

Monthly Climate Statement – February 2019

Key messages

- The El Niño-Southern Oscillation has remained in a neutral state over summer.
- Despite ENSO-neutral conditions, the northern Australian monsoon season has been quite active this summer, bringing high rainfall to parts of northern Queensland.
- Strong monsoonal activity during the first two weeks of February resulted in extensive flooding across coastal and inland parts of northern Queensland.
- In contrast, much of central and southern Queensland has experienced an extremely dry summer thus far.

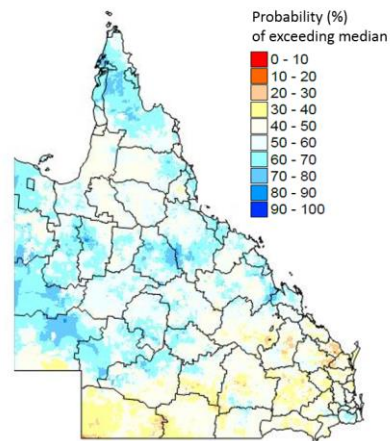
Summary as at 13 February 2019

Rainfall in Queensland over spring and summer is influenced by the El Niño-Southern Oscillation (ENSO) – a coupled atmospheric and oceanic phenomenon which is strongly persistent at seasonal timescales. Values of key ENSO indices, including the Southern Oscillation Index (SOI) and SSTs in the central equatorial Pacific Ocean, tend to ‘lock-in’ during spring and persist through summer (November to March). National and international agencies agree that ENSO currently remains in a neutral state.

The Department of Environment and Science (DES) calculates rainfall probabilities for the Queensland summer (November to March) based on an experimental system known as SPOTA-1 (Seasonal Pacific Ocean Temperature Analysis - version 1). SPOTA-1 provides an objective comparison of historical summer rainfall with Pacific Ocean SST anomalies from March through to October each year.

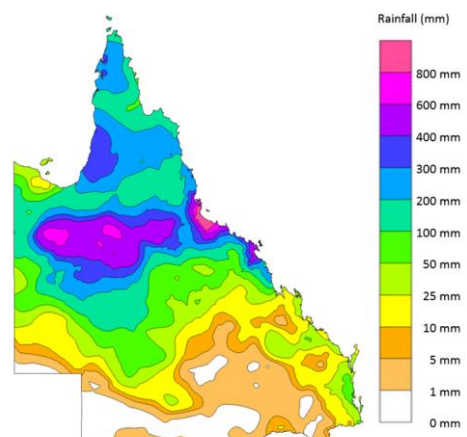
The final SPOTA-1 update for 2018 indicated a near-normal probability of exceeding median summer rainfall for most of Queensland (see map), with a higher than normal probability of ‘near-average’ (Decile 3 to 7) summer rainfall, and a lower than normal probability of either a ‘wet’ or ‘dry’ summer (> Decile 7 or < Decile 3 summer rainfall respectively). For the later part of summer (January to March) DES indicated that the probability of exceeding median January to March rainfall was near-normal for most of Queensland, but lower than normal for parts of southern Queensland (January 2019 Monthly Climate Statement). In April, DES will provide an initial indication of rainfall probabilities for the 2019/20 summer.

Probability of exceeding median summer rainfall
for November 2018 – March 2019, as at 1 November 2018



So far this summer, the northern Australian monsoon season has been quite active. Tropical cyclones ‘Owen’ and ‘Penny’ brought high rainfall to parts of north Queensland in mid-December and early January respectively. Persistent monsoonal activity over the first two weeks of February has resulted in extensive flooding across coastal and inland parts of northern Queensland (see map below). Whilst high rainfall has occurred in parts of northern Queensland, much of central and southern Queensland has thus far experienced an extremely dry summer.

Queensland rainfall totals (mm)
1st to 12th February 2019
Australian Bureau of Meteorology



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