

## Flood summary for the Quart Pot Creek at Stanthorpe

- The town of Stanthorpe is located on Quart Pot Creek which is a tributary of the Severn River which is in the Macintyre River catchment.
- The flood heights at Stanthorpe are measured using two automatic gauges one owned by the Department of Environment and Resource Management and the second is owned by the Southern Downs Regional Council. (Bureau station number: DERM – 541073 and SDRC - 541087).
- 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](http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml)

## Location map

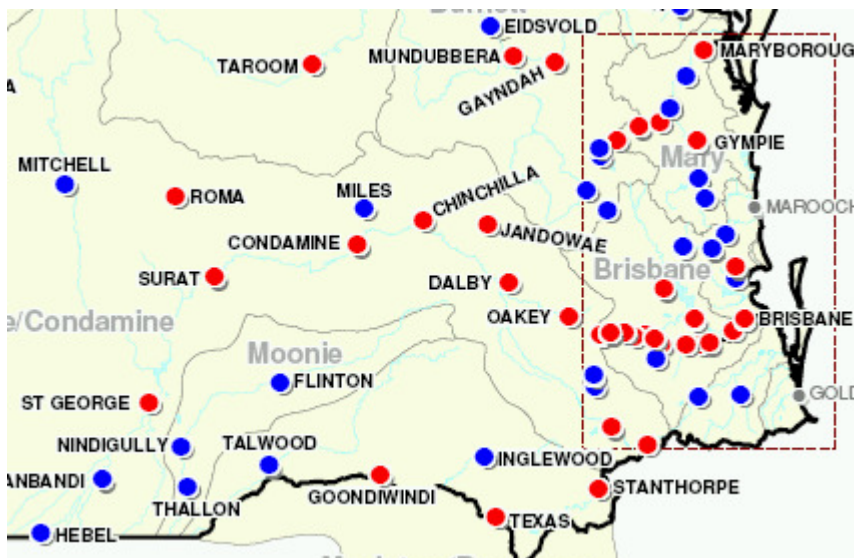
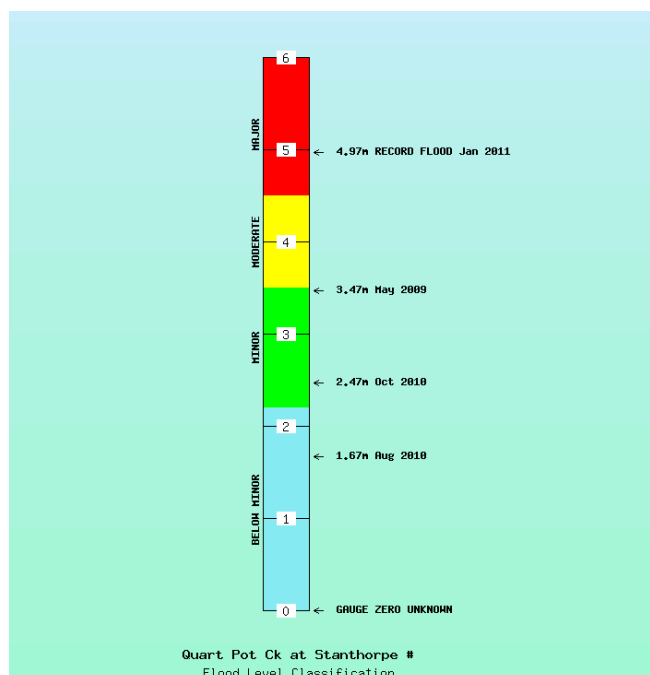


Figure 1. Map showing location of Stanthorpe.

