010 11:00	7.97	Below Minor
40679	0	BAUPLE EASTTM	8/01/2011 7:00	10.25	Minor
540251	0	TEDDINGTON WEIR HW	20/12/2010 12:00	9.98	Below Minor
540251	0	TEDDINGTON WEIR HW	22/12/2010 3:00	9.91	Below Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
40896	0	TEDDINGTON WEIR HW TM	8/01/2011 10:40	11.48	Major
40896	0	TEDDINGTON WEIR HW TM	9/01/2011 8:40	11.48	Major
540027	0	TINANA BARRAGE HWTM	9/01/2011 12:00	7.99	Minor
40443	0	MARYBOROUGH	9/01/2011 13:00	8.2	Moderate
40443	0	MARYBOROUGH	12/01/2011 21:00	7.95	Minor
		BURR	UM		
		Cherwell/B	urrum R		
540267	0	LENTHALLS DAM HWTM	28/12/2010 18:00	28.18	Unknown
40906	0	LENTHALLS DAM ALERT	12/12/2010 21:55	27.7	Unknown
40907	0	HOWARD ALERT	12/12/2010 14:00	6.37	Minor
40907	0	HOWARD ALERT	28/12/2010 14:45	7.42	Minor
40904	0	RAILWAY BRIDGE ALERT	12/12/2010 19:40	8.77	Major
40904	0	RAILWAY BRIDGE ALERT	28/12/2010 14:15	8.32	Major
40903	0	PACIFIC HAVEN ALERT	12/12/2010 22:00	3.9	Major
40903	0	PACIFIC HAVEN ALERT	28/12/2010 15:30	4.3	Major
540076	0	BRUCE HIGHWAYTM	12/12/2010 22:00	9.96	Minor
540076	0	BRUCE HIGHWAYTM	28/12/2010 10:30	9.31	Minor
539061	0	BURRUM HIGHWAYTM	13/12/2010 0:08	11.01	Major
539061	0	BURRUM HIGHWAYTM	28/12/2010 12:00	11.17	Major
539103	0	LEESONSTM	28/12/2010 20:00	10.64	Unknown
539059	0	ELLIOTTTM	12/12/2010 23:00	3.88	Minor
539059	0	ELLIOTTTM	28/12/2010 13:00	4.92	Moderate
539060	0	DR MAYS CROSSING TM	13/12/2010 0:01	3.2	Major
539060	0	DR MAYS CROSSING TM	28/12/2010 16:00	3.9	Major
		BURN	ETT	'	
		Upper Bu	rnett R		
539044	0	UPPER MONALTM	26/12/2010 14:00	3.11	Unknown
539044	0	UPPER MONALTM	28/12/2010 2:00	3.69	Unknown
539040	0	MONTOTM	13/12/2010 0:25	5.01	Unknown
539040	0	MONTO TM	23/12/2010 3:00	4.52	Unknown
539040	0	MONTO TM	26/12/2010 22:00	5.57	Unknown
539040	0	MONTO TM	28/12/2010 6:00	6.49	Unknown
539040	0	MONTO TM	28/12/2010 8:20	5.89	Unknown
539040	0	MONTO TM	6/01/2011 13:20	4.08	Unknown
539040	0	MONTO TM	8/01/2011 23:00	4.27	Unknown
539040	0	MONTO TM	13/01/2011 2:45	4.13	Unknown
539088	0	DAKIELTM	27/12/2010 23:00	6.6	Unknown
539088	0	DAKIELTM	12/01/2011 19:00	5.44	Unknown
39319	0	ABERCORNTM	14/12/2010 13:00	5.82	Minor
39319	0	ABERCORNTM	21/12/2010 6:00	6.29	Moderate
39319	0	ABERCORNTM	22/12/2010 22:00	6.32	Moderate
39319	0	ABERCORNTM	23/12/2010 15:00	6.62	Moderate
39000	0	ABERCORN	14/12/2010 18:00	5.8	Minor
39000	0	ABERCORN	21/12/2010 9:00	6	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
39000	0	ABERCORN	23/12/2010 18:00	6.37	Moderate
39000	0	ABERCORN	27/12/2010 18:00	8	Major
39000	0	ABERCORN	28/12/2010 21:00	8.45	Major
39000	0	ABERCORN	7/01/2011 0:00	6.5	Moderate
39000	0	ABERCORN	8/01/2011 9:00	5.92	Minor
39000	0	ABERCORN	9/01/2011 18:00	5.7	Minor
539039	0	YARROLTM	13/12/2010 5:00	3.78	Below Minor
539039	0	YARROLTM	20/12/2010 14:00	3.46	Below Minor
539039	0	YARROLTM	23/12/2010 2:30	3.37	Below Minor
539039	0	YARROLTM	28/12/2010 6:00	6.49	Moderate
539039	0	YARROLTM	13/01/2011 1:00	5.07	Minor
539052	0	LANDS END TM	21/12/2010 16:00	3.42	Minor
539052	0	LANDS END TM	27/12/2010 21:20	6.81	Major
539035	0	JOHN GOLEBY WEIR HWTM	28/12/2010 3:55	5.01	Moderate
539035	0	JOHN GOLEBY WEIR HWTM	29/12/2010 4:30	5.24	Moderate
39318	0	CERATODUS TM	14/12/2010 3:00	5.76	Minor
39318	0	CERATODUS TM	21/12/2010 7:00	6.51	Moderate
39318	0	CERATODUS TM	23/12/2010 4:30	7.84	Moderate
39318	0	CERATODUS TM	23/12/2010 23:00	8.66	Major
39318	0	CERATODUS TM	28/12/2010 6:50	13.07	Major
39318	0	CERATODUS TM	29/12/2010 5:00	13.33	Major
39318	0	CERATODUS TM	7/01/2011 10:00	6.82	Moderate
39318	0	CERATODUS TM	8/01/2011 10:00	7.04	Moderate
39318	0	CERATODUS TM	9/01/2011 21:10	6.73	Moderate
39318	0	CERATODUS TM	10/01/2011 20:30	6.47	Minor
539051	0	WURUMA DAM HWTM	28/12/2010 4:50	3.38	Major
539051	0	WURUMA DAM HWTM	7/01/2011 0:01	1.03	Moderate
39259	0	EIDSVOLD BRIDGE	21/12/2010 16:30	6.45	Minor
39259	0	EIDSVOLD BRIDGE	28/12/2010 0:00	16.2	Major
39259	0	EIDSVOLD BRIDGE	7/01/2011 11:00	7.85	Minor
39259	0	EIDSVOLD BRIDGE	14/01/2011 3:00	7.45	Minor
39321	0	EIDSVOLDTM	14/12/2010 14:00	4.13	Minor
39321	0	EIDSVOLDTM	21/12/2010 16:00	4.84	Minor
39321	0	EIDSVOLD TM	24/12/2010 4:00	7.57	Moderate
39321	0	EIDSVOLD TM	28/12/2010 10:30	14.28	Major
39321	0	EIDSVOLDTM	8/01/2011 1:00	6.46	Minor
		Auburr	n R		
39177	0	GLENWOOD	21/12/2010 12:00	9.1	Moderate
39177	0	GLENWOOD	23/12/2010 17:30	12.55	Major
39177	0	GLENWOOD	29/12/2010 3:00	14.7	Major
539037	0	GLENWOOD TM	21/12/2010 15:20	7.39	Moderate
539037	0	GLENWOODTM	23/12/2010 19:00	10.42	Major
539037	0	GLENWOOD TM	10/01/2011 21:20	5.6	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
539042	0	BROVINIA TM	12/12/2010 6:00	6.23	Minor
539042	0	BROVINIA TM	20/12/2010 5:00	8.47	Moderate
539042	0	BROVINIATM	23/12/2010 17:00	11.47	Major
539042	0	BROVINIATM	27/12/2010 16:00	11.75	Major
539042	0	BROVINIATM	8/01/2011 14:00	5.16	Minor
539042	0	BROVINIATM	11/01/2011 3:00	14.43	Major
		Boyne and S	Stuart R		
540056	0	CARTERS TM	20/12/2010 8:00	7.25	Major
540056	0	CARTERS TM	24/12/2010 2:00	8.38	Major
540056	0	CARTERS TM	27/12/2010 18:00	8.24	Major
540056	0	CARTERS TM	10/01/2011 8:00	5.8	Moderate
540056	0	CARTERS TM	11/01/2011 6:00	8.91	Major
540231	0	WEENS BRIDGETM	20/12/2010 12:00	8.63	Unknown
540231	0	WEENS BRIDGETM	24/12/2010 4:00	8.34	Unknown
540231	0	WEENS BRIDGETM	27/12/2010 23:00	8.73	Unknown
540231	0	WEENS BRIDGETM	4/01/2011 2:00	6.66	Unknown
540231	0	WEENS BRIDGE TM	8/01/2011 7:00	8.36	Unknown
540231	0	WEENS BRIDGE TM	9/01/2011 19:00	9.18	Unknown
540231	0	WEENS BRIDGE TM	11/01/2011 6:00	9.97	Unknown
540055	0	PROSTON TM	20/12/2010 15:00	7.65	Major
540055	0	PROSTON TM	23/12/2010 13:00	7.82	Major
540055	0	PROSTON TM	24/12/2010 2:00	7.47	Major
540055	0	PROSTON TM	11/01/2011 3:00	9.56	Major
540055	0	PROSTON TM	12/01/2011 7:00	8.83	Major
540262	0	BOONDOOMA DAM HWTM	20/12/2010 18:00	2.57	Moderate
540262	0	BOONDOOMA DAM HWTM	24/12/2010 7:00	3.15	Major
540262	0	BOONDOOMA DAM HWTM	28/12/2010 4:10	3.46	Major
540262	0	BOONDOOMA DAM HWTM	9/01/2011 6:00	1.5	Minor
540262	0	BOONDOOMA DAM HWTM	11/01/2011 16:00	3.7	Major
40455	0	DUNOLLIE	24/12/2010 12:30	9.25	Major
40455	0	DUNOLLIE	27/12/2010 20:30	10.45	Major
40455	0	DUNOLLIE	9/01/2011 10:00	5.75	Minor
40455	0	DUNOLLIE	12/01/2011 2:00	9.65	Major
539069	0	COORANGATM	12/12/2010 4:10	5.82	Minor
539069	0	COORANGATM	21/12/2010 6:00	10.58	Major
539069	0	COORANGATM	24/12/2010 17:00	11.75	Major
539069	0	COORANGATM	27/12/2010 21:00	13.36	Major
539069	0	COORANGATM	9/01/2011 16:00	7.51	Major
539069	0	COORANGATM	10/01/2011 23:00	11.64	Major
539069	0	COORANGATM	12/01/2011 0:20	12.25	Major
539038	0	DERRATM	12/12/2010 14:20	3.9	Minor
539038	0	DERRATM	21/12/2010 10:25	8.41	Major
539038	0	DERRATM	24/12/2010 18:50	10.07	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
539038	0	DERRATM	28/12/2010 6:45	14.6	Major
539038	0	DERRATM	9/01/2011 21:15	5.89	Major
539038	0	DERRATM	11/01/2011 1:50	9.87	Major
539038	0	DERRATM	12/01/2011 2:25	10.35	Major
539066	0	MUNDUBBERA HW TM	27/12/2010 23:00	21.18	Major
39320	0	MUNDUBBERATWTM	22/12/2010 0:50	9.31	Minor
39320	0	MUNDUBBERATWTM	24/12/2010 9:20	13.11	Moderate
39320	0	MUNDUBBERATWTM	27/12/2010 23:00	18.29	Major
39320	0	MUNDUBBERA TW TM	9/01/2011 5:00	7.14	Minor
39320	0	MUNDUBBERATWTM	11/01/2011 15:00	11.82	Moderate
39073	0	MUNDUBBERA	21/12/2010 23:00	9.72	Minor
39073	0	MUNDUBBERA	24/12/2010 6:00	13.85	Moderate
39073	0	MUNDUBBERA	28/12/2010 9:00	18.82	Major
39073	0	MUNDUBBERA	9/01/2011 6:00	7.55	Minor
39073	0	MUNDUBBERA	11/01/2011 15:00	12.3	Moderate
539055	0	REID CREEK TM	22/12/2010 18:00	3.98	Unknown
539055	0	REID CREEK TM	26/12/2010 16:40	3.94	Unknown
539055	0	REID CREEK TM	28/12/2010 1:00	4.07	Unknown
539049	0	WHARTON WEIR TM	23/12/2010 0:45	96.13	Below Minor
539049	0	WHARTON WEIR TM	24/12/2010 12:20	98.8	Moderate
39323	0	GAYNDAH FLUMETM	23/12/2010 1:40	9.29	Moderate
39323	0	GAYNDAH FLUMETM	28/12/2010 16:10	16.34	Major
39323	0	GAYNDAH FLUMETM	9/01/2011 11:00	6.68	Minor
39323	0	GAYNDAH FLUMETM	11/01/2011 23:00	10.32	Moderate
39191	0	GAYNDAH	24/12/2010 10:30	11.6	Moderate
39191	0	GAYNDAH	28/12/2010 14:00	15.6	Major
		Barker and Bara	ambah Cks		
540041	0	BROOKLANDSTM	19/12/2010 21:00	6.4	Minor
540041	0	BROOKLANDSTM	23/12/2010 14:00	7	Moderate
540041	0	BROOKLANDSTM	10/01/2011 0:01	6.08	Minor
540041	0	BROOKLANDSTM	10/01/2011 5:00	8.68	Major
