



**Australian Government**  
**Bureau of Meteorology**

## FLOODING IN SOUTH WEST QUEENSLAND

January to February 2007



Thomson River channel at Longreach showing the Gin Creek flood on the left.  
Aerial photograph taken Sunday 28th January 2007. Photographer: David Phelps  
Photo attained online at 'ABC Western Queensland'; <http://www.abc.net.au/westqld/stories/s1836801.htm>

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## 1. Introduction

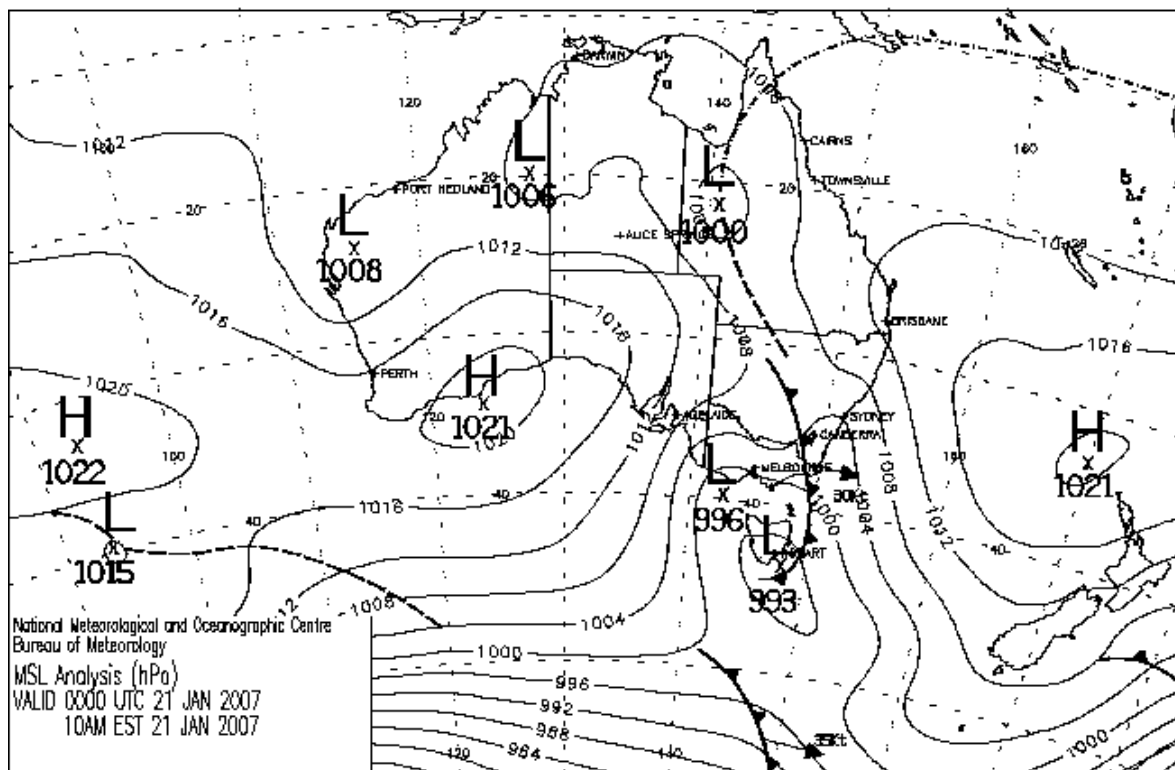
Heavy rainfall throughout south western Queensland during January 2007 resulted in flooding in all river basins from the Diamantina River on the Northern Territory border to the Paroo River on the New South Wales border. Due to the generally flat nature of the catchment and associated slow travel times, flooding extended from 18 January to 16 February.

## 2. Meteorological Situation

**Queensland:** An active monsoon triggered the development of a tropical depression which tracked over inland Australia bringing much needed rainfall to the Channel Country, Warrego and Central West and flooding in many inland river systems. After a slow start to the wet season, closer to normal rainfall was recorded over much of the northern tropics during the month. The Capricornia and Southeast of the state are still waiting for significant wet season rainfall as drier than normal conditions continued during January.

**South West Queensland:** A monsoonal low, which tracked from Northern Territory and through southwest Queensland on the 20th and 21st of the month, brought significant rainfall to the Channel Country, Warrego and Central West with resultant flooding in many inland river systems. The analysis chart given in Figure 1 shows the location of the monsoonal low over Queensland.

