



ENSO Wrap-Up

Current state of the Pacific and Indian Ocean

Tropical Pacific warm, but remains neutral

Issued on **Tuesday 21 October 2014** | Product Code IDCKGEWW00

El Niño–Southern Oscillation (ENSO) indicators, as well as Australian rainfall patterns, continue to show some El Niño-like signatures, but remain in the neutral range.

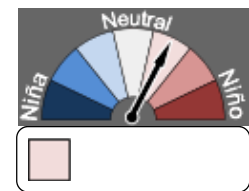
The tropical Pacific Ocean has remained warmer than average for more than six months, while the Southern Oscillation Index has remained negative since early June. However neither has reached typical El Niño levels for any sustained period, and only weak atmosphere-ocean coupling appears to have taken place so far.

International models surveyed by the Bureau suggest that warmer-than-average tropical Pacific waters are likely to persist. While there has been some easing in model outlooks over the past month, three of eight models reach El Niño thresholds by January and another two remain just shy of the thresholds for an event.

Australia has generally been dry and warm over recent months. A warmer central tropical Pacific late in the year typically heralds warmer and drier conditions for parts of eastern Australia, as well as a reduction in the number of tropical cyclones in the Australian region and increased bushfire risk in the south.

The Indian Ocean Dipole (IOD) is likely to remain neutral. The IOD typically has little influence on the Australian climate from December to April.

Next update expected on *Wednesday 5 November 2014* | [print version](#)



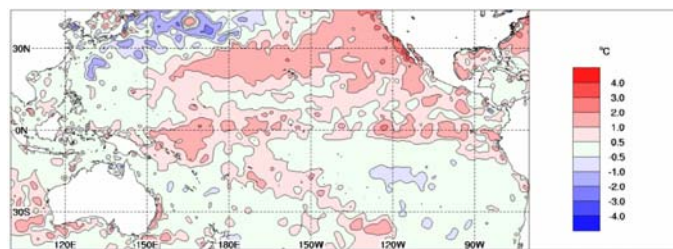
El Niño WATCH

ENSO Tracker

(or click graphic)

Weekly sea surface temperatures

Sea surface temperature (SST) anomalies have warmed across most of the tropical Pacific over the past two weeks, especially in the central tropical Pacific. Positive anomalies are present along nearly the entire equator in the Pacific (see SST anomaly map for the week ending 19 October) and also across large areas of the Indian Ocean and most of the northern Pacific Basin. Weak cool anomalies have declined around northern Australia but remain in a few isolated spots in the Gulf of Carpentaria and Torres Strait.

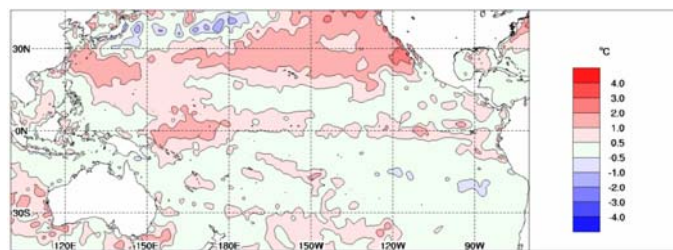


Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.6	+0.7	0.1 °C warmer
NINO3.4	+0.4	+0.6	0.2 °C warmer
NINO4	+0.6	+0.9	0.3 °C warmer

Baseline period 1961–1990.

Monthly sea surface temperatures

The SST anomaly map for September shows the equatorial Pacific cooled in the east and warmed in the central region when compared to the preceding month. September SSTs were above average across nearly the entire equatorial Pacific as well as across much of the northern Pacific and extending into the Indian Ocean.



Index	August	September	Temperature change
NINO3	+0.5	+0.5	no change
NINO3.4	+0.3	+0.4	0.1 °C warmer
NINO4	+0.7	+0.7	no change

Baseline period 1961–1990.

