



Australian Government
Bureau of Meteorology



Queensland Floods January and February 2009



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3	4
5	6

Clockwise from top left;

1. Davidson Street, Ingham, appears just like the canals of Venice. 03/02/2009.
2. Burdekin Falls Dam
3. Ross River Dam
4. Floodwaters enter shops in the retail and business centre of Ingham. Picture Mark and Belinda Doyle of Lee's Hotel. 03/02/2009.
5. Bedourie Township Cut-Off
6. Lake Julius spillway – Near Mount Isa at 12.00 on the 4-1-09 2.58m over spillway.

All photos are sourced from the Courier Mail or via email.

Note:

1. Data in this report has been operationally quality controlled but errors may still exist.
2. This product includes data made available to the Bureau by other agencies. Separate approval may be required to use the data for other purposes. See Appendix 1 for DNRW Usage Agreement.
3. This report is not a complete set of all data that is available. It is a representation of some of the key information.

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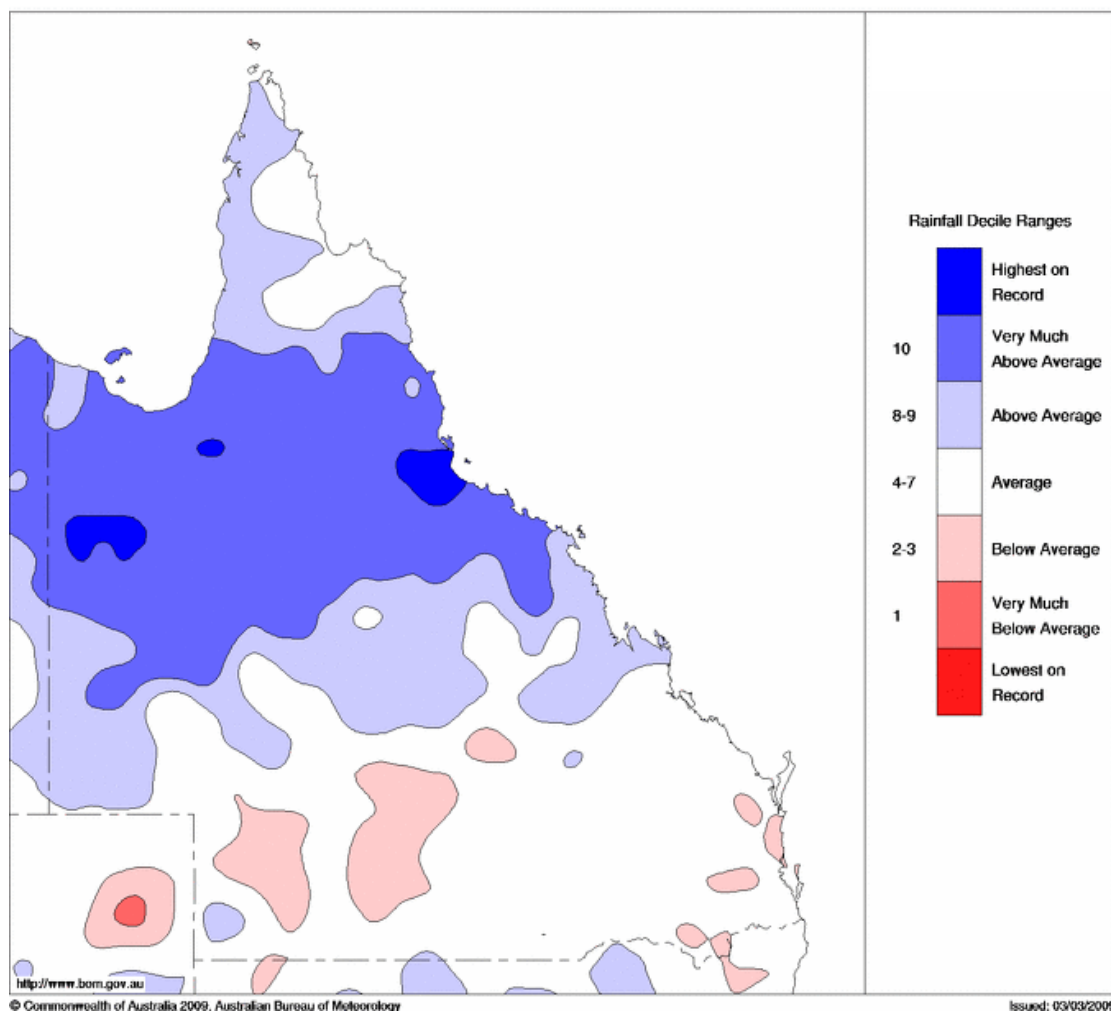
Queensland Floods

January and February 2009

1. Introduction

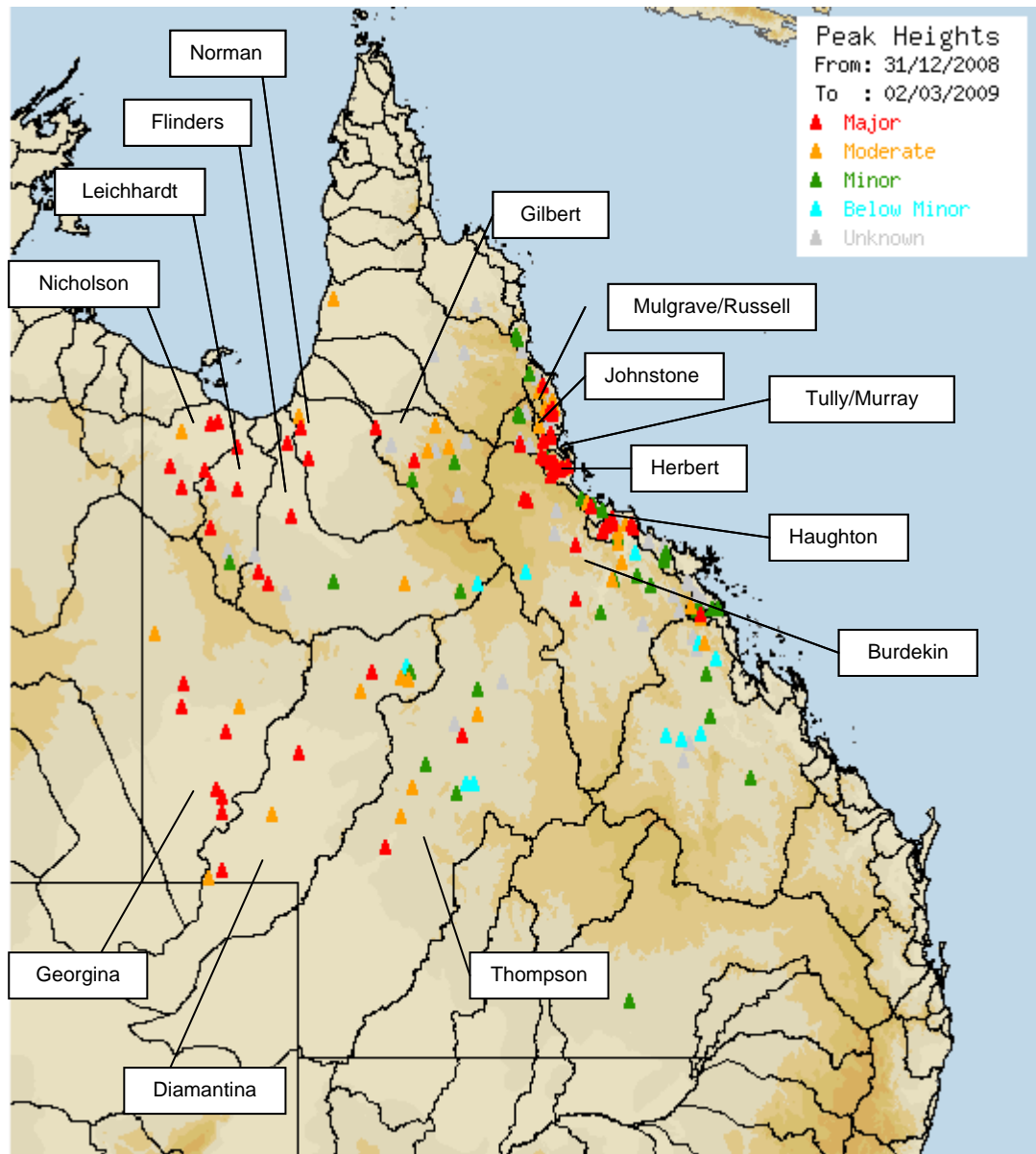
An active monsoon trough extending across northern Queensland and a series of low pressure systems along with Tropical Cyclone Charlotte and Ellie combined to produce very much above average rainfall over the north and the west of the state during January and February. This is evident in the rainfall decile map, Figure 1.1, which shows that large parts of northern and western Queensland received above average to very much above average rainfall in the period extending from the 1st of December 2008 to the 28th February 2009.

Figure 1.1 Rainfall Deciles for Queensland for the period from the 1st of December 2008 to the 28th February 2009.



Widespread major river flooding across the north and west of Queensland was the result, as shown in the Peak Height Map for January and February 2009, Figure 1.2.

Figure 1.2 Peak Height Map for January and February 2009 – Queensland



The first flood warnings for Queensland in 2009 were issued in the first week January for moderate to major flooding in the Gulf Rivers and the Georgina and Diamantina Rivers in Western Queensland. These warnings continued for 9 weeks as periods of heavy rainfall continued to occur. Throughout this time, several periods of heavy rainfall also occurred on the Central and North Tropical Queensland coast, causing some areas of major river flooding in the Russell/Mulgrave, Johnstone, Tully/Murray, Herbert, Burdekin and Haughton River Catchments. Minor to moderate river level rises also occurred in the Don, Pioneer and Fitzroy River Catchments.

This report will provide a description of the meteorological conditions that led to flood producing rainfall over northern and western Queensland, a summary of the highest rainfall and peak river heights recorded and an analysis of the flood warning service provided.

For a detailed description of the floods in each river basin, refer to the individual reports listed below:

[Gulf Rivers Flooding January to March 2009](#)

[Diamantina, Georgina and Thompson River Floods January to March 2009](#)

[Johnstone River Floods February 2009](#)

[Tully/Murray River Floods January to February 2009](#)
[Herbert River Floods January and February 2009](#)
[Burdekin River Floods February 2009](#)
[Haughton River Floods January and February 2009](#)

2. Meteorological Summary

Despite minimal showers and thunderstorms throughout northern Queensland during December, an active monsoon trough with a series of embedded lows and Tropical Cyclones Charlotte and Ellie combined to produce very much above average rainfall for the north and the west of Queensland for the 2008-2009 Summer. The rainfall decile map for the 3 month period from December to February is shown in Figure 1.1.

This rainfall led to major river flooding in the Gulf and Western River Catchments and also the Russell/Mulgrave, Johnstone, Tully/Murray, Herbert, Burdekin and Haughton River Catchments along the north and central Queensland coast. Minor to moderate river flooding also occurred in the Don, Pioneer and parts of the Fitzroy River Catchment

Heavy rainfall in January coincided with king tides along the Queensland coast to further exacerbate flooding in coastal areas and cause inundation of properties in Cairns and Townsville.

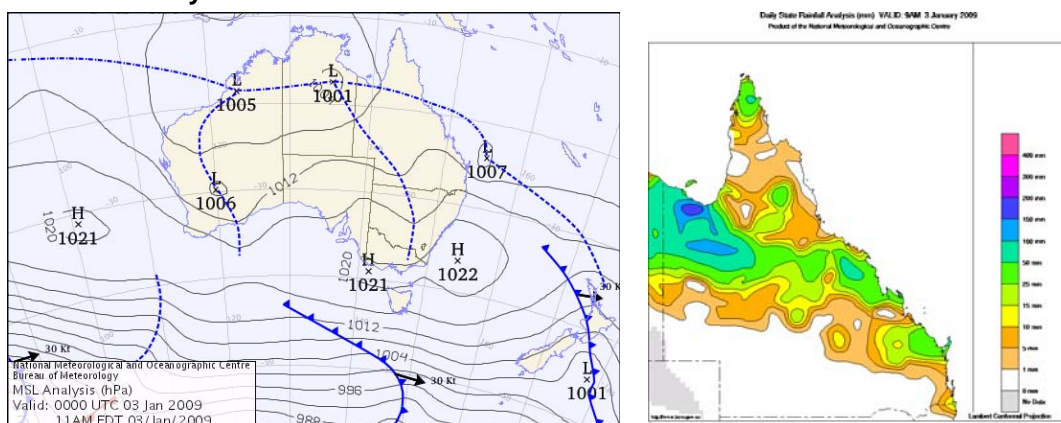
This chapter presents a discussion and analysis of the meteorological conditions that led to the above mentioned flooding.

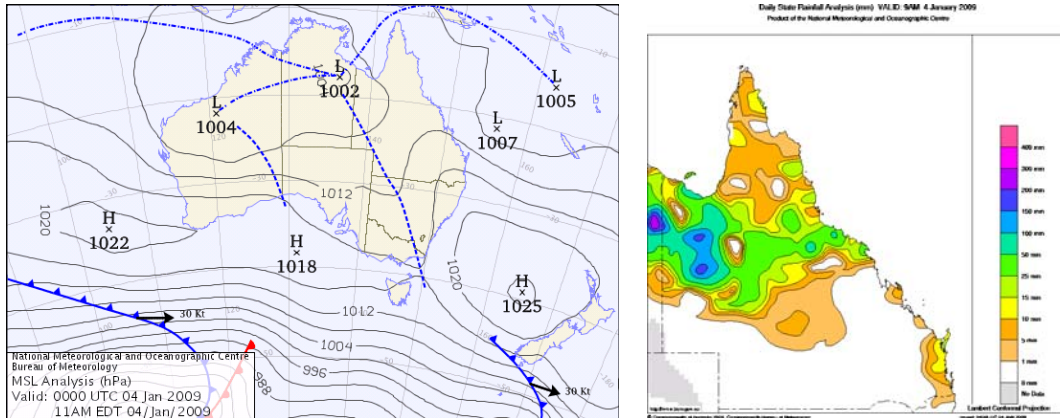
2.1 Meteorological Analysis

The first heavy rainfall event for Queensland occurred in early January and resulted from an active monsoon trough extending across the north of state, linking to a low pressure system over the Northern Territory, see Figure 2.1.1. The low pressure system remained almost stationary between the 2nd and 4th January and through interaction with an upper level trough, produced moderate to heavy rainfall over the northwest corner of Queensland.

The first flood warnings for Queensland in 2009, for the Gulf Rivers and the Georgina and Diamantina Rivers in Western Queensland were issued at this time.

Figure 2.1.1 10am Mean Sea Level Pressure Analysis and 9am Daily Rainfall Map for the 3rd and 4th January 2009.

