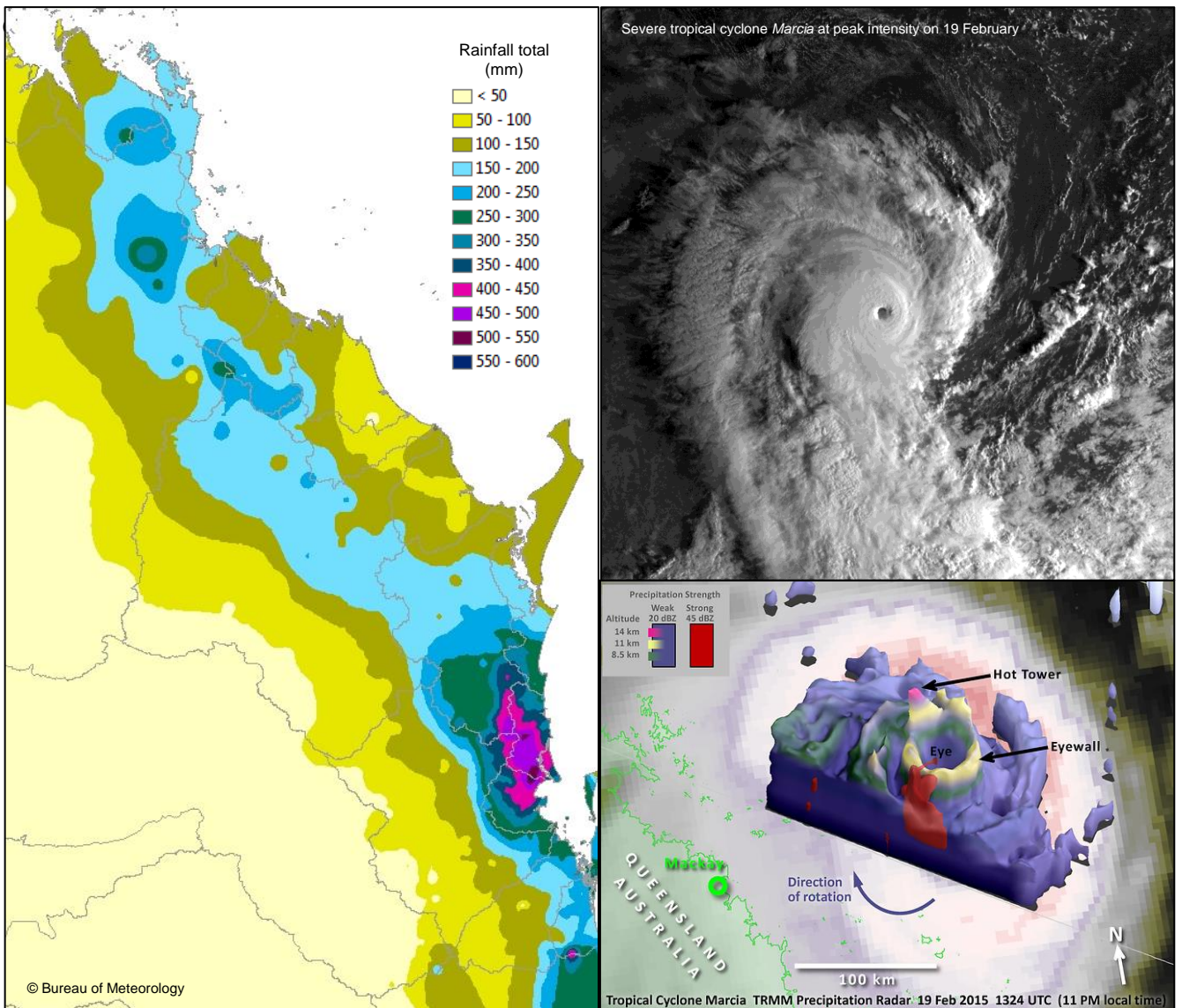




# Tropical cyclone *Marcia* flood report

April 2015



Note:

1. Data in this report have been operationally quality-controlled and errors may exist.
2. This product includes data made available to the Bureau by other agencies. Separate approval may be required to use the data for other purposes. See Appendix 4 for Department of Natural Resources and Mines Usage Agreement.
3. This report is not a complete set of all data that are available; it is a representation of some of the key information.

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1. Rainfall totals associated with TC *Marcia*. Bureau of Meteorology, 2015.
2. Severe tropical cyclone *Marcia* at peak intensity on 19 February (Source: Wikimedia, [http://en.wikipedia.org/wiki/Cyclone\\_Marcia](http://en.wikipedia.org/wiki/Cyclone_Marcia))
3. Tropical cyclone *Marcia*: Merged precipitation data from NASA-JAXA's Tropical Rainfall Measuring Mission (TRMM) and other satellites. (Source: [www.nasa.gov/sites/default/files/styles/673xvariable\\_height/public/thumbnails/image/marciatrm.png](http://www.nasa.gov/sites/default/files/styles/673xvariable_height/public/thumbnails/image/marciatrm.png))

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# 1 Introduction

The flooding caused by tropical cyclone *Marcia* was short but significant for catchments extending from the Dawson, Don and Dee Rivers in the Fitzroy River Catchment to the Upper Brisbane River.

The majority of the rain was recorded between 9 am Thursday 19 February and midday Saturday 20 February 2015.

Over southeast Queensland there were two periods of heavy rainfall. The first was associated with humid air feeding into a trough extending from tropical cyclone *Marcia*, and the second associated with the passage of *Marcia* as it tracked south over land.

Further north, the most intense rainfall was recorded over the Don and Dee Rivers and Callide Creek in the Fitzroy River catchment as tropical cyclone *Marcia* moved through the area, with falls of up to 300 mm recorded in a 6–8 hour period on the afternoon and evening of 20 February 2015.

Flooding above the major flood level occurred in the following basins:

- Don and Dee Rivers and Callide Creek in the Fitzroy River catchment
- Burnett River and Three Moon Creek in the Burnett River catchment
- Mary River, Six Mile Creek and Tinana Creek in the Mary River catchment

## 2 Meteorological summary

A tropical low was first identified over the Coral Sea, to the northwest of Cairns on the morning of 15 February, 2015 (see Figure 2.1.1 below). The low drifted eastward for the next two days with little change in intensity.

On 18 February the system turned to the south, then southwest and intensified to become tropical cyclone *Marcia*, a category 1 cyclone, on the evening of 18 February.

*Marcia* continued to move steadily southwest overnight and through Thursday, 19 February as it underwent extremely rapid intensification, strengthening from a category 1 to category 4 cyclone in approximately 10–12 hours. At this time, a strong trough extended from *Marcia* to southeast Queensland and produced heavy rainfall from the Sunshine Coast to the Queensland – New South Wales border. Rainfall in the 24-hour period to 9 am 20 February was heaviest on the Sunshine Coast, with 150–200 mm recorded in the Sunshine Coast and Mary River catchment areas.

On the evening of 19 February, tropical cyclone *Marcia* changed direction, turning sharply to the south and intensifying further to become a category 5 cyclone during the early morning of 20 February. *Marcia* maintained category 5 intensity as it tracked towards the coast, passing to the near east of Middle Percy Island where wind gusts to 208 km/h were recorded, before making landfall at 8 am 20 February at Shoalwater Bay, north of Yeppoon.

Over land, *Marcia* continued to track south and steadily weaken, to be analysed near Rockhampton at 1 pm 20 February and near Biloela by 8 pm as a category 1 system.

*Marcia* was downgraded to a tropical low at 2 am Saturday 21 February, located to the south of Monto. The low tracked further southeast during 21 February and crossed the Sunshine Coast back out to sea at 3 pm 21 February.

Heavy rainfall associated with tropical cyclone *Marcia* affected catchments extending from the far eastern parts of Fitzroy River catchment south to the Queensland – New South Wales border. The heaviest rainfall was recorded over the Don and Dee Rivers and Callide Creek in the Fitzroy River catchment area, where up to 300 mm of rainfall was recorded in 6–8 hours during the afternoon and evening of 20 February as tropical cyclone *Marcia* tracked through the region. The heavy rain extended into the Upper Burnett River catchment area during the evening of 20 February. Figure 2.1.2 shows radar imagery as *Marcia* crossed the coast at Shoalwater Bay and then moved south to produce heavy rainfall over parts of the Fitzroy and Burnett River catchments.

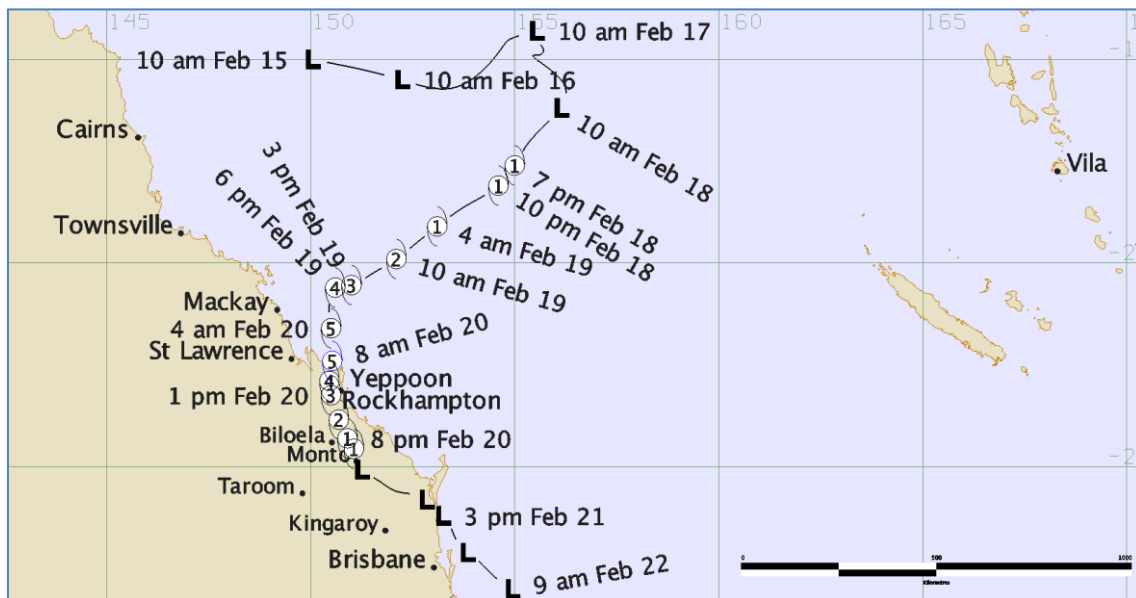
Areas of Queensland from the Sunshine Coast south to the New South Wales border were affected by two periods of heavy rainfall: the first associated with the strong trough to the south of *Marcia* and the second associated with the low pressure system that was tropical cyclone *Marcia*. Total rainfall amounts for the three-day period from 9 am Thursday 19 February to 9 am Sunday 22 February were heaviest around the Sunshine Coast and in the Pine and Caboolture River catchment areas, where rainfall totals above 520 mm were recorded. Radar imagery for each period of rainfall is shown in Figure 2.1.3.

Ex-tropical cyclone *Marcia* continued to track southeast and away from the coast during Sunday 22 February, clearing rainfall from the region.



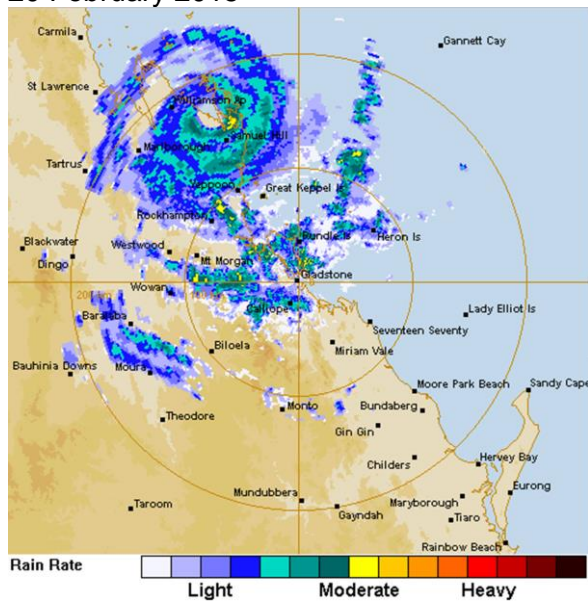
## 2.1 Figures

Figure 2.1.1 Track of *Marcia* as a tropical low (L) and tropical cyclone 15–22 February 2015

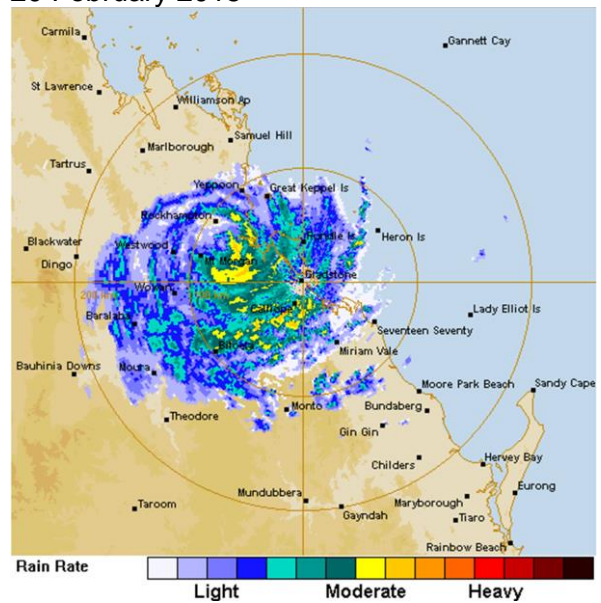


**Figure 2.1.2 Radar imagery of tropical cyclone *Marcia* a) crossing the Queensland coast at Shoalwater Bay, and producing heavy rainfall over b) the Don and Dee Rivers in the Fitzroy River catchment and c) the Upper Burnett River catchment of Queensland.**

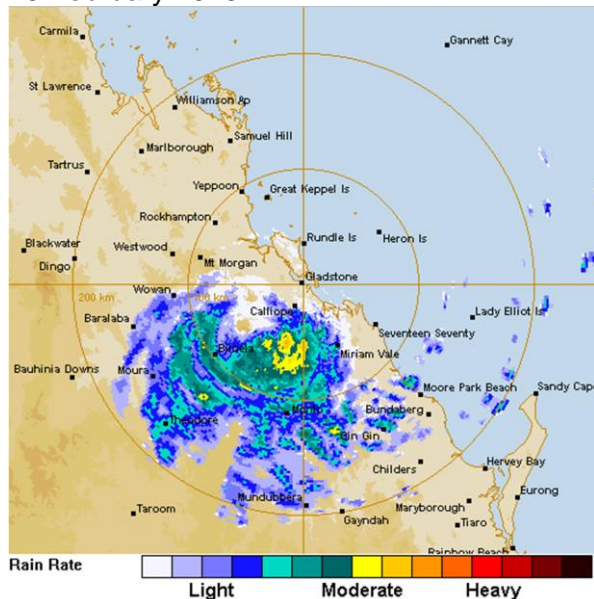
a) Gladstone 256 km radar 9.00 am EST on 20 February 2015



b) Gladstone 256 km radar 1.00 pm EST on 20 February 2015

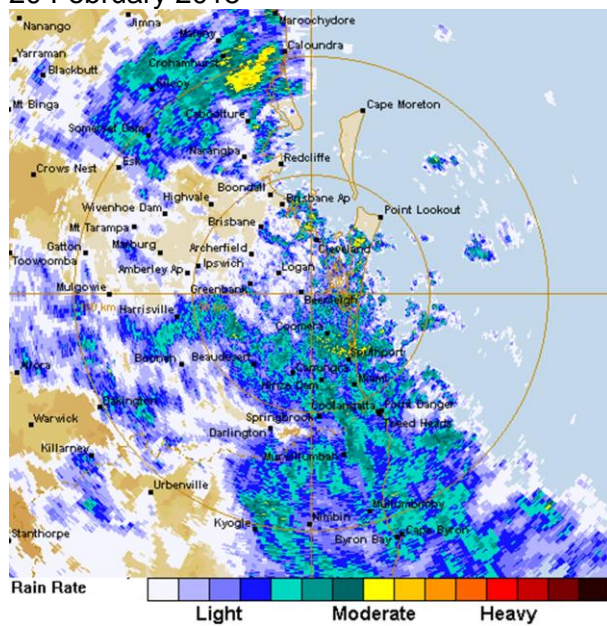


c) Gladstone 256 km radar 7.00 pm EST on 20 February 2015

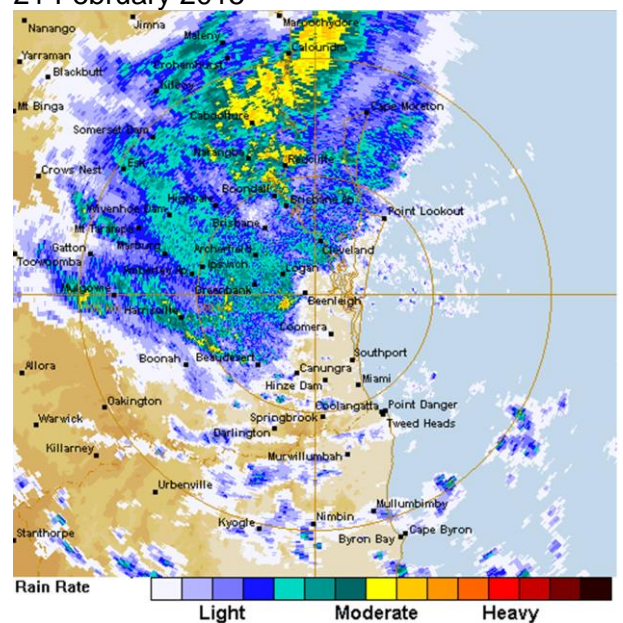


**Figure 2.1.3 Radar imagery of heavy rainfall associated with a) strong trough to the south of *Marcia* and b) tropical cyclone *Marcia* on the southeast coast of Queensland.**

a) Mt Stapylton 128 km radar 6.00 am EST on 20 February 2015



b) Mt Stapylton 128 km radar 8.50 am EST on 21 February 2015



## 3 Hydrology

River level rises and minor to major flooding were recorded across a number of catchments extending from the Fitzroy River south to the Upper Brisbane River, as well as along the Sunshine Coast to the New South Wales border, affecting rivers in the Pine and Caboolture and parts of the southeast Coast and Logan and Albert catchments.

Below is an overview of the rainfall and flooding in these catchments, with more detailed analysis in the following sections. Data for rainfall stations reporting above 50 mm, and hydrographs for key forecast locations are found in the appendices.

Data presented here are taken from stations forming the Queensland Flood Warning Network only.

### 3.1 Catchment overview

#### **Fitzroy**

Heavy rainfall was recorded during the 19–20 February over the Don, Dee and Dawson Rivers and Callide Creek in the far eastern parts of the Fitzroy River catchment. The heaviest falls occurred on the afternoon and evening of 20 February as tropical cyclone *Marcia* tracked through the region. The highest rainfall totals recorded between 9 am 19 February and 9 am 21 February were above 300 mm.

Very heavy rainfall caused fast river level rises in a number of creeks upstream of the town of Jambin including Callide Creek, Grevillia Creek and Kroombit Creek. The rapid rises led to emergency messages being sent to people in Jambin. Major flood levels were recorded at Goovigen TM, where river levels peaked at the second-highest level in 42 years of record (only exceeded by the January 2013 flood peak associated with ex-tropical cyclone Oswald). The second-highest flood peak on record was also recorded on the Don River at Kingsborough (38 years of record), with the highest flood peak on record occurring at Wura TM on the Dee River (43 years of record).

Minor to moderate flood levels were also recorded on the Lower Dawson River.

Flood warnings for the Fitzroy River catchment commenced on 20 February and were finalised on 23 February.

#### **Baffle**

Moderate to heavy rainfall was recorded over the catchment area in the 24 hours to 9 am 20 February 2015, ahead of the coastal crossing, with only light to moderate rainfall recorded as tropical cyclone *Marcia* passed to the west of the catchment.

This caused rises in Baffle Creek to the minor flood level at Essendean Bridge. The creek remained at minor flood level for 8 hours before easing early on the morning of 23 February 2015.

Flood warnings for Baffle Creek commenced on 21 February and were finalised on 23 February.

#### **Kolan**

Heavy rainfall was recorded over the western parts of the catchment in the 24 hours to 9 am 21 February 2015 following the passage of tropical cyclone *Marcia*. Rainfall totals of up to 180 mm were recorded, causing rises in the Kolan River and minor flood levels at Bucca Weir.

Flood warnings for the Kolan River commenced around midday on the 21 February 2015 and were finalised at 9 pm with only two warnings issued.

### **Burnett**

Heavy rainfall was recorded over the Upper Burnett River on the evening of 20 February as tropical cyclone *Marcia* moved south across the region. Up to 200 mm of rainfall was recorded across the region in the 24 hours to 9 am 21 February with the majority of the rain falling in a six-hour period between 3 and 9 pm 20 February.

Major flood levels were recorded at Eidsvold Bridge with the recorded peak level the fifth highest in 60 years of record, but more than 10 m below the record levels of January 2013 (associated with ex-tropical cyclone *Oswald*).

Flood warnings for the Upper Burnett River commenced on 20 February, with flood waters extending downstream into the Lower Burnett River, and were finalised on 25 February 2015.

### **Mary**

The Mary River catchment received two periods of heavy rainfall. The deep surface trough extending from tropical cyclone *Marcia* produced falls of up to 200 mm over the upper reaches and eastern tributaries of the catchment in the 24 hours to 9 am 20 February.

A second period of heavy rainfall occurred as *Marcia* tracked south, with falls of 150–200 mm recorded over the catchment in the 24 hours to 9 am 21 February 2015.

River level rises and major flood levels occurred at Dagon Pocket and Tiaro, with moderate flood levels recorded at Gympie and Miva.

Flood warnings for the Mary River commenced on 20 February and were finalised on 25 February 2015.

### **Sunshine Coast**

Similar to the Mary River catchment, the Sunshine Coast catchment area also experienced two periods of heavy rainfall. Falls of up to 200 mm were recorded in the 24 hours to 9 am 20 February, with a further 150–200 mm recorded in the 24 hours to 9 am 21 February as *Marcia* tracked south and crossed the coast back out to sea.

Minor to moderate flood levels were recorded throughout the catchment.

Flood warnings for Sunshine Coast creeks and rivers commenced on 20 February and were finalised on 22 February 2015.

### **Pine and Caboolture**

The highest rainfall total for the three-day period 9 am 19 February – 9am 22 February was recorded in the Pine and Caboolture catchment, with 543 mm at Caboolture (Bribie Island Road) Alert. This location also recorded the highest daily total—272 mm in the 24 hours to 9 am 21 February.

Significant river level rises were recorded in the Caboolture, Burpengary and Pine Rivers.

### **Upper Brisbane**

The Upper Brisbane River catchment area also received two periods of heavy rainfall. The deep trough system produced falls of 120–190 mm over the upper reaches of the Stanley River in the 24

hours to 9 am 20 February. A further 150–220 mm was recorded in the upper parts of the catchment area in the 24 hours to 9 am 21 February as tropical cyclone *Marcia* tracked to the south.

Woodford on the Stanley River recorded two moderate flood peaks. The first peak occurred in the early hours of 20 February with the second and higher peak occurring during the evening of 21 February 2015.

Flood warnings for the Upper Brisbane River commenced on 20 February and were finalised on 23 February 2015.

## 3.2 Peak river heights

Minor and major flooding was recorded across the southeast of the state during the period 19–24 February. Table 3.1.1 provides a summary of the flooding at key forecast locations by catchment. No new record flood levels were observed but major flooding was significant in the upper Burnett River. Major flooding was also recorded in the middle reaches of the Mary River, mainly about the township of Gympie though the level at Gympie itself peaked just below the major flood level.

**Table 3.2.1 Significant peak heights observed during 20–24 February 2015 and historical comparisons.**

Catchment	Forecast location	Date and Height of Peak (m)	Flood class	Record starts	Rank/Number of records	Highest on record	
						Ht (m)	Date
BRISBANE	AMBERLEY AL-P	2.50 08:52 22 Feb.	< Minor	1995	>10 <sup>th</sup> /37	8.12	12 Jan. 2011
BRISBANE	BRISBANE CITY AL*	1.70 11:29 21 Feb.	Minor	1996	>10 <sup>th</sup> /54*	8.43	14 Jan. 1841
BRISBANE	FIVE MILE BR AL	1.12 17:32 21 Feb.	< Minor	1995	>10 <sup>th</sup> /35	8.9	11 Jan. 2011
BRISBANE	GREGOR CK AL-B	3.06 20:07 21 Feb.	< Minor	1996	6 <sup>th</sup> /6	14.63	9 Feb. 1999
BRISBANE	MOGGILL AL	2.17 13:36 21 Feb.	< Minor	1893	>10 <sup>th</sup> /37	24.5	5 Feb. 1893
BURNETT	EIDSVOLD BRIDGE	12.25 06:25 22 Feb.	Major	1955	5 <sup>th</sup> /54	22.21	27 Jan. 2013
BURNETT	MUNDUBBERA	10.15 14:10 22 Feb.	Minor	1942	>10 <sup>th</sup> /91	23.62	11 Feb. 1942
BURNETT	STONELANDS TM	5.87 03:00 24 Feb.	< Minor	1967	>10 <sup>th</sup> /56	11.62	29 Jan. 1974
BURRUM	PACIFIC HAVEN AL	1.94 10:47 20 Feb.	< Minor	1992	>10 <sup>th</sup> /16	6.16	1992
FITZROY	YATTON TM	2.01 18:00 27 Feb.	< Minor	1988	>10 <sup>th</sup> /125	19.62	2 Mar. 1988
KOLAN	BUCCA WEIR HW TM	17.69 15:45 21 Feb.	Minor	1988	8 <sup>th</sup> /21	23.84	27 Jan. 2013
LOGAN-ALBERT	BEAUDESERT AL	2.41 17:24 21 Feb.	< Minor	2008	4 <sup>th</sup> /4	13.2	5 Jan. 2008
LOGAN-ALBERT	MACLEAN BRIDGE	6.60 06:00 22 Feb.	< Minor	1887	>10 <sup>th</sup> /98	22.3	25 Jan. 1887
LOGAN-ALBERT	WOLFFDENE AL	3.44 14:55 21 Feb.	< Minor	1970	>10 <sup>th</sup> /54	13.7	26 Jan. 1974
MAROOCHY	DUNETHIN ROCK AL	2.45 11:26 21 Feb.	Minor	1983	8 <sup>th</sup> /21	4.4	22 Feb. 1992
MAROOCHY	PICNIC POINT AL	1.31 09:46 21 Feb.	< Minor	1893	7 <sup>th</sup> /15	3.51	1893
MARY	DAGUN POCKET AL	15.0 00:50 22 Feb.	Major	1958	>10 <sup>th</sup> /108	18.43	9 Feb. 1999

Catchment	Forecast location	Date and Height of Peak (m)	Flood class	Record starts	Rank/Number of records	Highest on record	
						Ht (m)	Date
MARY	GYMPIE	16.59 07:04 22 Feb.	Moderate	1870	>10 <sup>th</sup> /211	25.45	4 Feb. 1893
MARY	MARYBOROUGH	4.30 06:00 24 Feb.	< Minor	1864	>10 <sup>th</sup> /55	12.27	5 Feb. 1893
MARY	MOY POCKET TM	14.04 15:30 21 Feb	Major	1964	>10 <sup>th</sup> /94	16.8	9 Feb. 1999
MARY	TIARO	12.3 12:00 23 Feb.	Major	1890	>10 <sup>th</sup> /168	21.95	5 Feb. 1893
SOUTH COAST	CLEARVIEW AL	2.20 16:37 20 Feb.	< Minor	1996	5 <sup>th</sup> /6	5.59	6 May 1996

\* Brisbane TM and Brisbane AL composite.

Maps showing the observed peak river heights during 19–24 February are presented in Figures 3.2.1–3.2.3.

Figure 3.2.2 Peak flood heights observed 19–24 February resulting from rainfall produced by tropical cyclone *Marcia* in Baffle Creek and Kolan, Burnett and Mary River catchments.

