



Australian Government
Bureau of Meteorology

Water Information
DATA > INFORMATION > INSIGHT

Haughton River Floods

January and February 2009



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1. The Haughton River at the Giru Rail Bridge
2. The Haughton River at the Giru Weir

Photographs courtesy of Burdekin Shire Council.

Note:

1. Data in this report has been operationally quality controlled but errors may still 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 1 for DNRW Usage Agreement.
3. This report is not a complete set of all data that is available. It is a representation of some of the key information.

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Haughton River Floods

January and February 2009

1. Introduction

The Haughton River catchment covers an area of approximately 1850 square kilometres and includes the major tributaries, Reid River and Major Creek. The headwaters of the Haughton catchment rise in the Hervey Range. As this is a relatively small catchment and due to the rapid response of the catchment to rainfall, travel times are very short. Heavy rainfalls over the catchment are capable of causing major flooding of agricultural areas adjacent to the waterways and major flooding of residential and commercial areas in Giru. The township has a levee constructed around the town to protect it from floods up to about 2.30 metres on the flood gauge.

Flood records for Giru only go back to 1978. The highest flood on record occurred in February 2008 with a recorded peak height of 3.03 metres on the flood gauge, causing widespread inundation of the Giru township.

Intense rainfall in January and February led to rises above moderate flood level several times throughout the two months. The largest of these events was the February 3rd – 4th event which caused widespread major flooding all along the Haughton River. By the end of February, some stations on the Haughton River had recorded over 2000 mm of rainfall since the beginning of 2009.

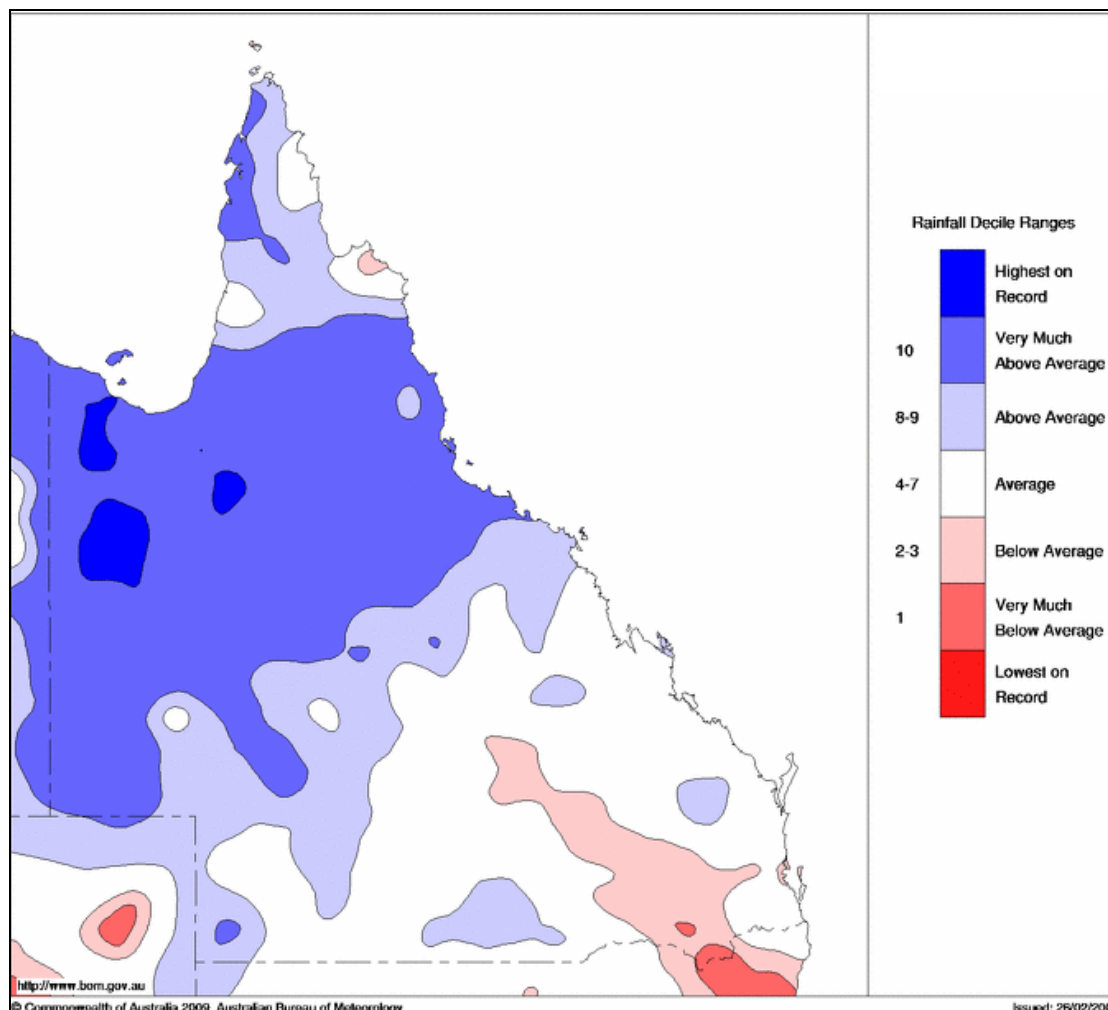
This report provides a technical summary and analysis of the hydrology of the Haughton River Floods of January and February 2009. For a full meteorological analysis of the rainfall events discussed in this report refer to the [Queensland Floods: January and February 2009](#).

A [Flood Warning Network Map for the Haughton River](#) catchment shows the location of flood warning stations referred to in this report.

2. Meteorological Summary

An active monsoon trough and series of low pressure systems caused very much above average rainfall across the northern half of the state for the month of January 2009. The January 2009 rainfall decile map is shown in Figure 2.1.

Figure 2.1 Queensland Rainfall Deciles for January 2009.



The first period of heavy in the Haughton River catchment was associated with Tropical Cyclone Charlotte.

A low pressure system identified on the monsoon trough over the Northern Territory moved into the Gulf of Carpentaria where it intensified to become Tropical Cyclone Charlotte on the 11th January. Charlotte tracked east-southeast through the Gulf of Carpentaria and crossed the Queensland coast near the Gilbert River Mouth on the 12th January. Charlotte in combination with the onshore winds along the north Queensland coast produced heavy rainfall over the Haughton River catchment.

The heaviest falls in 48 hours to 9am on the 14th January included 220mm at Giru AL, 195mm at Major Creek AL and 147mm at Powerline AL. The highest rainfall total however, was recorded at the Upper Major Creek AL, which recorded 667mm in the same time period as displayed in figure 3.1.1. Upper Major Creek AL is located at the base of Mount Elliot, which rises to a height of 1235 metres and in this case provided the necessary orographic uplift to cause localised very intense rainfalls.

Widespread showers and thunderstorms developing about the monsoon trough brought further moderate falls to the region through the remainder of January and, by the end of the month, many sites in the catchment had recorded more than 500mm of rainfall, with Upper Major Creek AL recording more than 1160mm.

Tropical Cyclone Ellie crossed the coast to the north of Cardwell on the 2nd February and produced further heavy rainfall over the north and central Queensland coasts including the Haughton River catchment. Highest falls once again occurred at Upper Major Creek AL where 578mm fell in the 96 hours to 9am on the 4th February. However, rainfall across the catchment was generally more widespread with several locations recording over 250mm in the 96 hours to 9am on the 4th February as shown in figure 3.1.2.

This rainfall fell over an already saturated catchment and led to major flooding at all stations on the Haughton River with Giru AL recording its equal 4th highest river level of 2.94 metres.

Further localised heavy rainfall of between 100mm to 200mm fell in the Haughton River catchment during the next 2 to 3 weeks. The February 7th to 8th and 12th to 13th rainfall events once again raised the river level at Giru to major but were less significant events in terms of historical records. The rainfall distribution maps for these two final rainfall events can be found in figures 3.1.3 and 3.1.4.

For a more detailed discussion of the meteorology of the event and a summary of flooding in Queensland throughout January and February 2009, [Queensland Floods: January and February 2009](#).

3. Hydrology

As discussed in the meteorological summary, several heavy rainfall events contributed to producing very much above average rainfall over the northern half of Queensland in January 2009. The rainfall that was recorded at Upper Major Creek AL in the 48 hours to 9am on the 14th January was significant enough to produce a major flood at Giru; however, this level was not as significant, compared to the early February rainfall event, which reached 2.94 metres. Another side effect of this rainfall event was that it saturated the catchment. This meant that the first heavy rainfall event in February 2009, caused by the passage inland of Tropical Cyclone Ellie, produced larger river rises and major flooding in the Haughton River catchment. This crossing of Cyclone Ellie on the 2nd February can be seen in the radar imagery in figure 3.2.2.

Below is an overview of the four major flood events experienced at Giru during the first two months of 2009:

January 13th to the 14th

As seen in Figure 3.1.1, very heavy rainfall was recorded at Upper Major Creek over the 48 hours to 9am on the 14th of January. This location received 569 mm of rainfall in this time period. This rainfall contributed to for the 2.64 metre major flood peak at Giru.

February 3rd to the 4th

As seen in Figure 3.1.2, very heavy rainfall was recorded over the 96 hours to 9am on the 4th of February. The aerial photographs on the cover were taken as the Haughton River at Giru was steady at 2.94m on the 3rd of February. The set of radar pictures displayed in figure 3.2 shows the build up of heavy rainfall echoes in the 12 hours to 12 am on the 3rd of February. The Haughton River at Giru peaked at 2.94 metres, which equates to the equal 4th highest since the record started in 1978.

February 7th to the 8th

As seen in Figure 3.2.3, there was heavy rainfall recorded in the Calcium area with totals over 100 mm in the rest of the Major Creek catchment which produced a major flood peak at Giru of 2.74 metres.

February 12th to the 13th

As seen in Figure 3.2.4, heavy rainfall in the Calcium area combined with totals in excess of 100 mm in the rest of the Haughton catchment. This produced a major flood peak at Giru of 2.69 metres.

A peak height table and map for the Haughton River are shown in Figures 3.1 and 3.2.

