

NSW Climate Summary - August 2016

Summary

| Seasonal Outlook | Current outlook |
|--------------------------------|--|
| Rainfall (quarter) | Wetter |
| Max Temperature (quarter) | Cooler (most of NSW) Near neutral (areas of far west, far south east & mid-north coast) |
| Min Temperature (quarter) | Near neutral (most of NSW) Warmer (areas of far west & far south east) Cooler (areas of north west & central west) |
| ENSO | Current outlook |
| ENSO (overall) | Neutral Short lived borderline-weak La Niña possible in spring, but the likelihood is decreasing |
| ENSO Outlook Status | La Niña watch |
| SOI | Neutral |
| Pacific Ocean (NINO3.4) | Neutral |
| Indian Ocean (IOD) | IOD negative Warm Indian Ocean sea surface temperatures |
| Southern Annular Mode (SAM/AO) | Moderately negative (trending between weakly-strongly negative) |

Source: Derived from information provided by the [Australian Bureau of Meteorology](#) and the [US National Oceanic & Atmospheric Administration](#).

Seasonal outlook

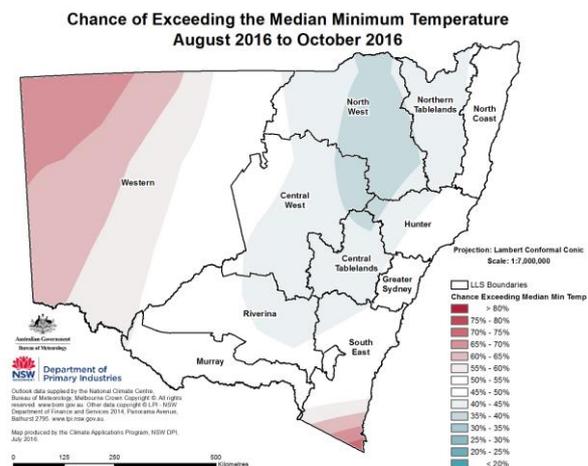
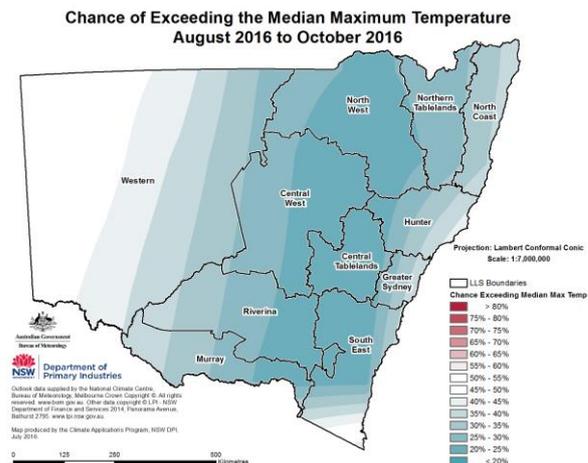
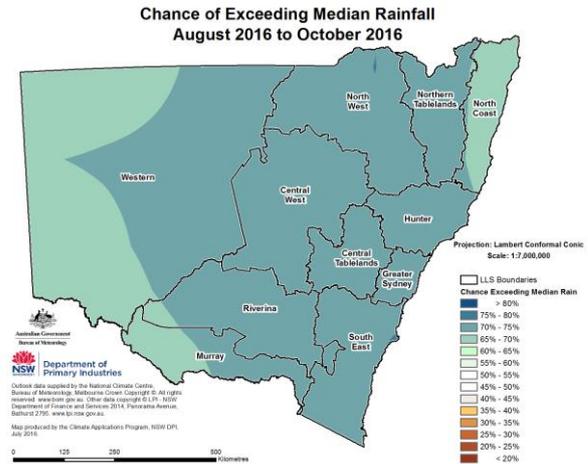
(Source: [Bureau of Meteorology](#))

Between August and October, wetter than normal conditions are likely across NSW.