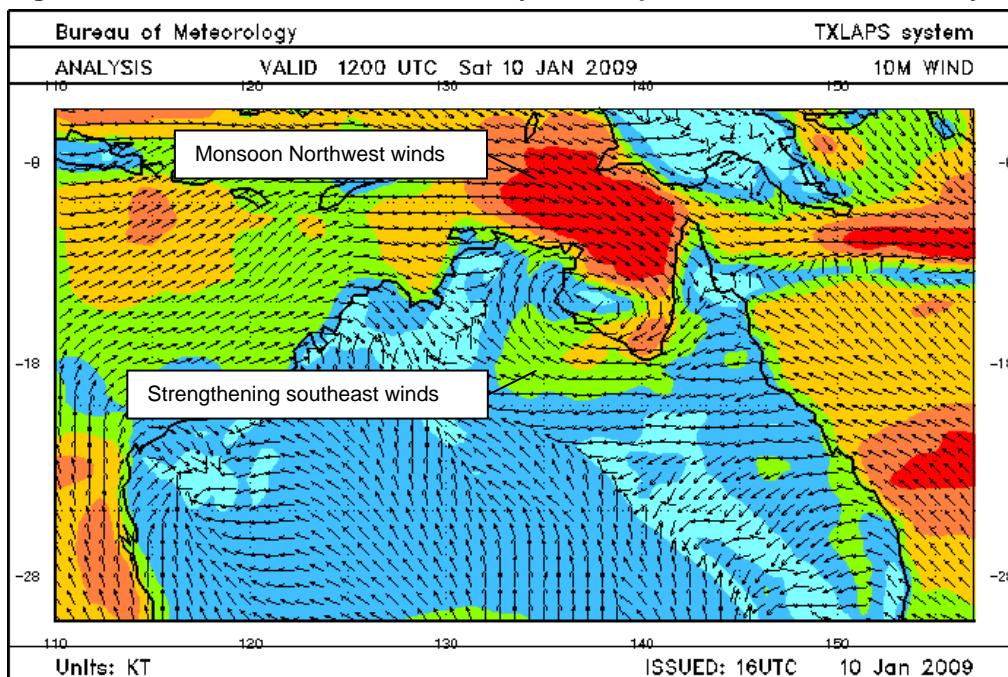




Although the upper system weakened, the monsoon trough remained active and the surface low pressure area remained over the Northern Territory for another three days. By the 7th January further upper instability moved over the area and interacted with the surface low to again cause further heavy shower and thunderstorm activity over the northwest of Queensland. This brought about further river height rises to Western Queensland and many of the Gulf Rivers areas already in flood.

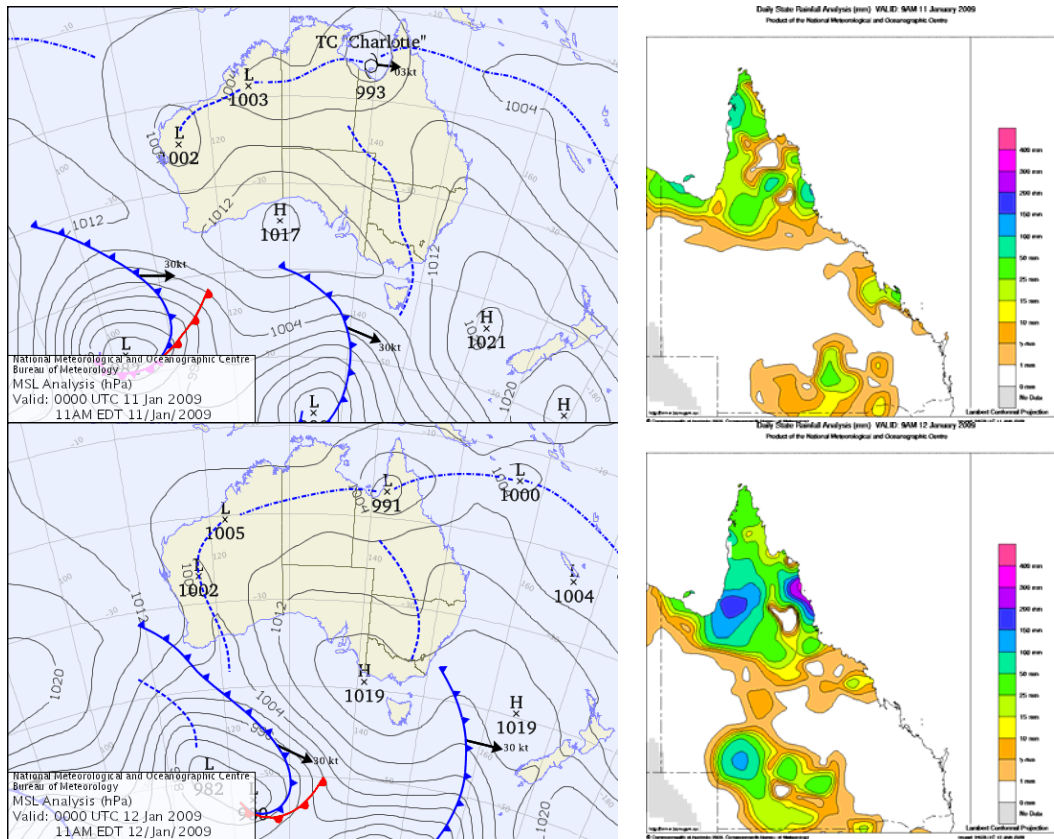
By the 8th January, the main surface low pressure area had moved over waters of the Gulf of Carpentaria. The monsoon trough then extended from this low to a low over the central Coral Sea. The Gulf low remained stationary for several days, then drifted eastward and deepened during the 10th and 11th January under the influence of increased southeast winds to the south of the system and strong monsoon north-west winds to the north. This can be seen in the TLAPS (Tropical Limited Area Prediction Scheme) 10 metre wind analysis at 10pm on the 10th January as shown in Figure 2.1.2.

Figure 2.1.2 TLAPS 10 metre wind analysis at 10pm on the the 10th January 2009.



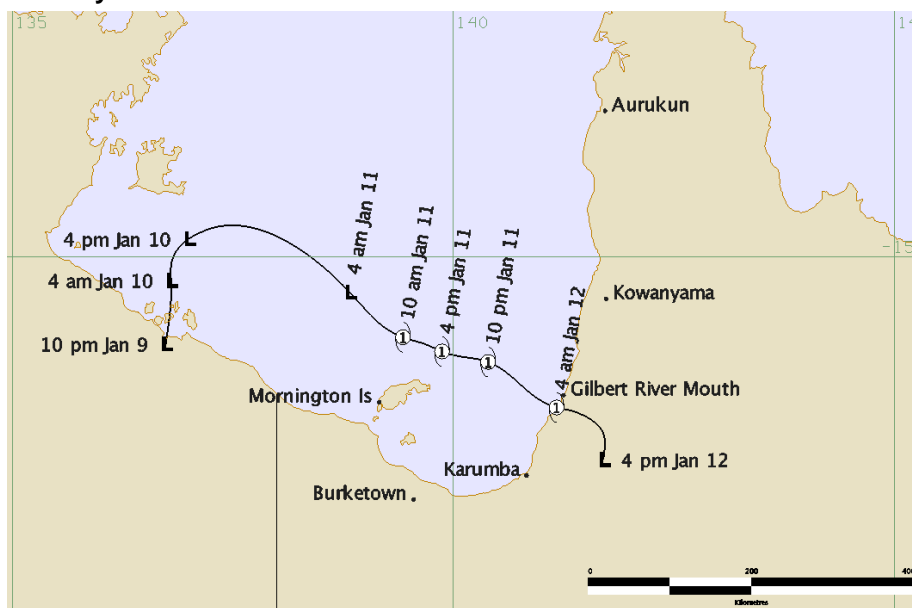
The system was named Tropical Cyclone Charlotte at 10am on the 11th January. Mean Sea Level pressure analysis for 10am and daily rainfall maps for 9am on the 11th and 12th January are shown in Figure 2.1.3.

Figure 2.1.3 10am Mean Sea Level Pressure Analysis and 9am Daily Rainfall Map for the 11th and 12th January 2009.



As Charlotte developed in near proximity to the Queensland coast and tracked steadily southeast there was little time for further intensification and the system crossed the coast near Gilbert River Mouth as a Category 1 cyclone (with maximum winds to 85 kilometres/hour close to its centre) around 4am on the 12th January. A map showing the intensification and movement of Tropical Cyclone Charlotte is shown in Figure 2.1.4

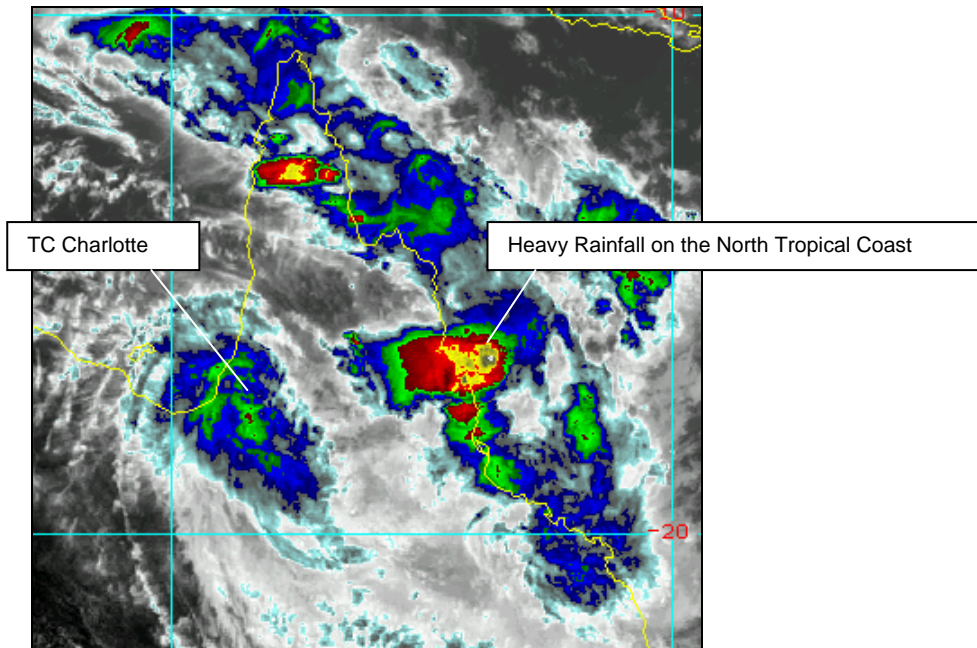
Figure 2.1.4 Track and intensification of Tropical Cyclone Charlotte from the 9th to the 12th January 2009.



Charlotte brought more heavy rainfall on the Gulf coast, particularly in the vicinity of the coastal crossing as is evident from the rainfall maps in Figure 2.1.3. However, heavier falls were recorded on the North Tropical Coast between Cape Tribulation and Babinda in the zone of convergence between the northerly monsoon winds and the southeast winds extending along the east Queensland coast.

The development of heavy shower and thunderstorm activity in this region is shown in the colour enhanced Geostationary Meteorological Satellite Image (from the NASA 2009 Hurricane Archives) taken at 1:30 pm on the 12th January 2009, as shown in Figure 21.5.

Figure 2.1.5 Colour Enhanced Geostationary Meteorological Satellite Image of Tropical Cyclone Charlotte at 1:30pm on the 12th January 2009.

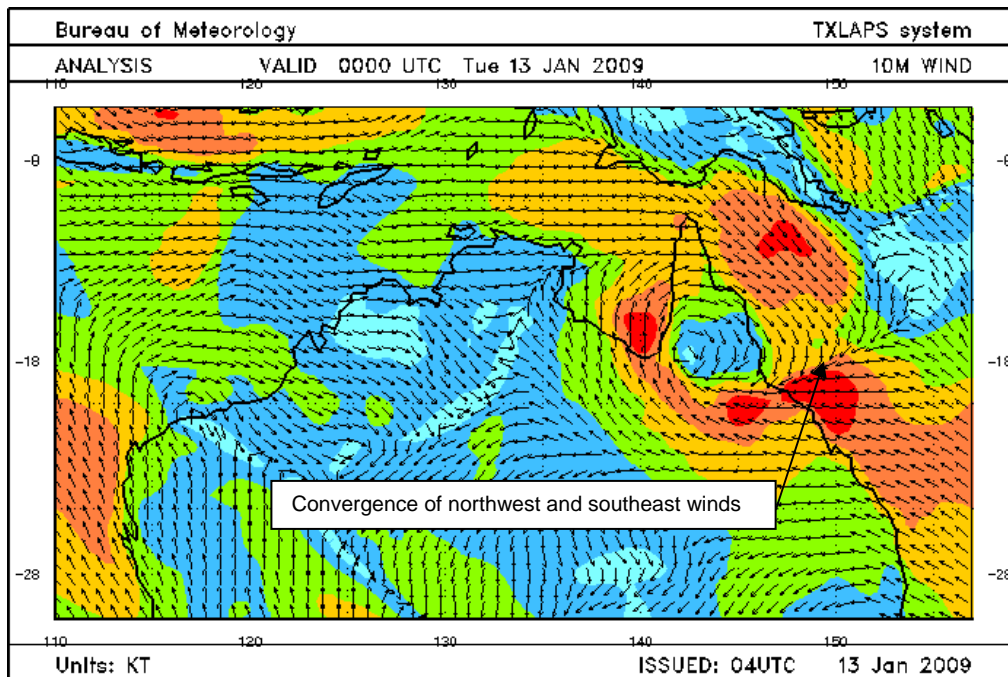


Tropical Cyclone Charlotte and deep convection on the North Tropical Coast. Credit for image to NASA 2009 Hurricane Archives (http://www.nasa.gov/mission_pages/hurricanes/archives/index.html).

This heavy rainfall event coincided with king tides along the coast and led to moderate to major flooding in the Russell/Murray River Catchment and local flooding and the inundation of houses at Cairns and Townsville.

As the high pressure system over the Tasman moved eastward the monsoon trough and convergence between northwest and southeast winds drifted southward along the east Queensland coast, causing the heaviest rainfall area to be centred around Townsville between the 13th and 14th January. This is evident in the TLAPS (Tropical Limited Area Prediction System) 10 metre wind analysis at 10am on the 13th January 2009 as shown in Figure 2.1.6. The highest rainfall recorded was at Upper Major Creek where over 700 mm fell in the 48 hours to 8:30 am on the 14th January, causing a major flood in the Haughton River at Giru.

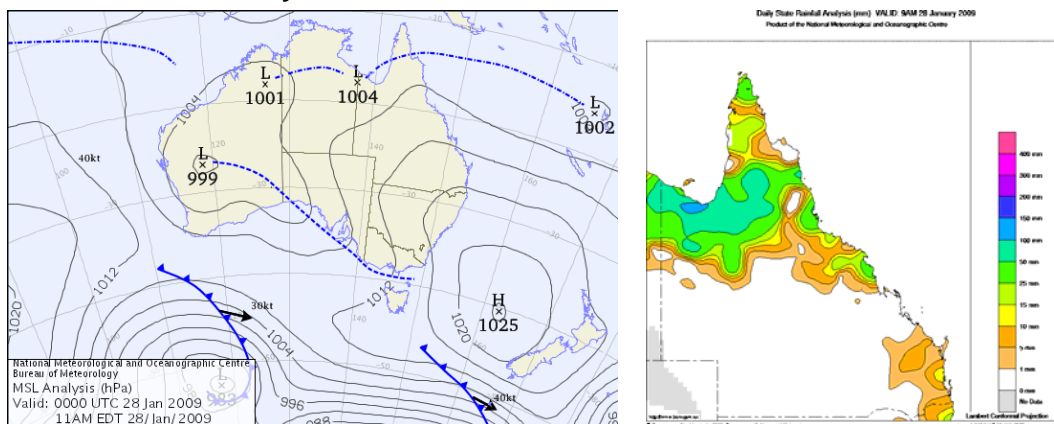
Figure 2.1.6 TLAPS 10 metre wind analysis at 10am on the the 13th January 2009.

