FLOOD WARNING SYSTEM for the MOOLOOLAH RIVER

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

Bundilla Alert Station 2007

Contained in this document is information about:
(Last updated May 2011)

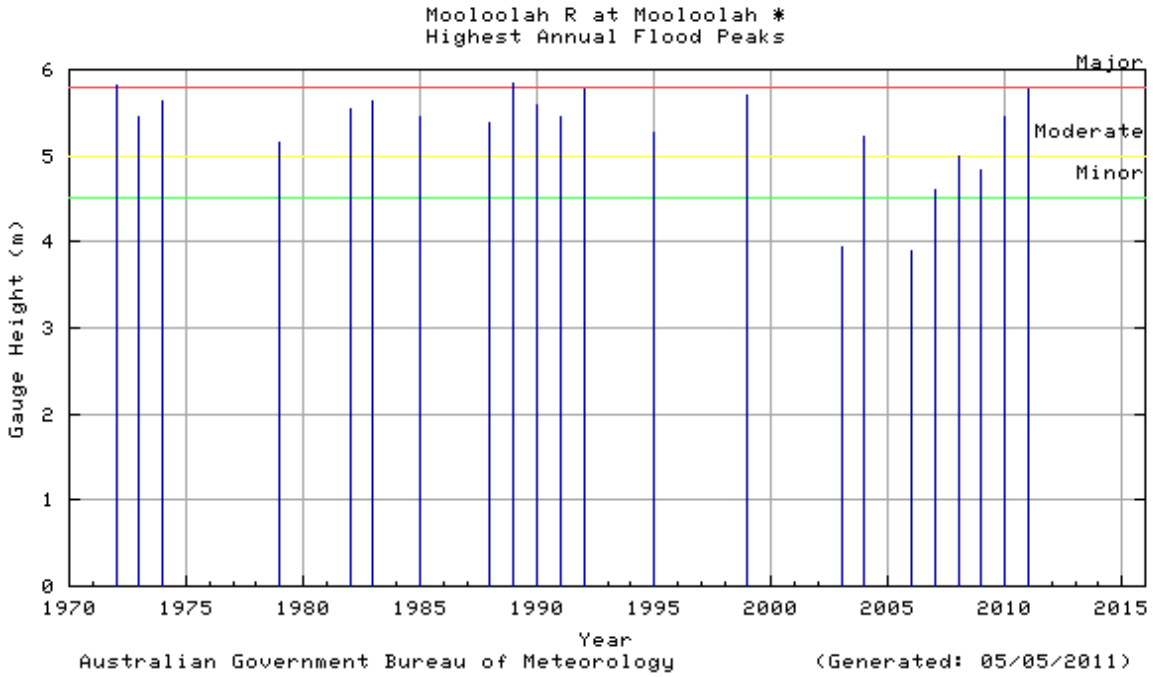
Flood Risk

The Mooloolah River system drains a relatively small catchment with an area of 196 square kilometres that extends 25 kilometres inland from the coast. It flows east-northeast from the Blackall Range, discharging to the sea between Mooloolaba and Point Cartwright.

The Mooloolah 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 this potential flood risk to life and property.

Previous Flooding

Records dating back to 1972 indicate that major flooding has not occurred frequently in the Mooloolah River, however flooding has occured periodically over the past 30 to 40 years. Significant flood events were reported in 1972, 1989, 1992 as well as in January 2011.



Flood Forecasting

In conjunction with the Sunshine Coast Regional Council, the Bureau of Meteorology operates a flood warning system for the Sunshine Coast streams based on the network of rainfall and river height stations shown on the map. The establishment of the real time ALERT flood reporting network has significantly upgraded the flood warning service.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Sunshine Coast Streams during flood events.

Local Information

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

Mooloolah ALERT System

The Mooloolah River ALERT flood warning system was completed in 2004 as a co-operative project between the Bureau of Meteorology and the then Caloundra City 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 Sunsine Coast Regional Council office at Maroochydore. 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 Sunshine Coast streams, including the Mooloolah River at times..

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 Sunshine Coast streams 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 Mooloolah River catchment - it contains the flood gauge heights of the more significant floods.

