



FLOOD WARNING SYSTEM for the CONDAMINE RIVER TO COTSWOLD

This brochure describes the flood warning system operated by the Australian Government, Bureau of Meteorology for the Condamine River catchment to Cotswold. 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.



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

- [The Flood Risk](#)
- [Previous Flooding](#)
- [Flood Forecasting](#)
- [Local Information](#)
- [Flood Warnings and Bulletins](#)
- [Interpreting Flood Warnings and River Height Bulletins](#)
- [Flood Classifications](#)
- [Catchment Map](#)

*Flooding in Linthorpe Creek, Jan 1996
Photo courtesy of Wimera Pty Ltd*

The Flood Risk

The Condamine - Balonne river system is one of the tributaries of the Murray - Darling river system and is one of the most important river systems in Queensland in terms of agriculture. The headwaters of the Condamine River rise in the Border Ranges near Killarney and flow approximately 1200 kilometres through Queensland before entering New South Wales.

The annual rainfall distribution ranges from over 1000 mm in the ranges near Killarney to only 400 mm over the lower parts of the catchment near Hebel.

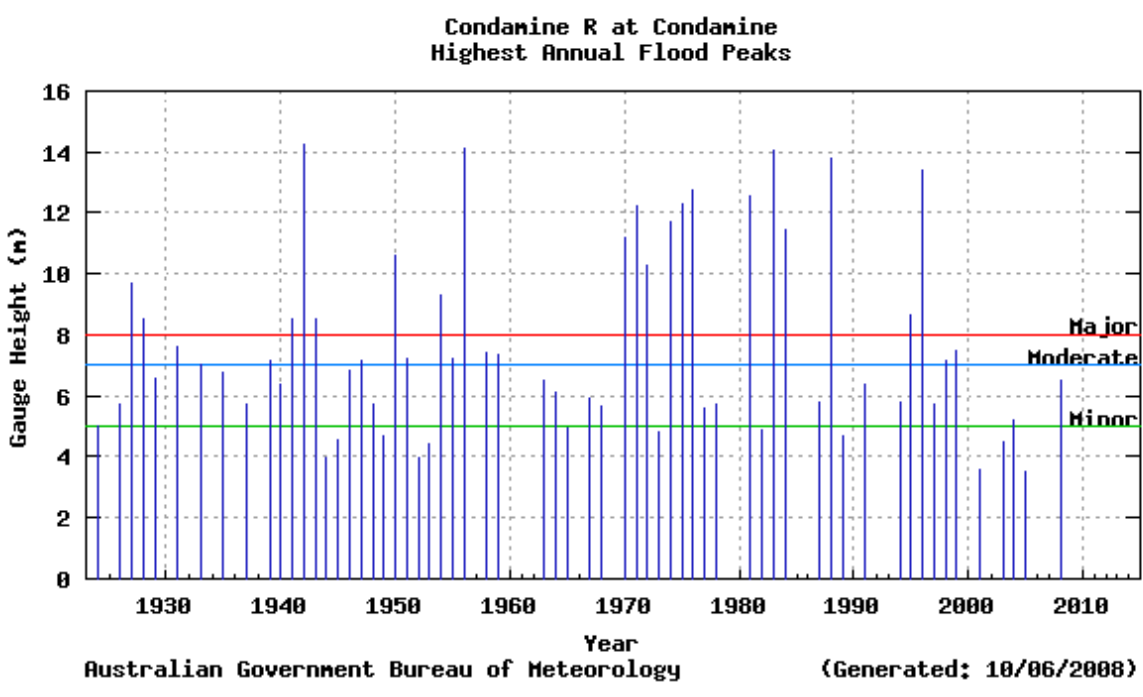
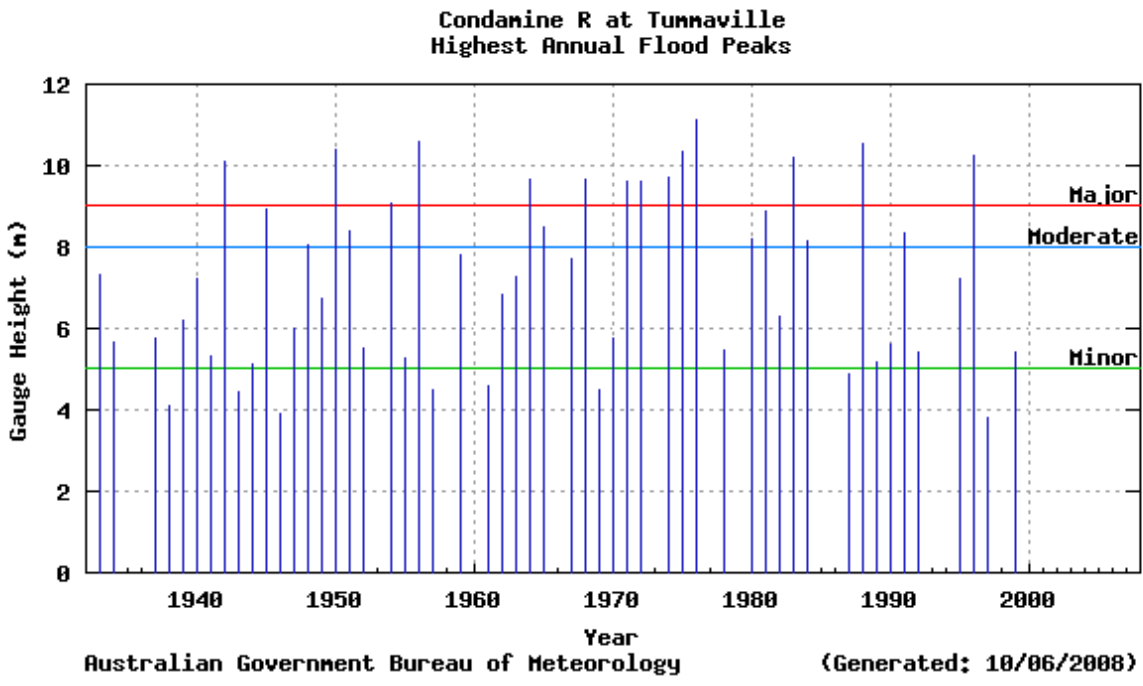
Large scale flooding within the main towns such as Warwick, Dalby and Chinchilla is not a regular occurrence and does not overshadow the widespread effects of flooding on individual homes and properties and the loss and damages suffered in rural areas. Damage to fencing, pumping equipment, machinery and loss of stock through drowning result in significant losses during major floods.

