



## FLOOD WARNING SYSTEM for the THOMSON, BARCOO RIVERS AND COOPER CREEK

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Thomson, Barcoo Rivers and Cooper Creek. It includes reference information which will be useful for understanding Flood Warnings and River Height Bulletins issued by the Bureau's Flood Warning Centre during periods of high rainfall and flooding.



*Cooper Creek at Nappa Merrie*

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(Last updated May 2010)

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### Flood Risk

The Thomson-Barcoo-Cooper catchment drains an area of approximately 237,000 square kilometres and is the largest river basin in Queensland. The catchment falls within the Lake Eyre basin, the largest and only co-ordinated internal drainage system in Australia with no external outlet, and which covers over 1.1 million square kilometres of central Australia. Floodwaters reach Lake Eyre after major flood events in the Cooper.

The two main tributaries, the Thomson and Barcoo Rivers, merge into the Cooper Creek approximately 40 kilometres upstream of Windorah. The Thomson River and its tributaries flow in a general southerly direction and has several of the larger towns of the region including Longreach and Murrumbidgee along its banks. The Barcoo River flows in a general westerly direction and has major centres such as Isisford, Blackall, Barcardine and Tambo in its catchment.

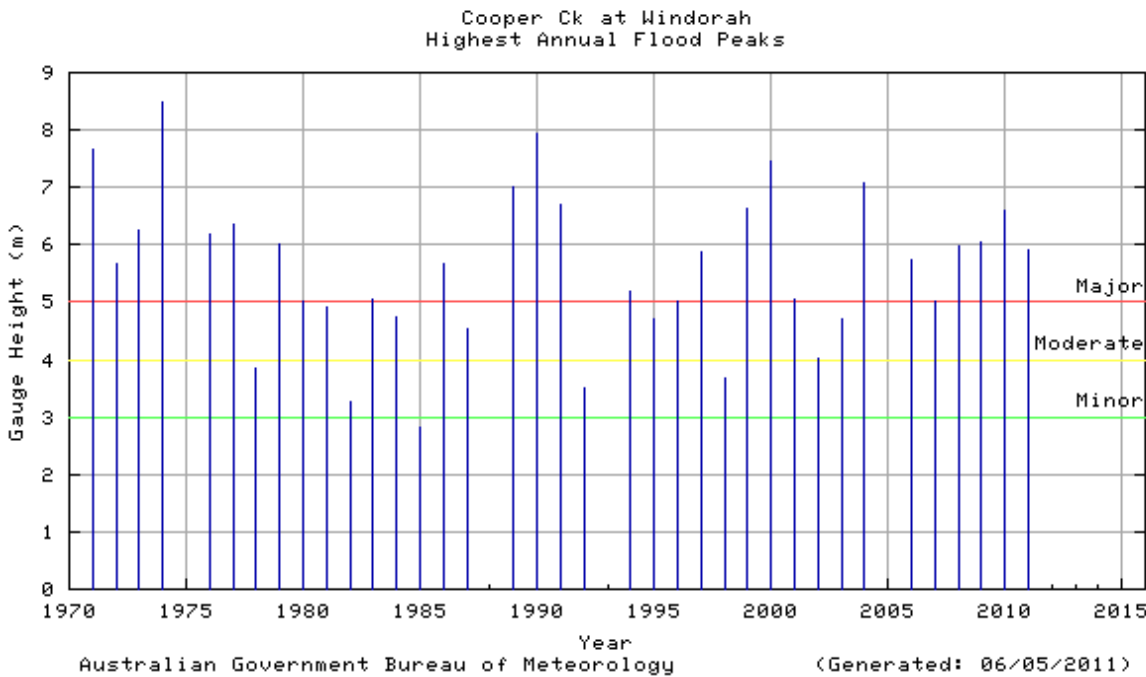
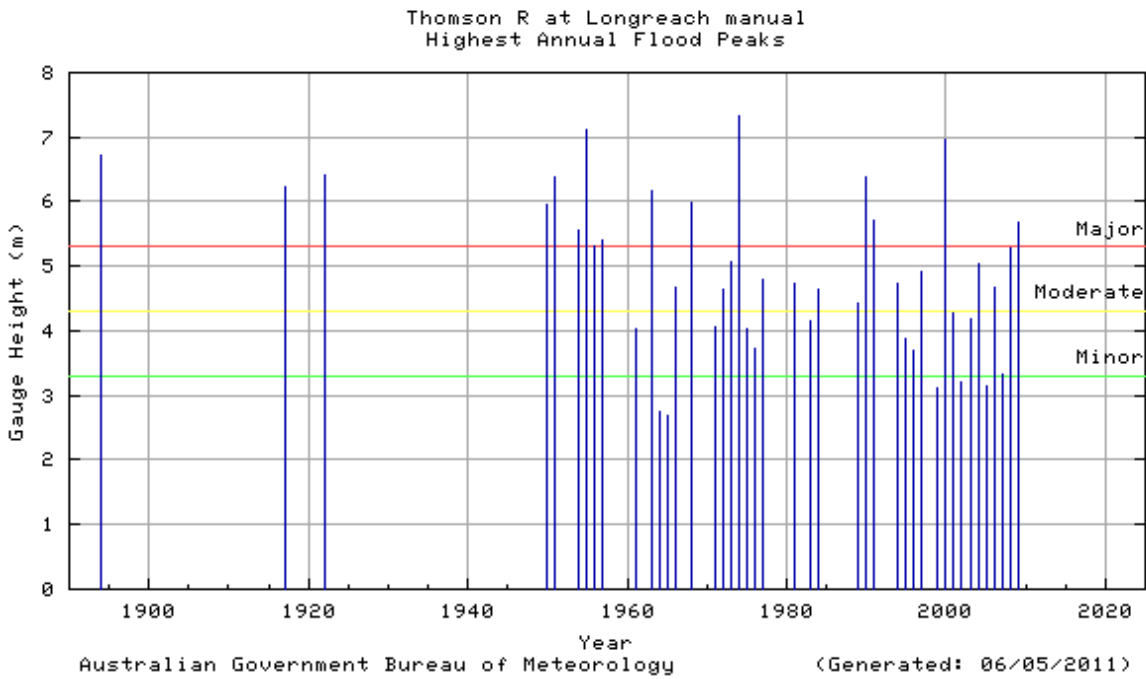
The Thomson-Barcoo-Cooper basin can be divided into two distinct areas:

