



## FLOOD WARNING SYSTEM for the NICHOLSON RIVER

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



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(Last updated May 2011)

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*Lawn Hill Creek at Lawn Hill*

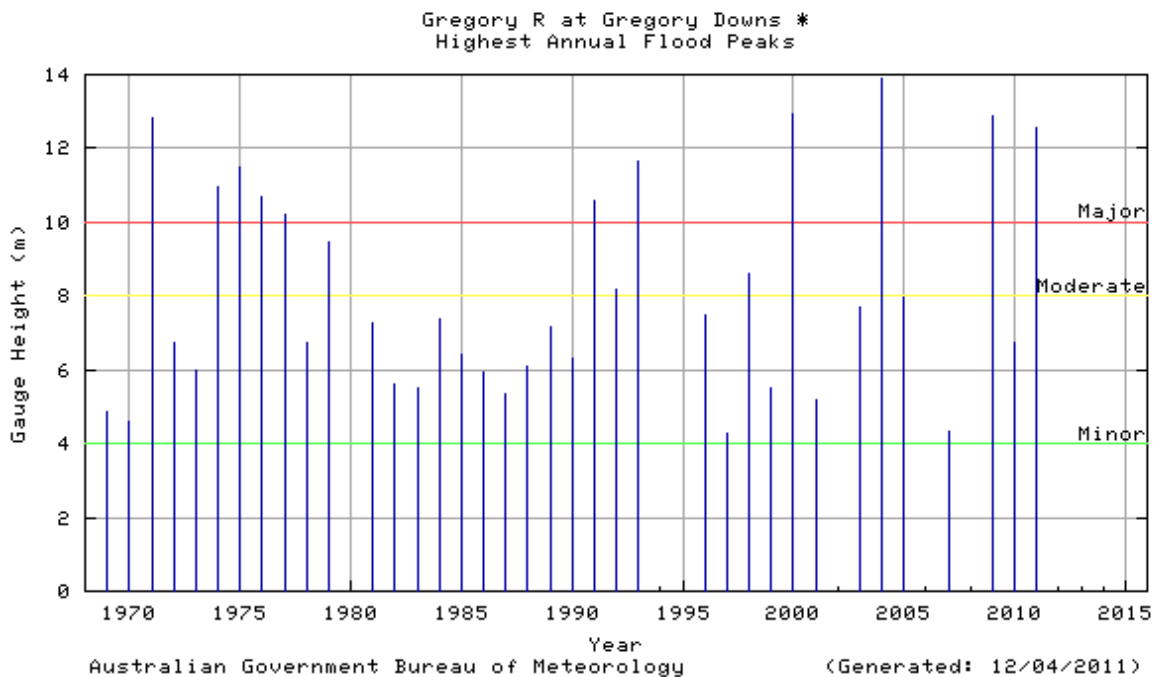
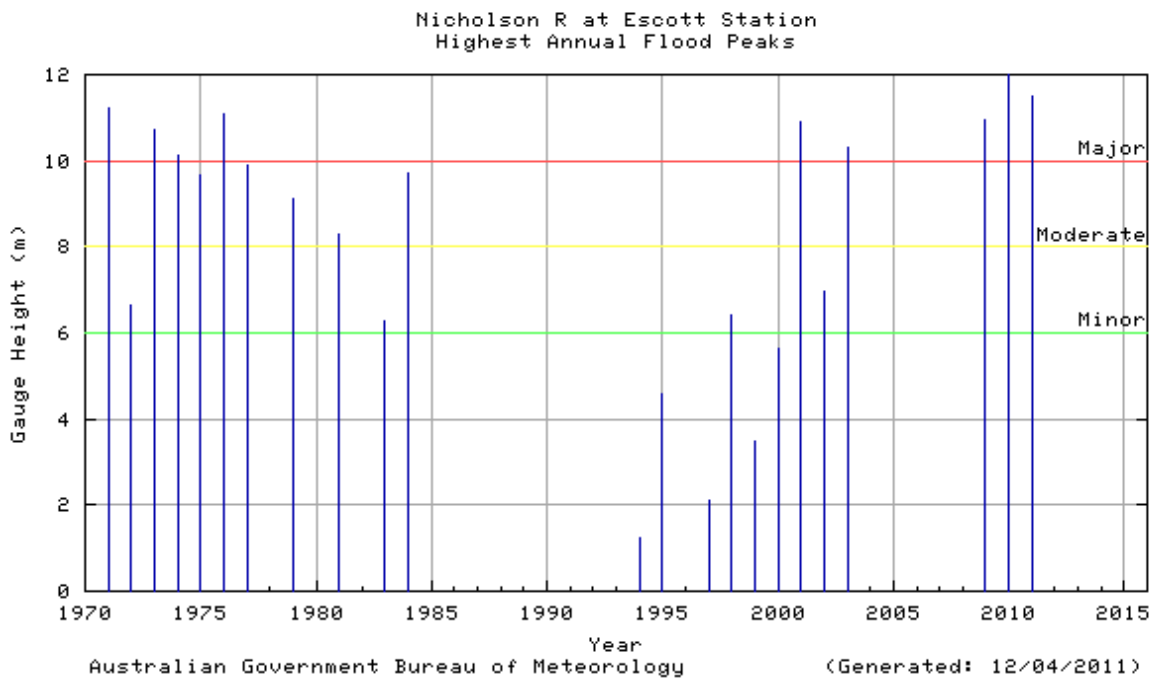
### Flood Risk