Cooler than normal daytime temperatures are likely across most of NSW, with a near-equal chance of cooler or warmer than normal daytime temperatures in the far west and south east.

There is a near-equal chance of cooler or warmer than normal overnight temperatures across most of NSW, with cooler than normal overnight temperatures likely in areas of the north west and central west. Warmer than normal overnight temperatures are likely in the far west and in the far south east of NSW.

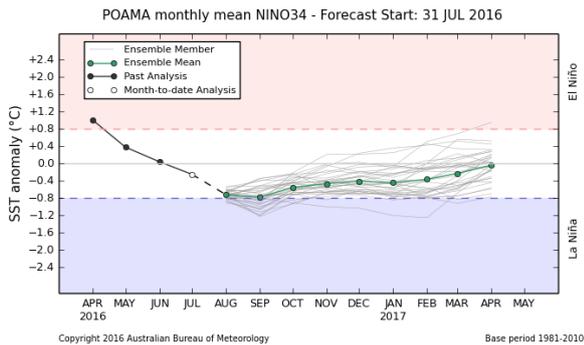
The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should not be used as categorical or definitive forecasts, but should be regarded as tools to assist in risk management & decision making. Changes in seasonal outlooks may have occurred since this report was released. Outlook information was up to date as at 8-11 August 2016.



ENSO

(Source: Bureau of Meteorology & International Research Institute for Climate and Society)

The Pacific Ocean remains in an ENSO-neutral state. Sea surface temperatures are near average to slightly below average in the eastern and central equatorial Pacific and above average in the west. The current negative Indian Ocean Dipole (IOD) event is likely to continue into spring. A short-lived weak or borderline La Niña event remains possible in early spring, but the likelihood of this has reduced. The ENSO outlook status from both the Bureau of Meteorology and the CPC/IRI remains at 'La Niña watch'.



The Bureau of Meteorology's POAMA outlook (as at 31 July) suggests that the sea surface temperatures in the NINO3.4 region may reach borderline La Niña levels during August-September.

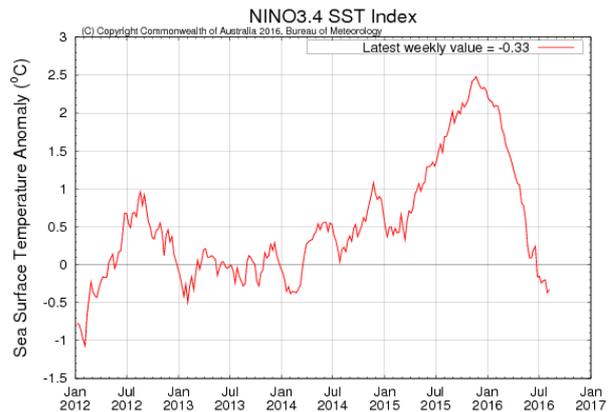
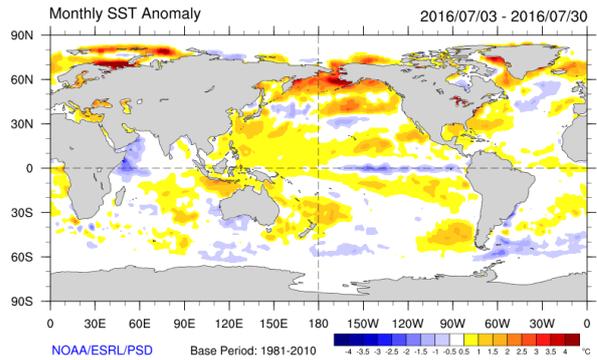
The current CPC/IRI ENSO forecast suggests a weak La Niña event is likely in early to mid-spring, possibly extending into summer. The probability for a La Niña event has declined. Note that CPC/IRI uses different thresholds for El Niño and La Niña events than does the Bureau of Meteorology. A weak La Niña event on the CPC/IRI thresholds would be a borderline event by the Bureau's.

