



FLOOD WARNING SYSTEM for the HERBERT RIVER

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



*Herbert River at Halifax, March 1997
Flooding in the aftermath of Cyclone Joy
(Photo: The Herbert River Express)*

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(Last updated September 2009)

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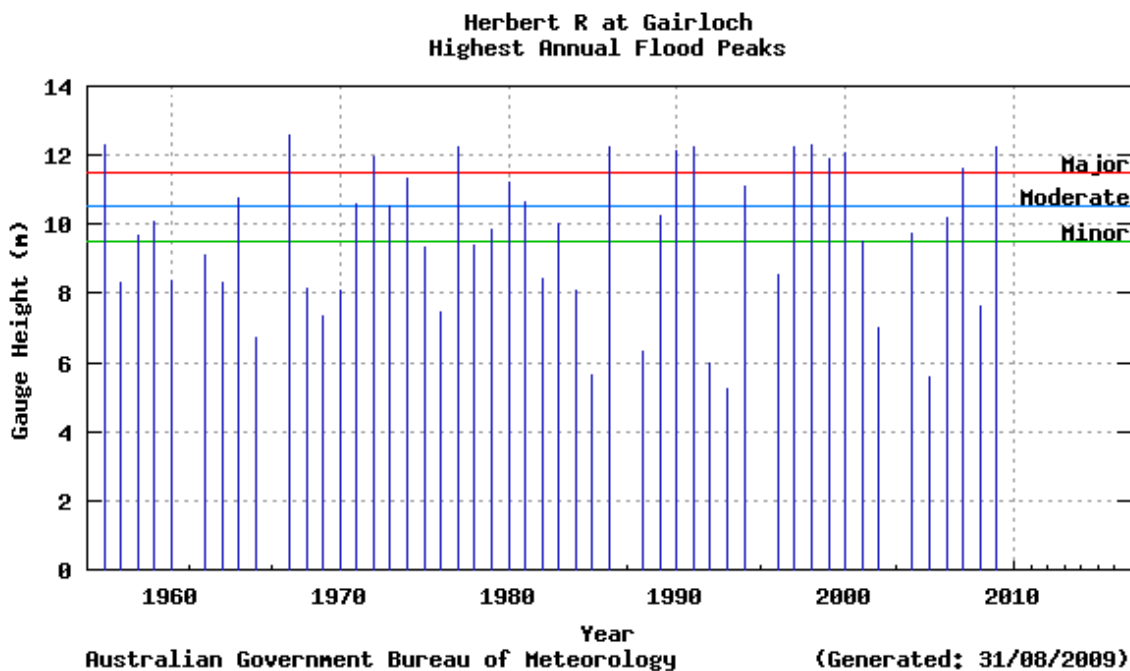
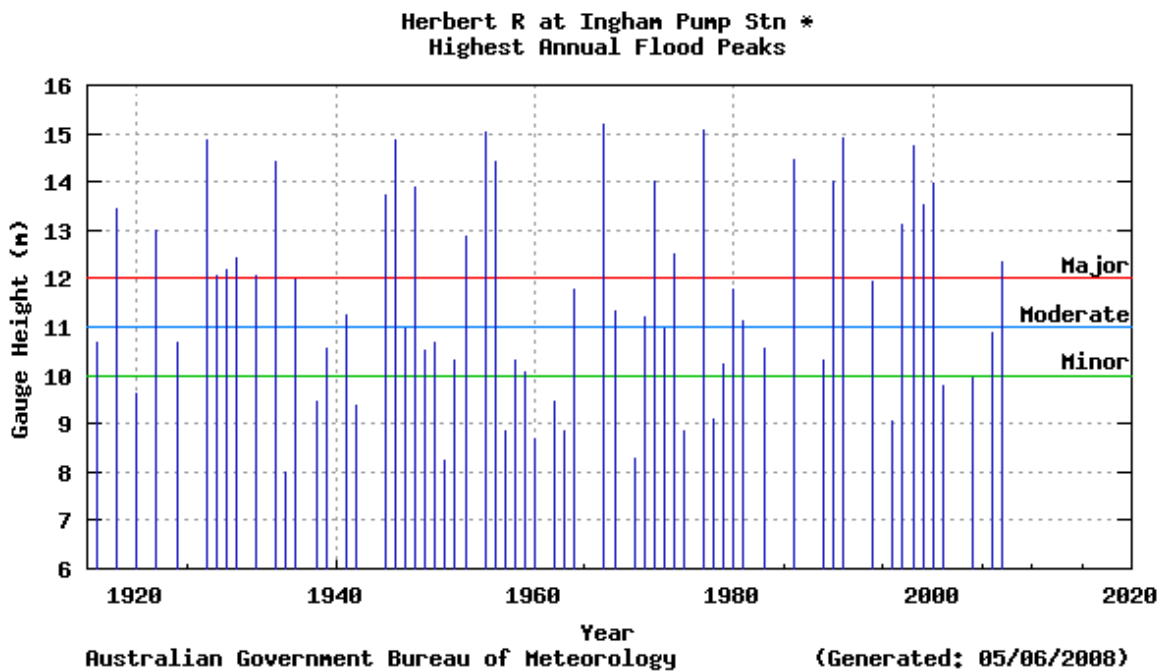
Flood Risk

