

## Monthly Climate Statement – August 2019

### Key messages

- The Science and Technology Division of DES considers that the probability of exceeding median summer (November to March) rainfall is currently higher than normal for much of Queensland.
- The current outlook for summer rainfall is based on sea-surface temperatures across the Pacific Ocean, including those regions related to the El Niño-Southern Oscillation (ENSO).
- The outlook for summer rainfall will be updated from September to November based on the evolving SST pattern during this period.

DES also monitors SST anomalies in the extra-tropical Pacific Ocean, which, at this time of year, are correlated with Queensland rainfall in the following summer. SST anomalies in the South West Pacific are currently much warmer than normal, and such anomalies tend to be very persistent. All else being equal, warm SST anomalies in the South West Pacific tend to favour above average rainfall in Queensland over the following summer.

As noted, DES considers that the probability of exceeding median summer rainfall is currently higher than normal for much of Queensland. This outlook is based on an objective analysis of the SST pattern across the Pacific Ocean as a whole. DES will update the outlook for summer rainfall each month from September to November, factoring in any change to the Pacific Ocean SST pattern over this period.

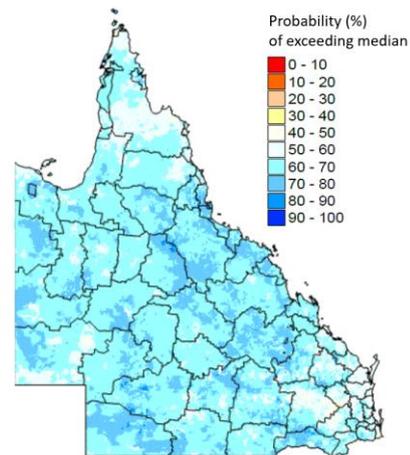
### Summary as at 9 August 2019

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 considers that the probability of exceeding median summer (November to March) rainfall is currently higher than normal for much of Queensland.**

The most closely monitored driver of Queensland rainfall is the El Niño-Southern Oscillation (ENSO) phenomenon. At this time of year, and through spring, 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.

Over the last three months, the warmth of the central equatorial Pacific (as indicated by SST anomalies in the Niño 3.4 region) weakened, from values which were close to El Niño thresholds (+0.7°C for May and +0.6°C for June), to ENSO-neutral levels (+0.4°C for July). The latest three-month average value of the SOI is quite negative (-7.8 for May to July). At this time of year, negative values of the SOI tend to favour a higher than normal probability of below median spring rainfall. However, unless they persist, they have little bearing on summer rainfall. The Bureau of Meteorology ENSO Outlook remains 'Inactive'.

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



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

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