



FLOOD WARNING SYSTEM for the BURRUM AND CHERWELL RIVERS

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Burrum and Cherwell Rivers. 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 May 2011)

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Burrum River at Howard

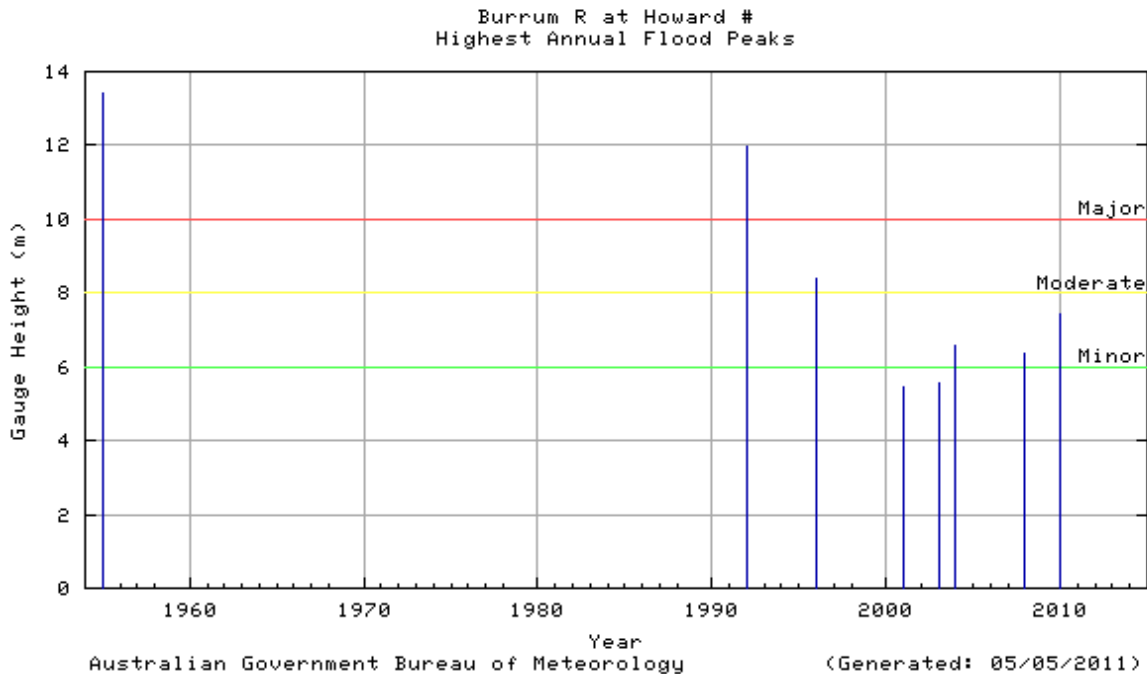
Flood Risk

The Burrum River catchment covers an area of about 935 square kilometres which includes its major tributary, the Cherwell River, with a catchment area of about 200 square kilometres. The headwaters of the Burrum River are in the Sea View Range to the west of Hervey Bay.

The main flood affected area is the Pacific Haven Estate which lies on the Cherwell River just upstream of the Burrum River junction. Heavy rainfall in the Cherwell River catchment can cause rapid river rises at Pacific Haven and travel times are very short. Pacific Haven is also susceptible to backwater flooding from the Burrum River and flood levels can also be affected by higher than normal tides and storm surges.

Previous Flooding

Official flood records for the Burrum River only commenced in 1995 although there is some historical data available for earlier major floods in 1955 and 1992. The highest flood in the Burrum River at Howard was 13.40 metres recorded in 1955. This compares with the 1992 flood level in Howard of 11.96 metres. There is no flood record for the Pacific Haven site prior to the major flood of 1992.



Flood Forecasting

The Hervey Bay Regional Council in conjunction with the Bureau of Meteorology operates a flood warning system for the Burrum and Cherwell River catchments. The network consists of automatic rainfall and river height stations which regularly forward data via radio telemetry to base stations located at Regional Council offices and the Bureau's Flood Warning Centre in Brisbane. The system provides early warning of heavy rainfall and river rises throughout the two catchments and enables more accurate and timely flood warning and forecasts. The Department of Environment and Resource Management also operates an automatic telemetry station at Lenthalls Dam.