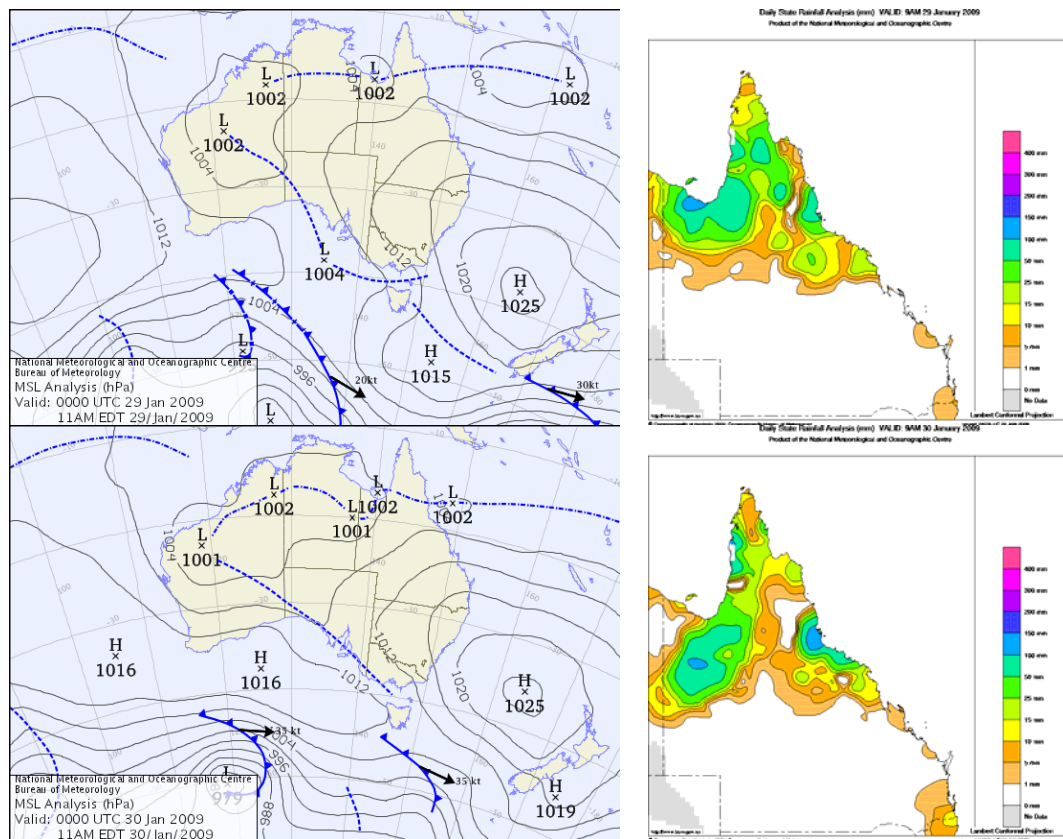


Showers and thunderstorms, developing on an active monsoon trough, continued through the northern half of the state for the remainder of the month producing isolated heavy falls and further exacerbating existing flooding around the Gulf of Carpentaria and over the Diamantina and Georgina River catchments.

By the 27th January, a tropical low had developed on the monsoon trough, positioned over far northwest Queensland. This low deepened slowly and drifted northeast to be positioned over the southern Gulf of Carpentaria by the 29th January as is evident from the sequence of 10am Mean Sea Level analysis from the 28th to the 30th January as shown in Figure 2.1.7.

Figure 2.1.7 10am Mean Sea Level Pressure Analysis and 9am Daily Rainfall Maps from the 27th to the 30th January 2009.





The result was further heavy rainfall over the Gulf Rivers Catchments, in particular the Nicholson, Leichhardt, Norman and Flinders River Catchments where scattered rainfalls of between 50 mm and 150 mm were recorded. See Daily Rainfall Maps in Figure 2.1.7. Some of the heavier 24 hour rainfall totals recorded during this period have been listed in Table 2.1.8. River height rises once again occurred in the already flooded Gulf Rivers and the Georgina River in the west.

Table 2.1.8 Highest 24 Hour rainfall recorded over the Gulf Rivers Catchments between the 27th and the 30th January 2009.

Station Name	River Basin	24 Hours to 9am on the	Rainfall (mm)
Etta Plains TM	FLINDERS	27/01/2009	165
Burketown	NICHOLSON	29/01/2009	188
Gunpowder TM	LEICHHARDT	30/01/2009	216

Note from the rainfall map in Figure 2.1.7, that heavy rainfall also fell on the east Queensland coast between Cardwell and Townsville to 9am on the 30th January, with the heaviest falls of between 100mm and 150 mm over the Herbert River Catchment. This resulted from the development of another low pressure system on the monsoon trough, this time to the near east of Cairns. Development of this system was assisted by a strengthening ridge along the east Queensland coast to the south of the monsoon trough and the approach of an amplified upper level trough to the west of the system providing improved high level outflow.

The low over the Gulf of Carpentaria weakened allowing the Coral Sea low to become the main circulation. The system strengthened further during the 31st January to become Tropical Cyclone Ellie at 1am on the 1st February. Similarly to Tropical Cyclone Charlotte, Ellie developed close to the coast and tracked in a southeast direction towards the coast allowing little time for further intensification. As a result, Ellie remained a Category 1 cyclone as it crossed the coast near Cardwell, just before midnight on the 1st February, causing further flood producing rainfall over the Queensland east coast between Cardwell and Mackay. A map displaying the movement and intensification of tropical cyclone Ellie is shown in Figure 2.1.9 and the satellite imagery of Ellie just before the system crossed the coast is shown in Figure 2.1.10.

Figure 2.1.9 Track and intensification of Tropical Cyclone Ellie from the 31st January to the 2nd of December 2009.

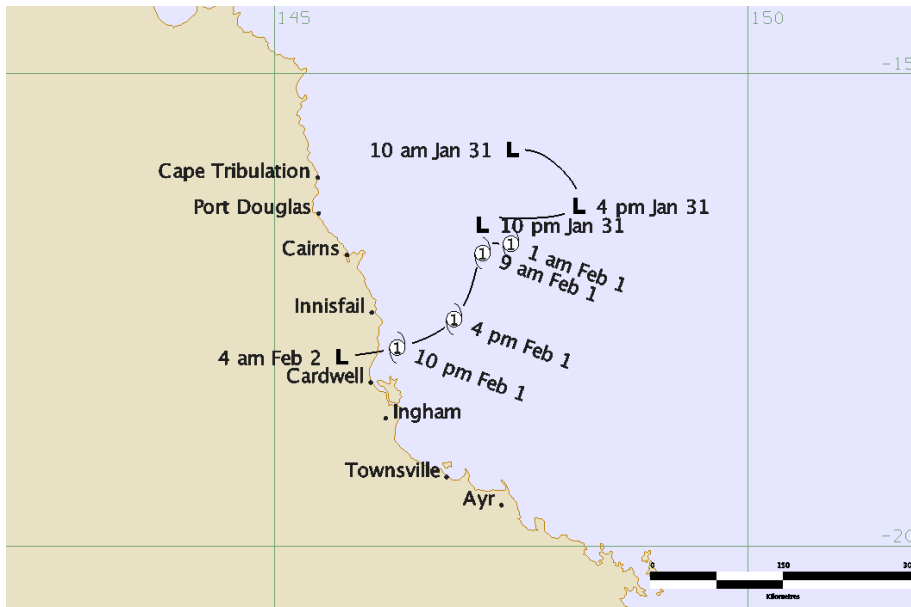
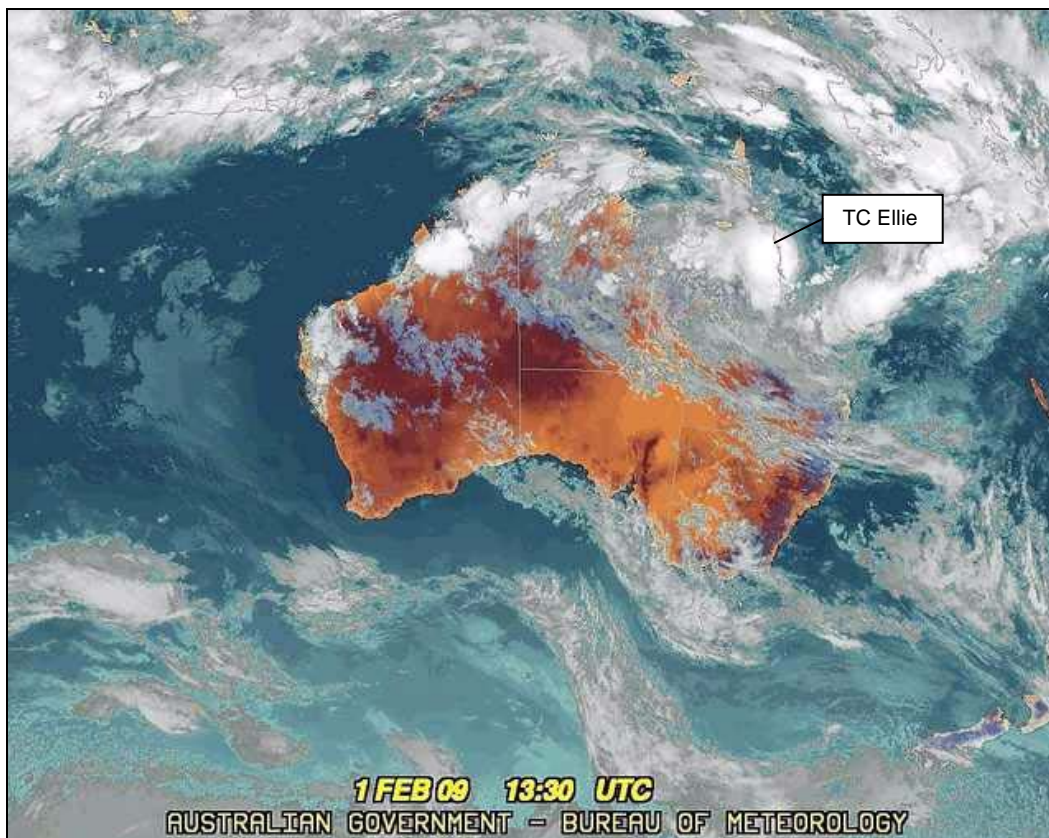


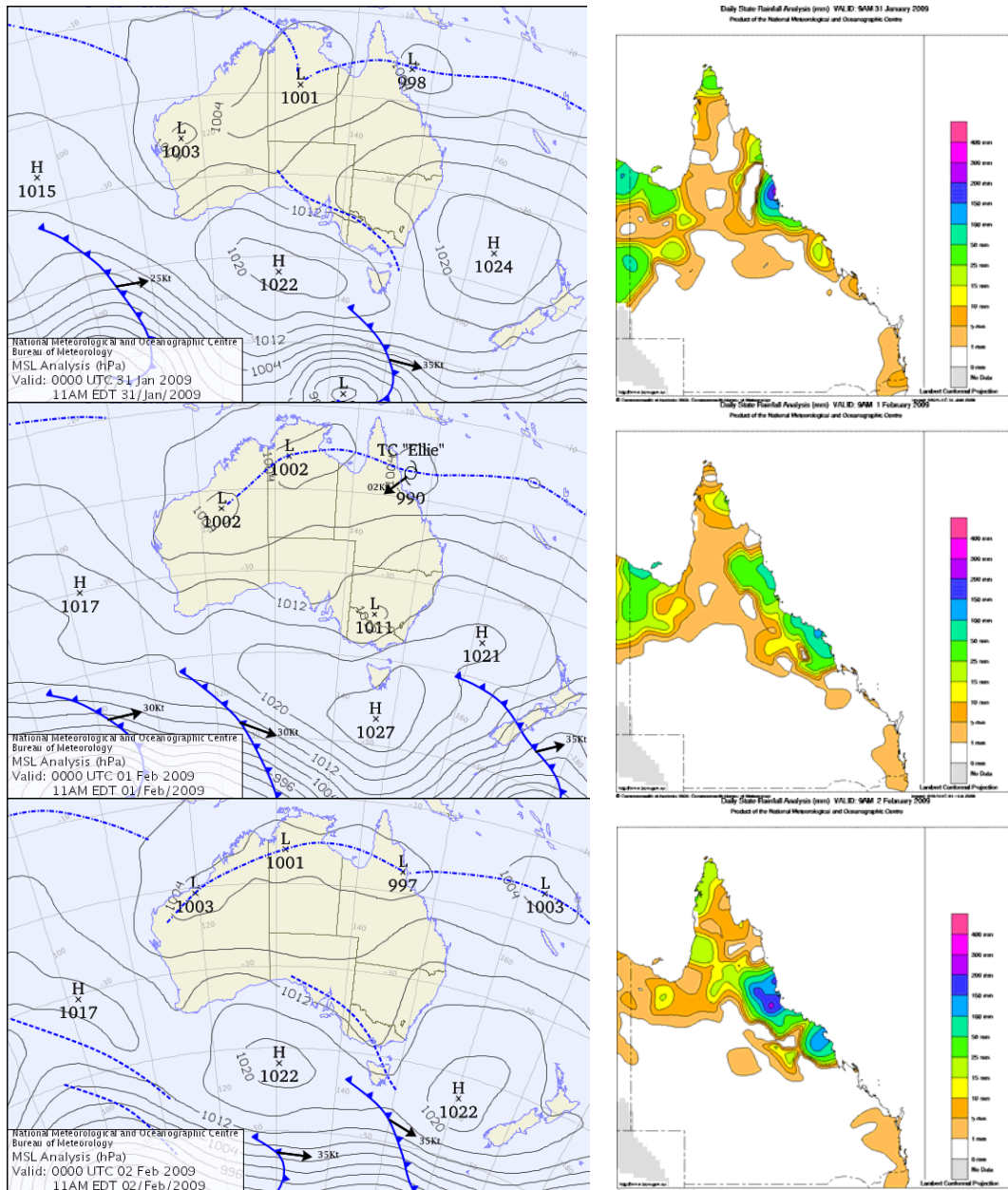
Figure 2.1.10 Geostationary Meteorological Satellite Image of Tropical Cyclone Ellie at 11:30pm on the 1st February 2009.



The extensive areas of thunderstorm cloud across the northern parts of Australia, shown in Figure 2.1.10, mark the location of the monsoon trough which extends from a low over Western Australia, across the top end of the Northern Territory to Tropical Cyclone Ellie.

The series of 10am Mean Sea Level Pressure charts and 9am daily rainfall maps from the 31st January to 10am on the 2nd February are shown in Figure 2.1.11 and show the development and coastal crossing of Tropical Cyclone Ellie along with the distribution of rainfall produced by the system.

Figure 2.1.11 10am Mean Sea Level Pressure Analysis and 9am Daily Rainfall Map from the 31st January to the 2nd of February 2009.



Note from Figure 2.1.11 that the heaviest rainfalls occurred during the development phase of Ellie to 9am on the 31st January and then again during the decaying phase of Ellie to 9am on the 2nd February as the system moved inland and weakened to a rain depression. This is typical of the intensification of a cyclone as deep convection becomes more organised closer to the centre of the system and therefore is further removed from the coast.