See also:

[Animation of recent SST changes](#)

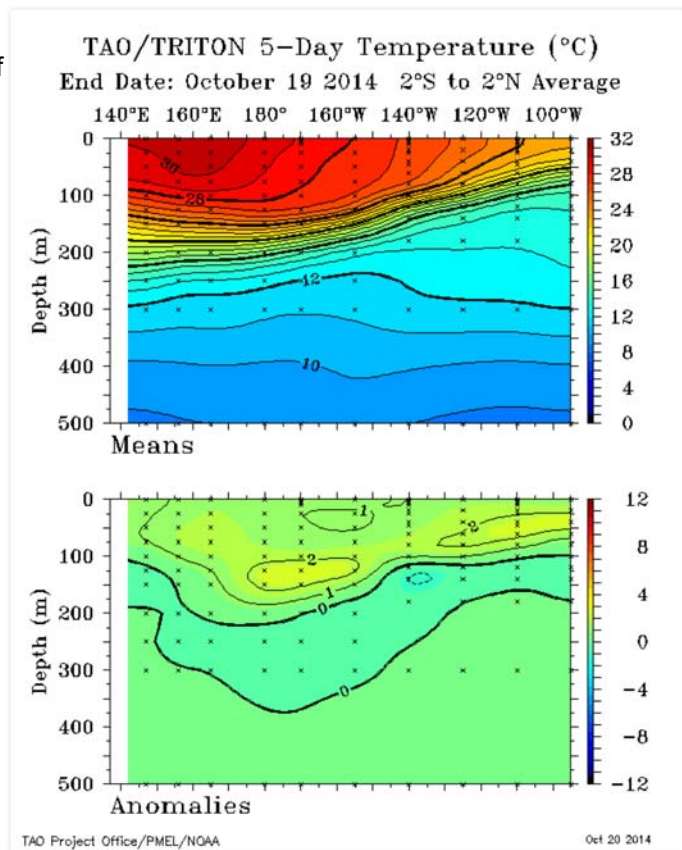
[Weekly index values](#)

[Sea temperature analyses](#)

[Map of NINO regions](#)

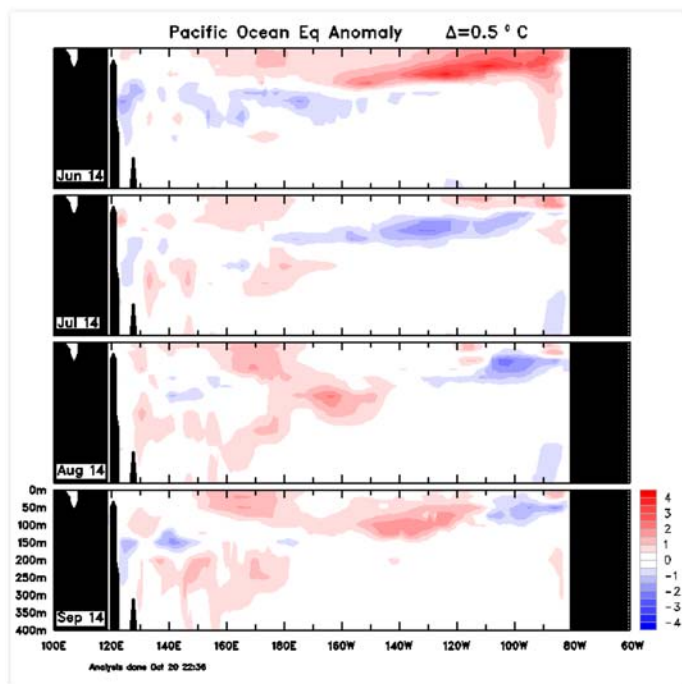
5-day sub-surface temperatures

The sub-surface temperature map for the 5 days ending 19 October shows temperatures across much of the eastern and central equatorial Pacific sub-surface are slightly warmer than average.



Monthly sub-surface temperatures

The four-month sequence of sub-surface temperature anomalies (to September) shows warm anomalies are present in parts of the sub-surface profile: below 150 m depth in the western Pacific and across the shallow sub-surface from west of the Date Line to around 120°W. The sub-surface plot also shows areas of cool anomalies in the sub-surface of the far western and shallow eastern equatorial Pacific.



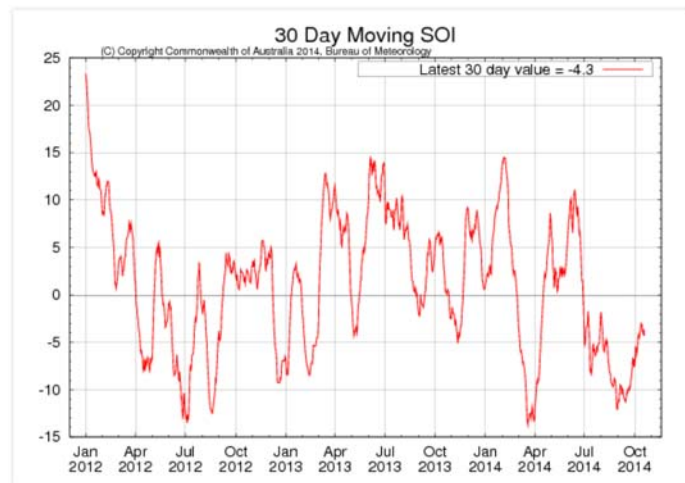
See also: [Animation of recent sub-surface temperature changes](#)

[Archive of sub-surface temperature charts](#)

Southern Oscillation Index

The Southern Oscillation Index (SOI) has remained relatively stable over the past fortnight. The latest approximate 30-day SOI value to 19 October is -4.3 .

