



FLOOD WARNING SYSTEM for the MAROOCHY RIVER

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



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(Last updated September 2009)

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*Maroochy River at Picnic Point
(Maroochydore)*

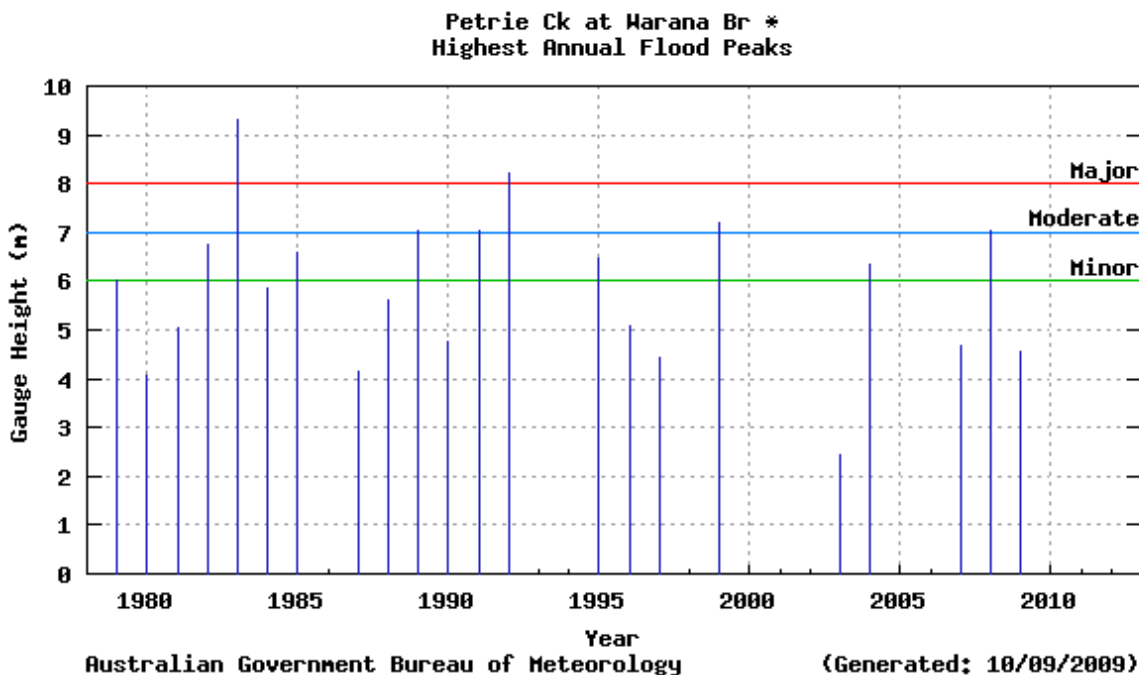
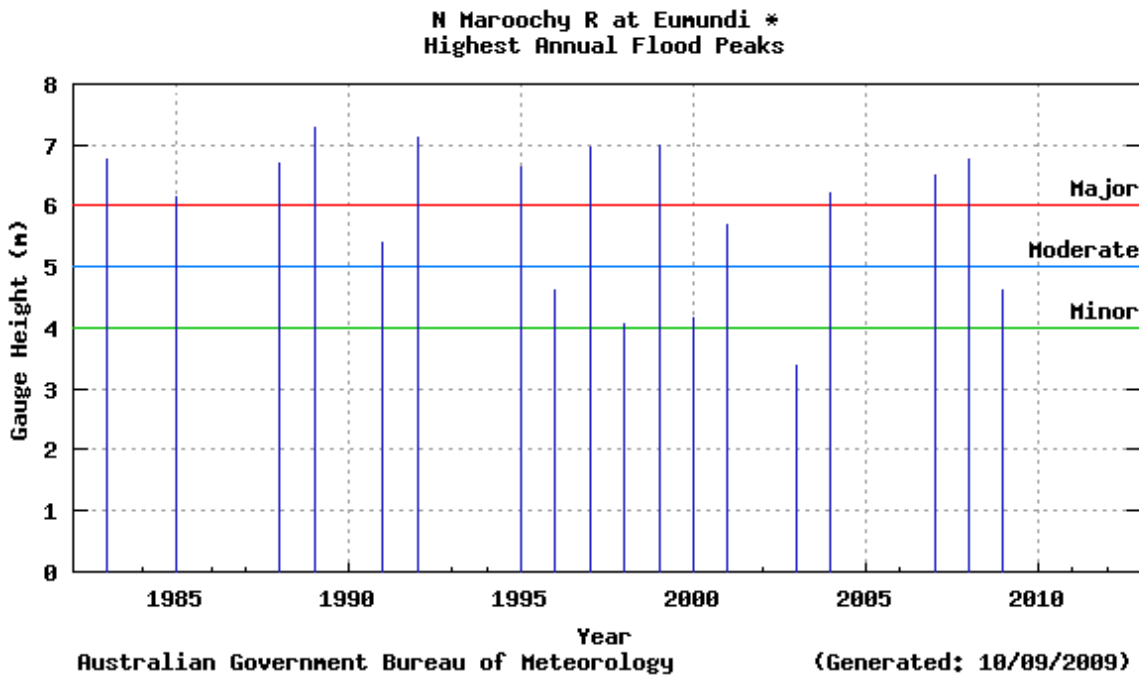
Flood Risk