Table 3.1 Haughton River Catchment - Peak Height Comparison to Records.

Gauging Station	Feb 3-4 2009 Peak (metres)	Start of Record	Ranking	Highest Since	Highest on Record
Mount Piccaninny Alert	6.21	1971	17 th	Feb 2008 (1 year)	10.52m Feb 2008
Major Creek Alert	10.27	1978	14 th =	Feb 2008 (1 year)	11.72m Jan 1990
Powerline Alert	9.22	1971	14 th	Feb 2008 (1 year)	12.12m Feb 2008
Giru Alert	2.64	1978	17 th	Feb 2008 (1 year)	3.03m Feb 2008
Giru Alert	2.94	1978	4 th =	Feb 2008 (1 year)	3.03m Feb 2008
Giru Alert	2.74	1978	11 th	Feb 2009 (1 week)	3.03m Feb 2008
Giru Alert	2.69	1978	15 th	Feb 2009 (1 week)	3.03m Feb 2008

Figure 3.1 Peak Height Map for the 4th of February 2009

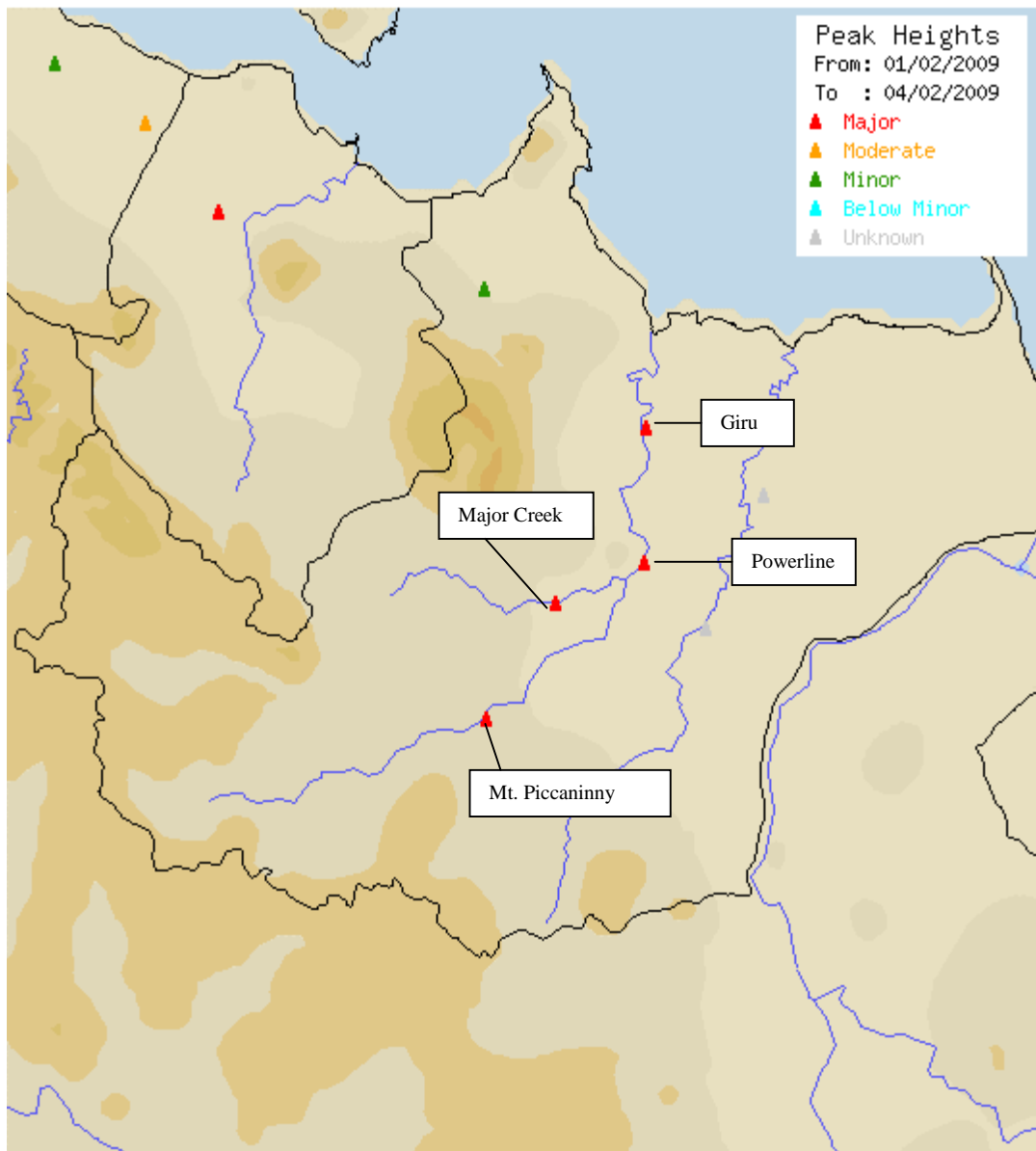
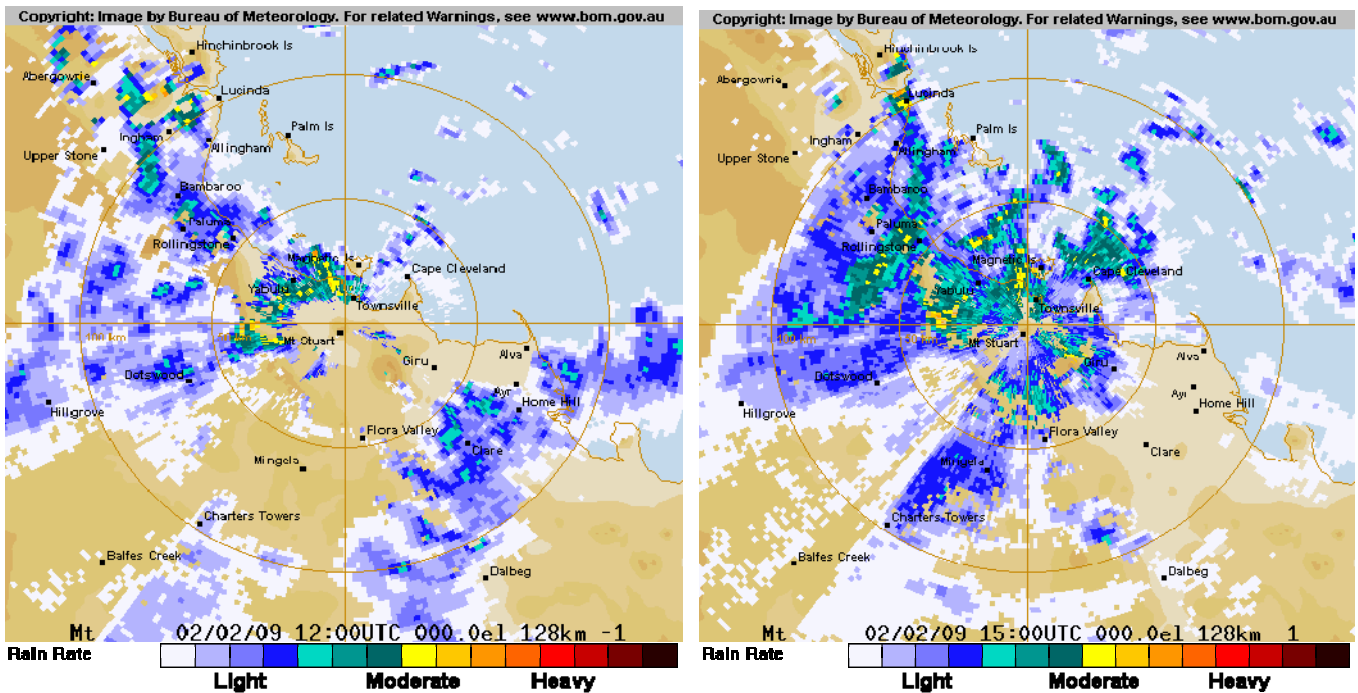
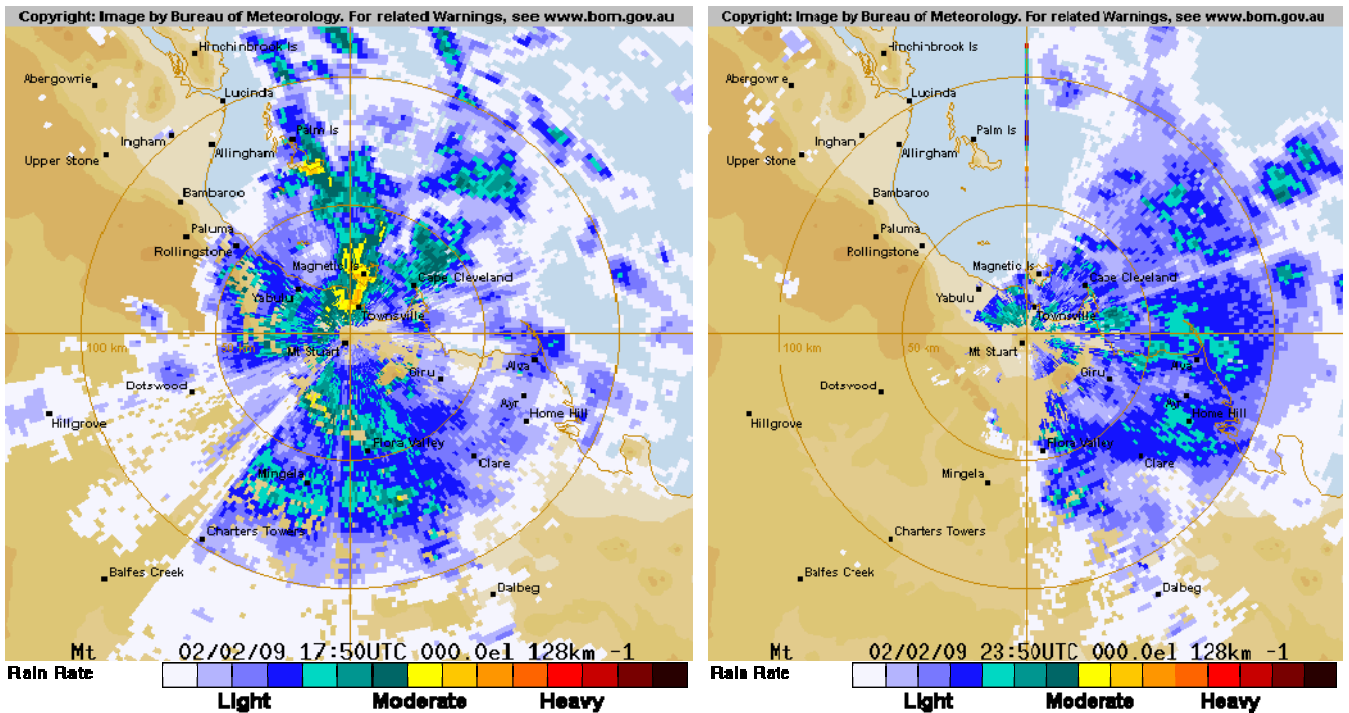


Figure 3.2 Radar imagery from 10pm on the 02/02/2009 to 9:50am on the 03/02/2009.



