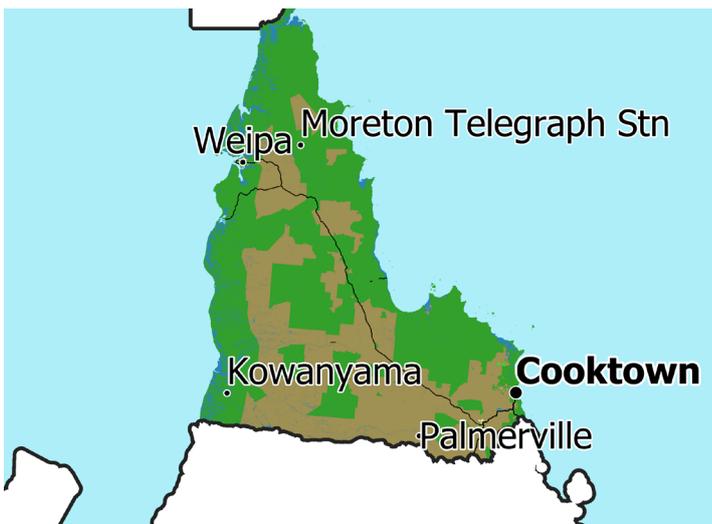


# Regional Weather and Climate Guide

## In the last 30 years in Cape York

-  Annual rainfall has been relatively stable
-  Dry years have occurred seven times and wet years 11 times
-  There has been an increase in monsoon rains in the region's north
-  Rainfall has been reliable in the monsoon season
-  Useful rain events have occurred an average of five times a year
-  Evaporation rates have decreased in spring



## Cape York region at a glance

The Cape York region covers around 17 million hectares, of which 65% is under agricultural production. The vast majority of the region's agriculture is grazing cattle, with horticulture (melons, tropical fruit, pumpkins) and broadacre cropping (sorghum) also in the mix. The region contributed around \$30.2 million to the Australian economy in 2017–18.

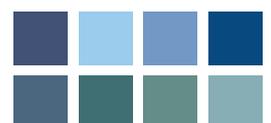
Natural Environments  Low Level Production  Dryland Production  Irrigated Production  Intensive Production  Intensive Uses  Water Bodies 

## A guide to weather and climate in Cape York

Primary producers make decisions using their knowledge and expectations of regional weather patterns. The purpose of this guide is to provide an insight into the region's climate and an understanding of changes that have occurred through recent periods. This information can potentially assist primary producers and rural communities make better informed decisions for their business and livelihoods. This guide is part of a series of guides produced for every Natural Resource Management area around Australia.