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

## Flood effects and severity



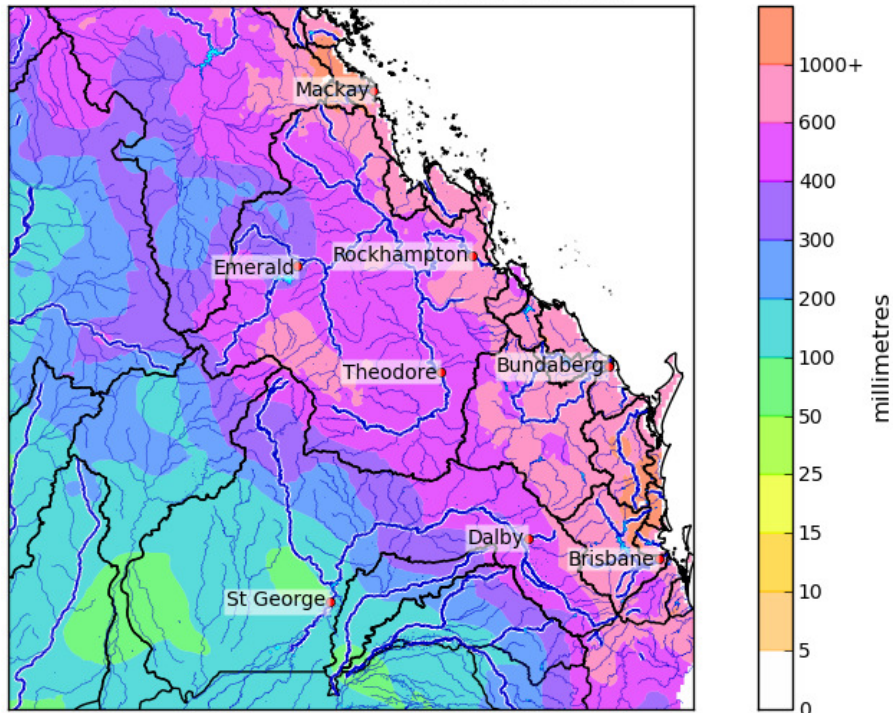
- **First peak at 4.87 metres on 10/01/2011.**
- **Second peak at 4.97 metres on 11/01/2011.**
- Minor: 2.2 metres.  
Moderate: 3.5 metres.  
Major: 4.5 metres.
- Gauge zero is 779.317m AHD.
- 12 houses inundated with the first peak and 50 people evacuated. (NineMSN)
- Stanthorpe was above major flood level (4.5 metres) twice both for a matter of hours on the 10/01/2011 and 11/01/2011.
- It remained above minor flood level (2.2 metres) from 09/01/2011 to 12/01/2011.

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

## 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 04-01-2011 to 13-01-2011

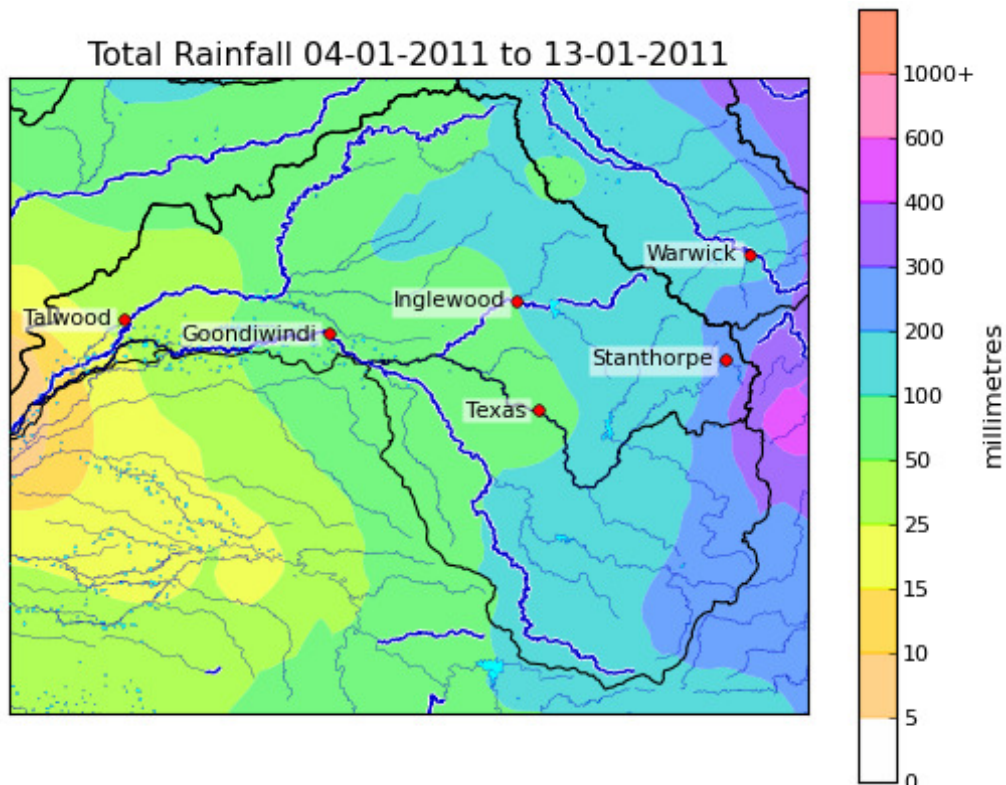


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and for the period 04/01/2010 to the 13/01/2010 (bottom).