Figure 1: Weather Chart for Australia

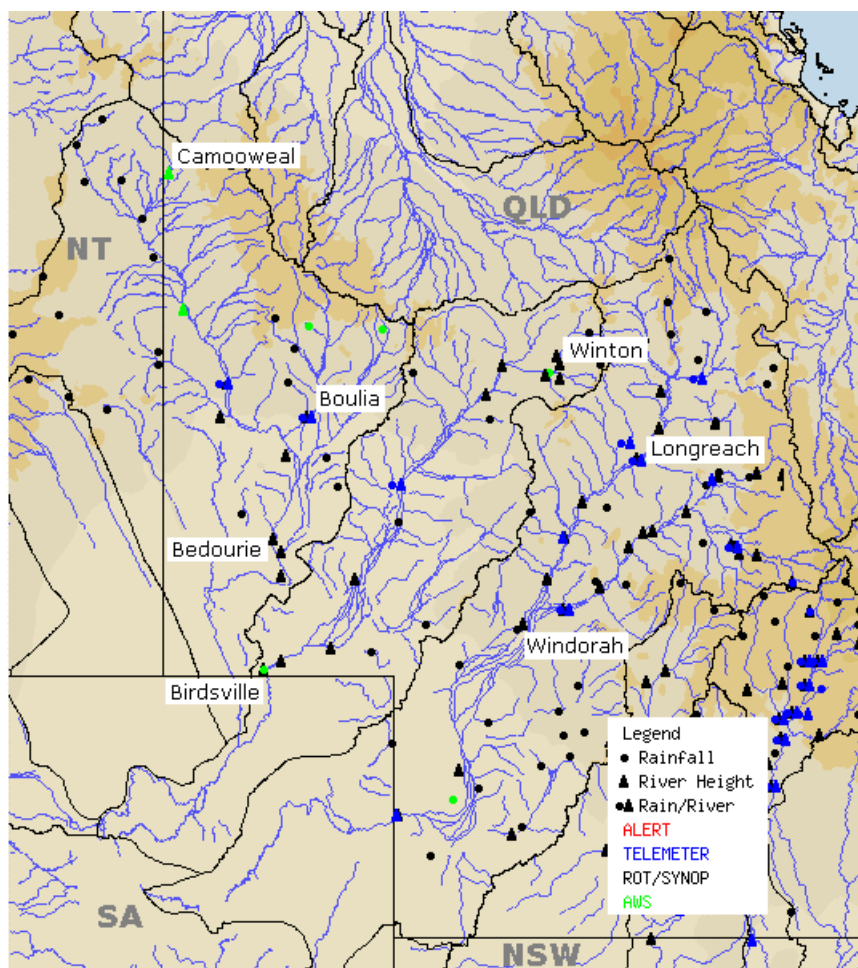


### 3. Flood Warning Network

The current network of rainfall and river height stations operated by the Bureau of Meteorology in South West Queensland is shown in Figure 2.

There are several automatic telemeter rainfall and river height stations in the catchment area with the majority of observations relying on manual daily reporting stations (shown as black stations on the map).

**Figure 2: Flood Warning Network for South West Queensland**



### 4. Rainfall

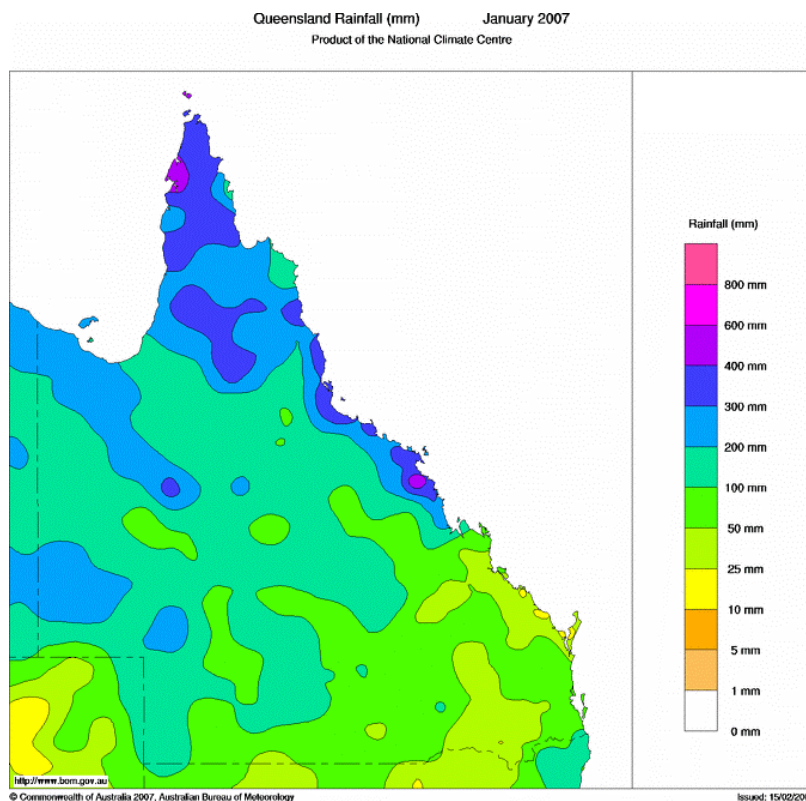
A number of long-standing records were broken in the two day period between 21 - 22 January in South West Queensland.

In the Eyre Creek area, Bedourie's January total of 296.4 mm is the highest monthly total recorded in its 61 years of record, and significantly exceeds the January average of 32.1 mm. Cluny received a monthly total of 483 mm, the highest in its 68 years of record (January average 37.2 mm).

Bedourie, with 169.1 mm on 22/01/07 (<2% AEP), and Cluny, with 175mm on 21/01/07 (<2% AEP) followed by 229 mm on 22/01/07 (< 1% AEP), also reported their highest daily rainfall totals on record. Glengyle also received 127 mm on 21/01/07 (<5% AEP), the highest daily total in its 86 years of record.

Figure 3 shows a summary of rainfall for the month of January 2007.

**Figure 3: Monthly Rainfall Totals**



The following tables summarise some selected rainfall totals for the coverage area.