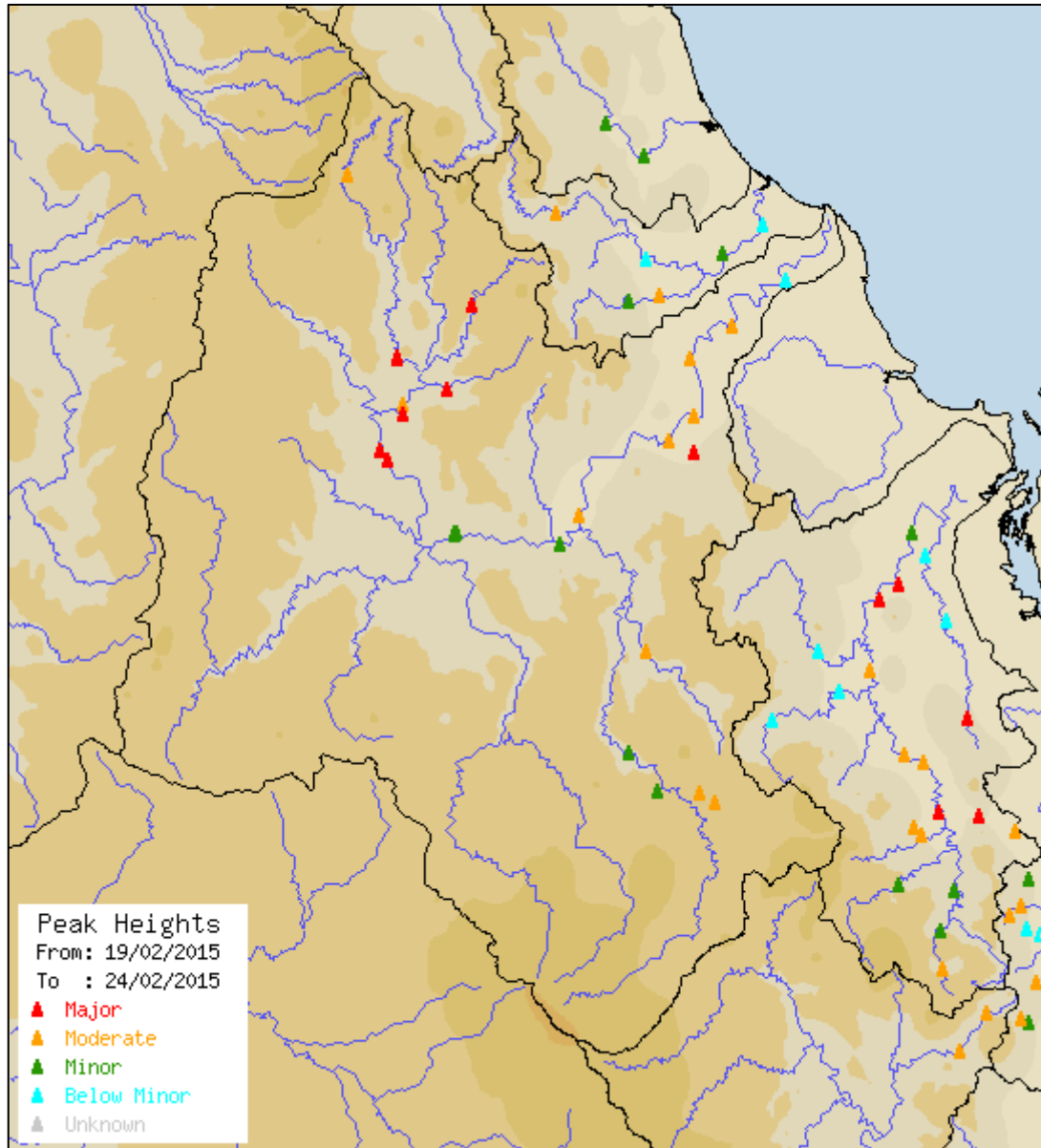
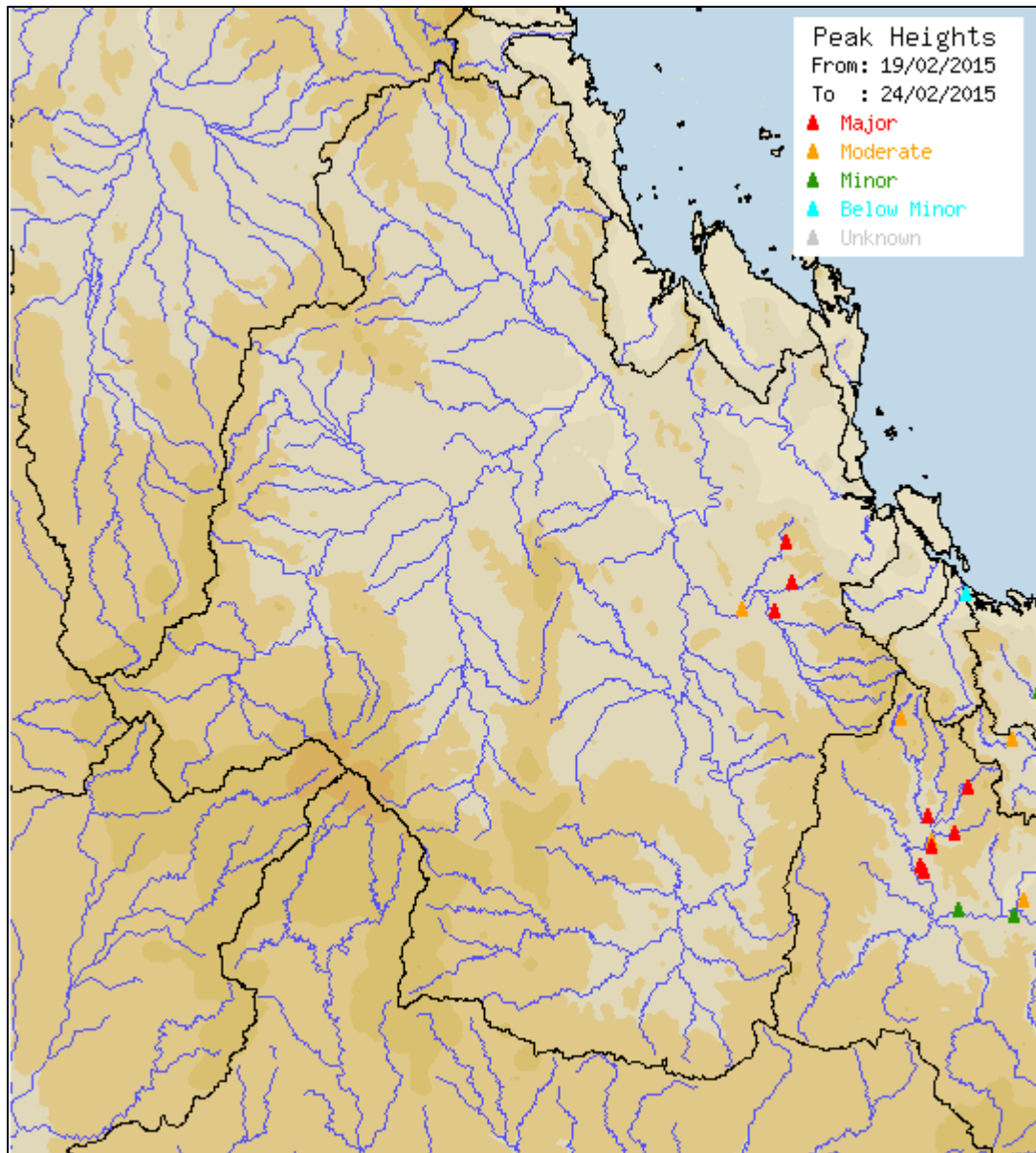


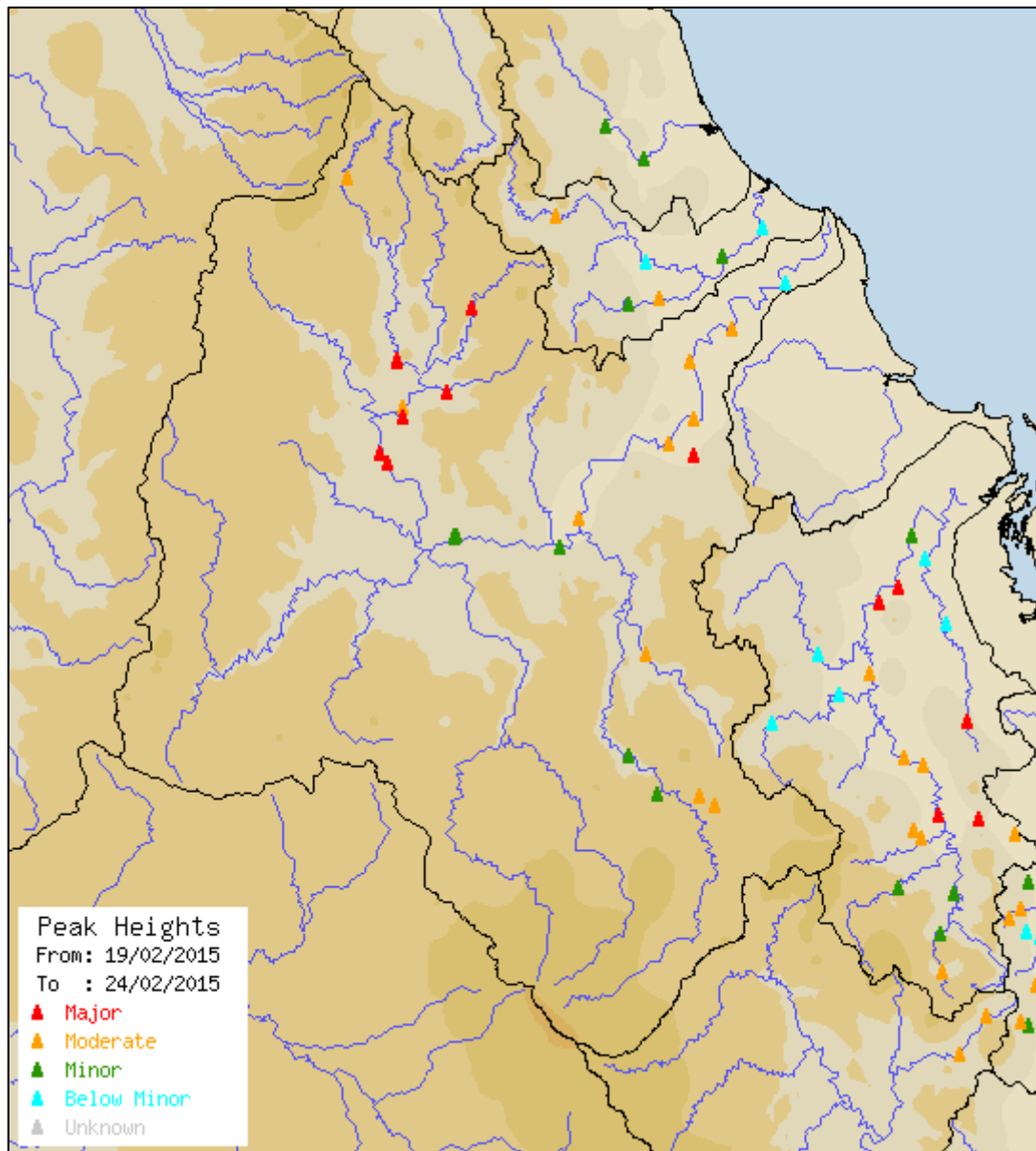




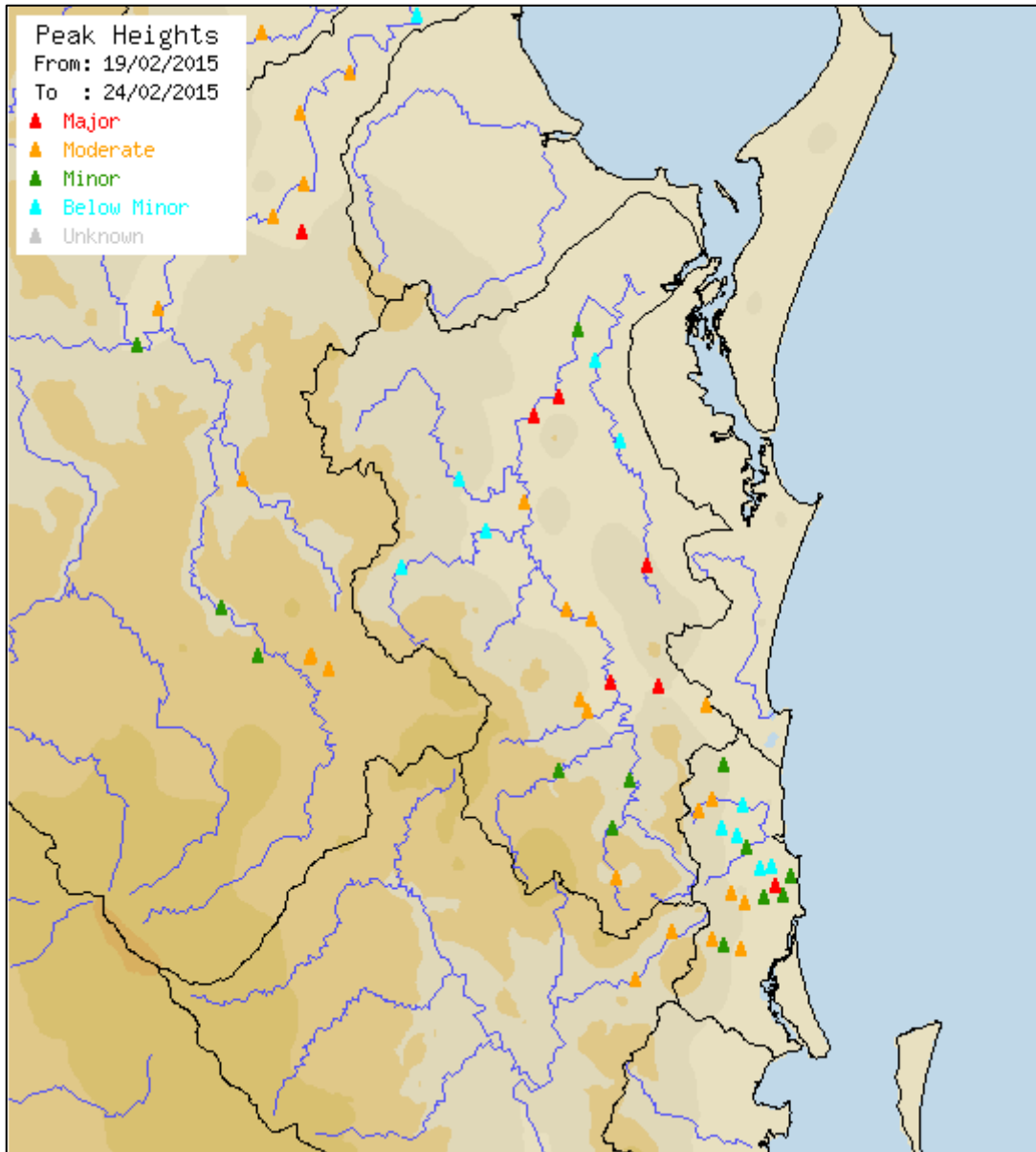
Figure 3.2.1 Peak flood heights observed 19–24 February resulting from rainfall produced by tropical cyclone *Marcia* in the Dawson, Don and Dee Rivers and Callide Creek.



**Figure 3.2.2 Peak flood heights observed 19–24 February resulting from rainfall produced by tropical cyclone *Marcia* in Baffle Creek and Kolan, Burnett and Mary River catchments.**



**Figure 3.2.3 Peak flood heights observed 19–24 February resulting from rainfall produced by tropical cyclone *Marcia* in the Mary River, Sunshine Coast and Upper Brisbane River catchments.**



### 3.3 Rainfall maps

The highest rainfall total recorded from 9 am 18 February to 9 am 22 February was 543 mm at Caboolture (Bribie Island Road) Alert in the Pine River catchment. This fell in the three days between 9 am 19 February and 9 am 22 February.

Figure 3.3.1 shows the seven-day rainfall total for the period ending 24 February, much of which occurred during the four-day period from 9 am 18 February to 9 am 22 February. The heaviest rainfall was recorded during the 24-hour period ending 9 am 21 February, mostly about the southeast of the State. Figure 3.3.2 clearly shows the line of heaviest rainfall coincident with the track of the tropical cyclone *Marcia*.

Figures 3.3.3 to 3.3.5 provide more detail on the spatial distribution of the four-day rainfall totals for 18–22 February. Rainfall data for these figures are from ALERT stations only and do not include rainfall recorded at manual or telemetry sites.

Refer to [www.bom.gov.au/qld/flood/brochures/river\\_maps.shtml](http://www.bom.gov.au/qld/flood/brochures/river_maps.shtml) for the station names of the rainfall locations. For a list of significant daily rainfalls, please refer to [Appendix 2: Rainfall tables](#).

**Figure 3.3.1 Total rainfall recorded over Queensland for the week ending 24 February 2015**

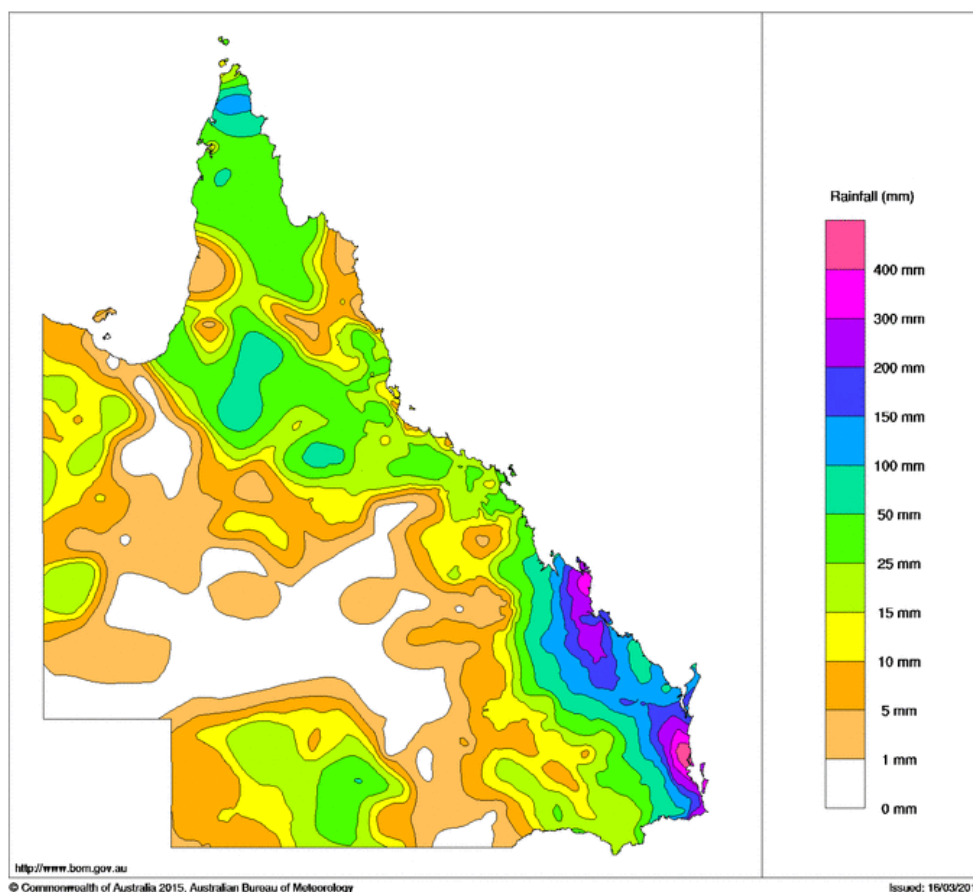
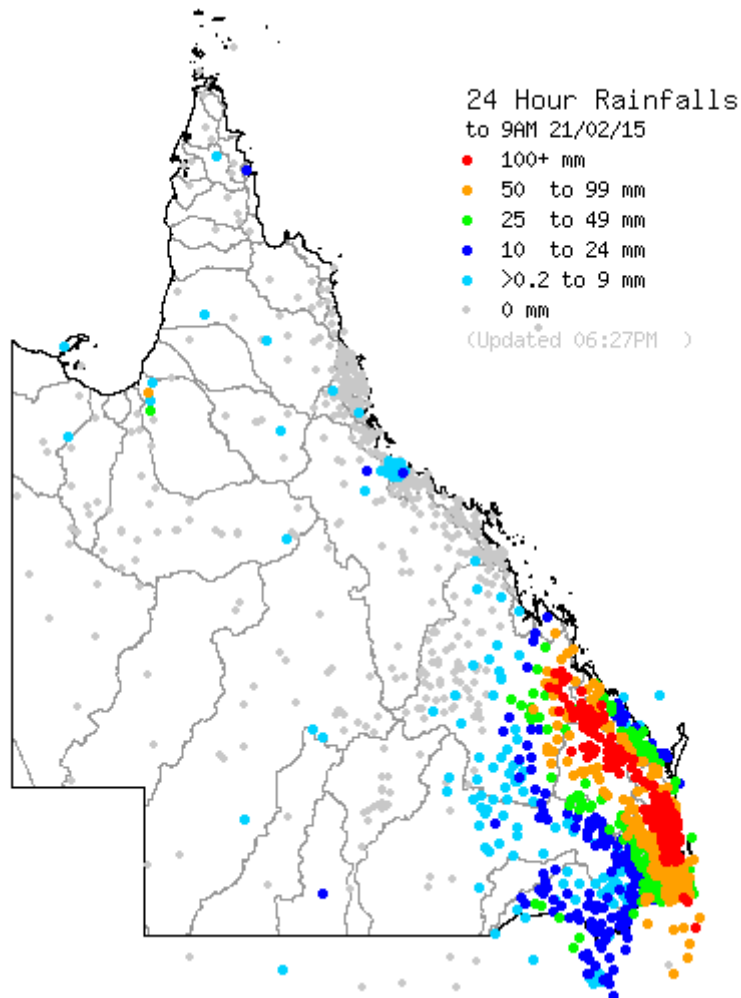
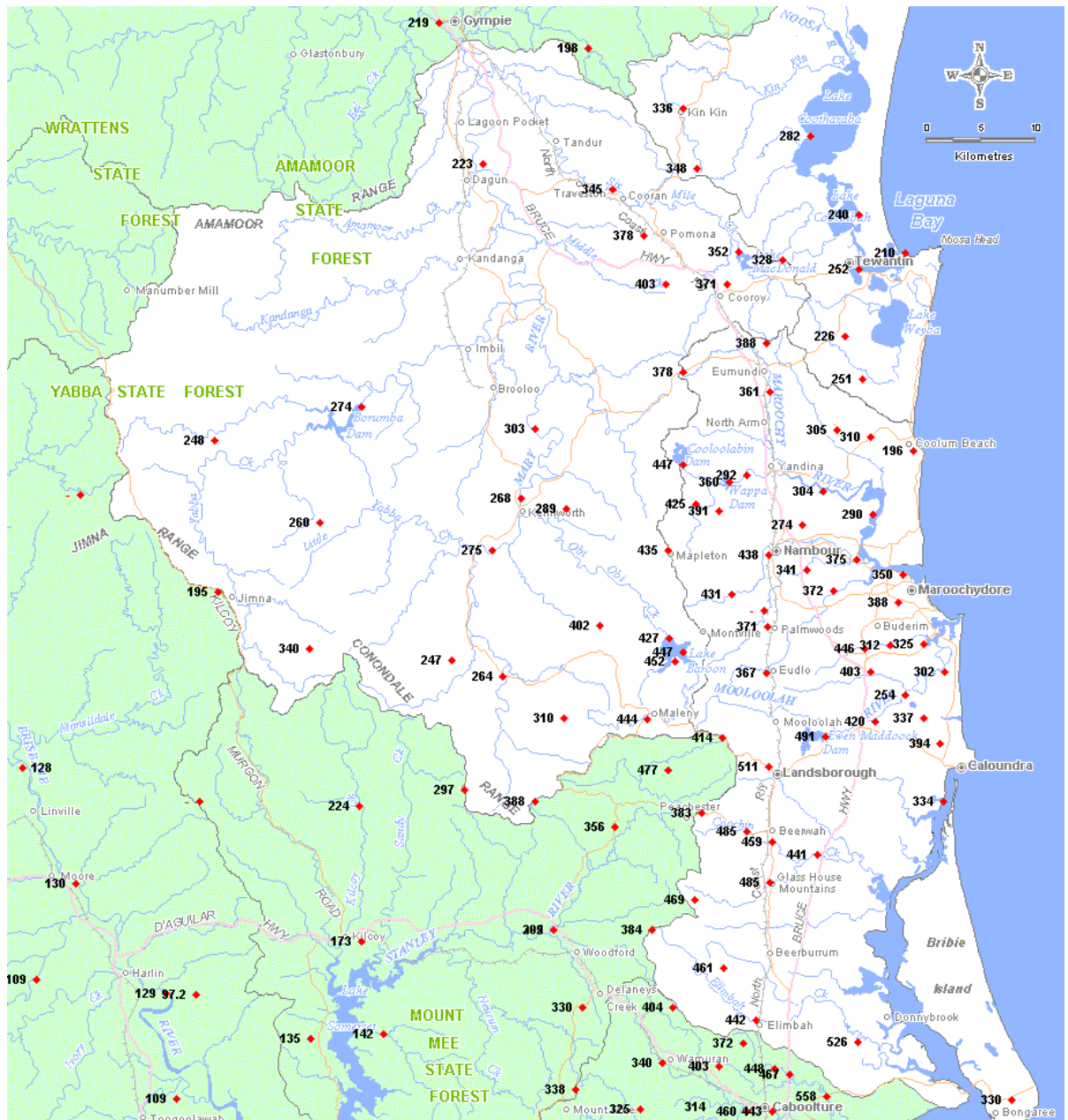


Figure 3.3.2 24-hour rainfall recorded in Queensland river catchments to 9 am 21 February 2015.



**Figure 3.3.3 Rainfall totals (mm) recorded from ALERT stations 9 am 18 February – 9 am 22 February around the Sunshine Coast and the Upper Mary and Upper Brisbane River catchment areas.**

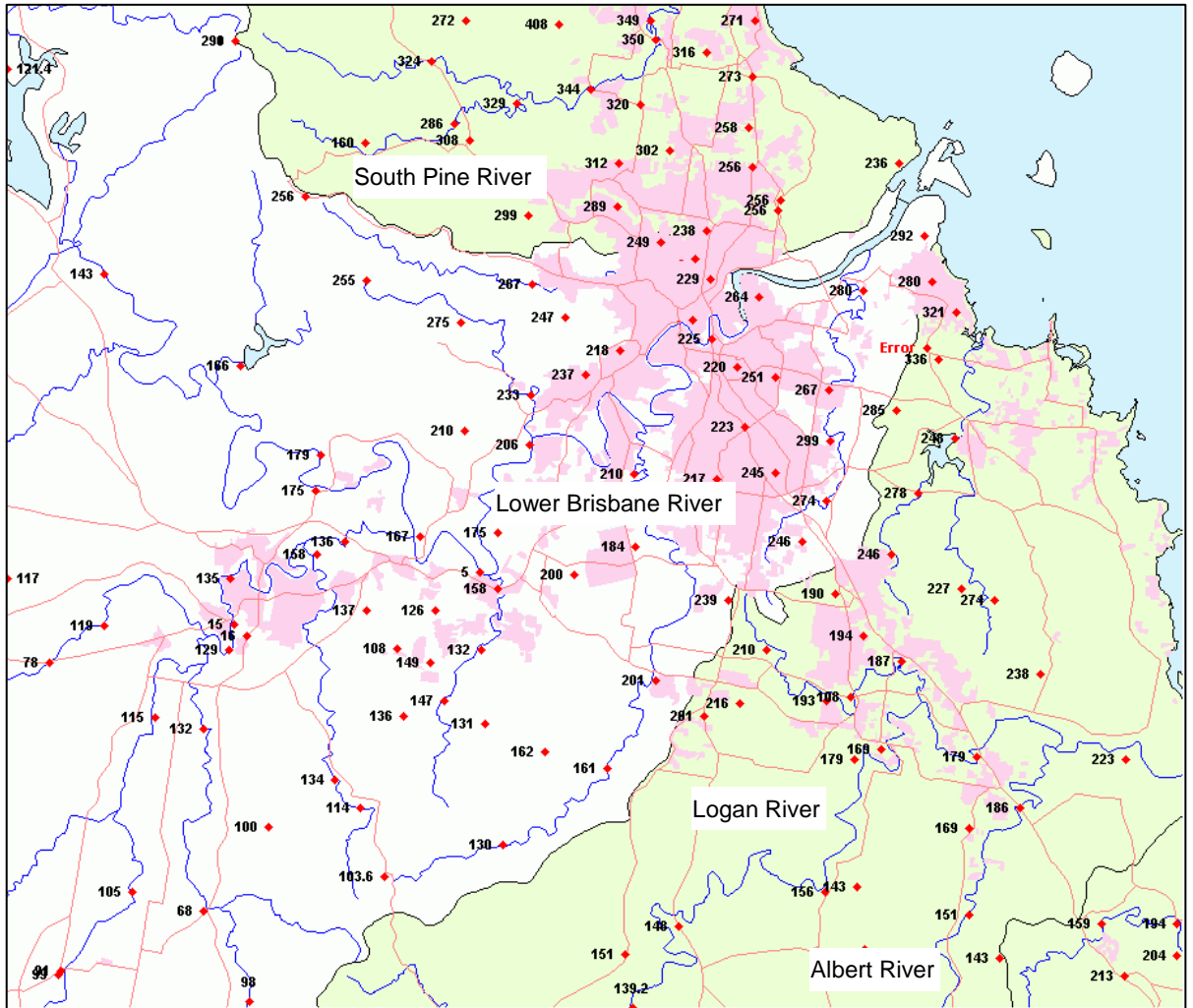


**Figure 3.3.4 Rainfall totals (mm) recorded from ALERT stations 9 am 18 February – 9 am 22 February around the Pine and Caboolture River catchment areas.**





**Figure 3.3.5 Rainfall totals (mm) recorded from ALERT stations 9 am 18 February – 9 am 22 February around the Pine, Lower Brisbane, Logan and Albert Rivers.**



## 3.4 Rainfall intensity

Hourly hyetographs and an analysis of the duration and intensity of the heaviest rainfall totals recorded during tropical cyclone *Marcia* are presented in Figures 3.4.1–3.4.4 and Tables 3.4.1–3.4.4, respectively. The sites selected are Kroombit Tops Telemetry in the Fitzroy River catchment, Monal Road Alert in the Burnett River catchment, Ewen Maddock Dam in the Mooloolah River catchment and Caboolture (Bribie Island Road) Alert in the Pine/Caboolture River catchment. Not all of these data were accessible during the event.

