

NSW Climate Summary - November 2014

Summary

Seasonal outlook	Current Outlook	Previous Outlook
Rainfall (quarter)	Drier (majority of NSW) Near neutral (limited areas of the far south east and the central to mid-north coast)	Drier (east/central/north west/far north west) Near neutral (far west/south west)
Max Temperature (quarter)	Warmer	Warmer
Min Temperature (qtr)	Warmer	Warmer

ENSO		
ENSO (overall)	Neutral – El Niño possible/likely	Neutral – El Niño possible/likely
BoM ENSO Tracker Status	El Niño Watch	El Niño Watch
SOI	Moderately 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)	Weakly negative - neutral	Neutral – weakly positive

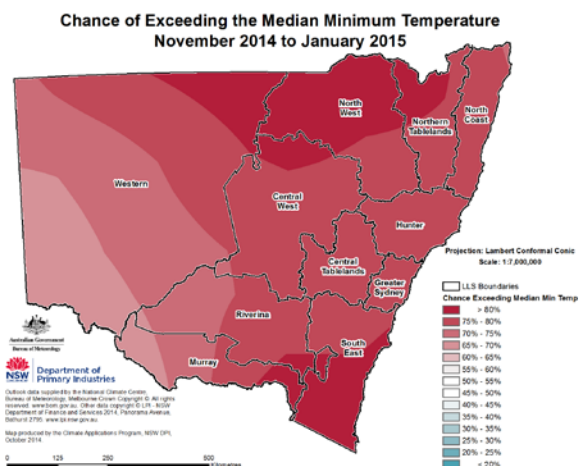
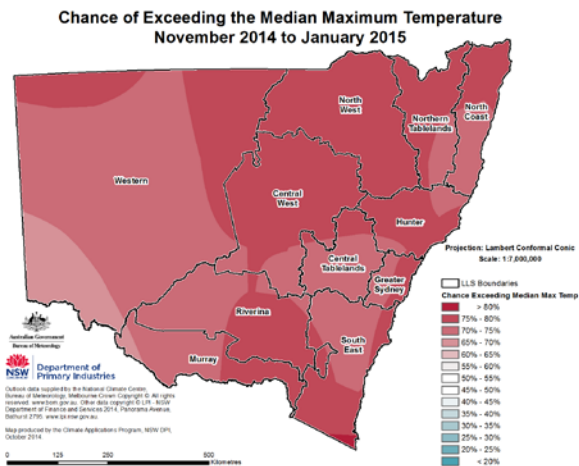
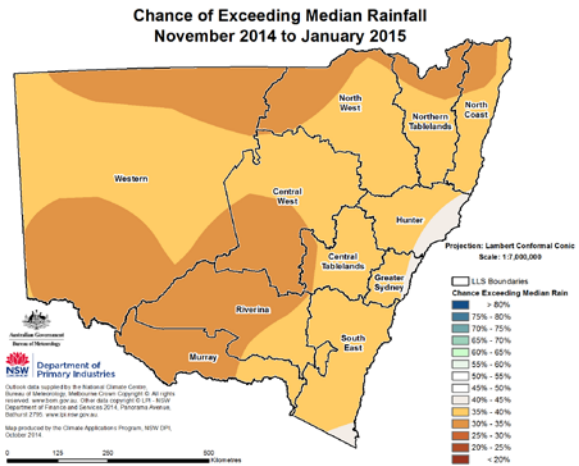
Source: Derived from information provided by the Australian Bureau of Meteorology and the US National Oceanic & Atmospheric Administration.

Seasonal outlook

(Source: Bureau of Meteorology)

Between November and December, drier than normal conditions are likely across most of NSW. There is a near-equal chance of above or below median rainfall across limited areas of the central coast and the far south east.

Warmer than normal daytime and overnight temperatures are likely during the period. For overnight temperatures, the probability of above average temperatures occurring is highest the across the north west and the far south east of the State.

