

# Seasonal Outlook for Queensland

## Prepared for the Drought Industry Coordination Group

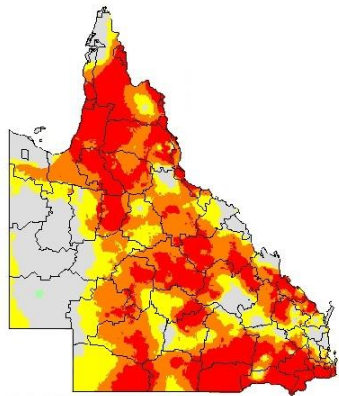
Climate Variability Unit  
Department of Environment and Science  
26 July 2018

# Introduction

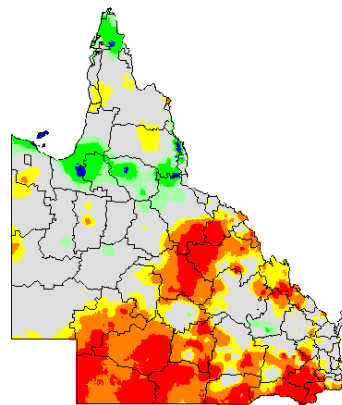
- Current drought conditions
- El Niño-Southern Oscillation (ENSO) status
- Three-month rainfall outlook (BoM – August to October)
- Rainfall outlook for the coming summer (DES – November to March)

# Current Drought Conditions

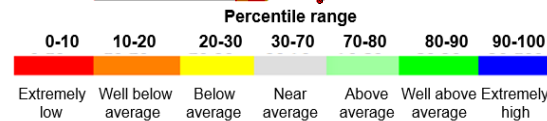
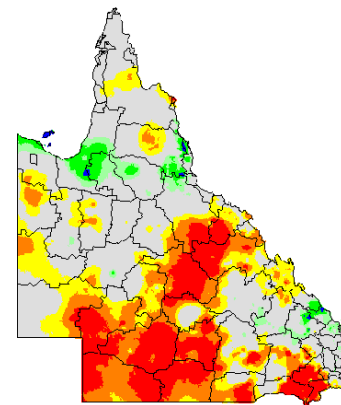
**Rainfall percentiles  
previous 3 months**  
April to June 2018



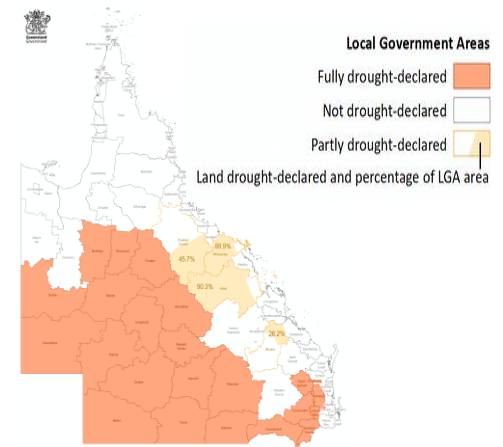
**Rainfall percentiles  
previous 6 months**  
January to June 2018



**Rainfall percentiles  
previous 12 months**  
July 2017 to June 2018



**Queensland Drought Situation**  
As at 2 July 2018



Over the last three-month period rainfall was extremely low across much of northern, central and southern Queensland.

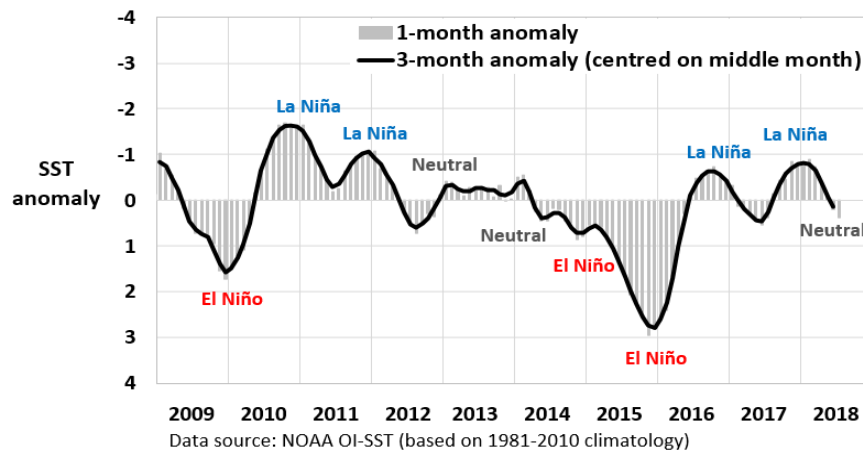
Over the last six-month period rainfall was extremely low for parts of central, southern and southwestern Queensland.