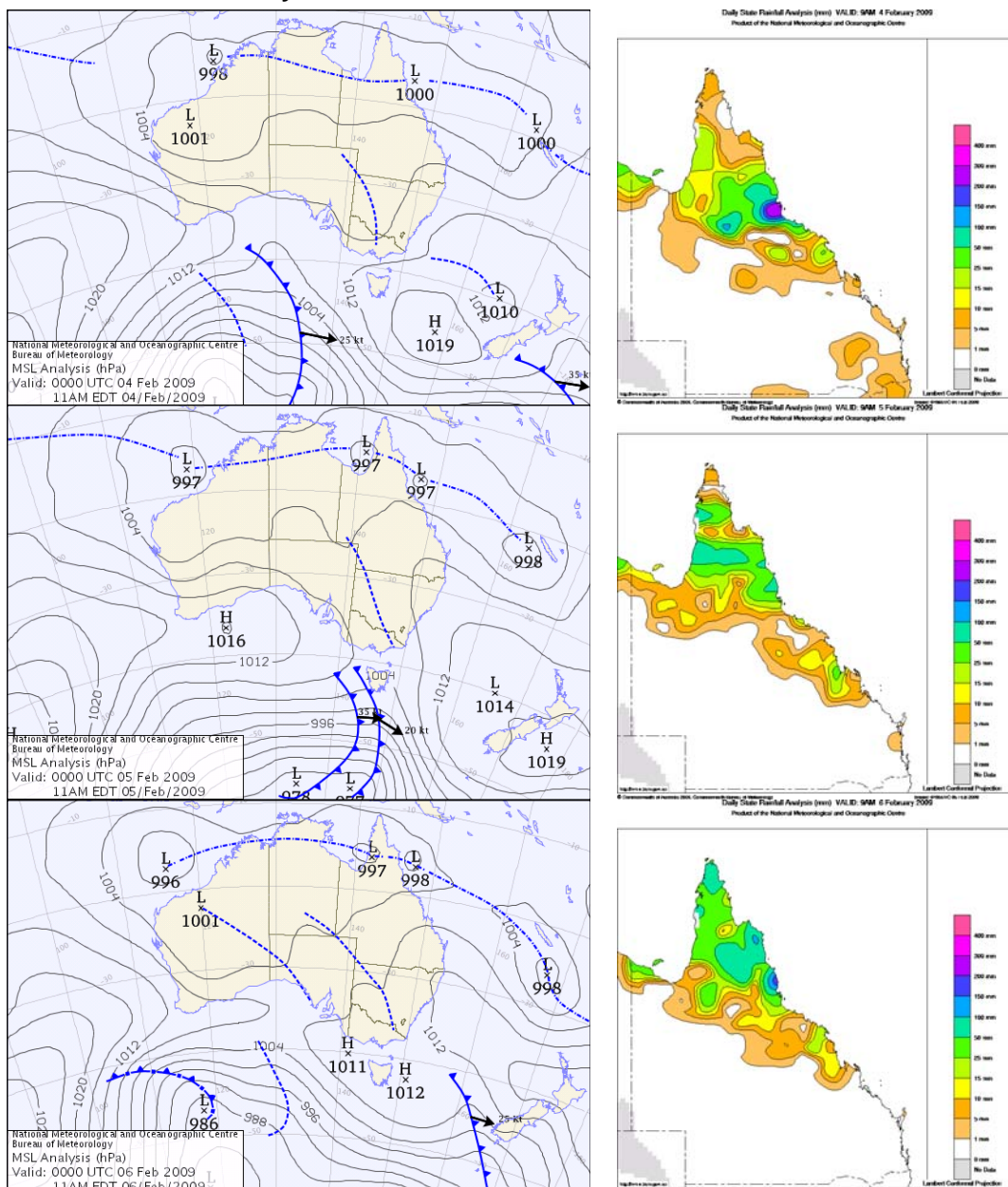
The heaviest rainfall recorded during Tropical Cyclone Ellie is listed in Section 3, Table 3.6.

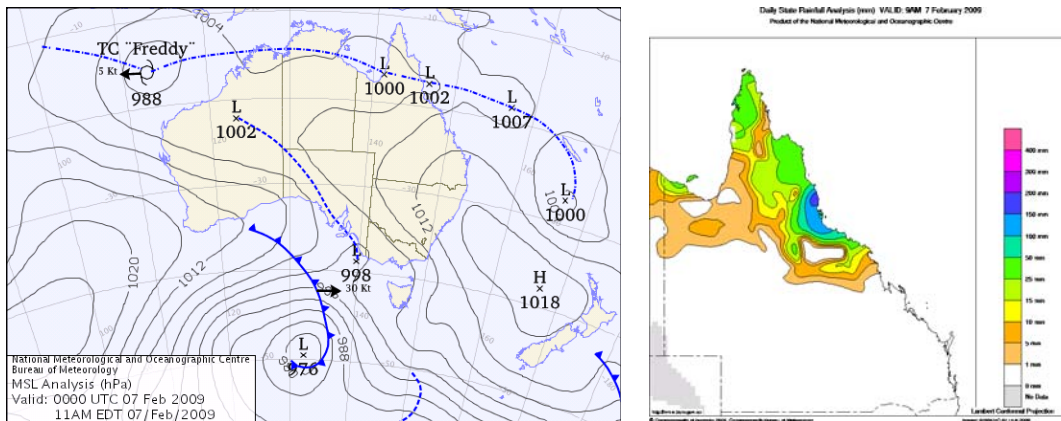
Heavy rainfall from Ellie led to minor to moderate river flooding in the Tully/Murray, Burdekin, and Pioneer River and major river flooding in the Herbert and Haughton River Basins. Rainfall over the Johnstone river catchment caused major flood peaks at Corsis Alert and Central Mill Alert on the South Johnstone River overnight on the 1st February 2009, but this caused no significant flooding downstream at Innisfail.

Following the decay of Tropical Cyclone Ellie, a further low was identified on the monsoon trough to the east of Cairns on the 4th February. The low remained off the north Tropical Coast for 4 days and drifted slowly north with the monsoon trough, as shown in the Mean Sea Level Pressure analysis in Figure 2.1.12. This system produced further heavy rainfall over the region as shown in the daily rainfall maps of Figure 2.1.12.

The heaviest rainfall was centred over the Johnstone and Tully and Murray River Catchments where rivers rose to major flood level. Between 9am on the 5th and 9am on the 8th February falls of between 400 mm and 800 mm were recorded. The highest rainfall recorded in this period was 825mm at Bulgun Creek Alert. The Herbert River catchment also received widespread falls between 200 mm and 400 mm, causing record flood levels at several locations and the continuation of major flooding at Ingham for at least one week.

Figure 2.1.12 10am Mean Sea Level Pressure Analysis and 9am Daily Rainfall Maps from the 4th to the 7th of February 2009.

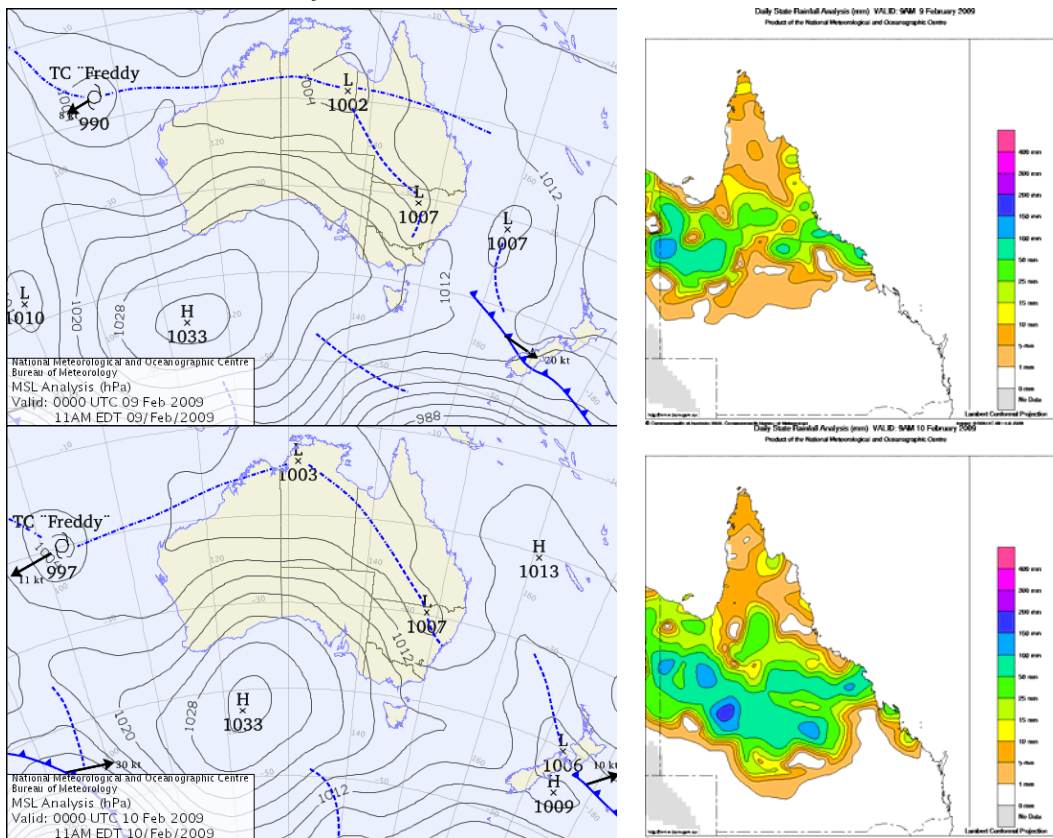


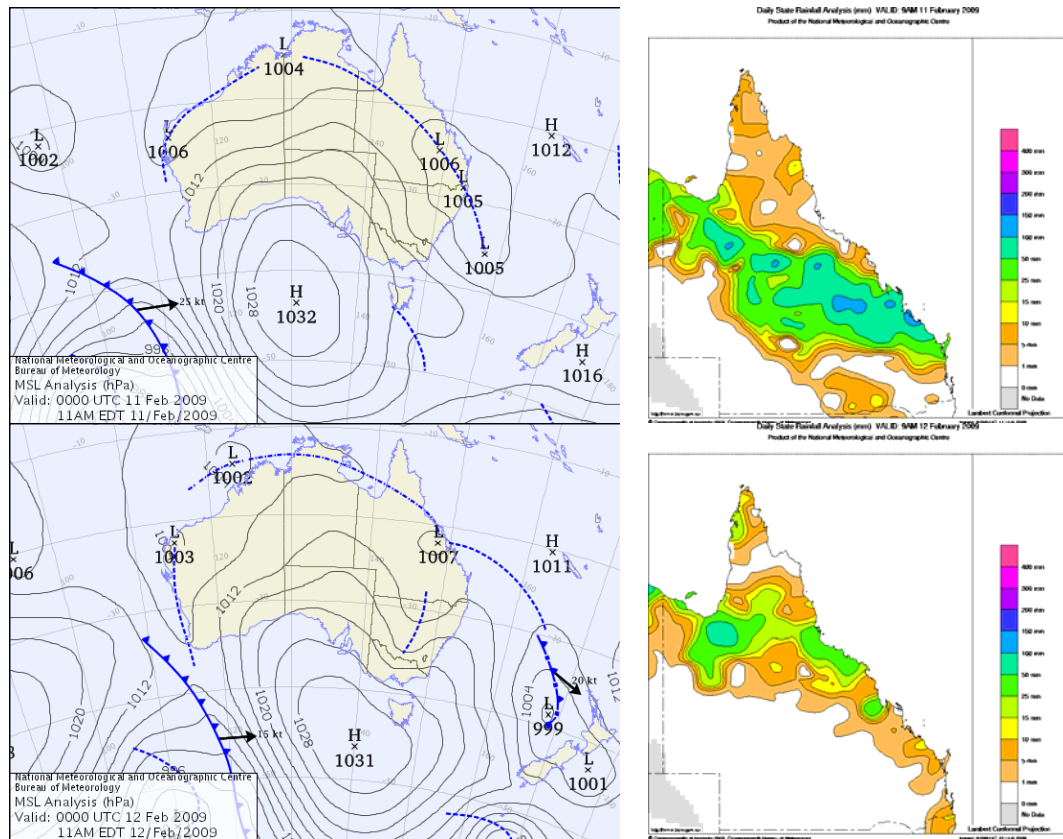


Isolated heavy falls were also recorded over the Burdekin and Haughton river catchments between the 5th and 8th February causing isolated major flooding in the Burdekin River Catchment and further widespread major flooding in the Haughton River Catchment.

The low off the North Tropical Coast weakened by the 8th February and the main areas of convection shifted back to the northwest corner of Queensland where a Mean Sea Level Low Pressure system developed to the west of Mt Isa. A deep trough linked this low to a low pressure system centred over northern New South Wales. The evolution of this trough system, and the resulting rainfall, is shown in the sequence of 10am Mean Sea Level Pressure Charts and 9am daily rainfall maps from the 9th to the 12th February, Figure 2.1.13.

Figure 2.1.13 10am Mean Sea Level Pressure analysis and 9am daily rainfall maps from the 9th to the 12th of February 2009.

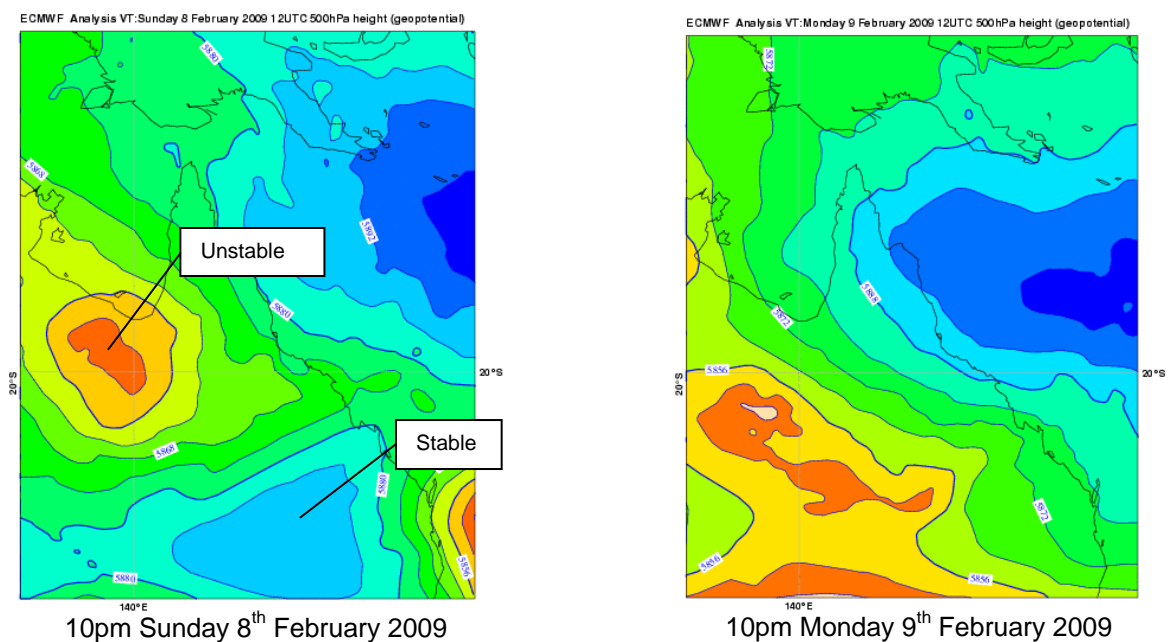


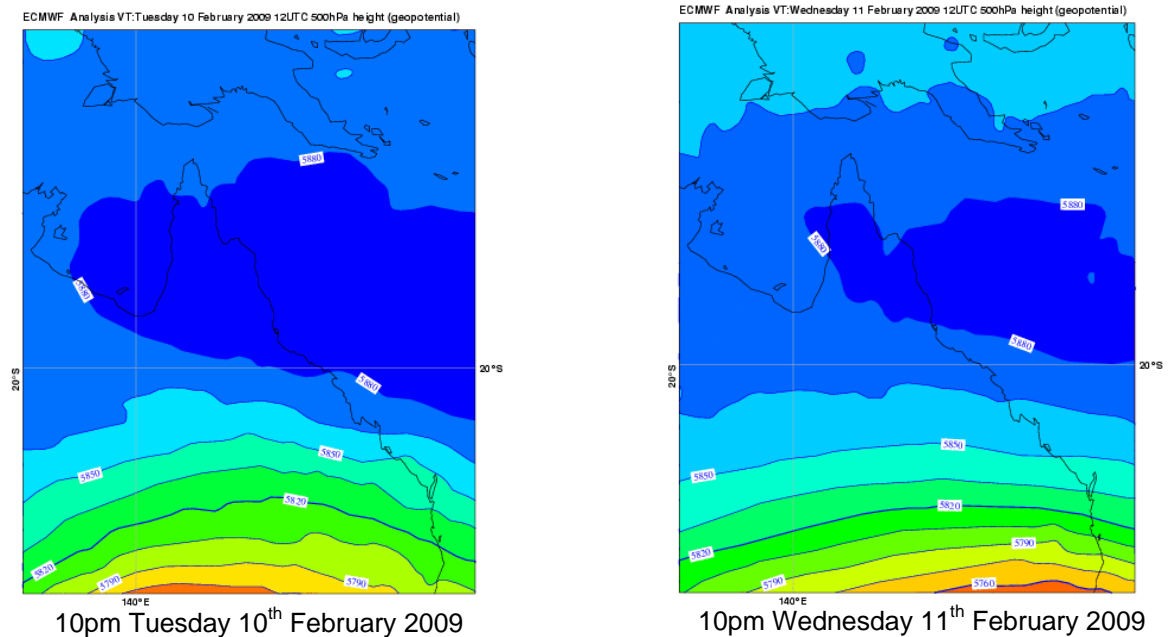


A middle level trough lay to the near west of the surface system, providing increased instability about the trough and causing widespread heavy showers and thunderstorms. This is evident in the 500 hectopascal height analysis for 10pm on the 9th February, as shown in Figure 2.1.14. Upper level stability over the southern half of the state suppressed convective activity over this region.

