

NSW Climate Summary - October 2014

Summary

Seasonal outlook	Current Outlook	Previous Outlook
Rainfall (quarter)	Drier (east/central/north west/far north west)	Drier (south/central) Near neutral-neutral (north, far west, north east & far south east)
Max Temperature (quarter)	Warmer	Warmer Near neutral (north/north east)
Min Temperature (qtr)	Warmer	Warmer Near neutral (north/north east)

ENSO

ENSO (overall)	Neutral – El Niño possible/likely	Neutral – El Niño possible/likely
BoM ENSO Tracker Status	El Niño Watch	El Niño Watch
SOI	Neutral – slightly negative	Neutral – slightly negative
Pacific Ocean (NINO3.4)	Slightly warm/warm (Neutral – some models)	Slightly warm/warm (Neutral – some models)
Indian Ocean (IOD)	Neutral	Neutral
Southern Annular Mode (SAM/AO)	Neutral – weakly positive	Neutral

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

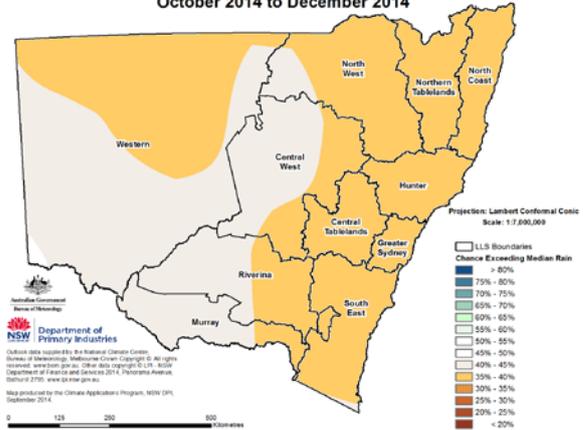
Seasonal outlook

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

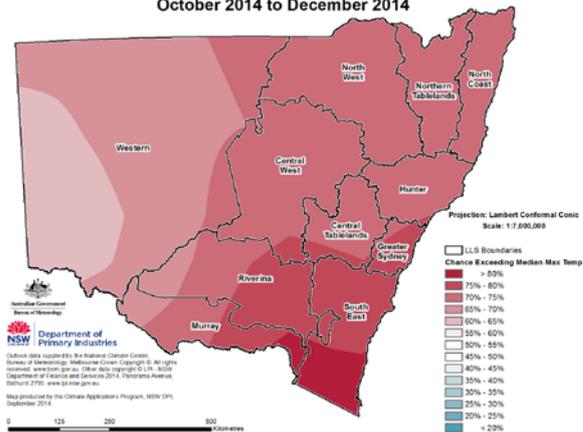
Between October and December, drier than normal conditions are likely across most of eastern, northern and north western NSW as well as some central areas. There is a near-equal chance of above or below median rainfall for areas of the south west and far west.

Warmer than normal daytime and overnight temperatures are likely across NSW during the period. The probability of above average daytime temperatures increases towards the south east of NSW. For overnight temperatures, the probability of above average temperatures occurring is higher over the central areas, mid-north coast and the south east.

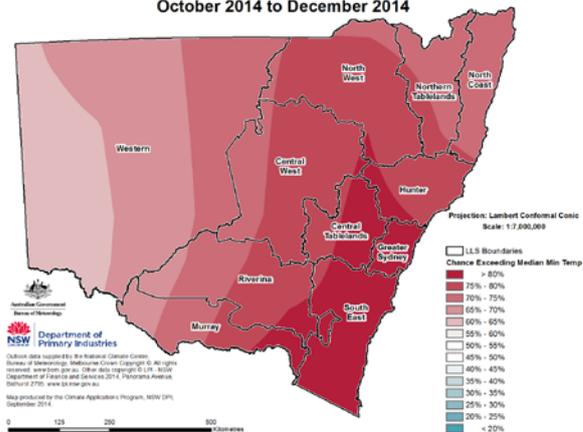
Chance of Exceeding Median Rainfall
October 2014 to December 2014



Chance of Exceeding the Median Maximum Temperature
October 2014 to December 2014



Chance of Exceeding the Median Minimum Temperature
October 2014 to December 2014



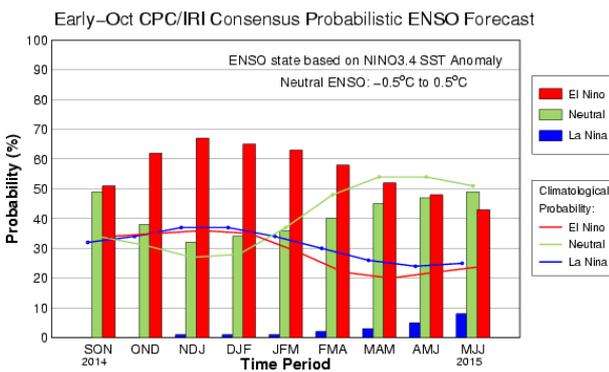
The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should 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 10 October 2014.