The Maroochy River basin has a catchment area of 630 square kilometres and is located about 100 kilometres north of Brisbane on Queensland's Sunshine Coast. The catchment lies on the eastern side of the Blackall Ranges and is bounded in the south by the Buderim Mountain divide between the Maroochy and Mooloolah Rivers, and in the north by a lowland divide between the Maroochy and Noosa River flood plains.

The Maroochy River system is susceptible to episodes of rapid flooding which can cause considerable damage to public and private property throughout the catchment. Continuing increases in population have accentuated the potential flood risk to life and property, and this trend is unlikely to abate given the current growth in the area.

Previous Flooding

Records dating back to 1893 indicate that major flooding has occurred fairly often in the Maroochy River. Significant flood events were reported in 1893, 1951, 1974 as well as in February 1992. During the latter event, flash flooding occurred in the smaller streams early on Friday 21st February, particularly in the area upstream of the Bruce Highway. At that stage, the main impact was the closure of several low level roads. By late Saturday 22nd, flooding in the lower reaches of the system caused inundation of about 225 homes to depths of up to 80 centimetres. The worst affected area was Pacific Paradise, adjacent to the mouth of the Maroochy River.



Flood Forecasting

In conjunction with the Sunshine Coast Regional Council Council, the Bureau of Meteorology operates a flood warning system for the Maroochy River based on the network of rainfall and river height stations shown on the map. The establishment of a real time ALERT flood reporting network has significantly upgraded the flood warning service that was in operation during the February 1992 event.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Maroochy River catchment during flood events. River height predictions are given when moderate flood levels are likely to be exceeded.

Local Information

The sunshine Coast Regional Council is able to provide further information on flooding in your area of the Maroochy River catchment.

Maroochy ALERT System

The Maroochy River ALERT flood warning system was completed in the 1994 as a co-operative project between the Bureau of Meteorology and the Maroochy Shire Council. The system comprises a network of rainfall and river height field stations located in the Sunshine Coast hinterland which report via VHF radio to a base station computer located in the Council office at Nambour. The field stations send reports for every 1 millimetre of rainfall and every 50 millimetre change in river height.

In consultation with the Sunshine Coast Regional Council, the Bureau issues Flood Warnings for the Maroochy River.

The base station computers located in the Sunshine Coast Regional Council office collects the data and has software that displays it in graphical and tabular form. The data is also received by the Bureau's Flood Warning Centre where it is used in hydrologic models to produce river height predictions.

Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Maroochy 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/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 Maroochy River catchment - it contains the flood gauge heights of the more significant floods.

| River height station | Jun 1983 | Apr 1989 | Feb 1992 | Feb 1995 | Feb 1999 | Mar 2004 | Aug 2007 | Jun 2008 | Apr 2009 |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Eumundi | 6.75 | 7.29 | 7.12 | 6.62 | 7.05 | 6.31 | 6.49 | 6.78 | 6.91 |
| Kiamba | 5.44 | 4.26 | 4.52 | 3.70 | 4.08 | 3.83 | 2.63 | 3.74 | 3.18 |
| Yandina | 5.15 | 4.01 | 4.27 | 3.60 | 4.03 | 3.58 | 2.97 | 3.47 | 3.28 |
| Dunethin Rock | 2.30 | - | 4.40 | 2.67 | 3.65 | 2.12 | 2.27 | 2.35 | - |
| Yandina Creek | - | - | - | - | 5.51 | 4.86 | 5.61 | 5.51 | 5.51 |
| Stoney Wharf Road | - | - | - | - | - | - | 2.62 | 1.45 | - |
| West Woombye | - | - | - | - | - | - | 1.90 | 3.35 | 3.60 |
| Warana Bridge | 9.31 | 7.05 | 8.22 | 6.47 | 7.19 | 6.50 | 4.66 | 6.88 | 6.84 |
| Palmwood Sportsground | - | - | - | - | - | - | 4.25 | 4.55 | 4.65 |
| Diddillibah | - | - | - | 3.46 | - | 3.41 | 4.11 | 3.61 | 3.46 |
| Eudlo | - | - | - | - | - | 3.85 | 3.45 | - | 4.20 |
| Kiels Mountain | 4.01 | 3.78 | 4.30 | 3.31 | 3.59 | 3.04 | 3.08* | 3.17 | - |
| Picnic Point | 1.50 | - | 1.95 | 1.44 | 1.61 | - | - | 1.27 | - |

All heights are in metres on flood gauges.

