

Flood summary for the Mary River at Maryborough

- The town of Maryborough is on the Mary River in the Mary catchment
- The flood heights at Maryborough are measured using a manual gauge owned by the Bureau of Meteorology (Bureau station number: 040443).
- 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

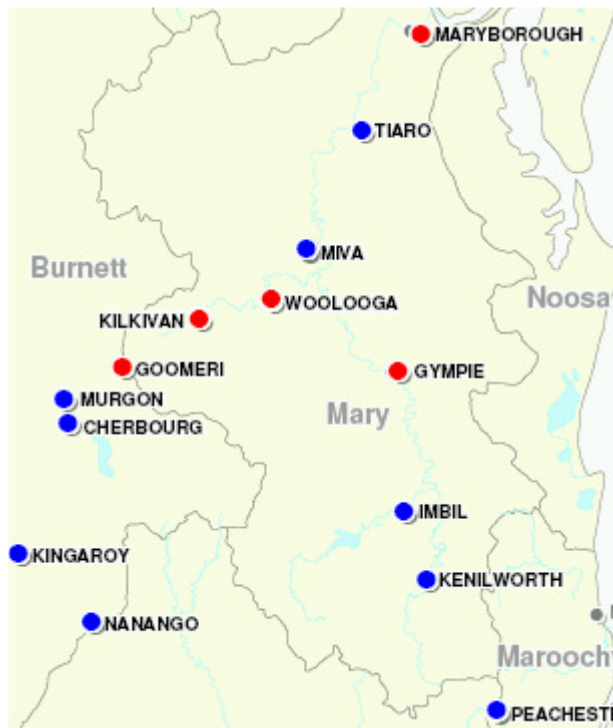


Figure 1. Map showing location of Maryborough.

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

Flood effects and severity

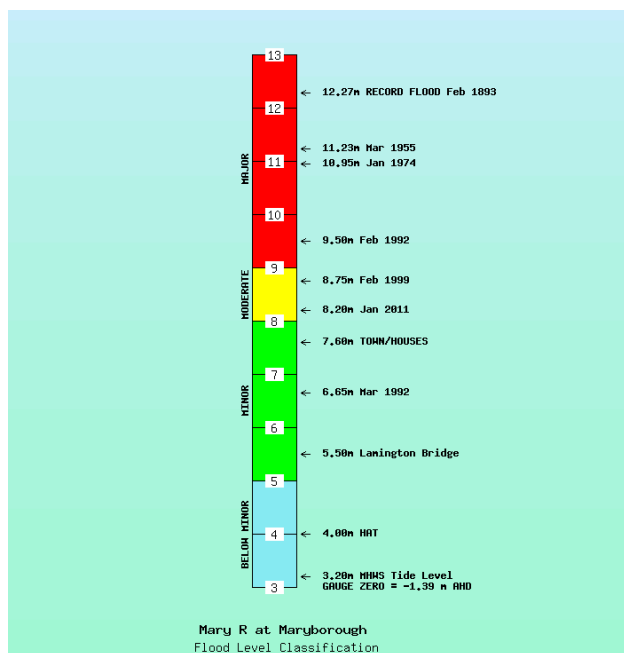


Figure 2. Flood level classifications and flood effects for Maryborough.

- **Peaked at 8.2 metres on 09/01/2011.**
- Minor: 5 metres
Moderate: 8 metres
Major: 9 metres.
- Gauge zero is -1.390 metres AHD.
- There was second peak of at 7.95 metres (minor) on 12/01/2011.
- Above moderate flood level (8 metres) from 09/01/2011 to 10/01/2011.
- Remained above minor flood level (5 metres) from 08/01/2011 to 14/01/2011.

Rainfall summary

- Over 600mm was recorded in most of the Mary River catchment during December 2010 and January 2011 with parts of the catchment receiving in excess of 1000mm.
- Very heavy rainfall of over 600mm in the Upper Mary between 9am on 06/01/2011 and 9am on 13/01/2011. Most of the Mary catchment received over 400mm between 9am on 06/01/2011 and 9am on 13/01/2011.