The Herbert River catchment is located on Queensland's north tropical coast to the north of Ingham. The Herbert River has its headwaters in a high rainfall area of the Dividing Range near Herberton and flows through a gorge to the coastal plain near Ingham. The river continues to its mouth near Lucinda where the catchment area is approximately 9000 square kilometres. The flood-producing rainfalls, up to 600mm over a few days, usually occur in the lower part of the catchment. In less frequent events, the highest rainfalls occur in the upper catchment above Gleneagle.

The Herbert River responds quickly to heavy rainfall and river rises can be rapid and velocities very high. The area around Ingham is very flat and the town itself is located on the floodplain of the river. Several natural watercourses distribute floodwaters through the town during major flooding with virtually the whole town being at risk from flooding. Floodwater up to depths of 3 metres above ground level occurs in low parts of the town, requiring the evacuation of residents and their property from low lying areas.

Previous Flooding

Since records commenced in early 1900s, major floods have occurred regularly in the Herbert River. Major floods usually occur in the wet season from January to March, but smaller floods have occurred in April and December. The figure below shows the significant flood peaks which have occurred at the Ingham Pump Station and Gairloch, the reference gauge for flooding in Ingham, since records began.



Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Herbert River catchment based on a rainfall and river height observations network shown on the map. The installation of the real time ALERT flood reporting network enables predictions to be made earlier and with more accuracy. The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Herbert River catchment during flood events. Quantitative flood forecasts are issued when moderate flood levels are likely to be exceeded.

Local Information

The Hinchinbrook Shire Council and the Tablelands Regional Council are able to provide further information on flooding in your area of the Herbert River catchment.

Herbert ALERT System

The Herbert River ALERT flood warning system was completed in 1995 as a co-operative project between the Bureau of Meteorology and the Hinchinbrook Shire Council. The system comprises a network of rainfall and river height field stations located above and below the Herbert River Gorge and which report via VHF radio to a base station computer located in the Council office in Ingham. The field stations send reports for every 1 millimetre of rainfall and every 50 millimetre change in river height.

The base station computer in the Hinchinbrook Shire 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 Herbert 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 Herbert River catchment - it contains the flood gauge heights of the more significant recent floods.

River height station	Mar 1967	Mar 1977	Feb 1986	Jan 1998	Feb 1999	Mar 2006	Feb 2007	Feb 2009
Ravenshoe	7.53	5.16	6.91	-	6.45	-	5.56	4.51
Archers Creek	9.75	6.87	9.76	5.41	7.88	6.52	-	6.39
Silver Valley	9.69	6.60	6.96	4.03	6.72	5.87	4.92	5.92
Wooroora	10.12	7.50	10.70	7.39	-	-	-	-
Gunnawarra	-	-	-	-	-	-	-	-
Cameron Creek	-	-	-	-	-	-	-	8.37
Gleneagle Homestead	19.00	16.20	13.25	8.50	13.58	7.60	9.00	12.47
Blencoe Falls	-	-	-	-	-	-	-	7.57
Nash's Crossing	-	-	-	10.65	8.75	5.75	5.65	11.20
Zattas	11.10	9.76	9.40	10.12	7.47	5.03	6.13	9.73
Abergowrie	-	17.48	14.46	15.76	12.48	8.79	10.83	15.93
Abergowrie Bridge	20.65*	18.60	16.50	17.20	13.85	10.04	12.69	17.24
Elphinstone Pocket	-	-	-	-	-	10.00	12.60	16.50
Running Creek	-	-	4.79	6.09	-	-	5.58	8.39
Peacock Siding	-	-	9.10	14.20	-	5.75	10.50	-
Trebonne	16.73	-	-	-	-	10.68	12.83	-
Ingham Pump Station	15.20	15.06	14.45	14.76	13.50	10.87	12.34	14.75
Gairloch	12.60	12.25	12.22	12.30	11.90	10.20	11.60	12.25
Halifax	5.35	-	-	5.37	5.42	5.22	5.37	5.67

All heights are in metres on flood gauges.

