

## NSW Climate Summary - September 2014

### Summary

Seasonal outlook	Current Outlook	Previous Outlook
Rainfall (quarter)	<b>Drier</b> (south/central) Near neutral-neutral (north, far west, north east & far south east)	<b>Drier</b> (south/central) Near neutral-neutral (remainder)
Max Temperature (quarter)	<b>Warmer</b> Near neutral (north/north east)	<b>Warmer</b> Near neutral (far north west)
Min Temperature (qtr)	<b>Warmer</b> Near neutral (north/north east)	<b>Warmer</b>
<b>ENSO</b>		
ENSO (overall)	Neutral – <b>El Niño possible/likely</b>	Neutral – <b>El Niño possible/likely</b>
BoM ENSO Tracker Status	<b>El Niño Watch</b>	<b>El Niño Watch</b>
SOI	Neutral – <b>slightly negative</b>	Neutral
Pacific Ocean (NINO3.4)	<b>Slightly warm/warm</b> (Neutral – some models)	<b>Slightly warm/warm</b> (Neutral – some models)
Indian Ocean (IOD)	Neutral	Neutral (slightly negative)
Southern Annular Mode (SAM/AO)	Neutral	Neutral

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

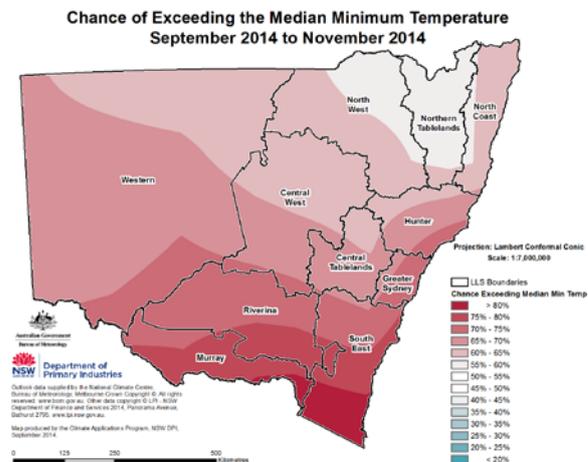
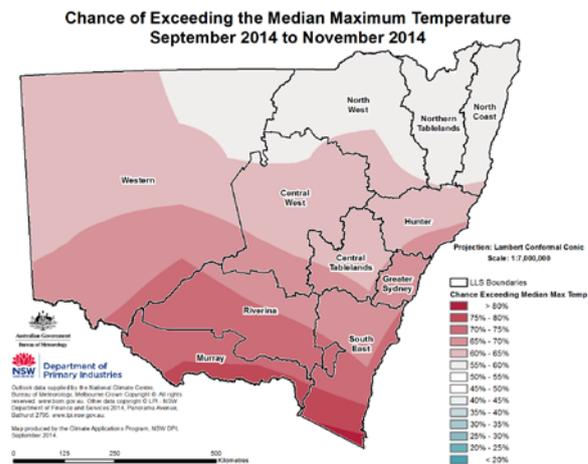
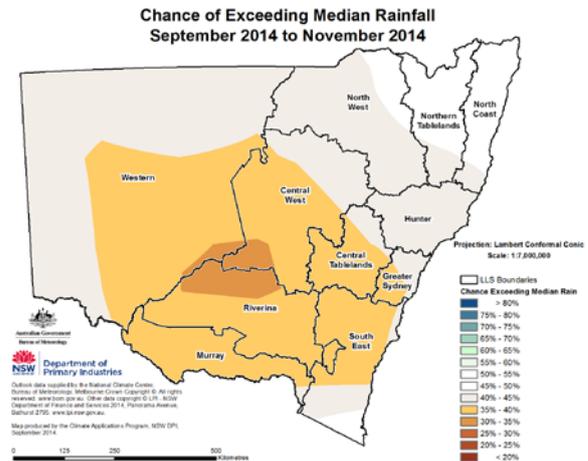
### Seasonal outlook

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

Between September and November, drier than normal conditions are likely across most of the southern and central areas of NSW. There is a near-equal chance of above or below median rainfall for most of northern NSW and areas of the far west, as well as the coastal areas from the central to mid-north coast, and the far south coast. For the north east of the State, there is an equal chance of above or below median rainfall.