Estimates of the rainfall intensities and exceedance probabilities have been made using the 1987 Australia Rainfall and Runoff Intensity Frequency Duration data. Intensity–frequency–duration design rainfall curves range from 5 minutes to 72 hours in duration and Average Recurrence Intervals (ARI) from 1 year to 100 years and are reported with their associated Annual Exceedance Probability (AEP)<sup>1</sup> for the particular duration.

Short duration rainfall intensities (less than one hour) for all four locations had an Annual Exceedance Probability (AEP) of 1:10.

Significant rainfall intensities occurred at Kroombit Tops Telemetry for durations of 2 to 12 hours, with AEPs of 1:100 across these durations.

The highest rainfall intensity recorded at Monal Road Alert was 165 mm in 6 hours (approximately 28 mm per hour), having an AEP of 1:100; that is, a 1 per cent chance of rainfall rates being equalled or exceeded in any particular year.

The highest rainfall total recorded at an automatic station between 9 am 19 February and 9 am 22 February was 543 mm at Caboolture (Bribie Island Road) Alert. Short duration rainfall intensities (less than two hours) at this location were typically insignificant, with AEPs of 1:10 or less. The most significant rainfall intensity at Caboolture (Bribie Island Road) Alert occurred for the 48 hour duration with an AEP of 1:50.

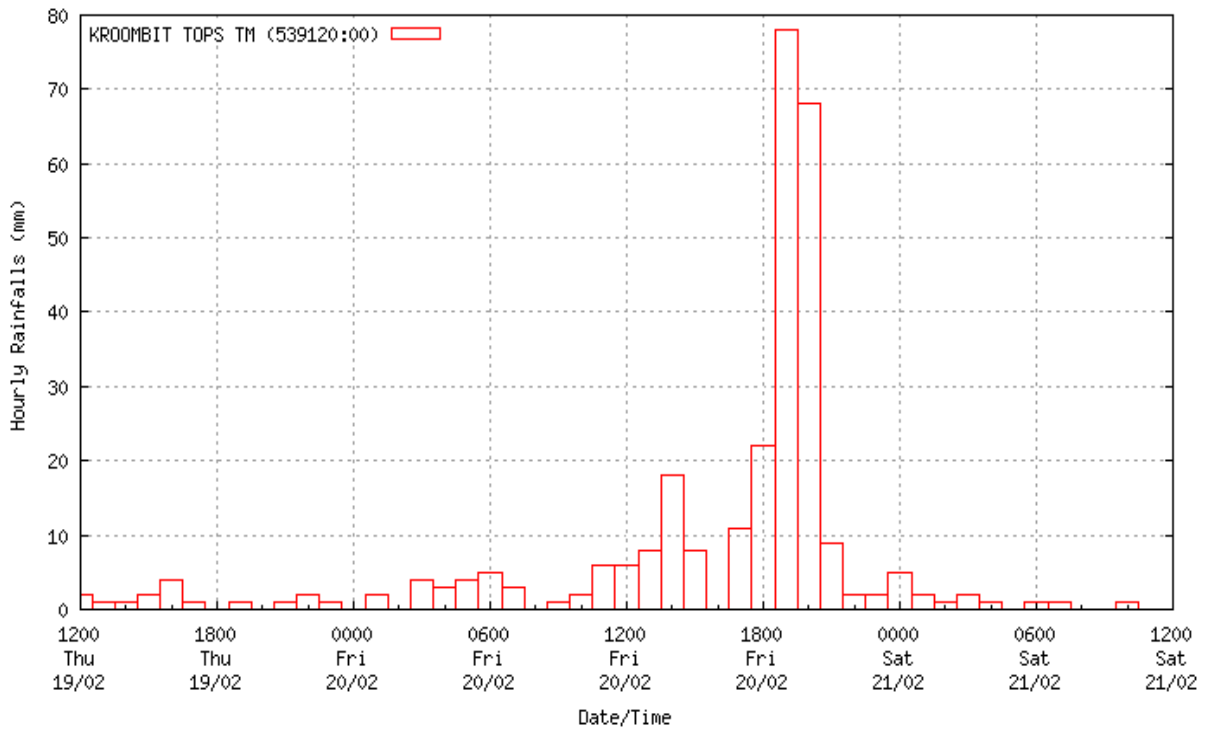
Refer to [www.bom.gov.au/qld/flood/brochures/river\\_maps.shtml](http://www.bom.gov.au/qld/flood/brochures/river_maps.shtml) for the location of rainfall stations used in Figures 3.3.1 and 3.3.2.

Note: A flood frequency analysis would be required to assess the AEP of flood peaks recorded at each location. This has not been undertaken as part of the analysis undertaken for this report.

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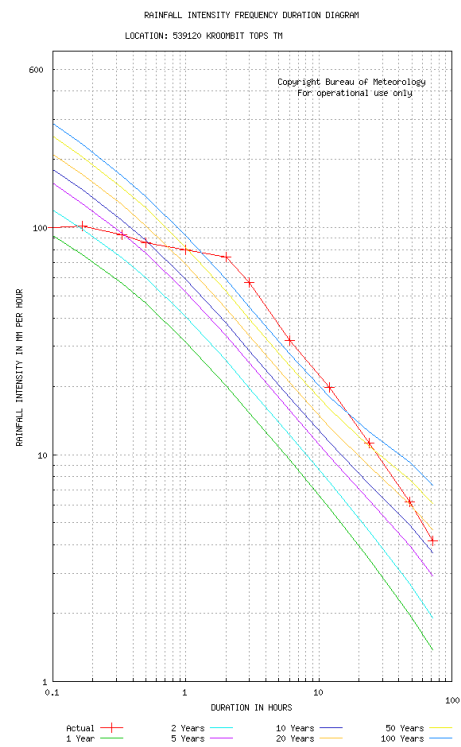
<sup>1</sup> AEP is the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year.

**Figure 3.4.1 Hourly hyetograph for Kroombit Tops Telemetry**

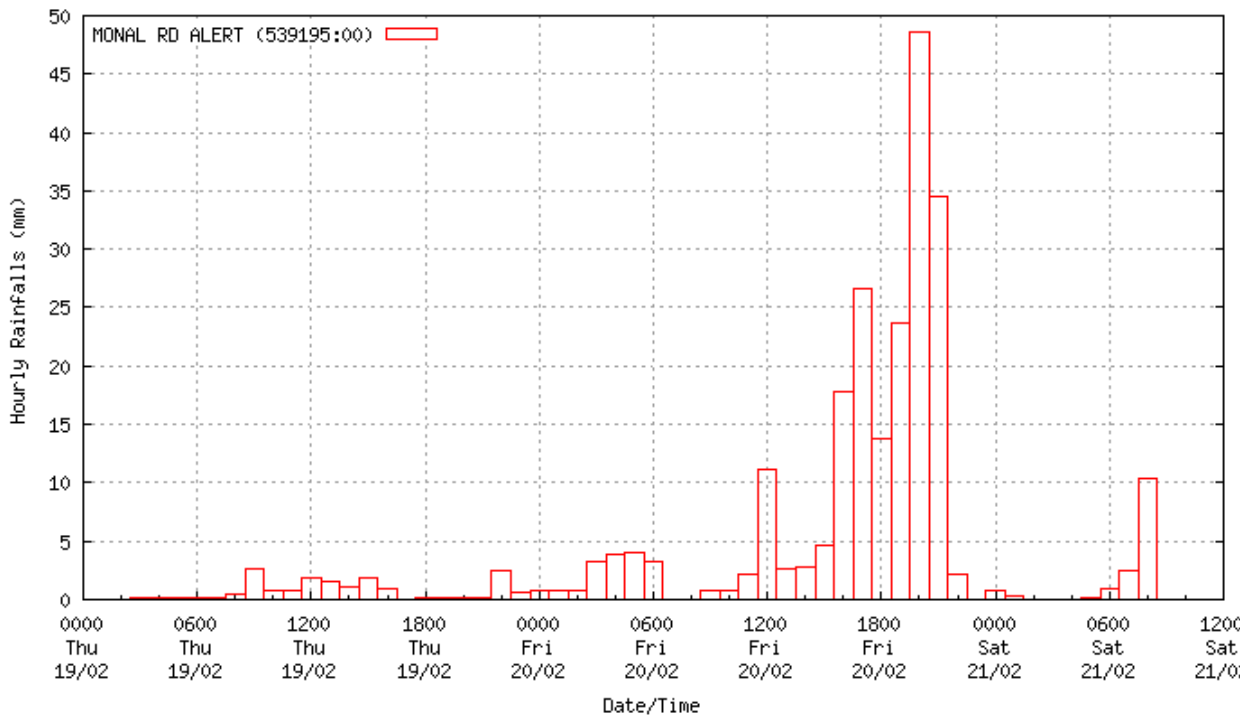


**Table 3.4.1 Rainfall Intensity–Frequency–Duration analysis for Kroombit Tops Telemetry**

<b>Rainfall Intensity–Frequency–Duration Analysis</b> <b>Location: 539120 Kroombit Tops Telemetry</b> <b>Analysis of the rainfall for the 72 hours to midnight</b> <b>22 February 2015</b>		
Rainfall (mm)	Period	AEP
9	5 mins ending at 19:20 20 Feb. 2015	1:1
10	6 mins ending at 19:21 20 Feb. 2015	1:1
17	10 mins ending at 19:25 20 Feb. 2015	1:2
31	20 mins ending at 19:35 20 Feb. 2015	1:5
43	30 mins ending at 19:30 20 Feb. 2015	1:10
80	60 mins ending at 19:25 20 Feb. 2015	1:20
148	2 hours ending at 19:40 20 Feb. 2015	1:100
172	3 hours ending at 20:30 20 Feb. 2015	1:100
191	6 hours ending at 22:20 20 Feb. 2015	1:100
237	12 hours ending at 21:10 20 Feb. 2015	1:100
269	24 hours ending at 02:15 21 Feb. 2015	1:50
276	48 hours ending at 03:50 21 Feb. 2015	1:10
276	72 hours ending at 05:15 21 Feb. 2015	1:10

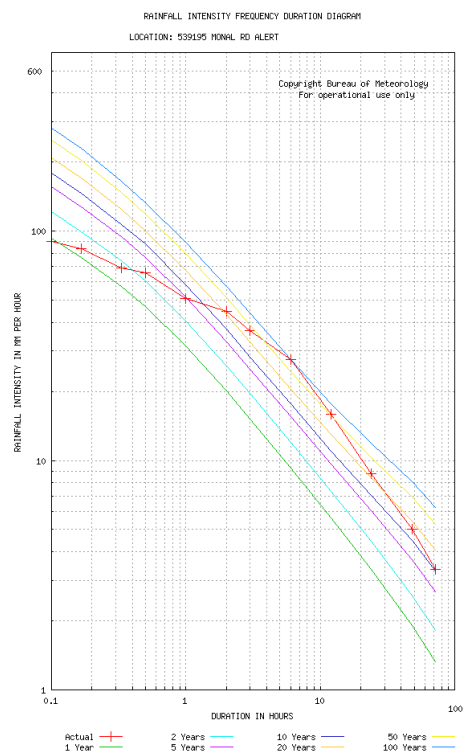


**Figure 3.4.2 Hourly hyetograph for Monal Road Alert**

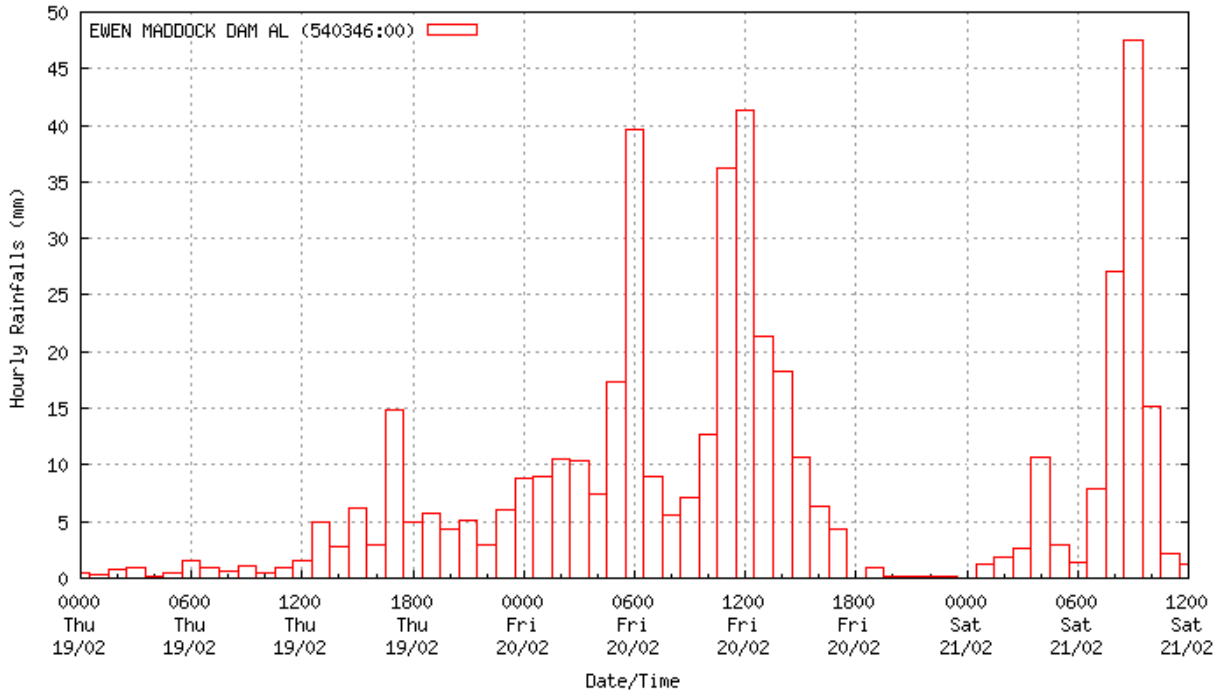


**Table 3.4.2 Rainfall Intensity–Frequency–Duration analysis for Monal Road Alert**

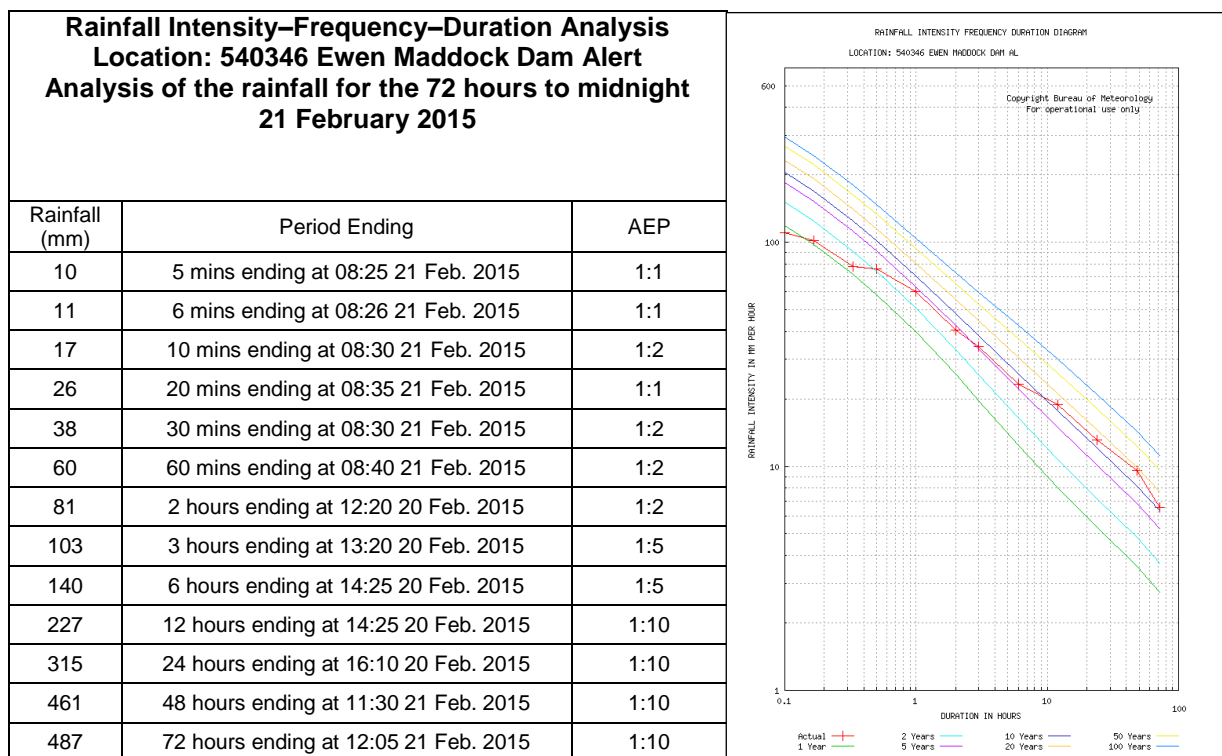
<b>Rainfall Intensity–Frequency–Duration Analysis</b> <b>Location: 539195 Monal Road Alert</b> <b>Analysis of the rainfall for the 72 hours to midnight</b> <b>21 February 2015</b>		
Rainfall (mm)	Period	AEP
8	5 mins ending at 19:10 20 Feb. 2015	1:1
9	6 mins ending at 19:11 20 Feb. 2015	1:1
14	10 mins ending at 19:10 20 Feb. 2015	1:1
23	20 mins ending at 19:15 20 Feb. 2015	1:1
33	30 mins ending at 19:30 20 Feb. 2015	1:2
51	60 mins ending at 19:40 20 Feb. 2015	1:5
89	2 hours ending at 20:45 20 Feb. 2015	1:20
110	3 hours ending at 20:45 20 Feb. 2015	1:20
165	6 hours ending at 21:10 20 Feb. 2015	1:100
191	12 hours ending at 21:15 20 Feb. 2015	1:50
211	24 hours ending at 21:15 20 Feb. 2015	1:20
240	48 hours ending at 07:50 21 Feb. 2015	1:10
241	72 hours ending at 07:50 21 Feb. 2015	1:10



**Figure 3.4.3 Hourly hyetograph for Ewen Maddock Dam Alert**

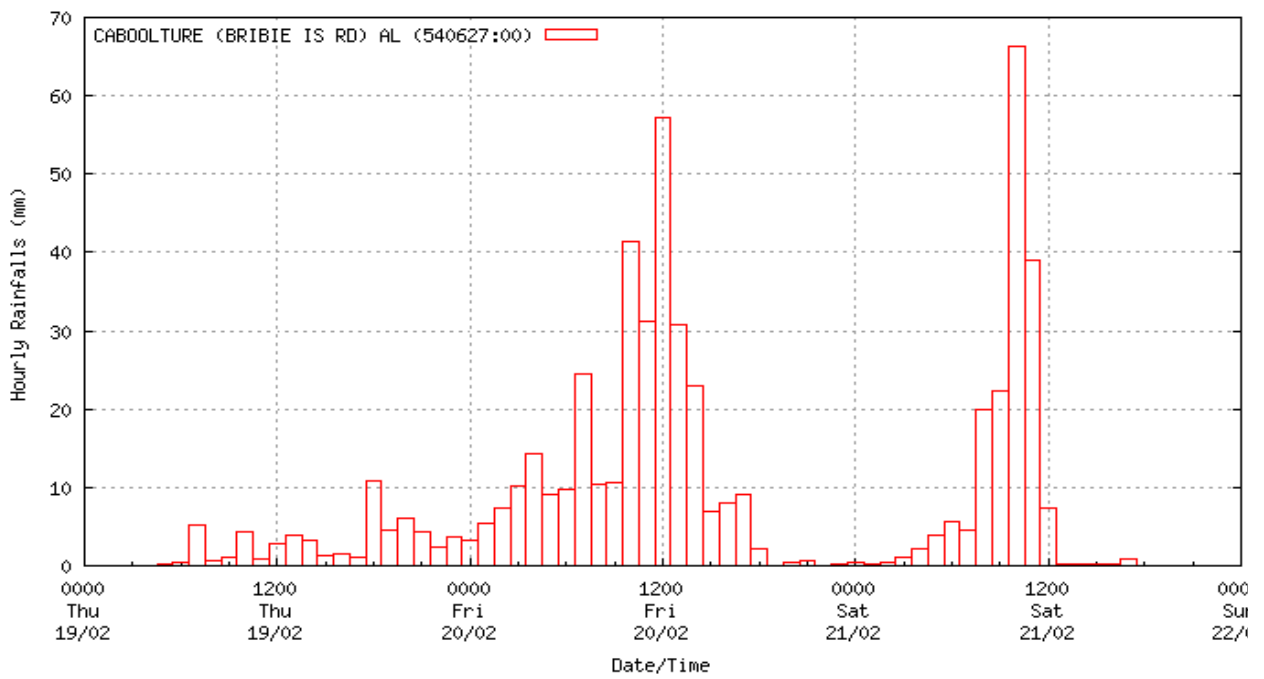


**Table 3.4.3 Rainfall Intensity–Frequency–Duration analysis for Ewen Maddock Dam Alert**



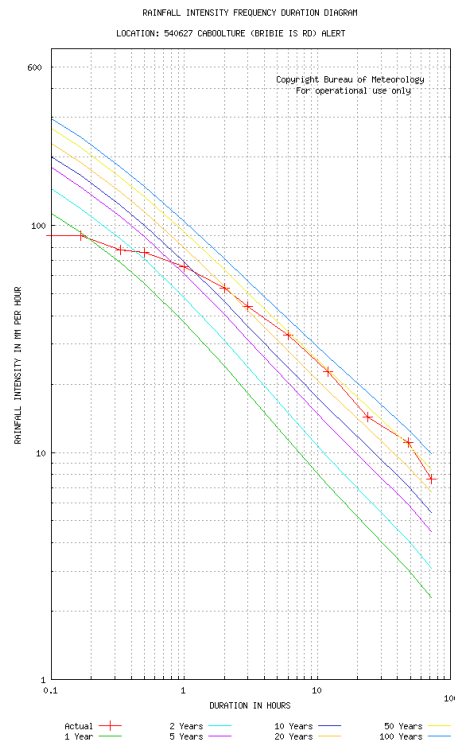


**Figure 3.4.4 Hourly hyetograph for Caboolture (Bribie Island Road) Alert**



**Table 3.4.4 Rainfall Intensity–Frequency–Duration analysis for Caboolture (Bribie Island Road) Alert**

<b>Rainfall Intensity–Frequency–Duration Analysis</b> <b>Location: 540627 Caboolture (Bribie Island Road)</b> <b>Alert</b> <b>Analysis of the rainfall for the 72 hours to midnight</b> <b>21 February 2015</b>		
Rainfall (mm)	Period Ending	AEP
8	5 mins ending at 10:20 20 Feb. 2015	1:1
9	6 mins ending at 11:46 20 Feb. 2015	1:1
15	10 mins ending at 09:30 21 Feb. 2015	1:1
26	20 mins ending at 09:40 21 Feb. 2015	1:1
38	30 mins ending at 09:50 21 Feb. 2015	1:2
66	60 mins ending at 10:00 21 Feb. 2015	1:5
106	2 hours ending at 10:55 21 Feb. 2015	1:10
132	3 hours ending at 12:10 20 Feb. 2015	1:20
197	6 hours ending at 14:25 20 Feb. 2015	1:20
272	12 hours ending at 14:20 20 Feb. 2015	1:20
344	24 hours ending at 17:05 20 Feb. 2015	1:20
533	48 hours ending at 11:40 21 Feb. 2015	1:50
553	72 hours ending at 11:45 21 Feb. 2015	1:20



### 3.5 Flood warning services

During tropical cyclone *Marcia* a total of 6 flood watch and 84 flood warning products were issued between 17 February and 25 February 2015. The distribution of these products for each river basin or region and the date for the first and final flood watch or flood warning is outlined in Table 3.5.1.

**Table 3.5.1 Number of flood watch and flood warnings products issued for each catchment during tropical cyclone *Marcia***

Catchment	First warning	Last warning	Number of warnings issued
Flood Watch	3:47 pm 17 February 2015	3:47 pm 17 February 2015	6
Fitzroy River	1:47 pm 20 February 2015	8:48 am 25 February 2015	13
Baffle Creek	11:53 pm 21 February 2015	6:14 am 23 February 2015	4
Kolan River	12:06 pm 21 February 2015	8:57 pm 21 February 2015	2
Burnett River	8:47 pm 20 February 2015	9:24 am 25 February 2015	21
Mary River	10:04 am 20 February 2015	8:29 am 25 February 2015	22
Sunshine Coast Rivers	8:06 am 20 February 2015	4:23 am 22 February 2015	10
Upper Brisbane River	10:03 am 20 February 2015	6:13 am 23 February 2015	12

## Appendix 1: Peak heights

Outlined below is a list of peak heights recorded during the tropical cyclone *Marcia* event. Only stations with significant floods level are included. Data has not been quality controlled.

(Note: In the peak height table below, black printed stations are forecast locations and grey printed locations are information locations).