40500	0	EMBREYS BRIDGE	20/12/2010 6:00	6.88	Moderate
40500	0	EMBREYS BRIDGE	24/12/2010 0:01	6.9	Moderate
40500	0	EMBREYS BRIDGE	27/12/2010 19:00	6.94	Moderate
40500	0	EMBREYS BRIDGE	7/01/2011 4:00	5.4	Minor
40500	0	EMBREYS BRIDGE	8/01/2011 0:01	6.8	Moderate
40500	0	EMBREYS BRIDGE	10/01/2011 9:00	7	Major
40500	0	EMBREYS BRIDGE	11/01/2011 9:00	7.08	Major
540042	0	GLENMORETM	21/12/2010 7:00	4.02	Major
540042	0	GLENMORETM	28/12/2010 7:00	4.45	Major
540042	0	GLENMORETM	10/01/2011 2:00	4.61	Major
540042	0	GLENMORETM	11/01/2011 7:00	6.66	Major
540025	0	WEST BARAMBAHTM	20/12/2010 7:00	7.31	Unknown

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
540025	0	WEST BARAMBAHTM	27/12/2010 23:00	7.92	Unknown
540025	0	WEST BARAMBAHTM	8/01/2011 0:10	10.34	Unknown
540025	0	WEST BARAMBAHTM	10/01/2011 3:00	8.55	Unknown
540025	0	WEST BARAMBAHTM	11/01/2011 5:30	12.19	Unknown
540053	0	BJELKE PETERSEN DAM	21/12/2010 23:00	1.07	Below Minor
540053	0	BJELKE PETERSEN DAM HWTM	28/12/2010 20:40	1.89	Minor
40834	0	LITZOWSTM	20/12/2010 10:00	7.4	Below Minor
40834	0	LITZOWSTM	28/12/2010 2:00	8.27	Minor
40834	0	LITZOWSTM	8/01/2011 1:00	11.57	Major
40834	0	LITZOWSTM	10/01/2011 5:00	9.25	Moderate
40834	0	LITZOWSTM	11/01/2011 6:00	13.15	Major
540362	0	JOE SIPPEL WEIR HW TM	20/12/2010 14:40	2.51	Moderate
540362	0	JOE SIPPEL WEIR HWTM	28/12/2010 4:50	2.72	Moderate
540362	0	JOE SIPPEL WEIR HWTM	7/01/2011 3:40	2.7	Moderate
540362	0	JOE SIPPEL WEIR HWTM	8/01/2011 2:10	3.26	Major
540362	0	JOE SIPPEL WEIR HWTM	11/01/2011 7:40	3.88	Major
540361	0	JOE SIPPEL WEIR TW TM	20/12/2010 18:20	8.56	Moderate
540361	0	JOE SIPPEL WEIR TW TM	28/12/2010 4:10	8.77	Moderate
540361	0	JOE SIPPEL WEIR TW TM	7/01/2011 3:40	8.75	Moderate
540361	0	JOE SIPPEL WEIRTWTM	8/01/2011 2:30	9.39	Major
540361	0	JOE SIPPEL WEIR TW TM	11/01/2011 7:20	9.98	Major
540077	0	FICKS CROSSING TM	21/12/2010 8:00	7.29	Minor
540077	0	FICKS CROSSING TM	28/12/2010 21:00	8.88	Moderate
539077	0	SILVERLEAF WEIR HWTM	21/12/2010 20:15	3.61	Moderate
539077	0	SILVERLEAF WEIR HWTM	29/12/2010 6:10	4.24	Moderate
539077	0	SILVERLEAF WEIR HWTM	8/01/2011 15:00	4.52	Major
539077	0	SILVERLEAF WEIR HWTM	11/01/2011 17:40	4.94	Major
539073	0	SILVERLEAF WEIR TW TM	21/12/2010 15:00	8.87	Minor
539073	0	SILVERLEAF WEIR TW TM	29/12/2010 6:50	9.49	Moderate
539073	0	SILVERLEAF WEIR TW TM	8/01/2011 16:05	9.8	Moderate
539073	0	SILVERLEAF WEIR TW TM	11/01/2011 16:55	10.23	Major
40837	0	STONELANDSTM	22/12/2010 21:10	7.96	Below Minor
40837	0	STONELANDSTM	23/12/2010 13:45	8.05	Below Minor
40837	0	STONELANDSTM	29/12/2010 13:25	9.94	Minor
540075	0	ETTIEWYNTM	20/12/2010 10:00	8.13	Moderate
540075	0	ETTIEWYNTM	28/12/2010 2:00	9.52	Major
540075	0	ETTIEWYNTM	8/01/2011 12:00	10.33	Major
540075	0	ETTIEWYNTM	11/01/2011 23:00	8.54	Moderate
40428	0	BRIAN PASTURES	20/12/2010 12:30	5.4	Below Minor
40428	0	BRIAN PASTURES	23/12/2010 7:00	5.3	Below Minor
40428	0	BRIAN PASTURES	27/12/2010 18:00	8.15	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
40428	0	BRIAN PASTURES	8/01/2011 22:00	9.2	Major
40428	0	BRIAN PASTURES	12/01/2011 11:00	10.6	Major
	-	Lower B	urnett R		
39193	0	MT LAWLESSTM	23/12/2010 5:40	6.84	Moderate
39193	0	MT LAWLESSTM	24/12/2010 15:00	8.81	Major
39193	0	MT LAWLESSTM	28/12/2010 15:30	13.6	Major
39193	0	MT LAWLESSTM	8/01/2011 10:00	8.17	Major
39193	0	MT LAWLESSTM	12/01/2011 12:50	10.56	Major
539045	0	CORINGATM	12/12/2010 19:00	7.25	Major
539045	0	CORINGATM	20/12/2010 3:40	7.95	Major
539045	0	CORINGATM	23/12/2010 2:40	6.32	Moderate
539045	0	CORINGATM	27/12/2010 23:45	10.09	Major
539045	0	CORINGATM	7/01/2011 1:00	7.91	Major
539045	0	CORINGATM	11/01/2011 1:00	5.94	Minor
539108	0	PARADISE DAM HWTM	23/12/2010 9:00	70.25	Moderate
539108	0	PARADISE DAM HWTM	24/12/2010 22:45	70.89	Moderate
39184	0	PARADISE DAM	29/12/2010 5:45	73.56	Major
39184	0	PARADISE DAM	9/01/2011 12:30	70.84	Moderate
39184	0	PARADISE DAM	11/01/2011 23:00	72.1	Major
539021	0	FIG TREE TM	23/12/2010 10:00	11.23	Moderate
539021	0	FIG TREE TM	25/12/2010 3:10	12.74	Major
539021	0	FIG TREE TM	9/01/2011 19:00	11.41	Moderate
539021	0	FIG TREE TM	12/01/2011 23:50	14.3	Major
539094	0	MT RAWDONTM	17/12/2010 3:20	3.24	Unknown
539094	0	MT RAWDONTM	19/12/2010 17:40	3.7	Unknown
539094	0	MT RAWDONTM	22/12/2010 15:30	3.68	Unknown
39313	0	WALLATM	12/12/2010 17:10	7.99	Minor
39313	0	WALLATM	23/12/2010 12:40	11.86	Moderate
39313	0	WALLATM	25/12/2010 2:40	12.46	Major
39313	0	WALLATM	29/12/2010 0:00	20.1	Major
39313	0	WALLATM	10/01/2011 0:01	12.41	Major
39313	0	WALLATM	13/01/2011 3:00	15.37	Major
539089	0	WALLA WEIR HWTM	12/12/2010 17:00	21.75	Moderate
539089	0	WALLA WEIR HWTM	13/12/2010 6:50	24.97	Major
539089	0	WALLA WEIR HWTM	23/12/2010 16:00	23.03	Major
539089	0	WALLA WEIR HWTM	25/12/2010 10:40	23.63	Major
539089	0	WALLA WEIR HWTM	26/12/2010 20:00	23.69	Major
539089	0	WALLA WEIR HWTM	29/12/2010 15:50	29.11	Major
539096	0	WALLA WEIR TW TM	12/12/2010 18:25	9.98	Unknown
539096	0	WALLA WEIR TW TM	25/12/2010 11:00	15.3	Unknown
539096	0	WALLA WEIR TW TM	26/12/2010 20:45	15.41	Unknown
539096	0	WALLA WEIR TW TM	13/01/2011 6:50	17.12	Unknown
539058	0	WOONGARRA P/STM	12/12/2010 21:15	5.43	Below Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
539058	0	WOONGARRA P/STM	24/12/2010 0:01	7.16	Below Minor
539058	0	WOONGARRA P/STM	25/12/2010 19:20	8.2	Below Minor
539058	0	WOONGARRA P/STM	27/12/2010 1:55	8.44	Below Minor
39170	0	BUNDABERG	30/12/2010 10:00	7.92	Major
39170	0	BUNDABERG	10/01/2011 12:00	4.03	Minor
39170	0	BUNDABERG	13/01/2011 15:00	5.76	Moderate
	-	KOLA	N		
		Kolan	R		
539048	0	SPRINGFIELDTM	12/12/2010 21:00	6.94	Below Minor
539048	0	SPRINGFIELDTM	26/12/2010 19:30	8.33	Minor
539048	0	SPRINGFIELDTM	28/12/2010 7:45	9.28	Moderate
539048	0	SPRINGFIELDTM	12/01/2011 23:00	8.54	Minor
539050	0	FRED HAIGH DAM HWTM	29/12/2010 0:01	3.85	Major
539050	0	FRED HAIGH DAM HWTM	13/01/2011 18:00	1.56	Moderate
39011	0	MONDURAN	29/12/2010 6:00	9.1	Major
539046	0	GIN GIN CREEKTM	12/12/2010 18:00	5.68	Minor
539046	0	GIN GIN CREEKTM	26/12/2010 19:00	6.79	Minor
539046	0	GIN GIN CREEKTM	28/12/2010 9:00	8.52	Moderate
539047	0	BUCCA WEIR HWTM	12/12/2010 14:05	18.73	Moderate
539091	0	GOOBURRUM P/STM	12/12/2010 22:40	6.15	Major
539091	0	GOOBURRUM P/STM	28/12/2010 17:45	8.28	Major
BAFFLE					
539085	0	MIMDALE TM	13/12/2010 20:40	14.15	Major
539085	0	MIMDALE TM	29/12/2010 3:00	16.91	Major
539085	0	MIMDALE TM	14/01/2011 1:00	11.48	Minor
39246	0	BARNETTS ROAD	28/12/2010 19:00	4.05	Unknown
BOYNE					
539084	0	MILTONTM	12/12/2010 18:00	6.1	Unknown
539084	0	MILTONTM	26/12/2010 19:00	7.24	Unknown
539084	0	MILTONTM	28/12/2010 7:10	7.77	Unknown
539087	0	MARLUATM	12/12/2010 10:00	5.84	Unknown
539087	0	MARLUATM	26/12/2010 11:20	7.02	Unknown
539087	0	MARLUATM	28/12/2010 3:00	8.03	Unknown
539086	0	AWOONGA DAM HWTM	28/12/2010 14:50	4.16	Unknown
		FITZR	DY		
		Dawso	n R		
535032	0	UTOPIA DOWNS TM	3/12/2010 1:35	10.64	Moderate
535032	0	UTOPIA DOWNSTM	5/12/2010 17:00	12.63	Moderate
535032	0	UTOPIA DOWNS TM	13/12/2010 7:00	8.89	Moderate
535032	0	UTOPIA DOWNS TM	21/12/2010 10:00	10.91	Moderate
535032	0	UTOPIA DOWNS TM	28/12/2010 12:00	14.25	Major
535032	0	UTOPIA DOWNS TM	7/01/2011 10:00	6.48	Minor
35271	0	TARANA CROSSING	5/12/2010 6:00	11.95	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
35271	0	TARANA CROSSING	12/12/2010 18:00	11.45	Moderate
35271	0	TARANA CROSSING	21/12/2010 6:00	11.2	Moderate
35271	0	TARANA CROSSING	28/12/2010 18:00	12.5	Major
35271	0	TARANA CROSSING	7/01/2011 15:00	8.15	Minor
535013	0	WINDAMERETM	5/12/2010 3:00	7.94	Moderate
535013	0	WINDAMERETM	12/12/2010 1:00	9.96	Major
535013	0	WINDAMERETM	20/12/2010 9:00	8.78	Moderate
535013	0	WINDAMERETM	27/12/2010 13:00	10.52	Major
535013	0	WINDAMERETM	6/01/2011 18:00	3.18	Below Minor
35273	0	CHILGERRIE HILL	5/12/2010 16:30	8.3	Moderate
35273	0	CHILGERRIE HILL	12/12/2010 15:00	10.4	Major
35273	0	CHILGERRIE HILL	20/12/2010 6:30	9.45	Major
35273	0	CHILGERRIE HILL	27/12/2010 23:00	10.85	Major
35273	0	CHILGERRIE HILL	7/01/2011 3:00	5.4	Minor
35115	0	TAROOM	7/01/2011 21:00	5.65	Minor
35282	0	TAROOM TM	5/12/2010 9:00	7.28	Major
35282	0	TAROOM TM	20/12/2010 19:00	7.09	Major
35282	0	TAROOM TM	29/12/2010 19:00	10.43	Major
35282	0	TAROOM TM	8/01/2011 3:00	5.65	Minor
535055	0	BROADMERETM	4/12/2010 17:00	7.51	Unknown