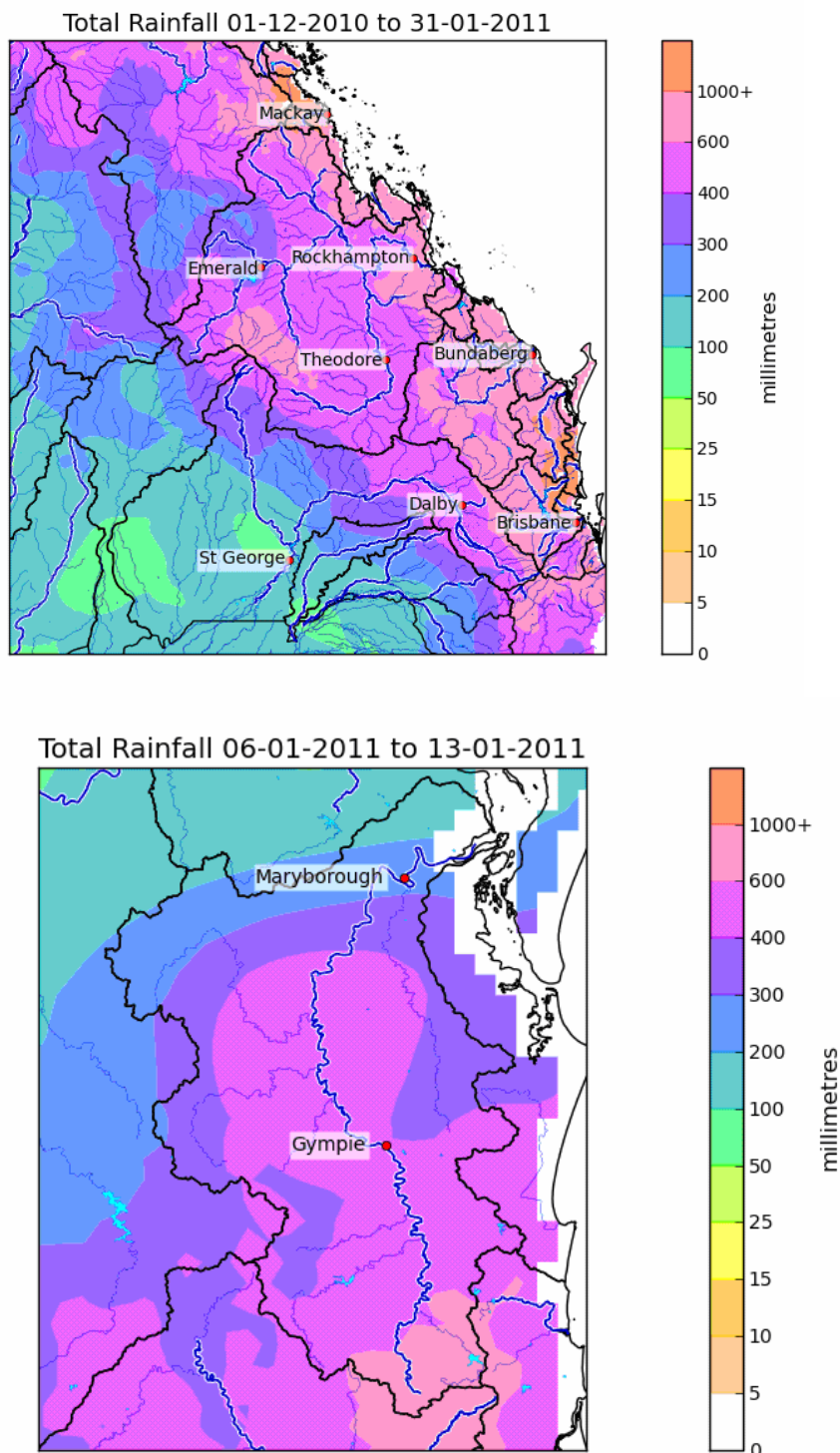


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for 9am on 06/01/2011 to 9am on 13/01/2011 (bottom).

Rainfall Intensity

- Maximum rainfall intensities for two selected stations at West Bellthorpe AL and Miva in the Mary River catchment are shown in Table 1.
- The most significant rainfall intensities for January 2011 at West Bellthorpe AL occurred in the 24, 48 and 72 hour durations ending at 4:20am on the 10/01/2011, 04:35am on the 11/01/2011 and 01:20am on the 12/01/2011 respectively. Smaller than a 1% Annual Exceedence Probability (greater than 100 year Average Recurrence Interval) was recorded.

Table 1. Recorded maximum rainfall intensities for West Bellthorpe AL and Miva in the Mary River catchment for December 2010 and January 2011.

Rainfall Duration	West Bellthorpe AL			Miva		
	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
12hr	245	9:05 PM 09/01/2011	50-100			
24hr	349	4:20 AM 10/01/2011	> 100	304	9:00 AM 08/01/2011	50-100
48hr	481	4:35 AM 11/01/2011	> 100	381	9:00 AM 09/01/2011	50-100
72hr	605	1:20 AM 12/01/2011	> 100	444	9:00 AM 09/01/2011	50-100