**Table 1a: Rainfall Totals for Selected South West Stations**

Station	Rainfall (mm)				
	07-13 Jan	14-20 Jan	21-27 Jan	Total	Highest Daily
<b>Georgina River</b>					
CAMOOWEAL	63	110	17	190	56.8
BOULIA	0	27	145	172	77.2
BEDOURIE	0	35	261	296	169.1
<b>Diamantina River</b>					
WINTON	97	37	36	170	57.2
DIAMANTINA LAKES *	2	0	32	34	23.0
BIRDSVILLE	2	2	56	58	38.8
<b>Thomson &amp; Barcoo Rivers and Cooper Creek</b>					
MUTTABURRA	43	-	7	50	19.4
LONGREACH	2	32	122	155	73.2
BLACKALL	9	0	31	40	16.2
WINDORAH	0	7	107	114	69.0

\* Denotes Automatic Station

- Denotes missing or zero observation



**Table 1b: Rainfall Totals for Selected South West Stations**

Station	Rainfall (mm)				
	07-13 Jan	14-20 Jan	21-27 Jan	Total	Highest Daily
<b>Bulloo River</b>					
ADAVALE	-	46	78	124	41.0
QUILPIE *	20	14	62	96	31.4
THARGOMINDAH	0	0	114	114	62
<b>Paroo River</b>					
QUILPETA	-	38	47	85	38.4
EULO	-	25	19	44	24.6
HUNGERFORD	-	8	10	18	10.0
<b>Warrego River</b>					
AUGATHELLA *	0	1	37	38	24.0
CHARLEVILLE *	0	13	44	56	27.2
WARILDA	1	22	77	100	58.2
WYANDRA *	3	10	10	23	8.0
CUNNAMULLA	7	36	10	53	35.6

\* Denotes Automatic Station  
 - Denotes missing or zero observation

**Rainfall Analysis:**

The following plots provide a graphical analysis of the rainfall over the coverage area.

