

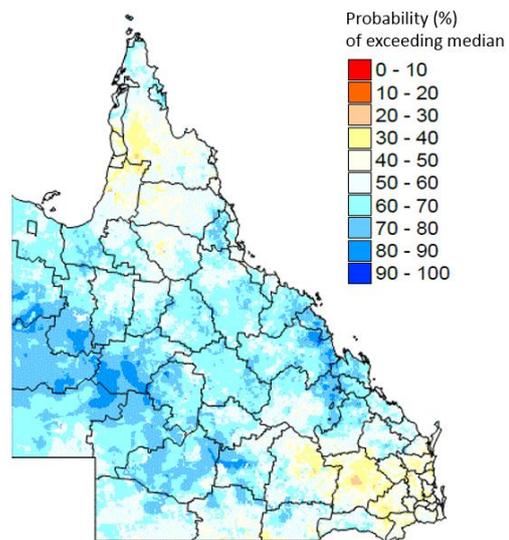
Monthly Climate Statement – April 2018

Key messages

- At this time of year, extra-tropical sea-surface temperature anomalies in the Pacific Ocean provide initial guidance as to rainfall probabilities over Queensland for next summer.
- On this basis, the probability of exceeding median summer rainfall is currently slightly higher than normal for much of Queensland.
- The current outlook for summer rainfall does not factor in the state of the El Niño-Southern Oscillation (ENSO), which tends to be in transition at this time of year.
- The outlook for summer rainfall will be updated each month from June to November, factoring in the evolving ENSO-related SST pattern during this period.

At this time of year the ENSO phenomenon tends to be in a state of transition. For this reason, ENSO indices such as the Southern Oscillation Index (SOI) and SST anomalies in the equatorial Pacific, do not provide a useful indicator of summer rainfall. The Bureau of Meteorology consider that the La Niña pattern which persisted over spring and summer has now returned to a neutral state. Although SSTs in the equatorial Pacific remain cooler than normal (-0.7°C in March and -0.8°C from January to March), the atmospheric SOI has been in the neutral range over the last three months, averaging $+3.2$ for January to March.

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



Summary as at 12 April 2018

The Department of Environment and Science (DES) monitors sea-surface temperature (SST) anomalies in key regions of the Pacific Ocean over autumn, winter and spring, and provides objective outlooks for summer (November to March) rainfall on this basis. **The Science Division of DES considers that the probability of exceeding median summer (November to March) rainfall is currently slightly higher than normal for much of Queensland.**

DES provides seasonal outlooks for summer rainfall in Queensland based on SST anomalies in key regions of the Pacific Ocean. The current outlook is based on SST anomalies in the extra-tropical Pacific Ocean. Unlike SST anomalies in the equatorial Pacific, which are strongly related to El Niño-Southern Oscillation (ENSO) phenomenon, SST anomalies in the extra-tropical Pacific at this time of year tend to persist through to summer and provide a useful basis for providing an initial long-lead outlook of summer rainfall in Queensland.

The 'autumn predictability gap'

El Niño and La Niña events tend to form in winter or spring, persist through summer, and break down in autumn. Seasonal outlooks are based on the persistence of these events and their associated rainfall and climate patterns. Seasonal outlooks based on ENSO are therefore least reliable in autumn, and hence this period has become known as the 'autumn predictability gap.'

It should be noted that seasonal outlooks are probabilistic, rather than deterministic, in nature. For example, if an outlook is described as having a 60 per cent probability of above median rainfall, there is also a 40 per cent probability of below median rainfall. In cases where outcomes with a high probability may be more likely, this does not mean that less probable events will not occur in any given year.

As noted, DES will provide an updated outlook for summer rainfall in June. This outlook will begin to factor in the developing ENSO-related SST pattern at that time.

For more information please visit the Queensland Government Long Paddock website at:

www.longpaddock.qld.gov.au/seasonal-climate-outlook

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