Figure 2.1.14 ECMWF* 500 Hectopascal height analysis from 10pm on the 8th to 10pm on the 11th February.

* ECMWF is an acronym for the European Centre for Medium Range Weather Forecasts.





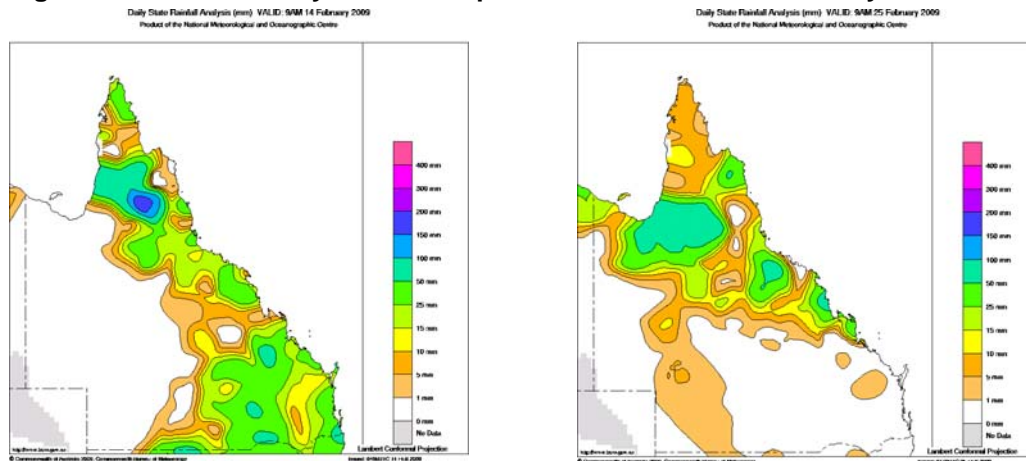
Orange to white shading represents most unstable region, light to dark blue shading represents stable region.

The mean sea level high pressure system to the south of Western Australia at 10am on the 9th February tracked steadily eastward, see Figure 2.1.13, causing the trough over Queensland to track eastward also. The upper instability, as shown in the 500 hectopascal height analysis for 10pm on the 9th February also spread further eastwards over the previously stable region. This saw the heavy rainfall pattern extend eastwards with the movement of the trough, as is shown by the daily rainfall maps in Figure 2.1.13. By 10am on the 11th February, the high pressure system was positioned south of the Great Australian Bight and the trough over Queensland extended from the southern Gulf of Carpentaria to the southeast coast, limiting rainfall to areas east and north of it. Note the further upper level stabilisation over most of Queensland by 10pm on the 11th February as shown in Figure 2.1.14. This resulted in more isolated shower and thunderstorm activity and generally lighter rainfall totals in the 24 hours to 9am on the 12th February.

Rainfall from this inland system caused some major river flooding in the Thompson River and renewed rises in the Diamantina and Georgina Rivers which were already suffering major flooding in parts. Rises to minor to moderate flood level also occurred in Retreat and Theresa Creeks and the Mackenzie and Connors Rivers in the Fitzroy River Catchment.

Further showers and thunderstorms about an active monsoon trough produced heavy rainfall to 9am on the 14th and 25th February over the southern Cape York Peninsula and caused some renewed rises to the Gilbert and Flinders Rivers around the Gulf of Carpentaria. See the daily rainfall maps for the 14th and 25th February in Figure 2.1.15.

Figure 2.1.15 9am Daily Rainfall maps for the 14th and 25th February 2009.

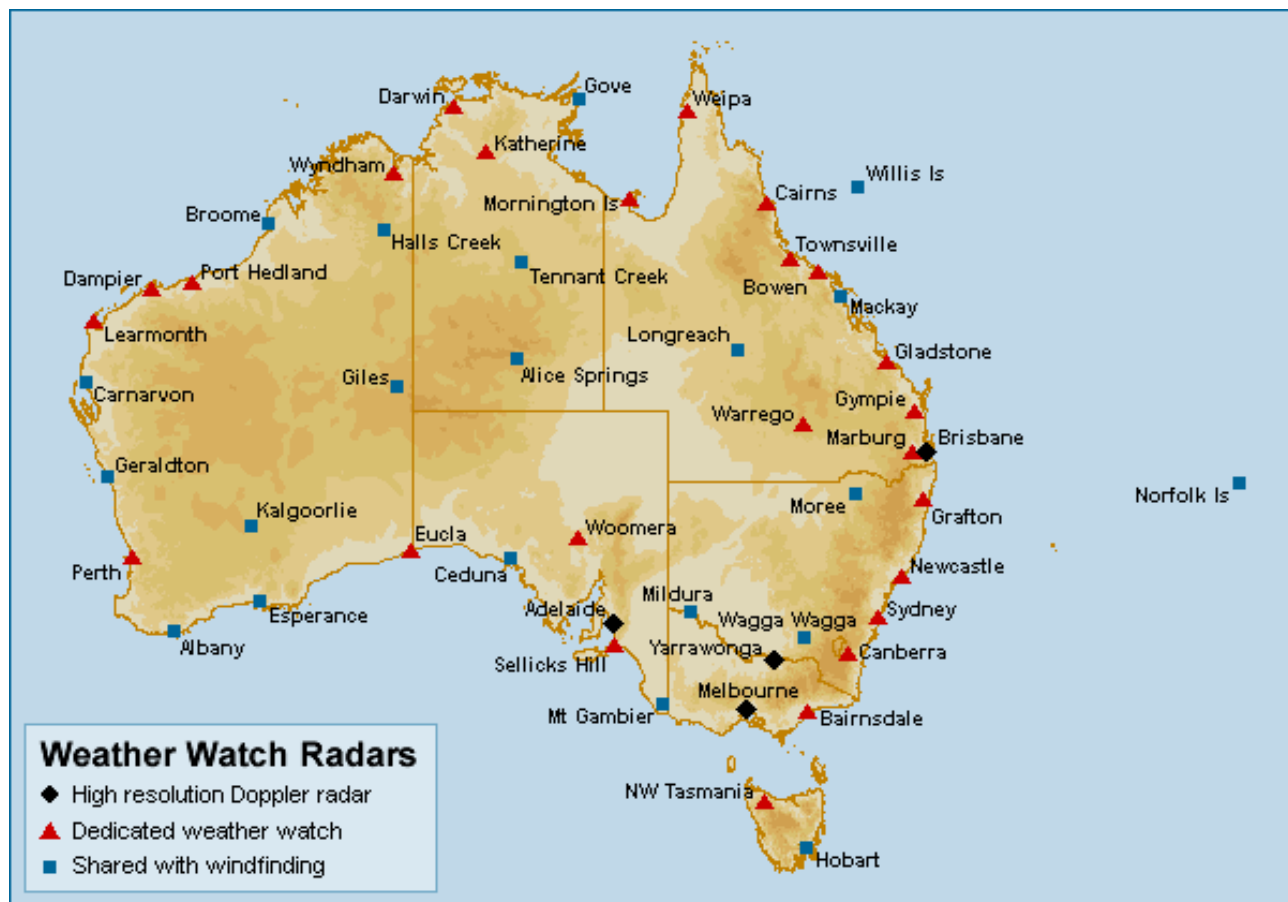


River levels about the Gulf fell below moderate flood levels by the 7th March, and main flood waters in the Georgina and Diamantina Rivers were located downstream of the Queensland border by the 13th March 2009 finally allowing flood warnings for these regions, which commenced in the first week January, to be finalised.

2.2 Radar Imagery Analysis

The following radar imagery shows the location and intensity of rain in relation to local features such as coastlines. Colours are used to depict rainfall intensity with the lightest rain shown as white to light blue and the heaviest rain shown as red to brown.

The 2-dimensional radar network for Australia is shown in Figure 2.2.1. With an optimal radar range of about 200 kilometres (and absolute range of around 500 kilometres), most sections of the Queensland coast can be monitored by radar. As a result, an analysis of radar imagery for each of the heavy rainfall events that have occurred close to the coast has been possible. Radar imagery highlights describing several of the heavy rainfall events has been provided.

Figure 2.2.1. Australian Radar Network.


Radar imagery of extensive heavy shower and thunderstorm activity associated with a tropical low located over the Northern Territory during the 1st and 4th January 2009 was provided by the Morning Island Radar. This site has a very good view of the surrounding Gulf of Carpentaria and low lying coastal areas of the Gulf Country and Gulf Rivers. Imagery for 10am each day from the 1st to the 4th January has been shown in Figure 2.2.2 and illustrates that convective activity was widespread and persistent. Heaviest rainfall recorded during the three days from the 1st to the 3rd January is listed in table 3.4.

Radar imagery of Tropical Cyclone Charlotte which formed in the Gulf of Carpentaria on the 11th January was also provided by the Morning Island Radar. The imagery of Tropical Cyclone Charlotte, as shown in Figure 2.2.3, suggests the system was at its most intense between 7pm and 9pm on the 11th January. It was at this time the cyclone displayed greatest circulation with convection closest to the centre of the system and wrapping around a broadly defined centre. As the system was only category 1, a clearly defined eye is typically not visible, as is the case with Charlotte. Radar imagery as Charlotte crossed the Gulf of Carpentaria coast around 4am on the 12th January 2009 is also shown.

Radar imagery of Tropical Cyclone Ellie, which formed off the North Tropical Coast on the 1st February 2009, was provided by the Townsville Radar. The radar is situated on the top of Mt Stuart, which has an elevation of 584 metres. Magnetic Island, 20 kilometres to the north has a small effect on the radar signal, but generally the view to the north and northeast, where Ellie was located, is obstruction free. Imagery of Tropical Cyclone Ellie, Figure 2.2.4, shows an area of circulation, with bands of deep convection wrapping nearly three quarters around a broad system centre between 7pm and 10pm on the 1st February. The centre spans more than 100 kilometres in diameter. By midnight on the 1st February, the system had crossed the coast to the near north of Cardwell as is evident from the sequence of radar imagery in Figure 2.2.5. As was the case with Tropical Cyclone Charlotte, Ellie was a weak system, so a clearly defined eye did not form.

Figure 2.2.2. Radar Imagery snapshot of showers and thunderstorm activity over the Gulf Rivers during the 1st and 3rd January 2009.

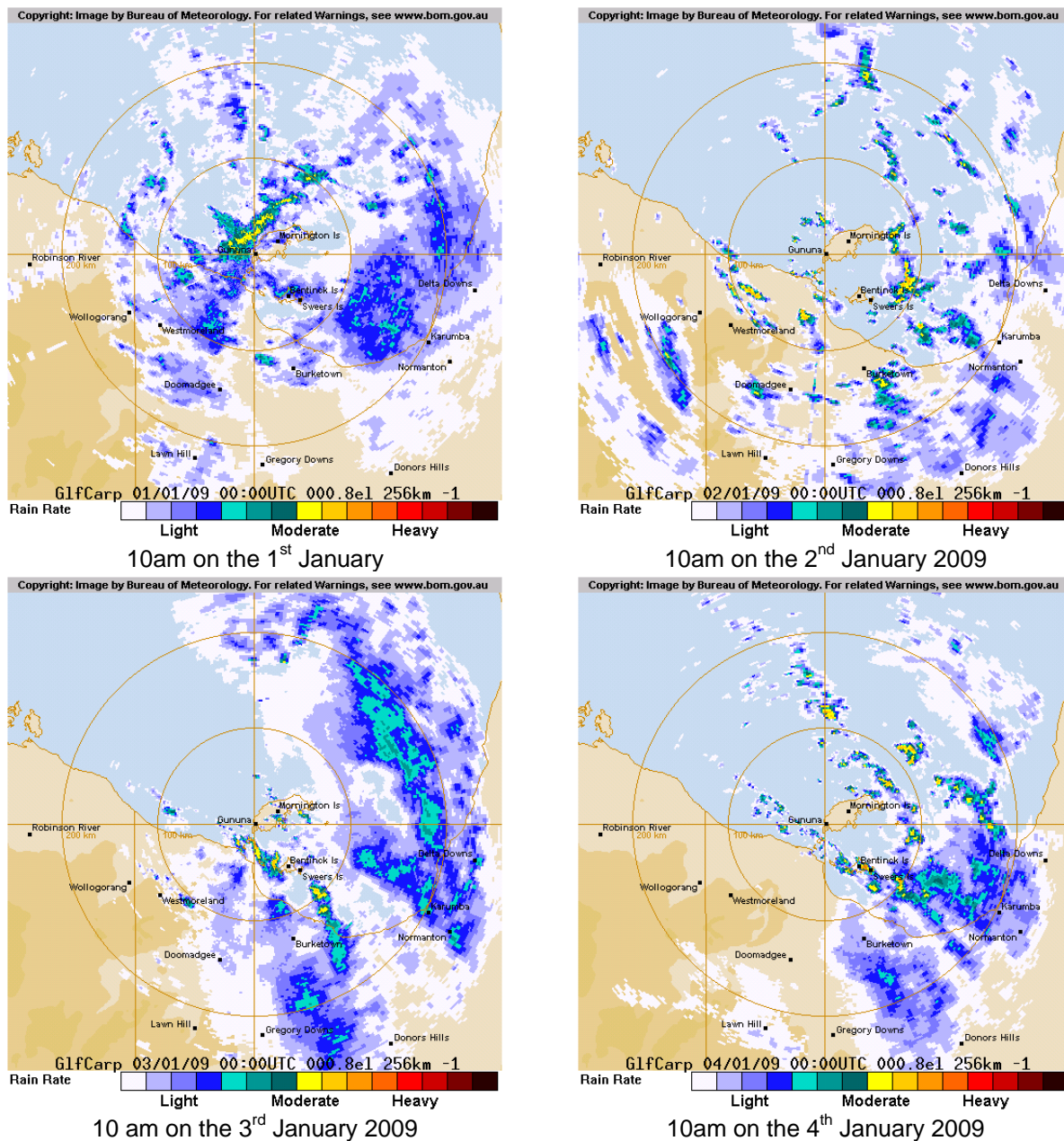
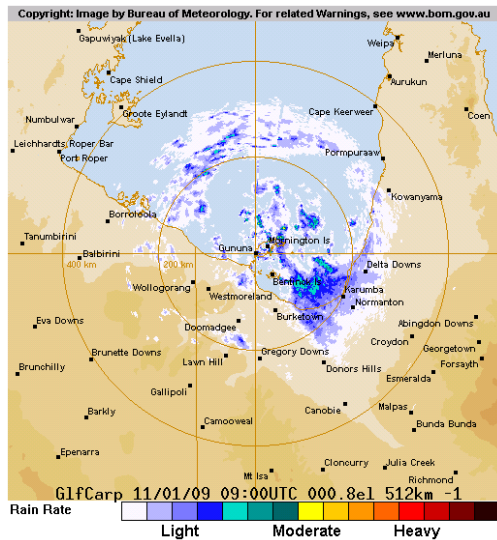
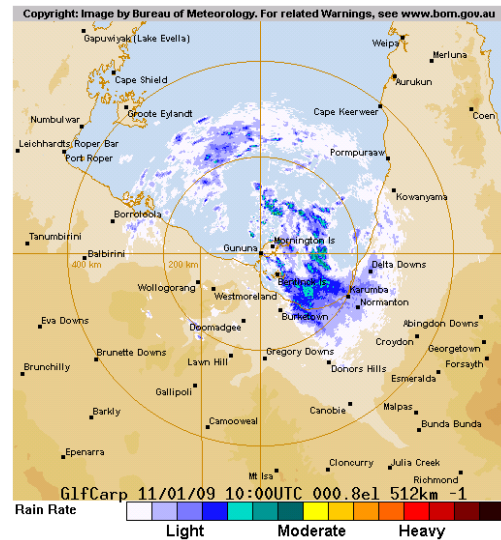


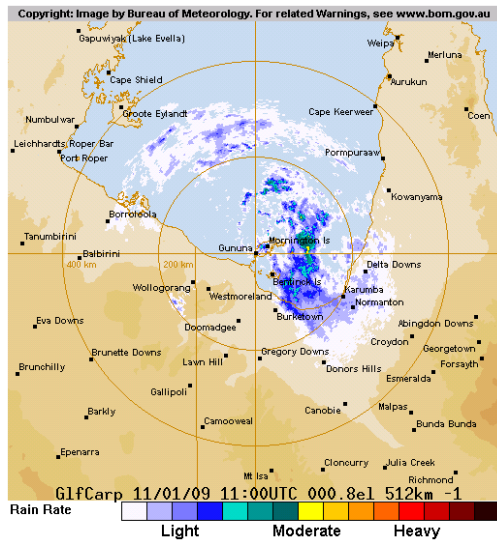
Figure 2.2.3. Radar Imagery of Tropical Cyclone Charlotte on the 11th and 12th January 2009.