Over the last 12-month period rainfall was extremely low for parts of central, southern and southwestern Queensland.

57 per cent of the State is currently drought declared under State Government processes.

# The El Niño-Southern Oscillation (ENSO)

Niño 3.4 region sea-surface temperature anomaly



## Recent Index Values

### Niño 3.4 SST anomaly

+0.2°C May to July

(-0.1°C May; +0.2°C June; +0.4°C July\*)

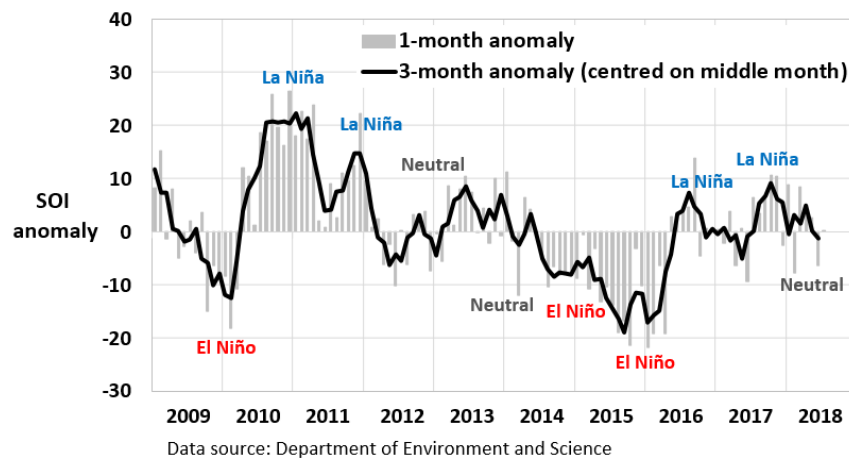
\* As at 22 July

### SOI

-1.2 May to July

(+2.7 May; -6.4 June; +0.1 July\*\*)

The Southern Oscillation Index (SOI)



- The Niño 3.4 SST anomaly has warmed over the last three months, but remains within the 'ENSO-Neutral' range. The SOI is also within the 'ENSO-Neutral' range.

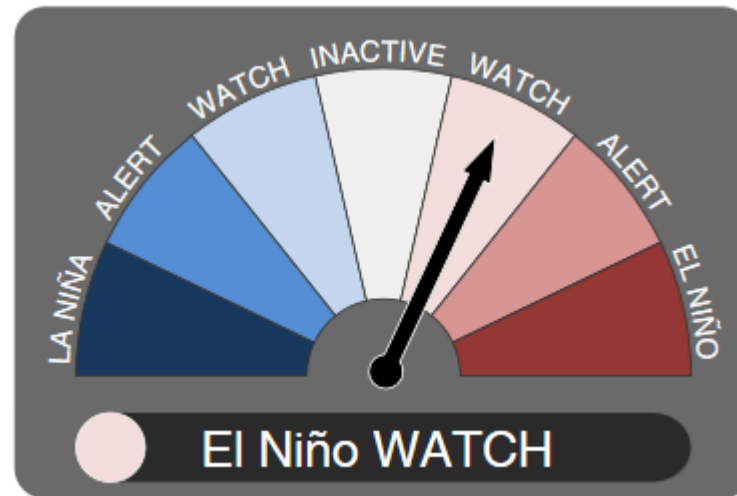
\* SST data current to 22 July 2018 provided by NOAA from their web site at <http://www.cpc.ncep.noaa.gov>

\*\* SOI data current to 24 July 2018 sourced from [www.longpaddock.qld.gov.au](http://www.longpaddock.qld.gov.au)

