

# Barron River

This brochure describes the flood risk and previous flooding in the Barron River catchment, last updated in June 2025.

## Flood Risk

The Barron River has a catchment area of about 1980 square kilometres above Kamerunga at the mouth of the delta and has its headwaters in the area immediately east of Atherton on the elevated tableland. From this area, the river flows north to Tinaroo Falls Dam which has a catchment area of 550 square kilometres. The Barron River continues in a northerly direction through Mareeba before it takes an easterly turn near Bilwon and flows generally eastward to the Barron River delta.

There is a strong rainfall gradient across the catchment with the heaviest rain typically falling along the coastal strip around Cairns and Kuranda. In the western area of the catchment, rainfall totals tend to be significantly less. Heavy localised rainfall along the coastal strip up to Kuranda can cause rapid river rises in the lower Barron River around Kamerunga although larger floods tend to be associated with catchment wide heavy rainfalls.

Floods and extensive inundation in the Barron River delta typically develop very quickly in response to high runoff from the Kuranda Range and nearby hinterland, including the Clohesy River, Barron River around Myola, Freshwater Creek, and the delta area itself. The lower reaches of the Barron delta are prone to storm surge effects during cyclones, and tides can significantly impact smaller floods near the river mouth but are less significant in larger floods. Discharges from Tinaroo Falls Dam and Copperlode Dam have little effect on Barron River delta flooding in larger floods.

## Previous Flooding

The Barron River has a well-recorded flood history with documented evidence of flooding as far back as the early 1900's. Records at the key reference gauge at Myola show that the largest flood occurred in early 1911. Significant recent floods include 1977, 2000, 2018, and December 2023.

In 2023, Tropical Cyclone Jasper crossed the North Queensland coast as a Category 2 system on Wednesday evening 13 December near Wujal Wujal, bringing widespread heavy rain. Tropical Cyclone Jasper transitioned to a tropical low after making landfall and then moved slowly west over Cape York Peninsula before becoming near stationary over the northern Gulf Country. Linked to ex-Tropical Cyclone Jasper, a coastal trough developed and brought further widespread heavy to locally intense rainfall across the North Queensland coast.

The Barron River catchment recorded rainfall totals of between 558 mm and 2183 mm for the period 12 to 18 December 2023. The heaviest falls were recorded on 16 and 17 December 2023, where daily totals exceeded 900 mm at Black Mt and Myola Alert. River levels rose throughout the catchment from late 13 December. Given the continued rainfall, many locations saw multiple flood peaks. However, there were primarily two distinct peaks on 14 to 15 December and 16 to 17 December 2023.

At Mareeba, a Major flood peak of 11.63 m occurred at 4:36 pm on 17 December 2023. The highest recorded flood peak is 12.40 m in February 2000.

At Bolton Road, there were two distinct major flood peaks on 14 December, followed by 12.30 m at 3:05 pm on 17 December 2023. The highest recorded flood peak is 13.77 m in March 2018.

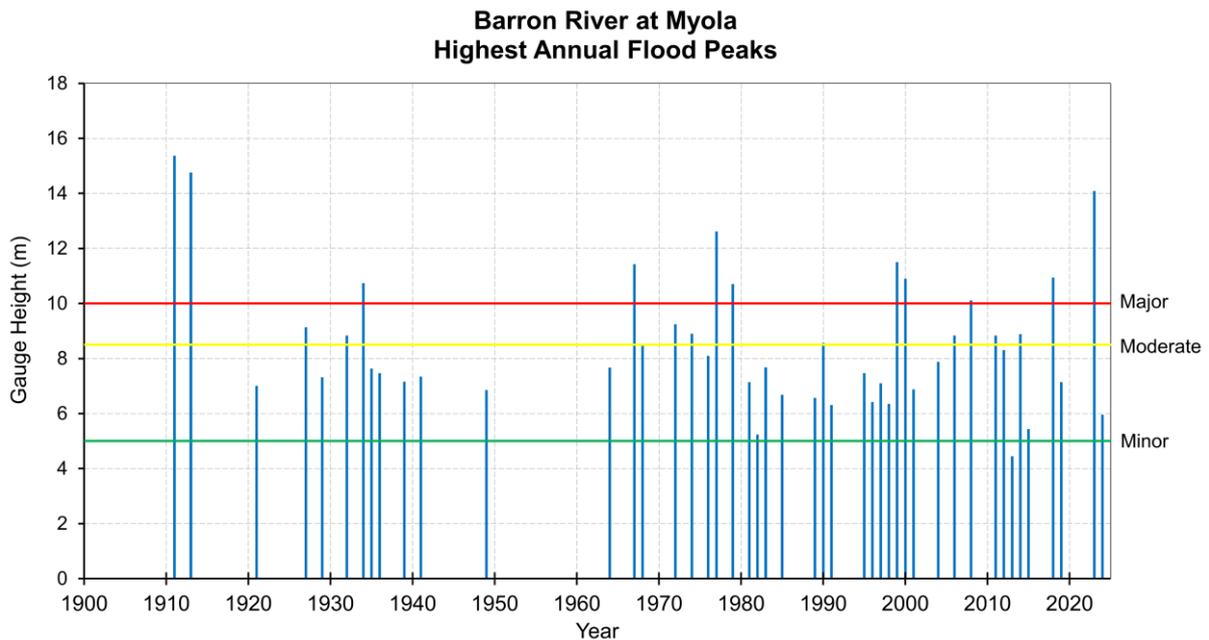
At Myola, a Major flood peak of 14.09 m occurred at 5:00 pm on 17 December 2023. This is the highest recorded flood peak since gauge records began and the highest river level in over 100 years for this location. Flood peaks in 1911 and 1913 are expected to have been higher and these are included in the graph below, though these were measured from flood marks and not using gauging instruments.