Warmer than normal daytime and overnight temperatures are likely across most of NSW. Daytime temperatures across the north west and north east and overnight temperatures across the northern tablelands

and areas of the north west slopes have a near-equal chance of being above or below normal.



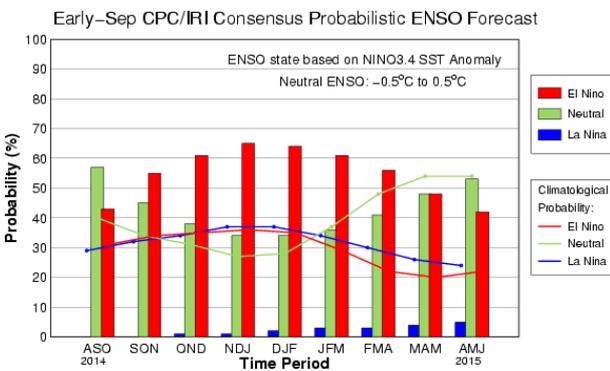
The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should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

## ENSO

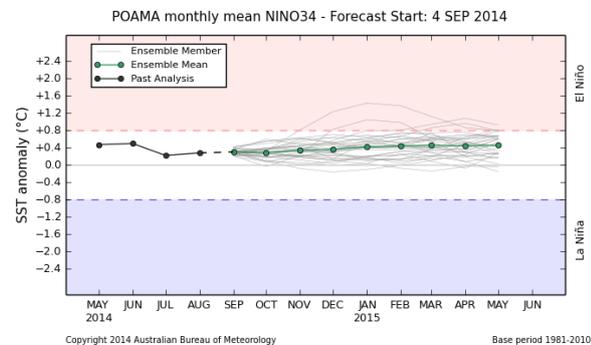
(Source: Bureau of Meteorology & International Research Institute for Climate and Society)

ENSO remains neutral, with a continued 50-65 per cent 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.

Sea surface temperatures are warm along the eastern and western equatorial, but with patchy warm anomalies in the central Pacific. Sub surface warm anomalies are present in the eastern-central Pacific. If these cause sea surface temperatures to rise or westerly winds occur, this could trigger an event. About half the global climate models consider an El Niño event likely between September and November. The cooler sea surface temperatures now occurring north of Australia may reduce rainfall sources, and the negative Indian Ocean Dipole (which favours increased rainfall) is expected to return to neutral over the next month.



The CPC/IRI consensus ENSO forecast probabilities indicate that 55% of global climate models consider El Niño conditions are likely to develop between September to November, increasing to 65% between November and January. The Bureau of Meteorology's long range POAMA outlook indicates that the sea surface temperature anomalies in the NINO3.4 Pacific Ocean region may decline to neutral levels. However, it is important to consider information from all global climate models.

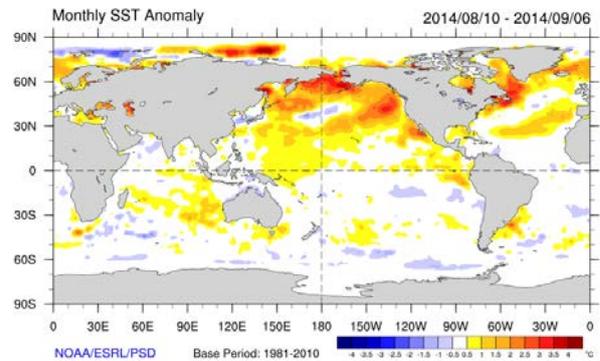


## Monthly Sea Surface Temperatures

(Source: NOAA & Bureau of Meteorology)

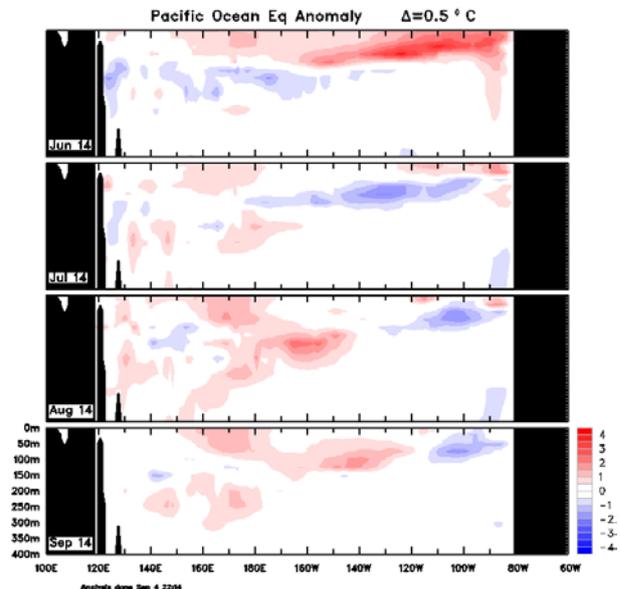
The eastern and western equatorial Pacific remain warmer than normal, with temperatures near average in