Flood event timeline

Table 2. Flood timeline for Maryborough

Time/Date	Event Description	Gauge Height (metres)	Comment
8:43 AM 7/01/2011	First warning issued		
8/01/2011	First time it exceeded minor flood level	5.0	Remained above minor flood level for ~7 days
9/01/2011	First time it exceeded moderate flood level	8.0	Total time above moderate flood was ~1 day
12:30 PM 9/01/2011	Moderate flood peak	8.2	
10/01/2011	Final fall below moderate	8.0	
9:00 PM 12/01/2011	Minor flood peak	7.95	
14/01/2011	Final fall below minor	5.0	
8:54 AM 15/01/2011	Final warning issued		

Flood Heights at Maryborough

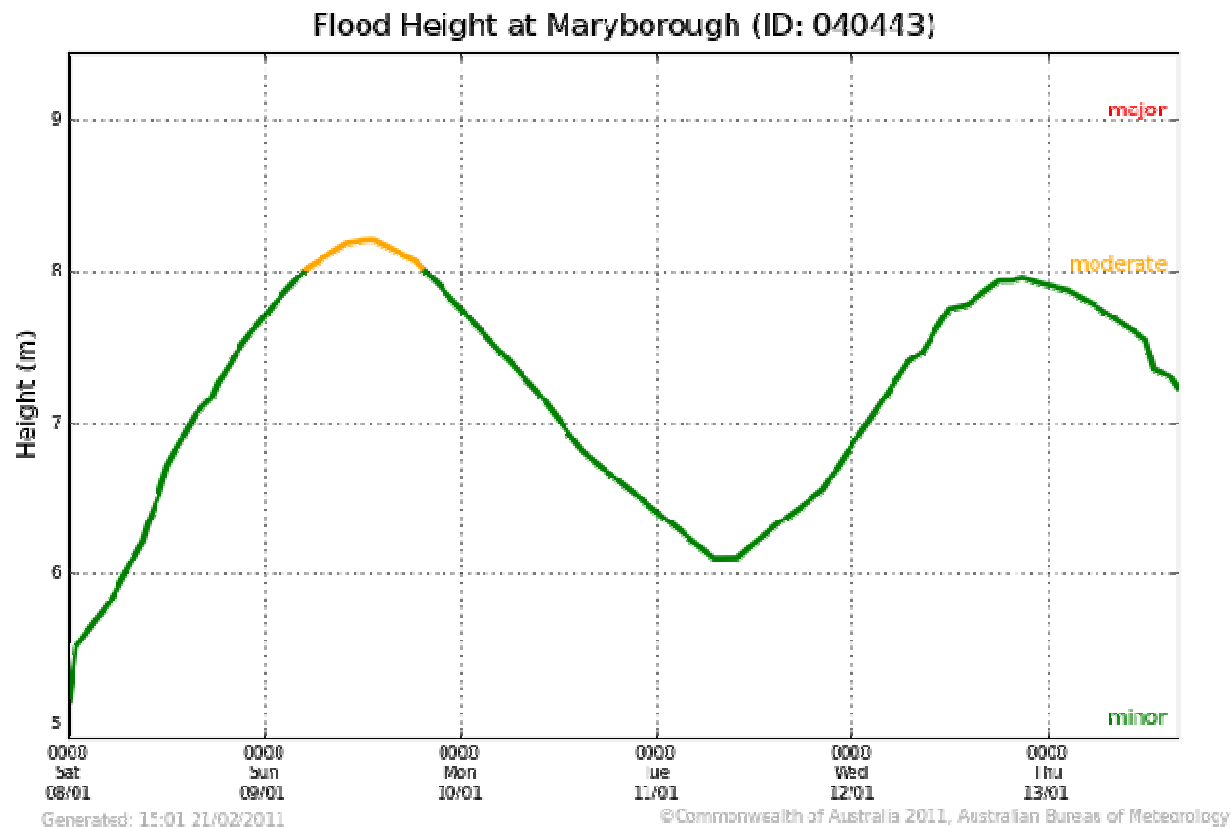


Figure 4. Flood heights at the Maryborough manual gauge.

Comparison with previous floods

- Start of record 1864 with 7 major and 4 moderate flood peaks in the record
- Last moderate flood was 8.75 metres February 1999.