## Rainfall Intensity

- Maximum rainfall intensities for Mountain Station Creek AL and Storm King Dam Headwater AL on the upper Severn River are shown in Table 1.
- The most significant rainfall intensities for Mountain Station Creek AL in January 2011 occurred in the 48 and 72 hours prior to 4:45pm and 8:30pm respectively on the 11/01/2011. Both durations produced a 50-100 year ARI, which is just less than the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).
- The most significant rainfall intensities for Storm King Dam Headwater AL in January 2011 occurred in the 24, 48 and 72 hours prior 9:25am, 11:50pm and 4:50pm respectively on the 11/01/2011. The 24, 48 and 72 hour durations produced 50-100 year ARI's, which is just less than the 1% Annual Exceedence Probability (100 year Average Recurrence Interval).

**Table 1. Recorded maximum rainfall intensities for Mountain Station Creek AL and Storm King Dam Headwater AL in the upper Dumaresq River catchment for January 2011.**

Rainfall Duration	Mountain Station Creek AL			Storm King Dam Headwater AL		
	Rainfall (mm)	Period ending	ARI (years)	Rainfall (mm)	Period ending	ARI (years)
1hr	33	11:20 AM 10/01/2011	2-5	42	11:20 AM 10/01/2011	5-10
2hr	46	11:25 AM 10/01/2011	2-5	53	11:25 AM 10/01/2011	5-10
3hr	50	11:25 AM 10/01/2011	2-5	59	11:30 AM 10/01/2011	5-10
6hr	74	10:35 AM 11/01/2011	10-20	76	10:25 AM 11/01/2011	10-20
12hr	88	4:15 PM 11/01/2011	5-10	91	4:20 PM 11/01/2011	10
24hr	151	9:25 AM 11/01/2011	50	164	9:25 AM 11/01/2011	50-100
48hr	196	4:45 PM 11/01/2011	50-100	211	11:50 PM 11/01/2011	50-100
72hr	217	8:30 PM 11/01/2011	50-100	233	4:50 PM 11/01/2011	50-100

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 Stanthorpe.**

Time/Date	Event Description	Gauge height (metres)	Comment
11/01/2011	First warning issued	1.86	
09/01/2011	First time it exceeded minor flood level	2.20	Remained above minor flood levels for ~1.5 days.
10/01/2011	First time it exceeded moderate flood level	3.50	Remained above moderate flood levels for ~6 hours.
10/01/2011	First time it exceeded major flood level	4.50	Remained above major flood levels for ~2 hours.
2:40 PM 10/01/2011	Major flood peak	4.87	2nd highest flood on record.
10/01/2011	Fall below major	4.50	
10/01/2011	Fall below moderate	3.50	
11/01/2011	Exceed moderate flood level	3.50	Remained above moderate flood levels for ~10 hours.
11/01/2011	Exceed major flood level	4.50	Remained above major flood levels for ~4.5 hours.
11:00 AM 11/01/2011	Major flood peak	4.97	Largest flood on record.
11/01/2011	Final fall below major	4.50	
11/01/2011	Final fall below moderate	3.50	
12/01/2011	Final fall below minor	2.20	
7:43 AM 21/01/2011	Final warning issued		