# The El Niño-Southern Oscillation (ENSO)

## BoM ENSO Outlook

As at 25 July 2018

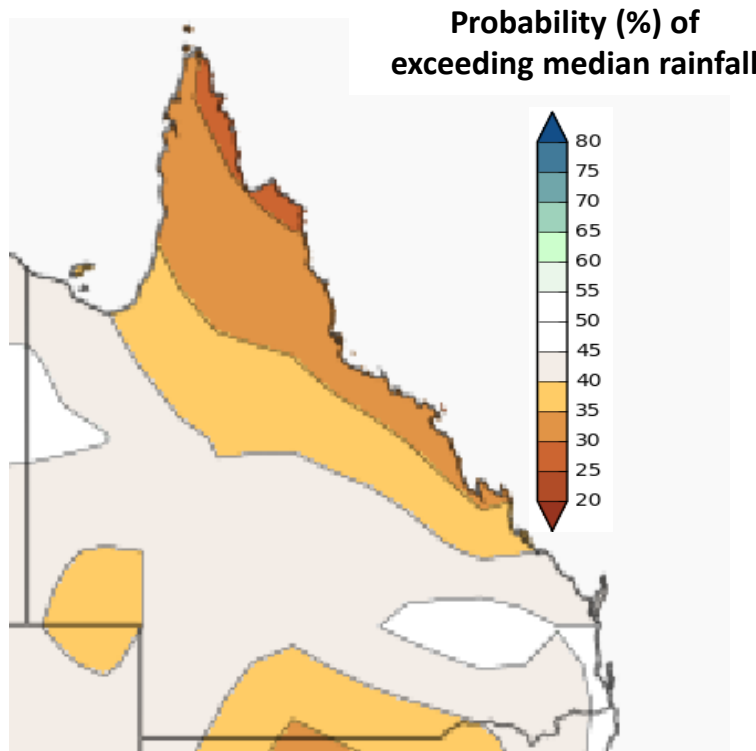


Bureau of Meteorology image from <http://www.bom.gov.au>

- On 6 June, the BoM revised its ENSO Outlook from the '**Inactive**' to the '**El Niño Watch**' category.
- The change was due to a warming trend in the surface and sub-surface temperatures of the tropical Pacific.

# BoM rainfall outlook for winter (August to October)

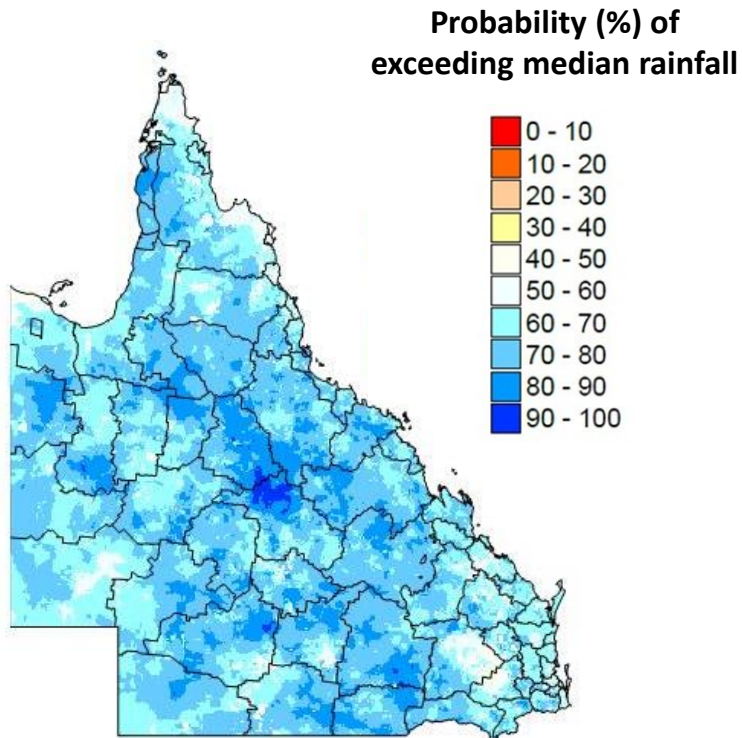
## BoM 'POAMA' model



- **As at 12 July**, based on the POAMA model.
- Indicates below normal probabilities of exceeding median August to October rainfall for most of Queensland.
- This outlook is consistent with expectations during El Niño conditions.
- The BoM will update this outlook on 26 July.

