

Tropical Pacific remains ENSO-neutral

Issued on Wednesday 6 November 2013 | Product Code IDCKGEW00

All atmospheric and oceanic indicators of the El Niño-Southern Oscillation (ENSO) remain within neutral bounds. While the tropical Pacific has gradually warmed over the past three to four months, it remains close to the long-term average. International climate models surveyed by the Bureau of Meteorology indicate that the tropical Pacific will warm slightly over the coming months, but remain ENSO-neutral for at least the coming southern summer.

While ENSO is the dominant natural driver of Australia's climate, a neutral period does not guarantee a benign or normal season. A neutral ENSO period indicates that the equatorial Pacific Ocean is not shifting the odds towards a significantly wet or dry period for Australia. However, more localised weather extremes can and do occur during neutral ENSO phases as secondary or local factors come into play. For instance, warmer-than-average sea surface temperatures around parts of the Australian coastline may currently be influencing regional climate.

The Indian Ocean Dipole is currently neutral. It typically has little influence on Australian climate during the months from December to April.

Next update expected on Tuesday 19 November 2013 | [print version](#)

Further Details

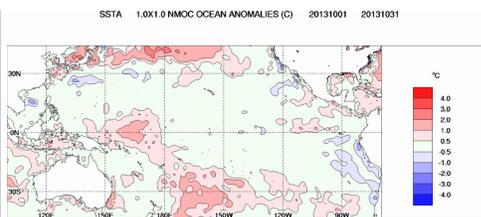
Sea Surface Temperatures

Monthly sea surface temperatures:

The sea surface temperature (SST) anomaly map for October shows SSTs are near average along the majority of the central and eastern equatorial Pacific. In the far eastern Pacific weak cool anomalies are present south of the equator and near the South American coast while areas of weak warm anomalies are present north of the equator. Weak to moderate warm anomalies also persist in the western tropical Pacific, across parts of the Maritime Continent and over the South Pacific Convergence Zone (SPCZ).

Index	September	October	Temperature change
NINO3	0.0	0.0	no change
NINO3.4	0.0	-0.1	0.1 °C cooler
NINO4	+0.3	+0.4	0.1 °C warmer

Baseline period 1961–1990.

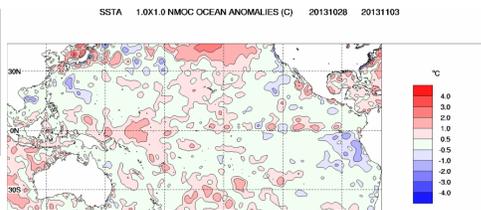


Weekly sea surface temperatures:

The pattern of sea surface temperature anomalies across the tropical Pacific is similar to that of two weeks ago. Waters in the western equatorial Pacific have warmed slightly; the anomaly map for the week ending 3 November shows generally weak warm anomalies across the western tropical Pacific, becoming mixed in the central-to-eastern Pacific, with weak cool anomalies south of the equator in the far eastern Pacific.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.1	+0.1	no change

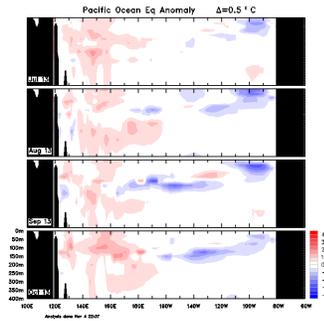
Baseline period 1961–1990.



Pacific ocean sub-surface temperatures

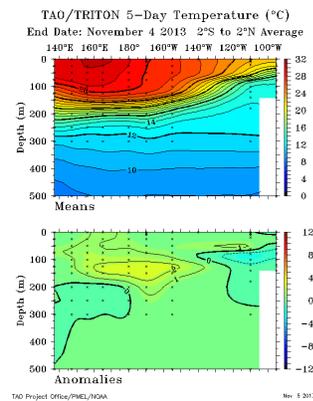
Monthly sub-surface:

The four-month sequence of sub-surface temperature anomalies (to October) shows waters are slightly cooler than average in the east and weakly warmer than average in much of the water column west of the Date Line. Over the last three months, the sub-surface anomaly pattern has remained generally similar.