ENSO

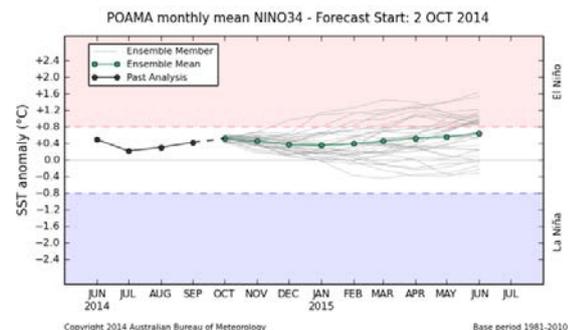
(Source: Bureau of Meteorology & International Research Institute for Climate and Society)

ENSO remains neutral, although the equatorial Pacific continues to be warm and the SOI was negative during September. There is a continued 50-67% chance of a late El Niño event in spring. A weak event is considered the most likely. The Bureau of Meteorology El Niño status remains at 'watch' level. In the past, late El Niño events have had a more limited effect on late spring/early summer rainfall across NSW than earlier events, and have had little influence on summer rainfall.

Sea surface temperatures are warm across most of the equatorial Pacific, although have cooled slightly in the central Pacific. Positive subsurface temperature anomalies cover much of the central equatorial Pacific, which favour the development of an El Niño event. Weak warm subsurface anomalies are occurring at depth in the west, and shallow cool anomalies are occurring in the east. The Indian Ocean Dipole returning to neutral and cooler sea surface temperatures occurring north of Australia may reduce rainfall sources. Reduced rainfall occurred during the last month across Indonesia.



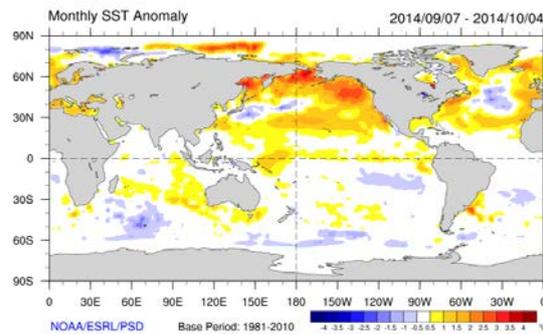
The CPC/IRI consensus ENSO forecast probabilities indicate that 63% of global climate models consider El Niño conditions are likely to develop between October to December, increasing to 67% between November and January. Note that the CPC/IRI use a NINO3.4 anomaly of +0.5°C as indicating an El Niño, where the Bureau of Meteorology use +0.8°C. The Bureau of Meteorology's long range POAMA outlook indicates that the sea surface temperature anomalies in the NINO3.4 Pacific Ocean region may remain at neutral levels. However, it is important to consider information from all global climate models.



Monthly Sea Surface Temperatures

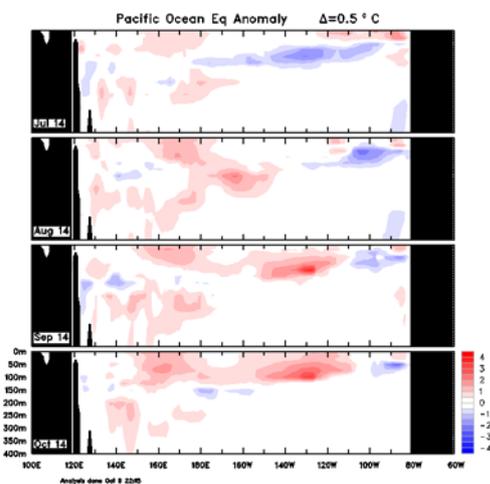
(Source: NOAA & Bureau of Meteorology)

The eastern equatorial Pacific (east of the International Date Line) cooled during the last month, but the central equatorial Pacific warmed. Temperatures were above average across most of the equatorial Pacific. The most recent monthly temperature anomaly value in the key NINO3.4 region is +0.45°C for September, an increase over August. The weekly value to 5 October is +0.44°C.



