

## Flood summary for the Jordan River at Jericho and Alpha Creek at Alpha

- Jericho is on the Jordan River a tributary of the Alice River in the Cooper Creek catchment. Alpha is on Alpha Creek, a tributary of the Belyando River in the Burdekin River Catchment.
- The flood heights at Jericho are measured on a manual gauge co-owned by the Bureau of Meteorology and Barcaldine Regional Council (Bureau station number: 035285). The flood heights at Alpha are recorded on a manual gauge owned by the Bureau of Meteorology (Bureau station number: 035229).
- On the 28/12/2010 Jericho experienced flood levels equal to the record flood levels of April 1990. Peak heights recorded at Alpha on 28/12/2010 were the 3<sup>rd</sup> highest on record and more than 1 metre lower than the record flood peak of April 1990.
- A detailed map of the flood warning network is available on the Bureau website at [http://www.bom.gov.au/hydro/flood/qld/brochures/river\\_maps.shtml](http://www.bom.gov.au/hydro/flood/qld/brochures/river_maps.shtml)

## Location map

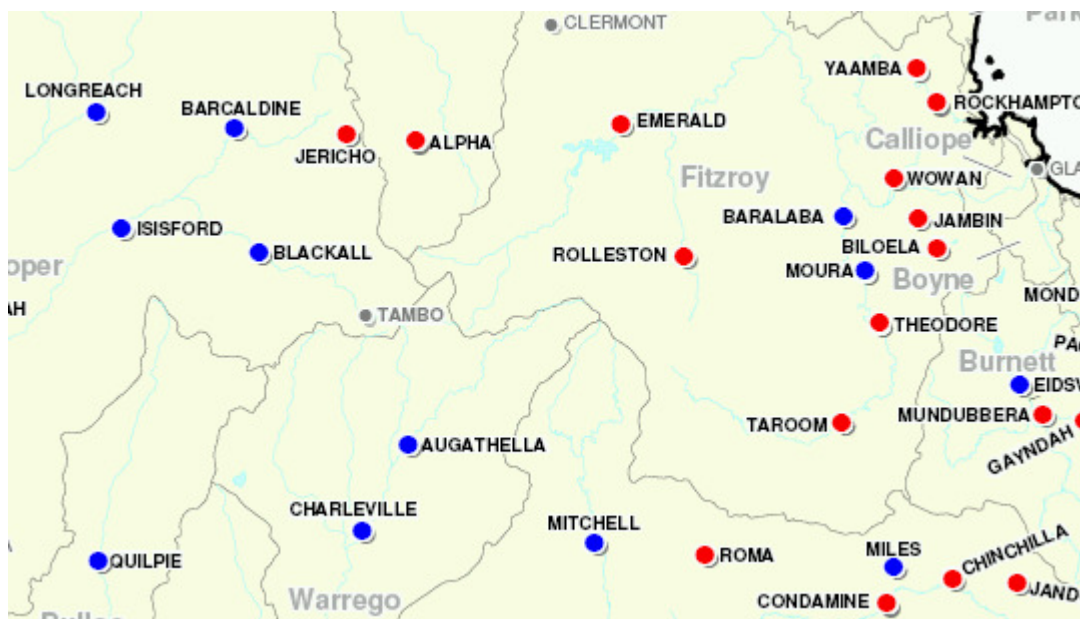
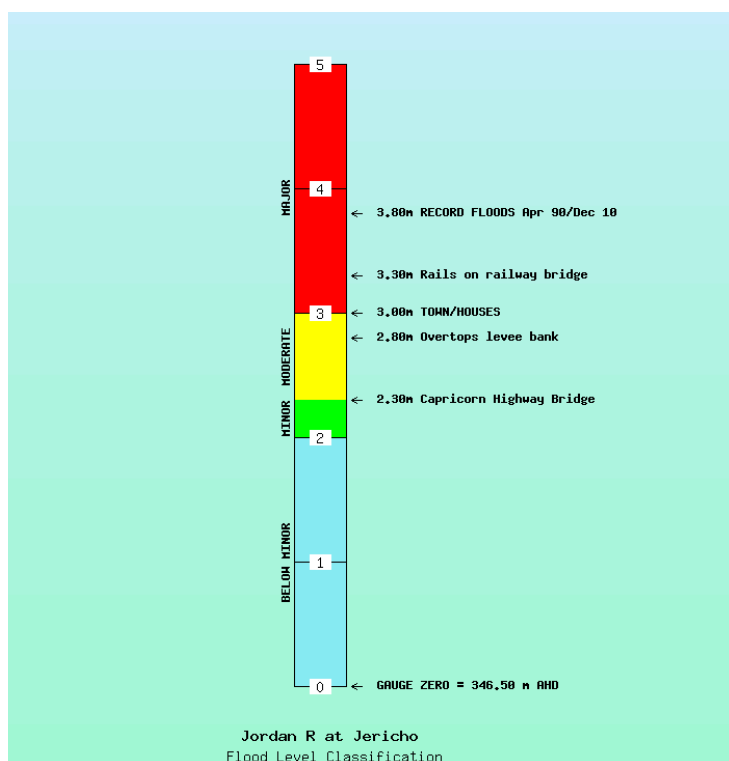