Basin	Station no.	Station name	Height (m)	Flood class	Time
BAFFLE	539126	ESSENDEAN BRIDGE AL	5.07	Minor	Sun 20:22:30 22 Feb. 2015
BAFFLE	539085	MIMDALE TM	10.29	Minor	Sun 09:00:00 22 Feb. 2015
BOYNE	539086	AWOONGA DAM HW TM	41.62	Minor	Sat 21:00:00 21 Feb. 2015
BRISBANE	540198	BRISBANE CITY AL	1.70	Minor	Sat 11:29:24 21 Feb. 2015
BRISBANE	540188	DEVON HILLS AL	3.2	Minor	Sat 21:28:05 21 Feb. 2015
BRISBANE	540132	EAST BRISBANE AL	2.32	Minor	Sat 11:56:39 21 Feb. 2015
BRISBANE	540119	ENOGGERA DAM AL	76.71	Minor	Sat 17:08:03 21 Feb. 2015
BRISBANE	540261	LINVILLE AL	3.16	Minor	Sat 18:26:02 21 Feb. 2015
BRISBANE	540126	MANSFIELD AL	10.5	Minor	Sat 16:35:14 21 Feb. 2015
BRISBANE	540432	MARSHALL RD AL	3.85	Minor	Sat 13:34:57 21 Feb. 2015
BRISBANE	040795	OPOSSUM AL	22.05	Moderate	Sat 16:18:39 21 Feb. 2015
BRISBANE	540059	PEACHESTER AL	8.28	Moderate	Sat 13:11:24 21 Feb. 2015
BRISBANE	540046	PEACHESTER WRC TM	8.29	Moderate	Sat 13:50:00 21 Feb. 2015
BRISBANE	540279	RANSOME AL	2.91	Minor	Sat 16:33:25 21 Feb. 2015
BRISBANE	040813	UPPER BROOKFIELD TM	2.24	Minor	Sat 14:00:00 21 Feb. 2015
BRISBANE	540337	WOODFORD AL-P	7.36	Moderate	Sat 14:44:40 21 Feb. 2015
BURNETT	039000	ABERCORN	8.95	Major	Sat 18:00:00 21 Feb. 2015
BURNETT	039319	ABERCORN TM	9.22	Major	Sat 17:00:00 21 Feb. 2015
BURNETT	539092	CANIA DAM HW TM	2.621	Moderate	Sat 01:00:00 21 Feb. 2015
BURNETT	039318	CERATODUS TM	13.54	Major	Sun 01:20:00 22 Feb. 2015
BURNETT	539146	CORINGA AL	8.69	Major	Sat 09:09:31 21 Feb. 2015
BURNETT	539038	DERRA TM	4.12	Minor	Sun 12:00:00 22 Feb. 2015
BURNETT	039259	EIDSVOLD BRIDGE	12.25	Major	Sun 06:25:00 22 Feb. 2015
BURNETT	039321	EIDSVOLD TM	11.01	Major	Sun 04:00:00 22 Feb. 2015
BURNETT	540075	ETTIWYN TM	8.17	Moderate	Sun 05:00:00 22 Feb. 2015
BURNETT	540077	FICKS CROSSING TM	6.81	Minor	Sun 15:45:00 22 Feb. 2015
BURNETT	539021	FIG TREE TM	8.78	Moderate	Mon 03:00:00 23 Feb. 2015
BURNETT	540362	JOE SIPPEL WEIR HW TM	2.77	Moderate	Sun 02:45:00 22 Feb. 2015

Basin	Station no.	Station name	Height (m)	Flood class	Time
BURNETT	540361	JOE SIPPEL WEIR TW TM	8.80	Moderate	Sun 03:10:00 22 Feb. 2015
BURNETT	539035	JOHN GOLEBY WEIR HW TM	5.75	Moderate	Sat 23:00:00 21 Feb. 2015
BURNETT	539052	LANDS END TM	8.44	Major	Sat 05:00:00 21 Feb. 2015
BURNETT	040834	LITZOWS TM	9.08	Moderate	Sat 23:00:00 21 Feb. 2015
BURNETT	039193	MT LAWLESS TM	6.88	Moderate	Sun 20:00:00 22 Feb. 2015
BURNETT	039073	MUNDUBBERA	10.15	Minor	Sun 14:10:00 22 Feb. 2015
BURNETT	539066	MUNDUBBERA HW TM	3.89	Minor	Sun 13:20:00 22 Feb. 2015
BURNETT	039320	MUNDUBBERA TW TM	9.59	Minor	Sun 14:10:00 22 Feb. 2015
BURNETT	539108	PARADISE DAM HW TM	2.58	Moderate	Mon 02:30:00 23 Feb. 2015
BURNETT	539077	SILVERLEAF WEIR HW TM	3.06	Minor	Mon 06:15:00 23 Feb. 2015
BURNETT	539073	SILVERLEAF WEIR TW TM	7.61	Minor	Sun 23:45:00 22 Feb. 2015
BURNETT	039313	WALLA TM	9.66	Moderate	Sun 06:35:00 23 Feb. 2015
BURNETT	539089	WALLA WEIR HW TM	22.7	Moderate	Sun 09:15:00 23 Feb. 2015
BURNETT	539051	WURUMA DAM HW TM	1.46	Moderate	Sat 13:30:00 21 Feb. 2015
BURNETT	539074	WURUMA DAM TW TM	3.10	Major	Sat 07:24:00 21 Feb. 2015
BURNETT	539039	YARROL TM	8.15	Major	Sat 05:10:00 21 Feb. 2015
FITZROY	539080	BARALABA HW TM	1.47	Minor	Sun 02:45:00 22 Feb. 2015
FITZROY	539079	BARALABA TW TM	6.97	Minor	Sun 08:30:00 22 Feb. 2015
FITZROY	535015	BECKERS TM	8.99	Moderate	Sun 18:00:00 22 Feb. 2015
FITZROY	539068	GOOVIGEN TM	10.98	Major	Sat 18:00:00 21 Feb. 2015
FITZROY	539062	KINGSBOROUGH TM	10.08	Major	Fri 21:00:00 20 Feb. 2015
FITZROY	539090	KNEBORTH TM	13.12	Moderate	Sun 07:00:00 22 Feb. 2015
FITZROY	539057	RANNES TM	10.81	Moderate	Sun 10:00:00 22 Feb. 2015
FITZROY	539016	WURA TM	12.01	Major	Fri 17:07:00 20 Feb. 2015
KOLAN	539047	BUCCA WEIR HW TM	17.69	Minor	Sat 15:45:00 21 Feb. 2015
KOLAN	539046	GIN GIN CREEK TM	7.83	Moderate	Sat 09:00:00 21 Feb. 2015
KOLAN	539048	SPRINGFIELD TM	9.56	Moderate	Sat 02:20:00 21 Feb. 2015
LOGAN-ALBERT	540078	MARSDEN (FIRST AVE) AL	9.00	Minor	Sat 18:39:19 21 Feb. 2015
LOGAN-ALBERT	040946	RATHDOWNEY AL	3.51	Minor	Sat 03:58:11 21 Feb. 2015
LOGAN-ALBERT	040714	ROUND MOUNTAIN	6.35	Minor	Sat 19:50:00 21 Feb. 2015

Basin	Station no.	Station name	Height (m)	Flood class	Time
		TM			
LOGAN-ALBERT	540079	SLACKS CK (RESERVE PK) AL	8.55	Minor	Sat 14:49:45 21 Feb. 2015
MAROOCHY	540343	BEERWAH AL	6.01	Moderate	Sat 11:36:20 21 Feb. 2015
MAROOCHY	540083	DIDDILLIBAH AL	3.96	Moderate	Fri 17:49:13 20 Feb. 2015
MAROOCHY	540218	DOONAN CREEK AL	4.10	Minor	Sat 11:34:10 21 Feb. 2015
MAROOCHY	540095	DUNETHIN ROCK AL	2.45	Minor	Sat 11:26:35 21 Feb. 2015
MAROOCHY	540052	EUMUNDI TM	5.90	Moderate	Sat 16:10:00 21 Feb. 2015
MAROOCHY	540346	EWEN MADDOCK DAM AL	26.52	Moderate	Sat 14:25:16 21 Feb. 2015
MAROOCHY	540344	JORDAN ST AL	5.2	Moderate	Sat 14:50:25 21 Feb. 2015
MAROOCHY	540089	KIAMBA AL	3.99	Minor	Sat 09:49:39 21 Feb. 2015
MAROOCHY	540289	KIELS MOUNTAIN TM	3.33	Minor	Fri 16:00:00 20 Feb. 2015
MAROOCHY	540300	MOOLOOLAH TM	5.47	Moderate	Sat 12:00:00 21 Feb. 2015
MAROOCHY	540342	OLD GYMPIE RD AL	4.98	Major	Sat 10:01:34 21 Feb. 2015
MAROOCHY	540348	PARREARRA WEIR U/S AL	1.81	Minor	Fri 23:03:15 20 Feb. 2015
MAROOCHY	540421	TANAWHA AL	1.80	Minor	Sat 09:46:57 21 Feb. 2015
MAROOCHY	540266	WARANA BRIDGE TM	6.82	Minor	Sat 10:10:00 21 Feb. 2015
MAROOCHY	540092	YANDINA AL	3.47	Minor	Sat 09:00:22 21 Feb. 2015
MARY	040830	BELLBIRD CREEK TM	7.15	Major	Sat 10:00:00 21 Feb. 2015
MARY	540264	BORUMBA DAM HW TM	2.40	Minor	Sat 10:30:00 21 Feb. 2015
MARY	540620	CONONDALE AL	4.45	Moderate	Sat 10:31:54 21 Feb. 2015
MARY	040782	COORAN TM	9.02	Moderate	Sat 17:20:00 21 Feb. 2015
MARY	540569	DAGUN POCKET ALERT	15.00	Major	Sun 00:50:00 22 Feb. 2015
MARY	040781	DAGUN POCKET TM	14.97	Moderate	Sun 01:55:00 22 Feb. 2015
MARY	040993	GYMPIE ALERT	16.59	Moderate	Sun 07:04:00 22 Feb. 2015
MARY	040824	FISHERMANS POCKET TM	17.55	Moderate	Sun 12:00:00 22 Feb. 2015
MARY	040833	HOME PARK TM	13.08	Major	Mon 11:20:00 23 Feb. 2015
MARY	540327	LAKE MACDONALD DRIVE AL	5.30	Moderate	Sat 12:18:32 21 Feb. 2015
MARY	040826	MIVA TM	15.30	Moderate	Sun 22:50:00 22 Feb. 2015
MARY	040814	MOY POCKET TM	14.04	Major	Sat 15:30:00 21 Feb. 2015
MARY	540288	TAGIGAN ROAD TM	5.51	Major	Sat 20:00:00 21 Feb. 2015
MARY	540039	THE BARRAGE TM	7.27	Minor	Mon 17:00:00 23 Feb. 2015
MARY	040203	TIARO	12.30	Major	Mon 12:00:00 23 Feb. 2015

Basin	Station no.	Station name	Height (m)	Flood class	Time
MARY	040778	ZACHARIAH TM	9.6	Moderate	Sat 11:10:00 21 Feb. 2015
PINE	540242	BURPENGARY (DALE ST) AL	10.14	Moderate	Sat 13:16:05 21 Feb. 2015
PINE	540245	BURPENGARY (ROWLEY RD) AL	19.01	Minor	Sat 12:21:24 21 Feb. 2015
PINE	540243	CABOOLTURE WTP AL	7.84	Minor	Sat 14:15:04 21 Feb. 2015
PINE	540124	DEAGON AL	1.98	Minor	Sat 12:50:56 21 Feb. 2015
PINE	540121	EVERTON HILLS AL	43.98	Minor	Sat 13:14:38 21 Feb. 2015
PINE	540431	FRANK SLEEMAN PARK AL	4.25	Minor	Sat 13:04:43 21 Feb. 2015
PINE	540120	GEEBUNG AL	7.28	Minor	Sat 13:10:54 21 Feb. 2015
PINE	540357	UPPER CABOOLTURE AL	10.15	Minor	Sat 12:25:37 21 Feb. 2015

\* Black printed stations are forecast locations and grey printed stations are information locations.

## Appendix 2: Rainfall tables

Daily rainfall data from the Queensland Flood Warning Network rainfall stations in the affected areas between Shoalwater Bay and the New South Wales-Queensland border are tabled below. All stations recording more than 50 mm of rainfall between 9 am 18 February and 9 am 22 February 2015 are listed. Tables are presented in catchment order and from north to south.

The abbreviations used in the following tables are:

AL – ALERT radio telemetry

TM – Telephone telemetry

AWS – Automatic Weather Station

SYN – Synoptic station

‘ ’ – No data

Tr – rainfall less than 0.1 mm (trace)

\* – Automatic station

Red numbers show the highest totals recorded on a particular day for each catchment and bold print indicates the largest rainfall total for the specified period.

Note: Rainfall data are operational data and have not been quality-controlled, so errors may exist.

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Dawson</b>				
Alma Ck Bore TM *	0	48	72	120
Beckers TM *	0	61	40	101
Besch's Hill TM *	7	88	165	260
Bindaree TM *	3	38	27	68
Blackboy Creek TM *	8	25	29	62
Blue Hills TM *	8	41	138	187
Callide Dam Inflow TM *	1	18	198	217
Cracow AL *	0	9	55	64
Craiglands TM *	0	44	138	182
Dawson Range South AL *	0	31	35	66
Doreen TM *	1	46	55	102
Downfall Ck AL *	1	4	60	65



Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Dawson</b>				
Dululu TM *	0	60	75	135
Folding Hills TM *	0	10	99	109
Goovigen TM *	1	38	78	117
Karamea AL *	0	34	42	76
Kingsborough TM *	1	53	139	193
Kroombit Dam Hw TM *	0	5	49	54
Kroombit Tops TM *	9	41	251	301
Lonesome Creek AL *	0	25	31	56
Red Hill TM *	0	19	118	137
Redcliffe TM *	7	49	35	91
South Kariboe Creek TM *	1	11	108	120
Upper Dee TM *	19	130	193	342
Wowan Cemetery Rd TM *	0	49	118	167
<b>Maximum</b>	19	130	251	342

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Fitzroy</b>				
Hedlow Airfield TM *	5	87	93	185
Marlborough Ck TM *	2	128	18	148
Marlborough Helipad TM *	1	97	13	111
Raglan Ck TM *	7	46	56	109
Riverslea TM *	2	47	27	76
Rockhampton AWS *	9	109	96	214
The Gap TM *	4	93	42	139
The Glen TM *	19	143	98	260
Williamson RAAF AWS *	20	110	14	144
<b>Maximum</b>	20	143	98	260

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Calliope</b>				
Castlehope TM *	16	40	65	122

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Baffle</b>				
Amphill AL *	4	39	16	59
Barnetts Road AL *	9	63	10	82
Captain Creek AL *	22	52	15	89
Essendean Bridge AL *	4	54	19	77
Hills Road AL *	11	58	7	76
Mimdale AL *	6	56	24	86
Miriam Vale AL *	13	58	43	114
Rapleys AL *	12	56	14	82
Rapleys TM *	10	50	9	69
Town Of 1770	30	31	2	63
<b>Maximum</b>	30	63	43	114

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Boyne</b>				
Awoonga Dam AL *	37	16	50	103
Benaraby AL *	46	32	76	154
Boyne Island AL *	30	33	52	115
Bulburin AL *	16	64	129	209
Cedar Vale AL *	5	26	158	189
Eden AL *	14	47	102	163
Gladstone Airport AWS *	21	41	51	113
Gladstone Radar AL *	18	29	19	66
Gladstone Radar AWS *	18	39	38	95
Iveragh AL *	50	48	39	137
Marlua AL *	11	17	99	127

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Boyne</b>				
Milton TM *	9	31	90	130
Mt Seaview AL *	5	23	187	215
Nagoorin TM *	10	24	81	115
Table Tops AL *	25	50	150	<b>225</b>
<b>Maximum</b>	50	64	187	225

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Kolan</b>				
Bucca Weir AL *	7	45	25	77
Bucca Weir Hw TM *	7	47	24	78
Fred Haigh Hw AL *	10	33	44	87
Gaeta Rd AL *	6	50	75	131
Gin Gin AL *	7	42	40	89
Gin Gin Ck AL *	7	35	61	103
Gooburrum P/S TM *	10	44	19	73
Gooburrum Ps AL *	12	49	23	84
Mt Beatrice AL *	11	59	140	210
Springfield AL *	7	49	91	147
Springfield TM *	6	46	67	119
Streeters Rd AL *	5	41	92	138
Wolca Range AL *	13	31	183	<b>227</b>
Wonbah Rd AL *	11	27	149	187
<b>Maximum</b>	13	59	183	227

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Cherwell/Burrum</b>				
Burrum Highway TM *	6	39	34	79
Fairlies Knob TM *	12	40	62	<b>114</b>
Hervey Bay AWS *	5	87	12	104

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Cherwell/Burrum</b>				
Howard AL *	5	41	23	69
Leesons TM *	5	52	27	84
Lenthalls Dam AL *	9	50	27	86
Musket Flat Mt AL *	12	43	51	106
Pacific Haven AL *	2	47	30	79
Railway Bridge AL *	5	45	29	79
Takura Reservoir AL *	5	63	22	90
Torbanlea AL *	8	54	26	88
Upper Cherwell AL *	3	61	42	106
<b>Maximum</b>	12	87	62	114

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Burnett</b>				
Abercorn AL *	7	24	164	195
Abercorn TM *	3	15	166	184
Arthurs Lookout AL *	1	7	62	70
Boolaroo Tops TM *	16	58	200	<b>274</b>
Boondooma Rptr AL *	1	8	54	63
Brooklands TM *	0	23	36	59
Bundaberg AL *	9	71	27	107
Bundaberg AWS *	11	57	25	93
Bungadoo TM *	8	38	33	79
Byrnestown TM *	2	16	126	144
Cania Dam Hw AL *	6	28	162	196
Caniaview AL *	4	33	165	202
Ceratodus AL *	11	15	149	175
Cooranga (Boyne R) AL *	0	7	78	85
Cooranga TM *	0	7	68	75
Coringa AL *	5	23	118	146
Coringa TM *	5	21	122	148
Dakiel TM *	4	21	157	182

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Burnett</b>				
Dandabah TM *	2	22	32	56
Derra AL *	1	5	80	86
Didcott AL *	6	15	168	189
Dingle Dell TM *	13	20	105	138
Dykehead AL *	1	14	74	89
Dykehead TM *	2	11	67	80
East Booyal AL *	4	31	98	133
Eidsvold TM *	1	12	89	102
Fig Tree AL *	4	24	87	115
Fig Tree TM *	5	21	87	113
Flagstone Bridge AL *	2	7	54	63
Ford St AL *	9	76	32	117
Gayndah Ap AWS *	4	12	152	168
Gayndah Flume AL *	2	13	143	158
Glencoe Rd AL *	11	15	112	138
Glenmore TM *	4	32	52	88
Hawkwood Range AL *	6	14	58	78
Hollywell AL *	10	5	133	148
Kingaroy AWS *	4	22	42	68
Lands End AL *	9	13	162	184
Lands End TM *	9	12	143	164
Mingo Crossing AL *	2	16	101	119
Monal Rd AL *	7	30	207	244
Monto Township SYN	3	29	147	179
Moore Park TM *	3	41	9	53
Mt Fort William AL *	20	67	122	209
Mt Gayndah AL *	2	18	190	210
Mt Goonaneman AL *	13	32	125	170
Mt Lawless AL *	1	15	170	186
Mt Perry AL *	14	29	129	172
Mt Rawdon AL *	7	41	161	209
Mt Walsh AL *	9	36	136	181
Mt Yeatman TM *	2	16	94	112

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Burnett</b>				
Mungungo Weir AL *	4	35	136	175
Paradise Dam AL *	8	27	122	157
Paradise Dam Hw TM *	4	20	90	114
Proston TM *	5	8	51	64
Redbank AL *	4	7	63	74
Reid Creek TM *	6	19	165	190
Sauers TM *	3	13	156	172
Settlement Rd AL *	6	37	65	108
Splitters Ck AL *	10	44	28	82
St Agnes Ck AL *	3	33	77	113
Stewarts Bridge AL *	6	26	116	148
Sunday Ck Rd AL *	5	23	167	195
Upper Monal TM *	10	39	122	171
Walla AL *	2	27	56	85
Walla Weir AL *	5	47	46	98
West Barambah TM *	2	29	78	109
Woongarra Pump Station AL *	12	58	40	110
Woongarra TM *	11	54	36	101
Yarrol TM *	3	14	113	130
<b>Maximum</b>	20	76	207	274

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Mary</b>				
Baroon Boat Ramp AL *	48	208	175	431
Baroon Pocket Dam Tw AL *	40	189	196	425
Bellbird Creek AL *	17	89	166	272
Bellbird Creek TM *	19	80	163	262
Bellthorpe (Gap Rd) AL *	42	146	170	358
Bidwill AL *	9	104	37	150
Black Mt. AL *	34	168	199	401

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Mary</b>				
Black Swamp AL *	6	75	21	102
Booral Road AL *	4	91	17	112
Borumba Dam Hw AL *	18	60	195	273
Borumba Dam Hw TM *	18	60	195	273
Brooyar TM *	2	53	86	141
Cedar Pocket Dam AL *	15	89	93	197
Cedar Pocket Dam TM *	14	90	93	197
Conondale AL *	27	83	150	260
Coolabine Creek AL *	22	96	165	283
Cooran AL *	21	120	201	342
Cooran TM *	19	102	173	294
Cooroy AL *	31	200	138	369
Dagun Pocket AL *	13	78	128	219
Dagun Pocket TM *	14	78	128	220
Fishermans Pocket TM *	6	111	117	234
Ghost Hill AL *	8	81	14	103
Grigor Road AL *	16	75	150	241
Gympie AL *	8	106	104	218
Gympie AWS *	8	149	101	258
Harper Creek AL *	54	96	145	295
Home Park TM *	14	57	65	136
Jimna AL *	13	47	126	186
Jimna Forestry AWS *	13	46	130	189
Kandanga TM *	25	82	163	270
Kenilworth	19	96	166	281
Kenilworth H/S AL *	21	85	160	266
Kingaham AL *	15	61	170	246
Lake Macdonald Dam AL *	26	197	128	351
Magnolia AL *	12	86	74	172
Maleny	52	159	186	397
Maleny AL *	63	179	179	421
Marodian TM *	7	68	100	175
Maryborough AWS *	10	74	32	116

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Mary</b>				
Mortimer TM *	22	55	147	224
Moy Pocket AL *	15	91	193	299
Moy Pocket TM *	11	68	164	243
Mt Joseph TM *	17	37	122	176
Mt Kanigan AL *	4	91	104	199
Oakwood TM *	17	72	187	276
Obi Lookout AL *	47	149	196	392
Owanyilla AL *	7	99	52	158
Pomona AL *	29	146	200	375
Sexton AL *	6	79	110	195
Sunday Creek AL *	36	72	218	326
Teddington Weir Hw TM *	9	95	51	155
Tiaro AL *	13	80	72	165
West Bellthorpe AL *	46	97	131	274
Yielo AL *	16	48	194	258
Zachariah TM *	29	76	168	273
<b>Maximum</b>	63	208	218	431

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Noosa</b>				
Black Pinch Road AL *	19	166	161	346
Boreen Point AL *	9	194	79	282
Coops Corner AL *	9	110	46	165
Coops Corner TM *	9	100	47	156
Double Is Pt AWS *	4	37	20	61
Kin Kin AL *	18	155	155	328
Lake Cooroibah AL *	9	151	78	238
Mount Elliot AL *	11	96	75	182
Mount Tinbeerwah AL *	21	200	106	327
Mount Wolvi AL *	24	136	143	303
Mt Bilewilam AL *	7	94	46	147



Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Noosa</b>				
Noosa Heads AL *	7	151	50	208
Noosaville	17	151	71	239
Rainbow Beach SYN	8	80	34	122
Tewantin AL *	11	164	74	249
Tewantin AWS *	11	174	78	263
<b>Maximum</b>	24	200	161	346

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Maroochy</b>				
Ball Lookout AL *	38	214	133	385
Bli Bli AL *	23	155	190	368
Cooloolabin Dam AL *	49	183	213	445
Cooloolabin Dam Hw TM *	48	184	214	446
Coolum AL *	5	119	71	195
Coolum West AL *	13	165	130	308
Diddillibah AL *	20	153	162	335
Doonan Creek AL *	17	146	87	250
Dunethin Rock AL *	15	145	142	302
Eerwah Vale AL *	38	168	165	371
Eudlo AL *	26	157	166	349
Eudlo Flats Rd AL *	13	152	172	337
Eumundi	31	200	137	368
Eumundi AL *	24	201	132	357
Eumundi TM *	24	184	129	337
Mapleton AL *	45	183	199	427
Maroochy Intake Weir TM *	46	181	193	420
Maroochydepot Depot AL *	9	140	231	380
Nambour AL *	27	187	211	425
Nambour Daff - Hillside AWS *	16	177	193	386
Palmwoods	29	162	205	396
Palmwoods AL *	21	154	183	358

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	19	20	21	
<b>Maroochy</b>				
Picnic Point AL *	12	127	208	347
Poona Dam AL *	43	187	154	384
Poona Dam Hw TM *	43	187	154	384
Radar Hill AL *	22	116	140	278
Stoney Wharf Road AL *	6	134	145	285
Sunshine Coast AWS *	8	132	198	338
Upper Doonan AL *	8	122	93	223
Wappa Dam AL *	33	178	144	355
West Woombye AL *	23	192	203	418
Yandina AL *	20	150	116	286
Yandina Creek AL *	16	150	136	302
Yandina TM *	23	161	134	318
<b>Maximum</b>	49	214	231	446

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Mooloolah</b>				
Bald Knob AL *	168	188	21	377
Beerwah AL *	157	238	47	442
Bundilla AL *	140	170	6	316
Ewen Maddock Dam AL *	189	256	21	466
Glasshouse Mountains AL *	162	229	62	453
Golden Beach AL *	106	187	36	329
Hume Lane AL *	149	192	25	366
Jordan St AL *	147	239	12	398
Judds Road AL *	169	196	58	423
Landsborough	198	253	23	474
Landsborough AL *	205	250	26	481
Mawsons Rd AL *	151	238	38	427
Mountain Creek AL *	94	186	9	289
Old Gympie Rd AL *	183	242	38	463
Palmview AL *	69	174	7	250

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Mooloolah</b>				
Parrearra Weir U/S AL *	143	144	6	293
Sippy Downs AL *	141	243	8	392
Sugarbag Rd Wtp AL *	157	206	12	375
Tanawha AL *	153	266	15	434
<b>Maximum</b>	205	266	62	481

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Pine/Caboolture</b>				
Albany Creek AL *	90	127	94	311
Baxters Creek AL *	103	91	62	256
Beachmere (Riversleigh Rd) AL *	150	269	96	515
Beachmere AL *	114	222	91	427
Beerburum AWS *	148	210	93	451
Beerburum-Woodford Rd AL *	142	166	54	362
Bribie Island AL *	96	128	99	323
Bribie Island Quarry TM *	96	140	100	336
Bribie Island Treatment TM *	84	106	85	275
Browns Creek Road AL *	144	163	100	407
Burpengary (Dale St) AL *	134	196	101	431
Burpengary (Mathew Cr) AL *	149	194	107	450
Caboolture (Bribie Is Rd) AL *	155	272	116	543
Caboolture (Bruce Hway) AL *	141	215	96	452
Caboolture (Pumicestone Rd) AL *	136	200	96	432
Caboolture (Short St) AL *	135	207	90	432
Caboolture Wtp AL *	138	207	103	448
Cash's Crossing AL *	101	149	88	338
Cedar Ck Rd AL *	106	121	90	317
Clear Mountain AL *	82	112	70	264
Dayboro (Terrors Ck) AL *	131	119	72	322
Dayboro AL *	135	123	75	333
Dayboro Wwtp AL *	130	121	87	338

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Pine/Caboolture</b>				
Deception Bay (Creek Rd) AL *	104	198	85	387
Deception Bay AL *	115	212	86	413
Delaneys Ck AL *	116	125	57	298
Drapers Crossing AL *	92	151	80	323
Elimbah AL *	138	195	113	446
Godwin Beach	122	209	36	367
Highvale	73	93	50	216
Highvale AL *	85	84	74	243
John Bray Park AL *	103	155	92	350
Kallangur AL *	113	192	102	407
Kippa-Ring AL *	86	150	78	314
Kluvers Lookout AL *	79	94	39	212
Lake Kurwongbah AL *	108	193	122	423
Lake Kurwongbah Hw TM *	108	193	122	423
Lawnton (Todds Rd) AL *	105	180	108	393
Lawnton AL *	110	155	106	371
Lipscombe Rd AL *	111	192	88	391
Moodlu (Williams Rd) AL *	121	167	96	384
Moorina AL *	124	159	116	399
Morayfield (Williamson Rd) AL *	126	164	79	369
Morayfield AL *	126	192	96	414
Mount Mee TM *	95	94	70	259
Mt Glorious AL-P *	109	82	82	273
Mt Mee AL-B *	122	116	80	318
Mt Mee AL-P *	121	116	80	317
Mt Nebo	83	83	69	235
Mt Nebo AL *	87	88	72	247
Mt Samson Rd AL *	113	108	99	320
Murrumba Downs AL *	112	176	92	380
Narangba (Oakey Flat Rd) AL *	126	163	97	386
Normanby Way AL *	100	152	87	339
North Pine Dam AL *	78	152	117	347
North Pine Dam AL-B *	77	153	117	347

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Pine/Caboolture</b>				
Ocean View AL *	135	129	67	331
Raynbird Creek AL *	71	81	44	196
Redcliffe AWS *	82	138	71	291
Rose Creek Road AL *	139	187	97	423
Rothwell AL *	132	204	80	416
Round Mt Reservoir AL *	116	157	80	353
Samford AL *	76	128	71	275
Samford Village AL *	83	139	75	297
Sheep Station Creek AL *	126	196	89	411
Strathpine (Gympie Rd) AL *	103	150	86	339
Toorbul (Donnybrook Rd) AL *	147	257	112	516
Upper Caboolture AL *	93	125	80	298
Upper Caboolture TM *	90	125	89	304
Upr Caboolture (Mcclure R) AL *	104	131	72	307
Wamuran (Mcclintock Rd) AL *	124	166	92	382
Wamuran AL *	108	133	80	321
Wamuran Post Office	102	168	42	312
Warner AL *	106	177	115	398
Westaways Creek TM *	112	219	83	414
Woody Point AL *	82	125	89	296
Youngs Crossing AL *	105	190	141	436
<b>Maximum</b>	155	272	141	543

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Stanley/Upper Brisbane</b>				
Blackbutt AL *	31	57	12	100
Boat Mountain AL *	37	53	7	97
Bryden AL *	35	50	14	99
Caboonbah AL *	50	58	22	130
Cooyar Creek AL *	32	60	2	94

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Stanley/Upper Brisbane</b>				
Cooyar Creek TM *	27	58	3	88
Cressbrook Dam AL *	27	25	5	57
Crohurst AL *	192	217	25	434
Devon Hills AL *	38	72	6	116
Eskdale AL *	31	33	4	68
Ferris Knob AL *	134	172	25	331
Fulham AL *	39	54	10	103
Glen Esk AL *	43	55	18	116
Glendale TM *	40	60	11	111
Gregor Ck AL-P *	44	59	15	118
Hays Landing AL *	46	54	19	119
Hazeldean AL *	49	62	15	126
Kilcoy AL *	53	82	23	158
Lindfield AL *	74	126	4	204
Linville AL *	36	68	10	114
Linville TM *	30	57	9	96
Mt Binga AL *	26	57	7	90
Mt Byron TM *	49	54	36	139
Mt Kilcoy Weir TM *	55	74	19	148
Mt Stanley AL *	37	78	3	118
Nukinenda AL *	22	39	2	63
Peachester	168	222	28	418
Ravensbourne AL *	50	30	8	88
Redbank Creek AL *	39	44	14	97
Rosentreters Bridge AL *	33	51	11	95
Rosentreters Bridge TM *	30	41	11	82
Somerset Dam Hw AL-B *	44	46	22	112
Somerset Dam Hw AL-P *	41	46	22	109
St Aubyns AL *	20	31	2	53
Top Of Brisbane AL *	29	68	4	101
Westvale AL *	50	64	20	134
Wivenhoe Dam Hw AL-P *	47	53	22	122