02/02/2009 22:00

03/02/2009 01:00



03/02/2009 03:50

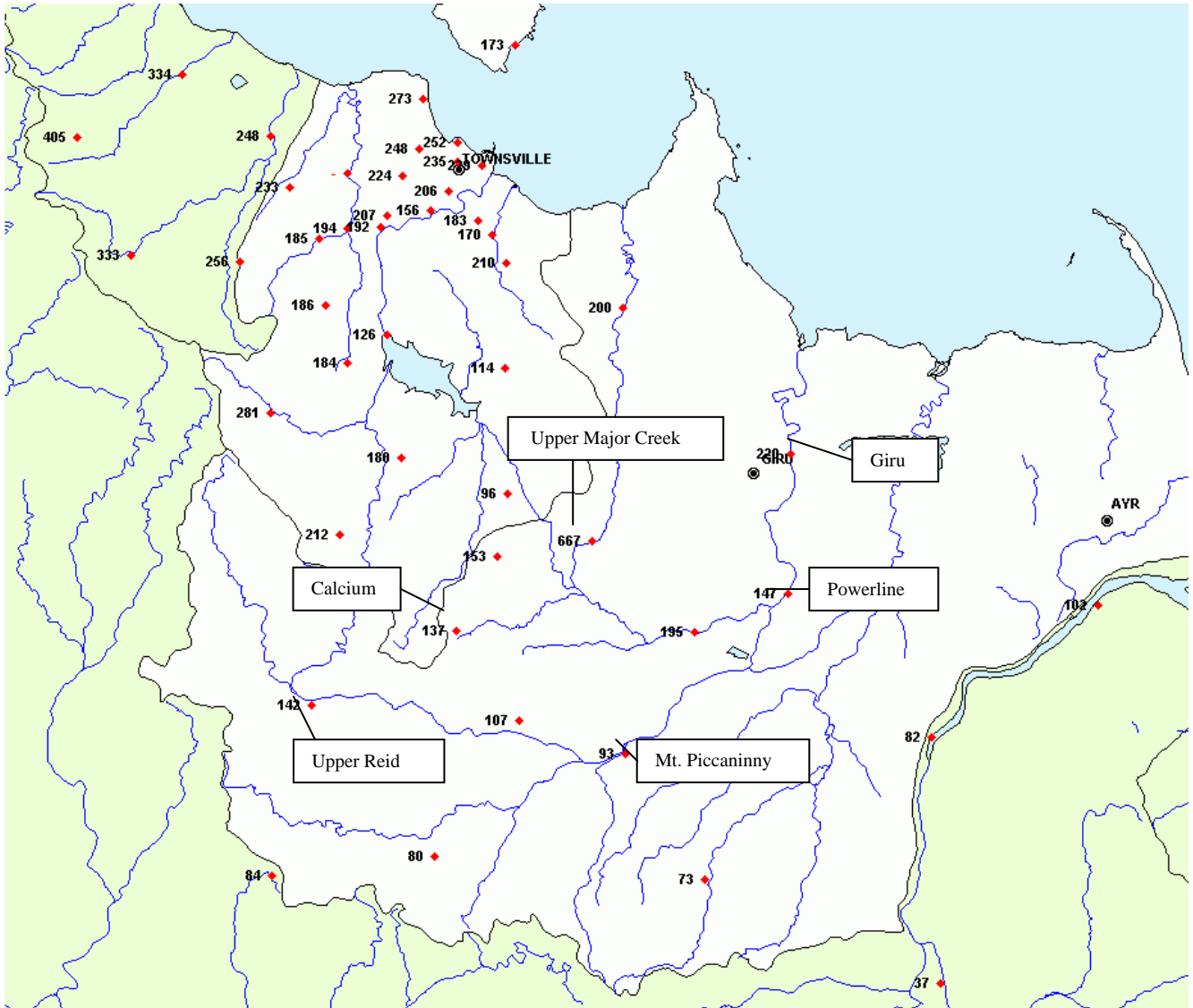
03/02/2009 09:50

1. shows intensification of the rainfall system in the Haughton River catchment that caused rises throughout the catchment and caused a sustained major flood peak of 2.94 metres at Giru from the 2nd to the 3rd of February.

3.1. Rainfall Maps

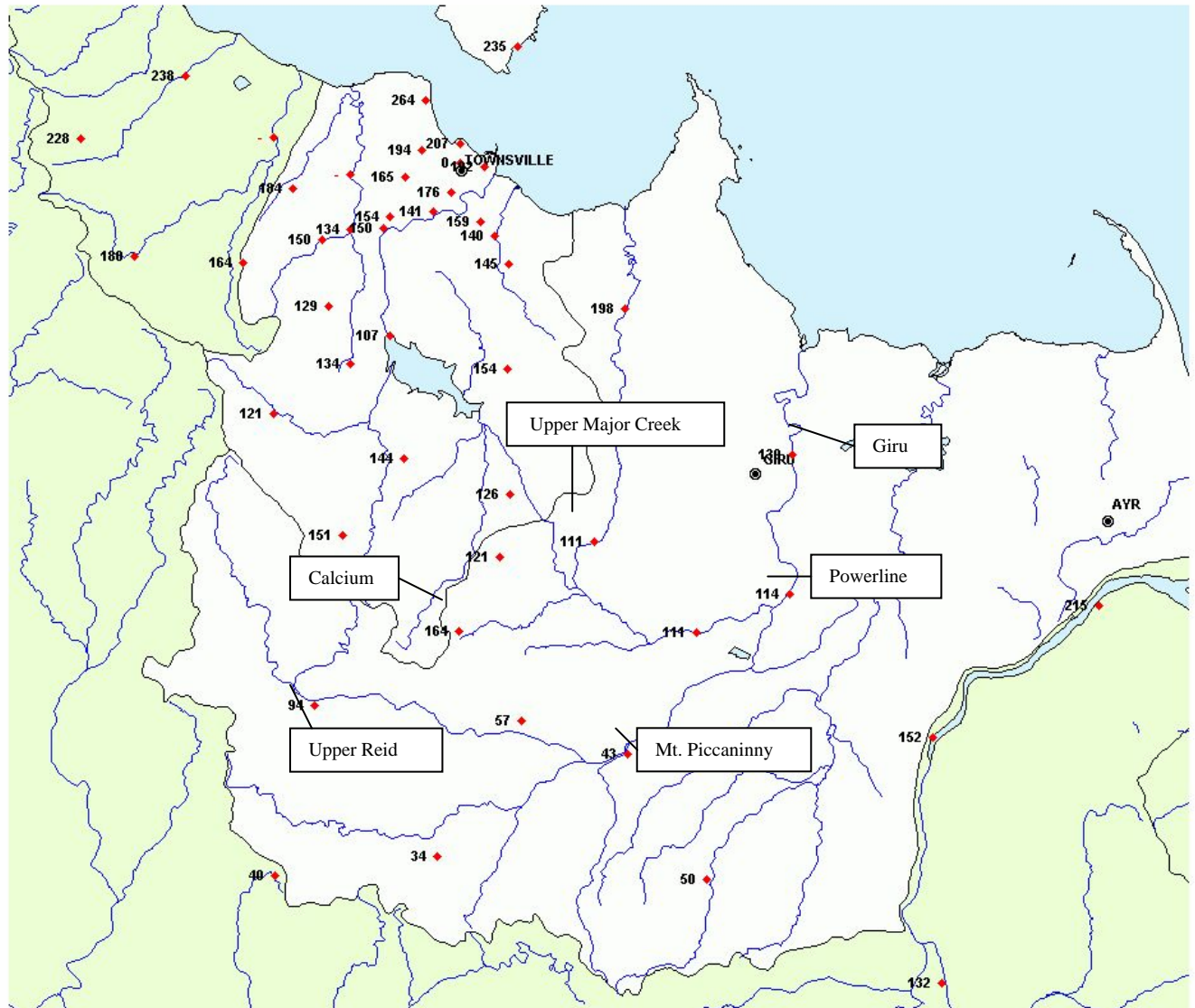
The four rainfall maps below show the rainfall that preceded the four major flood events in the first two months of 2009.

Figure 3.1.1 Rainfall Map for the 48 hours to 9am on the 14/01/2009.



