

Flood summary for the Dumaresq River at Texas

- The town of Texas is located on the Dumaresq River in the Macintyre River catchment.
- The flood heights at Texas are measured using a combination of an automatic gauge co-owned by the Bureau of Meteorology and Goondiwindi Regional Council and a manual station owned by the Bureau of Meteorology. (Bureau station number: Manual – 041403 and Automatic – 041548).
- A detailed map of the flood warning network is available on the Bureau website at http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml

Location map

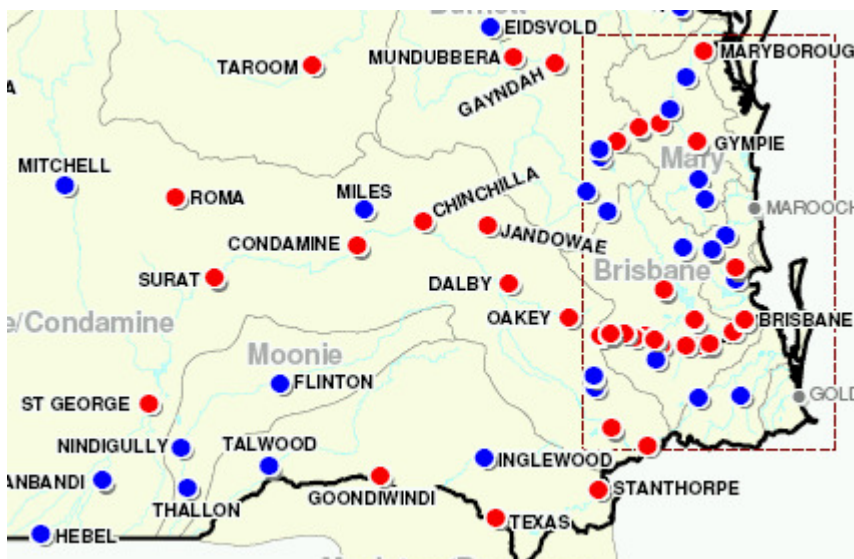
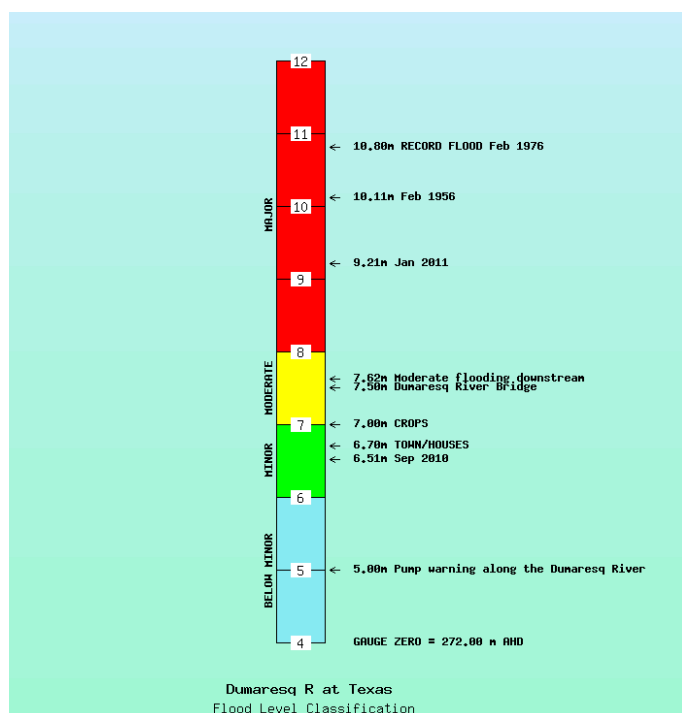


Figure 1. Map showing location of Texas.

Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

Flood effects and severity



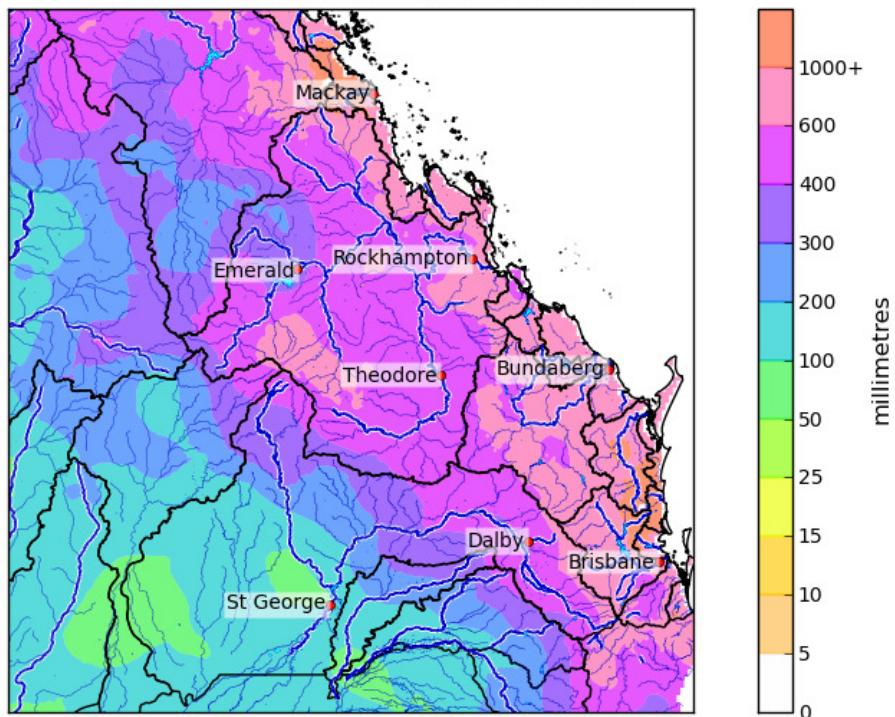
- **Peaked at 9.21 metres on 12/01/2011.**
- Minor: 6.0 metres, Moderate: 7.0 metres, Major: 8.0 metres.
- Gauge zero is 271.997 metres AHD.
- Town and houses begin to be affected at 6.7 metres.
- Large crop losses and stock losses.
- Texas was above major flood level (8.0 metres) from 12/01/2011 to 13/01/2011.
- It remained above minor flood level (6.0 metres) from 11/01/2011 to 14/01/2011.

Figure 2. Flood level classifications and flood effects for Texas.

Rainfall summary

- In excess of 400mm of rainfall was recorded in the upper reaches of the Macintyre River catchment during December 2010 and January 2011.
- The vast majority of this rainfall fell between 09/01/2011 and 13/01/2011.

Total Rainfall 01-12-2010 to 31-01-2011



Total Rainfall 09-01-2011 to 13-01-2011

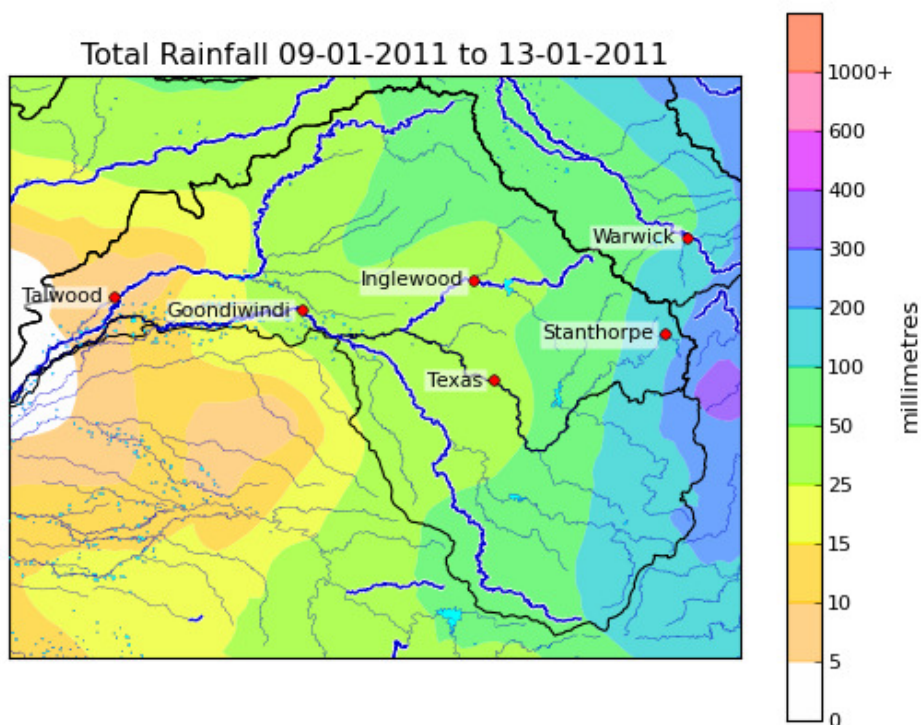


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period 09/01/2011 to the 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the upper Dumaresq River are shown in Table 1.
- The most significant rainfall intensity for Broadwater Creek AL in January 2011 occurred in the 20 minutes ending 3:10pm on 03/01/2011 producing a 10-20 ARI, however all periods were well below the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most significant rainfall intensity for Amiens Knob AL in January 2011 occurred in the 30 minutes to 2:45pm on 03/01/2011 producing a 50-100 ARI, which represents close to a 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

Table 1. Recorded maximum rainfall intensities for Broadwater Creek AL and Amiens Knob AL on the Macintyre River for January 2011.