The Nicholson River catchment is located in north west Queensland and covers an area of about 53,200 square kilometres. The river rises on the Barkly Tableland in the Northern Territory, 300 kilometres northwest of the Camooweal. It flows in a general easterly direction, across the State border. The Gregory River, its major tributary, rises 50 kilometres east of Camooweal and flows in a northerly direction joined by the O'Shanassy River, just downstream of Riversleigh and Lawn Hill Creek, 70 kilometres downstream of Gregory Downs. The Nicholson River is joined by the Gregory River to the southwest of Burketown. The River finally passes through a vast open coastal plain before entering the Gulf of Carpentaria. Floods normally develop in the headwaters of the Nicholson and Gregory Rivers and its major tributaries, however, general heavy rainfall situations can develop typically from monsoonal and cyclonic influences which can result in widespread flooding, particularly in the lower reaches below Gregory Downs.

The record major flood of March 1971 and to a lesser extent, the floods of December 2000, January 2004 and in January/February 2009, caused widespread traffic disruption and inundation of towns and properties throughout the lower reaches. A record flood was recorded at Escott Station in April 2010 as a result of rainfalls associated with Tropical Cyclone Paul.

### Previous Flooding

Previous flood information for the Nicholson River is limited. Peak heights are available since the early 1970's for some of the gauging stations however for most stations records range for between 15 to 20 years.



## Flood Forecasting

The Bureau of Meteorology operates a flood warning system for the Nicholson River based on a rainfall and river height observations network shown on the map. The network consists of a number of volunteer rainfall and river height observers, who forward observations by telephone when the initial flood height has been exceeded at their station, as well as two automatic telephone telemetry stations at Riversleigh and at Gregory Downs, operated by Queensland's Department of Environment and Resource Management.

The Bureau's Flood Warning Centre issues Flood Warnings and River Height Bulletins for the Gulf Rivers, including the Nicholson River, during flood events. Qualitative flood forecasts are issued when moderate flood levels are likely to be exceeded.

## Local Information

More detailed flood information may be available from Burke Shire Council and Doomadgee Aboriginal Shire Council.

## Flood Warnings and Bulletins

The Bureau of Meteorology issues Flood Warnings and River Height Bulletins for the Gulf River catchments, including the Nicholson River basin, 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 Nicholson River basin - it contains the flood gauge heights of the more significant recent floods.