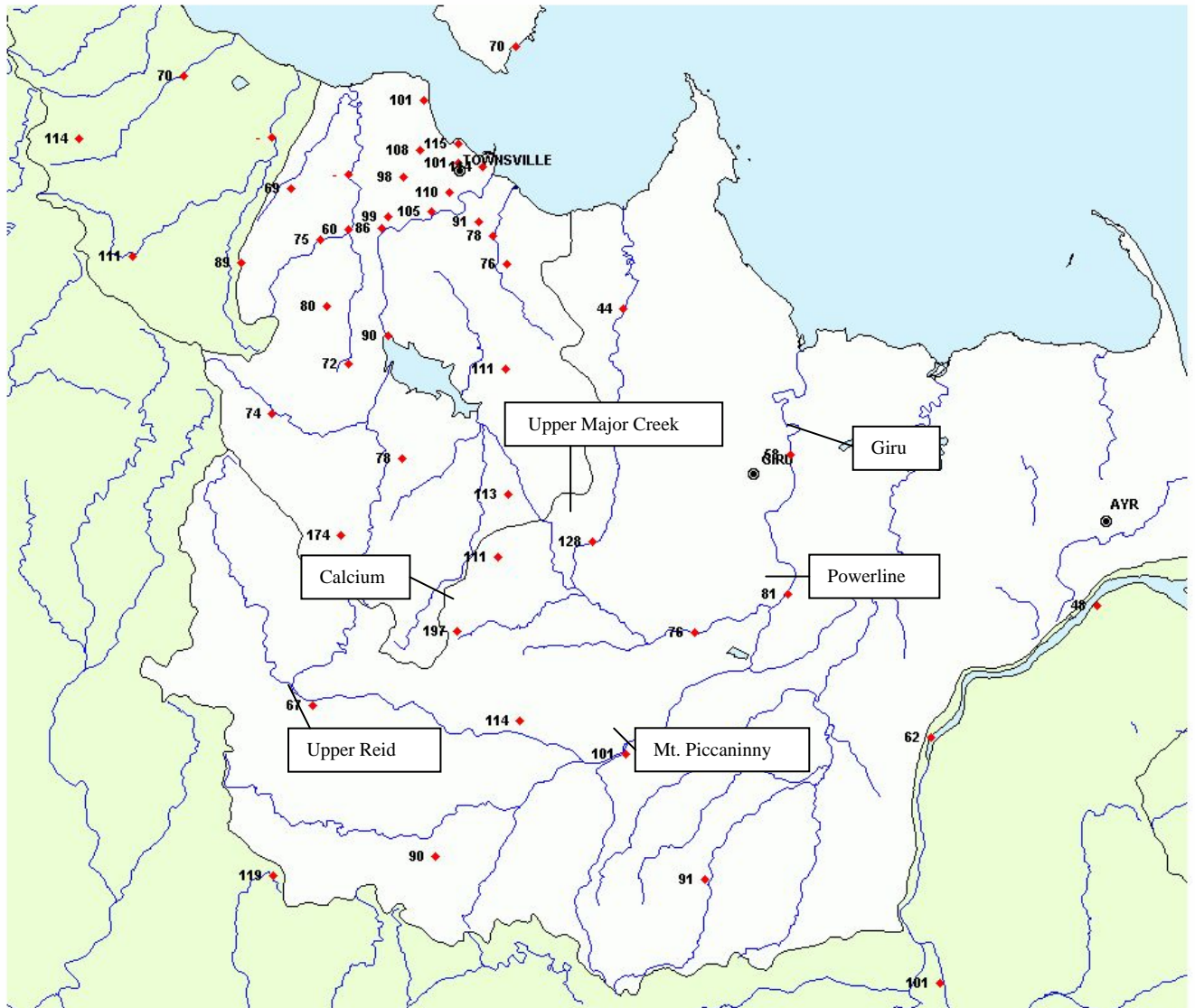
1. Extreme rainfall was recorded at the base of Mount Elliot with Upper Major Creek receiving 667 mm in the 48 hours to 9am on the 14th of January, which produced a 2.64 metre major flood peak at Giru.

Figure 3.1.3 Rainfall Map for the 48 hours to 9am on the 08/02/2009.



1. The heaviest and most intense rainfall recorded was in the Calcium area, which recorded 164 mm in the 48 hours to 9am on the 8th of February.
2. The heavy rainfall in the wider Major Creek catchment as well as an average of about 120 mm downstream of Powerline combined to produce a 2.74 metre major flood peak at Giru.

Figure 3.1.4 Rainfall Map for the 48 hours to 9am on the 13/02/2009.



1. The heaviest and most intense rainfall was once again recorded in the Calcium area, which recorded 197 mm in the 48 hours to 9am on the 13th of February.
2. The heavy rainfall at Calcium as well as falls in excess of 100 mm upstream of Mount Piccaninny combined to produce a 2.69 metre major flood peak at Giru.

3.2. Rainfall Intensity

The most intense rainfall during the 12/01/2009 to 14/01/2009 occurred at the base of Mount Elliot, with the Upper Major Creek AL station receiving 667 mm in the 48 hours to 9am on the 14/01/09. The Intensity Frequency Duration (IFD) analysis results (that are found in Figure 3.2.1 and 3.2.2) show the for the longer durations (24-72 hours), the Upper Major Creek AL recorded 1-2% AEP (1 in 50-100 year ARI) intensities.

Figure 3.2.3 to 3.2.6 provides IFD analysis for a sample of rainfall stations.

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.

Figure 3.2.1 Hyetographs for Upper Major Creek AL and Giru AL for 48 hours to 9am on the 14/01/09.

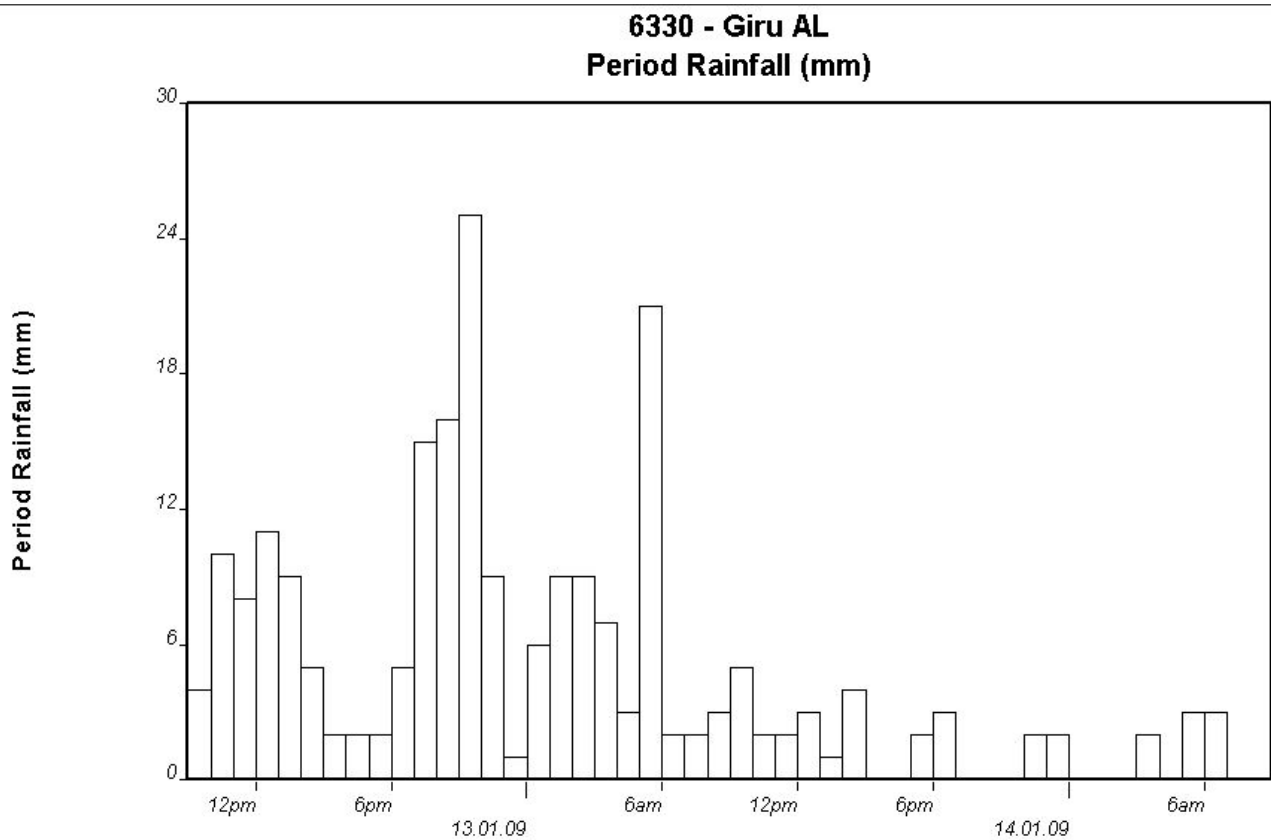
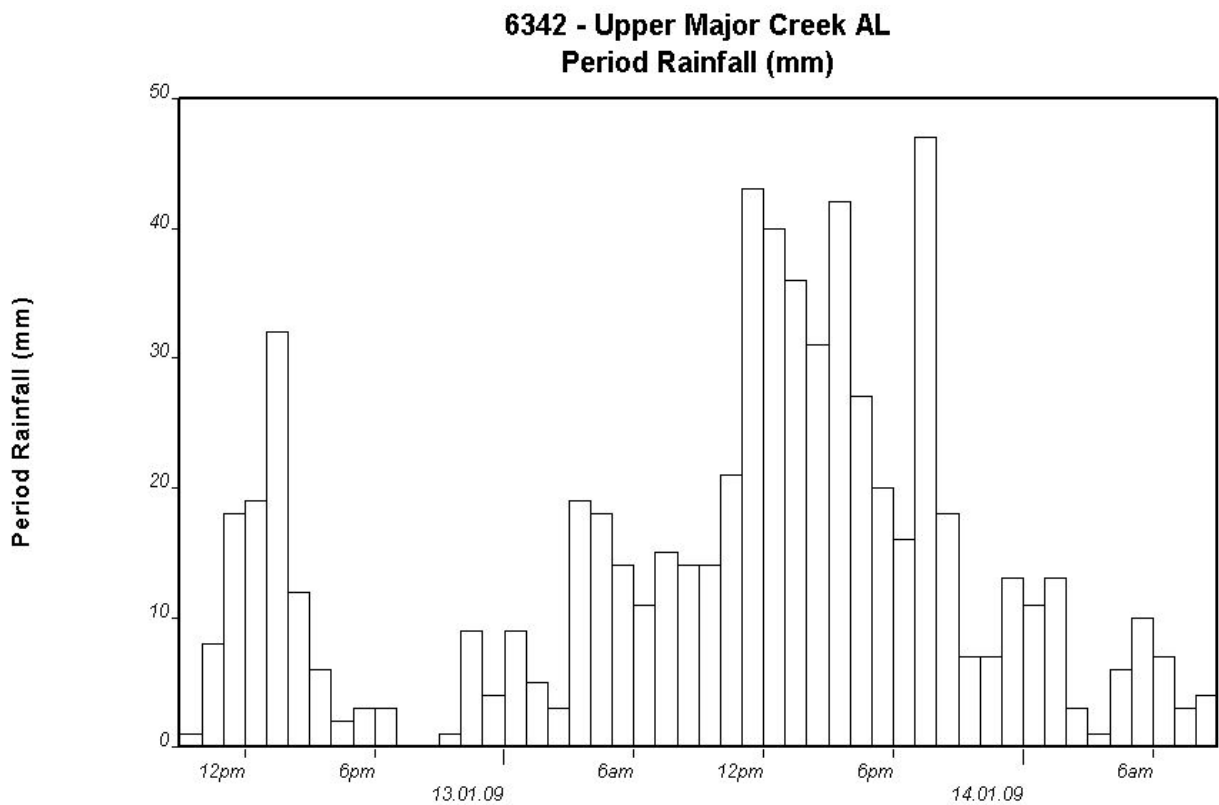