# Rainfall outlook for the coming summer (November to March)

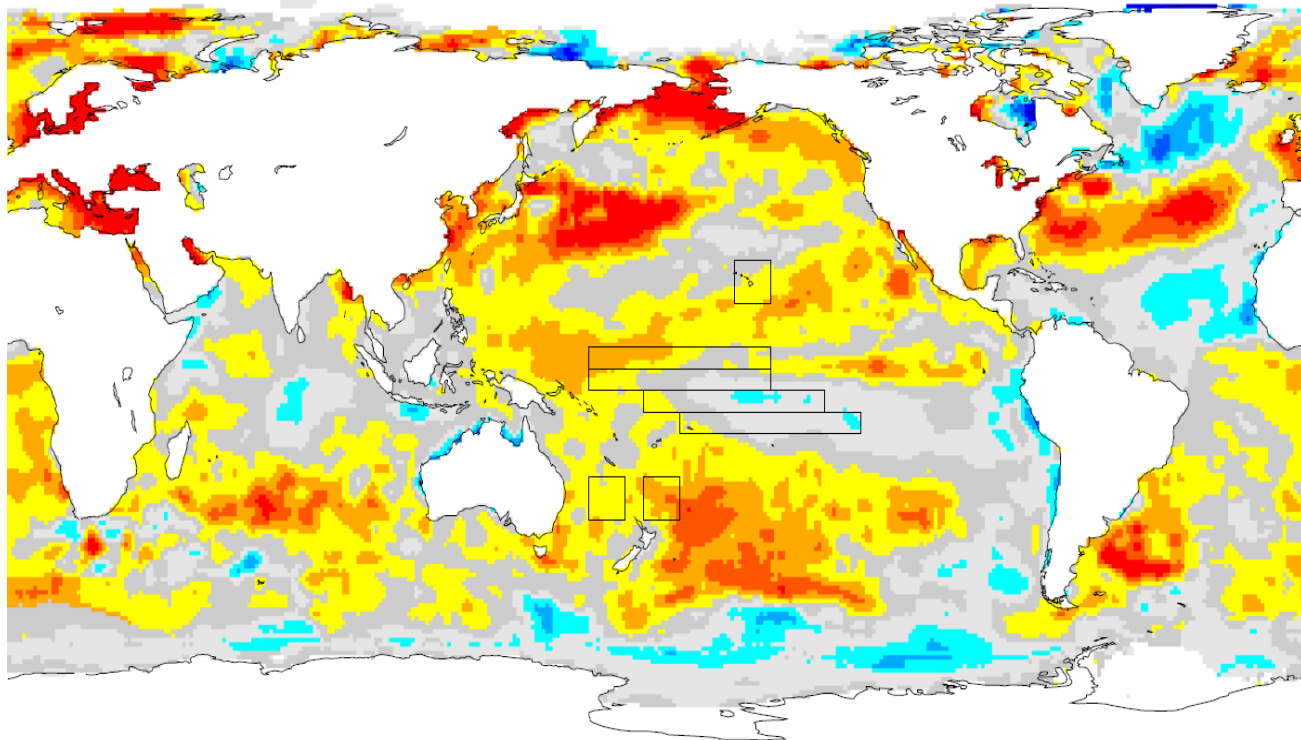
## 'SPOTA-1' scheme



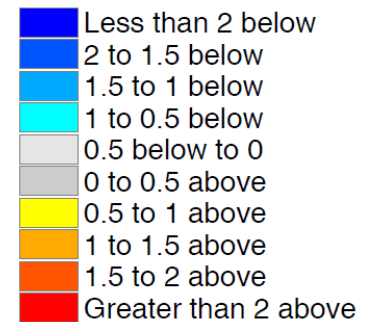
- **As at 1 July**, based on sea-surface temperature anomalies in the tropical and extra-tropical Pacific Ocean.
- Currently indicates a higher than normal probability of exceeding median summer rainfall across most of Queensland.
- This outlook will be updated each month from August to November, taking into account any change in the Pacific Ocean SST pattern.

# Sea-surface temperature anomalies

**Reynolds adjusted SST anomalies for June 2018**  
GISST base period 1900-1995, Reynolds adjustment 1982-2002



Difference from  
average (°C)





# Summary

- Extremely low rainfall across parts of Queensland over the previous three to twelve months.
- ENSO indices are currently in the 'ENSO-neutral' range.
- However SSTs in the central equatorial Pacific have been warming and BoM have an El Niño watch in place.
- BoM's outlook for the next three months indicates a somewhat higher than normal probability of below-median winter rainfall.
- The DES long-lead outlook for the coming summer takes into account the SST pattern across the south-western Pacific.
- This pattern currently indicates a high probability of exceeding median summer rainfall across most of Queensland.
- This long-lead outlook for summer rainfall will be updated on a monthly basis from August to November.