**Figure 4a: Rainfall Analysis for Australia**

7 - 13 Jan 2007

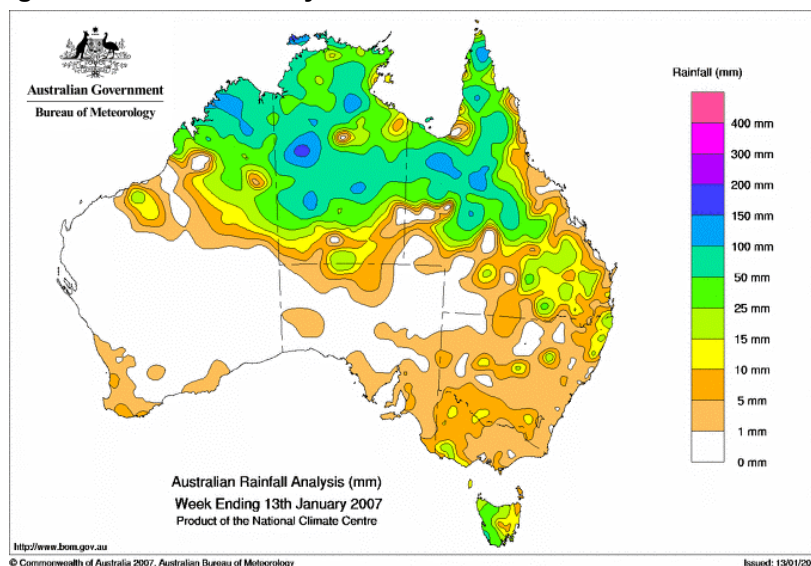


Figure 4b: Rainfall Analysis for Australia

14 - 20 Jan 2007

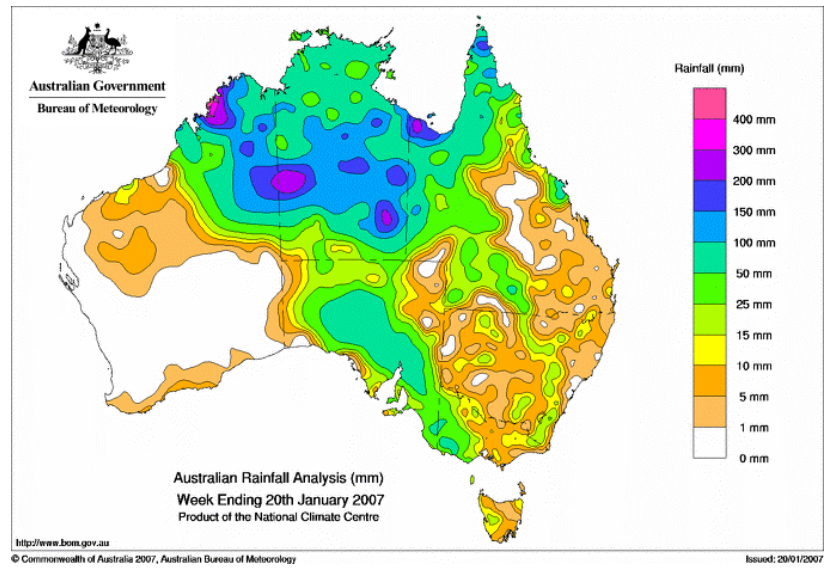


Figure 4c: Rainfall Analysis for Australia

21 - 27 Jan 2007

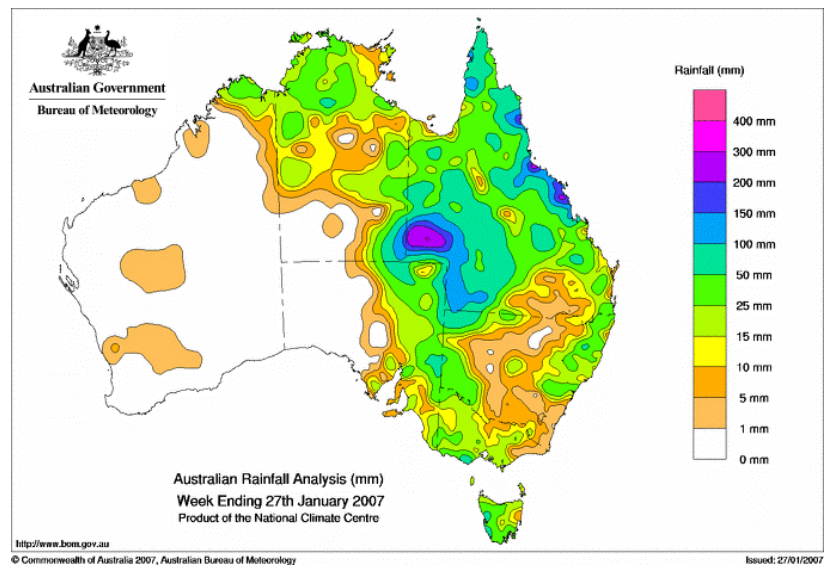
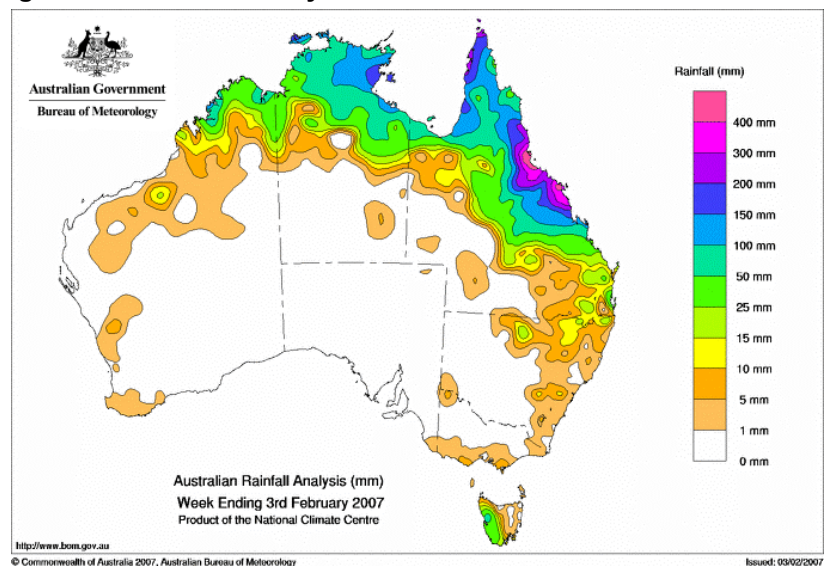


Figure 4d: Rainfall Analysis for Australia

27 Jan - 3 Feb 2007

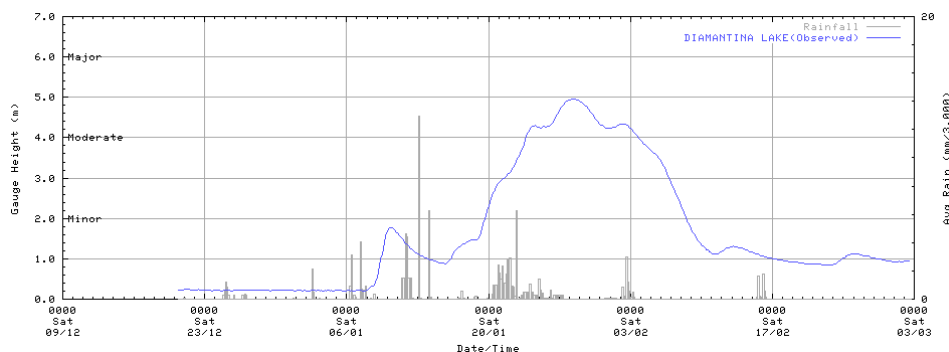


## 5. River Levels

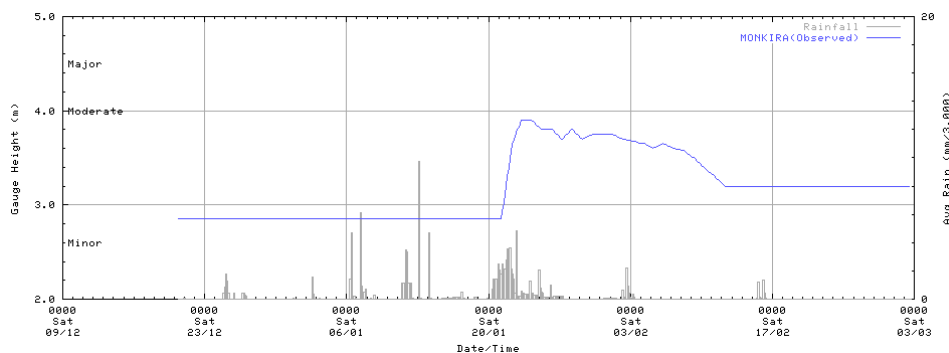
Some river rises were indicated by the automatic stations around January 10-11. The manual river stations reported heights exceeding their threshold report level from around the afternoon of January 17.