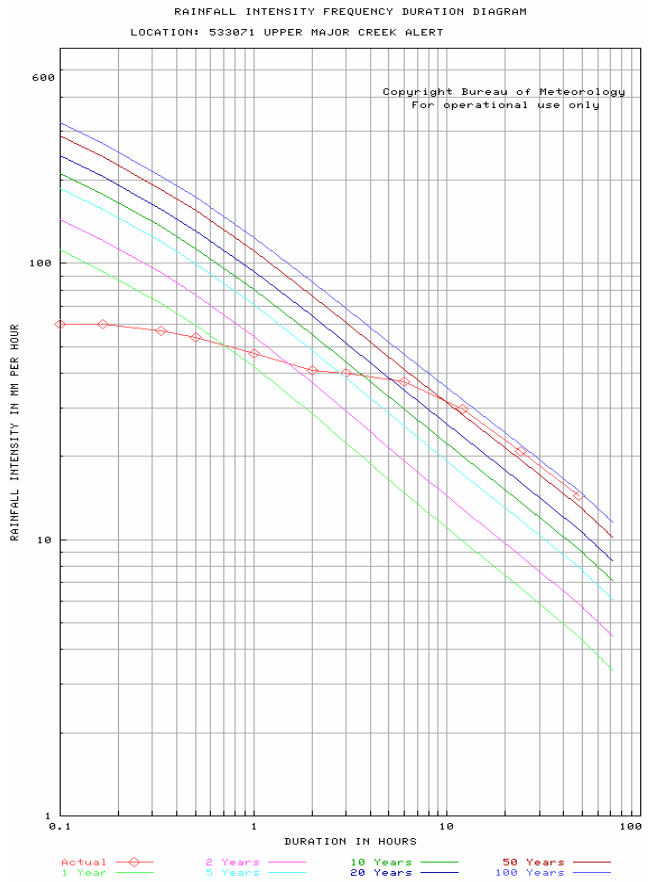
Figure 3.2.2 IFD Analysis for Upper Major Creek AL and Giru AL for 48 hours to 9am on the 14/01/09.

RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS

LOCATION: 533071 Upper Major Creek Alert

Analysis of the rainfall for the 48 hours to Wed January 14 09:00:00 2009.

Rain (mm)	Period Ending	ARI (years)
6	5 mins ending at 19:35:00 13/01/2009	< 1
6	6 mins ending at 19:36:00 13/01/2009	< 1
10	10 mins ending at 19:40:00 13/01/2009	< 1
19	20 mins ending at 19:40:00 13/01/2009	< 1
27	30 mins ending at 19:50:00 13/01/2009	< 1
47	60 mins ending at 19:55:00 13/01/2009	1-2
82	2 hours ending at 13:00:00 13/01/2009	2-5
120	3 hours ending at 13:45:00 13/01/2009	5-10
223	6 hours ending at 16:45:00 13/01/2009	20-50
356	12 hours ending at 20:25:00 13/01/2009	50-100
501	24 hours ending at 02:25:00 14/01/2009	50-100
704	48 hours ending at 08:30:00 14/01/2009	50-100



RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS

LOCATION: 533051 GIRU ALERT

Analysis of the rainfall for the 48 hours to Wed Jan 14 09:00:00 2009

Rain (mm)	Period Ending	ARI (years)
5	5 mins ending at 05:40:00 13/01/2009	< 1
5	6 mins ending at 05:36:00 13/01/2009	< 1
9	10 mins ending at 05:40:00 13/01/2009	< 1
15	20 mins ending at 05:40:00 13/01/2009	< 1
18	30 mins ending at 05:45:00 13/01/2009	< 1
24	60 mins ending at 22:10:00 12/01/2009	< 1
41	2 hours ending at 22:00:00 12/01/2009	< 1
56	3 hours ending at 22:05:00 12/01/2009	< 1
73	6 hours ending at 00:55:00 13/01/2009	< 1
126	12 hours ending at 05:55:00 13/01/2009	1-2
187	24 hours ending at 09:35:00 13/01/2009	2-5
220	48 hours ending at 09:00:00 14/01/2009	1-2

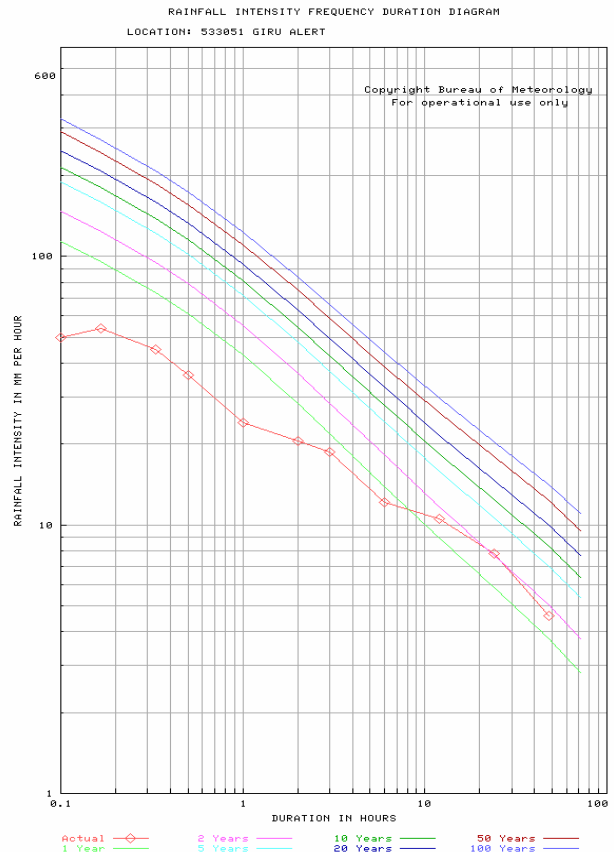


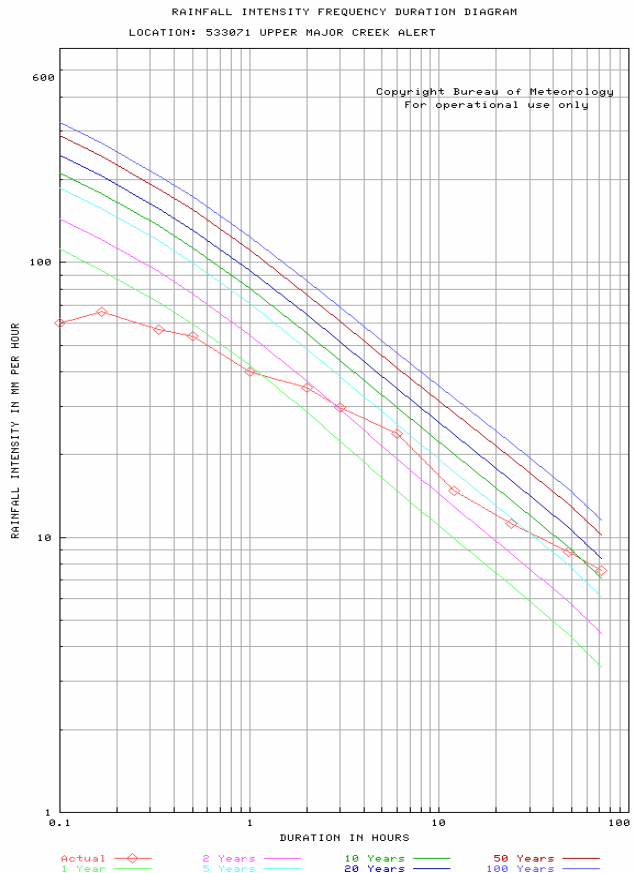
Figure 3.2.4 IFD Analysis for Upper Major Creek AL and Major Creek AL for 96 hours to 9am on the 04/02/09.

RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS

LOCATION: 533071 UPPER MAJOR CREEK ALERT

Analysis of the rainfall for the 79 hours to Wed Feb 4 09:00:00 2009

Rain (mm)	Period Ending	ARI (years)
6	5 mins ending at 07:30:00 02/02/2009	< 1
6	6 mins ending at 07:31:00 02/02/2009	< 1
11	10 mins ending at 07:30:00 02/02/2009	< 1
19	20 mins ending at 07:35:00 02/02/2009	< 1
27	30 mins ending at 07:30:00 02/02/2009	< 1
40	60 mins ending at 07:35:00 02/02/2009	< 1
70	2 hours ending at 07:40:00 02/02/2009	1-2
89	3 hours ending at 08:40:00 02/02/2009	2-5
143	6 hours ending at 09:30:00 02/02/2009	2-5
177	12 hours ending at 13:55:00 02/02/2009	2-5
270	24 hours ending at 03:30:00 03/02/2009	2-5
426	48 hours ending at 05:05:00 03/02/2009	5-10
547	72 hours ending at 00:25:00 04/02/2009	10-20



RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS

LOCATION: 533072 MAJOR CREEK ALERT

Analysis of the rainfall for the 79 hours to Wed Feb 4 09:00:00 2009

Rain (mm)	Period Ending	ARI (years)
5	5 mins ending at 05:40:00 03/02/2009	< 1
6	6 mins ending at 05:41:00 03/02/2009	< 1
10	10 mins ending at 05:40:00 03/02/2009	< 1
15	20 mins ending at 05:50:00 03/02/2009	< 1
18	30 mins ending at 06:00:00 03/02/2009	< 1
24	60 mins ending at 06:05:00 03/02/2009	< 1
33	2 hours ending at 07:05:00 03/02/2009	< 1
40	3 hours ending at 07:40:00 03/02/2009	< 1
63	6 hours ending at 05:55:00 03/02/2009	< 1
109	12 hours ending at 09:25:00 03/02/2009	1-2
257	48 hours ending at 03:15:00 04/02/2009	2-5
286	72 hours ending at 01:10:00 04/02/2009	2-5

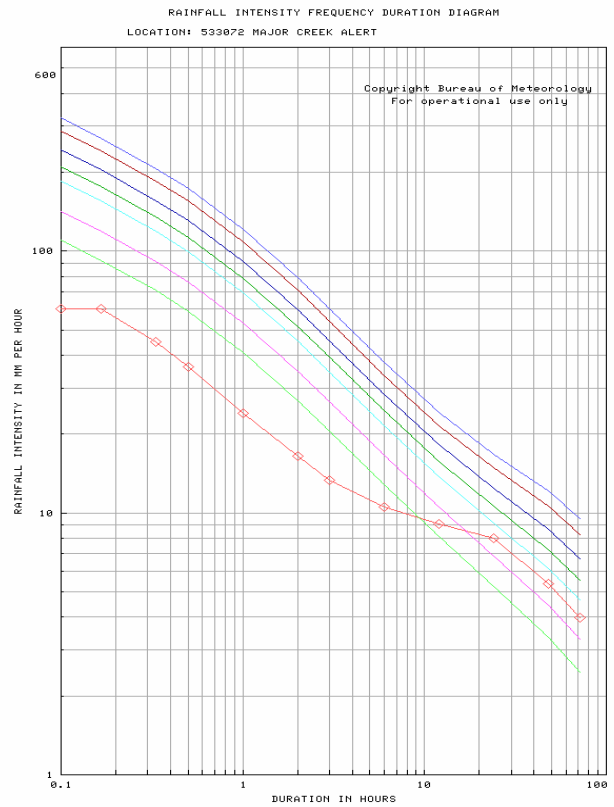


Figure 3.2.5 Hyetographs for Powerline AL and Giru AL for 96 hours to 9am on the 04/02/09.

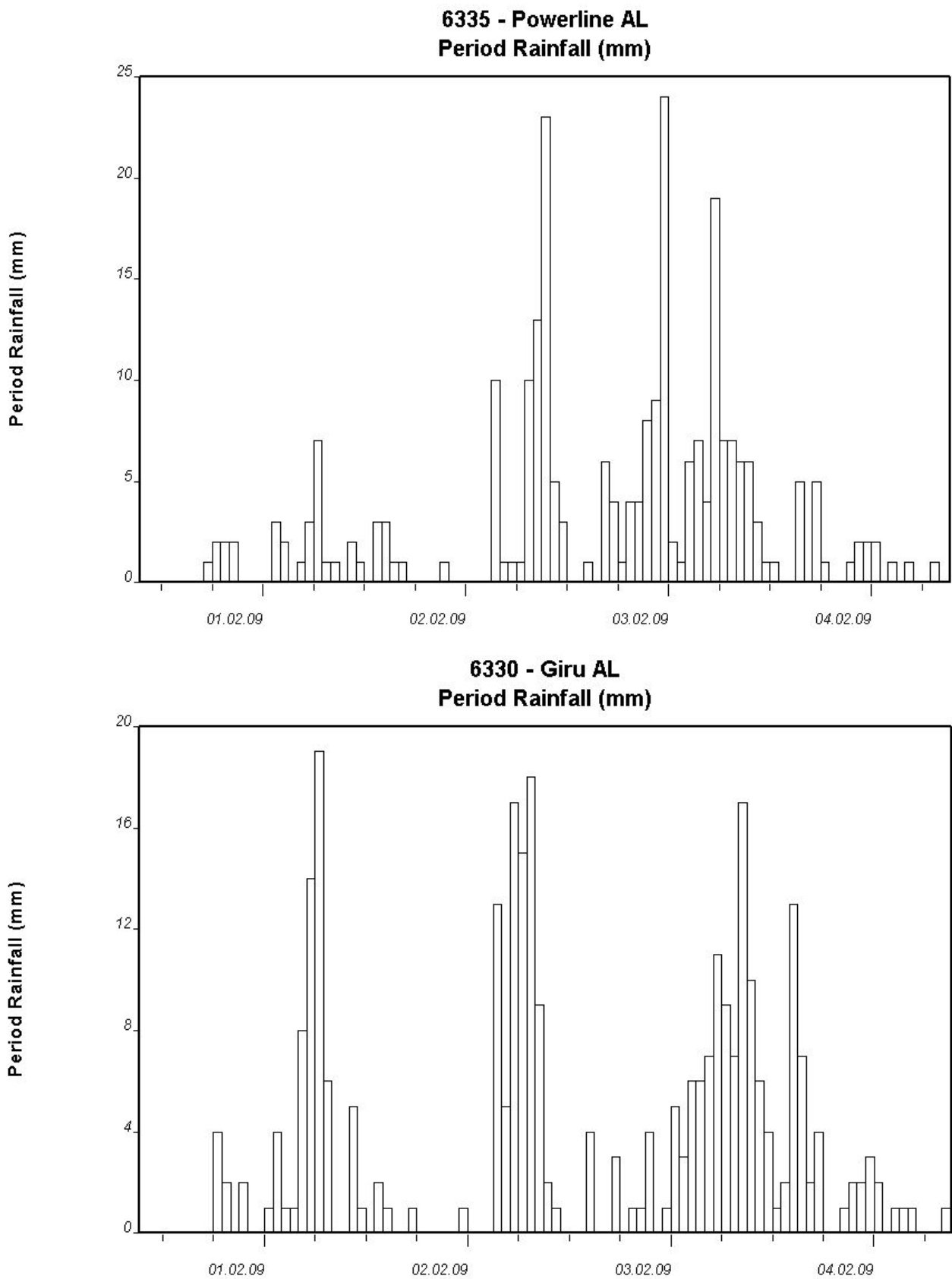


Figure 3.2.6 IFD Analysis for Powerline AL and Giru AL for 96 hours to 9am on the 04/02/2009.

RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS
LOCATION: 533056 POWERLINE ALERT
Analysis of the rainfall for the 79 hours to Wed Feb 4 09:00:00 2009

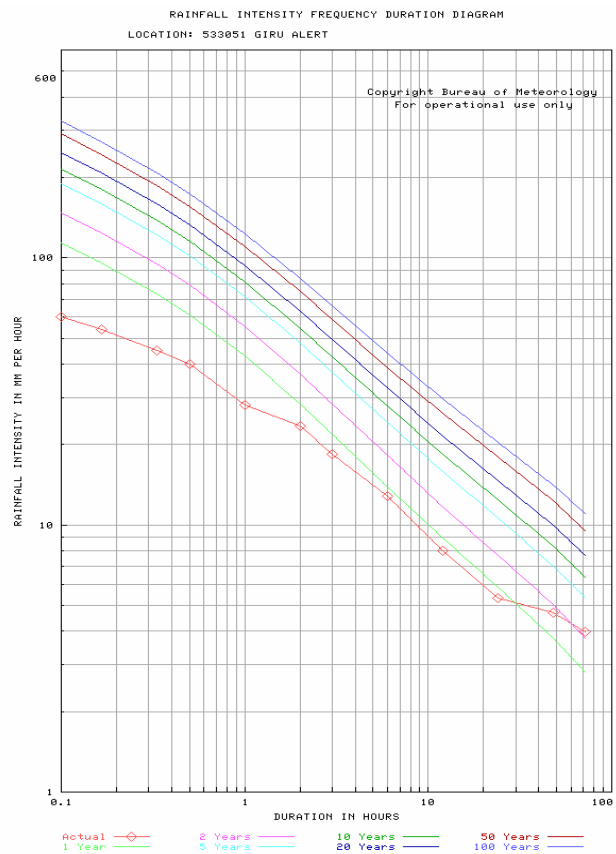
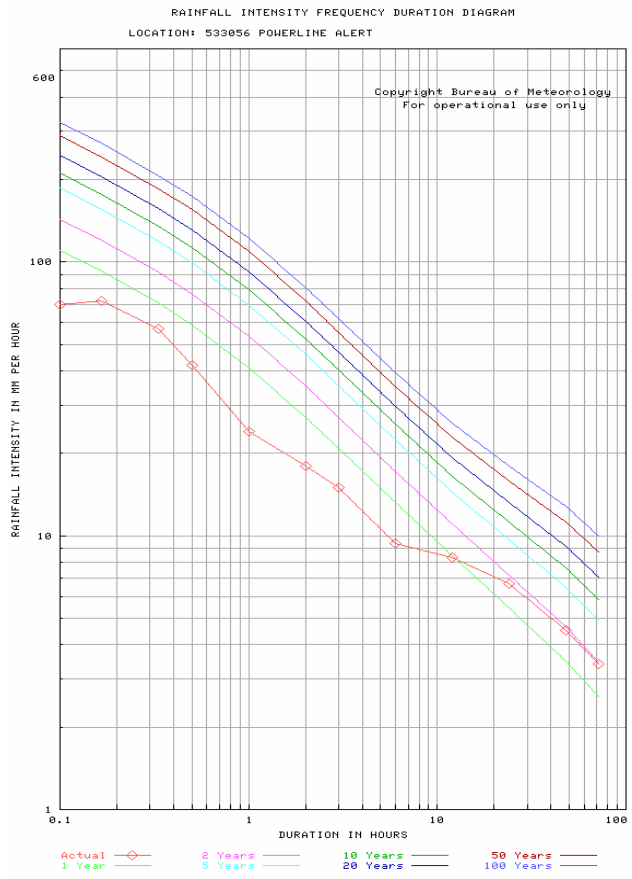
Rain (mm)	Period Ending	ARI (years)
6	5 mins ending at 23:55:00 02/02/2009	< 1
7	6 mins ending at 23:56:00 02/02/2009	< 1
12	10 mins ending at 23:55:00 02/02/2009	< 1
19	20 mins ending at 00:00:00 03/02/2009	< 1
21	30 mins ending at 00:00:00 03/02/2009	< 1
24	60 mins ending at 00:05:00 03/02/2009	< 1
36	2 hours ending at 10:25:00 02/02/2009	< 1
45	3 hours ending at 10:00:00 02/02/2009	< 1
56	6 hours ending at 11:10:00 02/02/2009	< 1
100	12 hours ending at 09:10:00 03/02/2009	< 1
160	24 hours ending at 07:00:00 03/02/2009	1-2
216	48 hours ending at 02:55:00 04/02/2009	1-2
245	72 hours ending at 00:55:00 04/02/2009	1-2