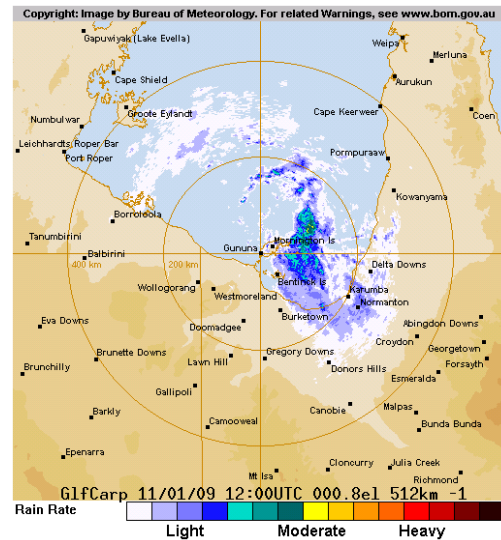
7pm on the 11th January



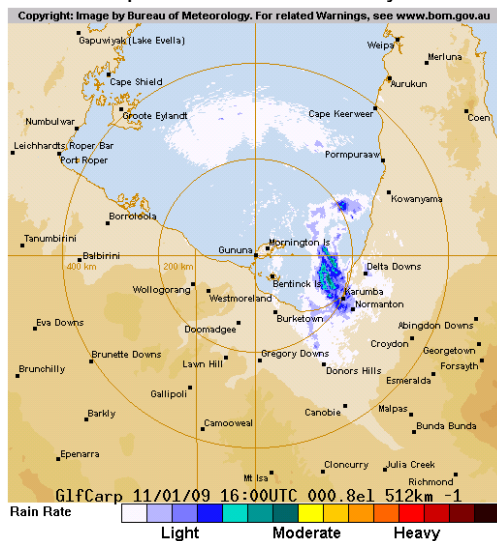
8pm on the 11th January



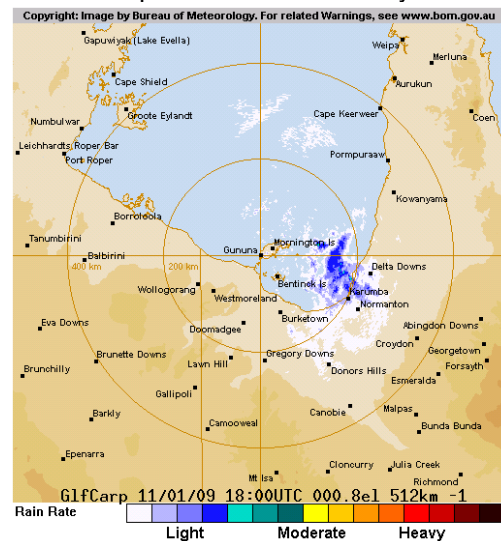
9pm on the 11th January



10pm on the 11th January

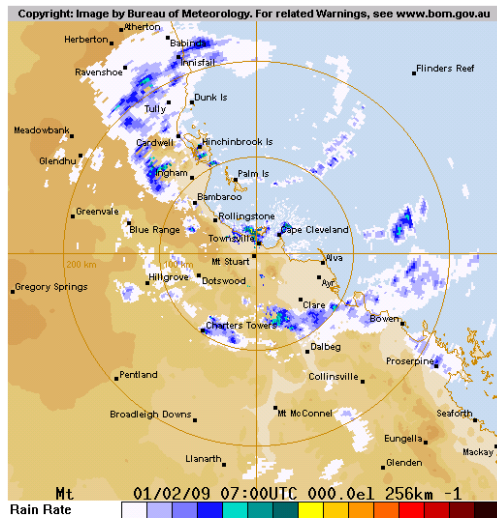


2am on the 2nd February- Coastal Crossing

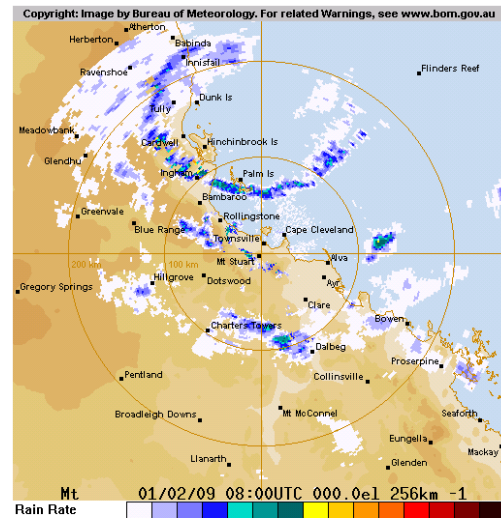


4am on the 1st February – Coastal Crossing

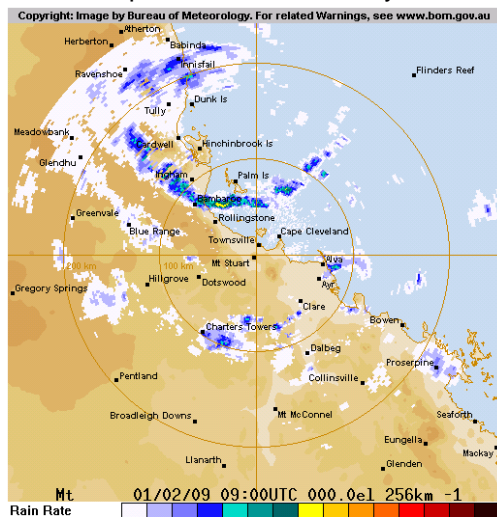
Figure 2.2.4. Radar Imagery of Tropical Cyclone Ellie before coastal crossing on the 1st February 2009.



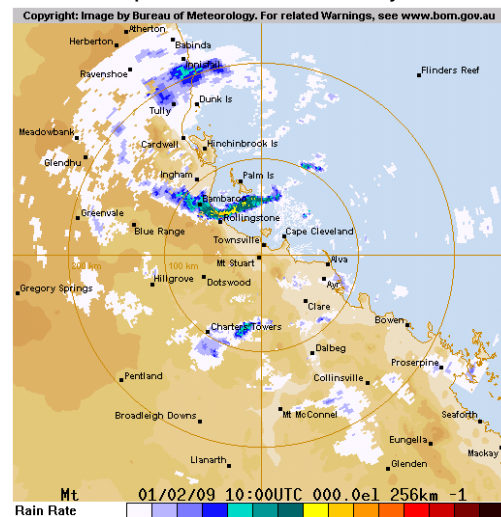
5pm on the 1st February



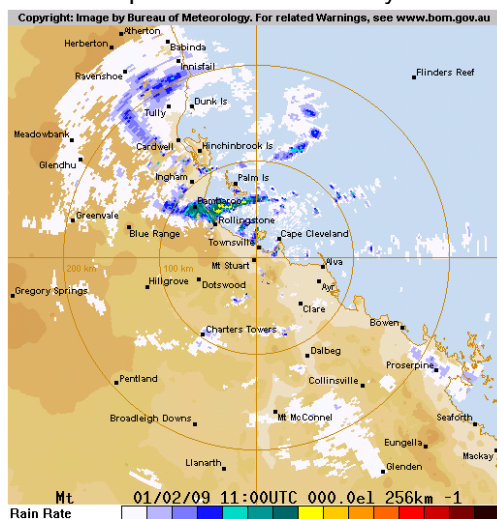
6pm on the 1st February



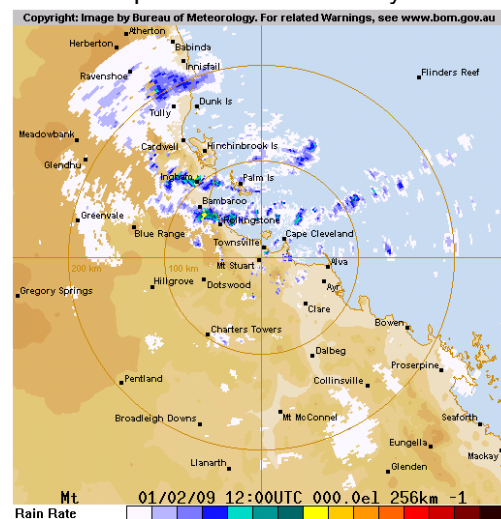
7pm on the 1st February



8pm on the 1st February

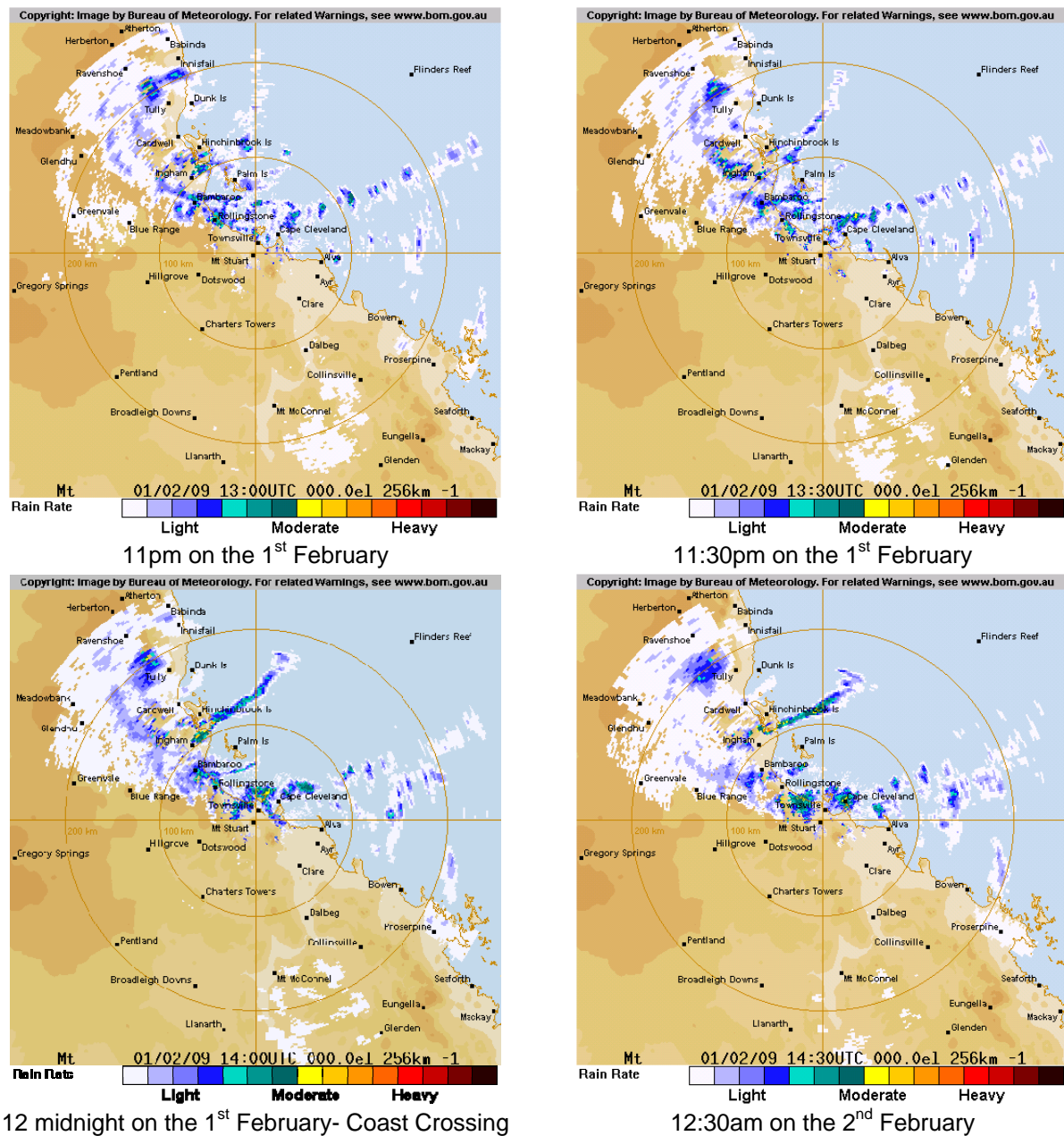


9pm on the 1st February



10pm on the 1st February – just before Coastal Crossing

Figure 2.2.5. Radar Imagery of Tropical Cyclone Ellie at time of coastal crossing on the 1st February 2009.



3. Rainfall Summary for Queensland

Rainfall recorded from the 1st January to the 10th March is shown in Figure 3.1. The heaviest rainfall occurred along the North Tropical Queensland coast. Some sites in this region received more than 2000mm of rainfall in this period, as shown in Table 3.2. The highest total rainfall of 3136mm was recorded at Bulgun Creek Alert in the Tully River Catchment. Isolated total falls of over 1200mm were also recorded around the Gulf of Carpentaria.

Highest Daily Rainfall of 497mm was recorded at Hawkins Creek Alert in the Herbert River Catchment on the 4th February 2009. See Table 3.3 for a list of the highest daily rainfall totals recorded throughout the period from the 1st January to the 28th of 1st March 2009.

The abbreviations used in the rainfall tables in this section include:

AL - ALERT Radio Telemetry
 TM - Telephone Telemetry
 AWS - Automatic Weather Station
 SYN - Bureau Synoptic Station

Note: * signifies automatic station.

Figure 3.1 Total Rainfall for Queensland from the 1st January to the 10th March 2009.