- \* Above Windorah, numerous well-defined creeks and channels flow into the Thomson and Barcoo.
- \* Below Windorah, the typical wide ranging channel country develops.

In the dry season, the channels are restricted to numerous lagoons and claypans. During the wet season the actual main channel becomes hard to define, particularly when the river at Windorah could be up to 40 kilometres wide. Below this point however, in a big flood, the area becomes a huge inland sea broken only by a few ridges and numerous stunted trees.

**Previous Flooding**

Records of large floods in the area extend back as far as the late 19th century, with the most significant episodes of flooding occurring in 1893, 1906, 1949, 1955, 1963, 1974, 1990 and 2000. Some of the more recent floods are summarised in table form later in this document.



## Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Thomson, Barcoo Rivers and Cooper Creek basin based on a rainfall and river height observations network shown on the map. The network consists of a number of volunteer rainfall and river height observers who forward observations by telephone when the initial flood height has been exceeded at their station, as well as automatic telephone telemetry stations at Longreach, Barcaldine and Blackall, which are operated by the Department of Environment and Resource Management.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Thomson, Barcoo Rivers and Cooper Creek during flood events. Quantitative flood forecasts are issued for locations at Longreach, Jundah, Blackall and Windorah when moderate flood levels are likely to be exceeded.

## Local Information

Local Council's throughout the Thomson, Barcoo Rivers and Cooper Creek catchment may be able to provide further details of flooding in your area.

## Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Thomson, Barcoo Rivers and Cooper Creek regularly during floods. They are sent to radio stations for broadcast, and to local Councils, emergency services and a large number of other agencies involved in managing flood response activities. Flood Warnings and River Height Bulletins are available via :

### Radio

Radio stations, particularly the local ABC, and local commercial stations, broadcast Flood Warnings and River Height Bulletins soon after issue.

### Local response organisations

These include the Councils, Police, and State Emergency Services in the local area.

### Internet/World Wide Web

Flood Warnings, River Height Bulletins and other weather related data is available on the Bureau's Web page at <http://www.bom.gov.au> . The Queensland Flood Warning Centre website is <http://www.bom.gov.au/qld/flood> .

### Telephone Weather

Flood Warnings are available through a recorded voice retrieval system, along with a wide range of other weather related and climate information.