Rainfall Duration	Broadwater Creek AL			Amiens Knob AL		
	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
5 min	11	3:05 PM 03/01/2011	5	11	2:25 PM 03/01/2011	5
6 min	12	3:06 PM 03/01/2011	5	13	2:26 PM 03/01/2011	5-10
10 min	18	3:05 PM 03/01/2011	5-10	19	2:45 PM 03/01/2011	10
20 min	29	3:10 PM 03/01/2011	10-20	36	2:40 PM 03/01/2011	20-50
30 min	31	3:20 PM 03/01/2011	5-10	49	2:45 PM 03/01/2011	50-100
1hr	33	3:45 PM 03/01/2011	2-5	57	3:15 PM 03/01/2011	20-50
2hr	35	4:30 PM 03/01/2011	1-2	58	4:15 PM 03/01/2011	10-20
3hr	36	5:05 PM 03/01/2011	1-2	59	4:20 PM 03/01/2011	5-10
6hr	36	5:05 PM 03/01/2011	<1	60	4:20 PM 03/01/2011	2-5
12hr	50	12:50 PM 27/12/2010	<1	61	10:35 PM 03/01/2011	1-2
24hr	63	12:50 PM 27/12/2010	1	61	10:35 PM 03/01/2011	1
48hr	92	11:30 PM 11/01/2011	1-2	72	10:45 PM 11/01/2011	<1
72hr	104	4:40 PM 11/01/2011	1-2	98	1:10 PM 06/01/2011	1-2

Note: A flood frequency analysis would be required to assess the probability of flood levels reached at each location. The frequency analysis in this report is for rainfall only.

Flood event timeline

Table 2. Flood event timeline for Texas.

Time/Date	Event Description	Gauge height (metres)	Comment
11/01/2011	First warning issued	1.86	
07/01/2011	First time it exceeded minor flood level	6.00	Remained above minor flood levels for ~16.5 hours.
11:45 AM 07/01/2011	Minor flood peak	6.86	
08/01/2011	Fall below minor	6.00	
11/01/2011	First time it exceeded minor flood level	6.00	Remained above minor flood levels for ~3 days.
11/01/2011	First time it exceeded moderate flood level	7.00	Remained above moderate flood levels for ~2 days.
12/01/2011	First time it exceeded major flood level	8.00	Remained above major flood levels for ~1.5 days.
8:35 AM 12/01/2011	Major flood peak	9.21	Highest since 1956.
13/01/2011	Final fall below major	8.00	
13/01/2011	Final fall below moderate	7.00	
14/01/2011	Final fall below minor	6.00	
7:43 AM 21/01/2011	Final warning issued		

Flood Heights at Texas

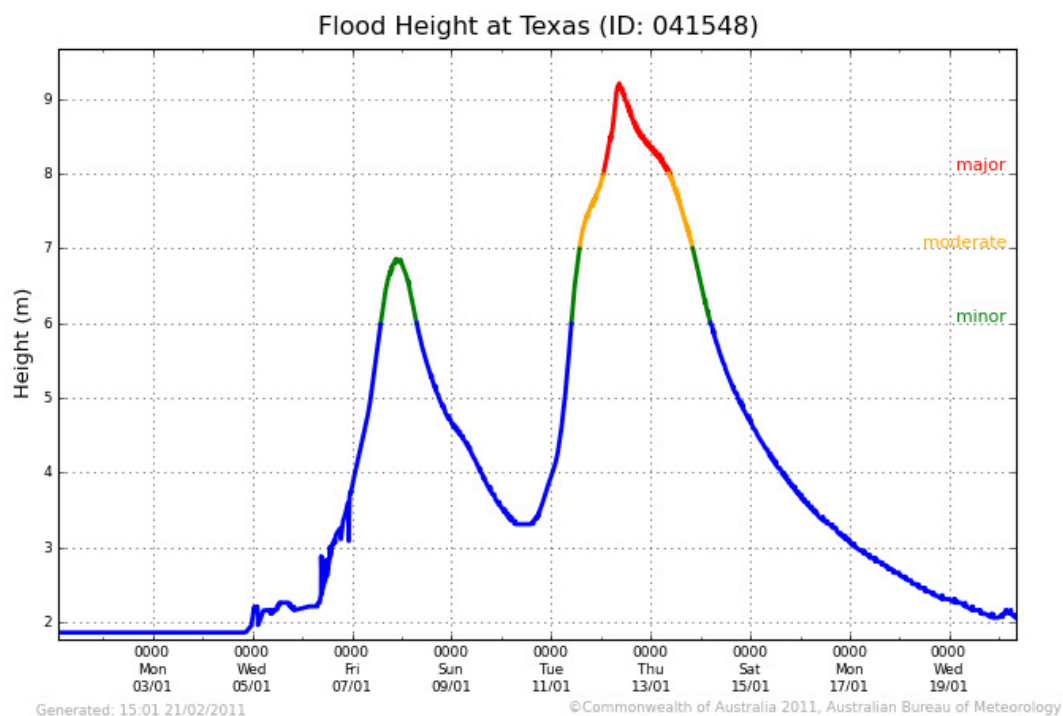


Figure 4. Flood Heights at the Texas automatic gauge for January 2011.