A climate guide for agriculture  
**Cape York, Queensland**

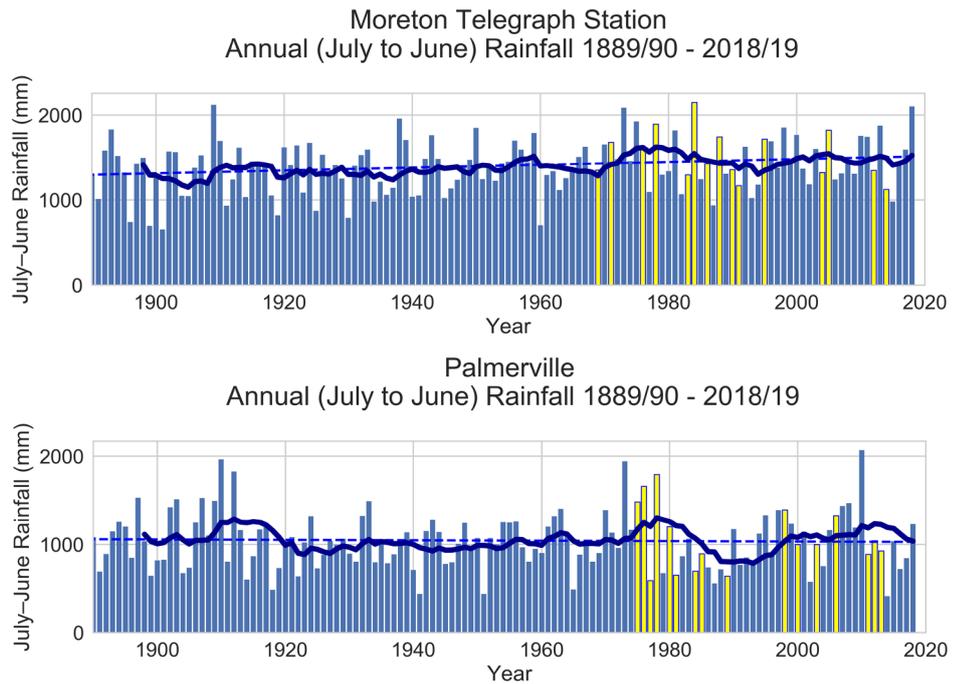




# Annual Rainfall

## Annual rainfall in Cape York has been relatively stable

Annual (July to June) rainfall in Cape York has been relatively stable, increasing by around 40 mm (3%) from about 1410 mm to about 1450 mm over the past 30 years (1989–2018) when compared to the previous 30 years (1959–1988). The charts show annual rainfall (blue bars), with a 10-year running average (solid blue line) and a trend line (dashed) for Moreton and Palmerville. The chart also shows the years when at least one tropical cyclone moved within 100 km of the location, highlighted in yellow (since satellite observations began in 1969). Although the average annual (July to June) rainfall has been relatively stable, it still fluctuates from year to year with natural variability. In the past 30 years (1989–2018), dry years (lowest 30%) have



occurred seven times and wet years (highest 30%) have occurred 11 times, while the remaining

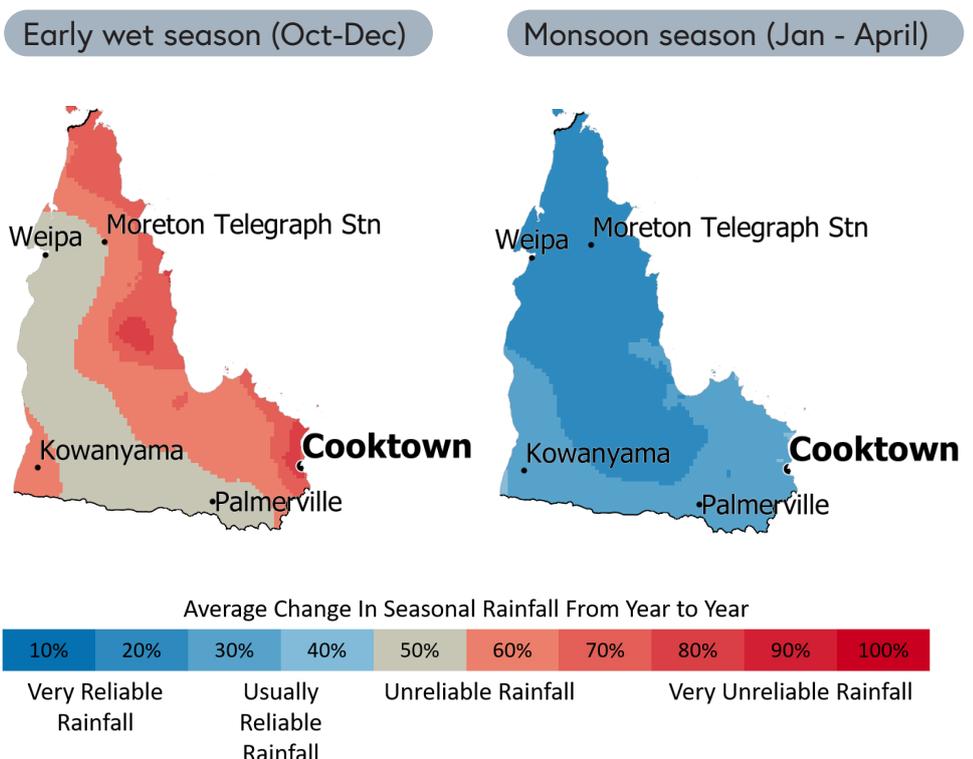
During the previous 30-year period (1959–1988), dry years occurred eight times and wet years occurred 11 times.

For more information on future projections, visit the Climate Change in Australia website > [www.climatechangeinaustralia.gov.au](http://www.climatechangeinaustralia.gov.au)

Want to know more about the guides? Try Frequently Asked Questions at > [www.bom.gov.au/climate/climate-guides/#faqs](http://www.bom.gov.au/climate/climate-guides/#faqs)

## Cape York monsoon season rainfall is reliable across the region

Rainfall reliability maps for the past 30 years (1989–2018) show monsoon rainfall has been reliable across the region (blue areas), with about 230 mm difference from one year to the next, or around 22% of the monsoon season average, which is 1058 mm. While the monsoon may be a regular feature of the Northern Gulf climate, monsoonal rainfall comes in bursts and is not consistent throughout the season. During the build-up, rainfall is unreliable across the region (beige and red areas), particularly along the east coast.