<a href="#">Main Directory</a>	Phone	1900 955 360
Flood Warnings	Phone	1300 659 219

### Telephone Weather Services Call Charges:

1900 numbers: 77c per minute incl. GST; 1300 numbers: Low call cost - around 27.5c incl. GST.  
(More from international, satellite, mobile or public phones)

## Interpreting Flood Warnings and River Height Bulletins

Flood Warnings and River Height Bulletins contain observed river heights for a selection of the river height monitoring locations. The time at which the river reading has been taken is given together with its tendency (e.g. rising, falling, steady or at its peak). The Flood Warnings may also contain predictions in the form of minor, moderate or major flooding for a period in the future. River Height Bulletins also give the height above or below the road bridge or causeway for each river station located near a road crossing.

One of the simplest ways of understanding what the actual or predicted river height means is to compare the height given in the Warning or Bulletin with the height of previous floods at that location.

The table below summarises the flood history of the Thomson, Barcoo Rivers and Cooper Creek basin - it

contains the flood gauge heights of the more significant recent floods.

River height station	Mar 1971	Jan 1974	Apr 1990	Feb 1991	Feb/Mar 2000	Jan 2004	Jan 2008	Mar 2010
Muttaborra	4.19	7.80	7.15	6.65	8.10	5.66	5.78	-
Camoola Park	2.84	7.16	6.80	5.52	7.42	4.60	4.65	-
Longreach	3.30	6.82	6.37	5.71	6.95	5.03	5.28	-
Bogewong	6.89	8.64	7.90	6.60	8.40	5.65	5.60	-
Stonehenge	5.94	6.88	5.86	4.70	6.42	5.16	3.80	-
Jundah	7.54	8.38	7.55	6.45	7.85	6.68	5.20	3.80
Blackall	-	-	7.30	-	-	4.25	5.15	3.97
Isisford	-	6.83	9.20	4.25	3.28	7.39	8.68	5.40
Oma	-	-	8.02*	-	-	6.78	7.68	4.76
Wahroonga	-	-	7.21*	-	-	5.70	4.65	3.65
Glenlock	-	-	7.86*	-	-	6.50	7.15	4.85
Retreat	-	-	12.05	7.10	5.15	10.90	10.00	8.66
Windorah	7.65	8.48	7.95	6.70	7.45	7.08	5.95	5.50
Durham Downs	-	-	4.16	2.60	3.65	3.25	2.15	3.60
Noccundra Hotel	-	-	-	2.40	1.60	-	-	4.10
Nappa Merrie	5.91	10.13	9.38	3.20	5.10	4.10	2.70	8.33

All heights are in metres on flood gauges.

[\*] Estimated Peak Flood Heights from flood marks and other information.

Historical flood heights for all river stations in the Thomson, Barcoo Rivers and Cooper Creek Floodwarning network, as shown on the map, are available from the Bureau of Meteorology upon request

#### THOMSON, BARCOO RIVERS AND COOPER CREEK CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Thomson, Barcoo Rivers and Cooper Creek catchment. The following can be used as a rough guide to the likelihood of flooding in the catchment :

75mm in 24 hours over isolated areas, with lesser rains of 50mm over more extensive areas will cause stream rises and the possibility of minor flooding. If lesser rainfalls have been recorded in the previous 24 to 72 hrs, then moderate to major flooding may develop.

100mm in 24 hours will cause isolated flooding in the immediate area of the heavy rain.

General 100mm or heavier falls in 24 hours over a wide area will most likely cause major flooding particularly in the middle to lower reaches of the Thomson and Barcoo Rivers extending downstream to Windorah on Cooper Creek.