## Flood Heights at Stanthorpe

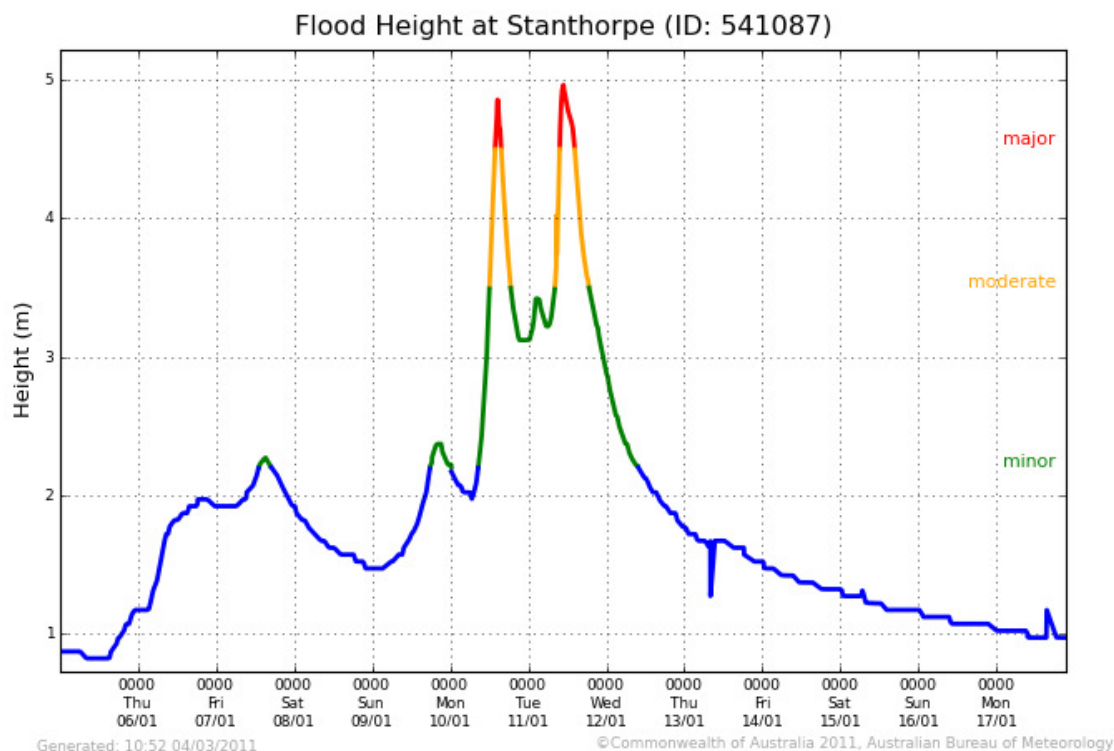


Figure 4. Flood Heights at the Stanthorpe gauge for January 2011.

## Comparison with previous floods

- River height records for Stanthorpe commenced in 2005 with 2 major flood peaks occurring in that time both in January of 2011.

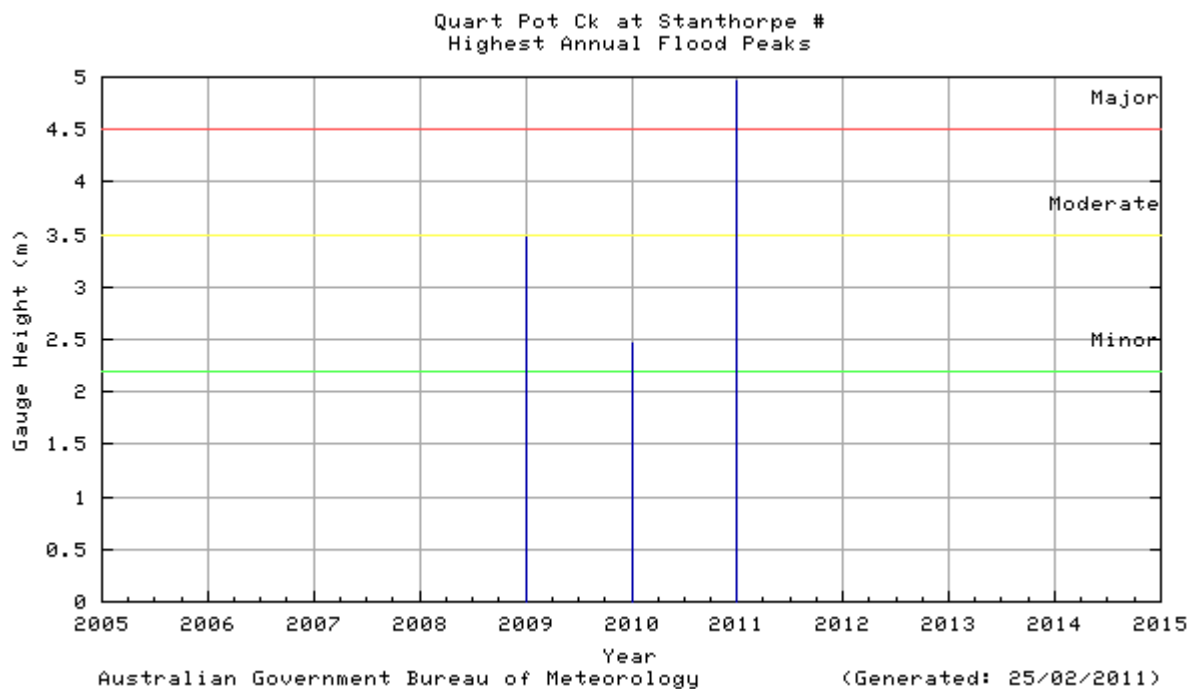


Figure 5. Highest annual flood peaks for Quart Pot Creek at Stanthorpe.

## **Warning and Forecast Service**

- The Bureau does not provide a forecasting service for Quart Pot Creek at Stanthorpe
- Stanthorpe was mentioned in the Flood Warnings for the Macintyre and Weir Rivers but no forecasts were provided.