

Monthly Climate Statement – March 2018

Key messages

- La Niña conditions have persisted over summer, but the Bureau of Meteorology now advise that the El Niño-Southern Oscillation has returned to a neutral state.
- El Niño and La Niña events tend to break down at this time of year, leading to what is known as the 'autumn predictability gap'.
- DES will provide an initial outlook for summer rainfall in the next (April) Monthly Climate Statement.

Summary as at 14 March 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 Queensland summer (November to March) rainfall on this basis. **The Climate Variability Unit of DES will provide an initial outlook for next summer in the next (April) Monthly Climate Statement.**

Rainfall in Queensland over spring and summer is influenced by the El Niño-Southern Oscillation (ENSO) — a coupled atmospheric and oceanic phenomenon which is persistent at seasonal timescales. However, at this time of year (known as the 'autumn predictability gap'), ENSO-related SST anomalies tend to break down and, for this reason, do not provide a reliable indicator of upcoming seasonal rainfall.

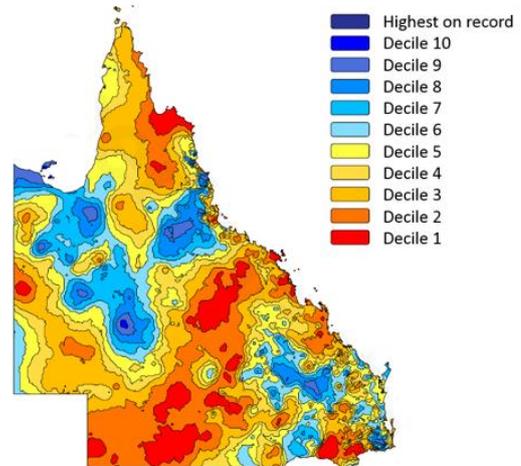
The 'autumn predictability gap'

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 leading into autumn when El Niño or La Niña events tend to break down. This period is known as the 'autumn predictability gap.'

The La Niña pattern, which developed in spring last year, has persisted through summer as anticipated. In Queensland, La Niña conditions tend to be, but are not

always, associated with above-median (> decile 5) summer rainfall. This summer rainfall has been above-median in some north-western and south-eastern parts of the State (blue areas on map), but below-median in many other areas (yellow, orange and red areas on map).

Rainfall decile for summer (1 November to 31 March) relative to historical records
as at 13 March 2018



La Niña conditions are characterised by cooler than average SSTs in the Niño 3.4 region of the Pacific Ocean, coupled with sustained positive values of the Southern Oscillation Index (SOI). Over the last three months (December to February), the average SST anomaly in the Niño 3.4 region (-0.8°C) remained cooler than average. However, the three-month average value of the SOI (-0.5) has returned to a neutral value. Due to this change in the SOI and other atmospheric indicators, as well as some evidence of recent Pacific Ocean warming, the Bureau of Meteorology now (as at 13 March 2018) consider that ENSO conditions have returned to a neutral state.

DES will provide an initial outlook for summer rainfall in April, which will be updated each month from June to November. The initial outlook is based on SSTs that are not related to ENSO at this time of year. The updates from June to November will take into account the evolving 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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