The rainfall at Powerline was not as intense receiving only a 1-2 ARI for the duration 24-72 hours.

RAINFALL INTENSITY FREQUENCY DURATION ANALYSIS
LOCATION: 533051 GIRU ALERT
Analysis of the rainfall for the 79 hours to Wed Feb 4 09:00:00 2009

Rain (mm)	Period Ending	ARI (years)
6	5 mins ending at 14:55:00 03/02/2009	< 1
6	6 mins ending at 14:56:00 03/02/2009	< 1
9	10 mins ending at 15:00:00 03/02/2009	< 1
15	20 mins ending at 06:00:00 02/02/2009	< 1
20	30 mins ending at 07:15:00 02/02/2009	< 1
28	60 mins ending at 07:40:00 02/02/2009	< 1
47	2 hours ending at 07:40:00 02/02/2009	< 1
55	3 hours ending at 08:40:00 02/02/2009	< 1
77	6 hours ending at 09:10:00 02/02/2009	< 1
96	12 hours ending at 15:20:00 03/02/2009	< 1
128	24 hours ending at 00:05:00 04/02/2009	< 1
225	48 hours ending at 03:05:00 04/02/2009	1-2
287	72 hours ending at 00:55:00 04/02/2009	2-5

Giru Alert was most intense also in the longer durations. Recording a 2-5 year ARI over the 72 hour duration.



3.3. Rainfall Totals

The abbreviations used in the following tables include:

- AL - ALERT Radio Telemetry
- TM - Telephone Telemetry
- AWS - Automatic Weather Station
- SYN - Bureau Synoptic Station

Note: * signifies automatic station.
N/A signifies unserviceable station.

Table 3.3.1 Rainfall Totals for the Haughton River 12/01/09 to the 18/01/09.

Station Name	24 hours to 9am							Total (mm)
	12	13	14	15	16	17	18	
Mingela		33	64		8			105
Mingela AL *	1	27	58	13	6	3	1	109
Upper Reid AL *	1	56	87	28	9	2	1	184
Cameron Hill AL *	1	58	49	25	21	1	5	160
Four Mile AL *	0	44	36	24	11	4	2	121
Mt Piccaninny AL *	1	62	31	43	5	1	0	143
Donnington Airpark AL *	4	87	66	24	4	1	39	225
Upper Major Creek AL *	16	261	440	70	68	2	6	863
Major Creek AL *	3	118	76	30	4	2	4	237
Powerline TM *	4	108	55	24	4	1	0	196
Powerline AL *	4	98	50	21	3	1	0	177
Giru North	7	54	41	14	10			126
Giru		165	33	21	2			221
Giru AL *	6	185	36	14	10	1	0	252
Upper Barrattas AL *	0	54	20	64	0	4	7	149
Average	4	94	76	30	11	2	5	222
Maximum	16	261	440	70	68	4	39	863

Table 3.3.2 Rainfall Totals for the Haughton River 29/01/09 to the 04/02/09.

Station Name	24 hours to 9am							Total (mm)
	29	30	31	1	2	3	4	
Mingela		26			49	170	12	257
Mingela AL *	28	24	7	8	N/A	N/A	N/A	67
Upper Reid AL *	14	48	17	35	77	137	22	350
Cameron Hill AL *	8	40	14	10	46	140	21	279
Four Mile AL *	30	34	10	10	29	148	12	273
Mt Piccaninny AL *	14	55	15	5	27	165	17	298
Donnington Airpark AL *	5	48	19	48	81	110	50	361
Upper Major Creek AL *	6	86	38	109			65	304
Major Creek AL *	10	59	21	24	53	183	39	389
Powerline TM *	2	75	29	27	54	162	34	383
Powerline AL *	2	70	27	25	49	150	32	355
Giru North	10	72	39	68	97	94	63	443
Giru	10	81	32	65	103	142	62	495
Giru AL *	8	71	39	62	89	88	62	419
Upper Barrattas AL *	17	42	10	10	34	137	16	266
Numerical Average	12	55	23	36	61	140	36	363
Maximum	30	86	39	109	103	183	65	495

Table 3.3.3 Rainfall Totals for the Haughton River 04/02/09 to the 10/02/09.

Station Name	24 hours to 9am							Total (mm)
	4	5	6	7	8	9	10	
Mingela	12				42			54
Mingela AL *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Upper Reid AL *	22	4	4	15	79	12	6	136
Cameron Hill AL *	21	12	8	14	43	11	9	109
Four Mile AL *	12	0	8	9	25	11	12	65
Mt Piccaninny AL *	17	22	15	13	30	2	12	99
Donnington Airpark AL *	50	1	7	31	89	20	24	198
Upper Major Creek AL *	65	1	10	65		0	5	141
Major Creek AL *	39	2	9	28	83	15	8	176
Powerline TM *	34	0	8	38	168	20	1	268
Powerline AL *	32	0	7	37	77	12	0	165
Giru North	63			95	152	28	3.8	338
Giru	62	6	5	70				143
Giru AL *	62	5	4	69	69	18	3	227
Upper Barrattas AL *	16	4	11	19	31	3	11	84
Numerical Average	39	34	4	7	33	74	13	204
Maximum	65	22	15	95	168	183	24	338

Table 3.3.4 Rainfall Totals for the Haughton River 12/02/09 to the 18/02/09.

Station Name	24 hours to 9am							Total (mm)
	12	13	14	15	16	17	18	
Mingela		123				7.6		131
Mingela AL *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Upper Reid AL *	10	57	9	4	0	13	0	93
Cameron Hill AL *	45	69	4	1	0	15	2	136
Four Mile AL *	22	68	12	2	0	19	0	123
Mt Piccaninny AL *	47	54	5	0	0	12	4	122
Donnington Airpark AL *	58	53	6	0	0	72	0	189
Upper Major Creek AL *	89	39	16	0	6	59	0	209
Major Creek AL *	53	23	6	0	26	15	23	146
Powerline TM *	64	19	9	1	1	52	0	146
Powerline AL *	63	18	9	0	1	50	0	141
Giru North	24	38	48			139	N/A	252
Giru	28	35				142	N/A	259
Giru AL *	21	37	47	0	2	136	0	243
Upper Barrattas AL *	39	52	8	3	0	9	47	158
Numerical Average	43	49	18	1	3	53	7	174
Maximum	89	123	48	4	26	142	47	584

3.4. Peak Heights

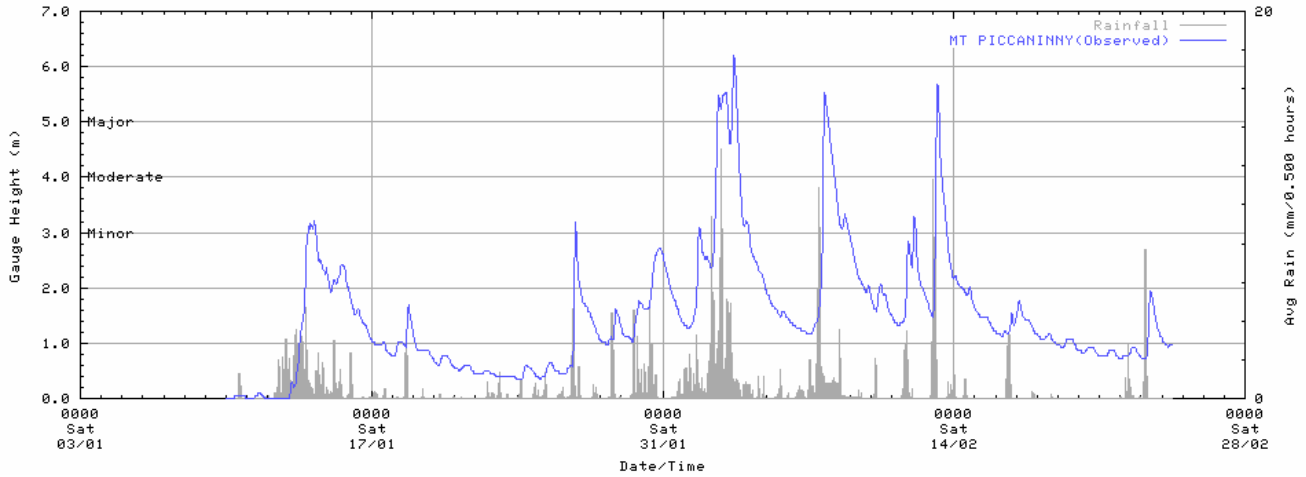
Table 3.4.1 Peak Flood Heights recorded between 14/01/2009 and 13/02/2009.

