



FLOOD WARNING SYSTEM for the MARY RIVER

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Mary 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 May 2011)

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

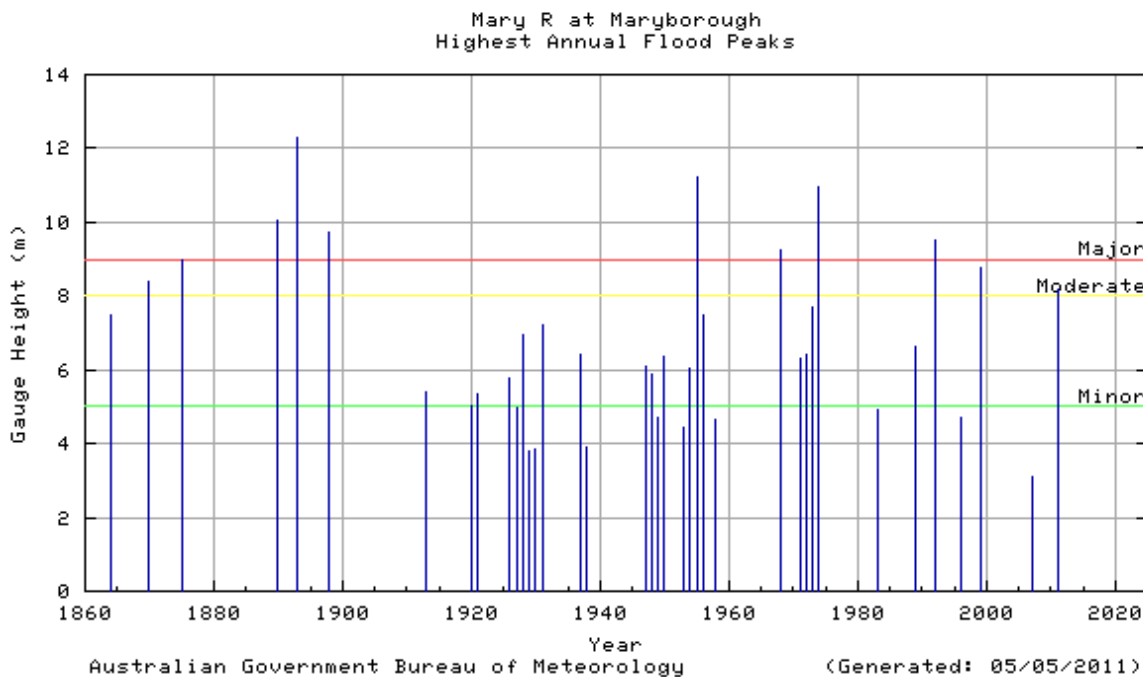
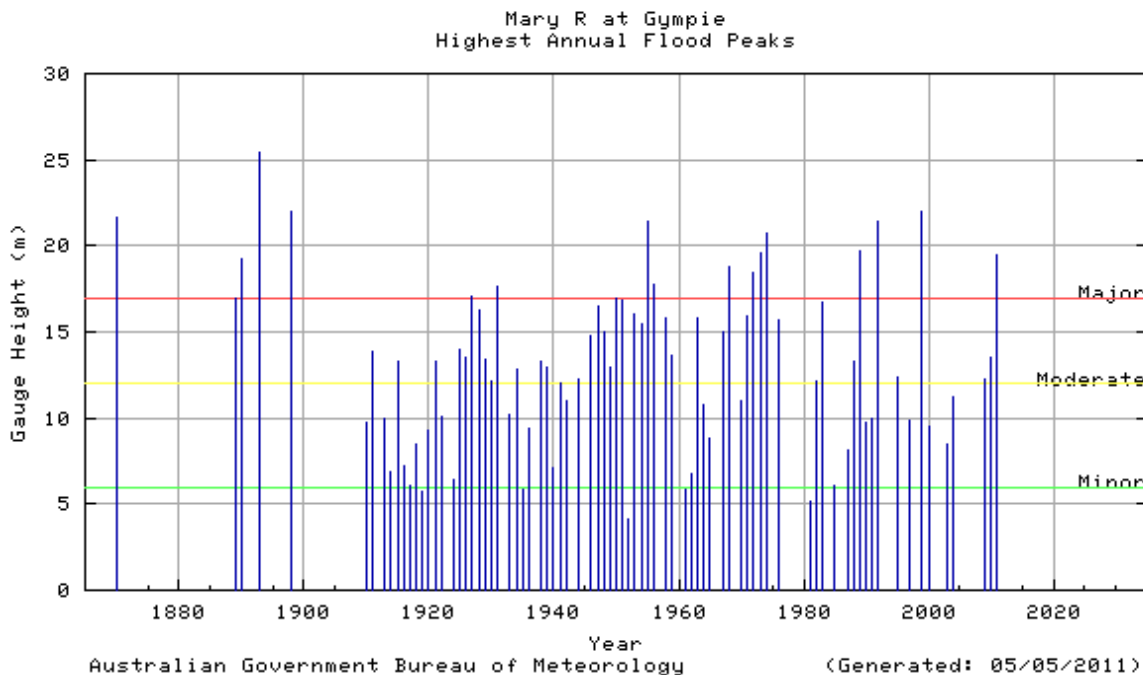
*Gympie during the Feb 1999 flood
Photograph copyright The Courier Mail*