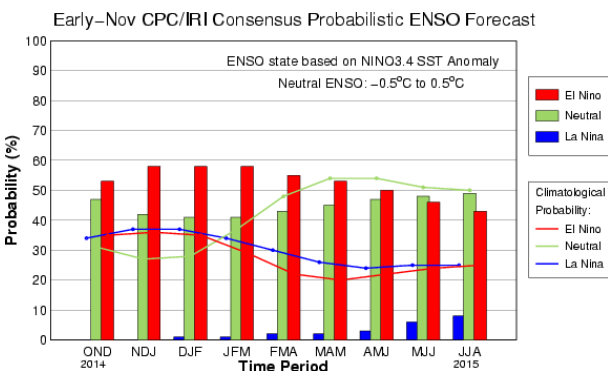


The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should 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 7 November 2014.

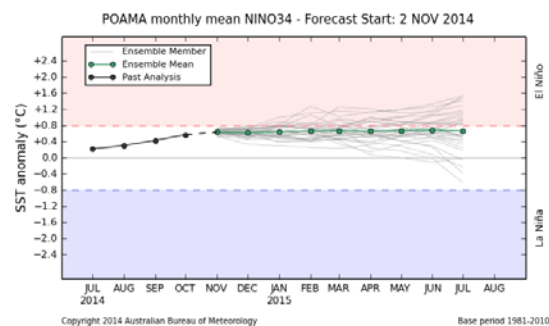
ENSO

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

ENSO remains neutral, although a number of indicators suggest borderline El Niño conditions. A late and weak El Niño event is still likely. Some models suggest a borderline event, and others are tending towards neutral. The Bureau of Meteorology's El Niño status remains at 'watch' level. Warm equatorial sea surface and sub surface temperatures favour an event, as does the currently negative and falling SOI and the reduced rainfall over Indonesia over the last two months. The marginal El Niño-like conditions this year appear to have affected winter and spring rainfall across NSW. Cooler sea surface temperatures to the north of Australia are also reducing potential rainfall sources. However, an El Niño event usually has a reduced influence on summer rainfall over NSW.



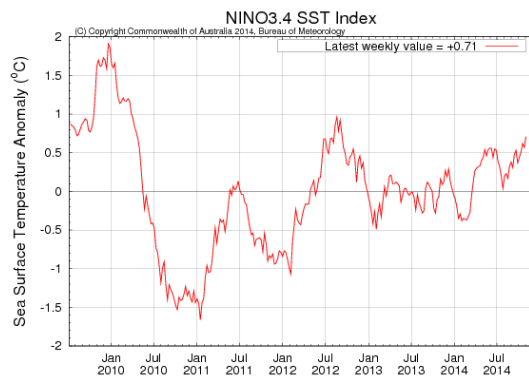
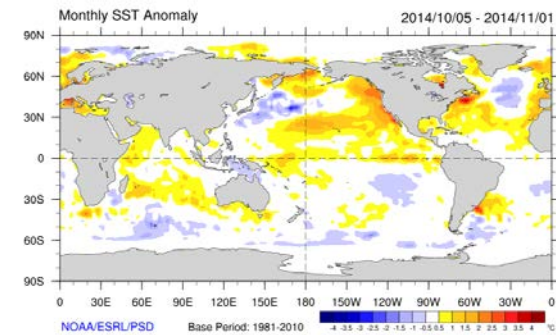
The CPC/IRI consensus ENSO forecast probabilities indicate that 58% of global climate models consider El Niño conditions are likely to develop between November and January, although the number of models suggesting neutral conditions increases in autumn. Note that the CPC/IRI use a NINO3.4 anomaly of +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 in the neutral range, but very close to El Niño levels during late spring, summer and autumn. Three of the eight global climate models surveyed by the Bureau suggest NINO3.4 temperatures will reach El Niño levels by January, and another two suggest temperatures close to the Bureau's critical level of +0.8°C.