[*] These heights are taken at old gauge sites and may not relate to flood levels from existing gauges sites.

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

HERBERT RIVER CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Herbert 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 stream rises with moderate to major flooding and traffic disabilities to develop, particularly in the lower reaches of the Herbert River downstream of the Gorge extending to the Ingham township and the Herbert River delta area around Halifax and Lucinda.

Average catchment rainfalls of in excess of 300mm in 24 hours may cause significant stream rises with major flooding and traffic disabilities to develop, particularly in the lower reaches of the Herbert River downstream of the Gorge extending to the Ingham township and the Herbert River delta area around Halifax and Lucinda.

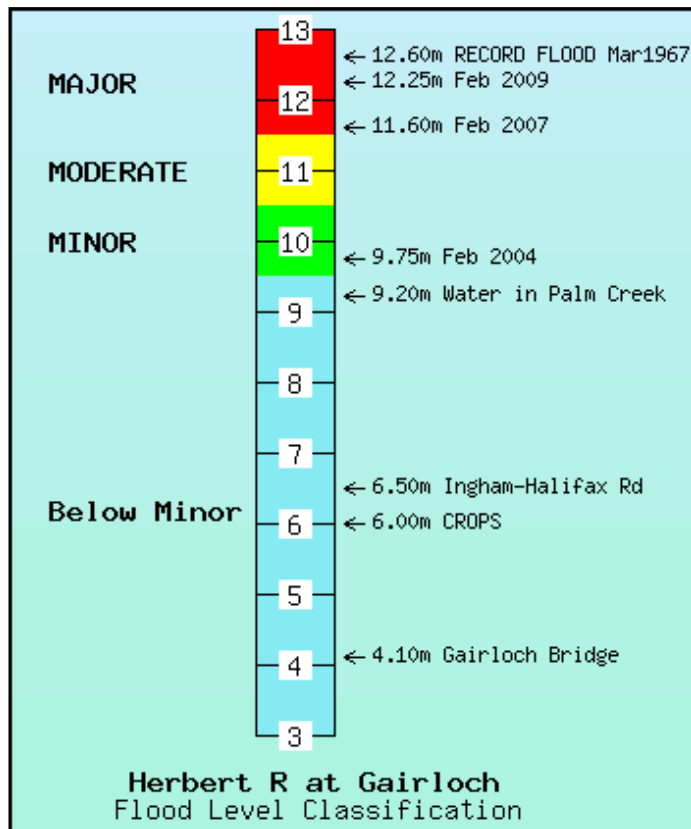
Flood Classifications

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 Herbert River catchment.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level

Ravenshoe	-	-	-	-	-	-	-
Archers Creek	-	-	6.0	-	7.0	-	8.0
Silver Valley	-	-	5.0	-	6.0	-	7.0
Wooroora	-	-	-	-	-	-	-
Gunnawarra	-	-	-	-	-	-	-
Cameron Creek	-	-	-	-	-	-	-
Gleneagle Homestead	4.0	-	8.0	8.0	8.5(d/s)	-	9.0(d/s)
Blencoe Falls	-	-	-	-	-	-	-
Nash's Crossing	-	-	4.5	-	6.0	-	7.5
Zattas	-	-	3.5	-	5.2	-	7.5
Abergowrie	-	-	5.5	-	8.5	-	12.5
Abergowrie Bridge	-	10.1 (B)	6.0	6.0	10.0	11.0	14.0
Elphinstone Pocket	5.6	10.1 (B)	6.0	6.0	10.0	11.0	14.0
Running Creek	-	-	5.0	-	6.0	-	7.0
Peacock Siding	1.0	0.5 (B)	10.0	10.0	12.0	14.0	14.0
Trebonne	-	-	10.0	-	11.0	-	12.0
Ingham Pump Station	-	-	10.0	-	11.0	-	12.0
Gairloch	4.0	4.1 (B)	9.5	6.0	10.5	11.5	11.5
Halifax	2.0	6.5 (A)	4.0	-	4.5	-	5.0

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>

Catchment Map showing the Herbert River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (436K bytes)

For further information, contact:

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

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