535055	0	BROADMERETM	7/12/2010 1:00	6.96	Unknown
535055	0	BROADMERETM	20/12/2010 3:40	10.82	Unknown
535049	0	LA PALMATM	2/12/2010 12:00	5.06	Unknown
535049	0	LA PALMATM	7/12/2010 7:00	5.3	Unknown
535049	0	LA PALMATM	21/12/2010 11:00	5.61	Unknown
535049	0	LA PALMA TM	25/12/2010 2:00	5.69	Unknown
535049	0	LA PALMA TM	28/12/2010 11:00	7.7	Unknown
535045	0	GLEBE WEIR TW TM	8/12/2010 14:20	13.66	Major
535045	0	GLEBE WEIR TW TM	15/12/2010 20:30	12.36	Major
535045	0	GLEBE WEIR TW TM	23/12/2010 23:55	13.56	Major
535045	0	GLEBE WEIR TW TM	31/12/2010 5:20	18.81	Major
539070	0	GYRANDA WEIR TM	9/12/2010 10:00	3.4	Major
539070	0	GYRANDA WEIR TM	16/12/2010 6:20	2.9	Moderate
539070	0	GYRANDA WEIR TM	23/12/2010 16:35	3.76	Major
539070	0	GYRANDA WEIR TM	25/12/2010 6:45	3.72	Major
539070	0	GYRANDA WEIRTM	27/12/2010 19:45	4.8	Major
539065	0	ISLA-DELUSION XING TM	9/12/2010 8:00	10.37	Major
539065	0	ISLA-DELUSION XING TM	16/12/2010 21:30	9.98	Moderate
539065	0	ISLA-DELUSION XING TM	23/12/2010 23:59	10.45	Major
539065	0	ISLA-DELUSION XING TM	25/12/2010 8:35	10.49	Major
539065	0	ISLA-DELUSION XING TM	27/12/2010 20:20	10.89	Major
539065	0	ISLA-DELUSION XING TM	31/12/2010 12:40	11.21	Major
539065	0	ISLA-DELUSION XING TM	10/01/2011 4:55	8.16	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
39315	0	THEODORE	10/12/2010 14:00	13	Major
39315	0	THEODORE	17/12/2010 19:30	12.09	Major
39315	0	THEODORE	25/12/2010 15:00	13.56	Major
39315	0	THEODORE	1/01/2011 10:00	14.7	Major
539043	0	WOODLEIGHTM	11/12/2010 12:00	15.37	Major
539043	0	WOODLEIGHTM	18/12/2010 14:00	13.97	Moderate
539043	0	WOODLEIGHTM	26/12/2010 6:00	16.56	Major
539043	0	WOODLEIGHTM	29/12/2010 4:00	18.34	Major
539043	0	WOODLEIGHTM	2/01/2011 5:00	18.45	Major
539043	0	WOODLEIGHTM	11/01/2011 19:00	9.77	Minor
539081	0	MOURA WEIR TM	12/12/2010 5:30	5.39	Moderate
539081	0	MOURA WEIR TM	18/12/2010 23:40	4.51	Moderate
539081	0	MOURA WEIR TM	29/12/2010 14:00	6.65	Major
539081	0	MOURA WEIR TM	2/01/2011 18:00	6.7	Major
539081	0	MOURA WEIR TM	12/01/2011 3:55	1.72	Minor
39296	0	MOURA	12/12/2010 6:00	12.1	Major
39296	0	MOURA	19/12/2010 6:00	11.4	Moderate
39296	0	MOURA	28/12/2010 6:00	12.5	Major
535021	0	REDCLIFFE TM	4/12/2010 12:00	7.95	Major
535021	0	REDCLIFFE TM	13/12/2010 0:01	4.06	Minor
535021	0	REDCLIFFE TM	24/12/2010 2:00	8.21	Major
535021	0	REDCLIFFE TM	27/12/2010 2:00	7.34	Major
535021	0	REDCLIFFE TM	28/12/2010 16:50	9.01	Major
35227	0	KARAMEA	6/12/2010 9:00	9.85	Major
35227	0	KARAMEA	15/12/2010 9:00	7.6	Minor
535050	0	ROUNDSTONE CREEKTM	1/12/2010 7:00	4.2	Unknown
535050	0	ROUNDSTONE CREEKTM	6/12/2010 16:00	5.34	Unknown
535050	0	ROUNDSTONE CREEKTM	20/12/2010 9:30	7.46	Unknown
535050	0	ROUNDSTONE CREEKTM	23/12/2010 11:40	9.11	Unknown
535050	0	ROUNDSTONE CREEKTM	27/12/2010 17:40	9.04	Unknown
539095	0	BINDAREETM	13/12/2010 21:00	13.74	Unknown
539095	0	BINDAREETM	21/12/2010 1:00	12.75	Unknown
539095	0	BINDAREETM	25/12/2010 18:30	15.35	Unknown
539095	0	BINDAREETM	29/12/2010 3:50	15.85	Unknown
539080	0	BARALABA HWTM	14/12/2010 11:20	3.58	Major
539080	0	BARALABA HWTM	21/12/2010 10:10	2.9	Major
39143	0	BARALABA	13/12/2010 15:00	12.15	Major
39143	0	BARALABA	21/12/2010 6:00	11.2	Major
39143	0	BARALABA	29/12/2010 21:00	15.25	Major
39143	0	BARALABA	4/01/2011 6:00	14.1	Major
39143	0	BARALABA	22/01/2011 15:00	7.15	Minor
539079	0	BARALABATWTM	14/12/2010 3:15	12.32	Major
539079	0	BARALABATWTM	21/12/2010 8:45	11.43	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
539079	0	BARALABATWTM	29/12/2010 19:00	15.34	Major
535015	0	BECKERSTM	14/12/2010 14:00	13.64	Major
535015	0	BECKERSTM	21/12/2010 17:00	12.49	Major
535015	0	BECKERSTM	30/12/2010 0:01	19.47	Major
		Don	3		
539062	0	KINGSBOROUGHTM	26/12/2010 9:10	8.62	Major
539068	0	GOOVIGENTM	7/01/2011 13:00	9.43	Moderate
539068	0	GOOVIGENTM	10/01/2011 0:01	6.61	Minor
539056	0	KENBULATM	26/12/2010 3:40	3.31	Unknown
539056	0	KENBULATM	27/12/2010 16:30	2.96	Unknown
539016	0	WURATM	3/12/2010 21:00	4.87	Minor
539016	0	WURATM	26/12/2010 6:20	9.53	Major
539016	0	WURATM	6/01/2011 9:00	4.21	Minor
39308	0	RANNES	13/12/2010 9:00	5.6	Below Minor
39308	0	RANNES	28/12/2010 7:00	11.5	Major
39308	0	RANNES	7/01/2011 15:00	6.65	Minor
39308	0	RANNES	8/01/2011 10:00	6.8	Minor
539057	0	RANNESTM	5/12/2010 9:00	5.14	Below Minor
539057	0	RANNESTM	13/12/2010 12:00	5.55	Below Minor
539057	0	RANNESTM	27/12/2010 2:00	9.97	Moderate
539057	0	RANNESTM	28/12/2010 12:00	11.71	Major
539057	0	RANNESTM	7/01/2011 13:00	6.75	Minor
539057	0	RANNESTM	8/01/2011 15:00	6.95	Minor
35270	0	NEWLANDS	14/12/2010 6:00	14.5	Moderate
35270	0	NEWLANDS	29/12/2010 17:00	18.55	Major
539090	0	KNEBWORTH TM	14/12/2010 22:00	13.8	Moderate
539090	0	KNEBWORTHTM	30/12/2010 4:20	17.84	Major
		Comet	: R		
535054	0	REWANTM	4/12/2010 8:00	5.2	Unknown
535054	0	REWANTM	19/12/2010 13:25	3.85	Unknown
535052	0	LAKE BROWNTM	5/12/2010 17:00	5.87	Unknown
535052	0	LAKE BROWNTM	21/12/2010 6:00	5.5	Unknown
535052	0	LAKE BROWNTM	23/12/2010 19:00	5.51	Unknown
535052	0	LAKE BROWNTM	27/12/2010 22:00	9.91	Unknown
535090	0	THE LAKE ALERT	6/12/2010 9:20	13.97	Major
535090	0	THE LAKE ALERT	28/12/2010 11:25	17.27	Major
535010	0	THE LAKETM	21/12/2010 17:20	12.43	Major
35276	0	SPRINGSURE CREEK JUNCTION AL	4/12/2010 0:45	11.6	Unknown
35276	0	SPRINGSURE CREEK JUNCTION AL	7/12/2010 8:00	10.95	Unknown
35276	0	SPRINGSURE CREEK JUNCTION AL	29/12/2010 4:00	12.5	Unknown
535094	0	COMET WEIR ALERT	4/12/2010 20:13	12.19	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
535094	0	COMET WEIR ALERT	8/12/2010 10:40	10.49	Major
535094	0	COMET WEIR ALERT	29/12/2010 17:00	13.94	Major
	-	Nogoa	ı R		
535099	0	RAYMOND ALERT	6/12/2010 13:00	5.7	Below Minor
535099	0	RAYMOND ALERT	21/12/2010 14:50	8.05	Minor
535029	0	CRAIGMORETM	29/12/2010 9:00	18.16	Major
35251	0	CRAIGMORE AL	4/12/2010 11:15	10.56	Minor
35251	0	CRAIGMORE AL	21/12/2010 23:40	10.56	Minor
535101	0	FAIRBAIRN DAM AL	6/12/2010 12:30	1.92	Below Minor
535019	0	FAIRBAIRN DAM TM	31/12/2010 0:01	5.58	Major
35260	0	EMERALD	31/12/2010 4:00	16.05	Major
535076	0	EMERALD ALERT	3/12/2010 16:15	10.6	Below Minor
535076	0	EMERALD ALERT	6/12/2010 17:00	10.95	Below Minor
535076	0	EMERALD ALERT	31/12/2010 4:00	16.05	Major
535103	0	SANDY CREEK BRIDGETM	28/12/2010 11:00	6.56	Unknown
35187	0	VALERIA AL	4/12/2010 15:25	9.45	Major
35187	0	VALERIA AL	20/12/2010 16:45	7.6	Below Minor
35187	0	VALERIA AL	29/12/2010 2:00	9.4	Major
535100	0	SAPPHIRE AL	26/12/2010 7:30	5.75	Unknown
535100	0	SAPPHIRE AL	26/12/2010 8:00	5.75	Unknown
535064	0	MIDDLE RIDGETM	2/12/2010 21:30	1.38	Unknown
535064	0	MIDDLE RIDGETM	3/12/2010 3:50	1.14	Unknown
535077	0	RUBYVALE ALERT	2/12/2010 22:20	2.2	Unknown
535077	0	RUBYVALE ALERT	3/12/2010 4:20	2.15	Unknown
535017	0	GREGORY HIGHWAYTM	30/12/2010 5:00	9.61	Moderate
535098	0	GREGORY HIGHWAY ALERT	4/12/2010 3:30	10.37	Major
535098	0	GREGORY HIGHWAY ALERT	21/12/2010 18:20	7.97	Below Minor
535097	0	DUCKPONDS ALERT	5/12/2010 14:30	13.58	Major
535097	0	DUCKPONDS ALERT	1/01/2011 0:25	15.03	Major
		Macken:	zie R		
535095	0	RILEYS CROSSING ALERT	5/12/2010 23:00	20.26	Unknown
535095	0	RILEYS CROSSING ALERT	30/12/2010 8:00	22.76	Unknown
35269	0	YAKCAM	6/12/2010 9:00	20.3	Major
35269	0	YAKCAM	30/12/2010 15:00	23.05	Major
535027	0	BEDFORD WEIR HWTM	6/12/2010 21:50	129.97	Unknown
535026	0	BEDFORD WEIRTWTM	1/01/2011 2:00	22.29	Major
535096	0	BEDFORD WEIR ALERT	7/12/2010 8:25	19.14	Major
535023	0	BINGEGANG HWTM	8/12/2010 10:00	8.09	Major
35295	0	BINGEGANG WEIR ALERT	2/01/2011 3:00	10.5	Minor
35266	0	BINGEGANG	2/01/2011 0:00	17.45	Major
		Connor	s R		
534006	0	GOONYELLATM	3/12/2010 10:50	4.8	Below Minor
534006	0	GOONYELLATM	19/12/2010 18:20	6.51	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
534006	0	GOONYELLATM	28/12/2010 4:00	5.49	Minor
534006	0	GOONYELLATM	28/12/2010 4:00	5.49	Minor
534006	0	GOONYELLATM	31/01/2011 13:00	4.71	Below Minor
534026	0	ISAAC RIVER BRIDGETM	3/12/2010 15:40	4.56	Unknown
534026	0	ISAAC RIVER BRIDGETM	12/12/2010 4:00	5.81	Unknown
534026	0	ISAAC RIVER BRIDGETM	19/12/2010 22:10	8.33	Unknown
534026	0	ISAAC RIVER BRIDGETM	31/01/2011 16:40	4.76	Unknown
534003	0	DEVERILLTM	3/12/2010 21:00	6.02	Below Minor
534003	0	DEVERILLTM	12/12/2010 11:30	9.24	Moderate
534003	0	DEVERILLTM	20/12/2010 7:00	10.47	Moderate
