

ENSO-neutral conditions persist in the tropical Pacific

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The El Niño-Southern Oscillation (ENSO) remains neutral, with the majority of atmospheric and oceanic indicators close to their long-term average. The Southern Oscillation Index (SOI) has risen steeply over the past two weeks; this is partially an effect of monsoon activity over Darwin. International climate models indicate that the tropical Pacific will remain neutral at least through to the austral autumn.

While the austral winter in 2013 was under the influence of a negative Indian Ocean Dipole (which increases the chances of wetter weather over southern Australia), the event had an early demise. This change can be seen in the rainfall maps for Australia, with the southeast experiencing a wetter than usual winter, and a generally drier than usual spring.

The IOD is currently neutral. It typically does not influence the Australian climate during the months from December to April.

Next update expected on 17 December 2013 | [print version](#)

Further Details

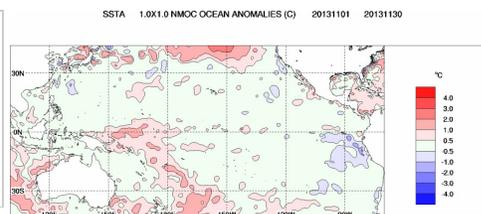
Sea Surface Temperatures

Monthly sea surface temperatures:

The sea surface temperature (SST) anomaly map for November shows SSTs are near average along most of the equatorial Pacific, similar to last month. Weak cool anomalies remain in the far eastern Pacific south of the equator and along the coast of Peru, while generally weak warm anomalies persist west of the Date Line and around the South Pacific Convergence Zone (SPCZ).

Index	October	November	Temperature change
NINO3	0.0	0.0	no change
NINO3.4	-0.1	+0.2	0.3 °C warmer
NINO4	+0.4	+0.5	0.1 °C warmer

Baseline period 1961–1990.

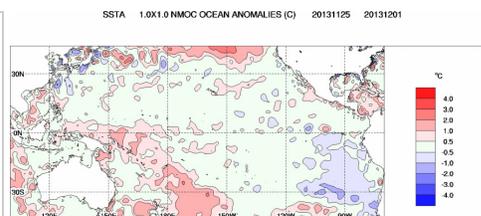


Weekly sea surface temperatures:

Sea surface temperature anomalies across the tropical Pacific have weakened somewhat over the past fortnight in both the eastern and western equatorial Pacific. The anomaly map for the week ending 1 December shows near-average temperatures across the central tropical Pacific, weak warm anomalies west of the Date Line, with moderate warm anomalies around the SPCZ, and weak cool anomalies in the eastern Pacific between the equator and southern mid-latitudes. Warm anomalies around the western half of Australia have weakened compared to two weeks ago.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	-0.1	-0.1	no change
NINO3.4	+0.1	+0.2	0.1 °C warmer
NINO4	+0.5	+0.5	no change

Baseline period 1961–1990.



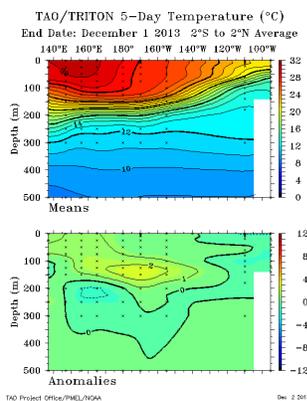
[An animation of recent SST changes](#) | [Weekly data graph](#) | [Map of NINO regions](#)

Pacific ocean sub-surface temperatures

Monthly sub-surface:

Weekly sub-surface:

The sub-surface map for the 5 days ending 2 December shows temperatures are 2 °C warmer than average in an area of the central equatorial Pacific at around 150 m depth. Elsewhere, waters in the equatorial Pacific are generally close to average temperatures.



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

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has risen over the past two weeks. The latest approximate 30-day SOI value to 1 December is +8.9. Recent monsoonal activity over the tropical north of Australia has contributed to lower pressure readings at Darwin, and an associated increase in values of the SOI.

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.

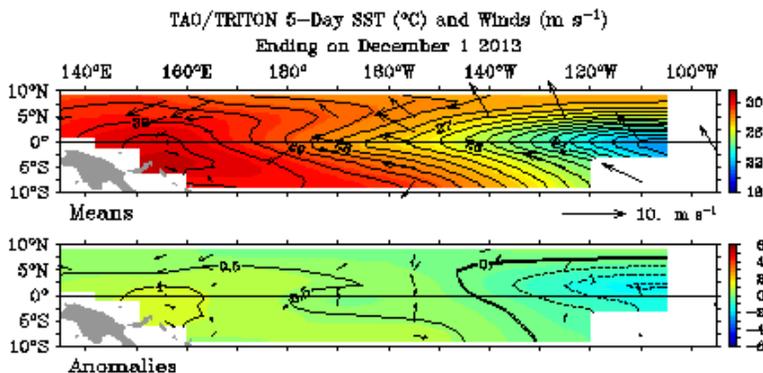


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

Trade winds are near average across most of the tropical Pacific (see anomaly map for the 5 days ending 1 December).

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.

