



FLOOD WARNING SYSTEM for the BURDEKIN RIVER

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



Burdekin Falls Dam

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(Last updated June 2008)

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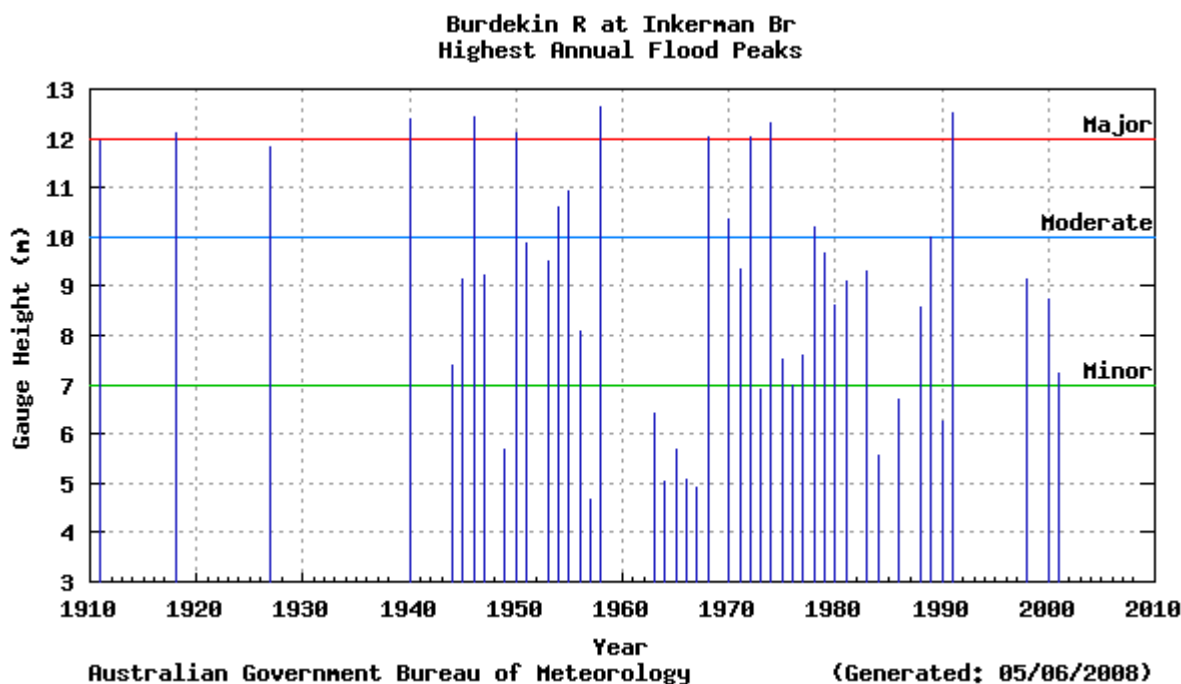
Flood Risk

The Burdekin River basin drains an area of about 130,000 square kilometres. Two main tributaries drain the catchment, the Burdekin River flowing from the north and the Belyando from the south, which join at the Burdekin Falls Dam. Downstream of the Dam, the Bowen and Bogie Rivers join the Burdekin River before it flows into the sea near Ayr/Home Hill.

Major floods, causing inundation of properties and closure of main roads, can occur along the major rivers both upstream and downstream of the Burdekin Falls Dam. Downstream of the Dam, major flooding in the Ayr and Home Hill areas results from either flood waters travelling down from the upper Burdekin and Belyando basin or from intense rain in areas below the Dam. Ayr and Home Hill occasionally experience severe flooding with many houses and businesses affected, especially in the Home Hill township.

Previous Flooding

Records of large floods at Ayr extend back as far as 1911, and since then 10 major floods have occurred. The most recent major flood was in February 1991 when the river rose to 12.53 metres at the Inkerman Bridge gauge.



Flood Forecasting

The Burdekin Shire Council, in conjunction with the Bureau of Meteorology operates a flood warning system for the Burdekin River catchment. The ALERT network consists of automatic rainfall and river height stations which regularly forward data via radio telemetry to a base station located at the Council office in Ayr and the Bureau's Flood Warning Centre in Brisbane. The system provides early warning of heavy rainfall and river rises in the catchment below the Dam and enables more accurate and timely flood warning and forecasts. The balance of the network consists of volunteer rainfall and river height observers who forward observations by telephone when the initial flood height has been exceeded at their station. The Department of Natural Resources and Water also operates a number of automatic telemetry stations throughout the catchment which provide data during floods.

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

Local Information

The Local Government is able to provide further information on flooding in your area of the Burdekin River catchment.

The Burdekin Shire Council operates a local flood information service during periods of lower Burdekin River flooding. The Council's Flood Reporting Centre issues regular bulletins to update the river heights from the ALERT system for the Bowen, Bogie and Lower Burdekin Rivers. These heights, together with information about the expected effects of the flood in the Ayr and Home Hill district, are issued by facsimile to radio and TV stations for broadcast. Residents who are in flood threatened areas should contact the Burdekin Shire Council for detailed local information and be prepared to take appropriate action before floodwaters reach their property.

Burdekin ALERT System

The Burdekin ALERT Flood Warning System was completed in 1990 as a cooperative project between the Bureau of Meteorology and the Burdekin Shire Council. The system comprises of a network of rainfall and river height stations which report via VHF radio to a base station computer located in the Council office in Ayr. The stations send reports for every one millimetre of rainfall and every 50 millimetre change in river height.

The base station computer in the Burdekin Shire Council office collects the data and has 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 Burdekin 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 Burdekin River catchment - it contains the flood gauge heights of the highest know floods recorded at selected river height locations, together with heights of recent floods.