the central equatorial Pacific near the International Date Line. Patchy warm anomalies have recently developed in the central Pacific. The most recent monthly temperature anomaly value in the key NINO3.4 region is +0.20°C for August, a slight increase on the value for July. The weekly index value to 7 September is +0.31°C.



## Monthly Sub Surface Temperatures

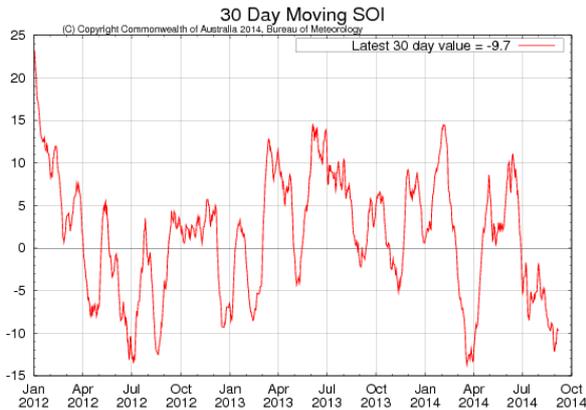
Subsurface positive temperature anomalies have increased since late July. A Kelvin wave was triggered by low level westerly wind anomalies in July, and has shifted eastwards. Temperatures are now above normal in the central Pacific and the movement eastwards has reduced the cool anomalies in the east.



### Southern Oscillation Index (SOI)

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

The Southern Oscillation Index (SOI) is currently negative at -9.7 (7 September), although this is not yet regarded as a negative SOI event. The low SOI, which is normally an indicator of El Niño conditions, is as a result of high atmospheric pressure over Darwin rather than a decrease in pressure over Tahiti.



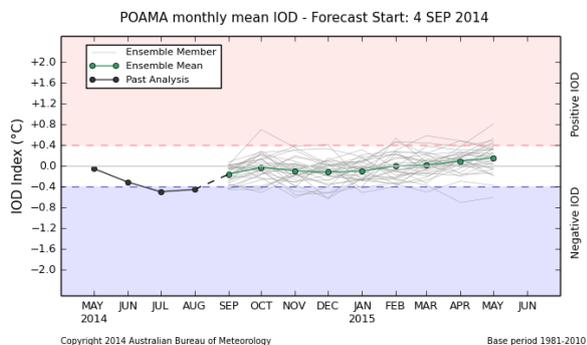
Values of between -8 and +8 indicate neutral conditions, sustained values above +8 may indicate a La Niña event, and sustained values below -8 may indicate an El Niño event.

### Indian Ocean Dipole (IOD)

(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) has been negative since mid-June, and 2014 has been declared a negative IOD year. The latest IOD index value is -0.65°C for the week ending 7 September. The Bureau of Meteorology's POAMA model and all other climate models surveyed by them favour a return to a neutral IOD in September.

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.



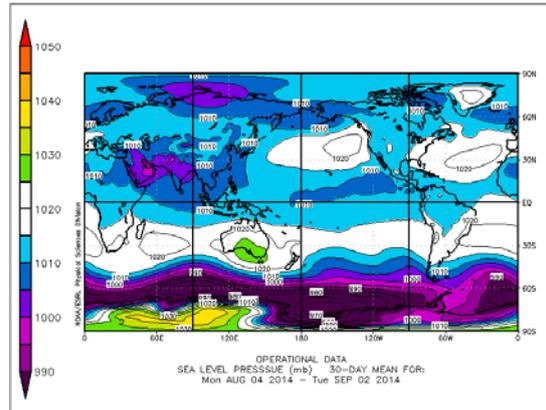
### Sub-Tropical Ridge (STR)

(Source: NOAA & Bureau of Meteorology)

The sub-tropical ridge (STR) was stronger and further south than normal over early August, as shown on

NOAA and Bureau of Meteorology mean sea level pressure charts. This favoured dry conditions early in August. The high pressure systems also contributed to the severe frosts across central and southern NSW.