Comparison with previous floods

- River height records for Texas commenced in 1890 with 14 major flood peaks since that time, with 1893 and 1921 both recording two major flood peaks.
- The last major flood recorded at Texas was the record flood in February 1976 of 10.80 metres.

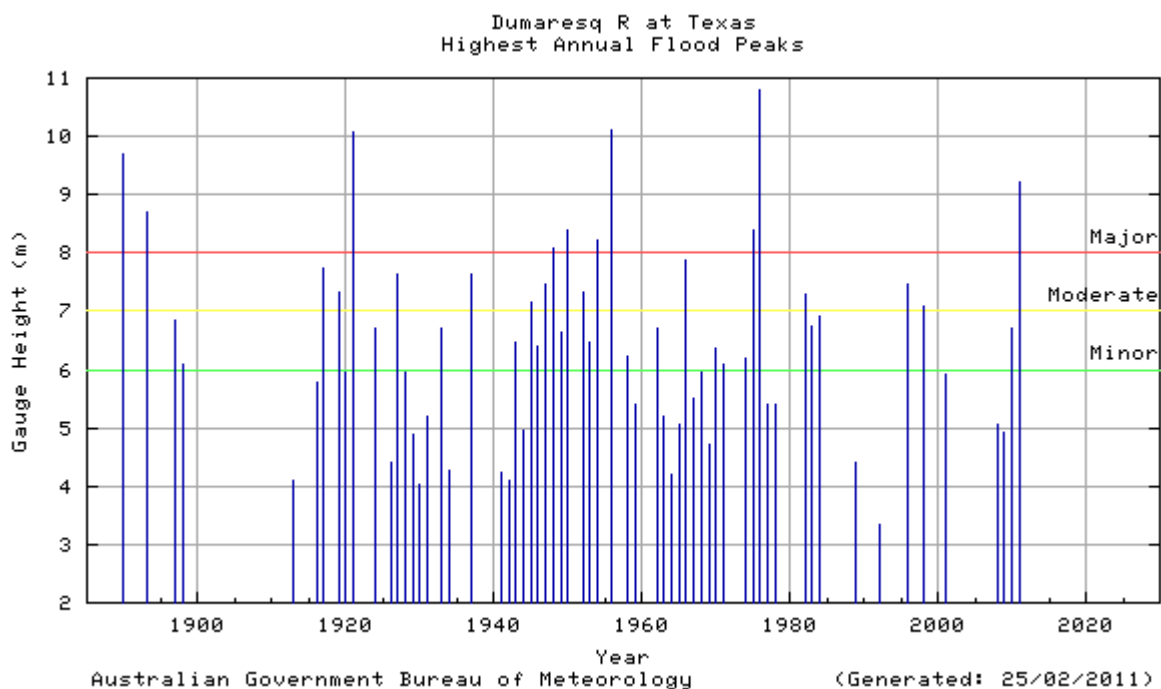


Figure 5. Highest annual flood peaks for the Dumaesq River at Texas.

Warning and Forecast Service

- The catchment received well above average rainfall and subsequently recorded multiple flood peaks throughout August, September and October with 6 periods of flood warnings issued for the Border Rivers during this period.
- Flood warnings for the Border Rivers were next issued between the 11/12/2010 and 15/12/2010 and begun again on the 27/12/2010 and continued until the 30/01/2011.
- A total of 59 warnings were issued for the Border Rivers during December 2010 and January 2011.

Table 3. Table of peak height predictions for Texas.

Time of Height Forecast	Forecast/Time	Peak
10/01/2011 First warning issued. Height at the time was 3.36m (below minor)		
5:14 AM on Tuesday the 11th of January 2011	Major flood levels are expected at Texas overnight	Rising limb forecast.
11:13 AM on Tuesday the 11th of January 2011	Flood levels at Texas to around 9 metres are expected tonight.	9.21 metres at 8:35 AM Tues 12/01/2011
5:48 PM on Tuesday the 11th of January 2011	Flood levels at Texas are expected to reach at least 10 metres during Wednesday.	
11:31 PM on Tuesday the 11th of January 2011	Peak around the major flood level of 8 metres expected at Texas during Wednesday.	
8:38 AM on Wednesday the 12th of January 2011	Rises are continuing downstream at Texas where river levels to around the 1976 flood level of 10.8 metres are expected during Wednesday.	
1:15 PM on Wednesday the 12th of January 2011	Rises are continuing downstream at Texas where river levels to around the 1976 flood level of 10.8 metres are expected during Wednesday.	

Note: This table does not include all forecasts issued during these flood events.