Major floods do not necessarily develop in the headwater areas of the catchment but can result from heavy rainfall in any of the large tributaries which enter the main Condamine River. Under these circumstances flood forecast lead times may be short.

Previous Flooding

Records of large floods along the Condamine extend back as far as 1887 at Warwick with extensive records at several other locations on the mainstream. Major floods occur regularly, on average every 2 years. The worst flooding occurred in 1942, 1950, 1956, 1975, 1976, 1983 (twice), 1988 and 1996.

Major floods generally only occur in the first half of the year although records indicate that they may also occur in late spring.



Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Condamine River catchment to Cotswold based on a rainfall and river height observations network shown on the map. The flood warning network consists of a number of volunteer rainfall and river height observers, as well as automatic telephone telemetry stations located throughout the catchment, which are operated by both the Bureau of Meteorology and the Department of Environment and Resource Management.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Condamine River catchment to Cotswold during flood events. Quantitative forecasts are issued whenever river heights are expected to reach minor flood levels at Warwick and Condamine Town.

Local Information

The Southern Downs Regional Council and the Toowoomba Regional Council are able to provide further details of flooding in your area.

Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Condamine River to Cotswold 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 Condamine River catchment to Cotswold - it contains the flood gauge heights of the more significant recent floods.

River height station	Feb 1942	Jan/Feb 1956	Feb 1976	May 1983	May 1996	Feb 2001	Jan 2004
Warwick (McCahon Bridge)	5.72	6.10	9.10	6.25	6.50	5.03	-
Pratten	-	7.32	10.50	8.40	8.50	6.50	-
Tummalville	10.08	10.59	11.11	10.20	10.26	6.20	-
Centenary Bridge	-	-	8.20	7.45	7.61	6.50	6.65
Cecil Plains	-	8.84	9.17	8.50	8.39	6.00	5.50
Tipton Bridge	-	7.32	11.36	10.50	10.18	7.21	6.30
Loudoun Bridge	-	10.67	10.89	10.28	10.32	-	8.40
Ranges Bridge	-	10.52	11.05	9.75	9.70	5.85	7.20
Warra-Kogan Road Bridge	-	14.00	-	13.71	13.53	5.50	8.25
Brigalow Bridge TM	-	-	13.99	-	13.40	6.11	8.88
Chinchilla Weir	-	13.87	13.90	13.51	13.32	3.44	7.41
Condamine Town	14.25	14.14	12.74	14.05	13.40	3.60	5.20
Cotswold TM	-	-	14.22	16.13	14.95	6.01	8.74

All heights are in metres on flood gauges.