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Stanley/Upper Brisbane</b>				
Wivenhoe Dam Tw AL *	52	57	25	134
Wivenhoe Dam Tw TM *	51	58	25	134
Woodford	126	151	65	342
Woodford AL-B *	118	127	30	275
Woodford AL-P *	118	121	29	268
Yarraman AL *	23	43	6	72
<b>Maximum</b>	192	222	65	434

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Lower Brisbane</b>				
Adams Bridge AL *	29	30	7	66
Adams Bridge TM *	31	22	10	63
Amberley (DNRM) TM *	40	47	15	102
Amberley AL-P *	41	63	11	115
Amberley AWS *	40	64	19	123
Atkinson Dam AL *	44	35	4	83
Berrys Lagoon AL *	47	62	20	129
Bill Gunn Dam AL *	28	25	4	57
Bill Gunn Dam TM *	28	25	4	57
Brassall(Hancocks Br) AL *	41	66	25	132
Brisbane City AL *	58	84	78	220
Churchbank Weir AL *	40	56	8	104
Churchbank Weir TM *	40	56	8	104
Colleges Crossing AL *	53	84	34	171
Fernvale - Burns St	49	57	26	132
Fifteen Mile AL *	30	20	6	56
Five Mile Br AL *	42	58	19	119
Forest Hill AL *	36	25	1	62
Franklyn Vale AL *	36	30	10	76
Gatton AL *	40	30	3	73

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Lower Brisbane</b>				
Gatton TM *	40	30	3	73
Gatton Uq AWS *	35	26	3	64
Glenore Grove AL *	32	24	3	59
Grey's Plains Road AL *	31	20	6	57
Harrisville AL *	35	52	11	98
Helidon AL *	32	16	3	51
Jindalee AL *	66	88	50	204
Kalbar TM *	34	40	17	91
Kalbar Weir AL *	36	45	15	96
Kalbar Weir Hw TM *	35	45	16	96
Karalee AL *	42	67	24	133
Kuss Road AL *	42	53	9	104
Kuss Road TM *	36	33	8	77
Lake Clarendon AL *	40	33	4	77
Lake Clarendon Hw TM *	40	32	5	77
Lake Manchester AL *	51	66	47	164
Lake Manchester Hw TM *	51	65	48	164
Lowood	39	41	11	91
Lowood Pump Station AL-B *	33	37	9	79
Marburg AL *	38	38	9	85
Moggill AL-P *	50	81	32	163
Moogerah Dam Hw AL *	37	40	8	85
Moon Road AL *	32	23	5	60
Mt Castle AL *	36	28	7	71
Mt Crosby AL *	52	85	37	174
Mt Crosby TM *	52	85	37	174
Mt Marrow AL *	45	55	16	116
Mt Petersen AL *	28	22	3	53
O'Reilly's Weir AL *	45	53	17	115
Oxley Ck AL *	51	75	34	160
Paradise Creek Road AL *	30	21	5	56
Rockside Mt AL *	29	24	3	56
Rosewood AL *	40	44	9	93



Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Lower Brisbane</b>				
Rosewood AL-B *	41	46	9	96
Rosewood Wwtp AL *	39	43	0	82
Savages Crossing AL *	52	57	31	140
Seven Mile Br AL *	31	39	8	78
Showground Weir AL *	25	22	5	52
Showground Weir Hw TM *	25	22	5	52
Spessers Bridge AL *	42	48	8	98
Spring Bluff AL *	39	21	4	64
Tallegalla AL *	48	55	13	116
Tarome AL-P *	31	34	8	73
Toohills Crossing AL *	34	38	10	82
Toohills Crossing TM *	34	37	11	82
Upper Clumber AL *	31	35	5	71
Upper Lockyer AL *	30	17	3	50
Upper Sandy Creek AL *	42	32	11	85
Upper Tenthill AL *	30	23	4	57
Upper Western Ck AL *	33	27	6	66
Warrego Highway AL *	36	24	3	63
Washpool AL *	34	48	13	95
Woodlands Road AL *	35	26	2	63
<b>Maximum</b>	66	88	78	220

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Ipswich/Brisbane Creeks</b>				
Alderley	55	94	90	239
Alderley AL *	62	87	93	242
Archerfield AWS *	48	78	48	174
Aspley Reservoir AL *	85	105	102	292
Bellbird Park AL *	39	81	26	146
Bowen Hills AL *	60	86	79	225
Bracken Ridge Res AL *	89	138	81	308

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Ipswich/Brisbane Creeks</b>				
Brighton AL *	77	110	72	259
Brisbane Ap AWS *	81	105	68	254
Brisbane AWS *	54	89	68	211
Brisbane Road AL *	45	75	32	152
Bulimba AL *	64	105	84	253
Bundamba (Barclay St) AL *	45	68	21	134
Bundamba (Hanlon St) AL *	52	73	27	152
Calamvale AL *	83	87	60	230
Camp Hill AL *	71	98	75	244
Carindale AL *	83	99	77	259
Carole Park AL *	50	97	45	192
Chandler AL *	102	97	80	279
Clontarf	83	139	76	298
Collingwood Park AL *	36	61	23	120
Corinda High AL *	57	95	54	206
Deagon AL *	78	97	93	268
East Brisbane AL *	55	88	72	215
Eight Mile Plains AL *	85	94	61	240
Enoggera Dam AL *	67	113	77	257
Everton Hills AL *	81	119	104	304
Frank Sleeman Park AL *	76	95	81	252
Geebung AL *	72	91	83	246
Gold Ck Reservoir AL *	70	124	72	266
Goolman AL *	37	63	13	113
Green Hill Res AL *	71	103	56	230
Greenbank(Thompson Rd) AL *	52	77	33	162
Hemmant AL *	80	105	90	275
Hendra AL *	71	98	79	248
Inala AL *	47	87	45	179
Ithaca Creek TM *	64	83	84	231
Jingle Downs AL *	44	68	18	130
Kelvin Grove	68	80	169	317
Kenmore Hills AL *	76	104	49	229

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Ipswich/Brisbane Creeks</b>				
Luggage Point AL *	69	96	65	230
Lyons AL *	30	57	14	101
Lytton AL *	97	109	76	282
Manly AL *	116	110	88	314
Mansfield AL *	106	105	81	292
Mitchelton(Osborne Rd) AL *	73	110	101	284
Mt Coot-Tha AL *	74	105	62	241
Mt Gravatt AL *	79	88	72	239
Opossum AL *	40	65	26	131
Pullenvale AL *	61	106	41	208
Ransome AL *	127	114	87	328
Redbank Plains AL *	44	77	28	149
Salisbury AL *	64	89	61	214
Six Mile Creek AL *	35	55	18	108
South Ripley AL *	36	63	15	114
Spring Mt AL *	42	72	22	136
Springfield Lakes AL *	39	68	23	130
Three Ways AL *	66	106	75	247
Toombul (Nudgee Rd) AL-B *	72	95	82	249
Toowong AL *	67	90	56	213
Upper Kedron AL *	86	126	80	292
Wacol AL *	49	84	36	169
Wishart(Greenwood St) AL *	94	97	77	268
Wynnum Bowls Club AL *	105	100	69	274
<b>Maximum</b>	127	139	169	328

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Tingalpa Creek</b>				
Burbank AL *	84	91	94	269
Leslie Harrison Dam AL *	72	86	85	243
Leslie Harrison Dam Hw TM *	71	87	85	243
Mt Cotton West AL *	103	68	93	264
Priestdale AL *	74	63	76	213
Rochedale South AL *	79	86	74	239
<b>Maximum</b>	103	91	94	269

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Logan-Albert</b>				
Bahrs Scrub AL *	82	58	23	163
Beaudesert AL *	44	65	21	130
Beaudesert Drumley Street AWS *	39	57	19	115
Beenleigh AL *	86	65	28	179
Bega Road Quarry AL *	2	57	45	104
Benobble AL *	60	71	22	153
Boonah AL *	34	35	19	88
Bromelton Dam AL *	36	52	15	103
Bromelton Weir Hw TM *	39	61	18	118
Bromfleet AL *	53	75	14	142
Bromfleet TM *	49	61	13	123
Bryn Euryn TM *	32	38	3	73
Cannon Cove TM *	31	40	14	85
Carbrook AL *	104	69	58	231
Carbrook(Riedel Road) AL *	107	63	46	216
Cedar Grove Weir Hw TM *	47	69	17	133
Coulson AL *	31	39	22	92
Coulson TM *	28	30	22	80
Croftby AL *	24	31	6	61
Darlington AL *	33	64	26	123

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Logan-Albert</b>				
Dieckmans Bridge AL *	28	49	20	97
Dieckmans Bridge TM *	26	32	20	78
Forest Home TM *	20	29	13	62
Foxley AL *	38	65	20	123
Grimsey Rd TM *	33	30	15	78
Hillcrest(Wine Glass) AL *	70	81	46	197
Kilmoyla Rd AL *	47	68	17	132
Knapps Peak AL *	30	37	16	83
Kooralbyn AL *	32	59	24	115
Laheys Lookout AL *	70	71	23	164
Logan City SYN	73	66	35	174
Logan Village AL *	48	72	32	152
Lower Quinzeh AL *	49	64	26	139
Lumeah AL *	36	72	17	125
Maclean Bridge	51	71	23	145
Maclean Bridge AL *	52	71	23	146
Maroon Dam AL *	22	30	6	58
Maroon Dam Hw TM *	21	30	7	58
Marsden (First Ave) AL *	57	79	51	187
Mt ALford AL *	31	36	7	74
Mt Barney TM *	29	41	13	83
Nindooibah Dam AL *	48	75	17	140
Nindooibah TM *	39	59	15	113
O'Reillys AL *	74	74	28	176
Palen Creek AL *	26	45	20	91
Parklands AL *	84	58	28	170
Rathdowney AL *	29	59	22	110
Rathdowney TM *	26	34	21	81
Regents Park	75	79	45	199
Romani AL *	42	65	14	121
Round Mountain AL *	38	61	18	117
Round Mountain TM *	35	52	20	107
Rudds Lane AL *	32	60	19	111

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Logan-Albert</b>				
Schmidts Rd AL *	59	79	33	171
Slacks Ck(Loganlea Rd) AL *	56	71	53	180
Slacks Ck(Reserve Pk) AL *	60	75	51	186
Stretton(Gowan Rd) AL *	75	79	49	203
Tamborine AL *	48	70	17	135
Tamrookum TM *	32	45	22	99
Tramway Lane TM *	31	40	27	98
Underwood(Millers Rd) AL *	63	76	45	184
Undullah Rd TM *	36	57	13	106
Upper Running Ck TM *	47	61	14	122
Waller Rd AL *	78	81	50	209
Ward Road TM *	23	33	18	74
Waterford AL *	58	71	31	160
White Swamp AL *	37	38	6	81
Wilsons Peak AL *	37	50	9	96
Wilsons Peak AL-P *	37	49	10	96
Wolfdene AL *	72	58	19	149
Wyaralong Dam AL *	42	63	14	119
Yarrahappini AL *	51	68	18	137
Yarrahappini TM *	49	59	18	126
<b>Maximum</b>	107	81	58	231

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Pimpama</b>				
Hotham Creek AL *	112	58	36	206
Kerkin Road AL *	113	43	40	196
Luscombe AL *	58	56	22	136
Norwell AL *	103	43	38	184
Steiglitz Wharf AL *	107	32	48	187
Stewarts Rd AL *	86	40	24	150
<b>Maximum</b>	113	58	48	206

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Coomera</b>				
Beechmont (DNRM) TM *	10	62	29	101
Beechmont AL *	50	52	22	124
Binna Burra AL *	76	55	27	158
Canungra Army AL *	63	68	23	154
Clagiraba Road AL *	96	66	32	194
Coombabah AL *	95	53	41	189
Coomera Shores AL *	82	44	34	160
Illinbah TM *	52	47	21	120
Monterey Keys AL *	96	56	40	192
Mt Tamborine	77	68		145
Mt Tamborine AL *	90	71	35	196
Oxenford	97	55	43	195
Oxenford Weir AL *	79	50	31	160
Pacific Pines AL *	95	65	44	204
Tyungun AL *	44	60	16	120
Wongawallan AL *	70	55	28	153
<b>Maximum</b>	97	71	44	204

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Nerang</b>				
Air Sea Rescue AL *	110	36	42	188
Biggera Ck Dam AL *	123	51	51	225
Bonogin AL *	93	47	33	173
Boobegan Creek Lock AL *	91	44	42	177
Burleigh Waters AL *	91	23	43	157
Carrara AL *	105	54	40	199
Clearview AL *	77	63	21	161
Clearview TM *	80	50	33	163
Coolangatta AWS *	92	33	53	178
Coplicks Bridge AL *	93	45	38	176

Station name	24-hour rainfall (mm) to 9 am February			Total (mm)
	20	21	22	
<b>Nerang</b>				
Currumbin Ck AL *	104	79	53	236
Evandale AL *	54	37	36	127
Gold Cst Seaway AWS *	111	39	49	199
Hinze Dam Hw AL *	74	64	28	166
Hinze Dam Hw TM *	74	64	28	166
Little Nerang Dam AL *	69	47	21	137
Loder Ck Dam AL *	113	48	48	209
Loder Creek AL *	101	39	40	180
Molendinar AL *	101	59	46	206
Mt Nimmel AL *	74	64	31	169
Mudgeeraba AL *	90	45	35	170
Murwillumbah SYN	90	103	27	220
Nerang	77	68	35	180
Neranwood AL *	84	74	35	193
Numinbah AL *	34	59	25	118
Numinbah Valley AL *	45	58	24	127
Numinbah Valley TM *	43	40	18	101
Oyster Creek AL *	84	33	41	158
Southport	111	47	42	200
Springbrook	94	73	57	224
Springbrook TM *	131	127	88	346
Tallebudgera Ck Dam AL *	98	53	33	184
Tallebudgera Ck Mouth AL *	96	32	50	178
Tallebudgera Ck Rd AL *	91	51	35	177
Tomewin - Tallowood	132	99	63	294
Tomewin AL *	105	57	35	197
Upper Springbrook AL *	147	145	94	386
Worongary Creek AL *	98	53	37	188
<b>Maximum</b>	147	145	94	386

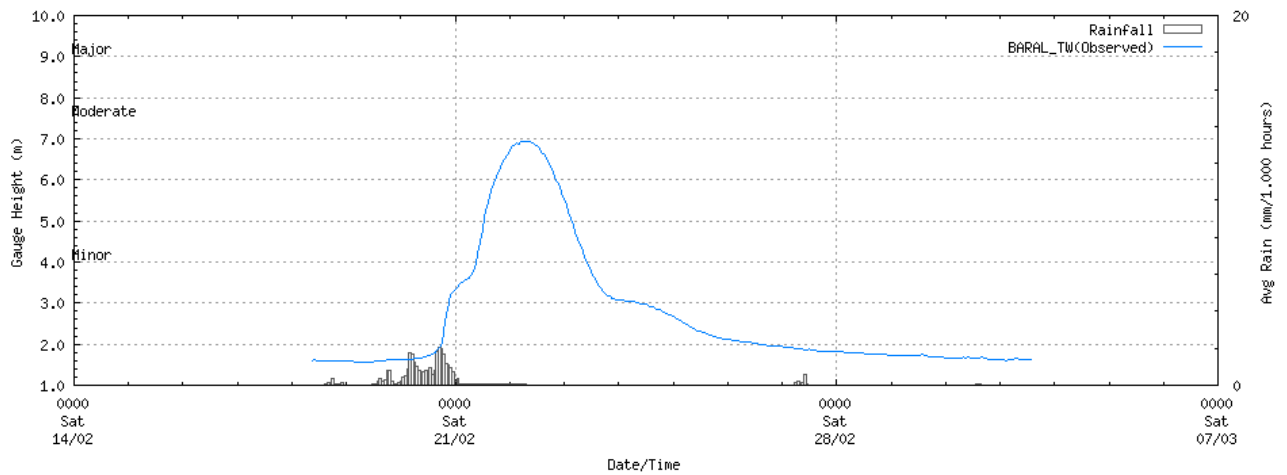


# Appendix 3: Hydrographs

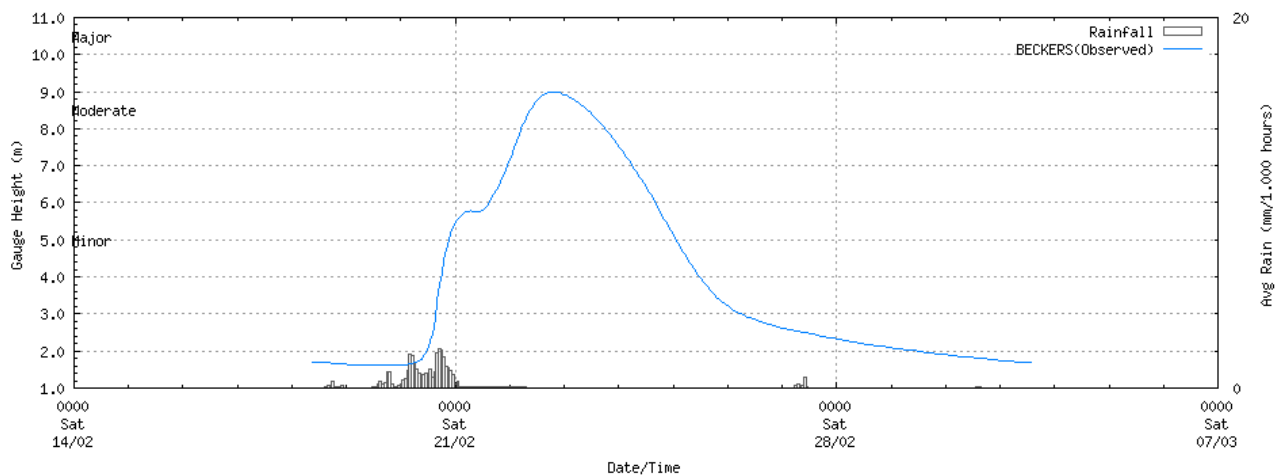
Shown below are selected hydrographs from key information and forecast locations recorded during tropical cyclone *Marcia*. Hyetographs of catchment average rainfall (mm/hr) are also displayed.

## Fitzroy River catchment

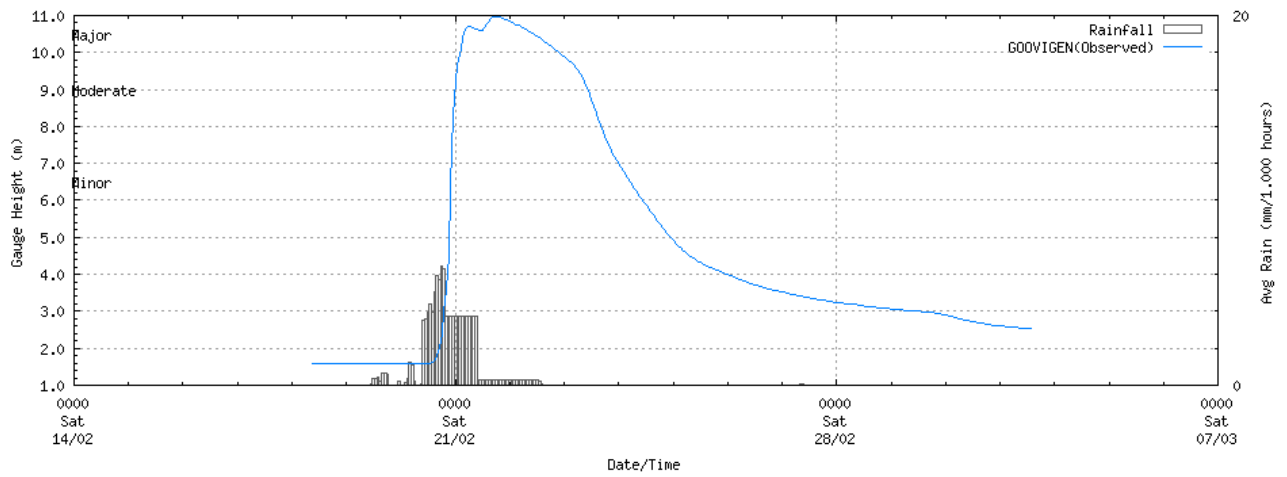
### Dawson River at Baralaba tailwater telemetry



