



**Queensland Storm Spotter Newsletter
September 2010**

Produced by the Bureau of Meteorology, Queensland Severe Weather Section

Hello everyone. The Queensland Severe Weather Section here at the Bureau is pleased to present "Cumulonimbus," our Storm Spotter newsletter. We hope to continue to use it to provide you with feedback, news and information, and most importantly to let you know that we have not forgotten you! The information that Storm Spotters provide is invaluable in both severe thunderstorm warning situations and for research, allowing us to improve our understanding of the nature and distribution of severe thunderstorms across Queensland. Your commitment and effort is really appreciated by the severe weather staff, even if you have had nothing to report to us.

The season in review

The 2009/10 season kicked off a little later than usual with El Nino conditions present in the Pacific Ocean. A series of dust storms affected the state during September before thunderstorms became more prevalent towards the end of October. Between July 2009 and June 2010, severe thunderstorms warnings were issued in Queensland on 69 days. In Southeast Queensland, they were issued on 35 days with storm spotters confirming the presence of severe thunderstorms on 9 of these days. The month-by-month distribution of severe thunderstorms warnings across Queensland is shown in the table below:

Month	Number of severe thunderstorm warning days
July	0
August	1
September	0
October	6
November	12
December	15
January	15
February	11
March	4
April	2
May	3
June	0

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Date: 27 | 05 | 11 Jm

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A couple of the notable severe thunderstorm events that occurred during the season were as follows:

November 5th, 2009:

A surface trough situated across the eastern interior of the state triggered widespread thunderstorms throughout southeast Queensland. One intense supercell thunderstorm developed near Freestone (northeast of Warwick) during the afternoon that managed to produce 9cm hail. The supercell caused significant damage to cars on the Cunningham Highway and also damaged the roofs of many houses in the area. Thunderstorms elsewhere across the region generated hail ranging from pea to golf ball in size at locations including, Stanthorpe, Allora and Laidley Heights. The thunderstorms extended towards the coast during the evening and dumped heavy rainfall around Ipswich.

November 29th, 2009:

A synoptic situation similar to the previous situation kicked off thunderstorms across southeast Queensland, particularly around the Southeast Coast district. Thunderstorms developed near the trough line during the afternoon and then propagated in a north-easterly direction towards the coast. Severe thunderstorms were most evident across the northern suburbs of Brisbane with hail to 2.5cm in diameter reported at various locations including, Bracken Ridge and Redcliffe. Damaging to near destructive winds were recorded at Inner Beacon and significant damage to trees associated with wind gusts was also reported at Deagon.

Submitting reports

Storm spotters are encouraged to submit their reports online at the Bureau's Storm Spotter web page (http://www.bom.gov.au/storm_spotters/). The username and password are as follows (Please do NOT disclose these details to any other person).

Username:

Password: _____

Remember that you can also submit Storm Spotter reports online via e-mail to the address storm_spotters@bom.gov.au. Of course, you are still welcome to utilise either or both of the other methods, ie. telephoned reports (1800 _____) and posted report cards. In particular, telephoned and online reports are encouraged if they can be made safely soon after the severe thunderstorm occurs, as we can then use that information to warn others in the storm's path. Remember, though, not to use a telephone if there is still lightning in the vicinity. Computer modems, too, can suffer damage from power surges associated with lightning strikes if they are plugged in. Wait until the storm has moved away before contacting us!

When submitting an e-mail report, please include all the information that you would normally fill in on a report card. That is:

- Your storm spotter number.
- The time and place you observed the severe weather (including the date).
- The severe weather observed (ie. hail 2cm or more in size, torrential rain / flash flooding, damaging winds, or a tornado). Please include a description of any damage caused, as well as a measurement or estimate of the hail size if there was any large hail. Measurements or estimates of wind speed and rainfall intensity are also encouraged when possible.

Article: The “Gap” severe thunderstorm event

The “Gap” severe thunderstorm event occurred during a 5-day period commencing on the 16th November 2008, the first in a succession of severe thunderstorms that brought widespread havoc to southeast Queensland. The storms occurred in three distinct waves, the first propagating across the Gold Coast hinterland and Brisbane’s western suburbs on the 16th, the second affecting mainly the Ipswich-Toowoomba corridor on the 19th, and the third targeting Brisbane’s CBD and inner north on the 20th. During this period, violent wind gusts along with localised flooding and hail brought the damage bill into the hundreds of millions of dollars. Two lives were lost in floodwaters.

The “Gap” severe thunderstorm has been widely touted as the worst severe thunderstorm event to affect greater Brisbane since the infamous January 1985 hailstorm. Large, potentially thunderous clouds started forming over northern NSW early in the afternoon, with mature storms soon spilling off the border ranges into southeast Queensland. A north-easterly track then carried the storms over Wonglepong, Canungra and Mt Tamborine, where the first reports of wind and hail damage were documented. The offending storm subsequently merged with a second cell – also originating from across the border – resulting in a new cell that tracked across Redbank Plains through the western and north-western suburbs of Brisbane, culminating in an extremely intense wind storm at the Gap. After advancing through Caboolture, the storm eventually decayed on the Sunshine Coast.

