



## FLOOD WARNING SYSTEM for the BREMER RIVER TO IPSWICH

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Bremer River to Ipswich. 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.



*Bremer River at Rosewood*

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

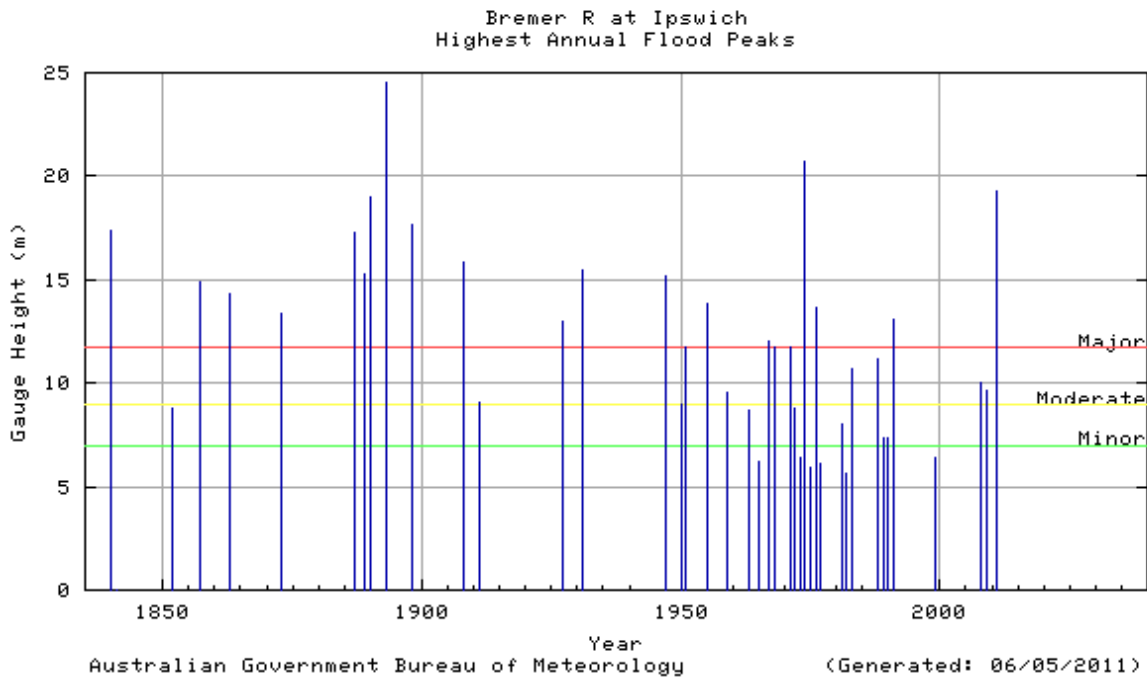
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### Flood Risk

The Bremer River catchment covers an area of approximately 1800 square kilometres. The major tributary is Warrill Creek, which joins the Bremer approximately ten kilometres upstream of Ipswich. The headwaters of the Bremer River and Warrill Creek rise in the Macpherson Ranges. Heavy rainfall in these areas can cause major flooding of agricultural and rural areas as well as widespread traffic hazards and disruptions. Flooding in the Ipswich area can also be caused by local creek flooding, including in the Bundamba and Woogaroo Creeks. During heavy rainfalls, these small creeks rise very quickly and can cause significant flooding in urban areas. Flooding in the Ipswich area can also occur due to backwater flooding from the Brisbane River when it is in major flood.

## Previous Flooding

Flood records for Ipswich extend back as far as 1893 and indicate that the city has a long history of flooding. The largest flood in the 20th century occurred in January 1974, rising to a height of 20.7 metres on the Ipswich flood gauge located at David Trumpy Bridge. The flood caused widespread damage in the Ipswich area with newspapers at the time reporting many inundated properties and families left homeless. The flood of record was in February 1893 when the river reached 24.5 metres. The flood event in January 2011 (19.25 metres), although smaller than 1974, caused significant residential and commercial damage.



## Flood Forecasting

The Bureau of Meteorology and Ipswich City Council operate a flood warning system for the Bremer River using data from the rainfall and river height network shown on the attached map. The network is made up of manual rainfall and river height observers as well as automated telemetry stations.

In consultation with the Ipswich City Council, the Bureau issues Flood Warnings for the Bremer River and Warrill Creek. These contain river height predictions for Ipswich and other locations during more serious floods.

The flood warning system has been upgraded over recent years by the Ipswich City Council, Bureau of Meteorology and the South East Queensland Water Corporation with the installation of many ALERT flood warning stations. The system provides early warning of heavy rainfalls and river rises throughout the catchment and enables more accurate and timely response to impending river and creek flooding in the Ipswich area.

## Local Information

The Ipswich City Council is responsible for the interpretation of flood warnings into depths and areas of inundation, and the management of flood response activities in the Ipswich metropolitan area.

## Flood ALERT System

The initial Ipswich Creeks ALERT flood warning system was completed in the early to mid 1990's as a co-operative project between the Bureau of Meteorology and the Ipswich City Council. The Bremer River ALERT network was subsequently installed as a part of the major upgrade of the Brisbane-Bremer monitoring network by the South East Queensland Water Corporation. The system now comprises a comprehensive network of rainfall and river height field stations located throughout the Bremer River and Warrill Creek catchments as well as the Ipswich metropolitan area. They report via VHF radio to base station computers located in Ipswich City Council offices. The field stations send reports for every one millimetre of rainfall and every 50 millimetre change in river height. 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 Bremer 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 their issue or as part of their news services.