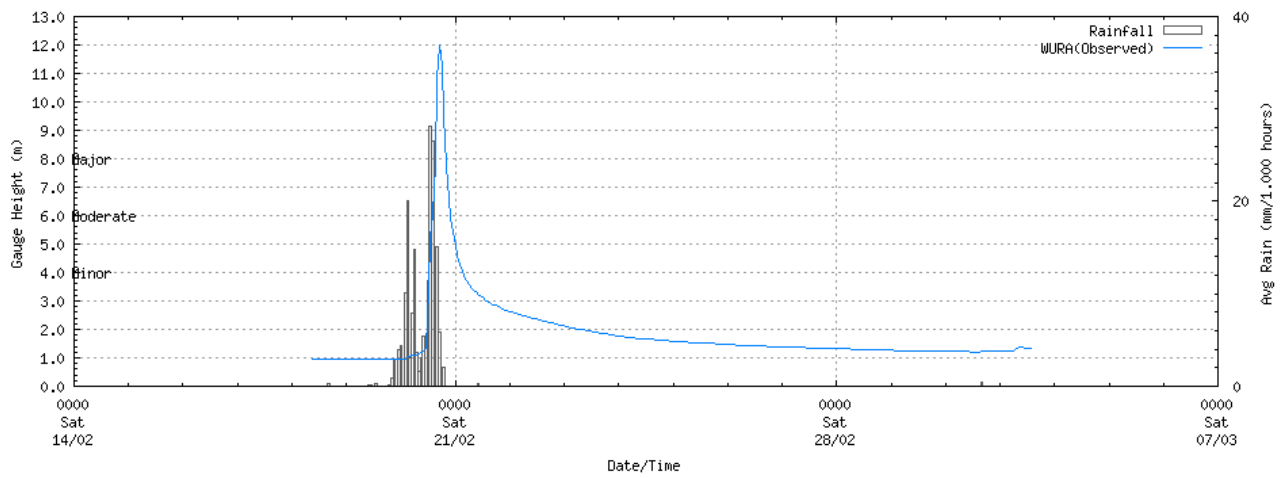
### Dawson River at Beckers telemetry



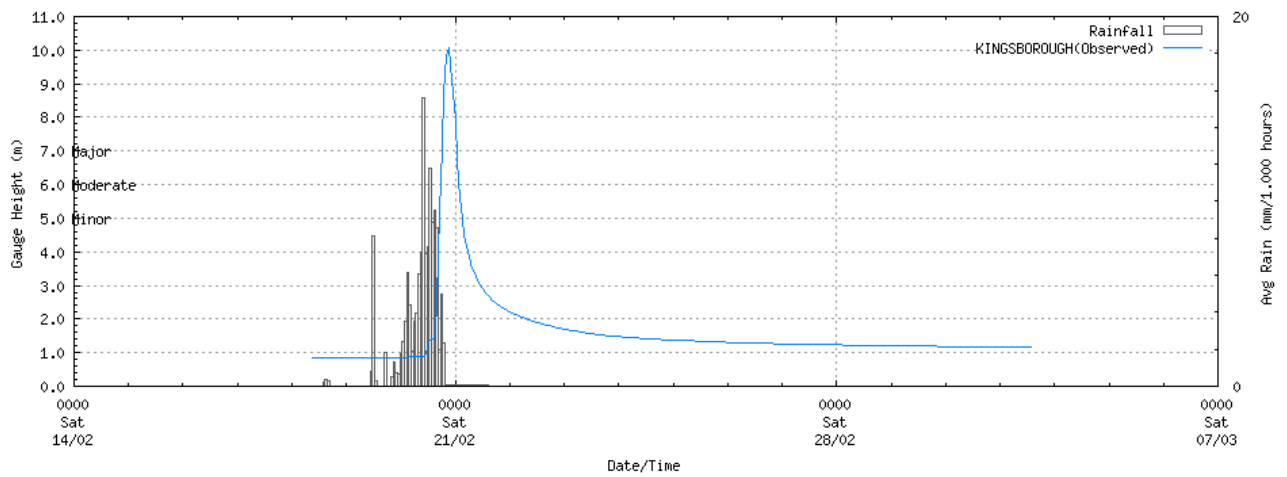
### Callide Creek at Goovigen telemetry



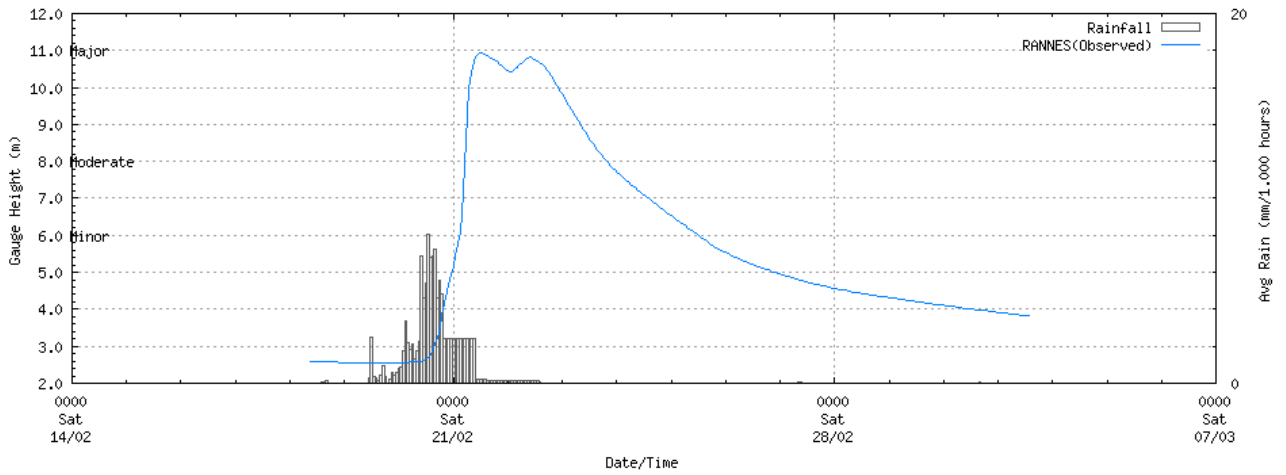
### Dee River at Wura telemetry



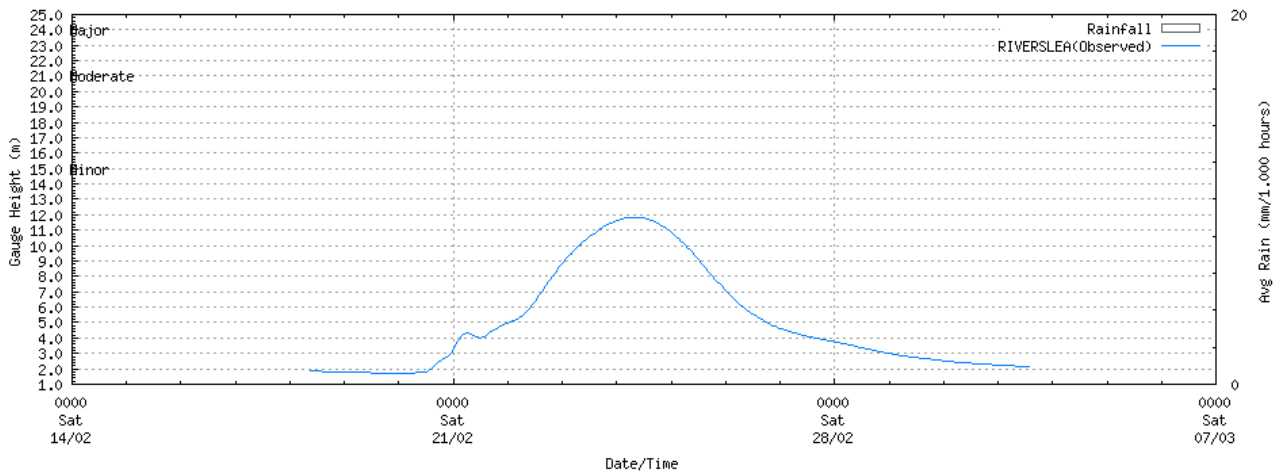
### Don River at Kingsborough telemetry



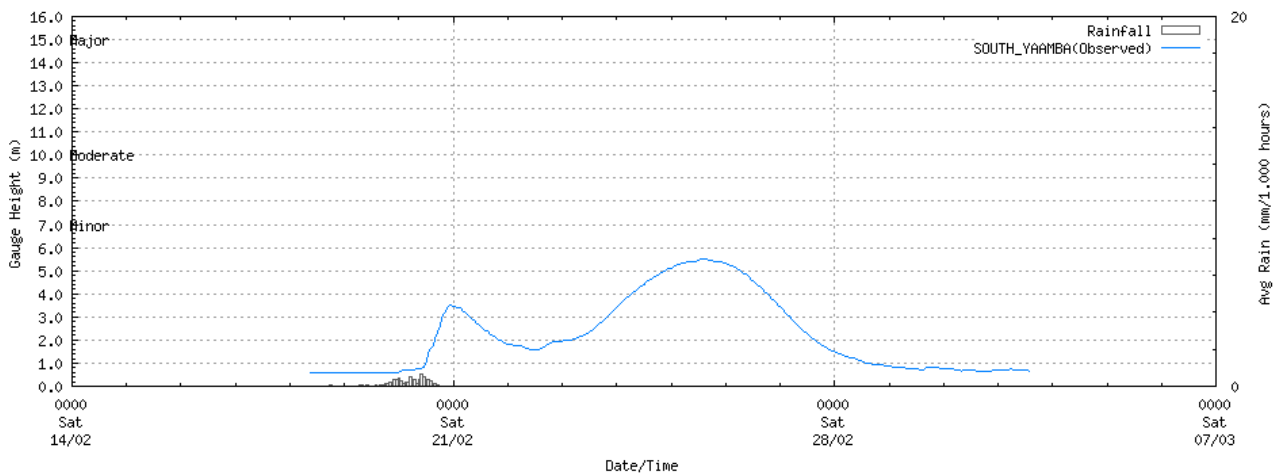
### Don River at Rannes telemetry



### Fitzroy River at Riverslea telemetry

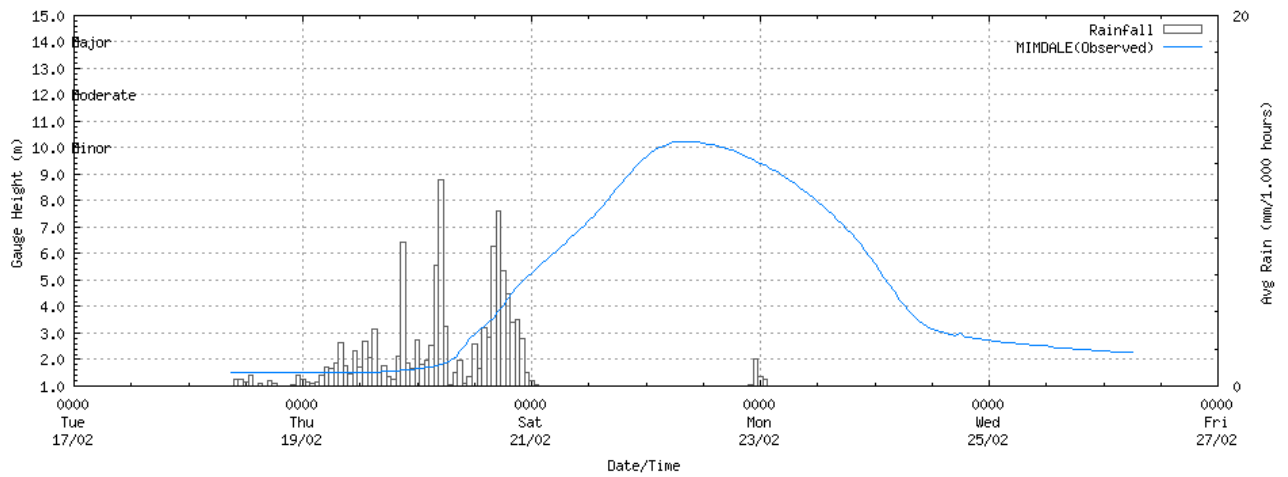


### Fitzroy River at South Yaamba telemetry

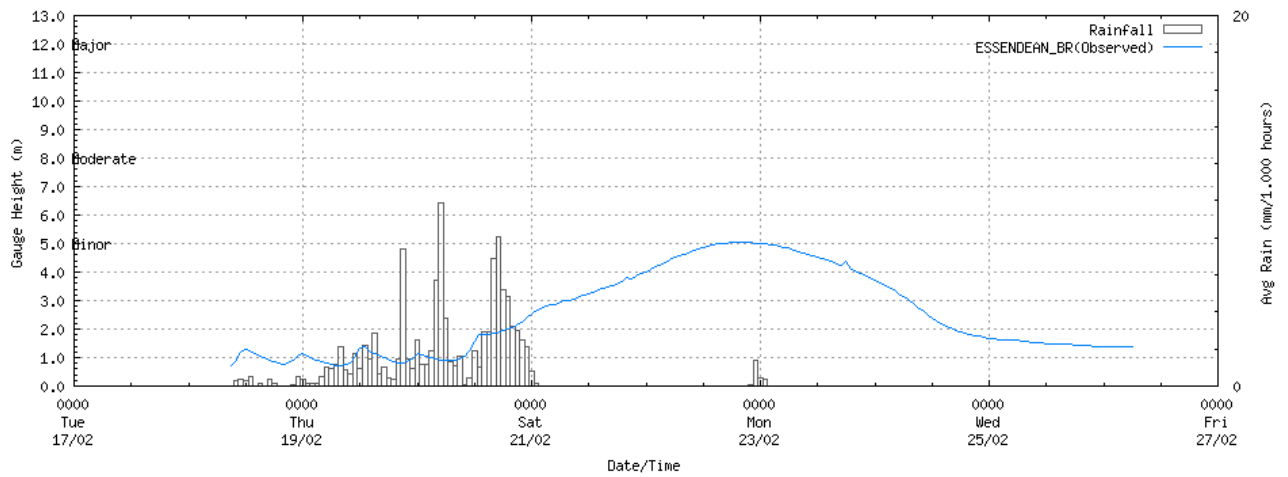


## Baffle Creek catchment

### Baffle Creek at Mimdale Alert

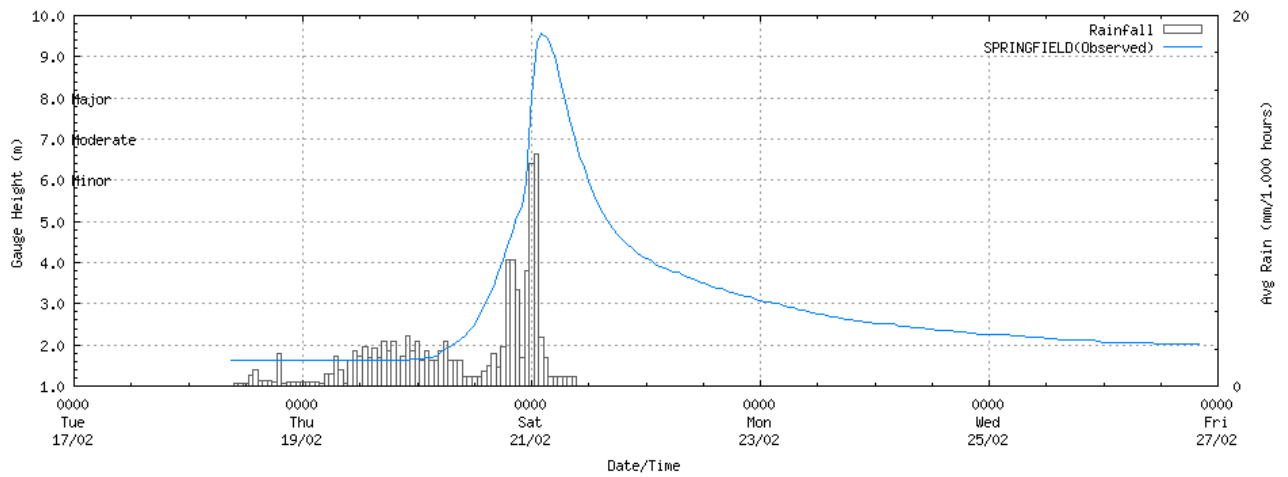


### Baffle Creek at Essendean Bridge Alert

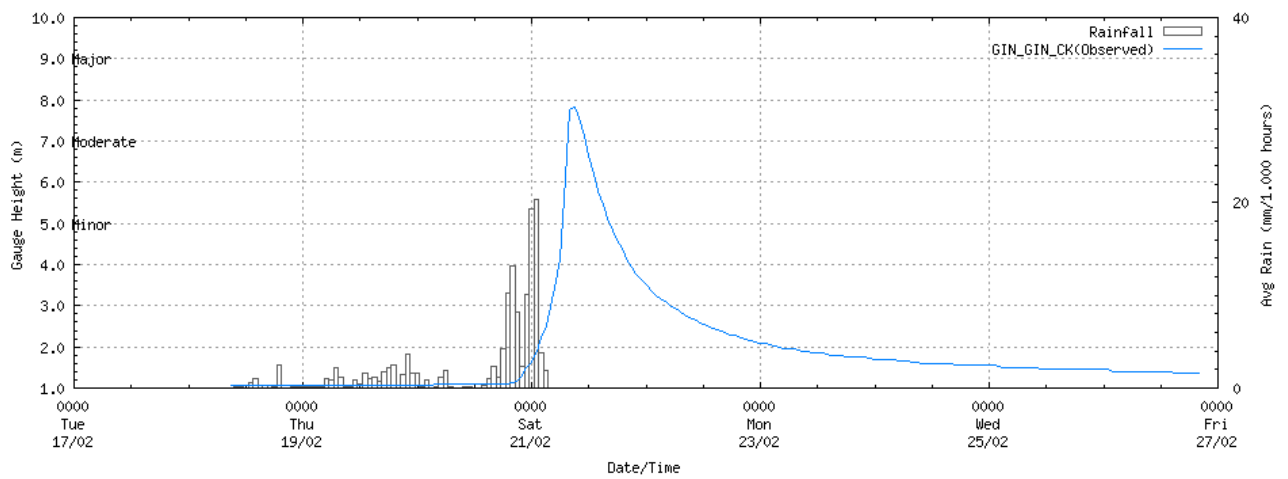


## Kolan River catchment

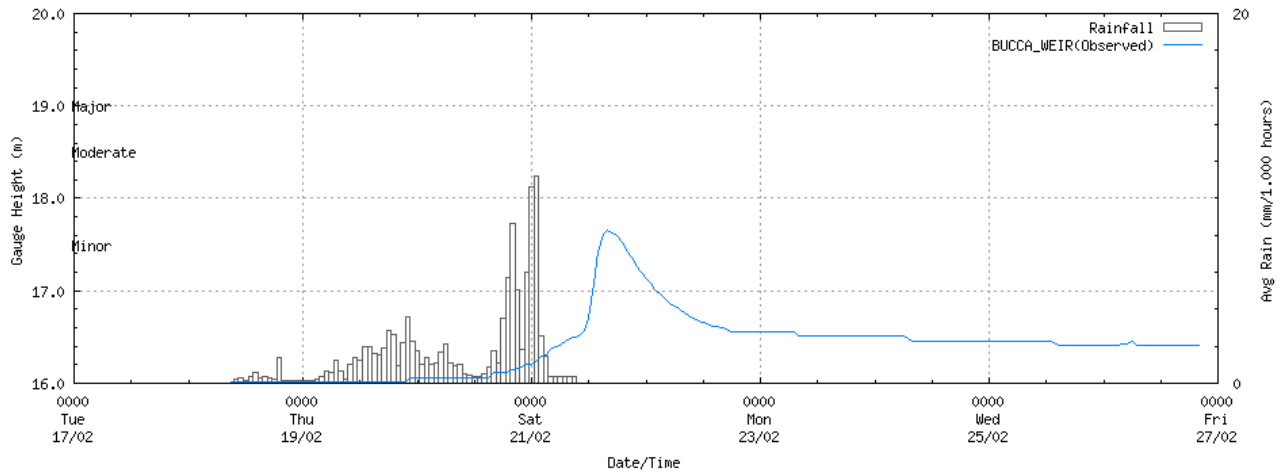
### Kolan River at Springfield telemetry



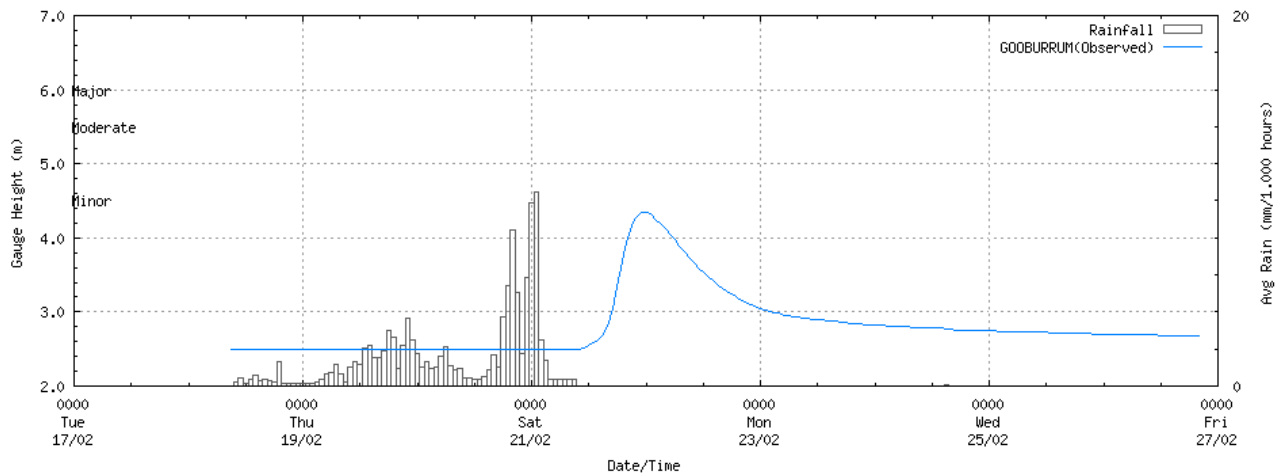
### Gin Gin Creek at Gin Gin telemetry



### Kolan River at Bucca Weir headwater telemetry

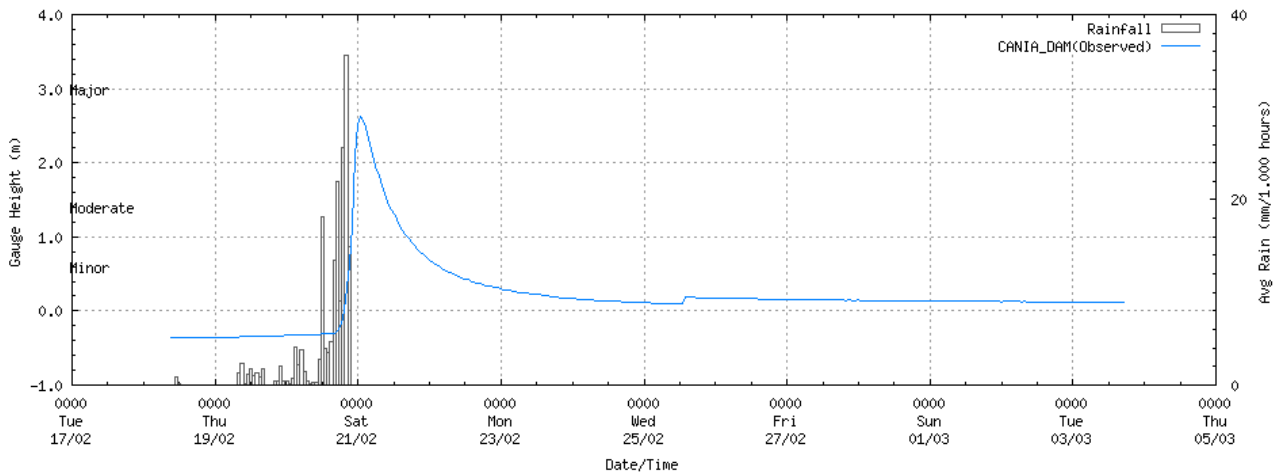


### Kolan River at Gooburrum pump station telemetry

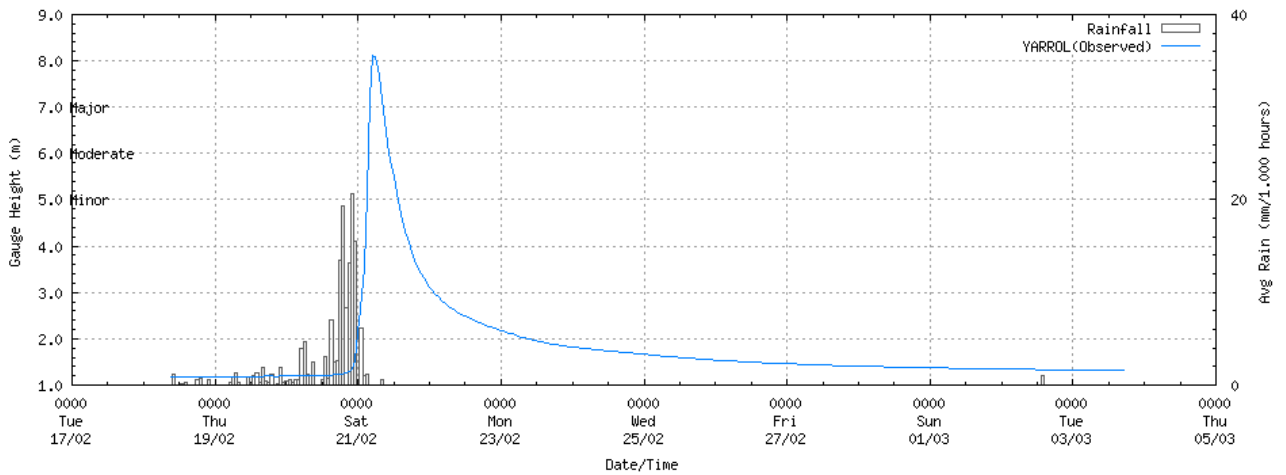


## Burnett River catchment

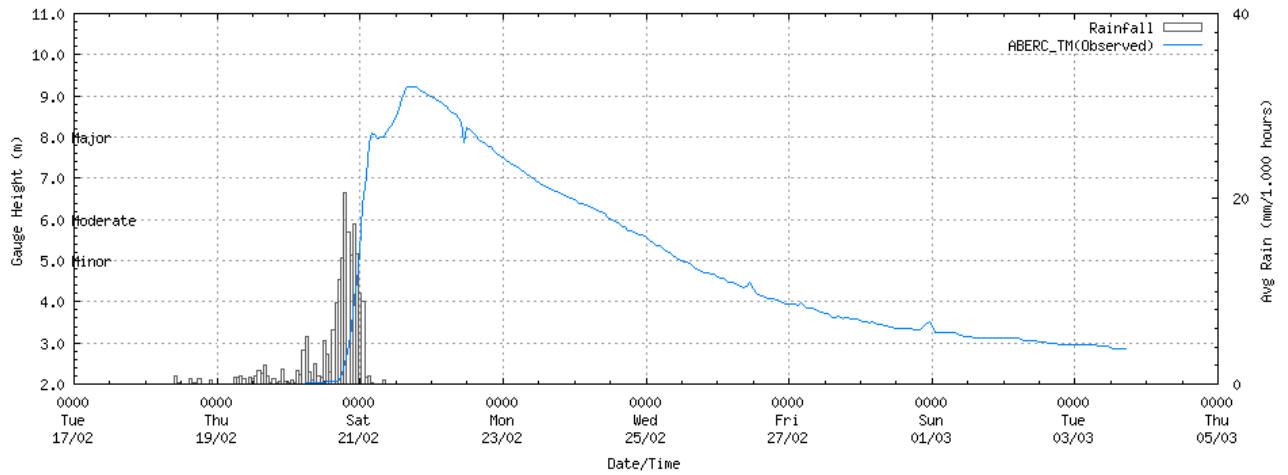
### Three Moon Creek at Cania Dam telemetry



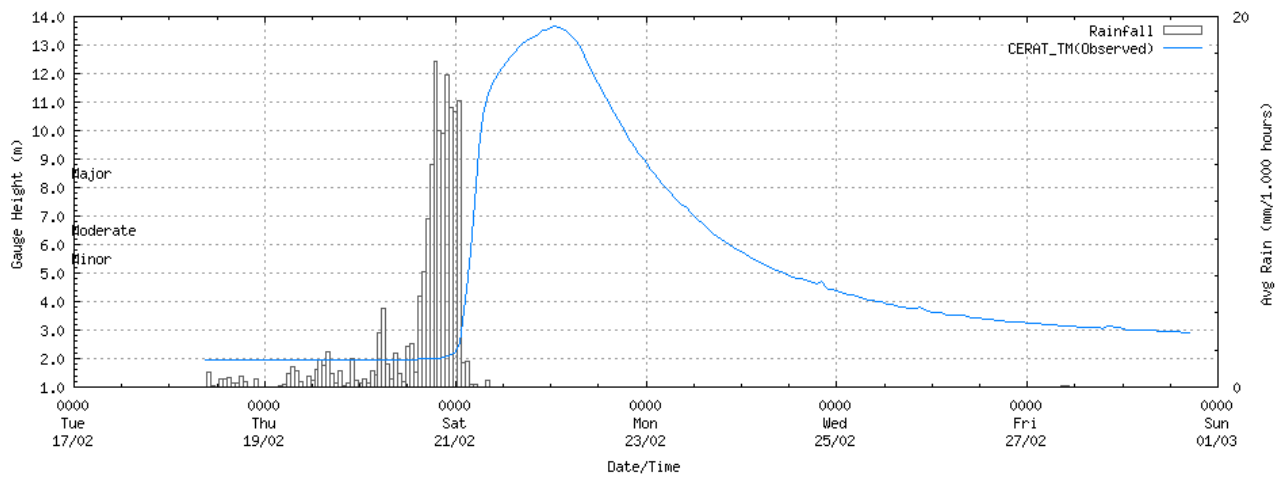
### Upper Burnett River at Yarrol telemetry



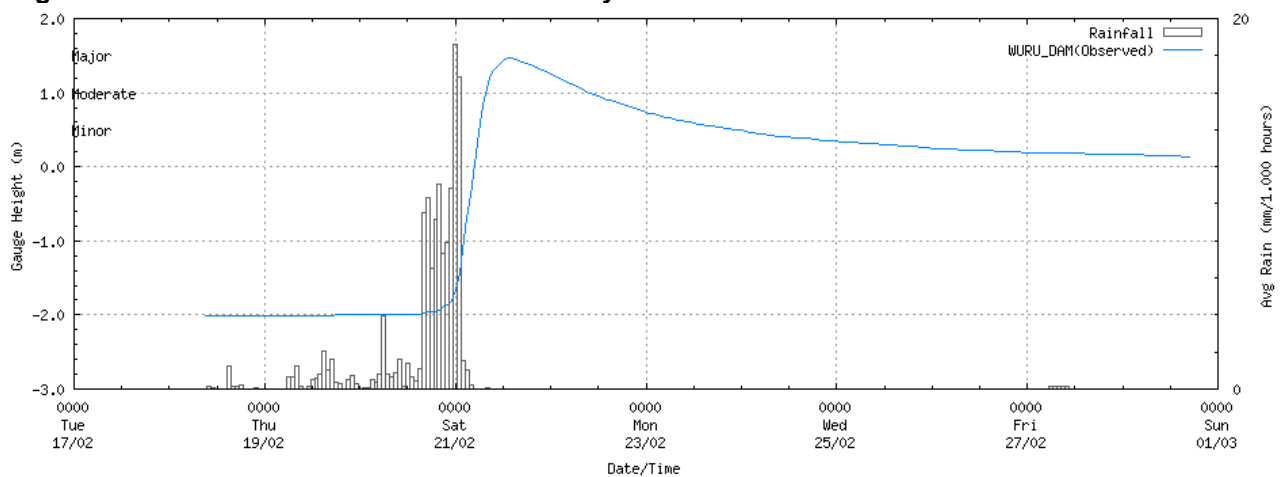
### Three Moon Creek at Abercorn Alert



### Upper Burnett River at Ceratodus Alert

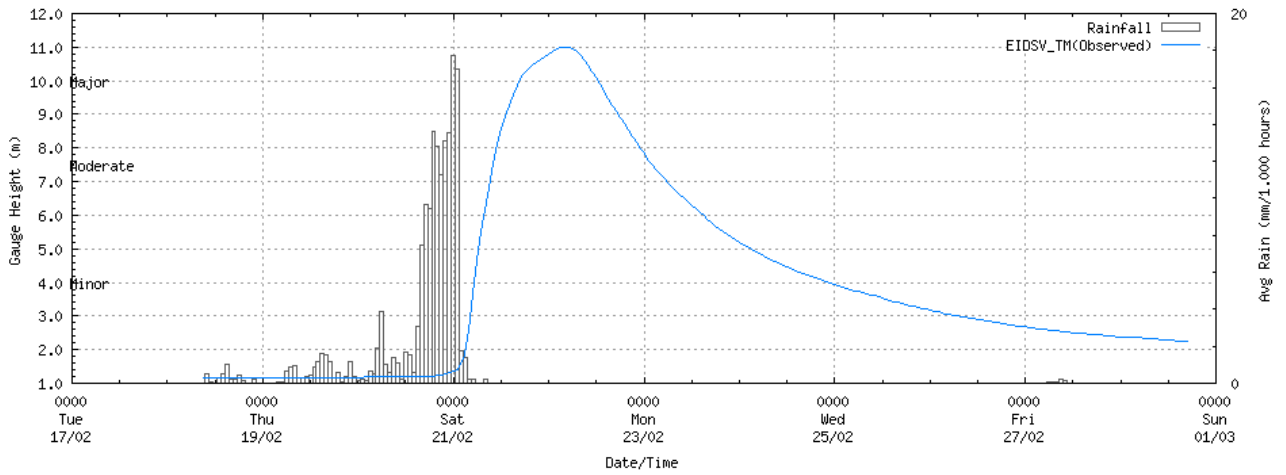


### Nogo River at Wuruma Dam headwater telemetry

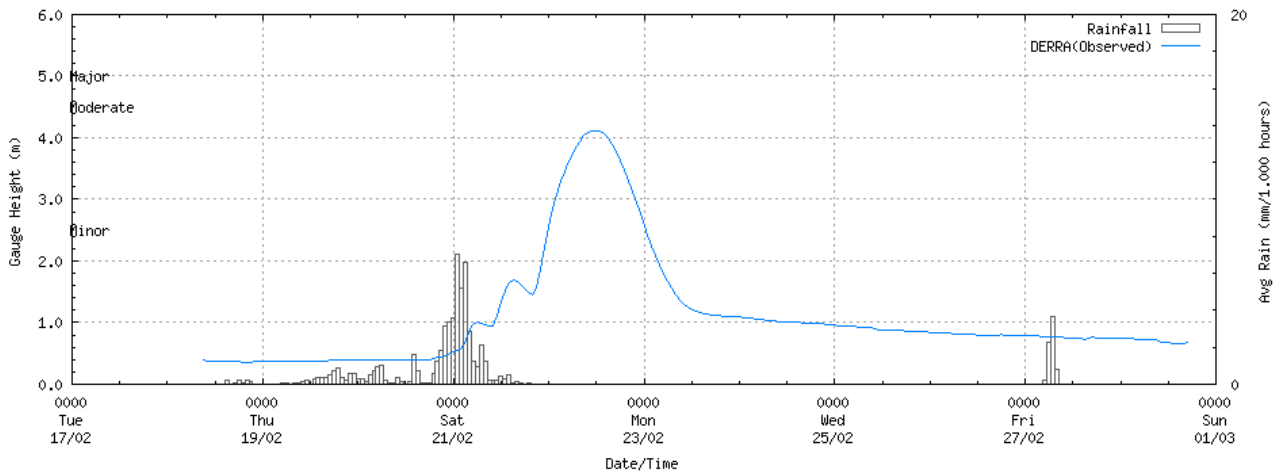




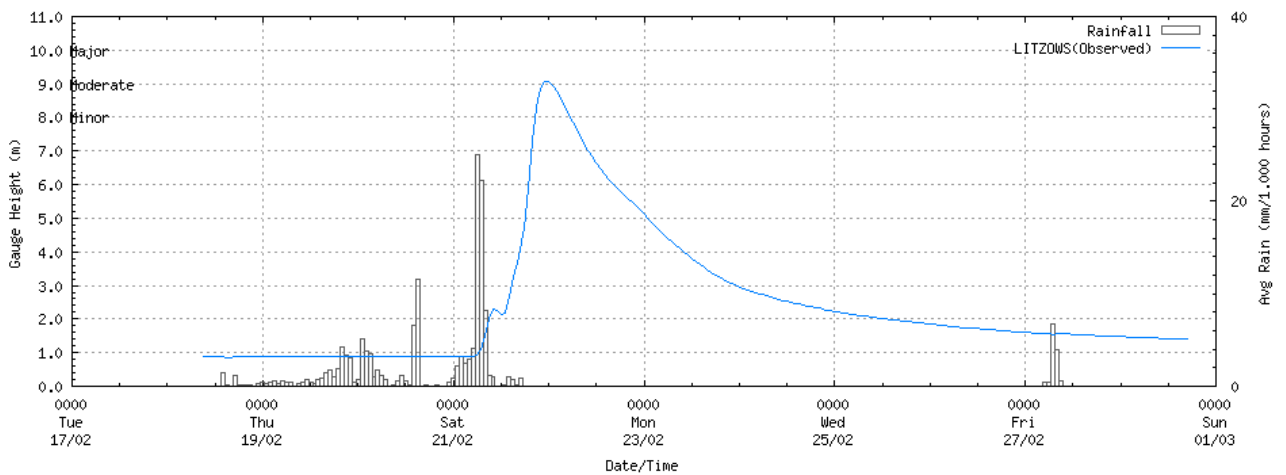
### Upper Burnett River at Eidsvold telemetry