Figure 1. Map showing the location of Jericho and Alpha.

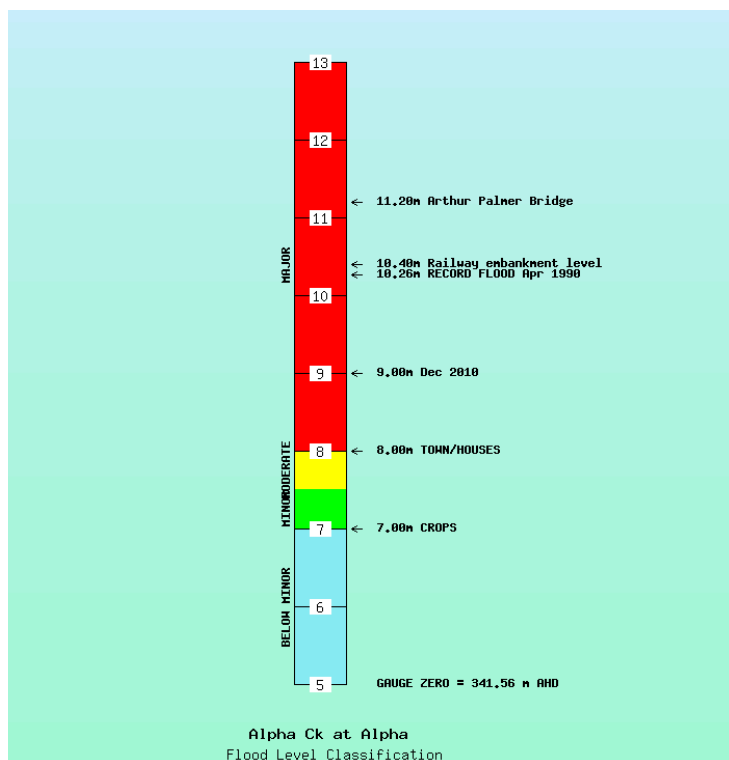
Note: Red dots are reported flood inundated towns or cities and blue dots are flood affected towns or cities.

## Flood effects and severity



### Jordan River at Jericho

- **The river peaked at:**  
3.08 metres at 6:00 AM on 20/12/2010  
3.8 metres at 11:00 PM on 28/12/2010
- Minor: 2.0 metres  
Moderate: 2.3 metres  
Major: 3.0 metres
- Gauge Zero is 346.5 metres AHD.
- Several properties were inundated and damage was caused to roads, railway lines, businesses and schools. (Source: ABC).
- About 16 residents were evacuated from homes in Alpha and Jericho with water at least waist to chest high. (Source: ABC).



### Alpha Creek at Alpha

- **The creek peaked at:**  
6.8 metres at 7:40 PM on 20/12/2010  
9.0 metres at 8:00 AM on 28/12/2010
- Minor: 7.0 metres  
Moderate: 7.5 metres  
Major: 8.0 metres.
- Gauge Zero is 341.562 metres AHD.
- Several properties were inundated and damage was caused to roads, railway lines, businesses and schools. (Source: ABC).
- About 16 residents were evacuated from homes in Alpha and Jericho with water at least waist to chest high. (Source: ABC).

Figure 2. Flood level classifications and flood effects for Jericho and Alpha.

## Rainfall summary

- Between 300 and 400 mm of rainfall was recorded over the Alpha-Jericho area between the 01/12/2010 and 31/01/2011 with falls between 400 and 600 mm of rainfall over the upper reaches of Alpha Creek upstream from Alpha. See Figure 3 (top).
- The heaviest rainfall period occurred between the 24/12/2010 and 28/12/2010 with the area receiving up to 200 mm of rainfall, as shown in Figure 3 (bottom).

