Department of Primary Industries

NSW Climate Summary - May 2014

Summary

Seasonal outlook	Current Outlook	Previous Outlook
Rainfall (quarter)	Neutral (Wetter – SE & areas of E NSW)	Neutral (Drier – N/NE NSW)
Max Temperature (qtr)	Neutral (Possibly cooler – central NSW)	Warmer (Neutral – W NSW)
Min Temperature (qtr)	Neutral (W & central NSW) Warmer (E & S NSW)	Warmer
ENSO		
ENSO (overall)	Neutral – El Niño likely	Neutral – El Niño likely
BoM ENSO Tracker Status	El Niño Alert	El Niño Watch
SOI	Neutral	Neutral (negative trend)
Pacific Ocean (NINO3.4)	Neutral (warming trend)	Neutral (warming trend)
Indian Ocean (IOD)	Neutral	Neutral
Southern Annular Mode (SAM/AAO)	Neutral/ weakly-moderately negative	Weakly-moderately positive/neutral

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

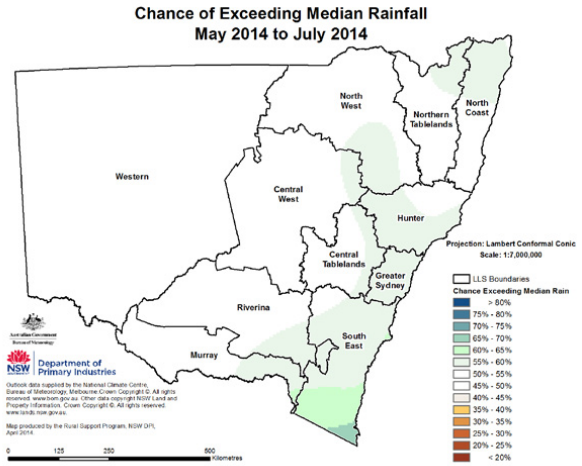
Seasonal outlook

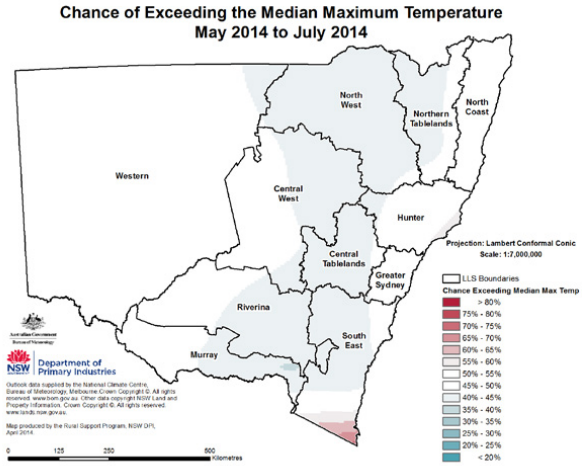
(Source: Bureau of Meteorology)

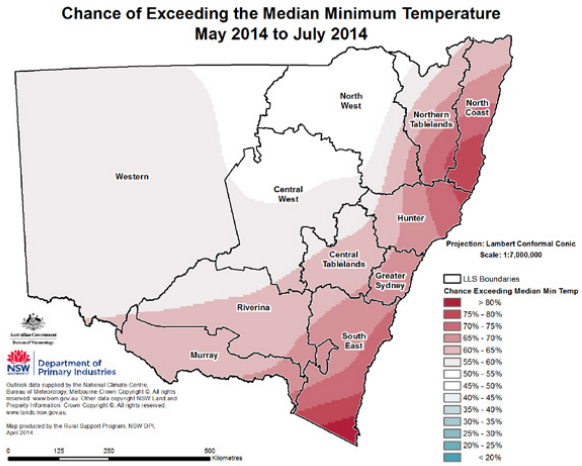
The chances of a wetter or drier than normal May to July are equal across the western and central areas. There is a slightly increased chance of wetter conditions across the south east and some of the east. Wetter conditions are likely in the far south east.

These probabilities indicate that for every ten years with similar climate patterns, across most of NSW about five May to July periods would be expected to be wetter than normal and five drier than normal.

The chances for warmer or cooler daytime temperatures are roughly equal, with possibly cooler daytime temperatures across central NSW. Warmer daytime temperatures are likely in the far south east. Warmer overnight temperatures are likely over the east and south, and the chances of warmer or cooler overnight temperatures are roughly equal elsewhere.