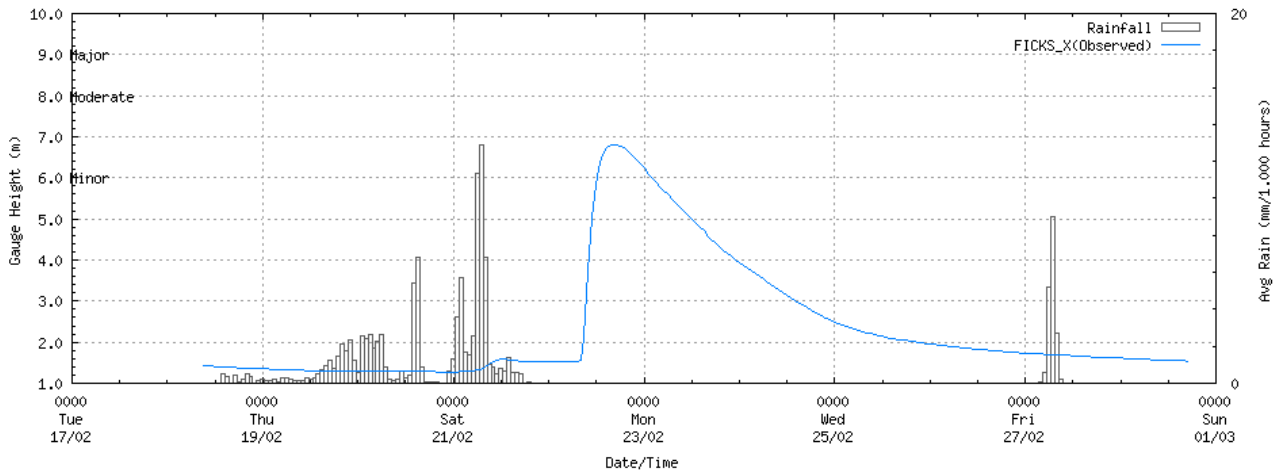
### Boyne River at Derra telemetry



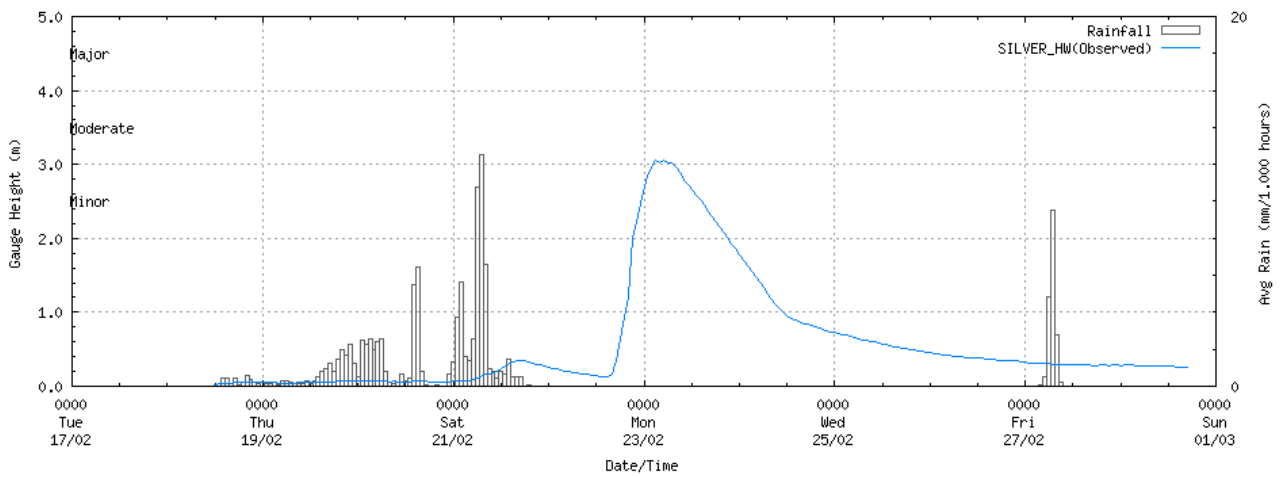
### Barambah Creek at Litzows telemetry



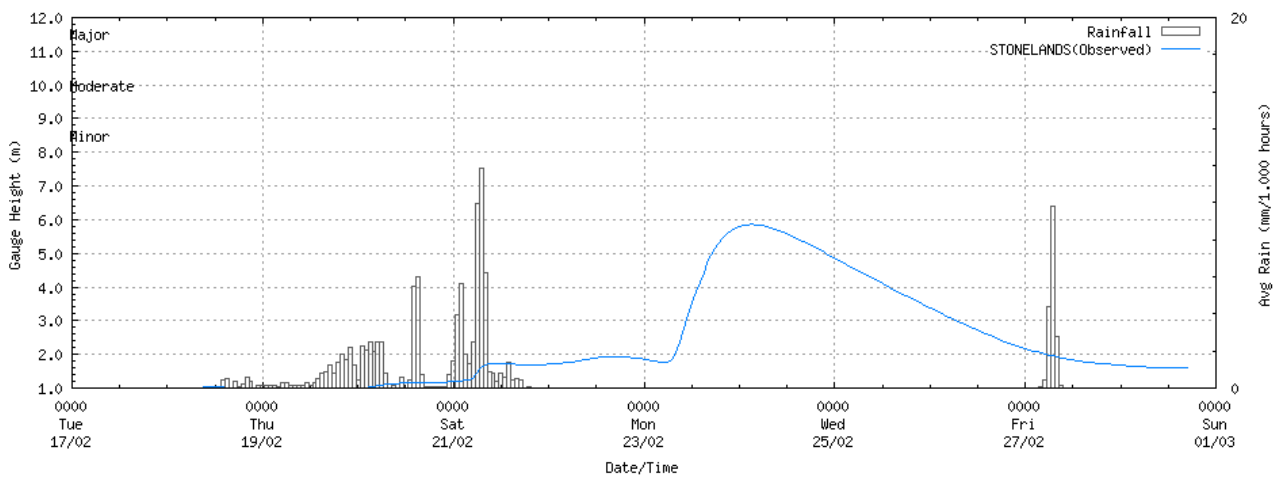
### Barambah Creek at Ficks Crossing telemetry



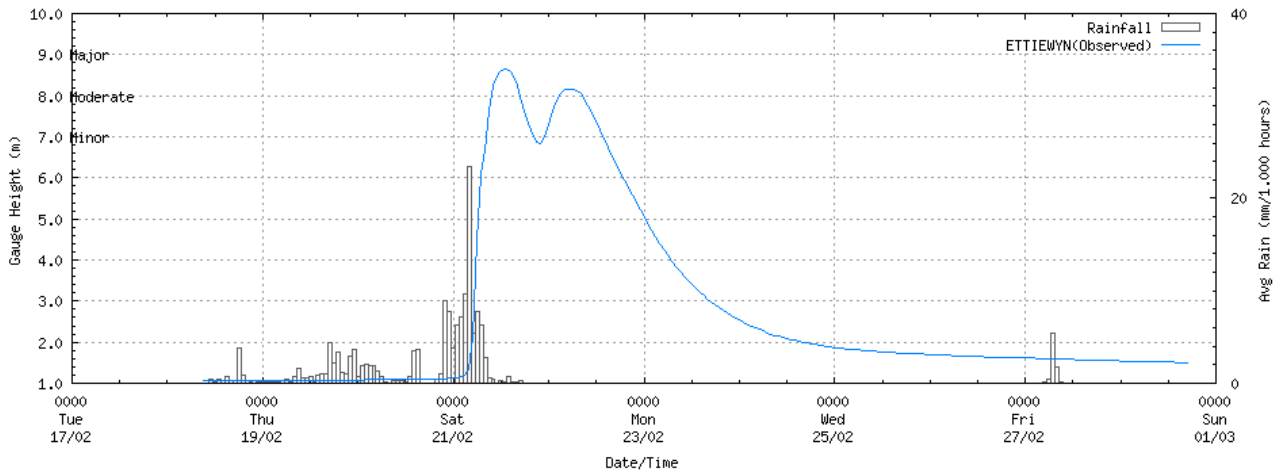
### Barambah Creek at Silverleaf Weir headwater telemetry



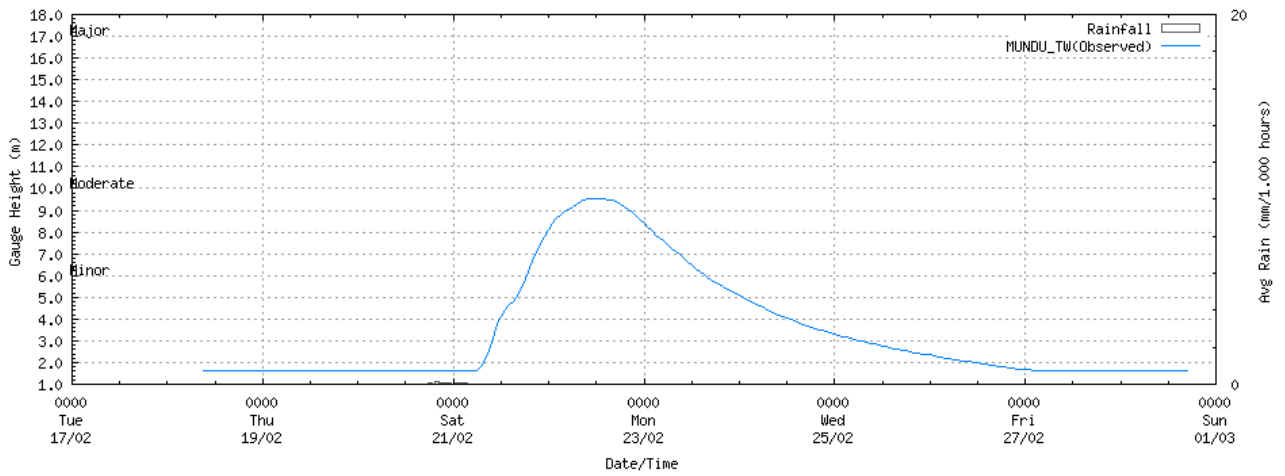
### Barambah Creek at Stonelands telemetry



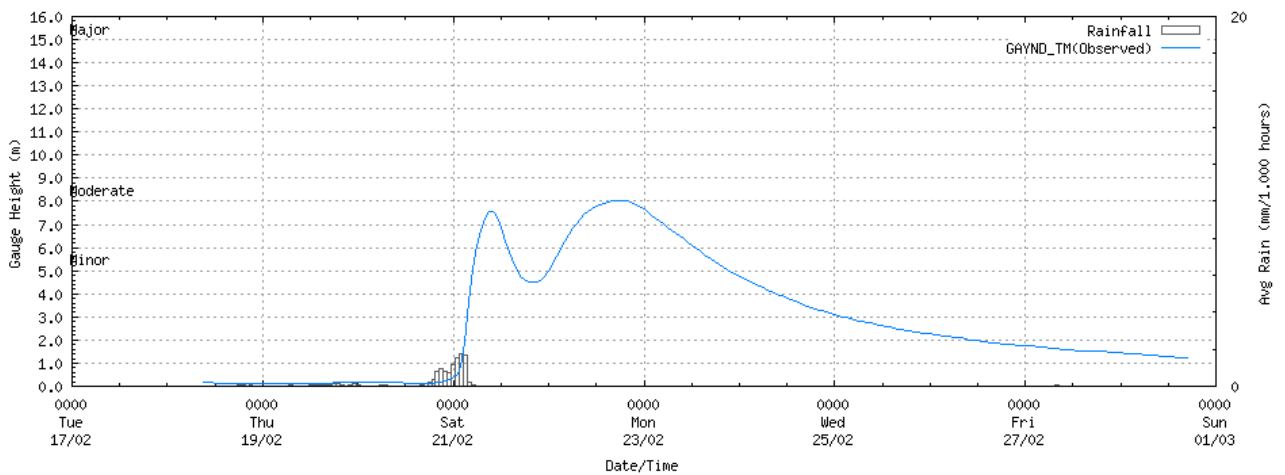
### Boonara Creek at Ettiewyn telemetry



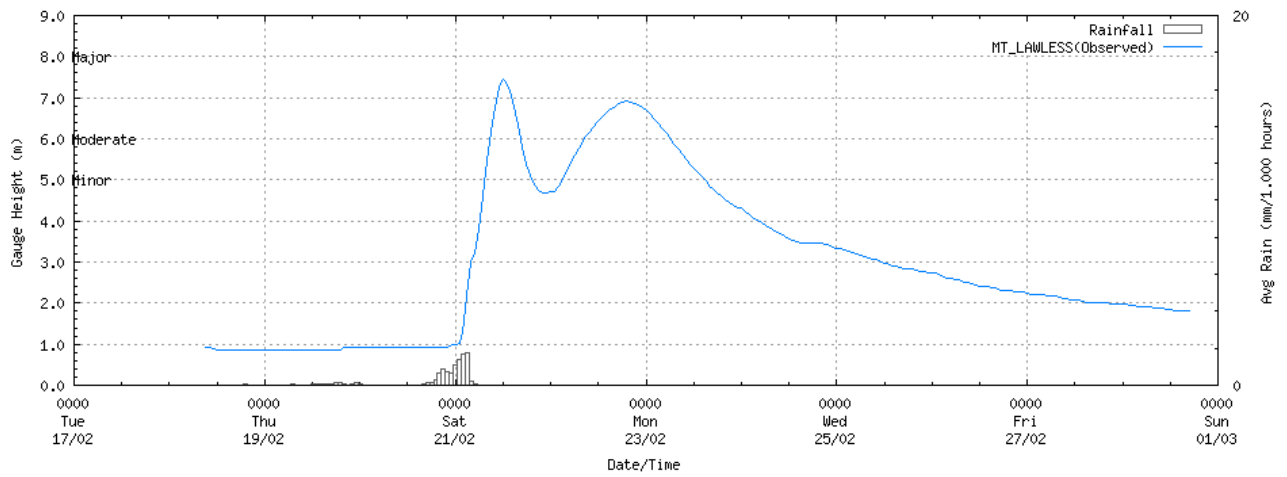
### Burnett River at Mundubbera tailwater telemetry



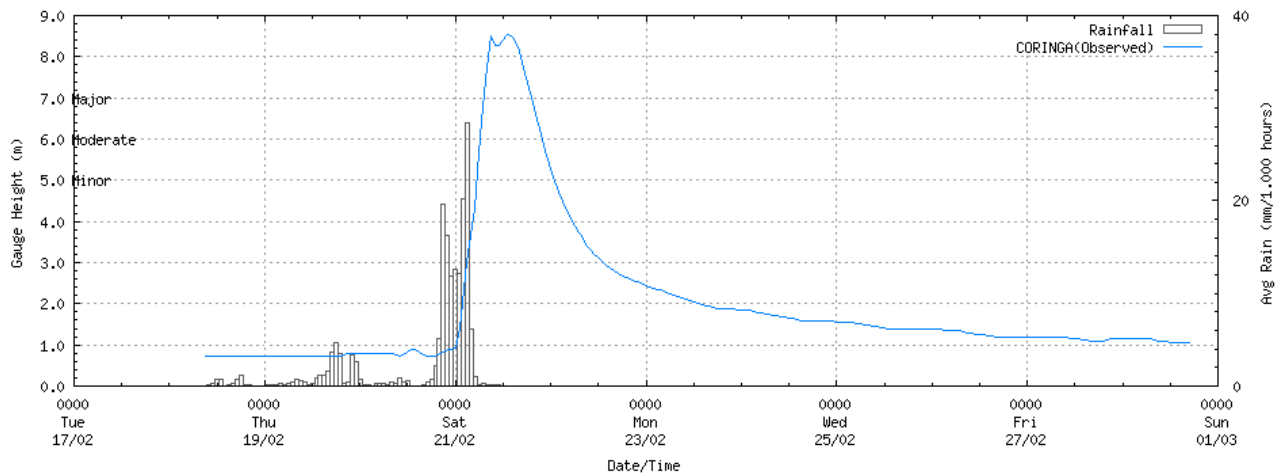
### Burnett River at Gayndah Flume Alert



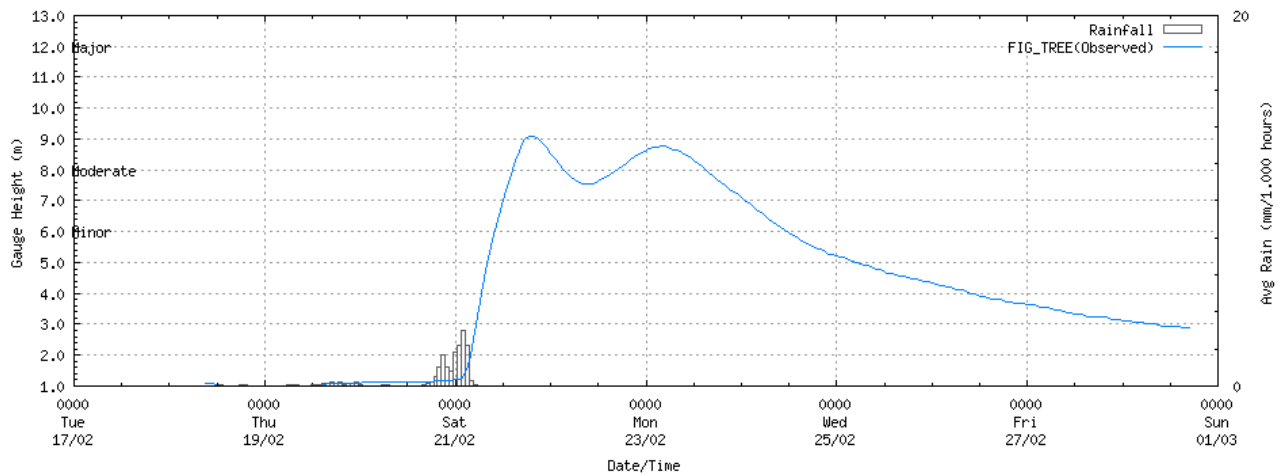
### Burnett River at Mount Lawless Alert



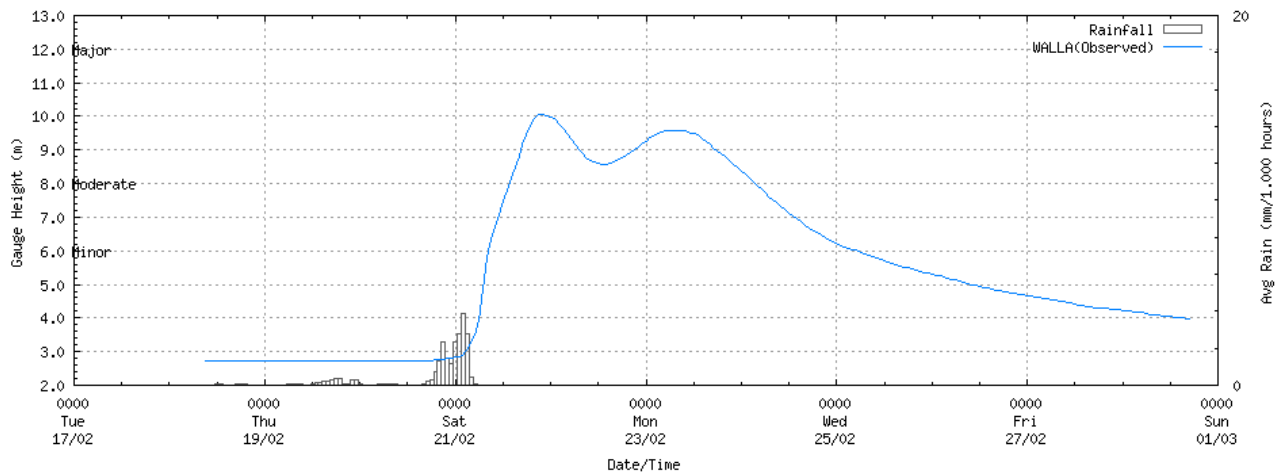
### Degilbo Creek at Coringa Alert



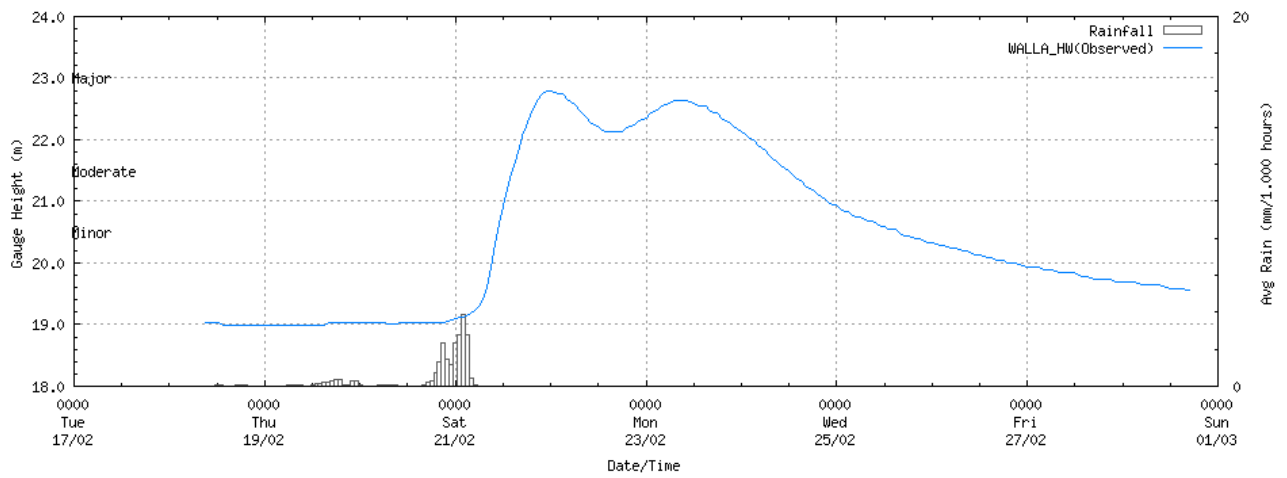
### Burnett River at Fig Tree Alert



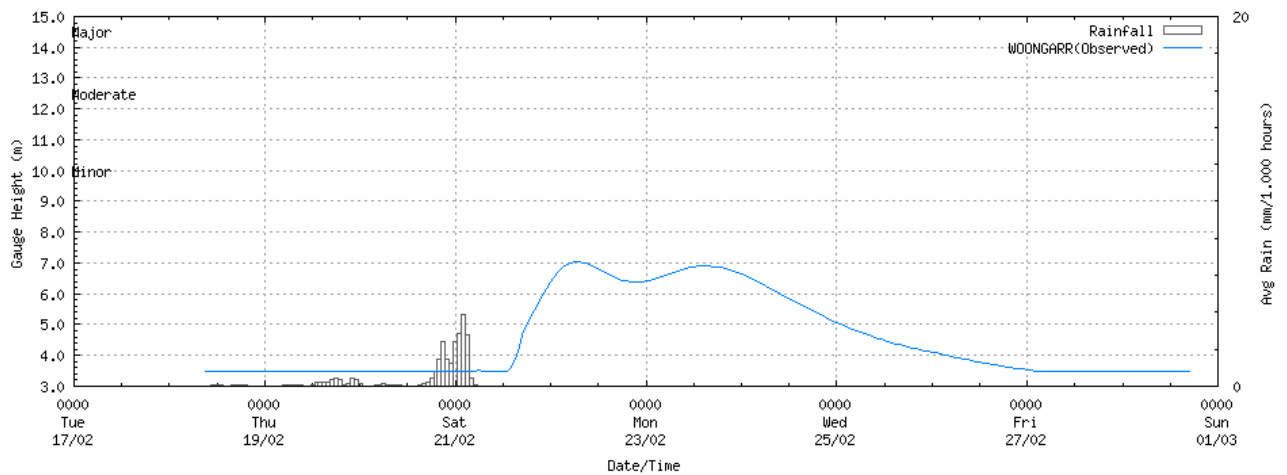
### Burnett River at Walla Alert



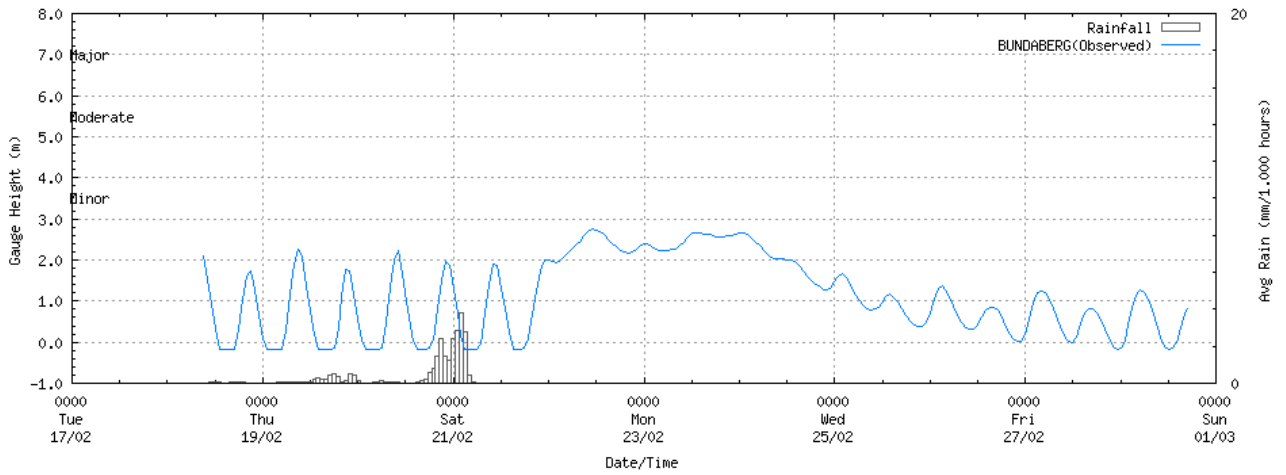
### Burnett River at Walla Weir headwater Alert