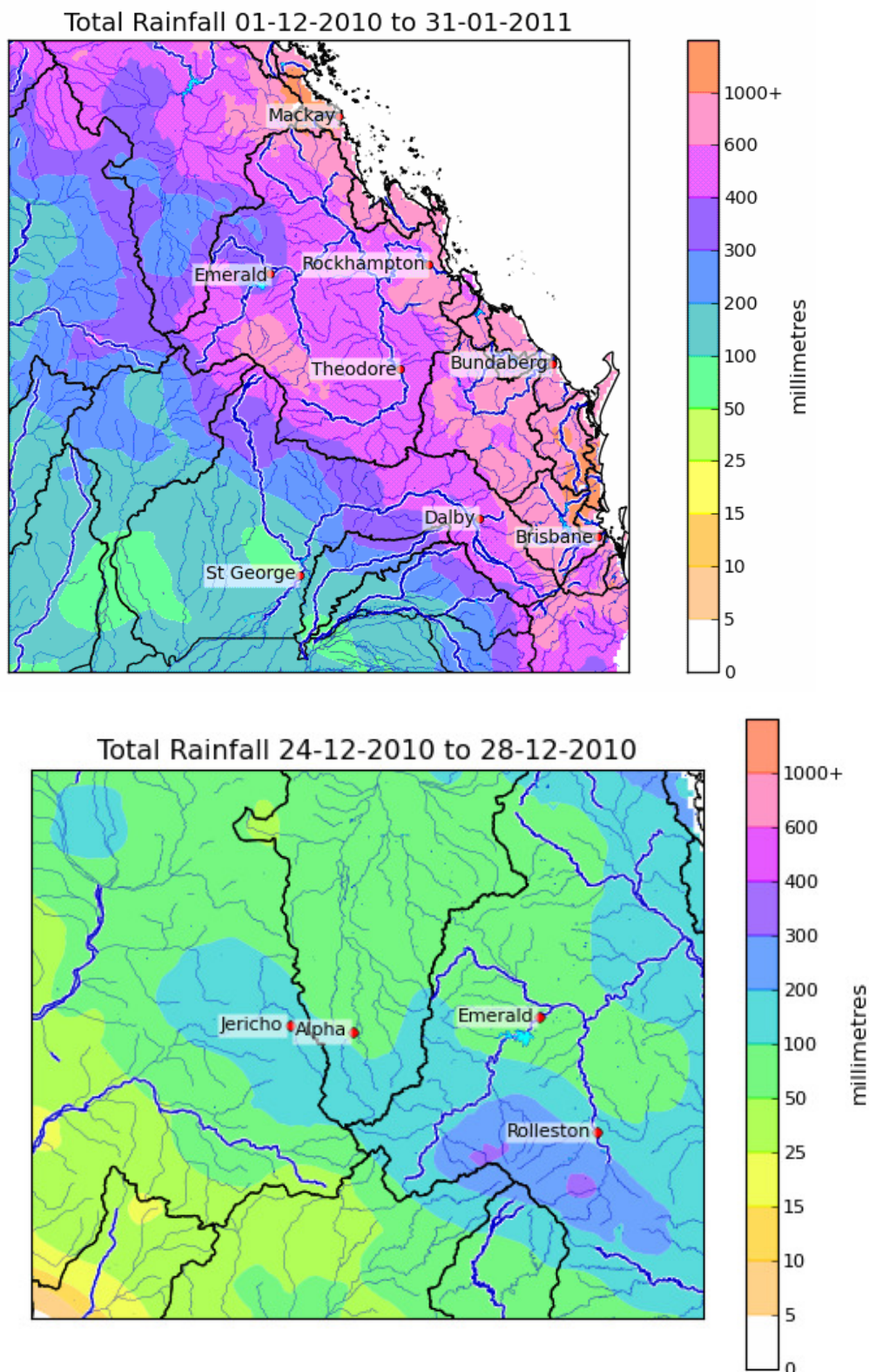


Figure 3. Rainfall map from 01/12/2010 to 31/01/2011 (top) and from 9am on 24/12/2010 to 9am on 28/12/2010.

## Rainfall Intensity

- The December 2010 floods at Jericho and Alpha were the result of heavy rainfall in the area over a period of 4 days. All rainfall stations in the near vicinity are daily reporting rainfall stations (reporting a 24-hour rainfall at 9am each day) and therefore provide no sub-daily data to perform an informative rainfall intensity analysis.

