



FLOOD WARNING SYSTEM for the WARREGO RIVER

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Warrego River. 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.



Contained in this document is information about :

(Last updated September 2009)

- [Flood Risk](#)
- [Previous Flooding](#)
- [Flood Forecasting](#)
- [Local Information](#)
- [Flood Warnings and Bulletins](#)
- [Interpreting Flood Warnings and River Height Bulletins](#)
- [Flood Classifications](#)
- [Catchment Map](#)

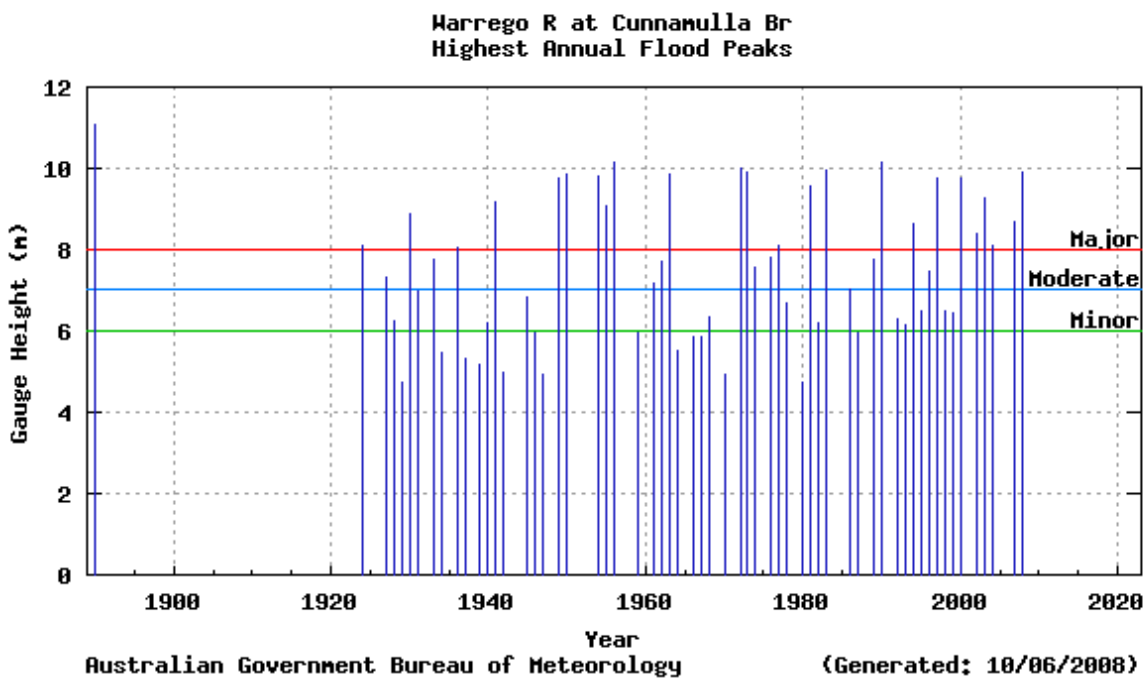
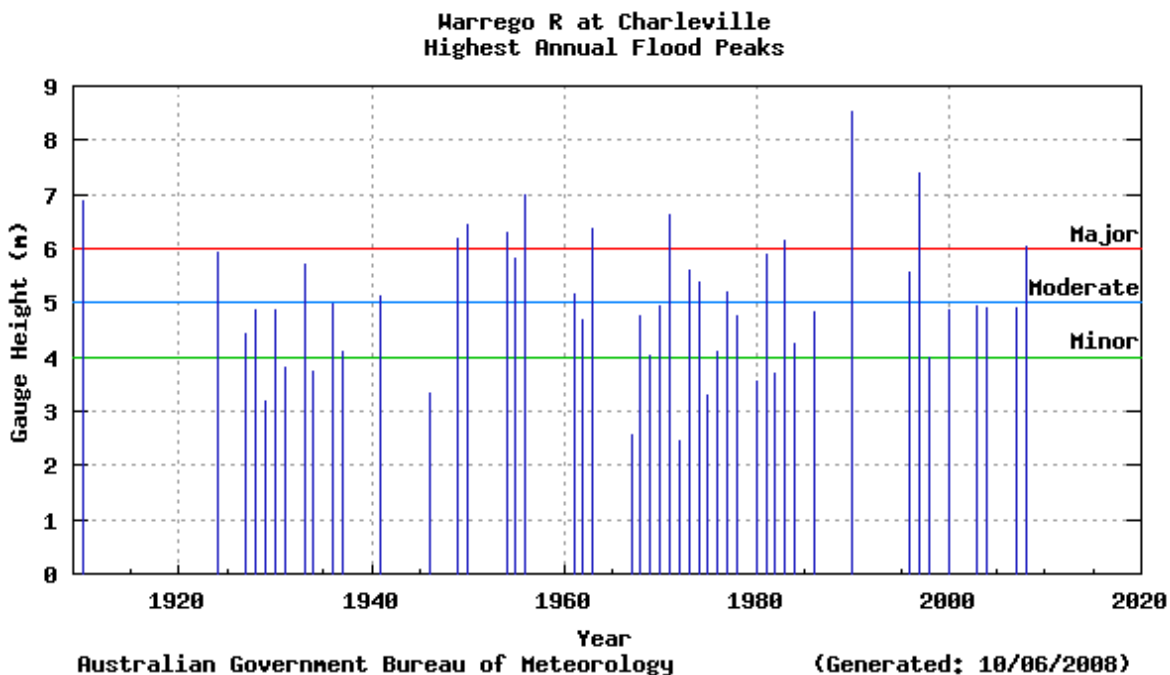
Nive River at Biddenham