Monthly Sea Surface Temperatures

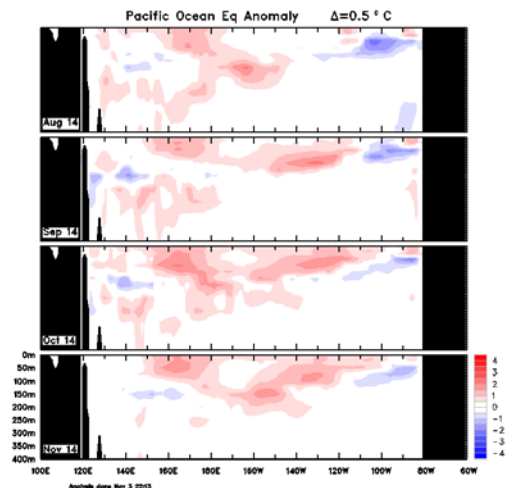
(Source: NOAA & Bureau of Meteorology)

Sea surface temperatures warmed across the eastern equatorial Pacific over October. They are now warm across most of the equatorial Pacific. The most recent monthly temperature anomaly value in the key NINO3.4 region is +0.49°C for October. The weekly value to 2 November is +0.71°C, moving towards the upper end of the Bureau's neutral range.



Monthly Sub Surface Temperatures

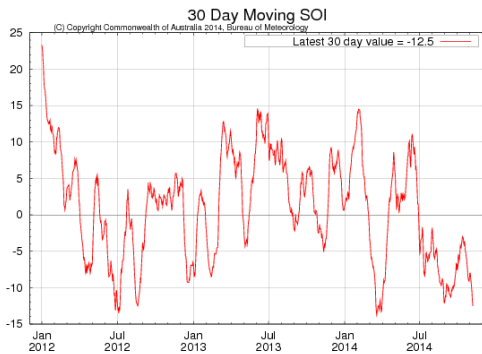
The sub surface sea temperatures show warm anomalies across most of the equatorial Pacific, and have done so since September. The positive anomalies in the central equatorial Pacific show signs of moving eastwards. Some weak negative anomalies remain in the far east.



Southern Oscillation Index (SOI)

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

The Southern Oscillation Index (SOI) is currently in the negative range at -12.5 (as at 7 November). The low SOI is normally an indicator of El Niño conditions. The low values will need to be sustained to demonstrate atmospheric coupling. During previous months it has been as a result of high atmospheric pressure over Darwin rather than a decrease in pressure over Tahiti. However, low pressure anomalies have been present just to the south of Tahiti and appear to be extending northwards.



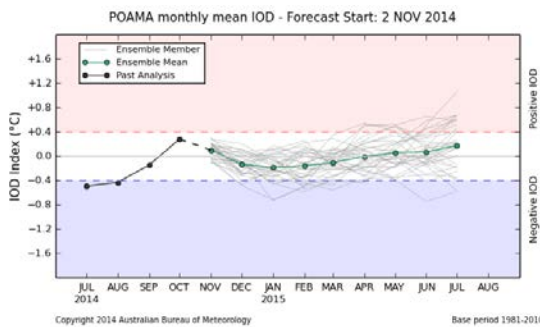
Values of between -8 and +8 indicate neutral conditions, sustained values above +8 may indicate a La Niña event, and sustained values below -8 may indicate an El Niño event.

Indian Ocean Dipole (IOD)

(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) remains neutral. The latest IOD index value is +0.22°C for the week ending 2 November. The Bureau of Meteorology's POAMA model and all climate models surveyed by the Bureau favour a neutral IOD between November and March.

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.



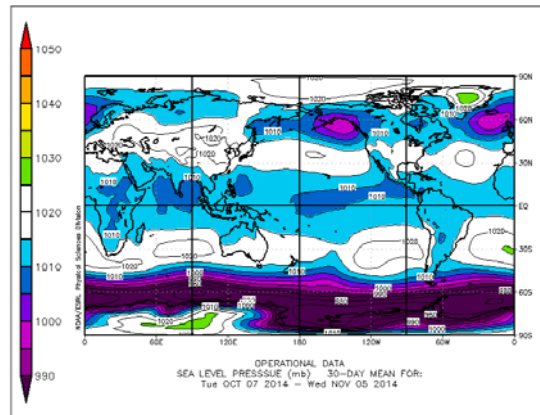
Sub-Tropical Ridge (STR)

(Source: NOAA & Bureau of Meteorology)

The sub-tropical ridge was slightly further north in latitude than normal during October. There was high

atmospheric pressure over most of the continent during October, particularly over the north (affecting the SOI), as indicated on NOAA and Bureau of Meteorology mean sea level pressure charts. Increased pressure contributes to the blocking of the passage of fronts through NSW.