Station No.	Station Name	Date	Height (metres)	Flood Class
533055	MOUNT PICCANINNY ALERT	14/01/2009 00:00	3.11	Minor
533055	MOUNT PICCANINNY ALERT	03/02/2009 10:29	6.21	Major
533055	MOUNT PICCANINNY ALERT	07/02/2009 18:47	5.56	Major
533055	MOUNT PICCANINNY ALERT	13/02/2009 05:02	5.71	Major
533072	MAJOR CREEK ALERT	14/01/2009 06:31	9.22	Moderate
533072	MAJOR CREEK ALERT	03/02/2009 16:22	10.27	Major
533072	MAJOR CREEK ALERT	08/02/2009 10:08	9.32	Moderate
533072	MAJOR CREEK ALERT	13/02/2009 16:15	7.07	Minor
533056	POWERLINE ALERT	14/01/2009 08:37	5.77	Minor
533056	POWERLINE ALERT	03/02/2009 13:39	9.22	Major
533056	POWERLINE ALERT	08/02/2009 11:42	6.77	Moderate
533056	POWERLINE ALERT	13/02/2009 08:59	6.37	Moderate
533051	GIRU ALERT	14/01/2009 11:55	2.64	Major
533051	GIRU ALERT	02/02/2009 23:52	2.94	Major
533051	GIRU ALERT	08/02/2009 14:27	2.74	Major
533051	GIRU ALERT	13/02/2009 10:34	2.69	Major
033253	GIRU	14/01/2009 11:45	2.60	Major
033253	GIRU	03/02/2009 19:00	2.94	Major
033253	GIRU	08/02/2009 04:10	2.83	Major
033253	GIRU	13/02/2009 11:30	2.65	Major

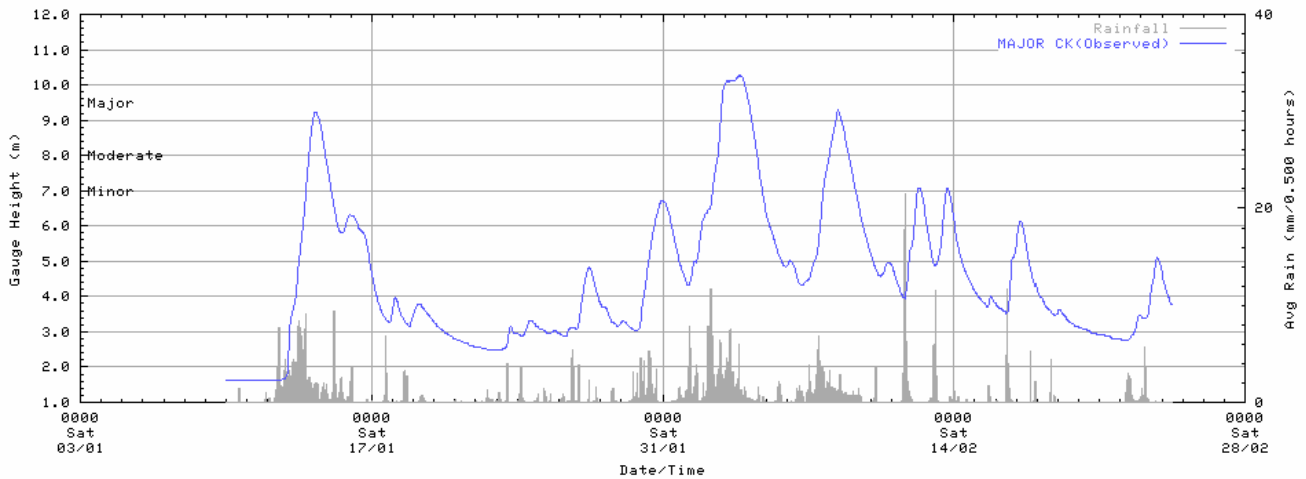
3.5. Flood Hydrographs for the Haughton River

Figure 3.5.1 Hydrographs from the 03/01/09 to the 24/02/2009.

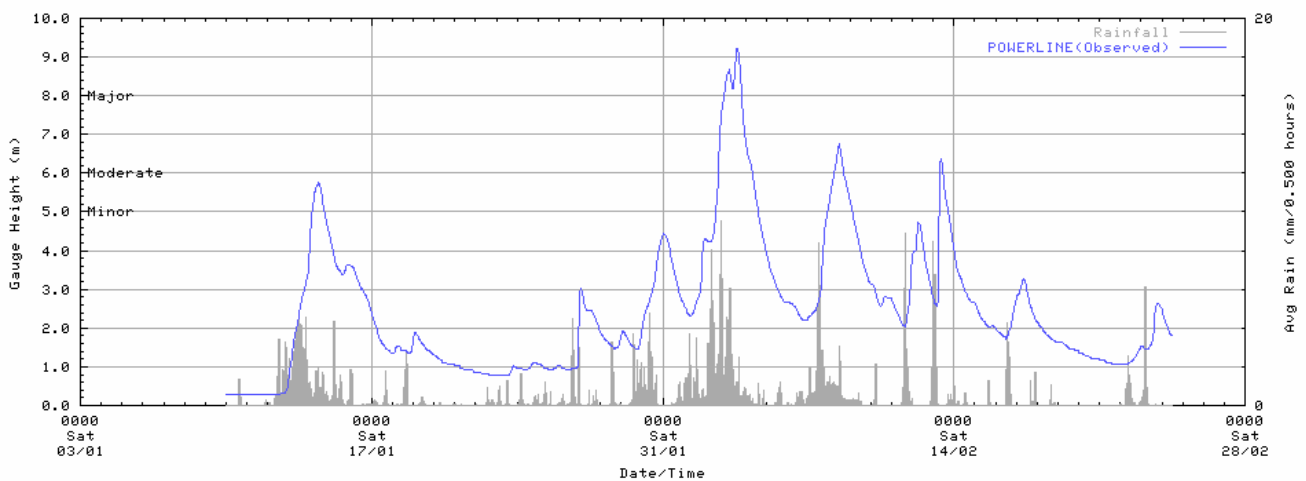
Haughton River – Mt Piccaninny Alert



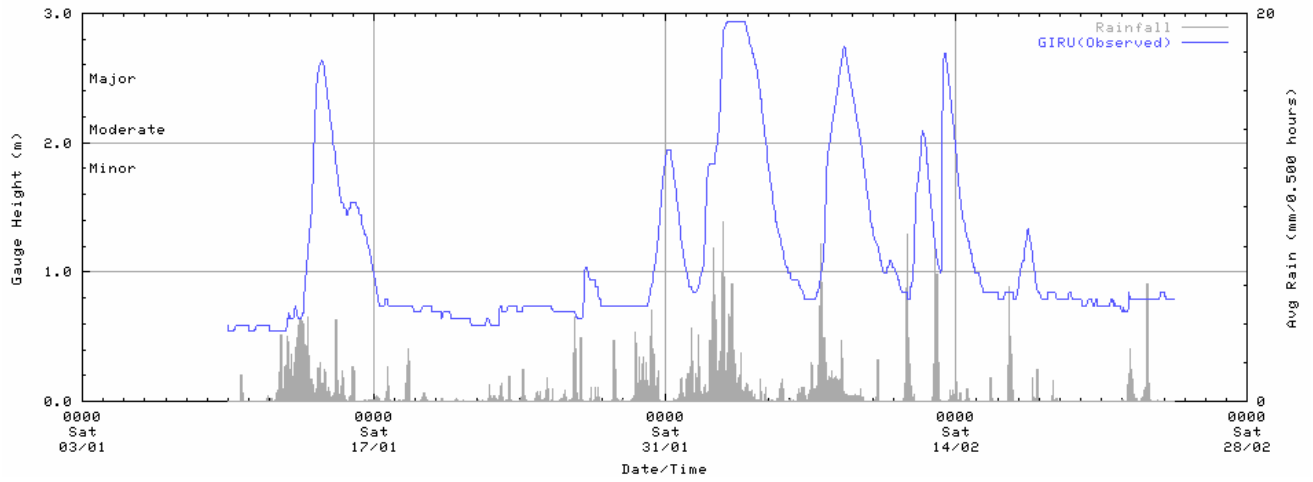
Major Creek – Major Creek Alert



Haughton River – Powerline Alert



Haughton River – Giru Alert



3.6. Warning Services for the Haughton River

Table 3.6.1 Flood Warnings and Predictions issued between 14/01/2009 and 14/02/2009.

Number of Warnings	Number of Major Warnings	Number of Predictions	Number of Locations	First Warning	Last Warning
45	24	18	2	7:41am Wed 14/1/2009	7:36am Sat 14/02/2009

Table 3.6.2 River Height Predictions issued for the Haughton River catchment.

Location	Issued	Predicted		Actual	
		Height	Times	Height	Time
Giru	14/01/2009 07:41	Peak around 2.60	Morning 04/01	2.64	14/01/2009 11:55
	14/01/2009 09:36	Peak around 2.60	Morning 04/01		
Giru	02/02/2009 13:03	Reach 2.80	10 pm 02/02	2.94	02/02/2009 23:52
	02/02/2009 17:34	Reach 2.80	10 pm 02/02		
	02/02/2009 21:04	Reach 3.00	12 pm 02/02		
Giru	07/02/2009 16:55	Exceed 2.50	Morning 08/02	2.74	08/02//2009 14:27
	07/02/2009 20:56	Peak around 2.90	6 am 08/02		
	08/02/2009 06:02	Peak around 2.80	Midday 08/02		
Giru	13/02/2009 05:47	Exceed 2.50	9 am 13/02	2.69	13/02/2009 10:34
	13/02/2009 07:53	Peak around 2.80	Midday 13/02		

Table 3.6.3 Severe Weather Warnings issued between 14/01/2009 and 14/02/2009.

Severe Weather Warning Title	Number of Warnings Issued
Severe Weather Warning for flash flooding.	4
Severe Weather Warning for heavy rainfall and flash flooding.	10
Severe Weather Warning for areas of heavy rain worsening an existing major flood situation.	9
Cancellation of Severe Weather Warning.	2
TOTAL	25

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