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

Local Information

The Bundaberg Regional Council and the Fraser Coast Regional Council are both able to provide further information on flooding in your area of the Burrum and Cherwell River catchments.

Burrum and Cherwell ALERT System

The Burrum and Cherwell ALERT Flood Warning System was completed in 1995 as a co-operative project between the Bureau of Meteorology and the Hervey Bay Regional Council. The system comprises of a network of rainfall and river height stations which report via VHF radio to base station computers in Howard and the Regional Council offices. The stations send reports for every 1 millimetre of rainfall and every 50 millimetre change in river height.

In consultation with Hervey Bay Regional Council, the Bureau issues Flood Warnings for the Burrum and Cherwell Rivers. The Cherwell River particularly responds very quickly to rainfall and warnings rely on the ALERT system and local arrangements.

The base station computers in the Howard and Hervey Bay Council offices collect the data and have software that displays it in graphical and tabular form. This 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 Burrum and Cherwell River catchments 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 Burrum and Cherwell River catchments - it contains the flood gauge heights of the more significant recent floods.

River height station	Mar 1955	Feb 1992	Jan 1996	Feb 2004	Feb 2008	Mar 2010	Dec 2010
Lenthalls Dam	-	3.57	3.56	1.16	-	0.50	4.18
Howard	13.40	11.96	8.40	6.57	6.36	5.80	7.42
Railway Bridge	10.05	11.47	7.72	8.15	-	4.27	8.77
Pacific Haven	-	6.16	3.35	3.99	3.15	-	4.30

All heights are in metres on flood gauges.

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

BURRUM AND CHERWELL CATCHMENTS - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Burrum and Cherwell River catchments. 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 moderate to major flooding and traffic disabilities to develop, particularly in low-lying areas downstream of Howard on the Burrum River and Railway Bridge on the Cherwell River.

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 downstream of Howard on the Burrum River and Railway Bridge on the Cherwell River.

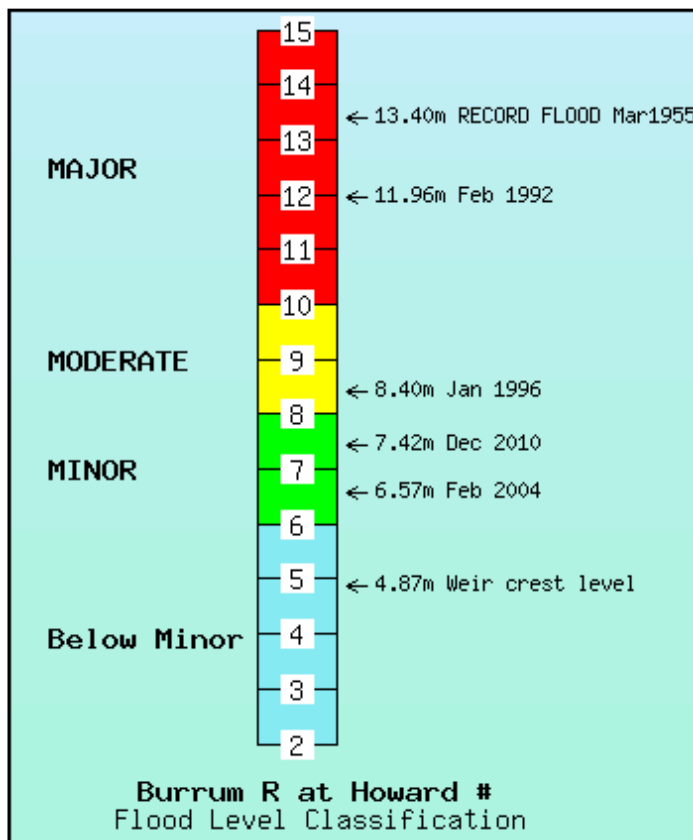
Flood Classifications

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 Burrum and Cherwell River catchments.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Lenthalls Dam	-	26.00 (F)	1.0 *	-	2.0 *	-	3.0 *
Howard	-	6.57 (B)	6.0	-	8.0	-	10.0
Railway Bridge	-	12.0 (B)	5.0	-	7.0	-	8.0
Pacific Haven	-	-	2.5	-	3.0	4.5	3.5

All heights are in metres on flood gauges. * Height over spillway
 (B) = Bridge (F) = Full Supply Level

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 Burrum and Cherwell River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (522K bytes)

For further information, contact:

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

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