River height station	Feb 1972	Apr 1989	Feb 1992	Feb 1999	Aug 2007	Jun 2008	Apr 2009	Mar 2010	Jan 2011
Mooloolah	5.82	5.83	5.78	5.70	4.55	5.23	5.09	5.45	5.76
Ewen Maddock Dam	-	-	-	-	-	25.90	26.23	26.10	26.58
Jordan Street	-	5.00*	-	-	4.95	5.00	5.15	-	5.35
Palmview	-	-	-	-	4.04	3.64	4.64	4.69	5.04
Meridan Way	-	2.50*	-	-	-	1.81	2.11	1.91	3.23
Parrearra Weir	-	-	-	-	-	-	-	1.47	-
Tanawha	-	-	-	-	1.75	2.15	-	1.30	1.70
Mountain Creek	-	-	-	3.48	3.25	3.45	3.45	-	-

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 Mooloolah River Floodwarning network, as shown on the map, are available from the Bureau of Meteorology upon request.

MOOLOOLAH CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Mooloolah River catchment. Once the Ewen Maddock Dam is at full capacity, overflowing occurs and inundation of the Jordan Street area begins.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 minor to moderate flooding and traffic disabilities to develop, particularly downstream of the Ewen Maddock Dam.

Average catchment rainfalls of in excess of 300mm in 24 hours may cause serious major flooding and traffic disabilities to develop, particularly downstream of the Ewen Maddock Dam.

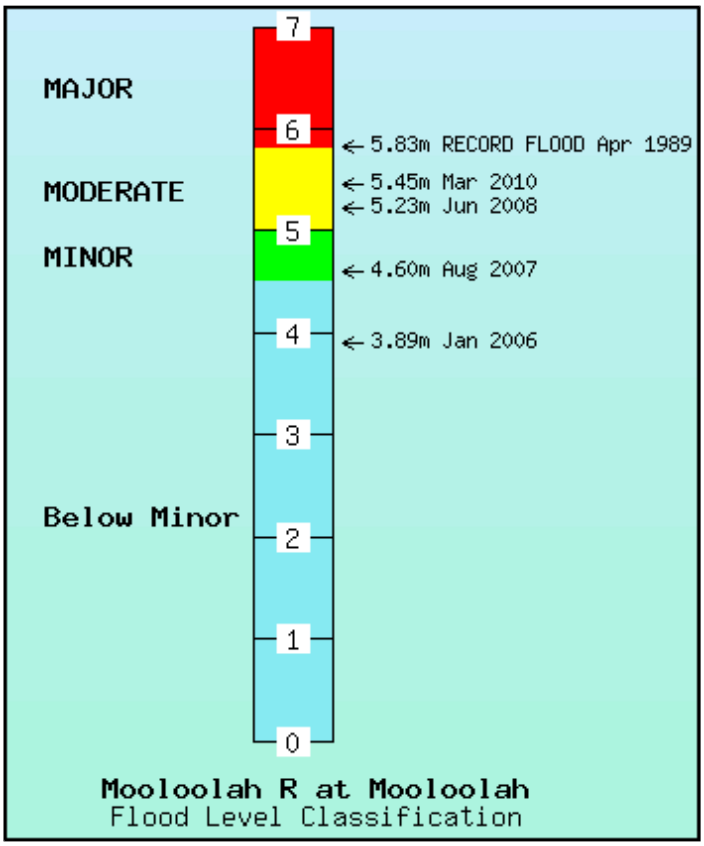
Flood Classifications

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.



The diagram above illustrates the Flood Level Classifications for the river height station at Mooloolah. At the 1989 flood level, properties experienced moderate to severe water inundation.

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 Mooloolah River catchment. All heights are in metres on flood gauges.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Mooloolah	-	-	4.5	-	5.0	-	5.8
Ewen Maddock Dam	-	25.4 (S)	26.0	-	26.5	-	27.0
Jordan Street	-	-	3.0	-	4.0	-	5.0
Palmview	-	-	4.7	-	5.0	-	5.5
Meridan Way	-	2.60 (A)	2.80	-	2.85 (d/s)	-	3.5
Parrearra Weir	-	1.74 (W)	1.6	-	2.15	-	2.6
Tanawha	-	1.38 (X)	1.5	-	2.0	-	2.5
Mountain Creek	-	3.30 (B)	2.5	-	3.0	-	3.3

All heights are in metres on flood gauges.

(B) = Bridge, (W) = Weir, (S) = Spillway, (X) = Crossing, (A) = Approaches, (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 Mooloolah River flood warning network

Click here to view map as: PNG PDF (196K bytes)

For further information, contact:
The Regional Director, Bureau of Meteorology, GPO Box 413, Brisbane Q 4001
