

Monthly Climate Statement — March 2017

Key messages

- A weak La Niña pattern, which developed in spring last year, has now broken down.
- Rainfall over the last three months has been extremely low across much of central and south-eastern Queensland.
- It is now unlikely that drought breaking rainfall will occur before next summer.
- DSITI will provide an initial outlook for summer (November to March) rainfall next month (April).

Summary as at 15 March 2017

The Department of Science, Information Technology and Innovation (DSITI) 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 DSITI will provide an initial outlook for summer rainfall in the next (April) Monthly Climate Statement.**

DSITI provides seasonal outlooks for summer rainfall in Queensland based on SST anomalies in key regions of the Pacific Ocean. DSITI's initial outlook for summer rainfall, which is provided in April each year, is based on a SST pattern which is unrelated to the El Niño-Southern Oscillation (ENSO) phenomenon. At this time of year, ENSO-related SST anomalies do not provide a reliable indicator of summer rainfall and only start to become useful in June. DSITI will update this initial outlook each month from June to November, taking into account the evolving ENSO-related SST pattern during this period.

A weak La Niña pattern developed in spring last year and prevailed into summer. This pattern has now broken down, and ENSO indices are currently well within the 'ENSO-neutral' range. In February, the Niño 3.4 SST anomaly was +0.1°C and the monthly value of the Southern Oscillation Index (SOI) was -2.2. Over the last three-month period (December to February), the average Niño 3.4 SST anomaly was -0.2°C and the average value of the SOI was -0.4.

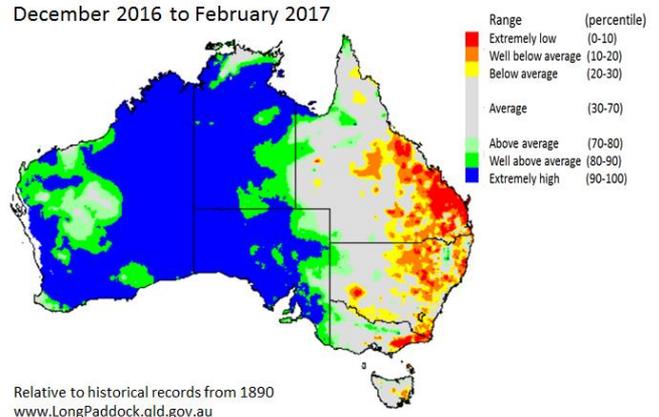
The 'autumn predictability gap'

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 three months from December to February are, on average, the wettest three months of the year across Queensland. La Niña events are typically associated with above-average December to February rainfall. Despite the occurrence of a weak La Niña event, rainfall over December to February has been extremely low across much of central and south-eastern Queensland this summer (red areas on map). In contrast, December to February rainfall has been above-average to extremely-high in some north-western parts of the state (green and blue areas on map), as it has across much of Australia (with the exception of the eastern States).

Rainfall Percentile

December 2016 to February 2017



Prior to summer, the Bureau of Meteorology advised that Queensland will most likely experience a 'near-average' tropical cyclone season (November to April) which might be interpreted as seeing one or two tropical cyclones making landfall in Queensland. Only one tropical cyclone has impacted Queensland so far this season, with Tropical Cyclone Alfred bringing heavy rainfall to parts of the Gulf of Carpentaria in February.

Protracted dry conditions over recent summers have resulted in much of Queensland being drought declared. Several shires in central and south-eastern Queensland were drought declared in February increasing the total drought declared area from eighty-four per cent of the State as at 1 February 2017, to eighty-seven per cent of the State as at 10 March 2017. As noted, the wettest months of the year have now passed, so it is unlikely that drought breaking rainfall will occur before next summer. As also noted, DSITI will provide the first outlook for next summer's rainfall in April.

For more information, please visit:

www.longpaddock.qld.gov.au/seasonalclimateoutlook

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