FLOOD WARNING SYSTEM for MYALL CREEK TO DALBY

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for Myall Creek to Dalby. 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.

Myall Creek at Dalby

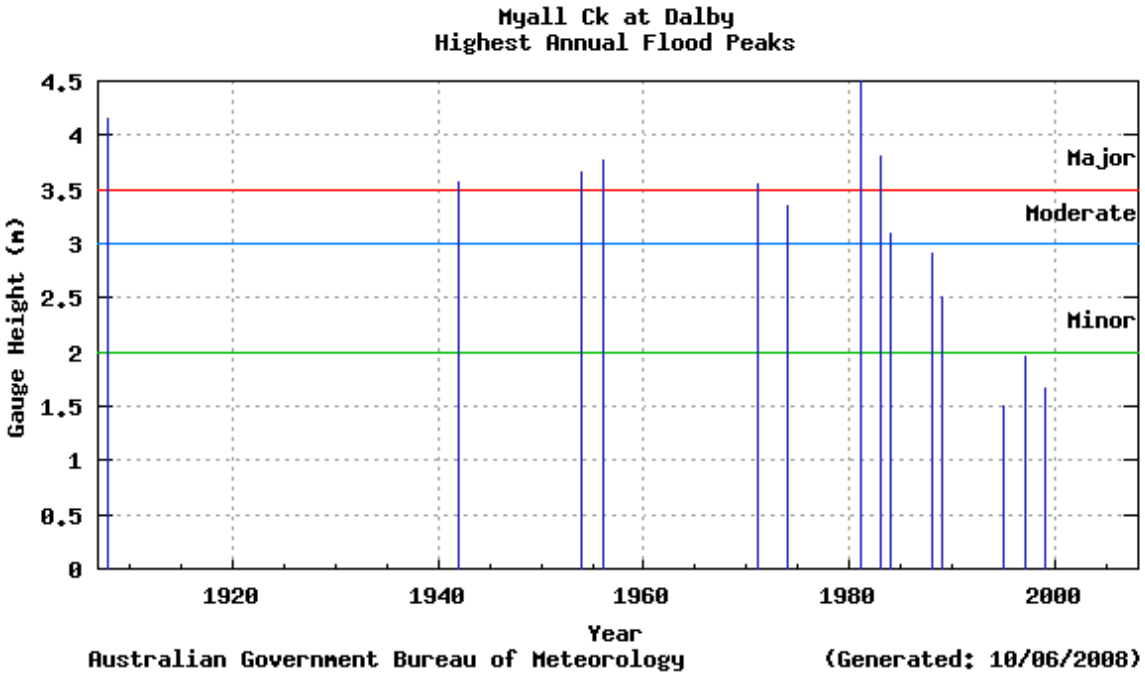
Contained in this document is information about:
(Last updated September 2009)

Flood Risk

The Myall Creek catchment to Dalby drains an area of approximately 1375 square kilometres, extending from the Great Dividing Range towards the town of Dalby and the Condamine River . The main branch of the creek rises beneath Mt Mocatta, which is located north of Maclagan, whilst Cain Creek/Spring Creek tributary of the main branch extends eastwards towards Haden. The north branch of Myall Creek rises beneath Mt Mowbullan in the Bunya Mountains. Myall Creek joins the Condamine River just downstream of Loudoun Bridge on the Moonie Highway. The town of Dalby lies in the floodplain of Myall Creek, and although serious flooding is rare, both the town and the surrounding agriculture community suffer extensive damage during major floods.

Previous Flooding

Myall Creek has records of floods dating back to 1908 with 9 major flood events having occurred since this time, the highest being the February 1981 flood which rose to a height of 4.50m on the flood gauge located in Patrick Street. This resulted in some 700 homes and 140 businesses being inundated by floodwaters and some 25,000 ha of agricultural lands suffering moderate to severe flood damage. The figure below shows the significant flood peaks which have occurred at Dalby since records began.



Flood Forecasting

The Bureau of Meteorology and the Dalby Regional Council operate a flood warning system for the Myall Creek based on a rainfall and river height observations network shown on the map. The network, upgraded by the Dalby regional Council in association with the Bureau in 1992, consists of mostly automatic telemetry stations as well as volunteer rainfall and river height observers. The automatic network includes three rainfall and three rain/river stations which automatically send data via radio to a base station located in the Dalby Regional Council offices. The system provides early detection of heavy rainfalls and river rises throughout the catchment and enables more accurate and timely flood warning and forecasts.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins whenever the creek height is expected to exceed minor flood level at Dalby. These warnings are updated several times per day throughout a flood event.