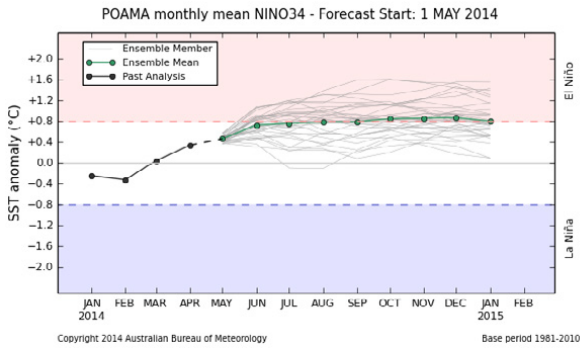


The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should 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 8th May 2014.

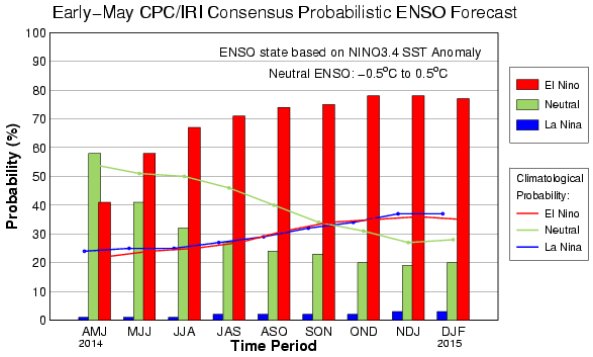
ENSO

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

ENSO is still neutral, but El Niño conditions are likely to develop over winter. Sea surface and sub-surface temperatures have continued to warm and other indicators are showing or likely to develop El Niño trends. The Bureau of Meteorology has issued an El Niño alert, and rates the chances of an El Niño event occurring at 70% or more.



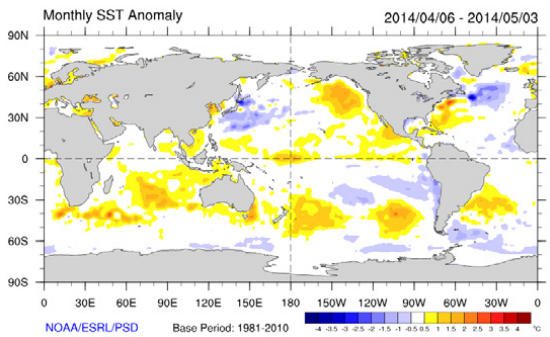
Currently, the CPC/IRI consensus ENSO forecast probabilities indicate that 58% of global climate models suggest ENSO neutral conditions are likely over May to July, with 67% indicating El Niño conditions are likely to develop between June and August. However, forecast skill is low at this time of year and forecasts should therefore be treated with some caution.



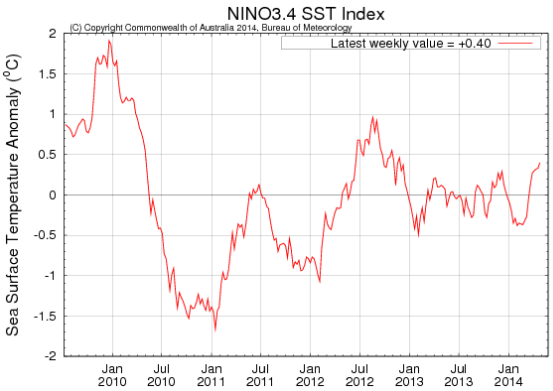
Monthly Sea Surface Temperatures

(Source: NOAA & Bureau of Meteorology)

Warming of the sea surface continued over the month, with weak warm anomalies now extending across most of the equatorial Pacific.



The monthly temperature index value in the NINO3.4 region is 0.3°C, an increase of 0.3°C since March and 0.6°C since February. For the week ending 4th May, the temperature is now +0.44°C.