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

CONDAMINE RIVER CATCHMENT TO COTSWOLD ASSESSMENT OF THE FLOOD POTENTIAL
<p>Major flooding requires a large scale rainfall situation over the Condamine River catchment to Cotswold. The following can be used as a rough guide to the likelihood of flooding in the catchment :</p>
<p>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.</p>
<p>Average catchment rainfalls in excess of 50mm, with isolated 75 to 100mm falls, in 24 hours may result in significant stream rises with the possibility of moderate to major flooding developing with local traffic disabilities and extending downstream.</p>

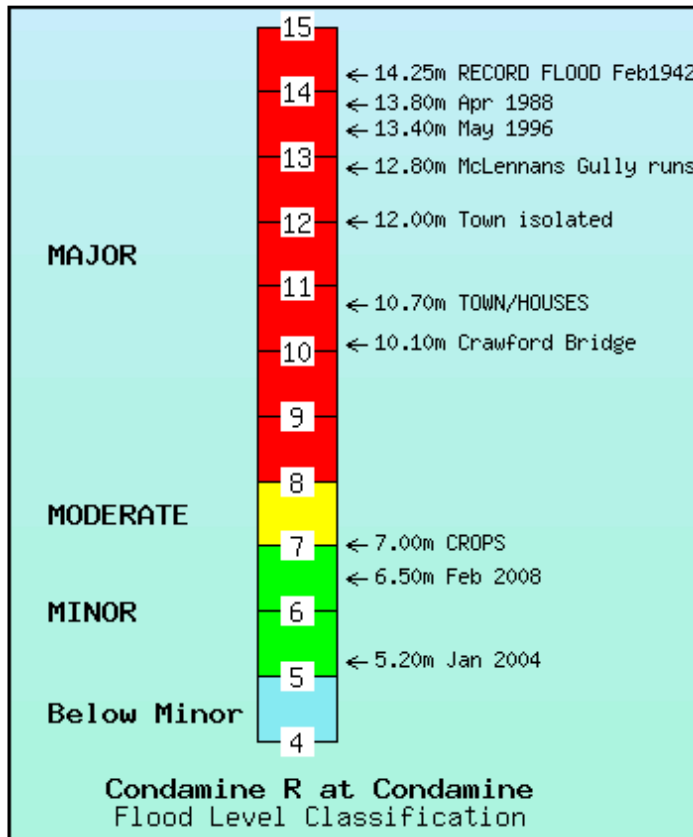
Flood Classifications

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 Condamine River catchment to Cotswold.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Warwick (McCahon Bridge)	2.0	7.00 (B)	5.0	6.0	6.0	6.2	7.0
Pratten	3.0	4.30 (B)	5.0	5.0	6.0	-	7.0
Tummalville	2.0	4.30 (B)	5.0	8.0	8.0	10.4	9.0 (d/s)
Centenary Bridge	4.0	6.80 (A)	5.0	6.0	6.0	7.3	7.0
Cecil Plains	4.5	6.90 (B)	6.0	7.0	7.0 (d/s)	-	8.0
Tipton Bridge	3.0	8.40 (B)	5.0	5.0	6.0 (d/s)	-	7.0 (d/s)
Loudoun Bridge	3.0	9.10 (A)	5.0	5.0	7.0	-	9.0
Ranges Bridge	3.0	7.50 (B)	6.0	8.0	6.5 (d/s)	-	7.0 (d/s)
Warra-Kogan Road Bridge	3.0	9.10 (B)	7.0	-	8.0	-	9.0
Brigalow Bridge TM	-	-	7.5	-	9.0	-	10.5
Chinchilla Weir	6.0	10.00 (R)	6.0	8.0	8.0	-	10.0
Condamine Town	3.0	10.10 (B)	5.0	7.0	7.0	10.7	8.0
Cotswold TM	-	4.29 (W)	7.0	-	10.0	-	11.0

All heights are in metres on flood gauges.

(B) = Bridge (A) = Approaches (C) = Causeway (R) = Road (W) = Weir (d/s) = Down Stream

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 Condamine River above Cotswold flood warning network.

Click here to view map as: [PNG](#) [PDF](#) (607K bytes)

For further information, contact:

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

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