Of the eight climate models surveyed by the Bureau (as at 18 July), three indicate NINO3.4 sea surface temperatures are likely to reach weak or borderline La Niña levels during August. Two models indicate NINO3.4 sea surface temperatures at La Niña levels during October and four during December.

Sea Surface Temperatures

(Source: NOAA & Bureau of Meteorology)

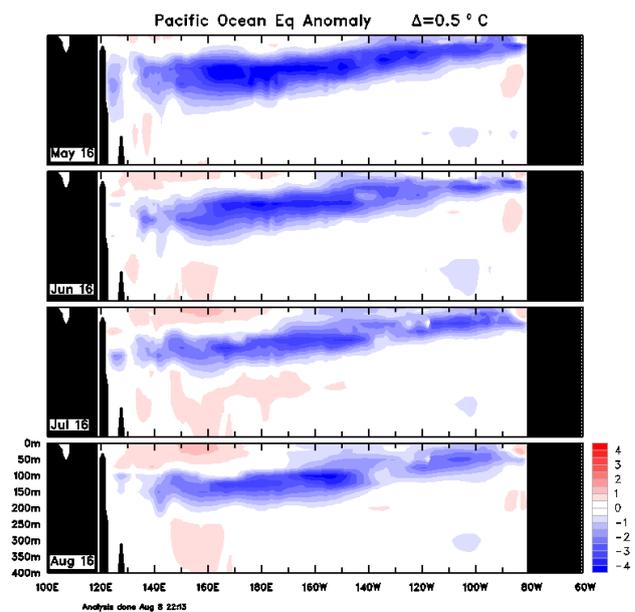
Sea surface temperatures were near average to slightly below average in the eastern and central equatorial Pacific during July and above average in the west. A line of cooler than normal water is snaking across the equator from Ecuador towards the International Date Line. The most recent weekly temperature anomaly value in the key NINO3.4 region was -0.33°C in the week to 7 August, down from -0.15°C in the week to 3 July.



Monthly Sub-surface Temperatures

(Source: Bureau of Meteorology)

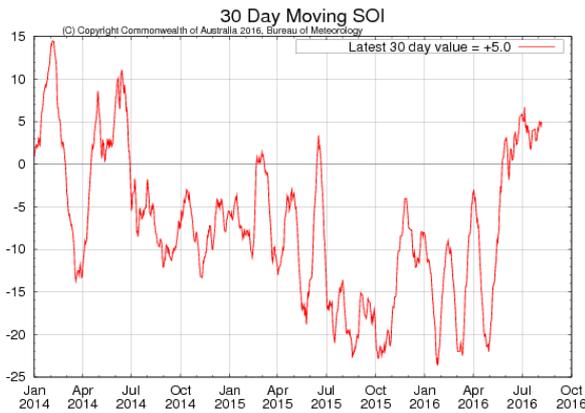
The sub-surface sea temperatures show a cool anomaly extends from 100-200 m in depth in the west to the surface across the central and eastern Pacific. It has weakened since May and June. The warming of areas of the western equatorial Pacific to a depth of 50 m is also evident.



Southern Oscillation Index (SOI)

(Source: Bureau of Meteorology & Queensland DSITI)

The Southern Oscillation Index (SOI) is currently neutral. On 7 August, the 30-day SOI value was +5.0 (Bureau of Meteorology) and the 90-day SOI was +2.62 (QDSITI).



Values between -7 and +7 indicate neutral conditions, sustained values above +7 may indicate a La Niña event, and sustained values below -7 may indicate an El Niño event.

Indian Ocean Dipole (IOD)

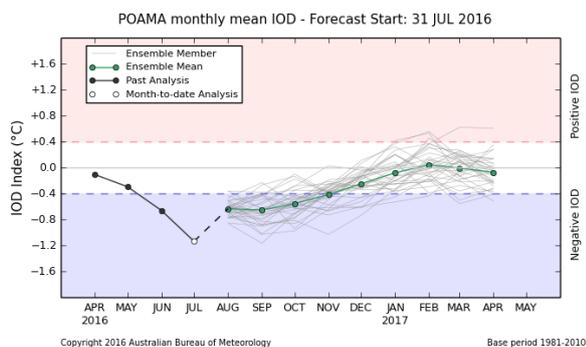
(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) is in a negative event, but this has weakened since July. The DMI value was at -0.76 for the week to 7 August.