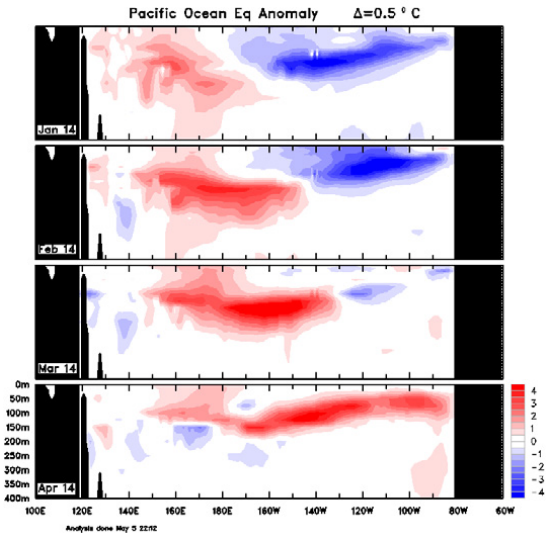


Monthly Sub Surface Temperatures

Sub surface temperatures show the development of a strong warm anomaly in the western Pacific, which moved eastwards (a downwelling oceanic Kelvin wave) and has now reached the eastern Pacific.

Sub surface temperatures in the central Pacific are more than 3°C warmer than normal and in the eastern Pacific are 5°C above normal.

These above average sub surface temperatures have the potential to further raise sea surface temperatures in the eastern Pacific in the near future. This could induce low level westerly winds in the central and eastern Pacific that could lead to a coupling of ocean and atmospheric conditions, and induce an El Niño event.

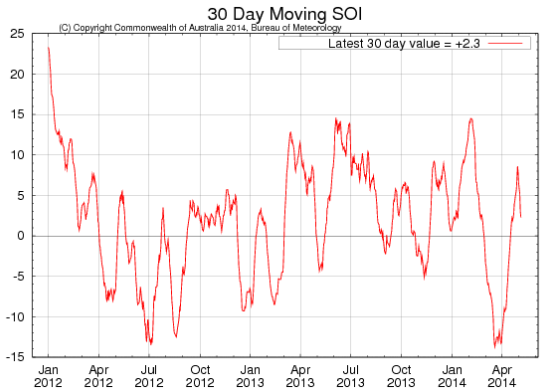


Southern Oscillation Index (SOI)

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

The Southern Oscillation Index (SOI) fell sharply between January to March, but after remaining negative through April it returned to the neutral range. However, it has since started to fall again.

The 30-day value of the SOI (as at 7th May) was +0.9.



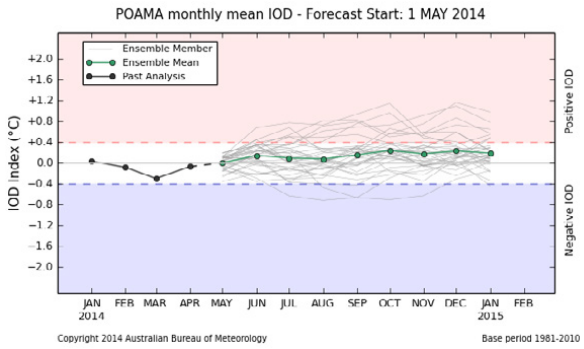
Values of between -8 and +8 indicate neutral conditions, sustained values above +8 may indicate a La Niña event, and sustained values below -8 may indicate an El Niño event.

Indian Ocean Dipole (IOD)

(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) remains neutral. The latest IOD index value is -0.44°C for the week ending 4th May, and the Bureau of Meteorology's POAMA model and most models surveyed by the Bureau of Meteorology favour a neutral IOD over the coming months. However, two models favour the development of a positive IOD in spring. The chances of a positive IOD event will increase if an El Niño event occurs.

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.

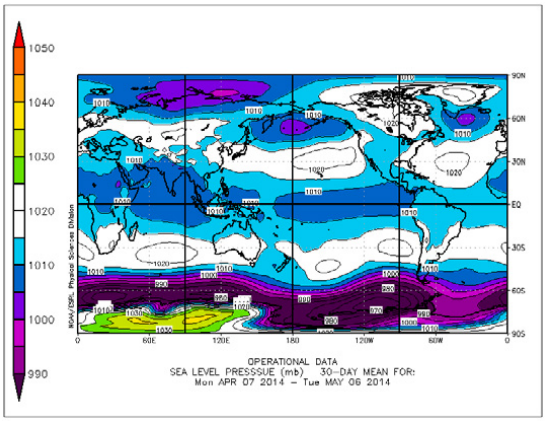


Sub-Tropical Ridge (STR)

(Source: NOAA & Bureau of Meteorology)

The sub-tropical ridge (STR) moved slightly north during the month, as indicated on NOAA and Bureau of Meteorology mean sea level pressure charts, but has not reached its normal winter position.

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.