534003	0	DEVERILLTM	28/12/2010 13:00	9.92	Moderate
534003	0	DEVERILLTM	31/01/2011 22:00	6.62	Below Minor
533091	0	MT BRIDGETTM	3/12/2010 15:40	12.84	Moderate
533091	0	MT BRIDGETTM	26/12/2010 6:30	11.08	Moderate
533091	0	MT BRIDGETTM	31/01/2011 18:50	7.99	Below Minor
33083	0	CARDOWAN	3/12/2010 19:00	13.9	Moderate
33083	0	CARDOWAN	31/01/2011 17:00	8	Below Minor
533113	0	PROSPECT CREEKTM	26/12/2010 7:20	10.9	Unknown
533113	0	PROSPECT CREEKTM	31/01/2011 12:40	10.72	Unknown
534005	0	FUNNEL CREEKTM	4/12/2010 0:20	9.27	Major
534005	0	FUNNEL CREEKTM	26/12/2010 15:00	9.07	Major
534005	0	FUNNEL CREEKTM	31/01/2011 21:10	9.16	Major
533030	0	BRAESIDETM	3/12/2010 11:00	7.19	Minor
533030	0	BRAESIDETM	26/12/2010 1:00	9.08	Moderate
533030	0	BRAESIDE TM	31/01/2011 5:15	7.33	Minor
533103	0	NEBOTM	3/12/2010 4:20	3.28	Unknown
533103	0	NEBOTM	25/12/2010 20:30	5.15	Unknown
533103	0	NEBOTM	31/01/2011 9:20	3.61	Unknown
534027	0	BEE CREEKTM	3/12/2010 15:20	9.3	Unknown
534027	0	BEE CREEKTM	19/12/2010 23:10	9.96	Unknown
534027	0	BEE CREEKTM	26/12/2010 10:10	10.38	Unknown
534027	0	BEE CREEKTM	28/12/2010 14:20	10.41	Unknown
534027	0	BEE CREEKTM	31/01/2011 16:20	9	Unknown
534027	0	BEE CREEKTM	1/02/2011 6:10	8.97	Unknown
534004	0	PINK LAGOON TM	5/12/2010 6:00	13.43	Moderate
534004	0	PINK LAGOONTM	14/12/2010 9:00	9.58	Moderate
534004	0	PINK LAGOON TM	21/12/2010 7:00	10.13	Moderate
534004	0	PINK LAGOON TM	27/12/2010 18:45	14.01	Moderate
534004	0	PINK LAGOON TM	2/02/2011 14:00	12.9	Moderate
534014	0	YATTON TM	6/12/2010 7:00	15.54	Moderate
534014	0	YATTON TM	15/12/2010 17:00	13.58	Moderate
534014	0	YATTON TM	23/12/2010 15:00	13.87	Moderate
534014	0	YATTON TM	28/12/2010 17:00	16.54	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
		Fitzroy R d/s	Riverslea		
34096	0	TARTRUSTM	7/12/2010 21:00	14.82	Moderate
34096	0	TARTRUSTM	30/12/2010 4:45	16.13	Major
34096	0	TARTRUSTM	3/01/2011 16:00	16.34	Major
535024	0	COOLMARINGATM	9/12/2010 6:30	18.28	Moderate
39044	0	RIVERSLEATM	12/12/2010 14:30	20.73	Minor
39044	0	RIVERSLEATM	1/01/2011 11:30	27.38	Major
33285	0	THE GAPTM	13/12/2010 23:00	14.8	Moderate
33076	0	YAAMBA	4/12/2010 18:00	10.5	Minor
33076	0	YAAMBA	14/12/2010 9:00	14.1	Moderate
33076	0	YAAMBA	4/01/2011 9:00	16.55	Major
533110	0	BYFIELDTM	26/12/2010 11:00	5.98	Unknown
533110	0	BYFIELDTM	28/12/2010 12:00	5.92	Unknown
33310	0	SOUTH YAAMBA TM	15/12/2010 11:00	9.88	Minor
33310	0	SOUTH YAAMBA TM	4/01/2011 10:00	12.6	Moderate
539078	0	STANWELLTM	26/12/2010 7:00	8.6	Major
539078	0	STANWELLTM	28/12/2010 2:00	8.43	Major
39264	0	ROCKHAMPTON	16/12/2010 5:30	7.65	Moderate
39264	0	ROCKHAMPTON	4/01/2011 15:15	9.2	Major
539101	0	RAGLAN CKTM	26/12/2010 9:30	9.05	Unknown
539101	0	RAGLAN CKTM	28/12/2010 1:19	9.28	Unknown
	ı	PIONE	ER		
		Pionee	r R		
33301	0	WHITEFORD'S ALERT	30/12/2010 7:50	5.79	Minor
33301	0	WHITEFORD'S ALERT	18/01/2011 18:45	5.34	Minor
33301	0	WHITEFORD'S ALERT	31/01/2011 7:45	7.64	Major
33299	0	SARICH'S ALERT	30/12/2010 8:35	8.09	Moderate
33299	0	SARICH'S ALERT	18/01/2011 19:40	6.79	Minor
33299	0	SARICH'S ALERT	31/01/2011 8:00	9.74	Major
533059	0	FINCH HATTON ALERT	24/12/2010 0:30	5.3	Major
533059	0	FINCH HATTON ALERT	30/12/2010 3:20	4.45	Moderate
533059	0	FINCH HATTON ALERT	31/01/2011 2:20	4.85	Moderate
33281	0	GARGETTTM	24/12/2010 3:20	7.01	Minor
33281	0	GARGETTTM	30/12/2010 5:00	6.33	Minor
33281	0	GARGETTTM	31/01/2011 5:00	6.69	Minor
33304	0	GARGETT ALERT	24/12/2010 3:00	7.5	Minor
33304	0	GARGETT ALERT	30/12/2010 5:15	6.9	Minor
33304	0	GARGETT ALERT	31/01/2011 4:55	7.2	Minor
533069	0	MIRANI WEIR HWTM	24/12/2010 4:50	49.06	Below Minor
533069	0	MIRANI WEIR HWTM	30/12/2010 7:30	49.63	Minor
533069	0	MIRANI WEIR HWTM	31/01/2011 7:50	50.52	Moderate
33302	0	MIRANI WEIR ALERT	24/12/2010 4:45	7.66	Minor
33302	0	MIRANI WEIR ALERT	30/12/2010 7:30	8.26	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
33302	0	MIRANI WEIR ALERT	31/01/2011 7:40	9.81	Moderate
33300	0	DUMBLETON ROCKS ALERT	30/12/2010 9:15	17.9	Minor
33300	0	DUMBLETON ROCKS ALERT	31/01/2011 8:45	18.55	Minor
533105	0	DUMBLETON WEIR T/W TM	31/01/2011 9:40	13.81	Unknown
533060	0	HOSPITAL BRIDGE ALERT	20/12/2010 9:40	7.17	Minor
533060	0	HOSPITAL BRIDGE ALERT	31/01/2011 10:27	8.12	Minor
		DON	I	'	
		Don	R		
33265	0	IDA CREEK ALERT	3/12/2010 12:09	2.41	Below Minor
33265	0	IDA CREEK ALERT	24/12/2010 3:15	2.31	Below Minor
33265	0	IDA CREEK ALERT	3/01/2011 17:40	3.31	Minor
33265	0	IDA CREEK ALERT	18/01/2011 23:50	2.86	Minor
33265	0	IDA CREEK ALERT	31/01/2011 1:30	2.41	Below Minor
33267	0	MT DANGAR ALERT	3/12/2010 13:30	2.7	Minor
33267	0	MT DANGAR ALERT	25/12/2010 11:24	3.05	Minor
33267	0	MT DANGAR ALERT	3/01/2011 18:55	2.7	Minor
33267	0	MT DANGAR ALERT	19/01/2011 19:50	3.1	Minor
33267	0	MT DANGAR ALERT	31/01/2011 1:50	2.65	Minor
33268	0	REEVES ALERT	3/12/2010 15:00	3.11	Minor
33268	0	REEVES ALERT	24/12/2010 8:09	3.31	Minor
33268	0	REEVES ALERT	3/01/2011 20:00	4.41	Minor
33268	0	REEVES ALERT	19/01/2011 21:00	4.56	Minor
33268	0	REEVES ALERT	31/01/2011 3:40	3.81	Minor
33264	0	BOWEN PUMP STATION ALERT	3/12/2010 17:48	2.9	Minor
33264	0	BOWEN PUMP STATION ALERT	24/12/2010 11:56	3.04	Minor
33264	0	BOWEN PUMP STATION ALERT	3/01/2011 22:07	3.6	Minor
33264	0	BOWEN PUMP STATION ALERT	19/01/2011 23:30	3.75	Minor
33264	0	BOWEN PUMP STATION ALERT	31/01/2011 6:50	3.25	Minor
	ı	BURDE	KIN	·	
		Belyando R to I	Mt Douglas		
35236	0	RIVINGTON	27/12/2010 14:20	9	Major
35229	0	ALPHA	20/12/2010 19:40	6.8	Below Minor
35229	0	ALPHA	28/12/2010 8:00	9	Major
535053	0	VIOLET GROVE TM	30/11/2010 23:00	6.6	Unknown
535053	0	VIOLET GROVE TM	21/12/2010 9:00	7.53	Unknown
535053	0	VIOLET GROVE TM	28/12/2010 13:00	10.56	Unknown
36083	0	ALBRO	5/12/2010 0:01	5	Moderate
36083	0	ALBRO	31/12/2010 6:20	7.7	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
536007	0	BELYANDO CROSSING TM	23/12/2010 11:00	5.47	Unknown
536007	0	BELYANDO CROSSING TM	1/01/2011 10:00	7.22	Unknown
	'	Suttor R to	b BFD		
534016	0	EAGLEFIELD TM	1/12/2010 0:30	8.74	Unknown
534016	0	EAGLEFIELD TM	3/12/2010 20:40	10.33	Unknown
534016	0	EAGLEFIELD TM	20/12/2010 2:30	10.21	Unknown
534016	0	EAGLEFIELDTM	28/12/2010 13:00	9.56	Unknown
534019	0	BOWEN DEVELOPMENT RD	3/12/2010 14:00	4.71	Unknown
534019	0	BOWEN DEVELOPMENT RD	22/12/2010 8:00	5.16	Unknown
534019	0	BOWEN DEVELOPMENT RD	30/12/2010 22:00	4.93	Unknown
534012	0	ST ANNS ALERT	5/12/2010 9:30	5.94	Minor
534012	0	ST ANNS ALERT	14/12/2010 3:20	5.39	Minor
534012	0	ST ANNS ALERT	17/12/2010 5:40	5.24	Minor
534012	0	ST ANNS ALERT	1/01/2011 21:35	7.54	Moderate
	'	Cape R to	BFD		
534010	0	TAEMAS ALERT	1/01/2011 11:15	6.99	Minor
	1	Lower Burdekir	n R d/s BFD		
34029	0	BURDEKIN DAM	28/12/2010 9:00	3.63	Minor
534013	0	HYDRO SITE TM	28/12/2010 8:00	13.28	Minor
533015	0	JACKS CREEK ALERT	24/12/2010 12:00	12.32	Minor
533015	0	JACKS CREEK ALERT	26/12/2010 6:00	10.67	Minor
533015	0	JACKS CREEK ALERT	28/12/2010 10:30	9.07	Minor
533015	0	JACKS CREEK ALERT	31/01/2011 15:47	10.72	Minor
33291	0	DALBEG ALERT	27/12/2010 12:30	13.06	Minor
33287	0	MILLAROO ALERT	27/12/2010 9:00	12.08	Minor
33286	0	CLARE ALERT	27/12/2010 10:35	11.4	Minor
33288	0	INKERMAN BRIDGE ALERT	27/12/2010 10:40	8.6	Minor
		HAUGH	TON		
Haughton R					
533055	0	MT PICCANINNY ALERT	26/12/2010 6:34	5.57	Major
533072	0	MAJOR CREEK ALERT	26/12/2010 11:39	8.49	Moderate
533056	0	POWERLINE ALERT	26/12/2010 21:53	7.1	Moderate
533051	0	GIRU ALERT	26/12/2010 22:08	2.84	Major
ROSS					
Ross R					
532043	0	BOHLE RIVER ALERT	20/12/2010 20:45	4.37	Minor
		HERBE	RT		
		Herbert R u/s	Glen Eagle		
531015	0	SILVER VALLEY TM	25/12/2010 12:00	6.34	Moderate
531059	0	RAVENSHOETM	25/12/2010 10:00	6.77	Unknown

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
531060	0	WOOROORATM	25/12/2010 15:00	8.27	Unknown
531078	0	CAMERON CREEKTM	25/12/2010 14:40	6.15	Unknown
532066	0	GLENEAGLE TM	25/12/2010 21:10	8.15	Major
32169	0	GLENEAGLE ALERT	25/12/2010 21:38	8.08	Major
	1	Herbert R d/s (Glen Eagle		'
532080	0	BLENCOE FALLS TM	25/12/2010 15:00	6.83	Unknown
32170	0	NASH'S CROSSING ALERT	25/12/2010 11:51	8.1	Major
32184	0	ZATTAS ALERT	25/12/2010 13:27	6.78	Moderate
532010	0	GOWRIE CREEKTM	25/12/2010 9:35	7.23	Moderate
32174	0	ABERGOWRIE ALERT	23/12/2010 13:00	6.85	Minor
32174	0	ABERGOWRIE ALERT	25/12/2010 19:05	11.5	Moderate