Figure 5a: River Heights - Diamantina River

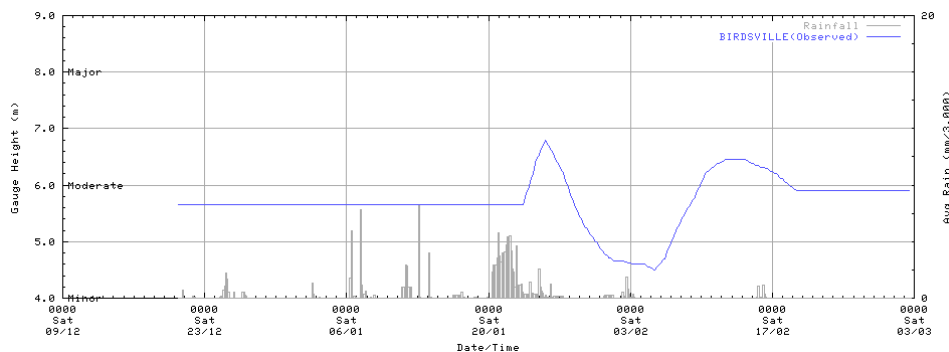
**Diamantina Lakes**  
Diamantina River



**Monkira**  
Diamantina River



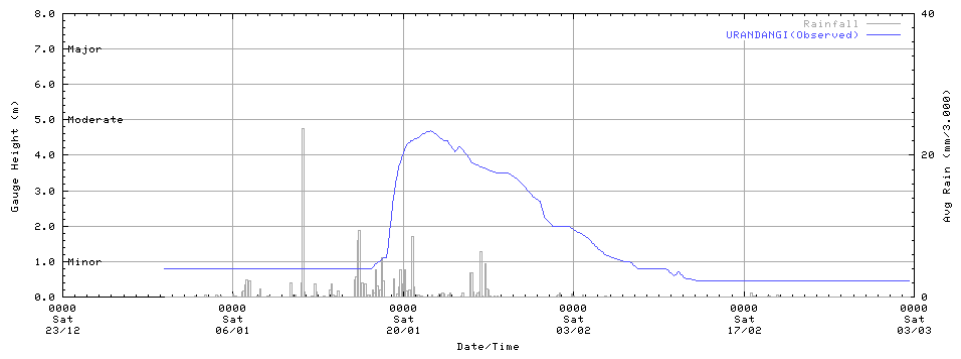
**Birdsville**  
Diamantina River



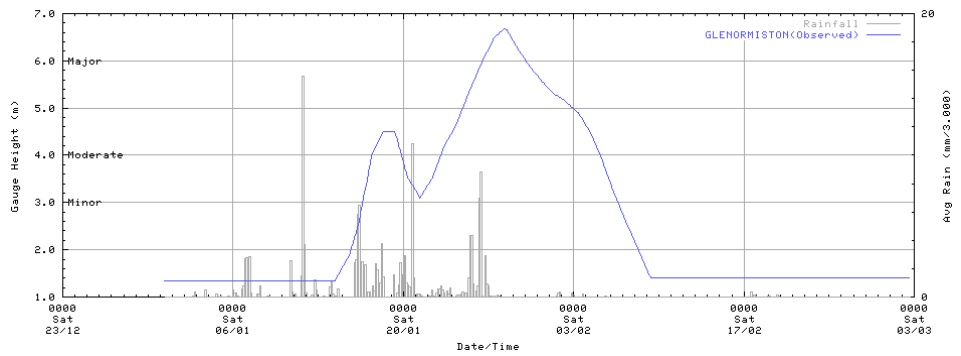
As shown in Figures 5a and 5b, river levels generally began to rise across the upper catchments of the Diamantina and Georgina Rivers on January 19. Rainfall was recorded across the lower half of river basins from the Georgina River to the Paroo River.