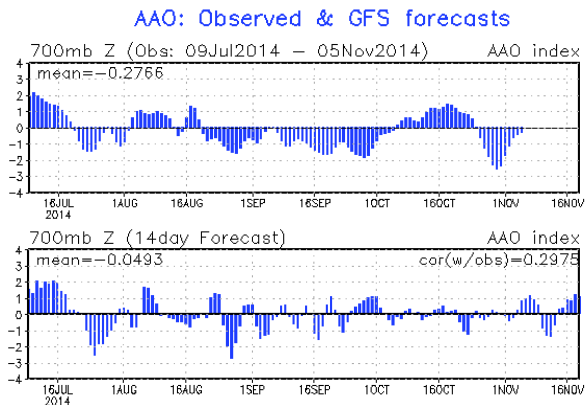
The sub-tropical ridge is a zone of high pressure which between January and March is normally located south of Australia at about 38°S to 39°S, and tends to suppress cold front activity. During June to September, it generally moves northwards to around 30°S to 32°S, allowing cold fronts to extend further 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 as at 5 November. The outlook from POAMA indicates the SAM index will be weakly negative to neutral through to mid-late November. The NOAA outlook is similar, but suggests a return to weakly positive conditions in late November.



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.

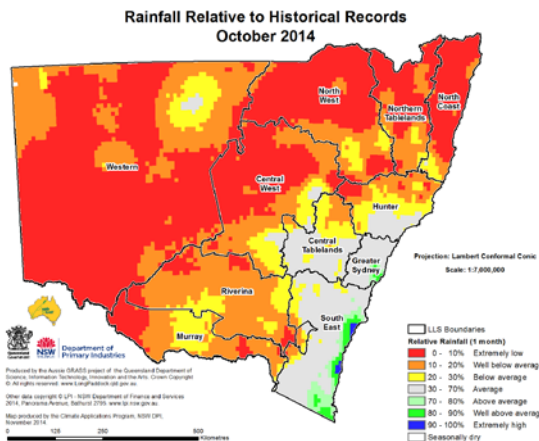
Conditions during October

Rainfall

(Source: Queensland DSITIA)

Rainfall across most of NSW was less than 25 mm during October. About one quarter to one third of the State received no rainfall at all, with about half of the State receiving less than 10 mm and about a quarter of the State receiving 10-50 mm. The south east and some central areas received 25-100 mm, with more along the south coast.

Relative to historical records, rainfall during October was below average across 88% of NSW, except across areas of the south east, central coast and central tablelands.



Soil moisture

(Source: CSIRO)

Modelled topsoil moisture declined over most of NSW during October but remained moderate along the central coast and the south east.

Subsoil moisture levels declined slightly across NSW, but remained high across the south east and moderate on the coast. Relative to historical records, subsoil moisture levels were low across areas of the north west, northern tablelands, north coast and Riverina.

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.

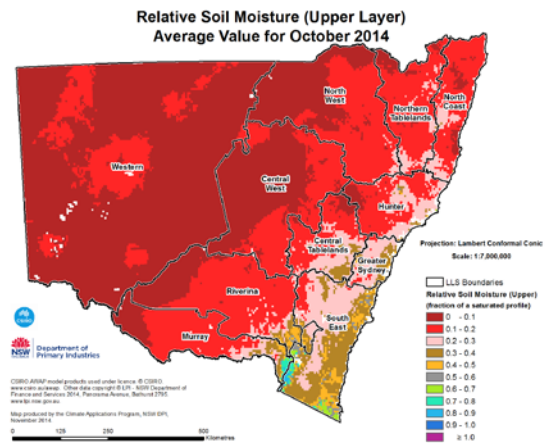
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Pasture growth

(Source: Queensland DSITIA)

Relative pasture growth during October was below average across 66% of the State, including most of western, central and northern NSW, the Riverina and the north coast. The south to mid-north coast and areas of the south had generally average growth, with above average growth across the Monaro.