[*]Height given through flood mark observation and may differ from datums used in telemetry equipment.

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

MAROOCHY CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Maroochy 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 24 hours may cause severe major flooding and traffic disabilities to develop, particularly in low-lying areas and extending downstream.

Average catchment rainfalls of in excess of 300mm in 24 hours may cause serious major flooding and traffic disabilities to develop, particularly in low-lying

areas extending downstream.

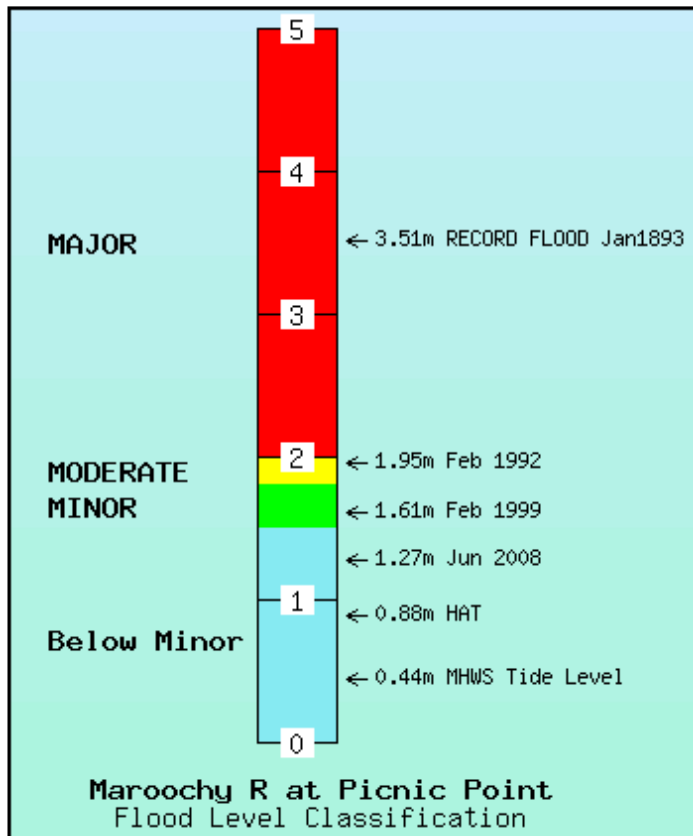
Flood Classifications

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 Maroochy River catchment.

| River Height Station | First Report Height | Crossing Height | Minor Flood Level | Crops & Grazing | Moderate Flood Level | Towns and Houses | Major Flood Level |
|----------------------|---------------------|-----------------|-------------------|-----------------|----------------------|------------------|-------------------|
| Eumundi | - | - | 4.0 | - | 5.0 | - | 6.0 |
| Kiamba | - | - | 3.0 | - | 4.0 | - | 5.0 |
| Yandina | - | - | 2.0 | - | 3.5 | - | 5.0 |
| Dunethin Rock | - | - | 2.3 | - | 3.0 | - | 4.0 |
| Yandina Creek | - | - | 5.7 | - | 5.8 | - | 6.0 |
| Stoney Wharf Road | - | - | - | - | - | - | - |
| West Woombye | - | - | - | - | - | - | - |
| Warana Bridge | - | - | 6.0 | - | 7.0 | - | 8.0 |

| | | | | | | | |
|------------------------|---|----------|-----|---|-----|---|-----|
| Palmwoods Sportsground | - | - | 3.5 | - | 4.3 | - | 5.0 |
| Diddillibah | - | - | 2.5 | - | 3.5 | - | 4.5 |
| Eudlo | - | 4.20 (B) | 5.0 | - | 6.0 | - | 7.0 |
| Kiels Mountain | - | - | 3.0 | - | 3.5 | - | 4.0 |
| Picnic Point | - | - | 1.5 | - | 1.8 | - | 2.0 |

All heights are in metres on flood gauges.

(B) = 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>

Click here to view map as: [PNG](#) [PDF](#) (227K bytes)

For further information, contact:

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

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