

Monthly Climate Statement – October 2019

Key messages

- The Science and Technology Division of DES now considers that the probability of exceeding median summer (November to March) rainfall is near-normal for much of Queensland.
- The marked change in the outlook since last month is due to a weakening of the SST gradient across the south-west Pacific during September.
- DES will provide a final update of rainfall probabilities for summer in November, based on any further change to the sea-surface temperature pattern during October.
- DES also notes the Bureau of Meteorology's current rainfall outlook for October to December, which indicates a higher than normal probability of below median rainfall for much of Queensland.

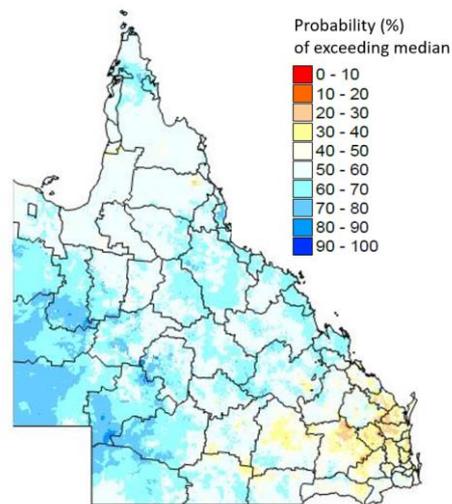
Summary as at 8 October 2019

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 and Technology Division of DES now considers that the probability of exceeding median summer (November to March) rainfall is near-normal for much of Queensland.** The marked change in outlook since last month is due to a weakening of the SST gradient across the south-west Pacific during September.

The most closely monitored driver of Queensland rainfall is the El Niño-Southern Oscillation (ENSO) phenomenon. At this time of year, the relationship between ENSO and rainfall tends to strengthen. Climate scientists monitor several ENSO indices, including the atmospheric Southern Oscillation Index (SOI) and SST anomalies in the central equatorial Pacific Ocean. Recent monthly values of the SST anomaly in the Niño 3.4 region of the central Pacific have been within the ENSO-neutral range, averaging +0.2°C for July to September. The monthly SOI value fell quite rapidly during September, and the average three-month SOI value from July to September remains quite negative (-7.2).

The Bureau of Meteorology's current rainfall outlook for October to December indicates a higher than normal probability of below median rainfall for much of Queensland. This outlook is based on climate modelling undertaken by the Bureau, and is consistent with the currently negative state of the SOI. As noted, DES considers that the probability of exceeding median summer (November to March) rainfall is near-normal for much of Queensland (see map below). This outlook is based on an objective analysis of the evolving Pacific Ocean SST pattern from March to October. As noted, the change in the outlook since last month is due to a weakening of the SST gradient across the south-west Pacific during September. DES will provide a final update of rainfall probabilities in November, based on any further change to the sea-surface temperature pattern during October.

Probability of exceeding median summer rainfall
for November 2019 – March 2020, as at 1 October 2019



Readers should note that seasonal outlooks are stated in terms of probabilities. For example, an outlook may be stated as 'a 60 to 70 per cent probability of above median rainfall'. Such a statement should be interpreted as also meaning a 30 to 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.

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