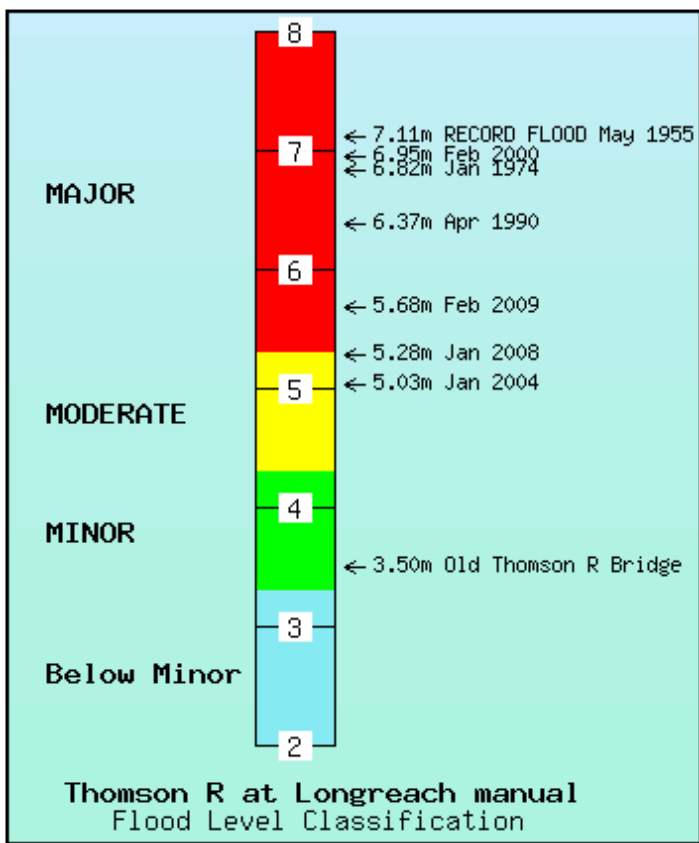
#### Flood Classifications

At each flood warning river height station, the severity of flooding is described as minor, moderate or major according to the effects caused in the local area or in nearby downstream areas. Terms used in Flood Warnings are based on the following definitions.

**Major Flooding :** This causes inundation of large areas, isolating towns and cities. Major disruptions occur to road and rail links. Evacuation of many houses and business premises may be required. In rural areas widespread flooding of farmland is likely.

**Moderate Flooding :** This causes the inundation of low lying areas requiring the removal of stock and/or the evacuation of some houses. Main traffic bridges may be closed by floodwaters.

**Minor Flooding :** This causes inconvenience such as closing of minor roads and the submergence of low level bridges and makes the removal of pumps located adjacent to the river necessary.



Each river height station has a pre-determined flood classification which details heights on gauges at which minor, moderate and major flooding commences. Other flood heights may also be defined which indicate at what height the local road crossing or town becomes affected by floodwaters.

The table below shows the flood classifications for selected river height stations in the Thomson, Barcoo Rivers and Cooper Creek catchment.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Muttaborra	3.0	4.00 (B)	3.0	6.0	5.0	8.2	7.0
Aramac	1.3	1.8 (B)	1.5	1.7	2.0	5.4	5.0
Camoola Park	1.0	0.40 (X)	2.0	-	4.0	8.0	6.7
Longreach	2.3	3.50 (O)	3.3	4.3	4.3	6.7	5.3
Bogewong	0.3	3.10 (B)	2.0	3.0	4.0	-	6.0
Stonehenge	0.5	1.60 (A)	2.0	1.0	3.0	10.0	5.0
Jundah	1.0	3.35 (A)	2.5	5.0	4.0	4.6	5.0
Tambo	2.5	2.90 (B)	3.0	5.1	5.1	5.9	5.9
Gillespie	3.5	6.40 (B)	4.0	6.5	7.0	-	7.5
Duneira	1.0	1.40 (B)	2.0	-	3.0	-	3.5
Blackall	1.0	3.50 (B)	2.0	4.0	4.0	5.5	5.0

Glencoe	1.8	1.00 (X)	2.0	-	2.5	-	3.0
Jericho	1.8	2.30 (B)	2.0	2.3	2.3	3.0	3.0
Barcaldine	2.0	5.60 (B)	3.0	-	5.0	-	6.0
Isisford	2.0	4.00 (B)	4.0	4.0	5.0(d/s)	-	6.0(d/s)
Oma	3.0	1.50 (B)	4.0	-	5.0	-	6.0
Wahroonga	0.5	0.55 (X)	3.0	-	4.0	-	5.0
Glenlock	2.0	0.00 (X)	4.0	-	5.0	-	6.0
Retreat	2.0	1.70 (C)	3.0	5.0	4.0	-	5.0
Windsorah	3.0	4.30 (A)	3.0	5.0	4.0	-	5.0
Nappa Merrie	1.5	8.00 (B)	3.0	4.0	6.0	-	9.0

All heights are in metres on flood gauges.

(B)= Bridge (O) = Old bridge (A) = Approaches (C) = Causeway (X) = Crossing (d/s) = Downstream

The above details are correct at the time of preparing this document. Up-to-date flood classifications and other details for all flood warning stations in the network are at:

<http://www.bom.gov.au/hydro/flood/qld/networks/index.shtml>

### Catchment Map showing the Thomson-Barcoo-Cooper flood warning network

Click here to view map as: [PNG](#) [PDF](#) (783K bytes)

**For further information, contact:**

**The Regional Director, Bureau of Meteorology, GPO Box 413, Brisbane Q 4001**

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