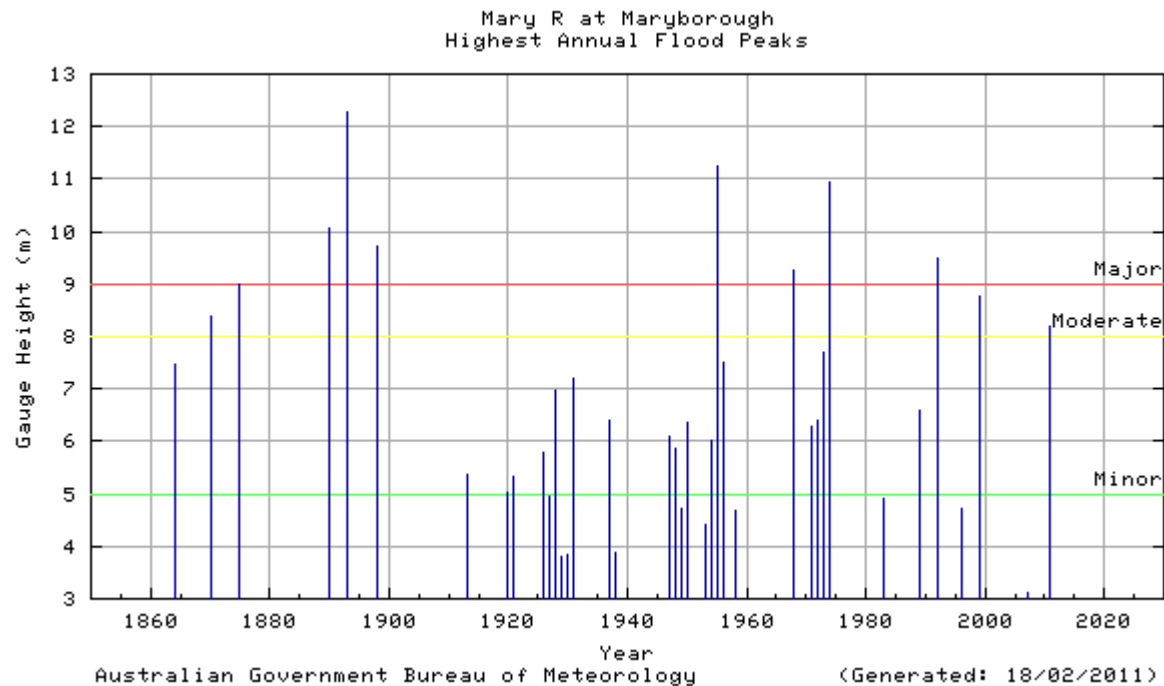


Figure 5. Highest annual flood peaks for the Mary River at Maryborough.

Warning and Forecast Service

- Significant runoff commenced during early December with flood warnings for the Mary River issued between 12/12/2010 and 14/12/2010 and again between 19/12/2010 and 22/12/2010.
- Further heavy rainfall occurred in early January with warnings commencing 06/01/2011 and continuing through to 15/01/2011.
- A total of 43 warnings were issued for the Mary River system including Maryborough during December 2010 and January 2011.

Table 3. Table of peak height predictions for Maryborough

Time of Height Forecast	Forecast	Peak
07/01/2011 First warning issued. Height at the time was below minor		
11:15 PM on Friday the 7th of January 2011	Exceed 5 metres (minor flood) overnight. Reach at least 6 metres during Saturday.	Rising limb forecasts – reach a level and expected to continue rising 6.05 metres at 7:30 AM Sat 8/01/2011 7.05 metres at 3:30 PM Sat 8/01/2011
2:09 AM on Saturday the 8th of January 2011	Reach at least 6 metres during Saturday morning with further rises above 7 metres possible.	
5:57 AM on Saturday the 8th of January 2011	Reach at least 7.5 metres during Saturday morning with further rises possible.	7.5 metres at 9:00 PM Sat 8/01/2011
10:05 AM on Saturday the 8th of January 2011	Continue rising during Saturday with a peak expected during Sunday of about 9 metres, possibly higher.	8.2 metres at 12:30 PM Sun 9/01/2011
12:21 PM on Saturday the 8th of January 2011	Continue rising during Saturday with a peak expected during Sunday of about 9 metres, possibly higher.	
6:36 PM on Saturday the 8th of January 2011	Continue rising overnight Saturday with a peak expected during Sunday of about 9 metres. Further heavy rainfall may result in higher levels.	
6:08 AM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.	
11:01 AM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.	
1:55 PM on Sunday the 9th of January 2011	A peak is expected during Sunday of around 8.4 metres. Further heavy rainfall may result in higher levels.	7.95 metres at 9:00 PM Wed 12/01/2011
5:50 PM on Sunday the 9th of January 2011	Fall slowly during Sunday night and Monday.	
6:33 AM on Tuesday the 11th of January 2011	River rises during Tuesday and a continuation of minor flooding.	
4:41 PM on Tuesday the 11th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.	
10:09 PM on Tuesday the 11th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.	
7:16 AM on Wednesday the 12th of January 2011	Peak near the moderate flood level (8 metres) around midday Wednesday.	
10:52 AM on Wednesday the 12th of January 2011	Peak near the moderate flood level (8 metres) early Wednesday afternoon.	
4:53 PM on Wednesday the 12th of January 2011	Peak near the moderate flood level (8 metres) early Wednesday afternoon.	

10:33 PM on Wednesday the 12th of January 2011	Peak near the moderate flood level (8 metres) Wednesday evening.	
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Note: This table does not include all forecasts issued during these flood events.