Weekly sub-surface:

The sub-surface map for the 5 days ending 5 November shows temperatures are warmer than average in a large area around the Date Line, reaching 2 °C warmer than average at around 150 m depth. Sub-surface temperatures are slightly cooler than average in the eastern equatorial Pacific.



[Animation of recent sub-surface changes](#) | [Archive of sub-surface temperature charts](#)

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has fallen slightly compared to two weeks ago, but clearly remains neutral. The latest approximate 30-day SOI value to 4 November is -1.9.

Sustained positive values of the SOI above +8 may indicate a La Niña event, while sustained negative values below -8 may indicate an El Niño event. Values of between about +8 and -8 generally indicate neutral conditions.

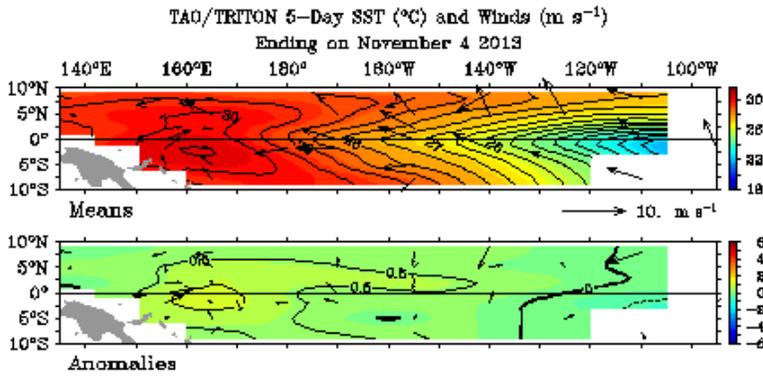


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

Trade winds are near average across most of the tropical Pacific (see anomaly map for the 5 days ending 4 November).

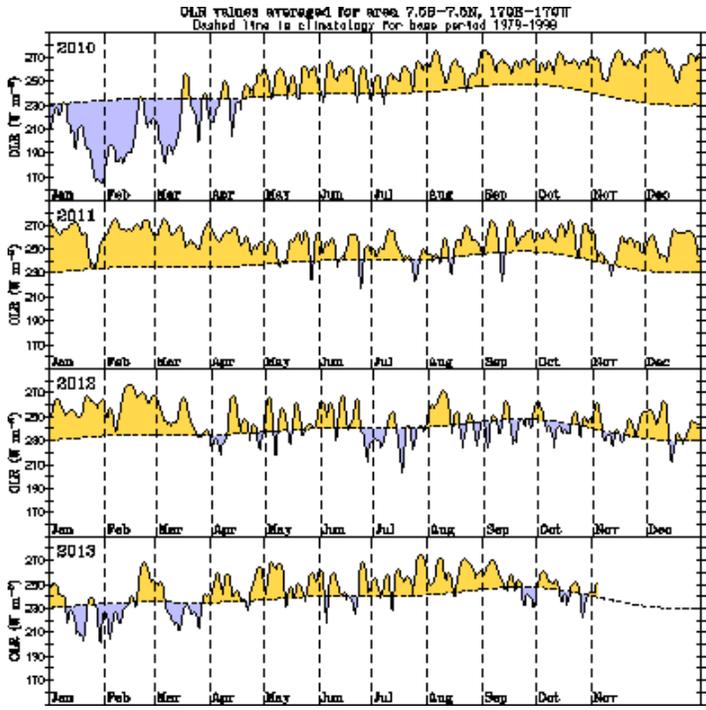
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the Date Line:

Cloudiness near the Date Line has been close to average over the past two weeks. Anomalies have fluctuated around average over the past month and a half.