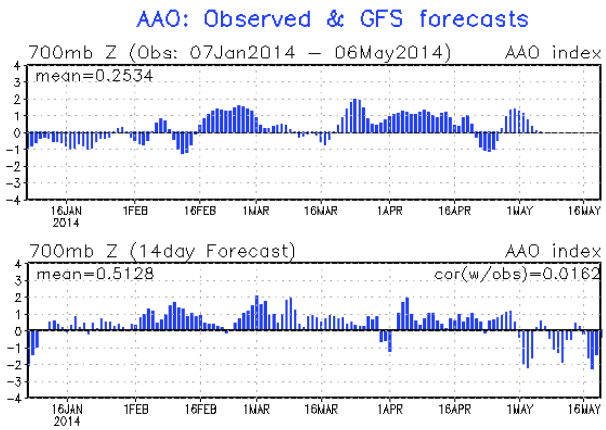


Southern Annular Mode (SAM)

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

The experimental Southern Annular Mode or Antarctic Oscillation (AAO) index is currently showing as weakly positive at around +0.5 from POAMA as at 4th May, and close to zero from the US National Oceanic and Atmospheric Administration as at 6th May.

The outlook from POAMA indicates the SAM index is likely to remain fall to be weakly to moderately negative, returning to near neutral later in the month. The NOAA outlook suggests it will decrease to be moderately to strongly negative by early to mid-month, possibly oscillating between this and neutral.



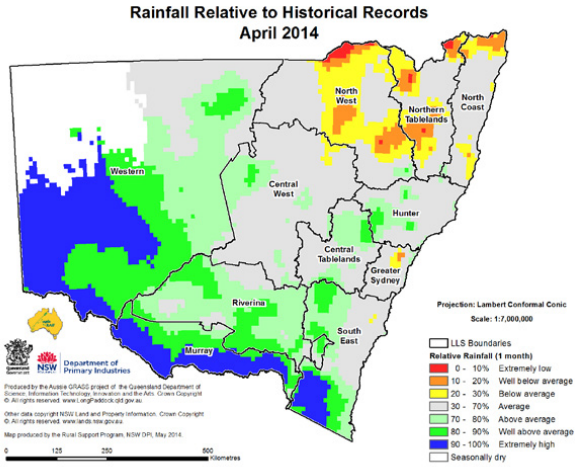
A negative SAM indicates an expansion of the belt of strong westerly winds towards the equator, resulting in more or stronger low pressure systems across southern Australia and potentially increased rainfall. A positive SAM indicates the contraction of the belt of strong westerly winds towards Antarctica and higher pressures over southern Australia, and can result in stable, drier conditions.

Conditions during April

Rainfall

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

Over April, 81% of NSW received average to above average rainfall, and most areas received 25-100 mm. Rainfall was lower across the north and above average over the west and south of the State. Some areas of the north west and west received lighter, patchy falls.



Soil moisture

(Source: CSIRO)

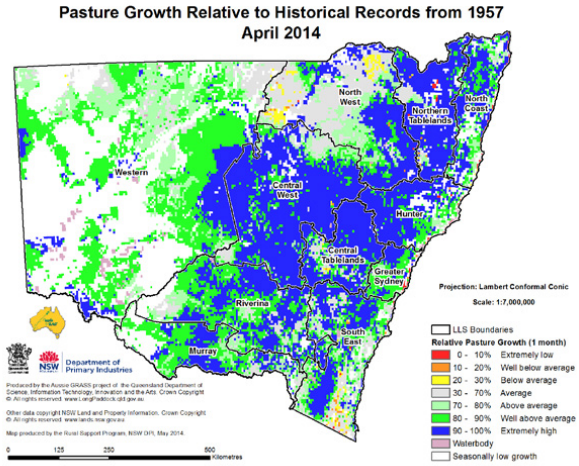
Modelled topsoil moisture was not available at the time of publication.

Pasture growth

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

Relative pasture growth was high over April, with most areas experiencing above average growth, particularly in improved pastures. This was a result of the rainfall, soil moisture and warm temperatures, however growth has started to slow over the tablelands.

Only 1% of the State was below average in relative growth for the month, with 9% being average and 66% above average. Missing data accounted for the remainder. Relative pasture growth was lowest in some areas of the north west and south 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 Reports, 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 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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Published by the Department of Primary Industries. ISSN 2203-5060 (Online) PUB14/62 Volume 1/Number 4