Figure 5b: River Heights - Georgina River & Eyre Creek

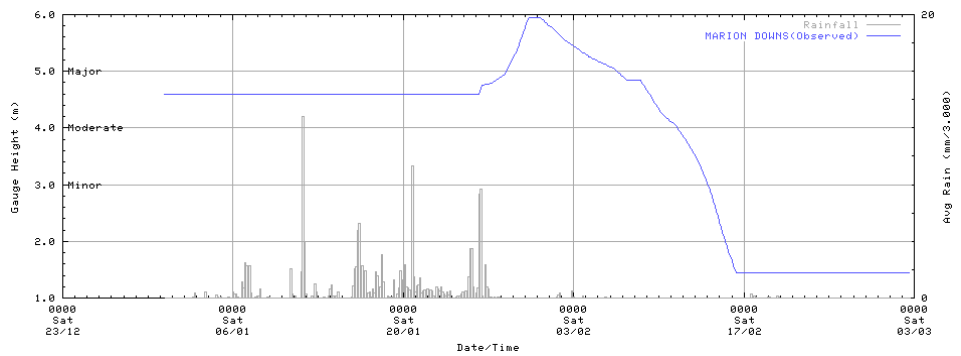
**Urandangie**  
Georgina River



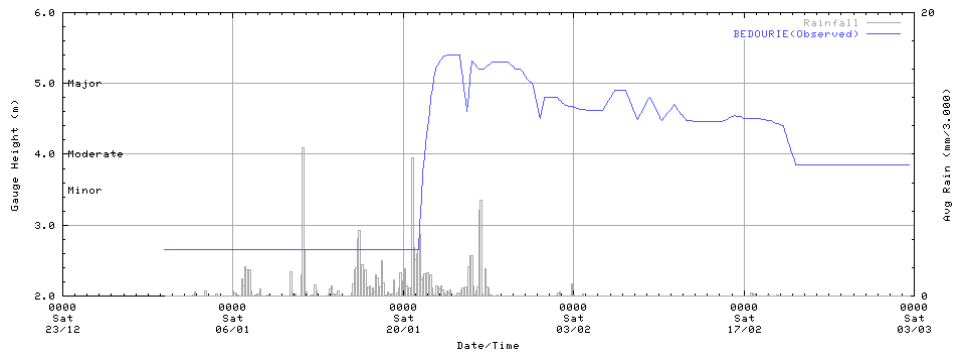
**Glenormiston**  
Georgina River



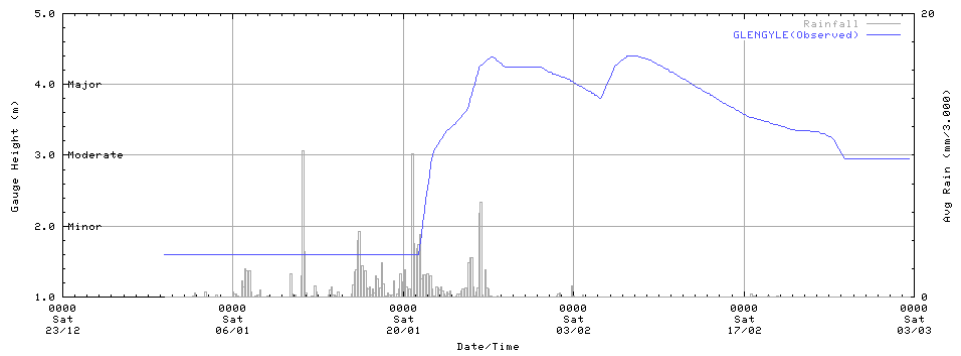
**Marion Downs**  
Georgina River



**Bedourie**  
Eyre Creek



**Glengyle**  
Eyre Creek

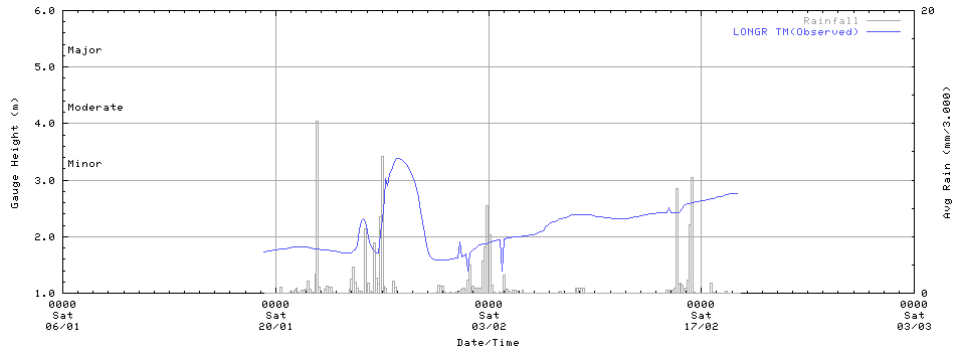




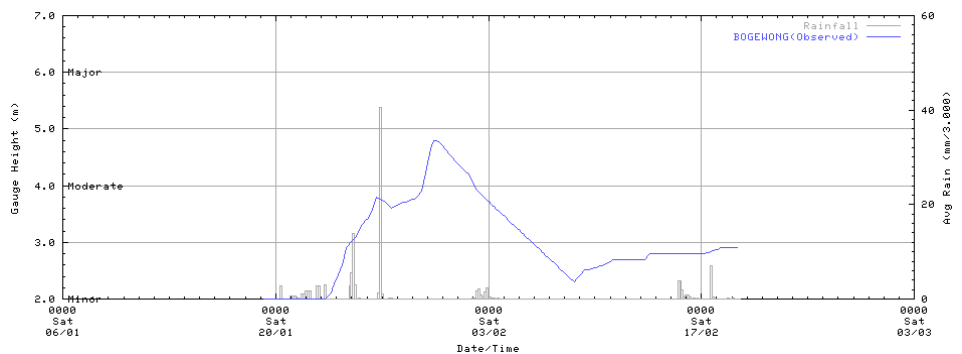
As shown in Figure 5c, river rises in the upper reaches of the Thomson River in the Cooper Creek basin were below minor until further rises resulted in minor flooding on about January 27.