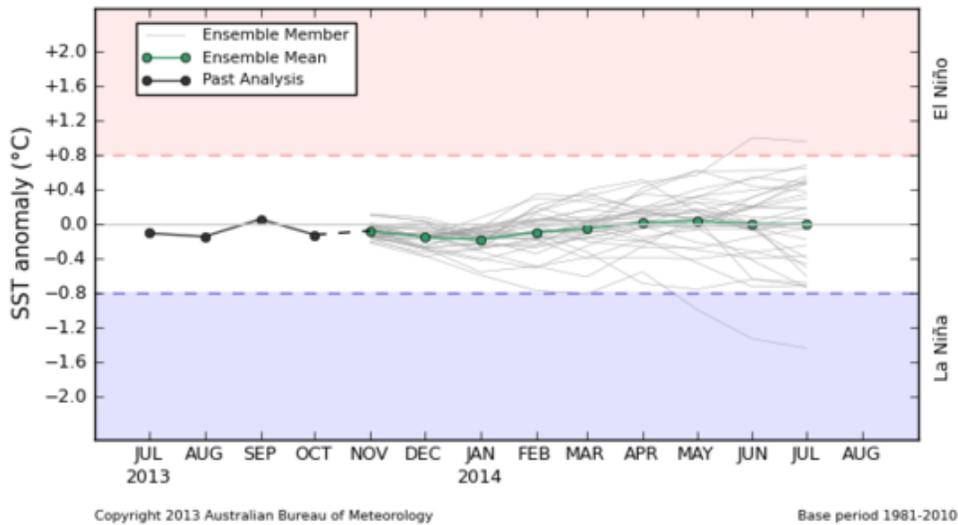
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



Climate Models:

All seven international [climate models](#) surveyed by the Bureau indicate that SSTs in the equatorial Pacific Ocean are likely to remain ENSO neutral into at least the first quarter of 2014.

POAMA monthly mean NINO34 - Forecast Start: 3 NOV 2013

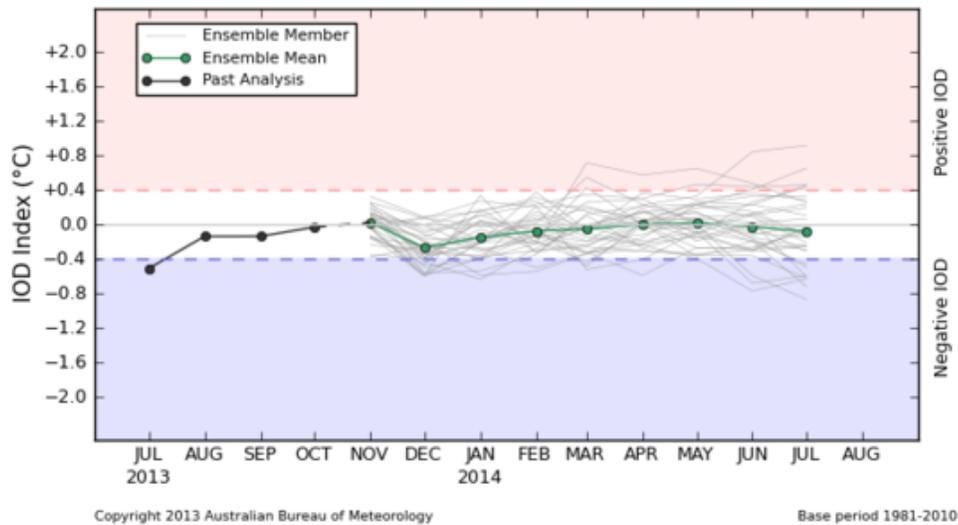


Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) index remains within the neutral range, with the latest weekly value (3 November) +0.1 °C.

Climate models surveyed in the [model outlooks](#) favour neutral IOD values over the coming months. The IOD typically has little influence on Australian climate during summer and early autumn.

POAMA monthly mean IOD - Forecast Start: 3 NOV 2013



[IOD time series](#) [IOD map](#) [IOD forecasts](#) [DMI values](#)

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