32091	0	ELPHINSTONE PKT	23/12/2010 15:00	7.45	Minor
32091	0	ELPHINSTONE PKT	25/12/2010 21:00	13.1	Moderate
32091	0	ELPHINSTONE PKT	27/12/2010 15:00	8.65	Minor
532028	0	ABERGOWRIE BRIDGE ALERT	23/12/2010 15:00	7.54	Minor
532028	0	ABERGOWRIE BRIDGE ALERT	25/12/2010 20:30	13.14	Moderate
532011	0	RUNNING CREEKTM	25/12/2010 14:30	6.2	Moderate
32173	0	PEACOCK SIDING ALERT	23/12/2010 14:20	11.15	Minor
32173	0	PEACOCK SIDING ALERT	25/12/2010 18:38	9.7	Below Minor
532067	0	TREBONNE AL	23/12/2010 19:00	9.91	Below Minor
532067	0	TREBONNE AL	26/12/2010 1:20	12.81	Major
32171	0	INGHAM PUMP STATION AL	23/12/2010 20:20	10.35	Minor
32171	0	INGHAM PUMP STATION AL	26/12/2010 2:10	12.95	Major
32094	0	GAIRLOCH	23/12/2010 21:00	9.95	Minor
32094	0	GAIRLOCH	26/12/2010 1:00	11.7	Major
532027	0	GAIRLOCH ALERT	23/12/2010 20:00	10.09	Minor
532027	0	GAIRLOCH ALERT	26/12/2010 1:30	12.09	Major
32185	0	HALIFAX ALERT	23/12/2010 21:45	5.17	Major
32185	0	HALIFAX ALERT	26/12/2010 1:18	5.37	Major
		TULL	Y		
		Tully F	3		
531085	0	TULLY GORGETM	25/12/2010 8:50	5.74	Unknown
531057	0	BOLINDA ESTATE ALERT	25/12/2010 9:14	5.9	Moderate
32115	0	EURAMO	26/12/2010 6:00	8.71	Moderate
532059	0	EURAMO ALERT	23/12/2010 22:55	6.84	Minor
532059	0	EURAMO ALERT	26/12/2010 6:12	8.54	Moderate
532061	0	UPPER MURRAY ALERT	23/12/2010 11:32	6.52	Minor
532061	0	UPPER MURRAY ALERT	25/12/2010 10:58	9.17	Major
532061	0	UPPER MURRAY ALERT	21/01/2011 23:30	6.77	Minor
		JOHNST	ONE		
		Johnstor	ne R		
531084	0	GLEN ALLYN TM	25/12/2010 8:30	5.61	Unknown
32165	0	NERADA ALERT	25/12/2010 9:08	9.98	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
32165	0	NERADA ALERT	20/01/2011 20:45	7.03	Moderate
32166	0	TUNG OIL ALERT	25/12/2010 10:06	9	Major
32166	0	TUNG OIL ALERT	20/01/2011 21:50	6.55	Below Minor
532023	0	MCAVOY BRIDGE ALERT	25/12/2010 12:07	7.1	Major
532023	0	MCAVOY BRIDGE ALERT	20/01/2011 23:30	4.15	Below Minor
32161	0	CORSIS ALERT	25/12/2010 10:13	5.99	Moderate
32155	0	CENTRAL MILLTM	25/12/2010 13:00	8.1	Moderate
32160	0	CENTRAL MILL ALERT	25/12/2010 12:38	7.95	Minor
532025	0	MOURILYAN MILL ALERT	25/12/2010 15:24	10.57	Unknown
32163	0	INNISFAIL WHARF ALERT	25/12/2010 13:20	5.13	Minor
531026	0	JAPOONVALE TM	25/12/2010 7:00	5.09	Unknown
		MULGRAVE	-RUSSELL		·
		Mulgrave-l	Russell R		
531076	0	THE FISHERIES ALERT	23/12/2010 7:33	3.9	Minor
531076	0	THE FISHERIES ALERT	25/12/2010 8:00	9	Major
531052	0	PEETS BRIDGE ALERT	23/12/2010 9:56	5.4	Minor
531052	0	PEETS BRIDGE ALERT	25/12/2010 9:18	9.75	Major
531051	0	GORDONVALE ALERT	25/12/2010 10:09	16.41	Major
531024	0	BUCKLANDSTM	25/12/2010 11:10	7.87	Moderate
531022	0	THE BOULDERS TM	25/12/2010 6:30	6.63	Major
531074	0	CLYDE RD ALERT	25/12/2010 11:37	1.16	Moderate
		CONDAMINE	-BALONNE		
		Condamine R	u/s Warwick		
541039	0	BROSNANS BARNTM	27/12/2010 14:30	6.15	Major
541039	0	BROSNANS BARNTM	10/01/2011 12:00	3.97	Minor
41463	0	KILLARNEY	10/01/2011 11:05	4.9	Minor
41537	0	KILLARNEY ALERT	27/12/2010 14:00	5.5	Moderate
41537	0	KILLARNEY ALERT	10/01/2011 11:35	4.85	Minor
41535	0	ELBOW VALLEY ALERT	24/12/2010 5:25	3.08	Minor
41535	0	ELBOW VALLEY ALERT	27/12/2010 21:40	6.13	Major
41533	0	EMU VALE ALERT	27/12/2010 14:00	7.95	Major
41533	0	EMU VALE ALERT	10/01/2011 12:30	4.95	Below Minor
41536	0	MURRAYS BRIDGE ALERT	5/12/2010 9:10	5.05	Moderate
41536	0	MURRAYS BRIDGE ALERT	5/12/2010 20:25	5.05	Moderate
41536	0	MURRAYS BRIDGE ALERT	20/12/2010 3:00	4.65	Minor
41536	0	MURRAYS BRIDGE ALERT	23/12/2010 22:55	5	Moderate
41536	0	MURRAYS BRIDGE ALERT	27/12/2010 17:45	8.4	Major
541036	0	SWANFELSTM	27/12/2010 13:00	3.66	Minor
541036	0	SWANFELSTM	10/01/2011 11:50	2.68	Below Minor
41530	0	YANGAN ALERT	27/12/2010 14:00	7.65	Minor
41530	0	YANGAN ALERT	10/01/2011 13:30	5	Below Minor
41532	0	CONNOLLY DAM ALERT	27/12/2010 13:40	1.08	Major
41532	0	CONNOLLY DAM ALERT	11/01/2011 17:20	0.93	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
41503	0	WARWICK (SCOTS COLLEGE) TM	27/12/2010 21:00	7.09	Major
41503	0	WARWICK (SCOTS COLLEGE) TM	11/01/2011 20:00	7.73	Major
41357	0	WARWICK	27/12/2010 21:45	7.9	Major
41357	0	WARWICK	11/01/2011 20:00	8.35	Major
	'	Condamine RWarwi	ck to Loudoun Br	<u>'</u>	'
41531	0	GLENGALLAN CREEK ALERT	19/12/2010 23:00	4.35	Moderate
41531	0	GLENGALLAN CREEK ALERT	23/12/2010 16:00	4.4	Moderate
41531	0	GLENGALLAN CREEK ALERT	27/12/2010 14:45	4.8	Moderate
41531	0	GLENGALLAN CREEK ALERT	11/01/2011 12:15	4.8	Moderate
41473	0	PRATTEN	28/12/2010 5:30	9.55	Major
41516	0	ALLORATM	17/12/2010 2:10	4.39	Minor
41516	0	ALLORATM	19/12/2010 21:00	5.5	Major
41516	0	ALLORATM	11/01/2011 10:00	7.1	Major
41345	0	ALLORA	23/12/2010 15:30	5.52	Moderate
41345	0	ALLORA	27/12/2010 15:00	7.21	Major
541048	0	VICTORIA HILLTM	20/12/2010 11:40	3.7	Minor
541048	0	VICTORIA HILLTM	27/12/2010 20:40	5.05	Major
541048	0	VICTORIA HILL TM	12/01/2011 5:40	5.15	Major
41518	0	AIDES BRIDGE TM	19/12/2010 20:00	6.07	Major
41404	0	ELLANGOWAN	27/12/2010 9:00	4.85	Major
41404	0	ELLANGOWAN	11/01/2011 21:00	4.75	Major
41405	0	FELTON	27/12/2010 14:00	6.3	Major
41405	0	FELTON	10/01/2011 18:00	5.5	Major
41515	0	FELTONTM	19/12/2010 21:00	2.69	Major
41515	0	FELTONTM	27/12/2010 15:00	3.34	Major
41515	0	FELTONTM	10/01/2011 20:00	2.98	Major
41514	0	LEYBURNTM	27/12/2010 19:00	4.9	Major
41514	0	LEYBURNTM	11/01/2011 17:00	4.02	Major
41499	0	TUMMAVILLETM	20/12/2010 17:00	7.84	Minor
41499	0	TUMMAVILLETM	27/12/2010 20:00	11.15	Major
41499	0	TUMMAVILLETM	8/01/2011 10:00	8.22	Moderate
41499	0	TUMMAVILLETM	12/01/2011 4:00	10.91	Major
541040	0	YARRAMALONG TM	20/12/2010 17:35	5.69	Moderate
541040	0	YARRAMALONG TM	12/01/2011 8:00	8.77	Major
41472	0	CENTENARY BRIDGE	8/12/2010 5:00	6	Moderate
41472	0	CENTENARY BRIDGE	15/12/2010 5:00	6.35	Moderate
41472	0	CENTENARY BRIDGE	21/12/2010 11:00	6.9	Moderate
41472	0	CENTENARY BRIDGE	28/12/2010 7:00	8.3	Major
41472	0	CENTENARY BRIDGE	8/01/2011 17:30	6.94	Moderate
41472	0	CENTENARY BRIDGE	12/01/2011 12:00	8.02	Major
41498	0	CECIL PLAINS TM	23/12/2010 13:00	6.67	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
41498	0	CECIL PLAINS TM	28/12/2010 19:00	9.22	Major
41498	0	CECIL PLAINS TM	13/01/2011 8:00	8.77	Major
541047	0	PAMPAS BRIDGETM	28/12/2010 3:00	3.59	Major
541047	0	PAMPAS BRIDGETM	7/01/2011 7:00	2.86	Minor
541047	0	PAMPAS BRIDGETM	12/01/2011 13:00	3.44	Moderate
541056	0	LONE PINE TM	28/12/2010 2:00	6.36	Major
541056	0	LONE PINE TM	6/01/2011 21:00	3.79	Minor
541056	0	LONE PINE TM	11/01/2011 23:00	4.67	Moderate
541056	0	LONE PINE TM	13/01/2011 11:00	4.87	Moderate
541093	0	CRANLEYTM	10/01/2011 14:20	4.6	Unknown
41479	0	FAIRVIEWTM	20/12/2010 23:00	5.91	Moderate
541054	0	LOUDOUN BRIDGE TM	21/12/2010 12:00	5.73	Major
541054	0	LOUDOUN BRIDGE TM	29/12/2010 11:00	8.18	Major
541054	0	LOUDOUN BRIDGE TM	13/01/2011 20:00	7.65	Major
41339	0	LOUDOUN BRIDGE	29/12/2010 11:00	11.2	Major
41339	0	LOUDOUN BRIDGE	13/01/2011 20:00	7.65	Moderate
		Myall	Ck	-1	1
541043	0	CLYDESDALE ALERT	18/12/2010 6:00	3.83	Moderate
541043	0	CLYDESDALE ALERT	20/12/2010 1:40	4.78	Major
541043	0	CLYDESDALE ALERT	24/12/2010 6:10	2.93	Minor
541043	0	CLYDESDALE ALERT	27/12/2010 13:50	4.78	Major
541043	0	CLYDESDALE ALERT	8/01/2011 4:20	4.08	Major
541043	0	CLYDESDALE ALERT	10/01/2011 2:50	4.83	Major
541043	0	CLYDESDALE ALERT	11/01/2011 10:00	4.78	Major
541042	0	MOFFATT ALERT	20/12/2010 2:10	2.35	Below Minor
541042	0	MOFFATT ALERT	23/12/2010 20:45	1.55	Below Minor
541042	0	MOFFATT ALERT	27/12/2010 23:20	2.4	Below Minor
541042	0	MOFFATT ALERT	8/01/2011 0:15	1.95	Below Minor
541042	0	MOFFATT ALERT	10/01/2011 1:20	2.35	Below Minor
541042	0	MOFFATT ALERT	11/01/2011 11:00	2.65	Below Minor
41478	0	DALBY	20/12/2010 13:25	2.94	Minor
41478	0	DALBY	27/12/2010 18:50	3.54	Major
41478	0	DALBY	7/01/2011 8:00	2.39	Minor
41478	0	DALBY	10/01/2011 16:45	3.74	Major
41478	0	DALBY	12/01/2011 3:30	3.49	Moderate
541041	0	DALBY ALERT	20/12/2010 13:25	2.94	Minor
541041	0	DALBY ALERT	27/12/2010 18:50	3.54	Major
541041	0	DALBY ALERT	7/01/2011 8:00	2.39	Minor
541041	0	DALBY ALERT	10/01/2011 16:45	3.74	Major
541041	0	DALBY ALERT	12/01/2011 3:30	3.49	Moderate
		CondamineRanç	ges-Cotswold		
41346	0	RANGES BRIDGE	8/12/2010 16:00	6.5	Moderate
41346	0	RANGES BRIDGE	14/12/2010 15:45	6.35	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
41346	0	RANGES BRIDGE	21/12/2010 21:00	8.45	Major