Flood Risk

The Warrego River catchment is located in south west Queensland and north west New South Wales and covers an area of approximately 65,000 square kilometres. The upper Warrego consists of a number of tributary rivers including the Nive, Ward and Langlo Rivers which join the main stream above and below Charleville. Major towns located on the Warrego are Augathella, Charleville, Wyandra and Cunnamulla. Cunnamulla township has a levee constructed around the town for flood protection to at least 10.5 metres on the flood gauge. The other towns have no form of flood mitigation and can suffer severe flooding, such as occurred in April 1990 at Charleville and Augathella. This was the record flood for these areas and caused extensive inundation of the towns and rural lands along the length of the river system.

Previous Flooding

The Warrego River has a well documented history of flooding with records of the larger floods dating back to 1910. The figures below shows the significant flood peaks which have occurred at Charleville and Cunnamulla since records began.



Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Warrego River 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 which are operated by the Bureau of Meteorology, the Murweh Shire Council and the Department of Environment and Resource Management.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Warrego River during flood events. Quantitative flood forecasts are issued when moderate flood levels are likely to be exceeded at Augathella, Charleville, Bakers Bend, Murweh, Wyandra and Cunnamulla Bridge.

Local Information

The Murweh and Paroo Shire Councils may be able to provide further information on flooding in your area of the Warrego River catchment.

They also have further information on local flooding in rural areas throughout the catchment. In particular, flood inundation maps are available for Augathella and Charleville in the report of the Western Queensland Towns Flood Study, which was undertaken following the April 1990 floods.

Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Warrego River 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/hydro/flood/qld>

Telephone Weather

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

Main Directory	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 Warrego River basin - it contains the flood gauge heights of the more significant recent floods.

River height station	Feb 1956	Apr 1956	Apr 1990	Feb 1997	Jan 2004	Jan 2008
Lochinvar	7.64	-	8.85	6.10	3.80	8.50
Wetlands	-	-	5.47	4.90	3.40	3.20
Augathella	6.02	-	7.30	6.40	5.70	6.50
Drensmaine	-	-	8.71	4.65	1.50	6.30
Biddenham	-	-	7.20	6.85	1.70	6.00
The 27 Miles Gardens	-	5.69	6.98	5.84	3.60	-
Charleville	6.55	6.97	8.54	7.39	5.29	6.02
Warilda	-	-	6.37	6.12	4.05	6.45
OakPark	-	-	8.00	7.00	-	6.50
Authoringa	-	-	9.72	5.00	-	-
Bakers Bend	-	-	12.10	11.09	7.32	10.15
Murweh	8.94	-	11.20	10.30	-	-
Wyandra	8.16	9.26	10.00	9.86	-	9.41
Wallen	-	-	10.36	10.05	7.20	9.88
Cunnamulla Bridge	9.55	10.13	10.15	9.78	8.10	9.91
Rocky	-	5.51	5.32	5.23	4.50	5.41

All heights are in metres on flood gauges.