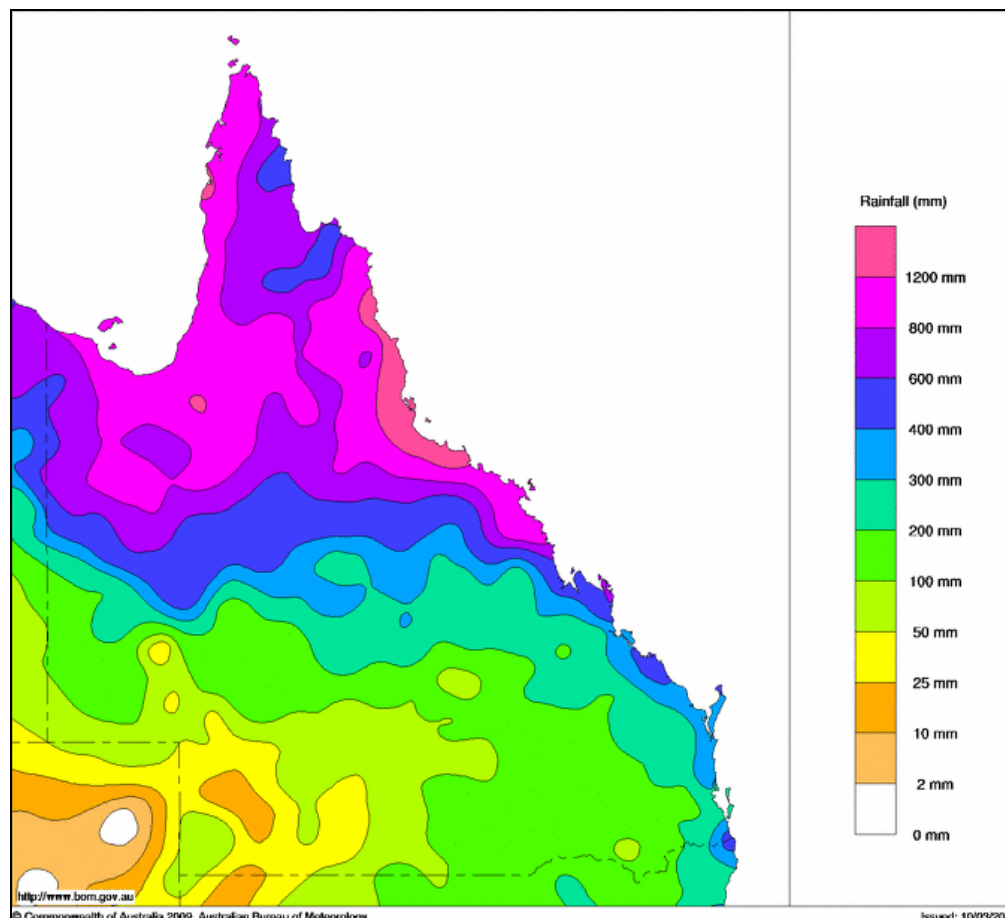


Table 3.2 Total rainfall from stations that have received over 2000mm since 1st January 2009.

Station Name	River Basin	Total Rainfall (mm)	Data from 01/01/2009 to...
Bulgun Creek AL	TULLY	3136	1/01/2009
Paluma Ivy Cottage	BURDEKIN	3118	27/02/2009
Hawkins Creek	HERBERT	3007	28/02/2009
Tree House Creek	MULGRAVE-RUSSELL	2942	28/02/2009
Paluma Dam AL	BURDEKIN	2901	1/03/2009
Babinda Post Office	MULGRAVE-RUSSELL	2833	27/02/2009
Paluma AL	BURDEKIN	2786	1/03/2009
Babinda Sugar Mill	MULGRAVE-RUSSELL	2753	28/02/2009
Cardwell Range	HERBERT	2745	28/02/2009
Clyde Rd AL	HERBERT	2725	1/03/2009
Gairloch	HERBERT	2571	27/02/2009
Ingham Pump Station TM	HERBERT	2570	1/03/2009
Japoonvale TM	JOHNSTONE	2561	1/03/2009
Tully AL	TULLY	2516	1/03/2009
Tully Sugar Mill	TULLY	2489	28/02/2009
Ingham Composite	HERBERT	2454	1/03/2009
Fisher Ck TM	JOHNSTONE	2448	1/03/2009
Gairloch AL	HERBERT	2443	1/03/2009
Victoria Sugar Mill	HERBERT	2399	26/02/2009
Halifax Macrossan St	HERBERT	2380	26/02/2009
Ingham Pump Station AL	HERBERT	2371	1/03/2009
Trebonne AL	HERBERT	2345	1/03/2009
Euramo AL	TULLY	2330	1/03/2009
Mutarnee Store	HERBERT	2323	26/02/2009
Deeral	MULGRAVE-RUSSELL	2281	28/02/2009
Saltwater Creek AL	JOHNSTONE	2262	1/03/2009
Mcavoy Bridge AL	JOHNSTONE	2238	1/03/2009
Bambaroo	MURRAY	2230	28/02/2009
Daradgee	JOHNSTONE	2227	28/02/2009
Tung Oil TM	JOHNSTONE	2216	1/03/2009
Bolinda Estate AL	TULLY	2213	1/03/2009
Sweeney Creek Upstream AL	JOHNSTONE	2190	1/03/2009
Lucinda Township	HERBERT	2182	25/02/2009
Paradise Lagoon AL	HERBERT	2161	1/03/2009
Innisfail	JOHNSTONE	2156	1/03/2009
Rollingstone	HERBERT	2150	28/02/2009
Innisfail Wharf AL	JOHNSTONE	2126	1/03/2009
Marco Street AL	JOHNSTONE	2122	1/03/2009
Upper Major Creek AL	HAUGHTON	2119	1/03/2009
Davidson Creek AL	TULLY	2112	1/03/2009
Murray Flats AL	MURRAY	2110	1/03/2009
Nerada AL	JOHNSTONE	2103	1/03/2009
Magnetic Island - Nelly Bay		2072	28/02/2009
Pallarenda AL	ROSS	2059	1/03/2009
Upper Bluewater AL	HERBERT	2038	1/03/2009
Corsis AL	JOHNSTONE	2027	1/03/2009
Crawfords Lookout AL	JOHNSTONE	2026	1/03/2009

Table 3.3 Highest Daily Rainfalls (24 Hour Rainfall to 9am) recorded between the 1st January and the 1st March 2009

Station Name	River Basin	Rainfall (mm)	24 hour Rainfall to 9am on the
Hawkins Creek	HERBERT	497	4/02/2009
Cardwell Range	HERBERT	467	4/02/2009
Upper Major Creek Alert	HAUGHTON	440	14/01/2009
Cape Tribulation Store	DAINTREE	436	12/01/2009
Tree House Creek	MULGRAVE-RUSSELL	432	12/01/2009
Fisher Ck Tm	JOHNSTONE	377	2/02/2009
Bulgun Creek Alert	TULLY	374	7/02/2009
Majors Creek	HAUGHTON	373	14/01/2009
Gairloch	HERBERT	373	4/02/2009
Bellenden Ker Bottom Stn	MULGRAVE-RUSSELL	360	13/01/2009
Daintree Tea	DAINTREE	359	12/01/2009
Paluma Dam Alert	BURDEKIN	357	14/01/2009
Japoonvale Tm	JOHNSTONE	348	7/02/2009
Trebonne Al	HERBERT	347	4/02/2009
Bucklands Tm	MULGRAVE-RUSSELL	345	12/01/2009
Davidson Creek Alert	TULLY	343	7/02/2009
Gairloch Alert	HERBERT	342	4/02/2009
Clyde Rd Alert	MULGRAVE-RUSSELL	327	12/01/2009
Ingham Pump Station Tm	HERBERT	315	13/01/2009
Deeral	MULGRAVE-RUSSELL	315	12/01/2009
Clarke Range Alert	PIONEER	314	2/02/2009
Port Douglas - Warner St	MOSSMAN	310	12/01/2009
Abergowrie Bridge Alert	HERBERT	308	4/02/2009
El Arish Post Office	JOHNSTONE	307	31/01/2009
Paluma Ivy Cottage	BURDEKIN	305	14/01/2009
Saddle Mountain Alert	BARRON	304	12/01/2009
Yourka Alert	HERBERT	304	2/02/2009

Rainfall totals for some of the heavier rain producing events are shown in the tables below.

Rainfall in early January in the far northwest corner of the state, associated with a low pressure system located over the Northern Territory is shown in Table 3.4. The highest daily rainfall total recorded between 9am on the 31st of December 2008 and the 3rd January 2009 associated with this low was 244 mm at Floraville TM on the Leichhardt River. The highest total rainfall in this period was 347mm recorded at Riversleigh TM on the Gregory River.

Table 3.4 Maximum Rainfall recorded over the Gulf Rivers between the 1st and 3rd January 2009.

Station Name	24 hours to 9am on the			Total
	1 Jan	2 Jan	3 Jan	
Nicholson/Gregory				
Wollogorang	44	29	72	145
Lawn Hill Gorge	54	104	83	241
Lawn Hill	34	72	90	196
Riversleigh TM *	29	168	150	347
Century Mine AWS *	28	134	113	275
Burketown SYN	27	14	161	202
Burketown AWS *	25	27	173	225

Station Name	24 hours to 9am on the			Total
	1 Jan	2 Jan	3 Jan	
Leichhardt				
Gereta	9	173	103	285
Gunpowder TM *	101	124	85	310
Floraville TM *	39	41	244	324

Station Name	24 hours to 9am on the			Total
	1 Jan	2 Jan	3 Jan	
Flinders				
Cloncurry		55	48	103
Cloncurry AWS *	1	60	54	115
Cloncurry TM *	1	65	50	116
Fort Constantine			115	115
Julia Creek AWS *	1	45	94	140
Julia Creek TM *	5	23	88	116
Lands End	3	50	95	148
Carsland	190		75	265
Wondoola	38	6	90	134

The highest rainfall recorded in each river basin is highlighted in red.

The maximum rainfall recorded over the Gulf Rivers and along the North Queensland coast, associated with Tropical Cyclone Charlotte are shown in Figure 3.5. The highest daily rainfall total recorded between 9am on the 10th January and 9am on the 15th January 2009 associated with this Tropical Cyclone Charlotte was 440 mm at Upper Major Creek AL. This station also received the highest 3 day total of 771 mm from 9am on the 12th to 9am on the 15th January.

Table 3.5 Maximum Rainfall recorded over the Gulf Rivers and along the North Queensland coast associated with Tropical Cyclone Charlotte, January 2009.

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Eastern Cape Rivers				
Laura River TM *	19	5	81	105
Laura	17	7	80	104
Kalpower Crossing TM *	45	0	55	100

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Western Cape Rivers				
Chillagoe	133	9	34	176
Ok Bridge TM *	35	50	16	101
Highbury	14	7	112	133
Palmer River TM *	59	14	27	100
Kowanyama Ap	19	24	64	107
Southwell	49	13	38	100
Greenhaven AL *	32	43	57	132
Aurukun	36	78	62	176
Weipa AWS *	84	59	27	170
Scherger *	46	103	50	199
Bramwell	120	21	36	177
Monument TM *	77	22	21	120

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Gilbert				
Green Hills	43	29	41	113
Roseglen TM *	46	36	37	119
Miranda Downs	114	23	174	311

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Norman				
Croydon SYN	58	33	94	185
Glenore Weir TM *	26	29	110	165
Normanton AWS *	49	10	135	194
Walkers Bend TM *	20	35	99	154

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Leichhardt				
Floraville TM *	28	27	8	63

Station Name	24 hours to 9am on			Total
	Jan 10	Jan 11	Jan 12	
Nicholson/Gregory				
Wollogorang	38	34	6	78
Burketown SYN	28	31	16	75

The highest rainfall recorded in each river basin is highlighted in red.

http://www.bom.gov.au/hydro/flood/qld/fld_reports/reports.shtml

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Table 3.5 (cont) Maximum Rainfall recorded over the Gulf Rivers and along the North Queensland coast associated with Tropical Cyclone Charlotte, January 2009.

Station Name	24 hours to 9am on			Total
	Jan 11	Jan 12	Jan 13	
Johnstone				
Tung Oil TM *	73	164	159	396
Tung Oil AL *	76	170	167	413
Mcavoy Bridge AL *	86	223	231	540
Daradgee	86	190	229	505
Saltwater Creek AL *	102	222	228	552
Central Mill TM *	47	158	192	397
Central Mill AL *	50	165	200	415
Mourilyan Mill AL *	49	156	241	446
South Johnstone AWS *	51	150	224	425
Sweeney Creek U/s AL *	91	218	220	529
Marco Street AL *	84	184	206	474
Innisfail SYN	93	210	225	528
Innisfail Wharf AL *	87	206	213	506

Station Name	24 hours to 9am on			Total
	Jan 11	Jan 12	Jan 13	
Mulgrave-Russell				
Peets Bridge TM *	74	205	190	469
Peets Bridge AL *	94	167	178	439
Gordonvale AL *	84	168	174	426
Simmonds Creek TM *	63	175	186	424
Mt Sophia	132	247	224	603
Bucklands TM *	57	345		402
Babinda	168	256	257	681
Clyde Road AL *	159	327	237	723

Station Name	24 hours to 9am on			Total
	Jan 11	Jan 12	Jan 13	
Tully				
Tully AL *	23	77	216	316
Tully Sugar Mill	21	75	225	321
Bulgun Creek AL *	29	125	296	450
South Mission Beach AL *	8	61	237	306
Euramo AL *	29	66	238	333
Euramo TM *	28	65	214	307
Murray Flats AL *	55	66	200	321
Cardwell SYN	40	43	251	334

The highest rainfall recorded in each river basin is highlighted in red.

Table 3.5 (cont) Maximum Rainfall recorded over the Gulf Rivers and along the North Queensland coast associated with Tropical Cyclone Charlotte, January 2009.

Station Name	24 hours to 9am on			Total
	Jan 12	Jan 13	Jan 14	
Herbert				
Hawkins Creek	24	376	143	543
Trebonne AL *	20	253	75	348
Ingham Pump Station TM *	24	315	62	401
Ingham Pump Station AL *	21	289	52	362
Gairloch	17	276	55	348
Gairloch AL *	19	242	44	305
Cardwell Range	33	360	135	528
Bambaroo	34	172	126	332

Station Name	24 hours to 9am on			Total
	Jan 13	Jan 14	Jan 15	
Black R to Crystal Ck				
Upper Bluewater AL *	290	114	39	443
Paradise Lagoon AL *	199	135	55	389
Rollingstone	236	110	65	411
Mutarnee	277	107	45	429

Station Name	24 hours to 9am on			Total
	Jan 13	Jan 14	Jan 15	
Ross/Bohle				
Brabons AL *	190	91	63	344
Castle Hill AL *	188	46	67	301
Louisa Creek AL *	179	45	66	290
North Ward AL *	208	44	90	342
Pallarenda AL *	219	53	107	379
South Townsville AL *	196	33	88	317
Townsville Airport AL *	199	50	89	338
Townsville AWS *	182	49	87	318
Nelly Bay	201	36	117	354

Station Name	24 hours to 9am on			Total
	Jan 13	Jan 14	Jan 15	
Haughton				
Upper Major Creek AL *	261	440	70	771
Major Creek AL *	118	76	30	224
Giru	165	33	21	219
Giru AL *	185	36	14	235

Station Name	24 hours to 9am on			Total
	Jan 13	Jan 14	Jan 15	
Burdekin				
Paluma AL *	257	301	50	608
Paluma	260	305	55	620
Paluma Dam AL *	271	357	38	666
Ayr AWS *	82	52	42	176

The heaviest rainfalls recorded associated with Tropical Cyclone Ellie are listed in Table 3.6. Typically the period of heavy rainfall extended from 9am on the 30th January to 9am on the 3rd February except in the Herbert River, Black River and Ross/Bohle River Catchments, where heavy rain also fell to 9am on the 4th February. The heaviest rainfall in this period was 1087mm at Hawkins Creek in the Herbert River Basin.

Table 3.6 Maximum rainfalls recorded along the North and Central Queensland Coast associated with Tropical Cyclone Ellie, January and February 2009.