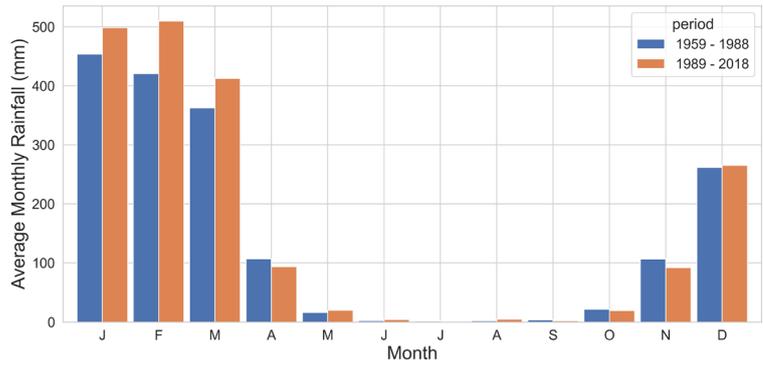


## There has been an increase in monsoon rains in the region's north

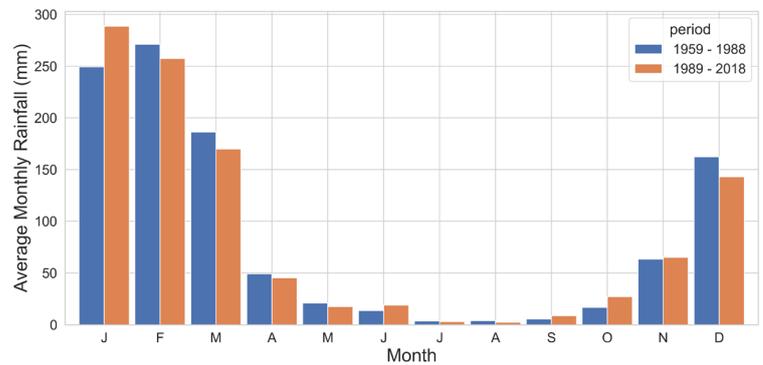
Rainfall in the monsoon season has increased at Weipa, but decreased at Palmerville between 1989–2018 (orange bars) compared with 1959–1988 (blue bars).

Over the past 30 years, wet season rainfall (November to April inclusive) for Weipa was 1872 mm, 160 mm higher than the 1712 mm average for the previous 30-year period (1959–1988). Overall, the average wet season total rainfall at Palmerville has remained fairly stable, changing by only 12 mm between the two periods.

Weipa 30-year Average Rainfall by Month



Palmerville 30-year Average Rainfall by Month



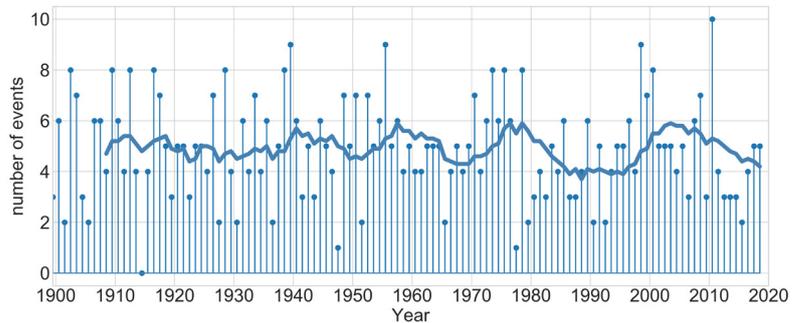
For more information on the latest observations and science behind these changes, refer to the State of the Climate Report > [www.bom.gov.au/state-of-the-climate/](http://www.bom.gov.au/state-of-the-climate/)

## Useful rain events have occurred an average of five times a year

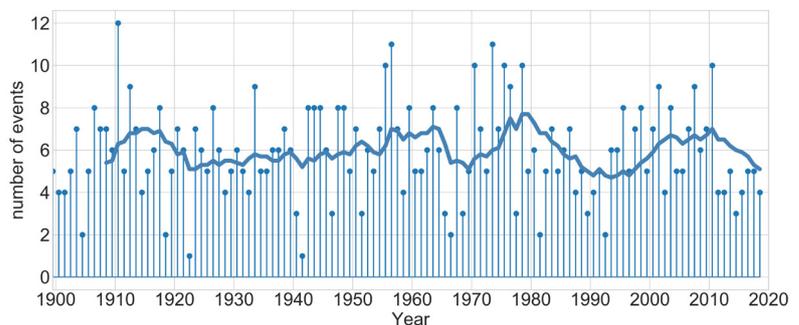
At Mount Olive, in the Cooktown area, 85% of rain events of 50 mm or more occur from December through February. On average, five 50 mm events occur every wet season, but this can range from 0 to 10. There has only been one wet season since 1900 without a 50 mm rain event, which represents about a 0.2% risk in any year of this occurring.

In Palmerville, 87% of rain events of 50 mm or more occur from December to February. On average, six such events occur every wet season, but this can range from 1 to 12. Every season on record has had at least one rain event of 50 mm or more.