A negative IOD together with the warm sea surface temperatures across much of the eastern Indian Ocean are likely to provide sources of moisture for eastern Australia.

The Bureau of Meteorology's outlook suggests the event is likely to continue through winter and spring. All four climate models surveyed by the Bureau of Meteorology on 18 July indicated the likelihood of a negative IOD event continuing through August and October.

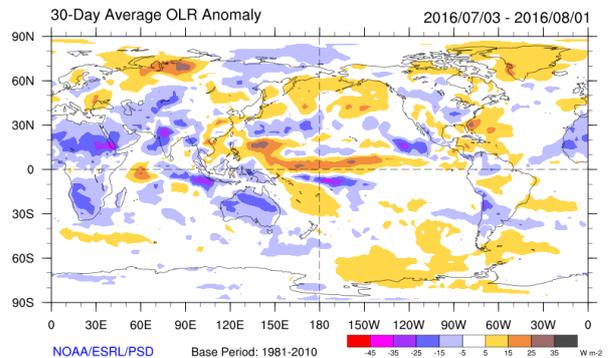
A positive IOD increases the chances of below normal rainfall and may exacerbate the effect of an El Niño event over south eastern Australia. A negative IOD increases the chances of above normal winter and spring rainfall across southern and much of western and central NSW.



Cloudiness and trade winds

(Source: Bureau of Meteorology & NOAA)

Levels of cloud at the junction of the International Date Line (IDL) were near normal to slightly less than normal during July. Cloud levels were high to the south east of the IDL and also high over western Indonesia and Australia.



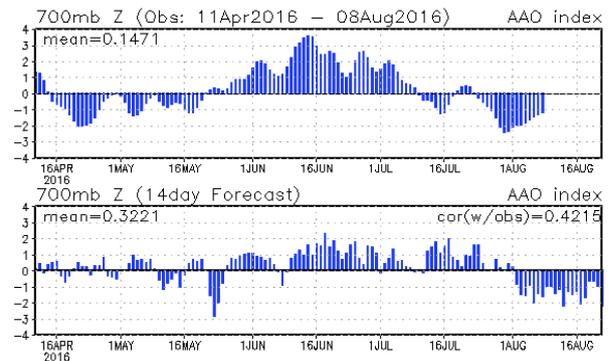
Trade winds were near-normal across the equatorial Pacific during July.

Southern Annular Mode (SAM)

(Source: NOAA)

The experimental Southern Annular Mode or Antarctic Oscillation (AAO) index was weakly to moderately negative at 8 August, after being moderately to strongly positive in early July and weakly negative to near-neutral in late July. The outlook is for a weakly to strongly negative SAM during early-mid August, with the SAM being mostly moderately negative.

AAO: Observed & GFS forecasts



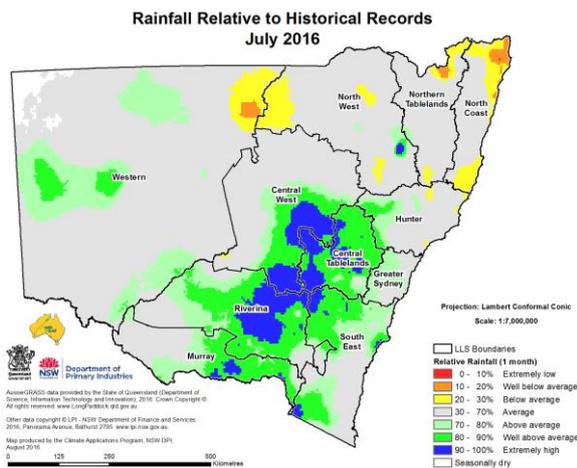
A negative SAM indicates expansion of the belt of strong westerly winds towards the equator, resulting in more or stronger low pressure systems across southern Australia and potentially increased rainfall. A positive SAM indicates the contraction of the belt of westerly winds towards Antarctica and higher pressures over southern Australia, and can result in stable, drier conditions. A strongly positive SAM in spring-summer can mean southern Australia is influenced by the northern half of high pressure systems, leading to a slightly higher likelihood of increased rainfall over south eastern and central NSW.