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.



See also:

[Monthly SOI graph](#)

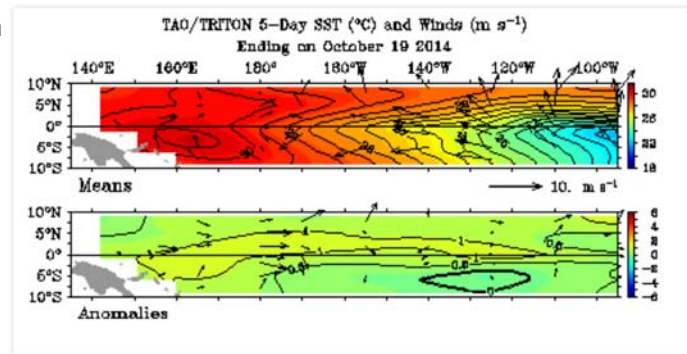
[Table of monthly SOI values](#)

[30-day SOI values](#)

Trade winds

Trade winds are weaker than average over the western half of the tropical Pacific and near-average over the remainder of the tropical Pacific (see anomaly map for the 5 days ending 19 October).

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.



Data Source:

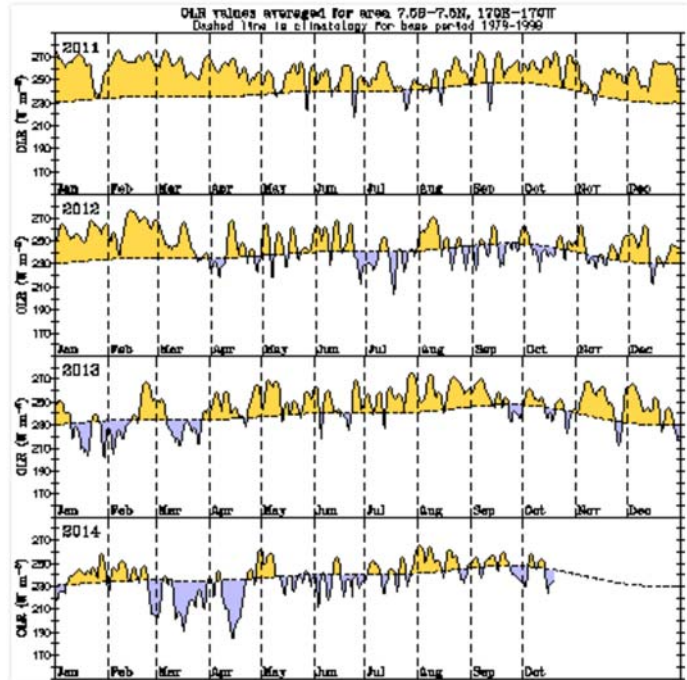
[TAO/TRITON data](#)

[Time-longitude wind anomalies](#)

Cloudiness near the Date Line

Cloudiness near the Date Line has continued to fluctuate around average values over the past two weeks.