Mount Olive Number of 50 mm rain events (July to June)



Palmerville Number of 50 mm rain events (July to June)



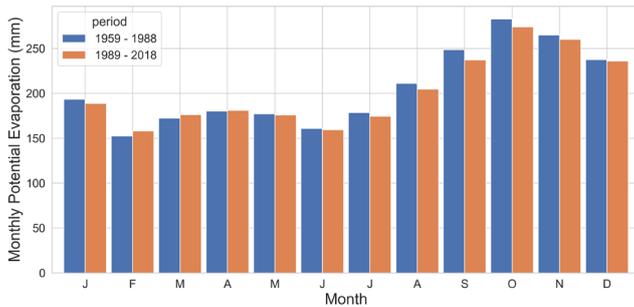


## Evaporation

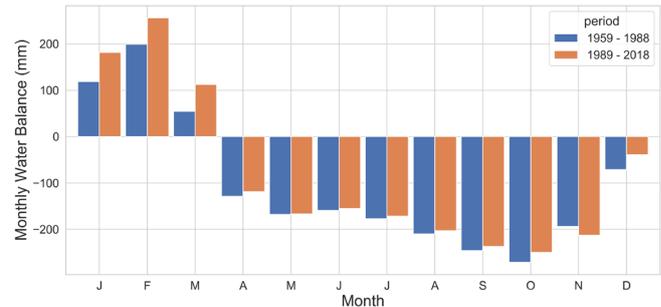
### Evaporation rates have decreased in spring

The graphs show the mean monthly evaporation and water balance (rainfall minus evaporation) between 1989-2018 (orange bars) compared with 1959-1988 (blue bars) for Kowanyama. Evaporation rates in August, September and October at Kowanyama have decreased by about 10 mm for each month in the past 30 years (1989–2018) when compared to the previous 30 years (1959–1988).

Kowanyama airport 30-year Average Potential Evaporation



Kowanyama airport 30-year Average Water Balance



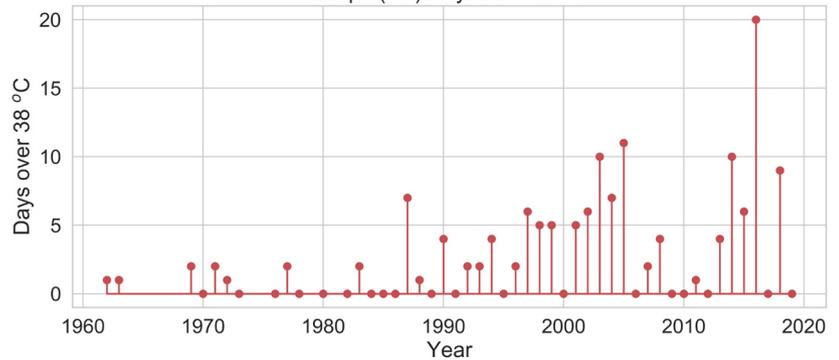
## Temperature

### Overview of temperatures in Cape York

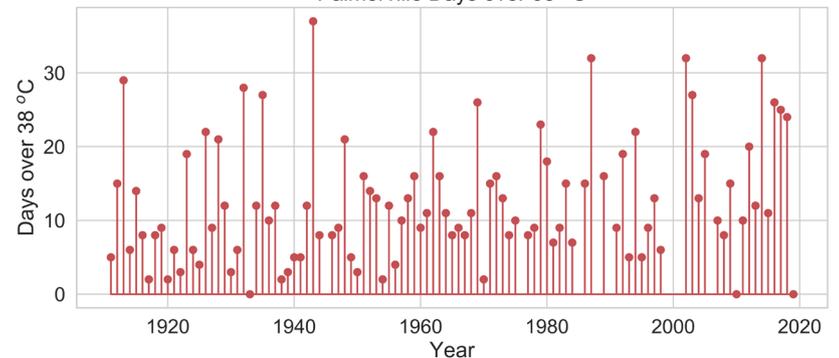
The chart shows the annual number of days above 38 °C (red bars) for Weipa and Palmerville. The difference in the temperature trends between the two areas are a result of different climatic influences. Weipa is Gulf-influenced, while Palmerville is influenced by the South Equatorial Current, i.e the climate patterns coming from the Gulf of Carpentaria differ from those that come from the Pacific Ocean. Over the past 30 years Weipa experienced an average of four days per year above 38 °C. The hottest temperature recorded at Weipa in the last 30 years was 39.7 °C on November 16th 1997.

Palmerville experienced an average of 13 days per year above 38 °C between 1989–2018. Since 1989, temperatures of 41 °C have been recorded for Palmerville three times, twice in 1992 and once in 2003. The hottest temperature recorded at Palmerville in the last 30 years was 42.0 °C on December 2nd 1992.

Weipa (AS) Days over 38 °C



Palmerville Days over 38 °C



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