Conditions during July

Rainfall

(Source: Queensland DSITI)

Rainfall across NSW ranged from 3-420 mm during July. Most of the state received 25-100 mm. Relative to historical records it was above average across 33 per cent of the state. Areas of the central west, Riverina, far south, southern and central tablelands, upper Hunter valley, Sydney basin, south coast and Monaro received above average rainfall for the period. The majority of the state had near-average rainfall, with limited areas of below average rainfall occurring across the north west, northern tablelands and north coast.



Soil moisture

(Source: CSIRO)

Topsoil moisture remained high during July, particularly in the central, southern and south eastern areas of the state and across some areas of the far west. Relative to historical records, topsoil moisture levels were well above average to extremely high across much of inland NSW and areas of the south coast. There was near-average topsoil moisture across most of the coast and the far south west. Subsoil moisture levels improved across areas of central, southern, south eastern and coastal NSW. Relative to historical records, it was above average to extremely high across areas of far western,

More information

For more information, contact the NSW Department of Primary Industries on 02 6391 3100 or Local Land Services on 1300 795 299. Additional and more detailed information on seasonal conditions can be found in the NSW Seasonal Conditions Summary and Report, available at <http://www.dpi.nsw.gov.au/agriculture/emergency/seasonal-conditions/regional-seasonal-conditions-reports>, and the LLS On-ground Seasonal Conditions Reports available at <http://www.ils.nsw.gov.au/agriculture/seasonal-conditions>.

Acknowledgements

Information used in this report was sourced from the Australian Bureau of Meteorology, CSIRO, Queensland Department of Science, Information Technology and Innovation, the US National Oceanic and Atmospheric Administration, the International Research Institute for Climate and Society (Columbia University) and NSW Department of Primary Industries.

Warning

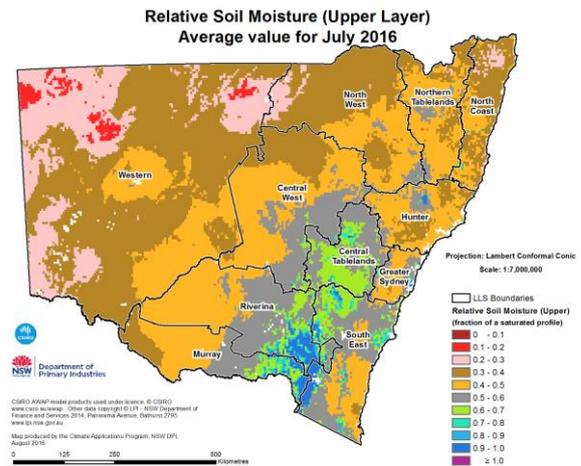
Recognising that some of the information in this document is provided by third parties, the State of New South Wales, the author and the publisher take no responsibility for the accuracy, currency, reliability and correctness of any information included in the document provided by third parties.

© State of New South Wales through the Department of Industry, Skills and Regional Development, 2016. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (early August 2016). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

Published by the Department of Primary Industries. ISSN 2203-5060 (Online) PUB16/367 Volume 3/Number 8

central, southern and south eastern NSW. It was near-average to above average across the remainder of the state.



Pasture growth

(Source: Queensland DSITI)

During July relative pasture growth was generally well above average across most of inland NSW, with the majority of coastal NSW and the Hunter valley having near-average pasture growth. Other pasture growth models indicated well above average to extremely high relative pasture growth across most of NSW.

Pasture Growth Relative to Historical Records from 1957 July 2016