**Figure 5c: River Heights - Thomson & Barcoo Rivers & Cooper Creek**

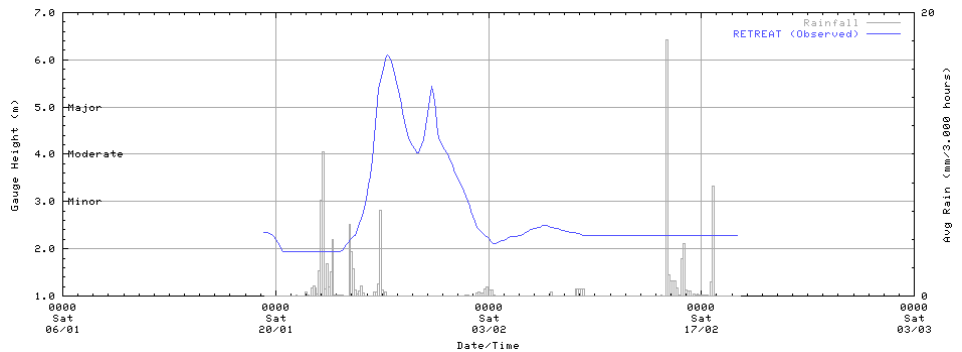
**Longreach**  
Thomson River



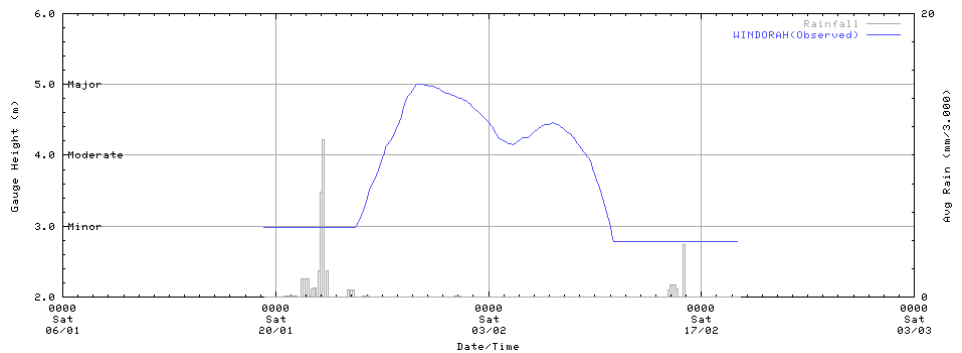
**Bogewong**  
Thomson River



**Retreat**  
Barcoo River

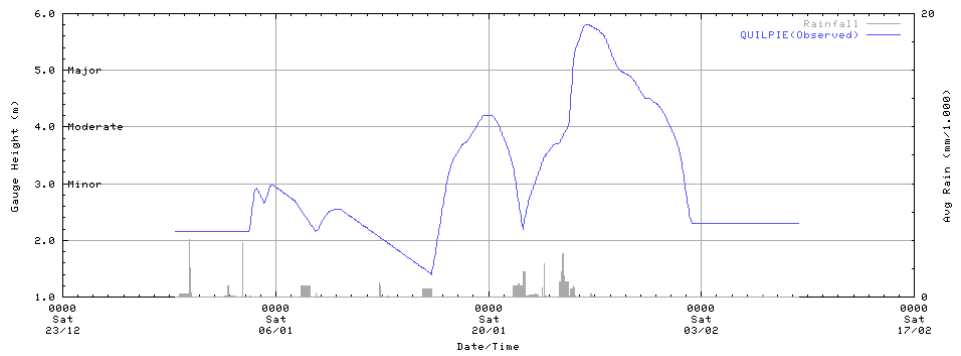


**Windorah**  
Cooper Creek

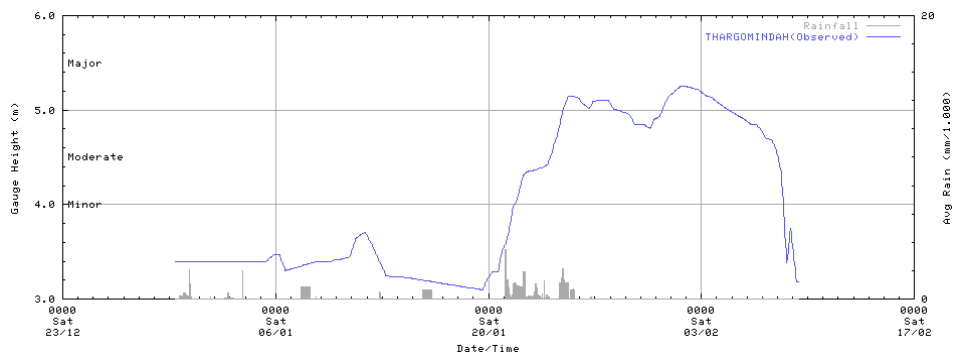


**Figure 5d: River Heights - Bulloo River**

**Quilpie**  
Bulloo River



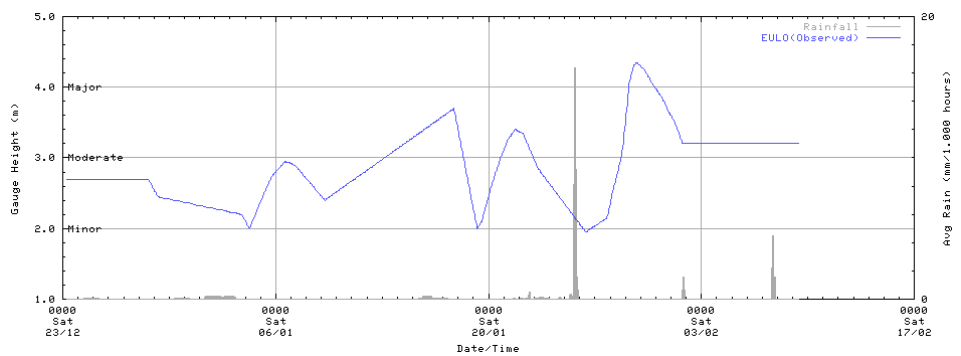
**Thargomindah**  
Bulloo River



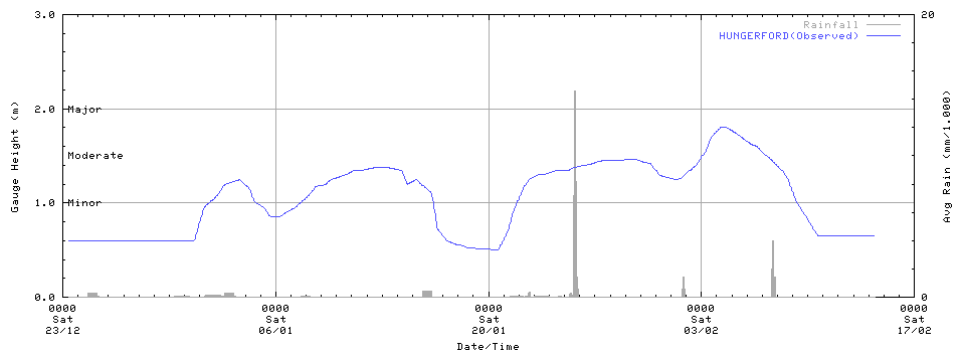
The initial river rises from about 6 January onwards were generally below minor flood levels. Further rainfall on about 25 January resulted in moderate to major flooding in the Bulloo and Paroo Rivers, as shown Figures 5d and 5e.