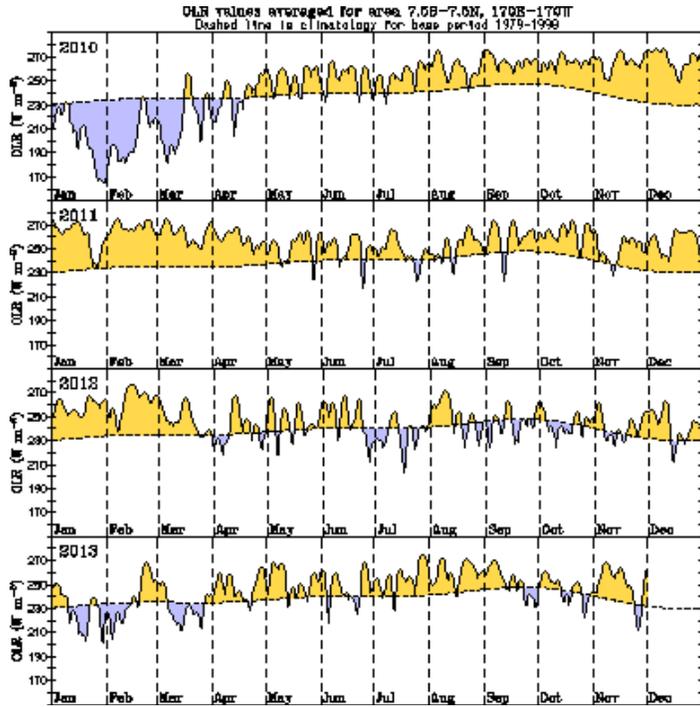


Cloudiness near the Date Line:

Cloudiness near the Date Line has fluctuated during the past two weeks, but on average has been below average over the past two weeks. Cloudiness near the Date Line has generally been below average since April, with a near-average period between mid-September and the end of October.

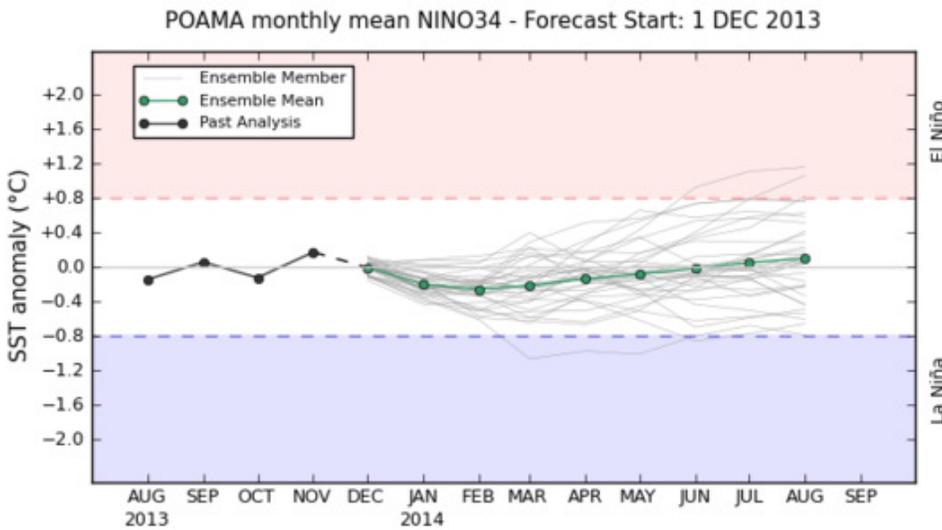
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño

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.



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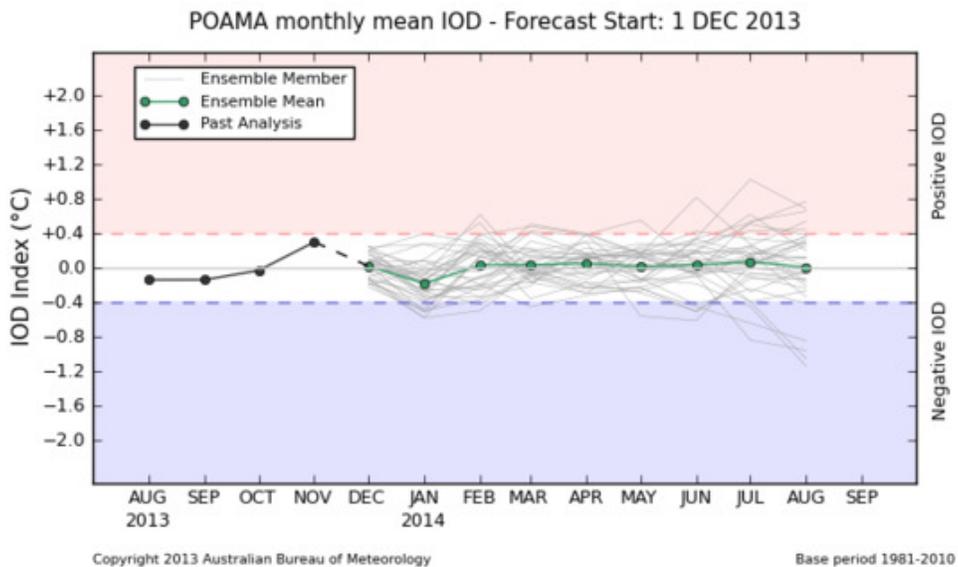
Base period 1981-2010

[NINO3.4 timeseries](#) [NINO3.4 values](#) [Map of NINO regions](#) [NINO3.4 forecasts \(POAMA\)](#)

Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) remains neutral, with the latest weekly index value (1 December) +0.5 °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. During this time of year, establishment of negative or positive IOD patterns is largely inhibited by the development and position of the monsoon trough in the southern hemisphere.



[IOD timeseries](#) [DMI values](#) [Map of IOD regions](#) [IOD forecasts \(POAMA\)](#)

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