Damaging hailstones were observed at several locations along the storm’s path, including Wonglepong, Yatala, Guanaba, and Ferny Hills, some as large as golf balls. Intense rainfall and flash flooding also occurred at many locations. Recorded rainfall intensities included 36mm in 10 minutes at Enoggera and Everton Hills and 60mm in 20 minutes at Ferny Hills. However the intensity and duration of the damaging wind was the standout feature of the storm, particularly in the north-western suburbs of The Gap, Keperra, Arana Hills, Upper Kedron, Ferny Grove, and Ferny Hills. There was widespread damage to trees, power lines and some structures. Many of these areas were without electricity for over 24 hours. Damage was also reported from other suburbs including Everton Hills, Albany Creek, and Narangba. Emergency Services documented 716 damage incidents in the Brisbane, Moreton Bay and Caboolture areas on the morning following the storms, with an estimated 230000 residents without power. Numerous unofficial reports were also received, most notably 3-4 cm hail at Mt Tamborine, a possible tornado at Canungra, and a rainfall report of 52mm in just 15 minutes at Morayfield.

The Doppler CP2 research radar at Redbank Plains indicated peak wind gust speeds approaching 176 km/h near The Gap at the height of the storm (Figure 1).

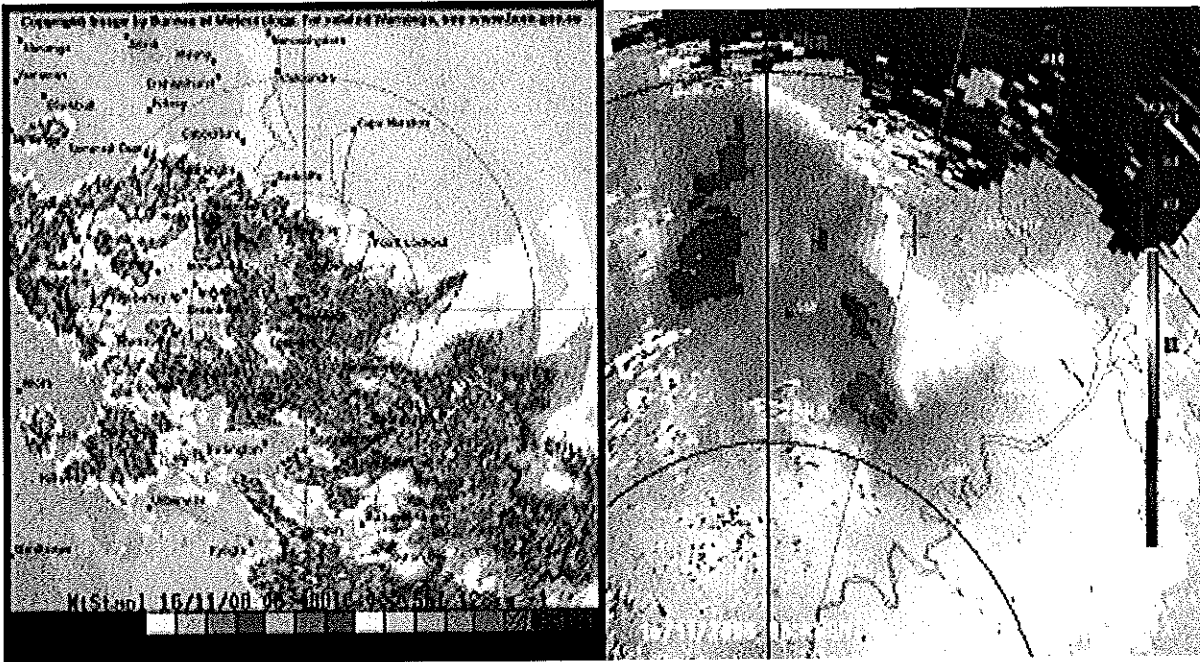


Figure 1: 128km Brisbane (Mt Stapylton) radar reflectivity image (left) and a Doppler radar velocity image from CP2 research facility at Redbank Plains (right) from the 16/11/08

The season ahead

The 2009-2010 thunderstorm season is almost upon us. You might like to refresh your knowledge of storm spotting and severe thunderstorms in advance of the coming season by taking the time to review the information in your copy of the Storm Spotter's Handbook. If you have lost your copy of the Handbook, or if you need more severe thunderstorm reporting cards, feel free to contact us on [@bom.gov.au](mailto:storm.spotters@bom.gov.au) and we will be happy to post you what is needed. Electronic versions of the Handbook are also available at the Bureau's Storm Spotter web page (http://www.bom.gov.au/storm_spotters/).

If you have a friend who is interested in becoming a Spotter, feel free to recruit them! Encourage them to contact us on [@bom.gov.au](mailto:storm.spotters@bom.gov.au) and we will send them a registration form. There are no requirements for joining (other than an interest in thunderstorms and a willingness to report them to us). We are always interested in recruiting more Spotters!

Conversely, if you no longer wish to be a Storm Spotter for whatever reason, you can also contact us on the above email address and we will take you off the books.

Finally, we would like to wish you all the best for the coming season, and happy spotting!

WHAT TO REPORT

Please report only thunderstorms that produce at least one of the following:

Hail 2 cm in diameter (the size of a \$2 coin) or larger.

Wind gusts of 90 km/h or greater – ie. strong enough to cause at least minor damage (such as large branches ripped off trees, trees uprooted or snapped off, or tiles/metal sheeting lifted or removed from building roofs).

Rainfall heavy enough to cause significant “flash” flooding, such as a road completely underwater, water entering buildings etc. Generally any fall of 65-70 mm or more in an hour would qualify.

Tornadoes – rotating funnel or rope-shaped clouds causing a visible disturbance on the ground.

Call toll-free to report – 1800