Monthly Sub Surface Temperatures

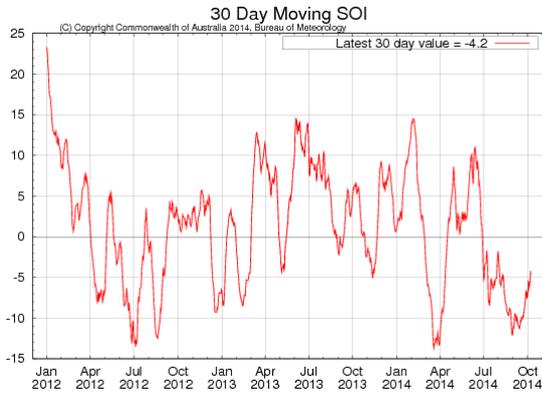
Subsurface positive temperature anomalies have increased since late July. A Kelvin wave was triggered by low level westerly wind anomalies in July, and has resulted in warm sub surface anomalies across most of the central equatorial Pacific, extending somewhat west of the Date Line, but to the east to about 120°. Some weak negative anomalies remain in the far east.



Southern Oscillation Index (SOI)

(Source: Bureau of Meteorology & Queensland Department of Science, Information Technology, Innovation & the Arts)

The Southern Oscillation Index (SOI) is currently neutral at -4.2 (as at 8 October). The low SOI during August and September, which is normally an indicator of El Niño conditions, was as a result of high atmospheric pressure over Darwin rather than a decrease in pressure over Tahiti.



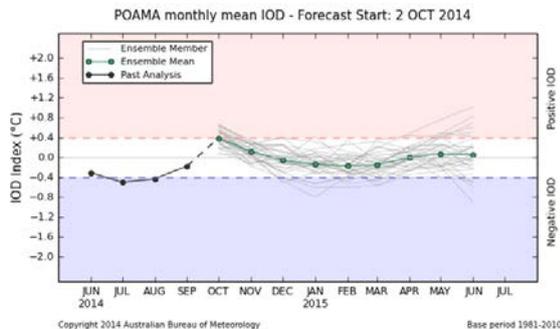
Values of between -8 and +8 indicate neutral conditions, sustained values above +8 may indicate a La Niña event, and sustained values below -8 may indicate an El Niño event.

Indian Ocean Dipole (IOD)

(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) returned to neutral during September. The latest IOD index value is +0.29°C for the week ending 5 October. The Bureau of Meteorology's POAMA model and all other climate models surveyed favour a neutral IOD between October and February.

The IOD has little effect on Australian climate until autumn or winter. A negative IOD increases the chances of above normal rainfall during winter and spring across southern and much of western and central NSW and a positive IOD increases the chances of below normal rainfall.



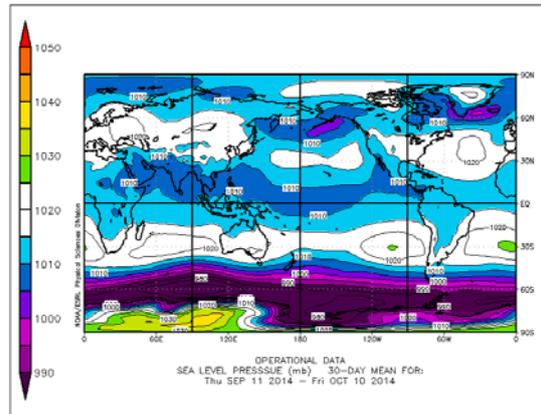
Sub-Tropical Ridge (STR)

(Source: NOAA & Bureau of Meteorology)

The sub-tropical ridge (STR) was slightly stronger and further south than normal during September, as shown on NOAA and Bureau of Meteorology mean sea level

pressure charts. The increased pressure contributes to the blocking of the passage of fronts through NSW.

The sub-tropical ridge is a zone of high pressure which between January and March is normally located south of Australia at about 38°S to 39°S, and tends to suppress cold front activity. During June to September, it generally moves northwards to around 30°S to 32°S, allowing cold fronts to extend further into southern Australia.