## Flood event timelines

**Table 2. Flood timeline for Jericho**

Time/Date	Event Description	Gauge Height (metres)	Comment
6:36 PM 24/12/2010	First warning issued		
9:00 AM 27/12/2010	24-hour rainfall of 80 mm recorded upstream at Glencoe.		
11:00 PM 28/12/2010	Major flood peak	3.80	Equal record flood peak.
10:18 AM 30/12/2010	Final warning issued		

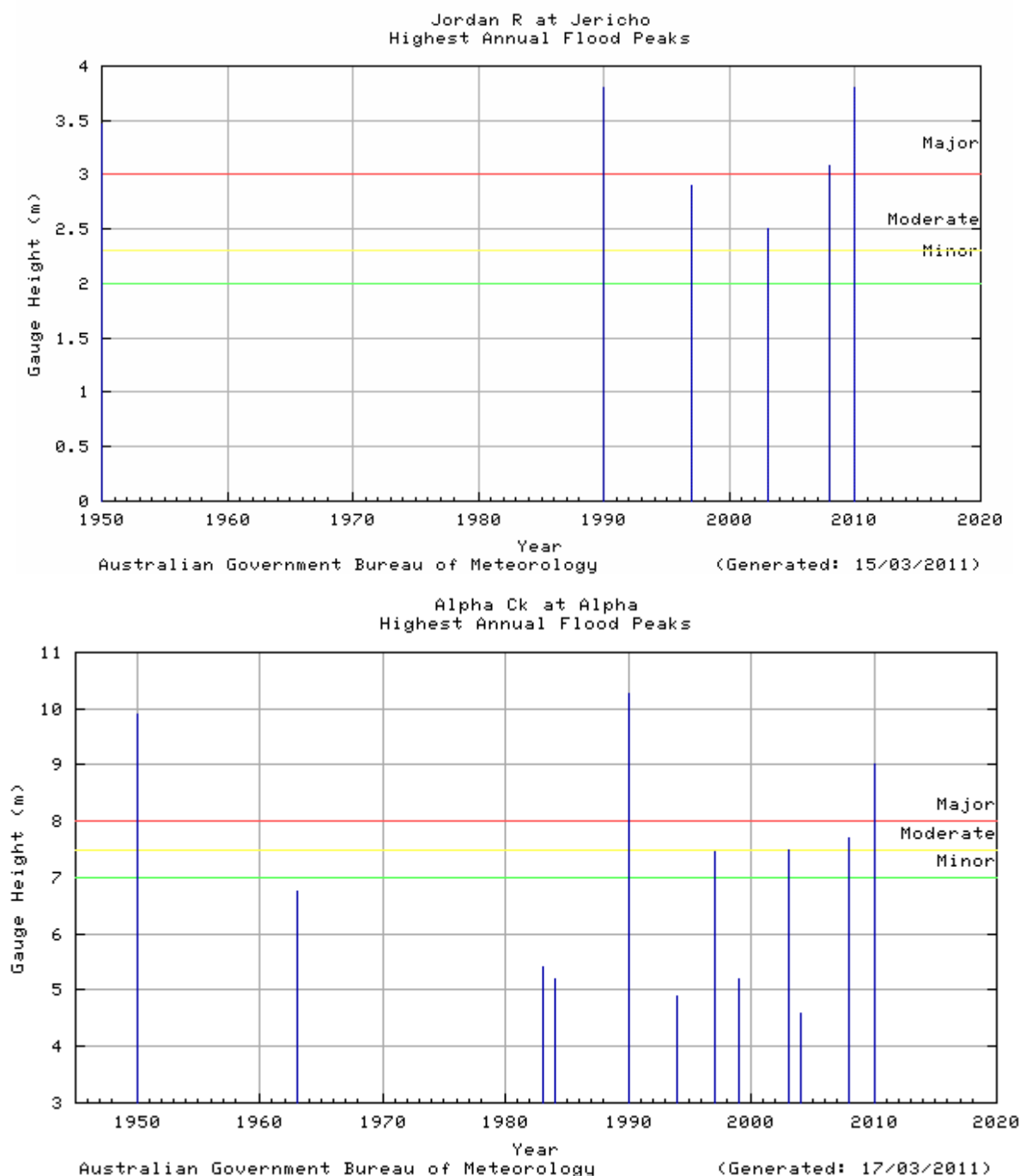
**Table 3. Flood timeline for Alpha**

Time/Date	Event Description	Gauge Height (metres)	Comment
9:41 AM 27/12/2010	First warning issued		
9:00 AM 27/12/2010	Heavy rainfall recorded over the catchment upstream from Alpha.		
8:00 AM 28/12/2010	Major flood peak	9.0	3 <sup>rd</sup> highest on record.
9:05 AM 30/12/2010	Final warning issued		