Cairns Airport gauge experienced a data outage during the December 2023 flooding, with an estimated flood peak around 4.40 m based on anecdotal evidence. The highest recorded flood peak at Cairns Airport is 3.80 m in March 1977.

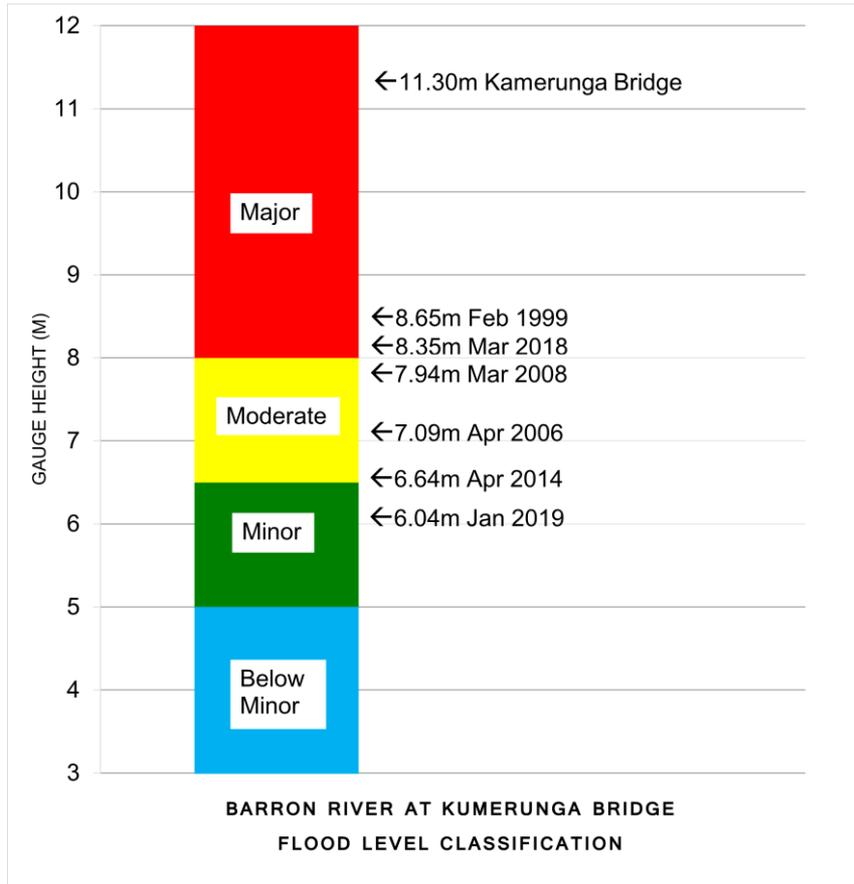
Kamerunga Bridge had no data available during the December 2023 flooding and, as a result, there is no recorded flood peak for the December 2023 event. The highest recorded flood peak at the current Kamerunga Bridge gauge site is 8.65 m in February 1999. Flood marks from an old gauge site at Kamerunga Bridge indicate a highest recorded flood peak of 9.9 m in January 1979, followed by 9.5 m in March 1967.

Flood Event	Mareeba	Kamerunga Bridge	Myola	Cairns Airport
Mar 1977	-	-	12.62	3.80
Feb 1999	10.70	8.65	11.5	3.50
Feb 2000	12.40	8.30	10.9	3.40
Mar 2018	10.35	8.35	10.94	3.13
Dec 2023	11.63	-	14.09	Estimated 4.4

All heights are in metres on flood gauges.



Australian Government Bureau of Meteorology



## Further Information

- [Latest rainfall and river heights](#)
- For information on the flood warning service for the Barron River: [Queensland Service Level Specification](#)
- Barron River catchment map: [Barron, Mulgrave-Russell map](#)
- [National Arrangements for Flood Forecasting and Warning](#)