Flood Risk

The Mary River catchment is located in the south east coastal area of Queensland and covers an area of over 7000 square kilometres. The headwaters of the Mary are located in high rainfall areas around Maleny and Mapleton. Average annual rainfalls in the Mary catchment range from around 2000mm in the headwaters to around 1200mm near Maryborough. At Gympie, most floods, nearly 80%, have occurred between December and April. During this period, heavy rainfall in the headwaters areas is likely to cause major flooding in the Mary River at Gympie. Floods at Maryborough are typically caused by heavy rainfalls particularly over the upper catchment but it is possible that very heavy rainfalls in the catchment below Gympie may cause appreciable rises in the lower reaches of the river. Flooding causes extensive rural and property damage in the Mary River Valley.

Previous Flooding

Gympie and Maryborough, the two main centres in the Mary catchment, have a long history of flooding with detailed records available from 1910. Reports of major flooding prior to 1910 are available as far back as 1870.



Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Mary River based on a rainfall and river height observations network shown on the map. In consultation with the Gympie and Fraser Coast Regional Councils, the Bureau issues predictions of flood heights for the Mary River at Gympie whenever it is expected to exceed 12 metres on the gauge boards adjacent to Kidd St. Bridge, and at Maryborough whenever it exceeds 6.0 metres on the Macalister St. gauge. The objective is to provide between 21 to 27 hours warning for Gympie and 18 to 24 hours warning for Maryborough of flood heights above 12 and 6 metres respectively.

These forecasts are updated up to six times per day throughout the flood event.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Mary River catchment during flood events. Quantitative flood forecasts are issued when moderate flood levels are likely to be exceeded.

Local Information

Either the Gympie Regional Council or the Fraser Coast Regional Council are able to provide further information on flooding in your area of the Mary River catchment. They have data and information on past flooding from which estimates of areas and depths of expected inundation are given. This enables flood threatened residents to take appropriate action before floodwaters reach their property.

Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Mary River catchment 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.

[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 Mary River catchment - it contains the flood gauge heights of the more significant floods. All heights are in metres on flood gauges.

River height station	Feb 1893	Mar 1955	Jan 1968	Jan 1974	Apr 1989	Feb 1992	Feb 1999	Jan 2011
Kenilworth Bridge	-	13.67	11.28	12.00	12.06	9.80	11.90	-
Imbil	-	11.73	6.50	9.75	8.80	8.90	10.70	8.20
Cooran	10.69	8.66	8.81	9.58	9.15	10.25	9.65	10.22
Gympie	25.45	21.44	18.75	20.73	19.65	21.40	21.95	19.45
Woolooga	12.04	9.75	4.95	7.54	9.15	5.28	7.40	-
Miva	23.08	21.84	18.92	20.80	18.30	20.45	20.65	19.80
Marodian	-	16.08	9.12	12.36	3.51	9.31	2.55	11.99
Tiaro	21.95	20.75	17.78	20.62	15.95	18.60	18.10	17.10
Bauple East	-	-	15.54	14.88	8.42	14.37	12.73	10.25
Maryborough	12.27	11.23	9.25	10.95	6.60	9.50	8.75	8.20