### Burnett River at Woongarra Pump Station telemetry

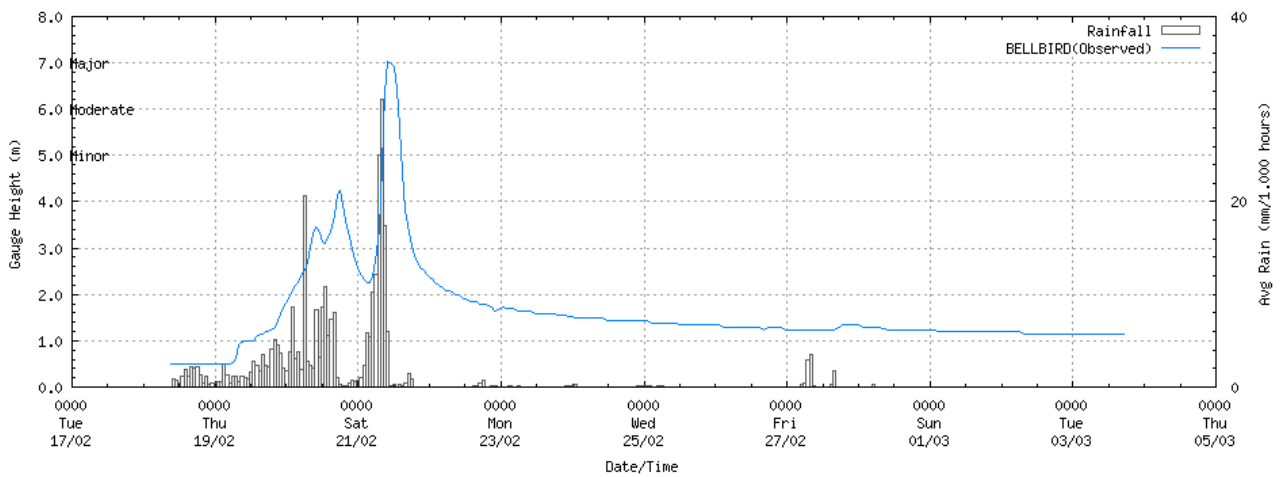


### Burnett River at Bundaberg Alert

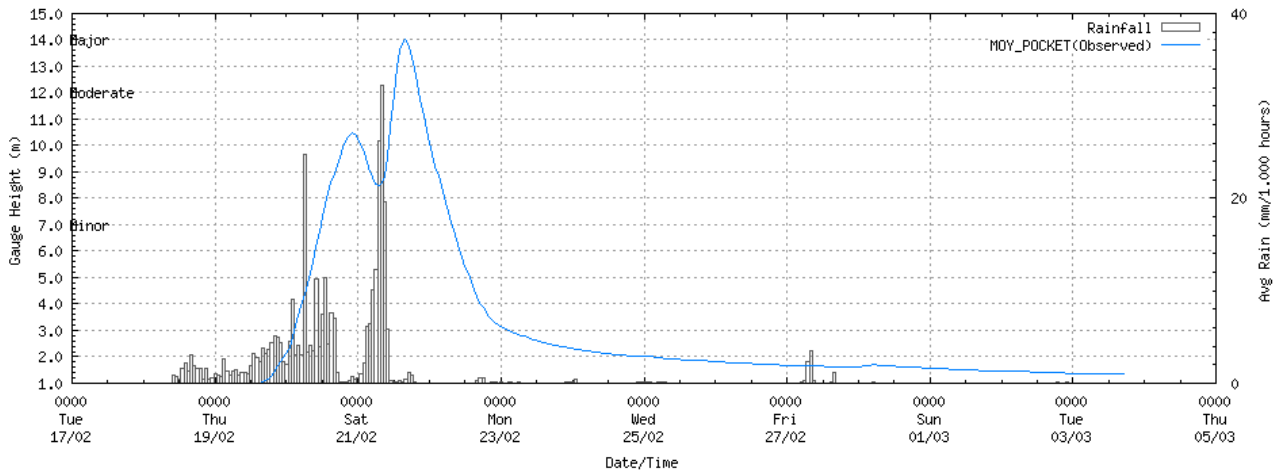


### Mary River catchment

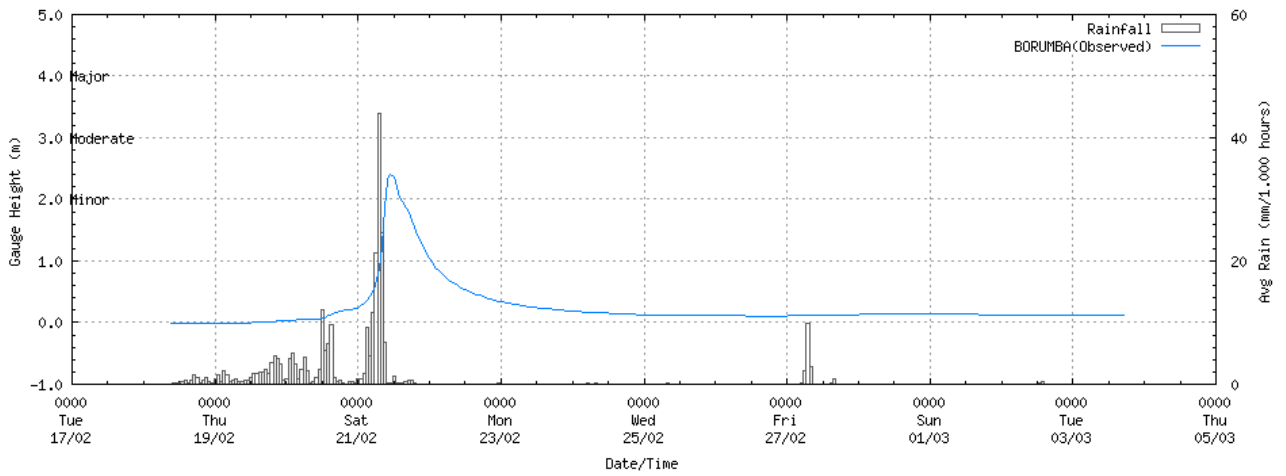
#### Mary River at Bellbird Creek Alert



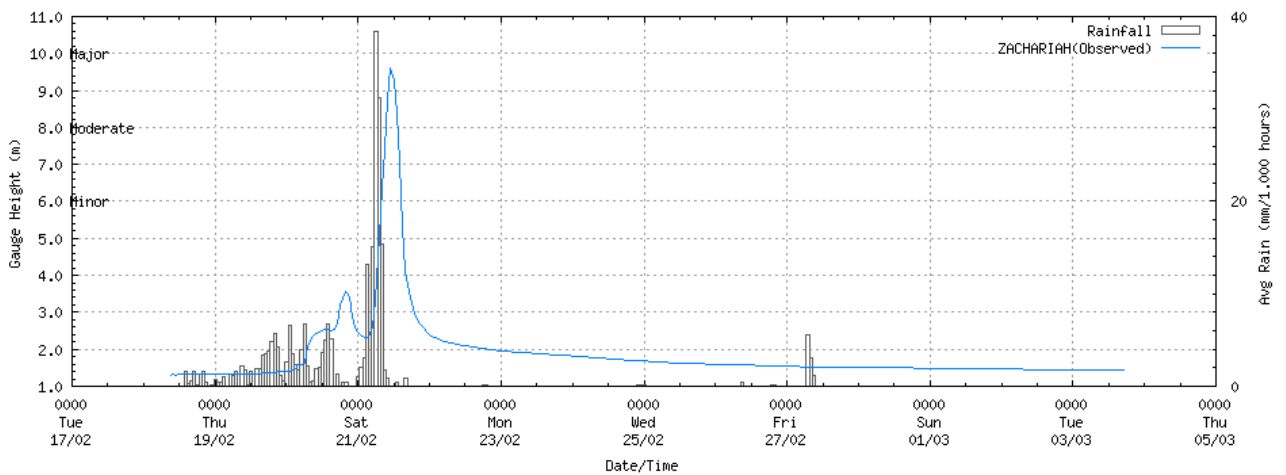
### Mary River at Moy Pocket Alert



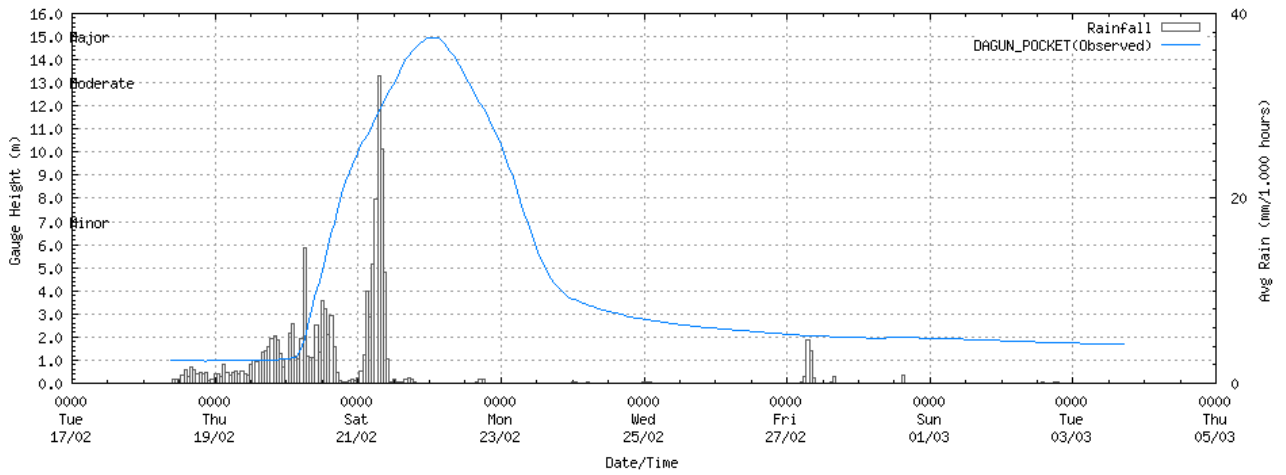
### Yabba Creek at Borumba Dam headwater telemetry



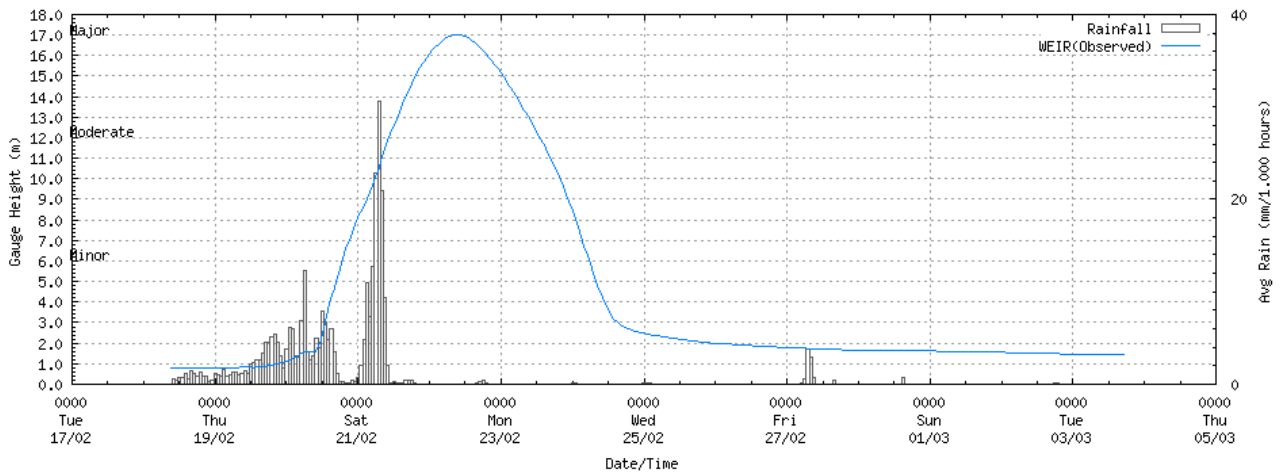
### Mary River at Zachariah telemetry



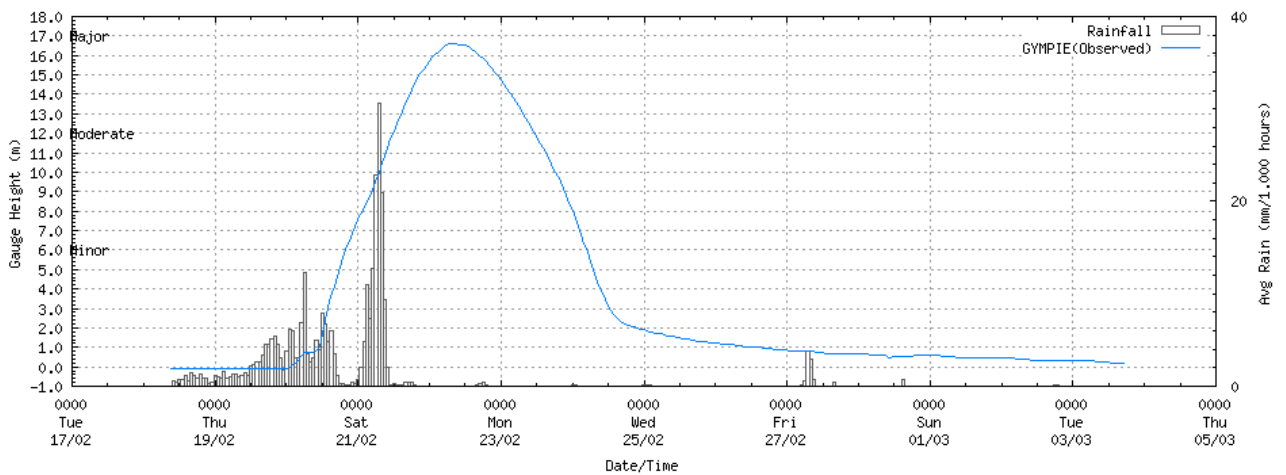
### Mary River at Dagon Pocket Alert



### Mary River at Gympie Weir telemetry

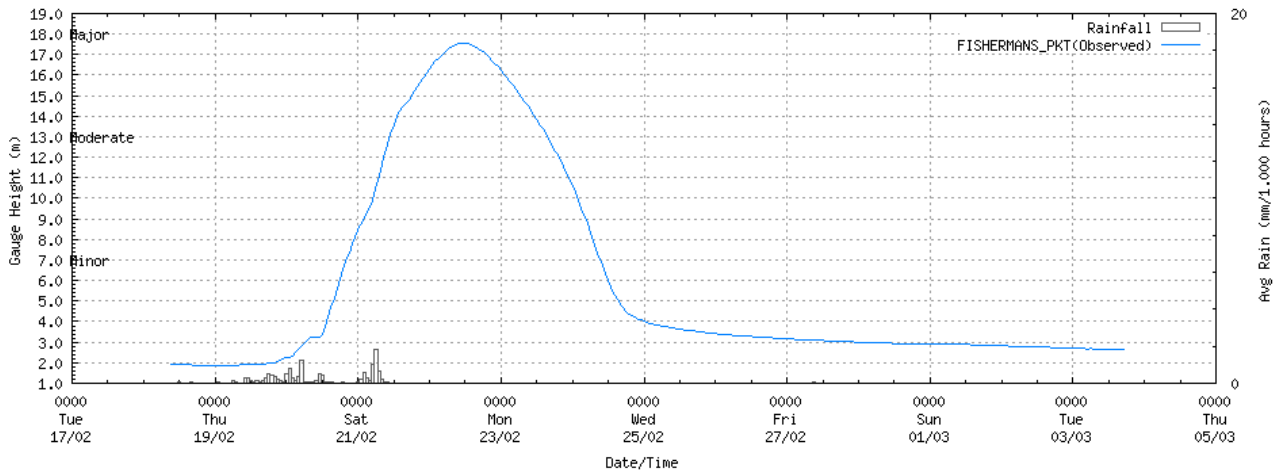


### Mary River at Gympie Alert

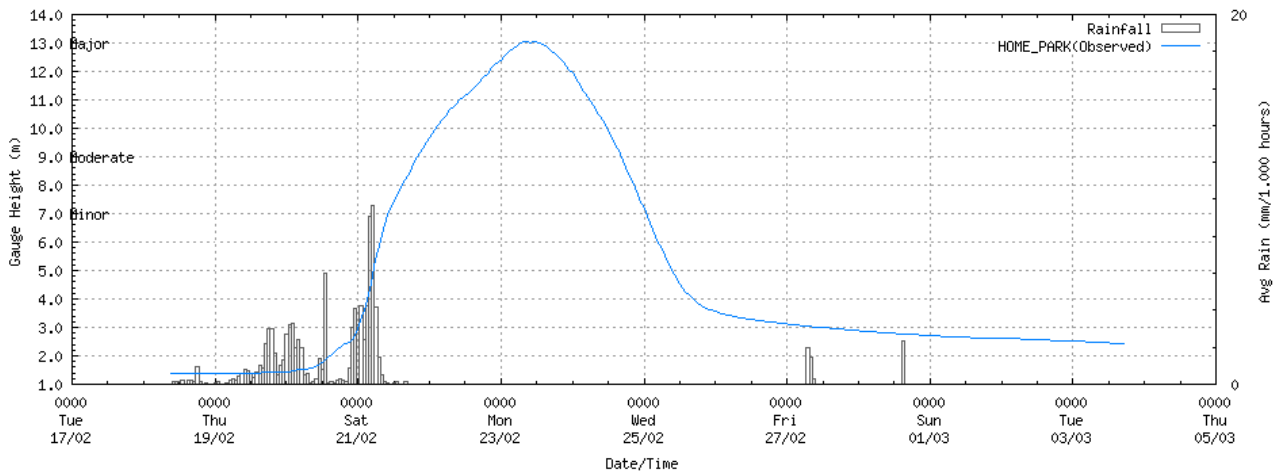




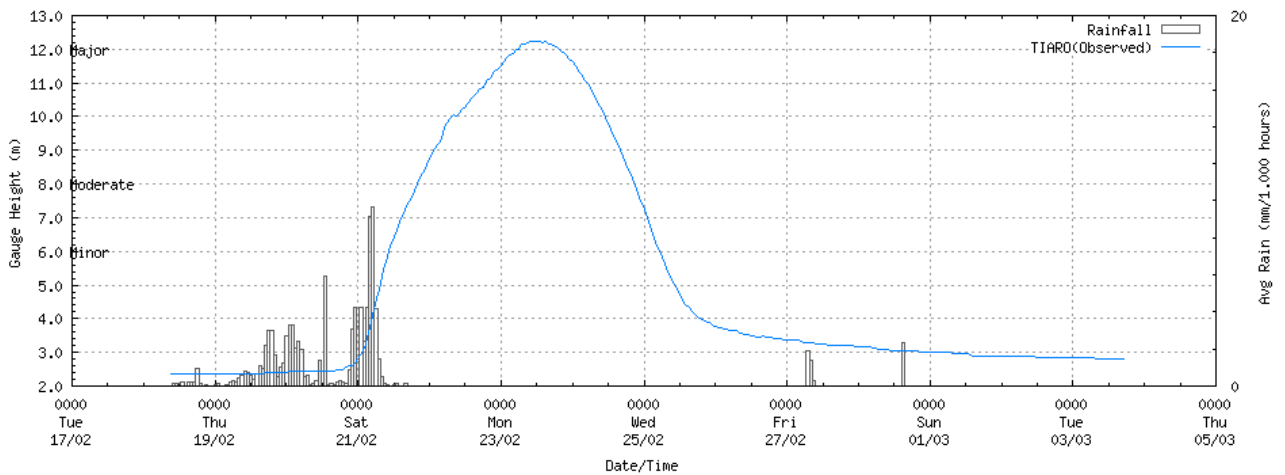
### Mary River at Fisherman's Pocket telemetry



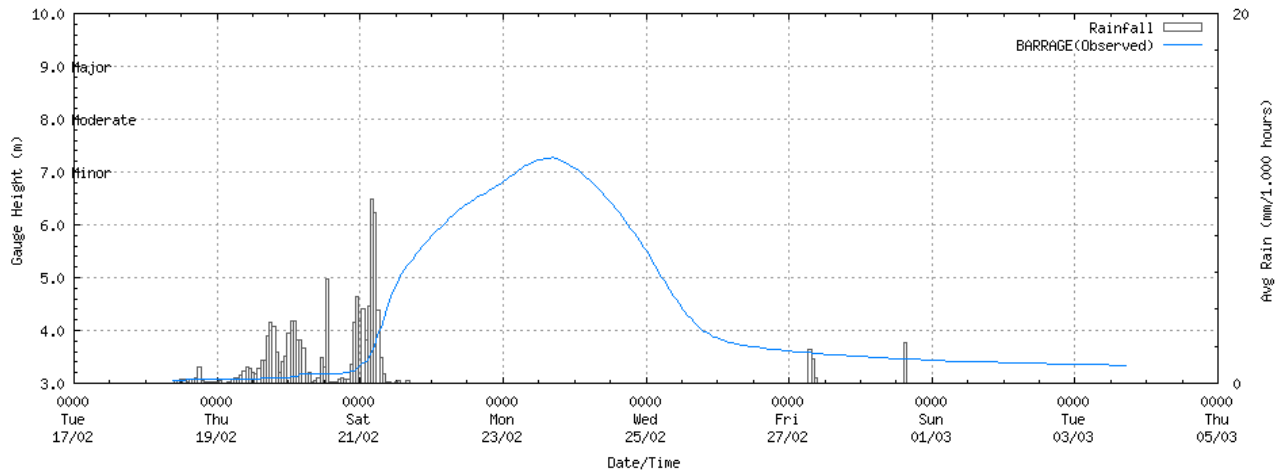
### Mary River at Home Park telemetry



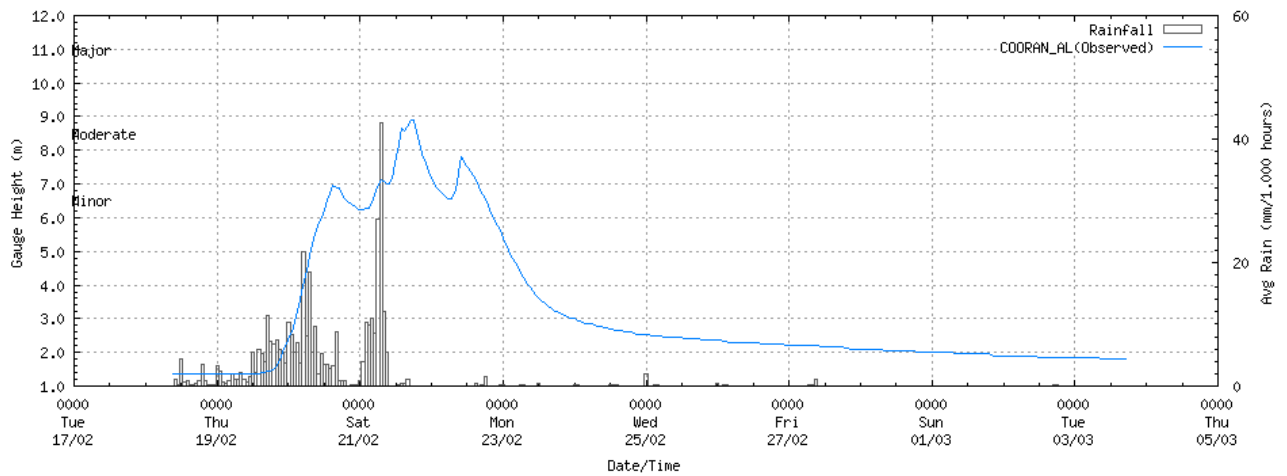
### Mary River at Tiaro Alert



## Mary River at The Barrage telemetry

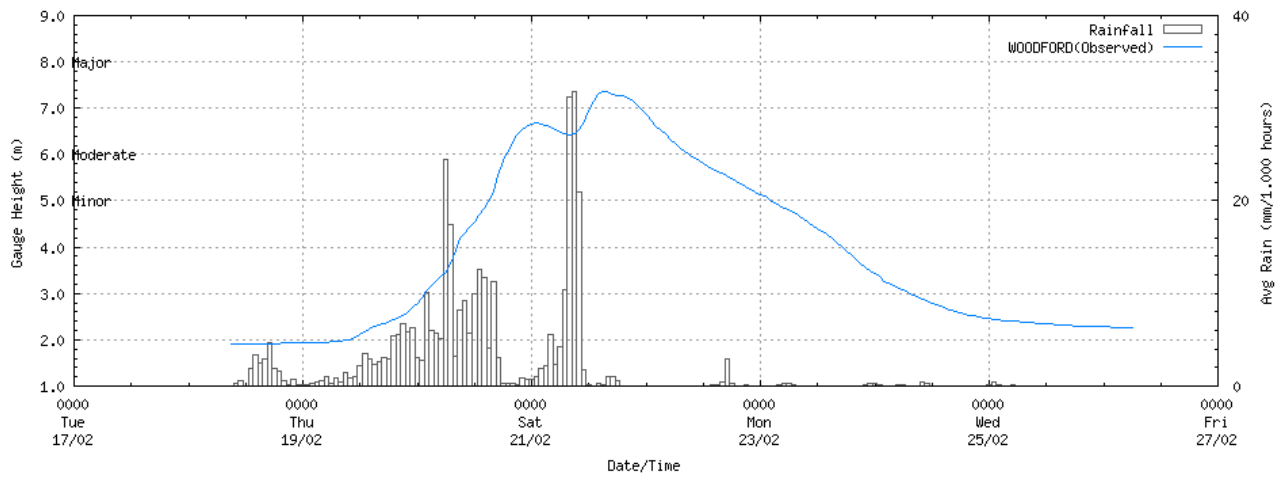


## Six Mile Creek at Cooran Alert

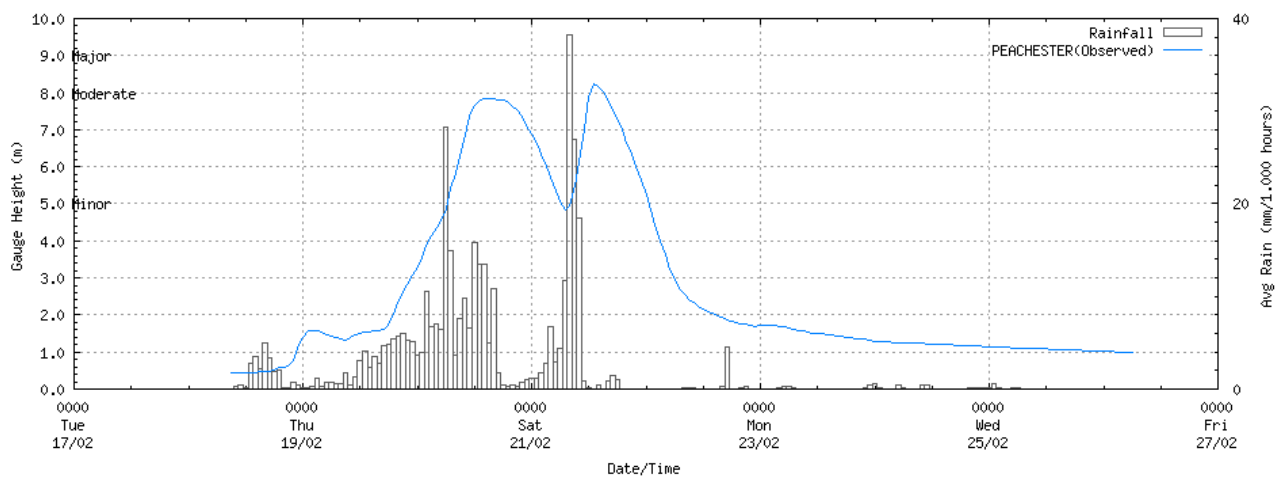


## Brisbane River Catchment

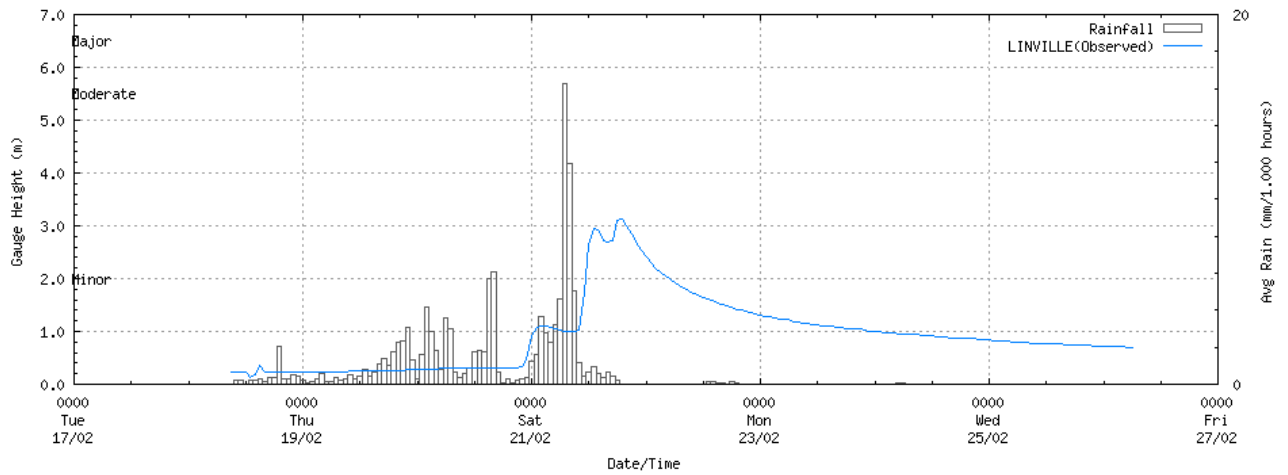
### Stanley River at Woodford Alert-P



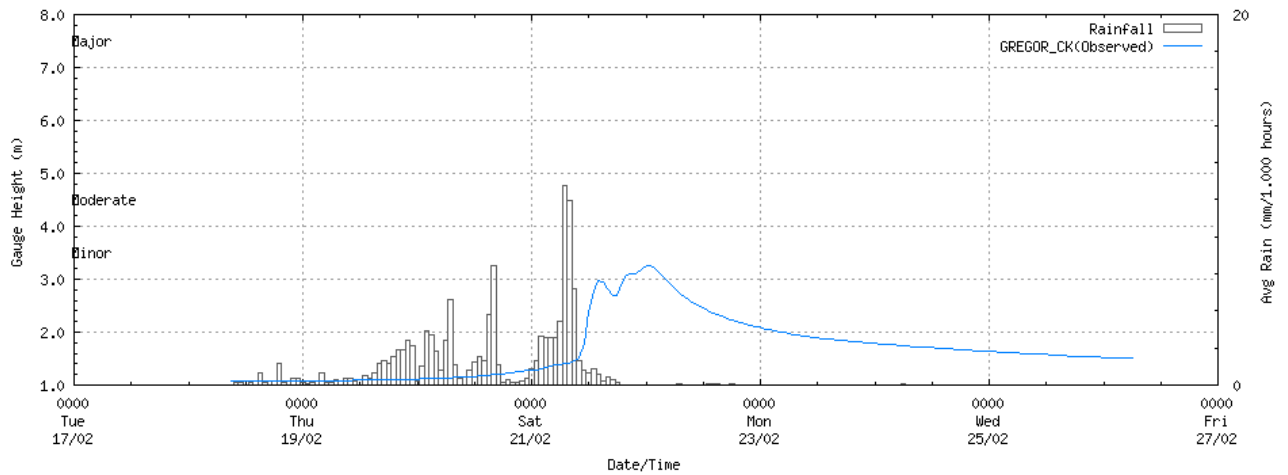
### Stanley River at Peachester Alert



### Brisbane River at Linville Alert



### Brisbane River at Gregor Creek telemetry



# Appendix 4: Department of Natural Resources and Mines Usage Agreement



Queensland Government

Department of Natural Resources and Mines

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