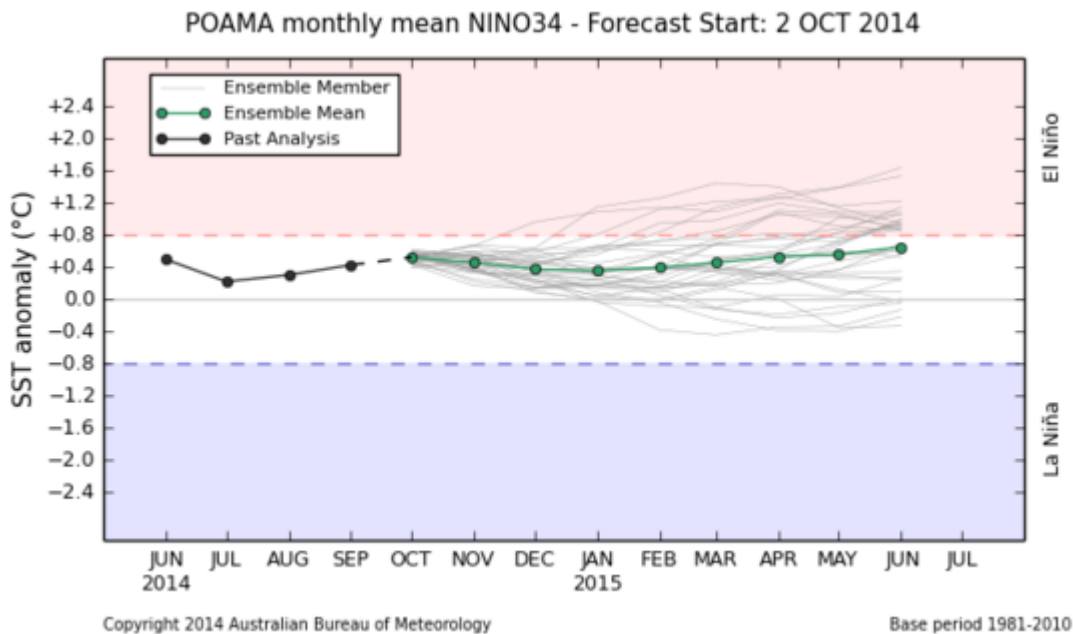
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during El Niño and decreases (positive OLR anomalies) during La Niña.



- Spatial cloudiness
- Regional cloudiness
- Out-going longwave radiation maps

Model outlooks

Three of the eight international [climate models](#) surveyed by the Bureau indicate the possibility of ocean conditions reaching El Niño thresholds by mid-summer, with the remainder favouring persistence of neutral conditions. The models which indicate a possible El Niño forecast peak central equatorial Pacific SSTs reaching at most moderate El Niño levels.

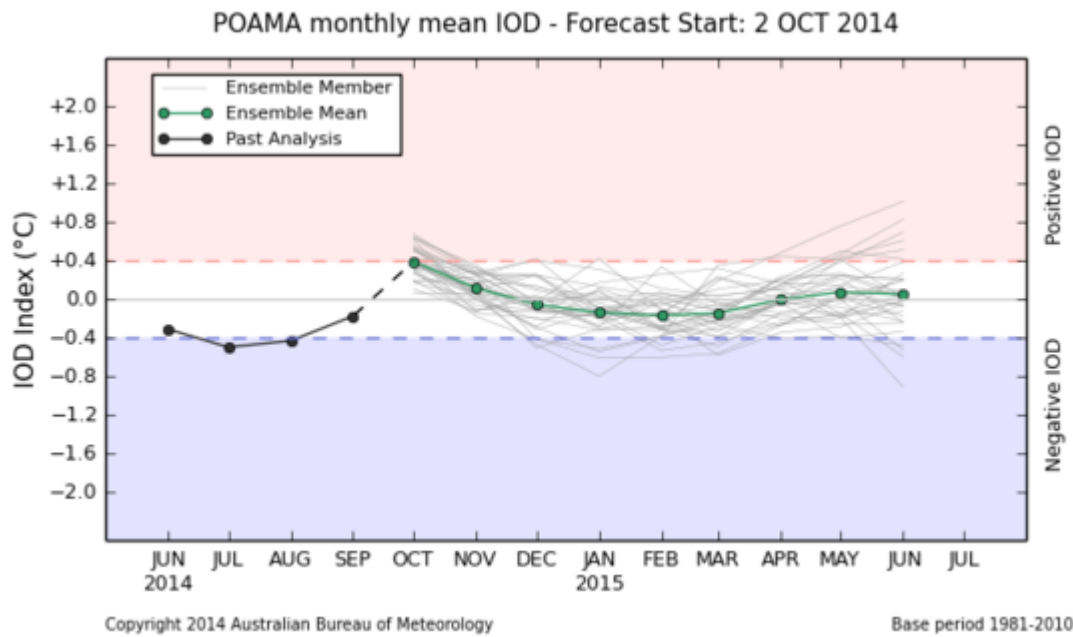


See also:

- [Climate model summary](#)
- [POAMA model](#)
- [Map of NINO regions](#)

Indian Ocean Dipole

The Indian Ocean Dipole (IOD) index has remained positive over the past two weeks. The latest weekly index value to 19 October is within neutral bounds at +0.3 °C. Climate models surveyed in the [model outlooks](#) favour a continuation of neutral IOD values for the remainder of the year.



See also:

[POAMA model](#)

[IOD time series](#)

[Map of IOD regions](#)

[IOD forecasts](#)

[Weekly IOD values](#)

Archive

- [Previous ENSO Wrap-Ups](#)

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