**Figure 5e: River Heights - Paroo River**

**Eulo**  
Paroo River



**Hungerford**  
Paroo River



## 6. Warning Services

The table below lists the flood warnings issued for south west Queensland rivers during the period 18 January to 12 February 2007.

**Table 2: Summary of Flood Warnings**

Basin	First Warning		Last Warning		No.
Paroo River	18/01/2007	15:07	09/02/2007	09:34	23
Bulloo River	19/01/2007	09:54	09/02/2007	09:33	23
Georgina River <sup>†</sup>	21/01/2007	10:39	16/02/2007	09:27	27
Diamantina River	23/01/2007	16:47	16/02/2007	09:24	25
Thomson <sup>*</sup> & Barcoo R, Cooper Ck	25/01/2007	13:56	10/02/2007	10:03	17

<sup>†</sup> Minor/Moderate Flooding commenced in Georgina River on 18 Jan 2007.

<sup>\*</sup> Minor flooding in the upper Thomson R continued until 13 Feb 2007.

### River Height Predictions:

Although rising limb predictions of water levels, particularly for upstream locations, are generally not possible because of the sparseness of rainfall observations, predictions of the peak flood levels expected at key downstream locations are generally given several days ahead of its occurrence.

During this period, predictions were issued for Eulo and Hungerford in the Paroo River, Quilpie and Thargomindah in the Bulloo River, Jundah and Windorah in the lower Thomson River and Cooper Creek, and Monkira and Birdsville in the Diamantina River. The tables below indicate the accuracy of the river height predictions for each river basin.

**Table 3: River Height Predictions – Paroo River**

Location	Issued	Predicted		Actual	
		Height [m]	Date	Height [m]	Date
Paroo River Eulo	18/01/2007 15:07	3.50	20-21/01		
	19/01/2007 09:38	3.50	20-21/01		
	20/01/2007 10:02	3.50	20-21/01		
	21/01/2007 09:48	3.50	20-21/01	3.40	21/01 18:00
	27/01/2007 10:11	4.00	29/01		
	28/01/2007 09:06	4.40	29/01 pm		
	29/01/2007 09:17	4.40	29/01 pm	4.35	29/01 18:00
Paroo River Hungerford	22/01/2007 09:38	1.60	26/01		
	25/01/2007 09:11	1.50	27-28/01		
	26/01/2007 09:44	1.50	27-28/01		
	27/01/2007 10:11	1.50	27-28/01	1.46	28-29/01
	30/01/2007 10:00	1.90	02/02		
	01/02/2007 09:01	1.90	03-04/02		
	04/02/2007 09:10	1.90	05-06/02	1.80	04/02 10:00

**Table 4: River Height Predictions – Bulloo River**

Location	Issued	Predicted		Actual	
		Height [m]	Date	Height [m]	Date
Bulloo River Quilpie	24/01/2007 10:34	> 5.0	25/01		
	25/01/2007 10:08	> 5.0	26/01		
	26/01/2007 09:08	5.80	26/01	5.80	26/01 07:00
Bulloo River Thargomindah	27/01/2007 09:44	5.50	01-02/02		
	30/01/2007 09:43	5.50	02/02	5.25	01/02 15:00

**Table 5: River Height Predictions – Thomson & Barcoo Rivers and Cooper Creek**

Location	Issued	Predicted		Actual	
		Height [m]	Date	Height [m]	Date
Thomson River Jundah	27/01/2007 10:49	4.20	27-28/01		
	28/01/2007 09:54	4.20	27-28/01	4.15	28/01 am
Cooper Creek Windorah	28/01/2007 09:54	5.20	30/01	5.00	29/01 am
	31/01/2007 10:12	< 5.00	04/02		
	04/02/2007 10:15	< 5.00	05-06/02		
	05/02/2007 09:47	4.50	06/02	4.46	07/02 am

**Table 6: River Height Predictions – Diamantina River**

Location	Issued	Predicted		Actual	
		Height [m]	Date	Height [m]	Date
<b>Diamantina River</b> Monkira	27/01/2007 09:22	4.00	29-30/01	3.80	28/01 am
<b>Diamantina River</b> Birdsville	07/02/2007 09:54 08/02/2007 10:30 09/02/2007 10:14 12/02/2007 09:56	< 6.00 7.00 7.00 6.50	09/02 10-11/02 12/02 12-13/02	6.45	12/02

It is evident from the above tables that initial river height predictions with long lead-times can be quite broad. As subsequent data becomes available the predictions are further refined and generally closely match the actual recorded flood peaks.

**Other Flood Information:**

In addition to the flood warnings, River Height Bulletins were automatically generated and issued at 3-hourly intervals via fax, direct computer links and email to a wide range of agencies including emergency services, local governments and the radio and television media. During the period, the number of Bulletins issued was in excess of 450.

The Bureau’s flood warning website (<http://www.bom.gov.au/hydro/flood/qld>) was also continuously updated during the event. Rainfall and river height data maps and bulletins are updated at least hourly with the latest available information. Data presented on the website is compiled from many agencies, including the Bureau of Meteorology, Department of Natural Resources & Water, SunWater, local governments and other water agencies.