41346	0	RANGES BRIDGE	25/12/2010 6:00	7.75	Major
41346	0	RANGES BRIDGE	29/12/2010 11:30	11	Major
41486	0	WARRA-KOGAN RD BR	23/12/2010 6:00	10.5	Major
41486	0	WARRA-KOGAN RD BR	30/12/2010 6:00	15	Major
41486	0	WARRA-KOGAN RD BR	14/01/2011 6:00	14.15	Major
41490	0	BRIGALOW BRIDGETM	23/12/2010 13:50	11.21	Major
41490	0	BRIGALOW BRIDGETM	30/12/2010 11:00	14.84	Major
41490	0	BRIGALOW BRIDGETM	14/01/2011 21:20	14.15	Major
41517	0	CHINCHILLA WEIR TM	31/12/2010 3:30	15.38	Major
41517	0	CHINCHILLA WEIR TM	15/01/2011 11:00	14.39	Major
41409	0	BERUNA	22/12/2010 9:00	7.2	Major
41409	0	BERUNA	25/12/2010 16:30	7.75	Major
41409	0	BERUNA	28/12/2010 15:00	7.95	Major
41476	0	BURNCLUITH BRIDGE	23/12/2010 12:00	4.35	Moderate
41351	0	CHINCHILLA	24/12/2010 5:30	5.33	Moderate
41351	0	CHINCHILLA	28/12/2010 6:00	7.24	Major
41351	0	CHINCHILLA	12/01/2011 10:15	7.45	Major
541074	0	CHINCHILLATM	28/12/2010 7:00	9.58	Unknown
42048	0	CONDAMINE	1/01/2011 6:15	15.25	Major
42048	0	CONDAMINE	16/01/2011 9:00	14.67	Major
42098	0	COTSWOLDTM	14/12/2010 21:20	8.12	Minor
42098	0	COTSWOLDTM	2/01/2011 21:10	17.82	Major
42098	0	COTSWOLDTM	17/01/2011 17:00	16.99	Major
		Balonne RCotswo	old-Beardmore		
42107	0	GILWEIRTM	21/12/2010 1:00	10.54	Minor
42107	0	GILWEIRTM	28/12/2010 3:00	13.1	Major
42113	0	PINE HILL CROSSING	22/12/2010 6:00	8	Major
42113	0	PINE HILL CROSSING	28/12/2010 18:00	10.8	Major
43052	0	WARKON	16/12/2010 21:00	9.86	Major
43052	0	WARKON	3/01/2011 7:00	12.03	Major
43052	0	WARKON	17/01/2011 9:00	11.79	Major
543008	0	YULEBA FORESTRYTM	22/12/2010 14:10	7.31	Moderate
543008	0	YULEBA FORESTRYTM	29/12/2010 5:10	8.88	Major
43063	0	SURAT	9/12/2010 6:00	8.05	Moderate
43063	0	SURAT	19/12/2010 9:00	8.8	Moderate
43063	0	SURAT	4/01/2011 5:45	12.75	Major
43063	0	SURAT	18/01/2011 22:00	12.4	Major
543005	0	SURATTM	19/12/2010 10:10	8.63	Major
543005	0	SURATTM	23/12/2010 11:20	8.91	Major
543005	0	SURATTM	4/01/2011 6:20	12.3	Major
543005	0	SURATTM	18/01/2011 21:10	11.9	Major
43105	0	TABERSTM	5/12/2010 3:00	5.77	Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
43105	0	TABERSTM	5/12/2010 9:10	5.05	Minor
43105	0	TABERSTM	28/12/2010 8:00	4.76	Below Minor
43074	0	ROMA	5/12/2010 20:30	6.8	Moderate
43074	0	ROMA	13/12/2010 4:30	5.6	Below Minor
43074	0	ROMA	20/12/2010 9:30	5.55	Below Minor
43074	0	ROMA	28/12/2010 9:00	6.8	Moderate
43077	0	GARRABARRA	7/12/2010 19:30	6.25	Moderate
43077	0	GARRABARRA	21/12/2010 21:00	6.6	Moderate
43077	0	GARRABARRA	29/12/2010 0:01	8.75	Major
43080	0	KAROOLA PARK	5/12/2010 9:00	5.45	Minor
43101	0	WERIBONETM	9/12/2010 23:59	9.24	Moderate
43101	0	WERIBONETM	5/01/2011 4:00	13.5	Major
43101	0	WERIBONETM	19/01/2011 20:40	13.15	Major
43107	0	WARROO	11/12/2010 9:00	7.7	Below Minor
43107	0	WARROO	22/01/2011 6:00	14.5	Major
		Marano	a R	1	
43111	0	CURRAWONG	4/12/2010 15:00	4	Minor
43111	0	CURRAWONG	12/12/2010 22:00	4.15	Minor
43111	0	CURRAWONG	19/12/2010 15:00	3.9	Minor
43111	0	CURRAWONG	21/12/2010 6:00	3.25	Minor
43111	0	CURRAWONG	29/12/2010 5:00	5.5	Moderate
43102	0	MITCHELLTM	4/12/2010 21:00	4.36	Moderate
43102	0	MITCHELLTM	13/12/2010 1:00	3.93	Moderate
43102	0	MITCHELLTM	19/12/2010 17:20	4.76	Moderate
43102	0	MITCHELLTM	29/12/2010 8:30	5.74	Major
43099	0	SPRINGFIELD	4/12/2010 2:00	5.75	Below Minor
43099	0	SPRINGFIELD	5/12/2010 12:00	8.2	Major
43099	0	SPRINGFIELD	13/12/2010 12:00	7.22	Moderate
43099	0	SPRINGFIELD	20/12/2010 6:30	8	Major
43099	0	SPRINGFIELD	21/12/2010 9:00	7.75	Moderate
43099	0	SPRINGFIELD	29/12/2010 18:00	9.3	Major
44075	0	WOODLANDS	6/12/2010 6:00	6.59	Moderate
44075	0	WOODLANDS	14/12/2010 15:00	6.4	Moderate
44075	0	WOODLANDS	22/12/2010 18:00	6.62	Moderate
44075	0	WOODLANDS	31/12/2010 15:00	6.97	Moderate
43100	0	OLD CASHMERETM	9/12/2010 14:10	5.98	Moderate
43100	0	OLD CASHMERETM	17/12/2010 6:20	5.78	Moderate
43100	0	OLD CASHMERETM	24/12/2010 21:40	6.09	Moderate
		Balonne R d/s Bea	ardmore Dam		
43053	0	ST GEORGE	11/12/2010 9:00	8.05	Major
43053	0	ST GEORGE	17/12/2010 9:00	7.49	Major
43053	0	ST GEORGE	8/01/2011 12:00	13.2	Major
43053	0	ST GEORGE	23/01/2011 21:00	12.49	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
44154	0	WHYENBAH	12/12/2010 10:00	7.33	Major
44154	0	WHYENBAH	19/12/2010 9:00	7	Major
44154	0	WHYENBAH	28/12/2010 9:00	7.56	Major
44154	0	WHYENBAH	11/01/2011 9:00	8.14	Major
44154	0	WHYENBAH	23/01/2011 9:00	8.05	Major
544017	0	HASTINGS TM	12/12/2010 16:20	6.16	Major
544017	0	HASTINGS TM	19/12/2010 6:00	5.92	Major
544017	0	HASTINGS TM	27/12/2010 21:30	6.29	Major
544017	0	HASTINGS TM	10/01/2011 18:10	6.53	Major
544017	0	HASTINGS TM	23/01/2011 18:00	6.46	Major
544018	0	WHYENBAHTM	12/12/2010 17:10	6.2	Major
544018	0	WHYENBAHTM	19/12/2010 8:00	5.98	Major
544018	0	WHYENBAHTM	28/12/2010 4:00	6.34	Major
544018	0	WHYENBAHTM	24/01/2011 20:00	6.49	Major
44117	0	DIRRANBANDI	12/01/2011 6:00	5.34	Major
44117	0	DIRRANBANDI	25/01/2011 6:00	5.27	Major
544016	0	HEBELTM	16/01/2011 20:00	2.37	Major
544016	0	HEBELTM	29/01/2011 20:00	2.32	Major
	'	Wallam/Munga	llala Creeks		'
44056	0	MUNGALLALA	19/12/2010 18:00	2.9	Below Minor
		BORDER F	RIVERS		
		Macintyre R u	/s Holdfast		
54147	0	WALLANGRA (MACINTYRE)	12/01/2011 0:30	4.38	Unknown
54147	0	WALLANGRA (MACINTYRE)	12/01/2011 14:30	4.48	Unknown
554001	0	PINDARI DAM LEVEL	11/01/2011 8:00	1.49	Unknown
554001	0	PINDARI DAM LEVEL	12/01/2011 1:20	1.73	Unknown
54145	0	ASHFORD (SEVERN R)	11/01/2011 22:45	7.45	Major
54145	0	ASHFORD (SEVERN R)	12/01/2011 6:45	7.55	Major
554002	0	RIDGELANDS	12/01/2011 17:45	10.03	Unknown
554014	0	YETMAN (BRIDGE GAUGE)	12/01/2011 23:45	9.96	Major
54156	0	HOLDFAST	13/01/2011 6:30	8.55	Unknown
		Dumare	sq R		
541082	0	MOUNTAIN STATION CREEK ALERT	10/01/2011 12:00	1.75	Minor
541082	0	MOUNTAIN STATION CREEK ALERT	11/01/2011 8:20	2.05	Minor
541081	0	STORM KING DAM HEADWATER ALERT	10/01/2011 12:26	0.5	Major
541081	0	STORM KING DAM HEADWATER ALERT	11/01/2011 7:59	0.9	Major
541085	0	DALCOUTH AL	10/01/2011 13:41	2.85	Major
541085	0	DALCOUTH AL	11/01/2011 9:04	2.95	Major
541084	0	KETTLE SWAMP CREEK AL	10/01/2011 14:30	2.15	Major
541084	0	KETTLE SWAMP CREEK AL	11/01/2011 12:45	1.65	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
541086	0	GRANITE STREET ALERT	10/01/2011 13:50	2.68	Major
541086	0	GRANITE STREET ALERT	11/01/2011 9:50	2.88	Major
541087	0	STANTHORPE ALERT	10/01/2011 14:40	4.87	Major
541087	0	STANTHORPE ALERT	11/01/2011 11:00	4.97	Major
541090	0	ACCOMODATION CREEK ALERT	11/01/2011 9:40	4.2	Major
541089	0	BALLANDEAN ALERT	28/12/2010 1:10	3.57	Moderate
541089	0	BALLANDEAN ALERT	10/01/2011 19:00	5.22	Major
541089	0	BALLANDEAN ALERT	11/01/2011 15:00	5.47	Major
541053	0	FARNBRO TM	27/12/2010 9:40	2.82	Minor
541053	0	FARNBRO TM	11/01/2011 15:00	5.43	Major
541088	0	BROADWATER CREEK ALERT	27/12/2010 14:07	3.9	Moderate
541088	0	BROADWATER CREEK ALERT	10/01/2011 15:30	3.5	Moderate
541088	0	BROADWATER CREEK ALERT	11/01/2011 12:30	3.8	Moderate
541052	0	GLENLYON DAM TW TM	12/01/2011 5:00	3.28	Minor
556002	0	DONALDSON	11/01/2011 19:15	8.42	Unknown
54146	0	HAYSTACK	11/01/2011 16:30	5.66	Unknown
41540	0	BEARDY JUNCTION	7/01/2011 9:00	6.05	Minor
41540	0	BEARDY JUNCTION	12/01/2011 1:30	9.9	Major
54155	0	BONSHAW (DUMARESQ R)	12/01/2011 5:45	8.12	Unknown
41403	0	TEXAS	12/01/2011 8:35	9.21	Major
41548	0	TEXASTM	12/01/2011 8:35	9.21	Major
541065	0	OAKY CREEKTM	12/01/2011 15:30	3.94	Minor
541067	0	GLENARBON WEIRTM	8/01/2011 18:00	4.03	Unknown
541067	0	GLENARBON WEIRTM	12/01/2011 20:45	6.86	Unknown
		Macintyr	e Bk		
41491	0	BARONGAROOKTM	27/12/2010 16:30	4.9	Moderate
41491	0	BARONGAROOKTM	6/01/2011 17:00	4.38	Minor
41491	0	BARONGAROOKTM	11/01/2011 10:45	5.09	Moderate
41495	0	TERRAINETM	6/01/2011 16:30	3.94	Moderate
41495	0	TERRAINETM	11/01/2011 10:45	3.58	Moderate
541033	0	COOLMUNDA DAM HWTM	28/12/2010 2:00	0.25	Minor
41137	0	COOLMUNDA DAMTWTM	28/12/2010 2:35	1.97	Minor
41137	0	COOLMUNDA DAMTWTM	11/01/2011 17:34	4.47	Minor
41406	0	INGLEWOOD BRIDGE	7/01/2011 2:00	8.67	Minor
41123	0	INGLEWOOD BRIDGETM	28/12/2010 8:30	8.38	Minor
41123	0	INGLEWOOD BRIDGETM	7/01/2011 3:00	8.67	Minor
41123	0	INGLEWOOD BRIDGETM	11/01/2011 23:53	9.15	Moderate
41133	0	WOODSPRING TM	7/01/2011 3:50	7.19	Major
41133	0	WOODSPRINGTM	12/01/2011 3:40	7.6	Major
41391	0	WOODSPRING	28/12/2010 2:00	9	Major
41391	0	WOODSPRING	7/01/2011 6:00	7.2	Major