### 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 Bremer River catchment to Ipswich. It contains the flood gauge heights of the more significant recent floods.

For further information, please refer to similar brochures issued for the Brisbane River above and below Wivenhoe Dam.

River Height Station	Feb 1893	Jan 1974	Feb 1976	May 1983	Dec 1991	May 1996	Nov 2008	May 2009	Jan 2011
Kalbar	-	10.66	10.73	9.60	9.80	10.00	-	-	10.90
Harrisville	8.33	6.18	5.95	5.65	5.90	5.91	4.65	5.00	5.98
Amberley	-	10.18	8.60	6.34	7.53	6.75	5.60	6.30	7.32
Kuss Road	-	8.07	-	7.40	7.35	7.80	7.25	6.75	7.12
Rosewood	-	7.62	6.00	5.60	6.04	6.33	6.00	-	7.50
Walloon	-	11.56	8.99	7.95	9.12	9.25	9.28	7.76	11.27
Ipswich (David Trumpy Bridge)	24.50	20.70	13.65	10.65	13.10	11.31	10.00	9.60	19.25

All heights are in metres on flood gauges.

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

### BREMER RIVER CATCHMENT - ASSESSMENT OF THE FLOOD POTENTIAL

Major flooding generally requires a large scale rainfall situation over the Bremer River catchment. The following can be used as a rough guide to the likelihood of flooding in the catchment, but refer to the Flood Warnings and Council advices during a flood event.

#### Bremer River:

Average catchment rainfalls in excess of 200mm in 48 hours, may result in stream rises and the possibility of flooding and local traffic disabilities particularly in the lower Bremer River catchment.

Average catchment rainfalls in excess 300mm in 48 hours, may result in stream rises and the possibility of major flooding and local traffic disabilities particularly in the lower Bremer River catchment.

#### Ipswich Metropolitan Creeks:

Average catchment rainfalls in excess of 35mm in 3 hours, may result in stream rises and the possibility of flooding and local traffic disabilities in the Deebing, Bundamba and Woogaroo Creeks. Average catchment rainfalls in excess of 100mm in 3 hours may result in stream rises and the possibility of major

flooding and local traffic disabilities.

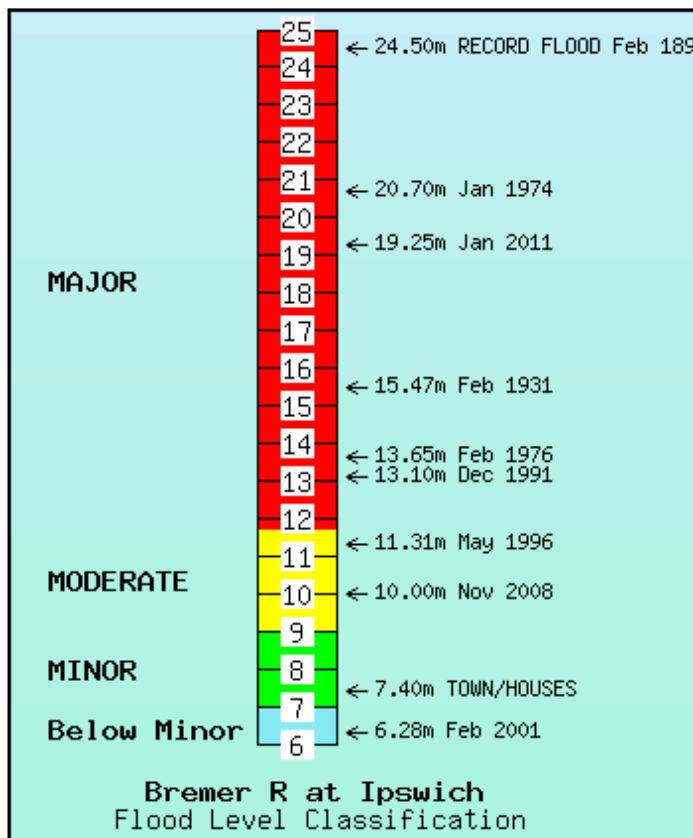
### Flood Classifications

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 Bremer River catchment to Ipswich.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Kalbar	4.0	7.00 (B)	6.0 (d/s)	7.0	7.0	-	9.0
Harrisville	3.0	5.50 (B)	3.0	5.0	4.0 (d/s)	-	5.0
Amberley	-	-	4.0	-	5.5	-	6.5
Kuss Road	4.0	7.60 (B)	6.0	-	7.0	-	8.0
Rosewood	2.0	5.20 (B)	4.0	5.0	5.0	-	6.0
Walloon	-	4.50 (A)	3.5	-	5.5	-	7.0
Ipswich (David Trumpy Bridge)	4.0	24.88 (B)	7.0	7.0	9.0	7.4	11.7

All heights are in metres on flood gauges. (B) = Bridge (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 Bremer River to Ipswich flood warning network

Click here to view map as: [PNG](#) [PDF](#) (339K bytes)

***For further information, contact:***

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

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