The sub-tropical ridge is a zone of high pressure which between November to April is normally located south of Australia, and tends to suppress cold front activity. During winter, it generally moves northwards allowing cold fronts to extend further into southern Australia.



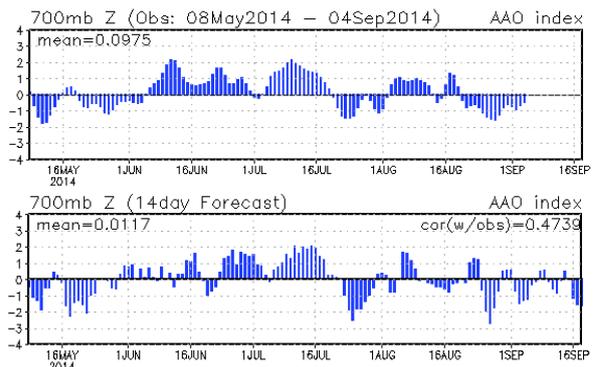
### Southern Annular Mode (SAM)

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

The experimental Southern Annular Mode or Antarctic Oscillation (AAO) index is currently weakly negative (-0.5) from POAMA as at 4 September and weakly negative to near neutral from the US National Oceanic and Atmospheric Administration.

The outlook indicates the SAM index will remain near neutral to weakly negative through early to mid-September, possibly moving to moderately negative in the third week of the month.

#### AAO: Observed & GFS forecasts



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.

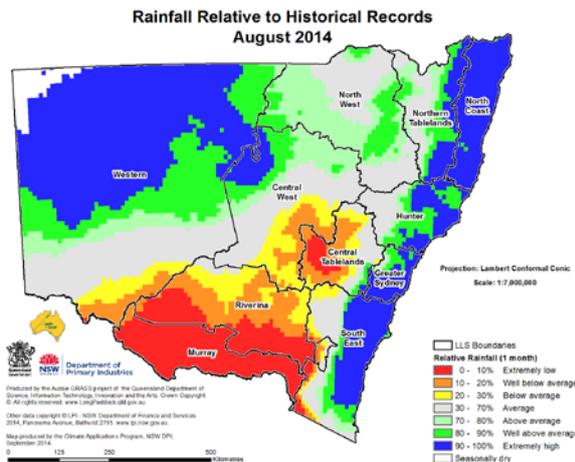
## Conditions during August

### Rainfall

(Source: Queensland DSITIA)

Rainfall over most of NSW during August ranged from 25-100 mm. The coast received 100-400 mm, central areas 10-25 mm, but much of the south less than 10 mm.

Relative to historical records, rainfall was average or above over 76% of NSW. Rainfall was well above average to extremely high in the central to north of the far west, areas of the north west and along the coast. It was well below average to extremely low across most of the south and areas of central NSW.



### Soil moisture

(Source: CSIRO)

Modelled topsoil moisture remained low across the west and north despite the August rainfall, declined over southern and central NSW but improved along the coast.

Subsoil moisture levels remained mostly stable, but were particularly low across the north and north east.

### 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

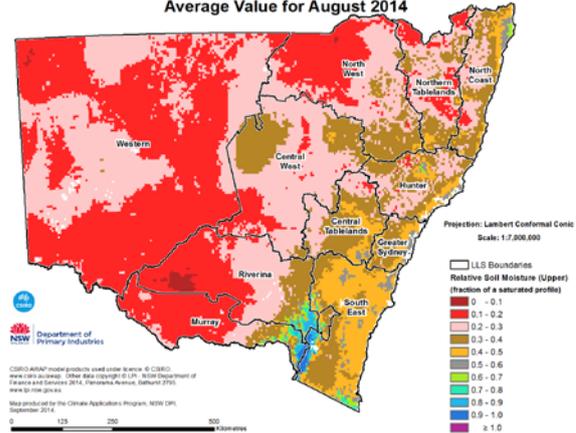
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Relative Soil Moisture (Upper Layer)  
Average Value for August 2014



### Pasture growth

(Source: Queensland DSITIA)

Relative pasture growth declined in southern and central areas of NSW, but improved across the west, north and coast. The far south experienced extremely low relative growth, but it was average or better across 75% of NSW.