41391	0	WOODSPRING	12/01/2011 2:00	7.7	Major

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
41520	0	INGLEWOOD WEIRTM	7/01/2011 3:50	9.1	Major
41520	0	INGLEWOOD WEIRTM	12/01/2011 1:40	9.66	Major
41519	0	BOOBA SANDS TM	29/12/2010 4:00	8.03	Major
41519	0	BOOBA SANDS TM	7/01/2011 22:40	8.33	Major
41519	0	BOOBA SANDS TM	12/01/2011 20:00	8.81	Major
		Macintyre R d/s N	lew Bengella	1	
41506	0	BENGALLATM	31/12/2010 0:40	6.56	Moderate
41506	0	BENGALLATM	9/01/2011 0:20	8.72	Moderate
41506	0	BENGALLATM	13/01/2011 7:10	10.94	Major
41507	0	NEW KILDONAN TM	30/12/2010 10:00	6	Moderate
41507	0	NEW KILDONAN TM	9/01/2011 18:30	8.89	Moderate
41507	0	NEW KILDONAN TM	14/01/2011 1:10	13.06	Major
53101	0	BOGGABILLA (MACINTYRE R)	30/12/2010 16:00	7.14	Minor
53101	0	BOGGABILLA (MACINTYRE R)	9/01/2011 22:30	9.91	Minor
53101	0	BOGGABILLA (MACINTYRE R)	14/01/2011 8:00	12.56	Major
41350	0	GOONDIWINDI	9/01/2011 19:00	8.94	Major
41350	0	GOONDIWINDI	14/01/2011 7:00	10.64	Major
41500	0	GOONDIWINDITM	30/12/2010 17:00	6.92	Moderate
541030	0	GOONDIWINDI WEIRTM	30/12/2010 17:00	6.39	Moderate
541030	0	GOONDIWINDI WEIRTM	9/01/2011 0:01	7.62	Moderate
541030	0	GOONDIWINDI WEIRTM	14/01/2011 6:20	8.04	Moderate
541070	0	CARANA WEIR TM	31/12/2010 4:00	5.07	Moderate
541070	0	CARANA WEIRTM	10/01/2011 19:00	5.99	Major
541072	0	OONAVALETM	11/01/2011 21:50	6.58	Unknown
53109	0	TERREWAH	23/12/2010 10:00	6.56	Moderate
52084	0	BOOMI WEIR	6/01/2011 6:45	2.42	Unknown
552012	0	KANOWNA (MACINTYRE)	11/01/2011 13:30	5.45	Unknown
		Weir F	3	'	'
41508	0	O'CONNORTM	28/12/2010 7:40	14.58	Major
41508	0	O'CONNORTM	7/01/2011 9:00	5.15	Minor
41508	0	O'CONNORTM	10/01/2011 14:30	4.92	Minor
41508	0	O'CONNORTM	12/01/2011 0:40	11.86	Major
41485	0	RETREAT BRIDGE TM	29/12/2010 23:10	12.82	Major
41485	0	RETREAT BRIDGE TM	4/01/2011 14:10	3.83	Below Minor
41485	0	RETREAT BRIDGE TM	8/01/2011 5:00	4.84	Below Minor
41485	0	RETREAT BRIDGE TM	13/01/2011 7:20	10.34	Major
41488	0	BALLYMENATM	30/12/2010 21:40	11.14	Major
41488	0	BALLYMENATM	5/01/2011 9:10	3.71	Below Minor
41488	0	BALLYMENATM	9/01/2011 0:10	4.84	Below Minor
41488	0	BALLYMENATM	14/01/2011 5:30	9.96	Major
542004	0	GUNN BRIDGE (DNR) TM	31/12/2010 7:40	7.64	Major
542004	0	GUNN BRIDGE (DNR) TM	5/01/2011 19:00	2.9	Below Minor
542004	0	GUNN BRIDGE (DNR) TM	9/01/2011 8:00	3.94	Below Minor

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
542004	0	GUNN BRIDGE (DNR) TM	14/01/2011 20:20	7.31	Major
41489	0	MEDPARK BRIDGETM	7/01/2011 23:40	4.21	Moderate
41366	0	GIDDI GIDDI SOUTH	17/01/2011 9:00	6.05	Major
41112	0	GIDDI GIDDI SOUTHTM	3/01/2011 8:10	5.66	Moderate
41112	0	GIDDI GIDDI SOUTHTM	3/01/2011 8:10	5.65	Moderate
41112	0	GIDDI GIDDI SOUTHTM	12/01/2011 5:15	4.2	Minor
42097	0	HARTMANN BRIDGETM	4/01/2011 12:00	5.09	Moderate
42097	0	HARTMANN BRIDGETM	12/01/2011 22:20	4.04	Minor
42097	0	HARTMANN BRIDGETM	19/01/2011 14:00	5.54	Moderate
42104	0	SURREYTM	5/01/2011 13:00	5.61	Major
42104	0	SURREYTM	21/01/2011 6:00	5.67	Major
42066	0	TALWOOD	8/01/2011 9:00	3.77	Moderate
		MOOI	NIE		
		Mooni	e R		
41493	0	THE DEEP CROSSING	27/12/2010 23:59	5.65	Major
41493	0	THE DEEP CROSSING	12/01/2011 3:00	3.3	Moderate
41368	0	TARTHA	28/12/2010 18:30	7	Major
42100	0	SOUTHWOOD	13/12/2010 5:00	5	Moderate
42100	0	SOUTHWOOD	29/12/2010 15:00	6.9	Major
42100	0	SOUTHWOOD	7/01/2011 22:00	4.85	Moderate
42100	0	SOUTHWOOD	13/01/2011 5:45	5.35	Moderate
42053	0	FLINTON	16/12/2010 9:00	3.8	Minor
42053	0	FLINTON	25/12/2010 15:00	3.08	Minor
42053	0	FLINTON	29/12/2010 18:00	4.03	Moderate
42053	0	FLINTON	2/01/2011 6:00	5.05	Major
42053	0	FLINTON	12/01/2011 15:00	4	Moderate
42053	0	FLINTON	17/01/2011 15:00	3.81	Minor
542006	0	FLINTONTM	26/12/2010 1:30	5.23	Unknown
542006	0	FLINTONTM	29/12/2010 16:00	6.26	Unknown
542006	0	FLINTONTM	12/01/2011 17:00	6.52	Unknown
43097	0	TEELBA	6/01/2011 8:00	5.4	Minor
43097	0	TEELBA	11/01/2011 20:30	5.05	Minor
42103	0	MT DRIVEN	4/01/2011 13:45	7.21	Major
42103	0	MT DRIVEN	14/01/2011 9:00	5.85	Moderate
44194	0	NINDIGULLY	6/01/2011 6:00	3.88	Moderate
44194	0	NINDIGULLY	16/01/2011 9:00	3.26	Moderate
42105	0	NINDIGULLYTM	6/01/2011 19:00	5.71	Moderate
42105	0	NINDIGULLYTM	16/01/2011 22:00	5.25	Moderate
542009	0	THALLON BRIDGE	8/01/2011 17:00	5.28	Major
542009	0	THALLON BRIDGE	18/01/2011 6:00	4.84	Moderate
42076	0	THALLON	9/01/2011 5:50	5.36	Major
42106	0	FENTONTM	26/12/2010 8:00	3.97	Minor
42106	0	FENTONTM	11/01/2011 12:00	4.94	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS			
42106	0	FENTONTM	20/01/2011 20:00	4.68	Moderate			
		WARRE	GO		1			
Warrego R u/s Charleville								
44190	0	LOCHINVAR	3/12/2010 15:00	4	Moderate			
44190	0	LOCHINVAR	12/12/2010 8:00	5.6	Major			
44190	0	LOCHINVAR	20/12/2010 6:30	6.05	Major			
44190	0	LOCHINVAR	29/12/2010 1:00	8.65	Major			
44199	0	WETLANDS	3/12/2010 9:00	3.8	Moderate			
44199	0	WETLANDS	20/12/2010 9:00	3.9	Moderate			
544011	0	AUGATHELLA TM	13/12/2010 1:00	5.94	Moderate			
544011	0	AUGATHELLA TM	21/12/2010 21:50	6.07	Major			
544011	0	AUGATHELLA TM	30/12/2010 2:20	6.46	Major			
35283	0	DRENSMAINE	12/12/2010 1:00	4.6	Minor			
44200	0	BIDDENHAMTM	5/12/2010 4:00	2.24	Minor			
44200	0	BIDDENHAMTM	6/12/2010 2:00	2.5	Minor			
44200	0	BIDDENHAMTM	13/12/2010 9:30	5.35	Moderate			
44200	0	BIDDENHAMTM	21/12/2010 23:00	4.77	Moderate			
44200	0	BIDDENHAMTM	30/12/2010 2:20	6.46	Major			
44201	0	THE 27 MILE GARDENTM	6/12/2010 18:00	3.02	Moderate			
44201	0	THE 27 MILE GARDENTM	9/12/2010 17:00	2.66	Minor			
44201	0	THE 27 MILE GARDENTM	14/12/2010 4:00	4.46	Major			
44201	0	THE 27 MILE GARDENTM	23/12/2010 1:10	4.22	Major			
44156	0	CHARLEVILLE RV	1/12/2010 23:59	2.75	Below Minor			
44156	0	CHARLEVILLE RV	8/12/2010 4:00	3.36	Below Minor			
44156	0	CHARLEVILLE RV	15/12/2010 6:30	5.19	Moderate			
44156	0	CHARLEVILLE RV	23/12/2010 23:59	4.85	Minor			
44156	0	CHARLEVILLE RV	1/01/2011 3:00	5.09	Moderate			
		Warrego R d/s	Charleville					
44208	0	WARILDA	11/12/2010 6:00	5.05	Major			
44208	0	WARILDA	14/12/2010 15:00	4.4	Moderate			
44208	0	WARILDA	25/12/2010 12:00	3.7	Minor			
44208	0	WARILDA	29/12/2010 15:00	3.85	Minor			
44209	0	OAKPARK	8/12/2010 11:00	4.5	Moderate			
44209	0	OAKPARK	9/12/2010 19:15	4.8	Moderate			
44209	0	OAKPARK	12/12/2010 19:00	5	Major			
544021	0	BINNOWEETM	13/12/2010 19:50	5.55	Moderate			
544021	0	BINNOWEETM	29/12/2010 17:00	4.21	Minor			
44206	0	BAKERS BENDTM	15/12/2010 13:00	6.95	Minor			
44206	0	BAKERS BENDTM	2/01/2011 0:01	6.11	Minor			
544014	0	WYANDRATM	1/12/2010 10:00	5.52	Below Minor			
544014	0	WYANDRATM	17/12/2010 3:00	6.81	Minor			
544014	0	WYANDRATM	3/01/2011 8:00	6.14	Minor			
44174	0	WALLEN	2/12/2010 18:00	5.45	Minor			

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS
44174	0	WALLEN	18/12/2010 6:00	7.3	Moderate
44174	0	WALLEN	27/12/2010 18:00	5.72	Minor
44174	0	WALLEN	4/01/2011 5:00	6.35	Minor
544024	0	WALLENTM	2/12/2010 17:00	5.92	Minor
544024	0	WALLENTM	18/12/2010 9:50	7.59	Moderate
544019	0	CUNNAMULLA WEIRTM	4/12/2010 4:00	6.89	Moderate
544019	0	CUNNAMULLA WEIRTM	19/12/2010 21:00	7.65	Major
544019	0	CUNNAMULLA WEIRTM	29/12/2010 7:20	7.02	Moderate
44210	0	ROCKY	5/12/2010 15:00	4.1	Moderate
44210	0	ROCKY	21/12/2010 21:30	4.69	Moderate
44210	0	ROCKY	30/12/2010 15:00	4.2	Moderate
		PARO	0		
		Paroo	R		
44222	0	QUILPETA	5/12/2010 9:00	2	Minor
44222	0	QUILPETA	11/12/2010 15:00	2.7	Minor
44153	0	EULO	5/12/2010 6:00	3.4	Moderate
44153	0	EULO	9/12/2010 6:00	3.4	Moderate
44153	0	EULO	16/12/2010 18:00	3.8	Moderate
544015	0	CAIWARRO TM	9/12/2010 4:00	2.76	Moderate
544015	0	CAIWARRO TM	20/12/2010 11:40	2.86	Moderate
44181	0	HUNGERFORD	10/12/2010 15:00	1.7	Moderate
44181	0	HUNGERFORD	22/12/2010 16:00	1.64	Moderate
	1	BULLC	00	1	1
		Bulloo	R		
45043	0	ADAVALE	10/12/2010 18:30	3.6	Moderate
45043	0	ADAVALE	27/12/2010 19:00	3.1	Minor
45044	0	QUILPIE	14/12/2010 6:00	5.15	Major
545007	0	QUILPIETM	13/12/2010 13:00	5.24	Major
545001	0	AUTUMNVALETM	7/12/2010 19:00	6.05	Moderate
545001	0	AUTUMNVALETM	22/12/2010 7:40	5.92	Moderate
45045	0	THARGOMINDAH	9/12/2010 6:00	4.88	Moderate
45045	0	THARGOMINDAH	15/12/2010 15:00	4.57	Moderate
45045	0	THARGOMINDAH	23/12/2010 15:00	4.78	Moderate
		COOPER (CREEK		
		Thomso	n R		
536006	0	BOWEN DOWNSTM	1/12/2010 20:00	2.99	Unknown
536006	0	BOWEN DOWNSTM	31/12/2010 11:00	4.78	Unknown