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## Comparison with previous floods

- River height records for Jericho and Alpha commenced in 1950.
- River height peak of 3.80 metres at Jericho on 28/12/2010 equals the record river height set in April 1990.
- The record flood height for Alpha is 10.26 metres which occurred in April 1990. The peak that occurred on 28/12/2010 ranks as the 3<sup>rd</sup> highest on record and was more than 1 metre below the record flood height for the town.



**Figure 4. Highest annual flood peaks for Jericho on the Jordan River (top) and Alpha on Alpha Creek (bottom).**

## Warning and Forecast Service

- Warnings for the Jordan River are incorporated in the Cooper Creek flood warning. The first flood warning for the Jordan River was issued on 24/12/2010.
- Major flooding was first predicted for Jericho in the Flood Warning issued at 6:36 PM on 24/12/2010. Renewed rises were caused by further rainfall over the catchment area.
- A total of 8 warnings were issued for the Jordan River during December 2010.

**Table 4. Table of peak height predictions for Jericho on the Jordan River**

Time of Height Forecast	Forecast	Peak
<b>24/12/2010 First warning issued for the Jordan River.</b>		
6:36 PM on Friday the 24th of December 2010	Reach at least 3 metres by midday Saturday with possible further.	Rising limb forecasts – reach a level and expected to continue rising.
10:19 AM on Saturday the 25th of December 2010	Peak around 3 metres by midday Saturday.	
10:45 AM on Sunday the 26th of December 2010	Minor flooding is easing in the Jordan River at Glencoe, with rises expected downstream at Jericho and the Capricorn Highway during this week.	
10:45 AM on Monday the 27th of December 2010	Minor flooding is rising slowly in the Jordan River at Glencoe, with rises expected downstream at Jericho and the Capricorn Highway during this week.	
12:02 AM on Tuesday the 28th of December 2010	The Jordan River at Jericho is expected to rise above the major flood level of 3 metres tonight. Glencoe reported a peak of 3.5 metres at 8pm Monday night.	
10:17 AM on Tuesday the 28th of December 2010	Major flooding is occurring in the Jordan River at Glencoe and Jericho.	3.8 metres at 11:00 PM on 28/12/2010
<b>30/12/2010 Final warning issued for the Jordan River.</b>		

- Warnings for Alpha Creek at Alpha are incorporated in the Burdekin River Catchment flood warning. The first flood warning for the Alpha Creek was issued on 27/12/2010.
- Major flooding was first predicted for Alpha in the Flood Warning issued at 11:49 PM on 27/12/2010.
- A total of 6 warnings were issued for the Alpha Creek during December 2010.

**Table 5. Table of peak height predictions for Alpha on Alpha Creek.**

Time of Height Forecast	Forecast	Peak
<b>27/12/2010 First warning issued for Alpha Creek.</b>		
9:41 AM on Monday the 27th of December 2010	Further heavy rainfall overnight Sunday is causing renewed rises and major flooding in the Belyando River at Albrow and in Alpha Creek at Rivington. River level rises to at least the minor flood level of 7 metres are expected at Alpha during this week.	Rising limb forecasts – reach a level and expected to continue rising.
11:49 PM on Monday the 27th of December 2010	At 8pm Monday, Alpha Creek at Alpha was 7.9 metres rising. A major flood peak is expected at Alpha during Tuesday, possibly near or exceeding 9 metres. In April 1990, Alpha peaked at 10.26 metres.	
12:06 AM on Tuesday the 28th of December 2010	At 8pm Monday, Alpha Creek at Alpha was 7.9 metres rising. A major flood peak is expected at Alpha during Tuesday, possibly near or exceeding 9 metres. In April 1990, Alpha peaked at 10.26 metres.	
8:55 AM on Tuesday the 28th of December 2010	Creek levels in Alpha Creek at Alpha have recorded a 9.0 metre major flood peak at 8am Tuesday with creek currently easing at 8.95 metres.	9.0 metres at 8:00 AM on 28/12/2010
<b>30/12/2010 Final warning issued for Alpha Creek.</b>		

**Note:** Table 4 and Table 5 do not include all forecasts issued during these flood events.