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

MARY CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Mary River catchment. The following can be used as a rough guide to the likelihood of flooding in the catchment:

Average catchment rainfalls of in excess of 200mm in 48 hours may cause significant moderate to major flooding and traffic disabilities to develop, particularly in the middle to lower reaches between Kenilworth and Gympie, and extending downstream to Maryborough.

Average catchment rainfalls of in excess of 300mm in 48 hours may cause significant major flooding and traffic disabilities to develop, particularly in the middle to lower reaches between Kenilworth and Gympie and extending downstream to Maryborough.

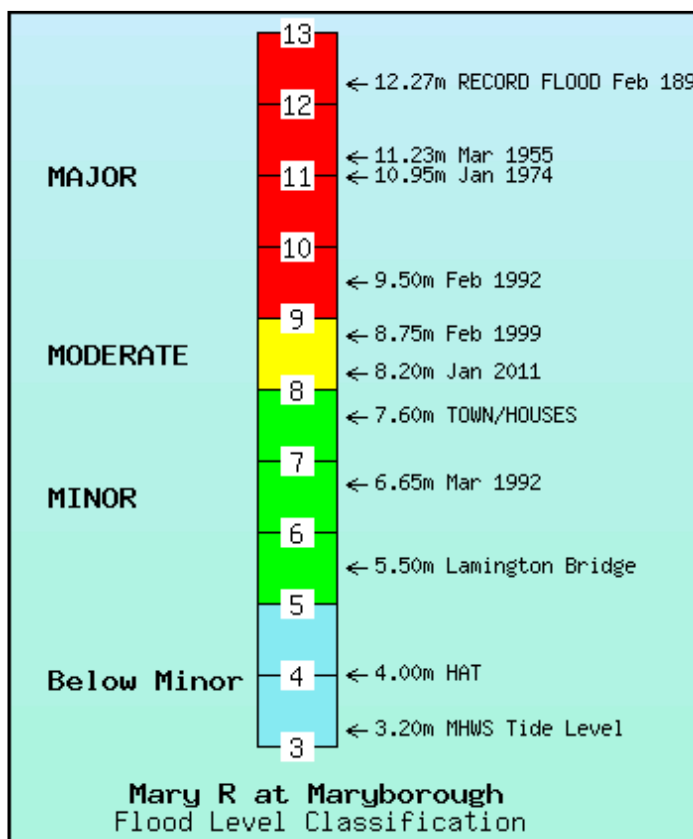
Flood Classifications

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 Mary River catchment.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Kenilworth Bridge	3.0	11.20 (B)	3.0	3.0	5.0	10.0	8.0
Imbil	3.0	6.10 (B)	5.0	5.0	6.5	9.5	8.0
Cooran	3.0	7.20 (B)	5.0	6.0	7.0	9.1	9.0
Gympie	4.0	9.90 (B)	6.0	6.0	12.0	12.1	17.0
Woolooga	2.0	2.40 (B)	7.0	10.0	8.0	9.0	9.0
Miva	5.0	22.00 (B)	7.5 (d/s)	7.5 (d/s)	9.5 (d/s)	-	15.5 (d/s)
Marodian	-	-	8.0	-	8.0 (d/s)	-	12.0 (d/s)
Tiaro	6.0	6.60 (B)	6.0	16.6	8.0	19.0	12.0
Bauple East	-	3.00 (B)	9.0	-	11.0	-	12.0
Maryborough	4.0	5.50 (B)	5.0	5.0	8.0 (d/s)	7.6	9.0

All heights are in metres on flood gauges. (B) = Bridge (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 Mary River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (960K bytes)

For further information, contact:

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

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