River height station	Apr 1958	Feb 1968	Jan 1972	Jan 1974	Apr 1989	Jan 1991	Early Feb 1991	Late Feb 1991	Jan 1998
Greenvale	-	-	10.67	15.60	-	14.62	11.70	21.60	-
Blue Range	-	8.99	8.28	11.89	-	10.80	9.30	17.05	11.20
Mt Fullstop	-	-	11.68	17.13	-	15.49	9.98	18.28	14.73
Sellheim	7.70	13.41	16.99	16.78	-	15.50	9.45	19.70	20.50
Mt Douglas	11.61	8.66	-	8.71	7.64	7.58	7.98	7.85	-
Burdekin Falls Dam	-	-	-	-	1.97*	4.93*	3.95*	6.82*	4.96*
Jacks Creek	-	9.88	10.01	8.93	16.54	16.05	16.28	7.00	4.08
Birralee	22.00	8.76	8.46	7.93	12.00	15.90	16.80	-	-
Myuna	15.64	5.97	5.61	5.62	10.42	11.09	12.34	-	-
Dalbeg	23.09	17.15	17.90	18.90	14.33	14.45	19.88	17.65	14.25
Strathbogie	13.87	7.16	8.69	7.16	9.70	10.00	10.70	-	-
Millaroo	-	16.18	16.10	16.67	-	13.59	19.40	15.19	12.17
Clare	18.39	15.85	15.90	16.02	12.86	13.35	18.05	14.81	11.48
Inkerman Bridge	12.62	12.04	12.04	12.30	10.00	10.35	12.53	11.50	9.20

All heights are in metres on flood gauges.

[*] Indicated height in metres over the Spillway

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

BURDEKIN RIVER CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding requires a large scale rainfall situation over the Burdekin River catchment. The completion of the Burdekin Falls Dam in the 1980's has reduced to some extent the occurrence of major flooding in the lower reaches. Major flooding still occurs, however, in the lower reaches from the runoff produced by heavy rainfall and flooding in the lower Burdekin, Bowen and Bogie 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 48 hours may cause moderate to major flooding and traffic disabilities to develop, particularly in low-lying areas of the Burdekin River catchment downstream of the Burdekin Falls Dam and extending into the Burdekin River delta area.

Average catchment rainfalls of in excess of 300mm in 48 hours may cause major flooding and traffic disabilities to develop, particularly in low-lying areas of the Burdekin River catchment downstream of the Burdekin Falls Dam and extending into the Burdekin River delta area.

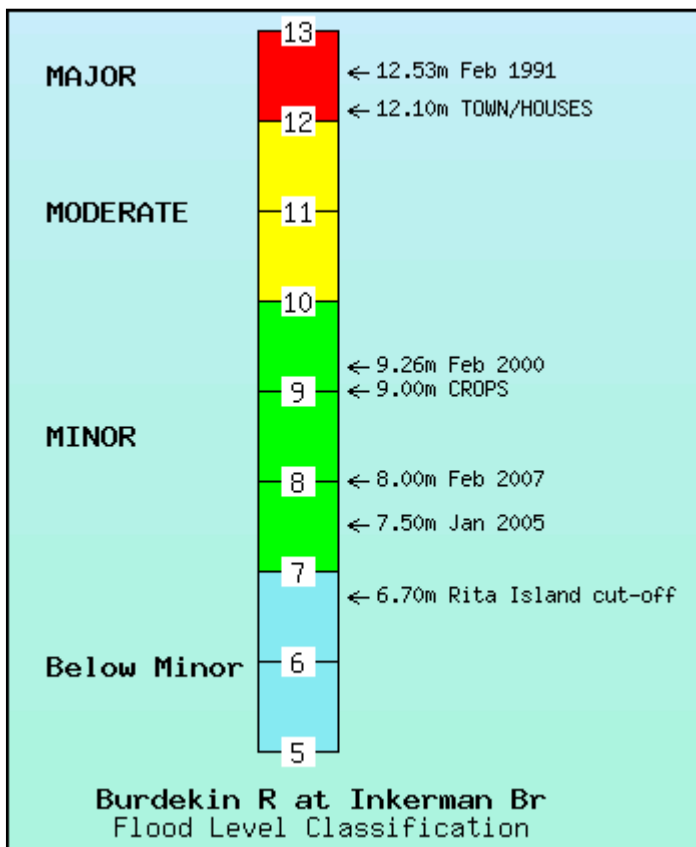
Flood Classifications

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 Burdekin River catchment.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Greenvale	6.0	-	8.0	17.0	12.0	-	18.0
Blue Range	7.0	3.2 (B)	8.0	20.0	12.0(d/s)	-	15.0(d/s)
Mt Fullstop	-	-	5.5	-	11.5	-	17.0
Sellheim	2.0	13.5 (B)	12.0	14.0	14.0	18.0	15.0
Mt Douglas	4.0	9.2 (B)	5.0	6.0	8.0	10.0	9.0
Burdekin Falls Dam	0.0	0.0 (S)	3.0	-	5.5	-	8.0
Birralee	4.0	15.0 (B)	8.0	18.0	18.0	-	21.0
Myuna	-	-	5.0	-	13.0	-	15.0
Dalbeg	5.0	-	10.0	5.0	15.0	-	20.0
Millaroo	-	-	9.0	-	13.0	-	17.0
Clare	5.0	-	8.0	-	13.0	-	17.0
Inkerman Bridge	3.0	18.3 (B)	7.0	9.0(d/s)	10.0	12.1	12.0

All heights are in metres on flood gauges.

(B) = Bridge (A) = Approaches (C) = Causeway (X) = Crossing (S) = Spillway (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 Burdekin River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (859K bytes)

For further information, contact:

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

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