River height station	Mar 1971	Jan 1974	Dec 2000	Jan 2004	Mar 2006	Jan 2009	Feb 2009	Apr 2010	Mar 2011
Doomadgee	-	9.15*	6.00	3.30	6.90	4.20	-	7.30	4.35
Lawn Hill	-	-	6.30	5.00	-	6.50	6.00	-	7.75
Riversleigh	10.80	9.18	-	7.94	-	8.65	-	2.98	9.30
Gregory Downs	12.80	10.97	12.94	13.91	-	12.39	12.90	6.37	13.67
Escott Station	6.64	-	5.65	-	-	10.57	10.10	12.00	11.50
Burketown Airport	-	-	6.55	5.40	5.90	6.50	6.00	-	6.78

All heights are in metres. [\*] Height taken at old gauge site which may not relate to existing sites

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

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

Major flooding requires a large scale rainfall situation over the Nicholson River catchment. The following can be used as a rough guide to the likelihood of flooding in the catchment :

100mm in 24 hours in isolated areas, with lesser rains of 50mm over more extensive areas will cause stream rises and the possibility of minor flooding. If similar rainfalls have been recorded in the previous 2-3 days, then moderate to major flooding may develop.

In general, 100mm or heavier falls in 24 hours over a wide area will most likely cause major flooding, particularly in the middle and lower reaches of the Nicholson and Gregory Rivers around Burketown.

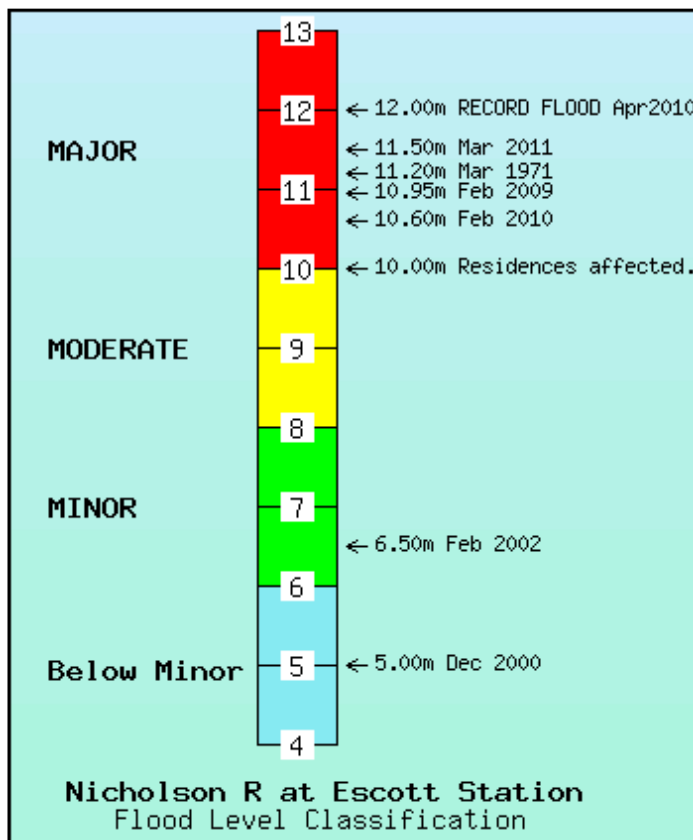
### Flood Classifications

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 Nicholson River catchment. Note: All heights are in metres on flood gauges.

River Height Station	First Report Height	Crossing Height	Minor Flood Level	Crops & Grazing	Moderate Flood Level	Towns and Houses	Major Flood Level
Doomadgee	0.5	0.5 (X)	1.0	-	4.0	8.0	6.0
Lawn Hill	1.0	0.1 (X)	3.0	-	4.0	5.0	5.0
Riversleigh	-	-	3.5	-	5.0	-	6.5
Gregory Downs	-	9.3 (NB)	4.0	-	8.0	-	10.0
Escott Station	5.0	-	6.0	8.0	8.0	10.0	10.0
Burketown Airstrip	4.5	-	5.0	4.5	5.5	6.5	6.0

(NB) = New Bridge (X) = Crossing

The above details are current at the time of preparing this document, but are subject to review. 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 Nicholson River flood warning network

Click here to view map as: [PNG](#) [PDF](#) (1.6M bytes)

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

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

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