Local Information

TheDalby Regional Council is able to provide further details of local flooding in the rural areas of the Myall Creek catchment as well as residential areas of Dalby.

Myall Creek ALERT System

The Myall Creek catchment to Dalby ALERT flood warning system was completed in the mid 1990's as a co-operative project between the Bureau of Meteorology and the Dalby Town Council. The system comprises a network of rainfall and river height field stations located in the catchment which report via VHF radio to base station computers located in Council offices at Dalby and the Bureau of Meteorology in Brisbane. The field stations send reports for every 1 millimetre of rainfall and every 50 millimetre change in river height.

In consultation with the Dalby Town Council, the Bureau issues Flood Warnings for the Myall Creek catchment to Dalby.

The base station computer located in the Dalby Town Council office collects the data and have 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 Myall Creek catchment to Dalby 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 Myall Creek catchment to Dalby - it contains the flood gauge heights of the more significant recent floods.

River height station	Feb 1981	Jun 1983	Jul 1984	Feb 1988	May 1996
Clydesdale	4.50	4.50	4.41	4.40	4.55
Moffatt	4.94	3.20	3.20	3.10	2.50
Dalby (Patrick Street)	4.50	3.80	3.10	2.90	2.90

All heights are in metres on flood gauges.

Historical flood heights for all river stations in the Myall Creek catchment to Dalby as shown on the map, are available from the Bureau of Meteorology upon request.

MYALL CREEK CATCHMENT TO DALBY
(PATRICK STREET)
ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Myall Creek catchment to Dalby (Patrick Street). The following can be used as a rough guide to the likelihood of flooding in the catchment :

Average catchment rainfalls in excess of 25mm, with isolated 50mm falls, in 24 hours may result in stream rises and the possibility of minor flooding and local traffic disabilities and extending downstream to Dalby.

Average catchment rainfalls in excess of 50mm, with isolated 75 to 100mm falls, in 24 hours may result in significant stream stream rises with the possibility of moderate to major flooding developing with local traffic disabilities and extending downstream to Dalby.

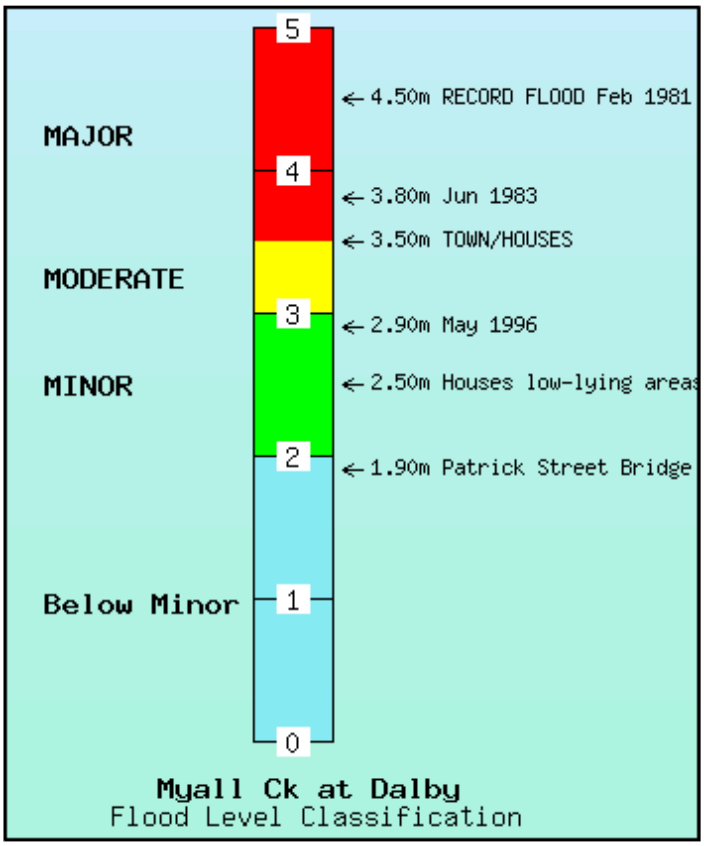
Flood Classifications

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 Myall Creek catchment to Dalby.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Clydesdale	2.0	-	2.0	3.0	3.0	3.1 (d/s)	4.0
Moffatt	2.0	2.00 (X)	3.0	-	4.0	-	4.5
Dalby (Patrick Street)	1.5	1.90 (B)	2.0	-	3.0	3.5	3.5

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

Click here to view map as: PNG PDF (265K bytes)

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

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