Station Name	24 hours to 9am on the				Total
	31 Jan	1 Feb	2 Feb	3 Feb	
Johnstone					
Fisher Ck TM *	203	73	377	0	653
Tung Oil TM *	249	64	181	0	494
Mcavoy Bridge AL *	213	57	191	0	461
Saltwater Creek AL *	218	56	237	0	511
Corsis AL *	159	71	218	0	448
Central Mill TM *	243	52	254	0	549
Central Mill AL *	207	51	253	0	511
Mourilyan Mill AL *	207	58	248	0	513
South Johnstone AWS *	191	49	248	0	488
Sweeney Creek U/s AL *	223	56	205	0	484
Marco Street AL *	211	61	195	0	467
Innisfail Wharf AL *	220	57	226	0	503
Japoonvale TM *	232	37	227	0	496

Station Name	24 hours to 9am on the				Total
	31 Jan	1 Feb	2 Feb	3 Feb	
Mulgrave-Russell					
Goldsborough Valley AL *	72	117	52	2	243
Clyde Road AL *	189	63	58	0	310

Station Name	24 hours to 9am on the				Total
	31 Jan	1 Feb	2 Feb	3 Feb	
Tully					
Tully Weir AL *	69	42	219	10	340
Koombooloomba AL *	72	40	245	9	366
Bolinda Estate AL *	106	50	229	7	392
Davidson Creek AL *	103	33	167	7	310
Tully AL *	208	50	83	6	347
Tully Sugar Mill	209	49	77	5.8	341
Bulgun Creek AL *	212	45	142	10	409
Bingil Bay	232	64	95	0.2	391

The highest rainfall recorded in each river basin is highlighted in red.

Table 3.6 (cont) Maximum rainfalls recorded along the North and Central Queensland Coast associated with Tropical Cyclone Ellie, January and February 2009.

Station Name	24 hours to 9am on the					Total
	31 Jan	1 Feb	2 Feb	3 Feb	4 Feb	
Herbert						
Elphinstone Pocket	99	55	129	142	236	661
Hawkins Creek	130	37	230	193	497	1087
Michael Creek AL *	46	10	275	120	77	528
Running Creek TM *	66	19	286	76	105	552
Trebonne AL *	118	39	233	160	347	897
Ingham SYN	114	23	282	158	260	837
Ingham Depot AL *	82	15	207	157	155	616
Ingham Pump Station TM *	119	29	293	202	303	946
Ingham Pump Station AL *	111	26	251	191	281	860
Gairloch	131	24	204	128	373	860
Gairloch AL *	128	25	178	100	342	773
Cardwell Range	167	27	182	64	467	907
Victoria Mill	133	23	251	146	240	793

Station Name	24 hours to 9am on the					Total
	31 Jan	1 Feb	2 Feb	3 Feb	4 Feb	
Black R to Crystal Ck						
Upper Black River AL *	31	40	105	212	123	511
Black River AL *	34	25	85	253	97	494
Black River TM *	38	25	83	255	98	499
Upper Bluewater AL *	32	27	122	208	115	504
Bluewater AL *	38	24	116	161	110	449
Mutarnee	54	5	202	89	92	442

Station Name	24 hours to 9am on the					Total
	31 Jan	1 Feb	2 Feb	3 Feb	4 Feb	
Ross/Bohle						
Louisa Creek AL *	47	36	58	212	105	458
North Ward AL *	62	28	60	230	114	494
Pallarenda AL *	66	44	91	300	109	610
Mt Margaret AL *	30	24	72	228	123	477
Deeragun AL *	40	32	76	236	139	523
Little Bohle River AL *	30	22	64	238	129	483
Bohle River AL *	32	23	65	246	112	478
Townsville Airport AL *	55	33	66	262	107	523
Townsville AWS *	54	32	62	242	99	489
Nelly Bay AL *	59	22	51	201	83	416
Nelly Bay	82	30	70	267	111	560

The highest rainfall recorded in each river basin is highlighted in red.

Table 3.6 (cont) Maximum rainfalls recorded along the North and Central Queensland Coast associated with Tropical Cyclone Ellie, January and February 2009.

Station Name	24 hours to 9am on the				Total
	31 Jan	1 Feb	2 Feb	3 Feb	
Haughton					
Upper Reid AL *	17	35	77	137	266
Donnington Airpark AL *	19	48	81	110	258
Major Creek AL *	21	24	53	183	281
Powerline TM *	29	27	54	162	272
Powerline AL *	27	25	49	150	251
Giru North	39	68	97	94	298
Giru	32	65	103	142	342
Giru AL *	39	62	89	88	278

Station Name	24 hours to 9am on the				Total
	31 Jan	1 Feb	2 Feb	3 Feb	
Burdekin					
Paluma AL *	61	32	199	172	464
Paluma Dam AL *	81	46	303	141	571
Ayr AWS *	22	36	34	197	289

The highest rainfall recorded in each river basin is highlighted in red.

The heaviest rainfalls recorded, associated with the development of a tropical low of the North Tropical Coast are listed in Table 3.7. Totals for the three days of heaviest rainfall in the period from the 5th to the 9th February, for each affected river basin, have been provided. The heaviest 3-day rainfall recorded in this period was 825 mm at Bulgun Creek Alert in the Tully River Basin.

Table 3.7 Maximum Rainfall recorded over the north and central Queensland coast in a 3-day period between the 5th and 9th February 2009.

Station Name	24 hours to 9am on the			Total
	5	6	7	
Johnstone				
Crawfords Lookout AL *	112	120	232	464
Fisher Ck TM *	76	237	372	685
Nerada AL *	86	131	293	510
Tung Oil TM *	71	247	297	615
Mcavoy Bridge AL *	59	232	253	544
Daradgee	60	240	229	529
Saltwater Creek AL *	62	243	176	481
Corsis AL *	86	116	238	440
Central Mill TM *	52	108	186	346
Central Mill AL *	54	97	212	363
Mourilyan Mill AL *	54	147	185	386
Sweeney Creek U/s AL *	62	221	177	460
Marco Street AL *	64	142	241	447
Innisfail SYN	55	202	160	417
Innisfail Wharf AL *	60	217	149	426
Japoonvale TM *	66	225	348	639

Station Name	24 hours to 9am on the			Total
	5	6	7	
Mulgrave-Russell				
Mt Sophia	68	122	50	240
Babinda	158	191	286	635
Clyde Road AL *	119	165	293	577

Station Name	24 hours to 9am on the			Total
	6	7	8	
Tully				
Bolinda Estate AL *	131	279	39	449
Davidson Creek AL *	64	343	22	429
Tully AL *	158	271	174	603
Tully Sugar Mill	165	271	165	601
Bulgun Creek AL *	199	374	252	825
Euramo AL *	108	265	131	504
Euramo TM *	117	260	127	504
Bilyana AL *	44	288	105	437
Murray Flats AL *	69	259	84	412

The highest rainfall recorded in each river basin is highlighted in red.

Table 3.7(cont) Maximum Rainfall recorded over the north and central Queensland coast between the 1st and 3rd January 2009.

Station Name	24 hours to 9am on the			Total
	6	7	8	
Herbert				
Nash's Crossing AL *	65	238	59	362
Wallaman AL *	63	248	67	378
Zattas AL *	55	205	101	361
Abergowrie AL *	70	146	84	300
Hawkins Creek	44	135	128	307
Upper Stone	11	214	53	278
Peacock Siding AL *	15	177	64	256
Cardwell Range	50	101	128	279
Halifax	39	90	139	268
Bambaroo	30	140	100	270

Station Name	24 hours to 9am on the			Total
	7	8	9	
Black R to Crystal Ck				
Upper Bluewater AL *	104	124	151	379
Bluewater AL *	118	121	61	300
Paradise Lagoon AL *	155	126	46	327
Rollingstone	179	138	49	366
Mutarnee	170	148	44	362

Station Name	24 hours to 9am on the			Total
	7	8	9	
Ross/Bohle				
North Ward AL *	99	108	53	260
Pallarenda AL *	127	137	60	324
South Townsville AL *	84	107	52	243
Mt Margaret AL *	76	88	75	239
Deeragun AL *	74	110	60	244
Townsville Airport AL *	90	104	55	249
Nelly Bay AL *	101	134	48	283
Nelly Bay	130	145	56	331

Station Name	24 hours to 9am on the			Total
	7	8	9	
Haughton				
Powerline TM *	38	168	20	226
Giru North	95	152	28	275

The highest rainfall recorded in each river basin is highlighted in red.

Table 3.7(cont) Maximum Rainfall recorded over the north and central Queensland coast between the 1st and 3rd January 2009.

Station Name	24 hours to 9am on the			Total
	7	8	9	
Burdekin				
Paluma AL *	225	127	68	420
Paluma Dam AL *	304	100	18	422
Inkerman Bridge AL *	45	170	40	255
Rita Island AL *	54	201	57	312
Groper Creek AL *	39	220	37	296
Ayr AWS *	52	197	49	298
Alva Beach AWS *	76	172	86	334

Station Name	24 hours to 9am on the			Total
	7	8	9	
Don				
Bowen Pump Station AL *	23	173	41	237
Bowen SYN	37	206	45	288
Koonandah TM *	23	193	49	265
Guthalungra TM *	19	160	37	216

The highest rainfall recorded in each river basin is highlighted in red.

4. Peak Height Summary for Queensland

Peak heights for selected river height stations in each flooded river catchment in Queensland for the period from the 1st January to the 28th February are shown in table 4.1. Recorded heights have also been compared to peak height records for the site.

Table 4.1 Peak Flood Heights for selected river height stations from the 1st January to the 28th February.

River Basin	Gauging Station	Jan/Feb 2009 Peak (metres)	Start of Record	Ranking	Highest Since	Highest on Record
Nicholson/Albert	Burketown Airstrip	6.6m 1-Feb	1998	2 nd	Mar-98 (11 years)	6.7m 4/03/1998
Leichhardt	Floraville TM	10.18m 2-Feb	1971	3 rd	Jan-74 (35 years)	10.97 7/03/1971
Cloncurry	Cloncurry TM	8.03m 8-Jan	1950	3 rd	Mar-97 (12 years)	10.01m 2/03/1997
Flinders	Walkers Bend TM	15.17m 17-Feb	1970	4 th	Jan-91 (18 years)	15.67m 2/02/1974
Norman	Normanton	6.27m 4-Feb	1974	2 nd	Jan-74 (35 years)	8.8m Jan-74
Einasleigh	Einasleigh	12.64m 27-Jan	1968	4 th	1991 (18 years)	17.53 23/01/1974
Gilbert	Strathmore	8.10m 28-Jan	1974	2 nd	1974 (35 years)	9.80m 1974
Georgina/Eyre Creek	Urandangi	6.85m 08 Jan & 12 Feb	1974	5 th	Mar-97 (12 years)	7.45m 1974
	Glengyle	5.25m 22-Jan	1971	4 th	Mar-97 (12 years)	6.45m 5/02/1974
Diamantina	Birdsville	7.20m 5-Feb	1949	17 th	Jan-07 (2 years)	9.45 07/02/1974
	Diamantina Lakes TM	6.53m	1967	Equal 6 th	Feb-00 (9 years)	7.71 30/01/1974
		16-Feb				
Thompson	Longreach	5.70m 12-Feb	1973	6 th	Feb-00 (36 years)	6.94 24/02/2000
Johnstone	Innisfail	5.68m 6-Feb	1913	13 th	Mar-99 (10 years)	6.37 12/02/1999
Tully	Euramo	9.14m 7-Feb	1967	2 nd	1999 (10 years)	9.37m 1967

Table 4.1(cont) Peak Flood Heights for selected river height stations from the 1st January to the 28th February.

River Basin	Gauging Station	Jan/Feb 2009 Peak (metres)	Start of Record	Ranking	Highest Since	Highest on Record
Murray	Murray Flats	8.71m 1-Feb	2002	1 st	Record	Record
Herbert	Gleneagle	14.40m 2-Feb	1940	4 th	Mar 1977 (32 years)	19.0 14/03/1967
	Gairloch (Ingham)	12.25m 7-Feb	1956	Equal 4 th	Jan-97 (12 years)	12.60m 14/03/1967
	Abergowrie	15.93m 7-Feb	1971	2 nd	1998 (11 years)	17.48m 8/03/1977
Burdekin	Sellheim	20.50m 3/02/2009	1870	Equal 3 rd	1998 (11 years)	21.79m 4/03/1946
	Burdekin Falls Dam	6.69m 5/02/2009	1989	2 nd	1991 (18 years)	6.85m 21/02/1991
	Inkerman Bridge	11.55m 5/02/2009	1911	3 rd	2008 (1 year)	12.53m 4/02/1991
Haughton	Giru	2.94m 8/02/2009	1978	4 th	2008 (1 year)	3.03m 11/02/2008

5. Summary of Flood Warning Services

Flood warnings were issued for the Nicholson, Leichhardt, Flinders, Norman, and Gilbert Rivers around the Gulf of Carpentaria, the Georgina, Diamantina, Thompson, Cooper and Barcoo Rivers in the western and central interior of Queensland and the Russell/Mulgrave, Johnstone, Tully/Murray, Herbert, Burdekin, Haughton, Don, Pioneer and Fitzroy River Basins along the North and Central Queensland coast. The first flood warning for Queensland for 2009 was issued on the 2nd January 2009 for the Gulf Rivers. Areas of these rivers then remained flooded until the 7th March 2009. The final flood warnings issued for Queensland for the 2008-2009 Wet Season were for the Diamantina and Georgina Rivers on the 13th March.

A total of 430 Flood Warnings were issued between the 2nd January and the 13th March 2009. 207 of these warnings included major flooding. A total of 200 flood predictions were made for 28 different locations.

Table 5.1 Flood Warnings and Predictions issued for Queensland from the 1st January to the 18th March 2009.

River Basin	Number of Warnings	Number of Major Warnings	Number of Predictions	Number of Locations	First Warning	Last Warning
NICHOLSON	42	19	40	6	5:45pm Friday 02/01/2009	10:14am Thursday 19/02/2009
LEICHHARDT	3	0	3	0	5:45pm Friday 02/01/2009	11:00am Monday the 16/02/2009
FLINDERS	21	1	8	1	10:06am Saturday 3/01/2009	10:02am Saturday 07/03/2009
NORMAN	6	8	6	2	10:03am Monday 12/01/2009	10:02am Saturday 07/03/2009
GILBERT	5	1	5	1	10:37am Tuesday 27/01/2009	10:44am Sunday 15/02/2009
RUSSELL / MULGRAVE	5	4	3	1	1:24pm Monday 12/01/2009	5:31am Tuesday 13/01/2009
JOHNSTONE	5	4	2	1	11:50am Friday 6/02/2009	6:26am Saturday 7/02/2009
TULLY / MURRAY	41	8	20	2	6:38am Friday 30/01/2009	7:18am Wednesday 11/02/2009
HERBERT	52	20	55	4	6.50 am Monday 30/1/2009	7.56 am Wednesday 11/02/2009
BURDEKIN	41	15	29	4	12:15pm Monday 02/02/2009	9:31am Wednesday 18/02/2009
HAUGHTON	45	24	18	2	7:41am Wednesday 14/1/2009	7:36am Saturday 14/02/2009
DON	17	4	3	1	1:24pm Monday 12/01/2009	12:08pm Friday 14/02/2009
PIONEER	9	0	0	-	2:43pm Sunday 01/02/2009	3:45pm Friday 13/02/2009
FITZROY	11	0	0	-	7:04am Wednesday 11/02/2009	9:22am Wednesday 18/02/2009
THOMSON, BARCOO, COOPER	31	18	22	5	12:56pm Tuesday 10/02/2008	10:14am Saturday 7/03/2009
DIAMANTINA	58	37	4	1	10:12am Wednesday 07/01/2009	10:09am Friday 13/03/2009
GEORGINA	69	62	4	2	10:39am Tuesday 06/01/2009	10:10am Friday 13/03/2009
TOTAL	430	207	200	28		

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