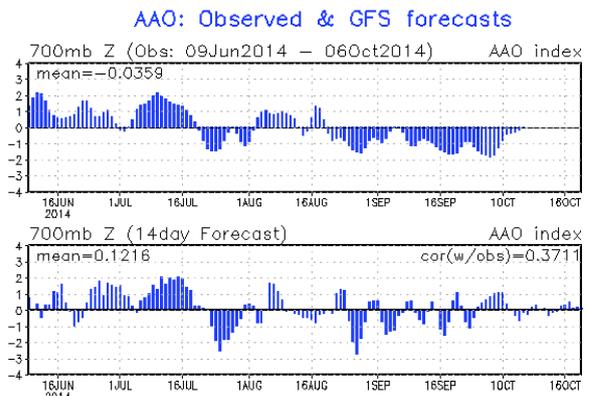


Southern Annular Mode (SAM)

(Source: Bureau of Meteorology [experimental] & NOAA)

The experimental Southern Annular Mode or Antarctic Oscillation (AAO) index is currently weakly negative to near neutral from POAMA and the US National Oceanic and Atmospheric Administration as at 5 October.

The outlook indicates the SAM index will increase to be neutral to weakly positive through to late October.



A negative SAM indicates an 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 strong westerly winds towards Antarctica and higher pressures over southern Australia, and can result in stable, drier conditions.

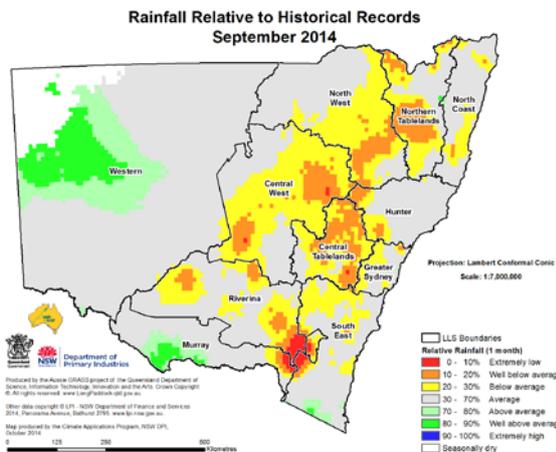
Conditions during September

Rainfall

(Source: Queensland DSITIA)

Rainfall over most of NSW during September ranged from 5-200 mm, with most of the State receiving 10-50 mm. The majority of the coast, tablelands and south received 25-50 mm. Heavier falls of 50-100 mm occurred over some areas of the Hunter valley and Sydney basin, the far south and in the alpine areas.

Relative to historical records, rainfall was average or above over 68% of NSW. Below average relative rainfall occurred over 28% of NSW, particularly across the central areas of the State and the tablelands. Above average relative rainfall was restricted to areas of the far west, far south and far south east.



Soil moisture

(Source: CSIRO)

Modelled topsoil moisture declined over western, southern and central NSW during September but remained moderate to high along the coast and eastern edge of the tablelands. Subsoil moisture levels were mostly stable, but were low across areas of the north west, northern tablelands, north coast and the Riverina. Levels were high across the south east and the coast.

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 Report, available at <http://www.dpi.nsw.gov.au/agriculture/emergency/seasonal-conditions/regional-seasonal-conditions-reports>.

Acknowledgments

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

Warning

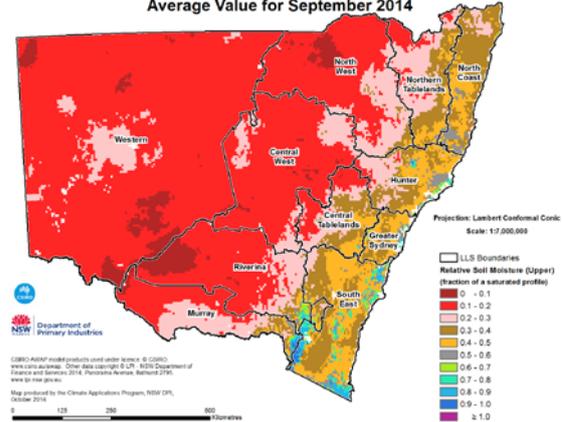
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Relative Soil Moisture (Upper Layer)
Average Value for September 2014



Pasture growth

(Source: Queensland DSITIA)

Relative pasture growth remained low over most of southern NSW, although it improved slightly in the far south. It declined across central NSW and across the north west and was relatively stable in western NSW, but improved across the southern and central tablelands and the coastal areas. Relative growth across the northern tablelands was low to average.