Historical flood heights for all river stations in the Warrego River Floodwarning network, as shown on the map, are available from the Bureau of Meteorology upon request.

WARREGO RIVER CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Warrego River 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. In the middle to lower reaches these falls may cause initial rises at Bakers Bend extending downstream to Cunnamulla and the New South Wales and Queensland border.

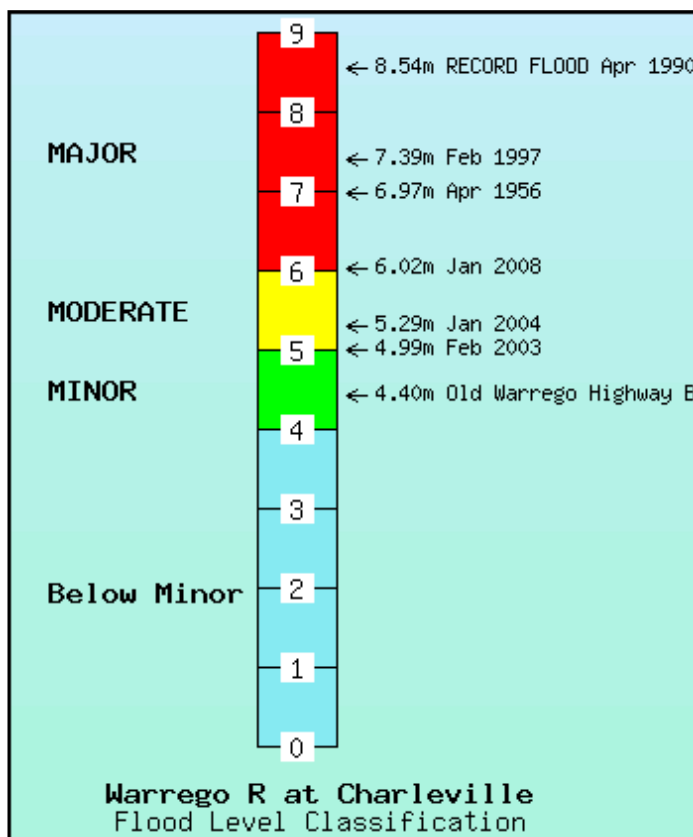
Flood Classifications

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 Warrego River catchment.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops and Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Lochinvar	2.0	-	3.0	-	4.0	-	5.5
Wetlands	1.0	-	1.0	-	3.0	-	4.0
Augathella	3.0	6.00 (A)	4.0	4.0	5.0	6.0	6.0
Drensmaine	2.0	-	3.0	-	5.0	-	6.0
Biddenham	1.3	-	2.0	4.0	4.0	-	5.5
The 27 Mile Gardens	2.0	4.30 (B)	2.0	4.0	3.0	5.0	4.0
Charleville	2.5	4.40 (OB)	4.0	4.0	5.0	5.5	6.0
Warilda	2.0	3.40 (B)	3.0	4.0	4.0		5.0
OakPark	2.0	2.50 (B)	2.0	4.0	3.0	6.0	5.0
Authoringa	1.5	1.50 (C)	4.0	-	6.0	-	8.0
Bakers Bend	-	-	5.0	-	7.0	-	9.0
Murweh	1.0	1.50 (B)	5.0	5.0	7.0	-	9.0
Wyandra	3.0	7.60 (A)	6.0	8.0	8.0	8.7	9.0
Wallen	1.3	1.40 (X)	5.0	8.0	6.5	9.5	8.0
Cunnamulla Bridge	5.5	10.10 (B)	6.0	5.0	7.0	9.0	8.0
Rocky	1.0	1.00 (X)	2.5	4.0	4.0	5.3	5.0

All heights are in metres on flood gauges.

(B) = Bridge (OB) = Old Bridge (A) = Approaches (C) = Causeway (X) = Crossing

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 Warrego River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (495K bytes)

For further information, contact:

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

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