36037	0	MUTTABURRA	31/12/2010 9:00	4.7	Minor
36013	0	CAMOOLA PARK	20/12/2010 18:00	4.1	Moderate
36161	0	LONGREACHTM	4/12/2010 3:00	2.73	Below Minor
36161	0	LONGREACHTM	1/01/2011 9:00	4.62	Moderate
537004	0	STONEHENGETM	2/12/2010 1:00	4.34	Moderate
537004	0	STONEHENGE TM	31/12/2010 4:00	4.21	Moderate

STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS			
38037	0	JUNDAH	3/12/2010 7:00	4.25	Moderate			
38037	0	JUNDAH	2/01/2011 6:00	4.05	Moderate			
Barcoo R								
35049	0	GILLESPIE	1/12/2010 6:00	4.15	Minor			
35049	0	GILLESPIE	20/12/2010 20:00	6.6	Minor			
35049	0	GILLESPIE	28/12/2010 6:00	6.1	Minor			
35259	0	DUNEIRA	20/12/2010 9:00	2.8	Minor			
536003	0	BLACKALLTM	20/12/2010 22:00	5.51	Moderate			
536003	0	BLACKALLTM	30/12/2010 1:00	4.53	Minor			
36169	0	COOLAGH	5/12/2010 8:00	5.2	Moderate			
36169	0	COOLAGH	23/12/2010 6:00	6.25	Major			
36169	0	COOLAGH	30/12/2010 7:00	6.3	Major			
35286	0	GLENCOE	24/12/2010 17:00	2.65	Moderate			
35286	0	GLENCOE	27/12/2010 20:00	3.5	Major			
35285	0	JERICHO	28/12/2010 23:00	3.8	Major			
536002	0	BARCALDINE WEIR TM	29/12/2010 1:00	3.14	Major			
36026	0	ISISFORD	6/12/2010 12:30	5.94	Moderate			
36026	0	ISISFORD	13/12/2010 23:00	6.84	Major			
36026	0	ISISFORD	21/12/2010 18:00	4.81	Minor			
36026	0	ISISFORD	24/12/2010 9:00	6.44	Major			
36026	0	ISISFORD	1/01/2011 6:00	6.97	Major			
36104	0	OMA	6/12/2010 19:30	5.42	Moderate			
36104	0	OMA	14/12/2010 6:00	6.33	Major			
36104	0	OMA	20/12/2010 18:00	4.88	Minor			
36104	0	OMA	24/12/2010 16:00	5.96	Moderate			
36104	0	OMA	1/01/2011 18:00	6.42	Major			
36094	0	WAHROONGHA	15/12/2010 6:00	4.85	Moderate			
36094	0	WAHROONGHA	26/12/2010 6:00	4.6	Moderate			
36094	0	WAHROONGHA	2/01/2011 6:00	4.95	Moderate			
38034	0	GLENLOCK	2/12/2010 4:00	6.45	Major			
38034	0	GLENLOCK	17/12/2010 15:00	5.55	Moderate			
38034	0	GLENLOCK	28/12/2010 5:30	5.45	Moderate			
38034	0	GLENLOCK	4/01/2011 15:00	5.7	Moderate			
538001	0	RETREAT TM	3/12/2010 16:00	10.13	Major			
538001	0	RETREATTM	19/12/2010 20:00	7.89	Major			
538001	0	RETREATTM	29/12/2010 13:00	7.39	Major			
538001	0	RETREATTM	6/01/2011 14:00	8.3	Major			
Cooper Ck								
38038	0	WINDORAH	6/12/2010 6:00	5.67	Major			
38038	0	WINDORAH	13/12/2010 6:00	5.33	Major			
38038	0	WINDORAH	20/12/2010 15:00	5.14	Major			
38038	0	WINDORAH	7/01/2011 6:00	5.22	Major			
38038	0	WINDORAH	15/01/2011 15:00	4.67	Moderate			

NICHOLSON	STATION NO.	SENS NO.	STATION NAME	DATE	HEIGHT	FLOOD CLASS				
Nicholson/Gregory R	38038	0	WINDORAH	20/01/2011 6:00	4.65	Moderate				
Section Color Co	NICHOLSON									
FLINDERS Flinders R	Nicholson/Gregory R									
Second Finders Finde	529009	0	GREGORY DOWNSTM	21/01/2011 7:20	6.12	Minor				
30024 0	FLINDERS									
Sanoon	Flinders R									
NORMAN	30024	0	HUGHENDEN	19/01/2011 6:00	3.17	Moderate				
NORMAN	530009	0	RICHMONDTM	19/01/2011 23:00	6.25	Moderate				
Norman R 29154 0 YAPPAR RIVER 19/01/2011 19:00 2.45 M SILBERT Gilbert R 30112 0 NORTH HEAD 20/01/2011 9:00 5.35 M 30158 0 GREEN HILLS 20/01/2011 21:00 5 M 30157 0 RIVERVIEW (GILBERT RV) 21/01/2011 6:00 3.6 B 533095 0 ROCKFIELDS TM 21/01/2011 1:30 5.69 U 530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HW TM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HW TM 21/01/2011 2:50 38 U 530013 0 KIDSTON DAM TW TM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 2:50 4.26 U 530018 0 GEORGETOWN 22/12/2010 7:30 3.82 B W 528009 0 ROOKWOOD TM 21/01/2011 2:00 10.87 U 528009 0 ROOKWOOD TM 21/01/2011 2:10 16.81 U 528006 0 OK BRIDGE TM 22/01/2011 1:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U 531031 0 PALMER RIVER TM 22/01/2011 6:10	530009	0	RICHMONDTM	21/01/2011 2:00	5.58	Minor				
Second Part	NORMAN									
GILBERT Gilbert R 30112	Norman R									
Gilbert R 30112	29154	0	YAPPAR RIVER	19/01/2011 19:00	2.45	Minor				
30112 0 NORTH HEAD 20/01/2011 9:00 5.35 M 30158 0 GREEN HILLS 20/01/2011 21:00 5 M 30157 0 RIVERVIEW (GILBERT RV) 21/01/2011 6:00 3.6 B 533095 0 ROCKFIELDS TM 21/01/2011 10:00 7.21 M 530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HWTM 20/01/2011 2:50 38 U 530013 0 KIDSTON DAM HWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGHTM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45	GILBERT									
30158 0 GREEN HILLS 20/01/2011 21:00 5 M 30157 0 RIVERVIEW (GILBERT RV) 21/01/2011 6:00 3.6 B 533095 0 ROCKFIELDS TM 21/01/2011 10:00 7.21 M 530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HWTM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HWTM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGHTM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.	Gilbert R									
30157 0 RIVERVIEW (GILBERT RV) 21/01/2011 6:00 3.6 B 533095 0 ROCKFIELDS TM 21/01/2011 10:00 7.21 M 530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HW TM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HW TM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TW TM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 2:10 16.81 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 17:40	30112	0	NORTH HEAD	20/01/2011 9:00	5.35	Minor				
533095 0 ROCKFIELDS TM 21/01/2011 10:00 7.21 M 530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HW TM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HW TM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TW TM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40	30158	0	GREEN HILLS	20/01/2011 21:00	5	Minor				
530015 0 SPANNER WATERHOLE TM 21/01/2011 1:30 5.69 U 530014 0 KIDSTON DAM HWTM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HWTM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 17:40 17.88 U 528001 0 GAMBOOLA TM 22/01/2011 6:10	30157	0	RIVERVIEW (GILBERT RV)	21/01/2011 6:00	3.6	Below Minor				
530014 0 KIDSTON DAM HWTM 20/01/2011 2:50 38 U 530014 0 KIDSTON DAM HWTM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 6:10 4.61 U	533095	0	ROCKFIELDSTM	21/01/2011 10:00	7.21	Minor				
530014 0 KIDSTON DAM HWTM 21/01/2011 2:45 37.82 U 530013 0 KIDSTON DAM TWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGHTM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	530015	0	SPANNER WATERHOLE TM	21/01/2011 1:30	5.69	Unknown				
530013 0 KIDSTON DAM TWTM 21/01/2011 2:50 4.26 U 530007 0 EINASLEIGH TM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	530014	0	KIDSTON DAM HWTM	20/01/2011 2:50	38	Unknown				
530007 0 EINASLEIGHTM 21/01/2011 12:00 8.51 B 30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	530014	0	KIDSTON DAM HWTM	21/01/2011 2:45	37.82	Unknown				
30018 0 GEORGETOWN 22/12/2010 7:30 3.82 B MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	530013	0	KIDSTON DAM TW TM	21/01/2011 2:50	4.26	Unknown				
MITCHELL 528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	530007	0	EINASLEIGHTM	21/01/2011 12:00	8.51	Below Minor				
528009 0 ROOKWOOD TM 21/01/2011 7:00 10.72 U 528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	30018	0	GEORGETOWN	22/12/2010 7:30	3.82	Below Minor				
528009 0 ROOKWOOD TM 21/01/2011 23:00 10.87 U 528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	MITCHELL									
528003 0 TRIMBLES CROSSING TM 22/01/2011 2:10 16.81 U 531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	528009	0	ROOKWOODTM	21/01/2011 7:00	10.72	Unknown				
531087 0 COOKTOWN CROSSING TM 22/01/2011 14:00 6.45 U 528006 0 OK BRIDGE TM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLA TM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	528009	0	ROOKWOODTM	21/01/2011 23:00	10.87	Unknown				
528006 0 OK BRIDGETM 22/01/2011 6:40 12.76 U 528001 0 GAMBOOLATM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	528003	0	TRIMBLES CROSSING TM	22/01/2011 2:10	16.81	Unknown				
528001 0 GAMBOOLATM 22/01/2011 17:40 17.88 U 531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	531087	0	COOKTOWN CROSSING TM	22/01/2011 14:00	6.45	Unknown				
531031 0 PALMER RIVER TM 22/01/2011 6:10 4.61 U	528006	0	OK BRIDGETM	22/01/2011 6:40	12.76	Unknown				
	528001	0	GAMBOOLATM	22/01/2011 17:40	17.88	Unknown				
	531031	0	PALMER RIVER TM	22/01/2011 6:10	4.61	Unknown				
527013 0 DRUMDUFFTM 24/01/2011 1:30 10.61 U	527013	0	DRUMDUFFTM	24/01/2011 1:30	10.61	Unknown				
29038 0 KOWANYAMA AP 28/12/2010 8:25 3.15 M	29038	0	KOWANYAMA AP	28/12/2010 8:25	3.15	Moderate				