



## ENSO Wrap-Up

### Current state of the Pacific and Indian Ocean

## El Niño remains on hold

Issued on Tuesday 15 July 2014 | Product Code IDCKGEWW00

Warming of the tropical Pacific Ocean over the past several months primed the climate system for an El Niño in 2014. However, a general lack of atmospheric response over the last month has resulted in some cooling of the tropical Pacific Ocean.

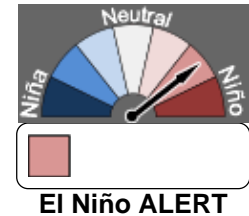
While the majority of climate models suggest El Niño remains likely for the spring of 2014, most have eased their predicted strength. If an El Niño were to occur, it is increasingly unlikely to be a strong event.

Changes are also occurring in the Indian Ocean. The Indian Ocean Dipole (IOD) index has been below  $-0.4$  °C (the negative IOD threshold) since mid-June, but it would need to remain negative into August to be considered as an event. Negative values are rare when the central Pacific is warmer than average. Model outlooks suggest the IOD is likely to return to neutral by spring. Conditions in the Indian Ocean may have contributed to the above-average rainfall experienced in southeast Australia during June.

El Niño is often associated with below-average rainfall over southern and eastern inland areas of Australia and above-average daytime temperatures over southern Australia. Conversely, a negative IOD pattern typically brings wetter winter and spring conditions to inland and southern Australia.

The ENSO Tracker is updated at the end of each month. It is currently at El Niño ALERT stage.

Next update expected on 29 July 2014 | [print version](#)



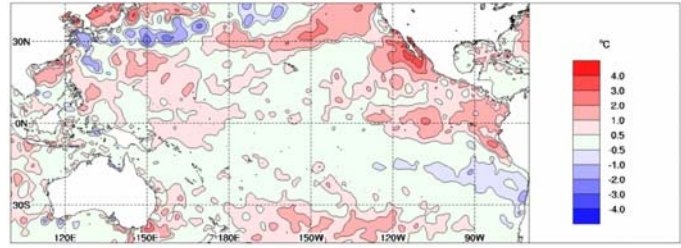
### ENSO Tracker

(or click graphic)

[Currents of change:  
Tracking the El  
Niño/La Niña cycle  
\(Bureau blog article\)](#)

### Weekly sea surface temperatures

Warm SST anomalies remain in place in the western and eastern tropical Pacific Ocean, although cooling over the past two weeks has seen a return to near-average temperatures in the central Pacific. More broadly, positive anomalies also remain in areas of the Indian Ocean and in large areas of the northern Pacific Basin, in both the East China Sea and along the North American coastline (see SST anomaly map for the week ending 13 July).

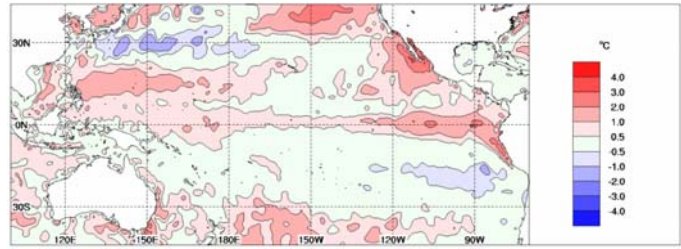


Index	Previous	Current	Temperature change (2 weeks)
NINO3	+1.1	+0.7	0.4 °C cooler
NINO3.4	+0.5	+0.3	0.2 °C cooler
NINO4	+0.5	+0.4	0.1 °C cooler

Baseline period 1961–1990.

### Monthly sea surface temperatures

The equatorial Pacific continued to warm in the east during June. The sea surface temperature (SST) anomaly map for June shows warm anomalies along the entire equator, with further warm anomalies to Australia’s northwest, around much of the Maritime Continent and east of the Philippines, as well as along the coastline of North America.



Index	May	June	Temperature change
NINO3	+0.7	+0.9	0.2 °C warmer
NINO3.4	+0.5	+0.6	0.1 °C warmer
NINO4	+0.7	+0.5	0.2 °C cooler

Baseline period 1961–1990.

See also:

[Animation of recent SST changes](#)

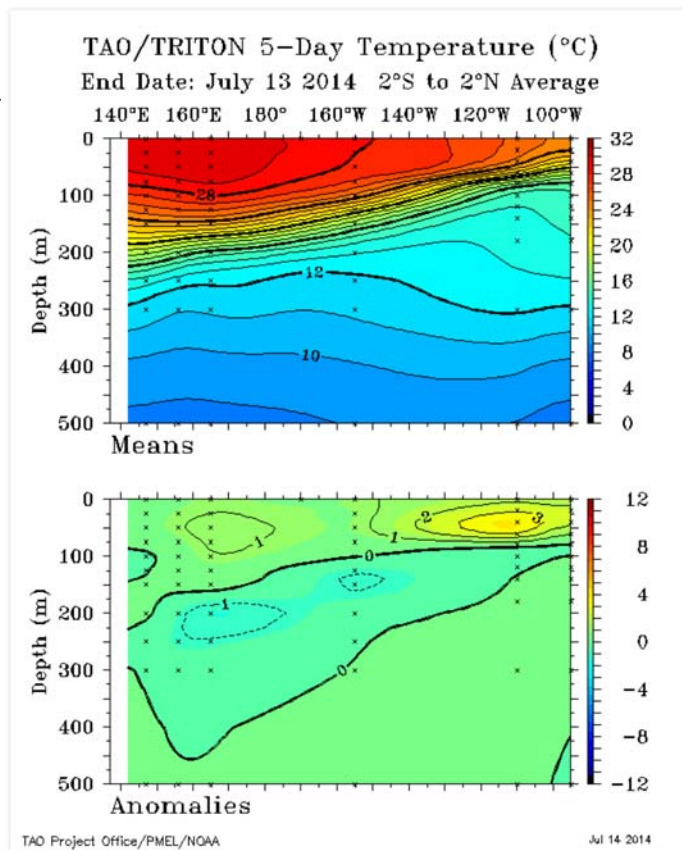
[Weekly index values](#)

[Sea temperature analyses](#)

[Map of NINO regions](#)

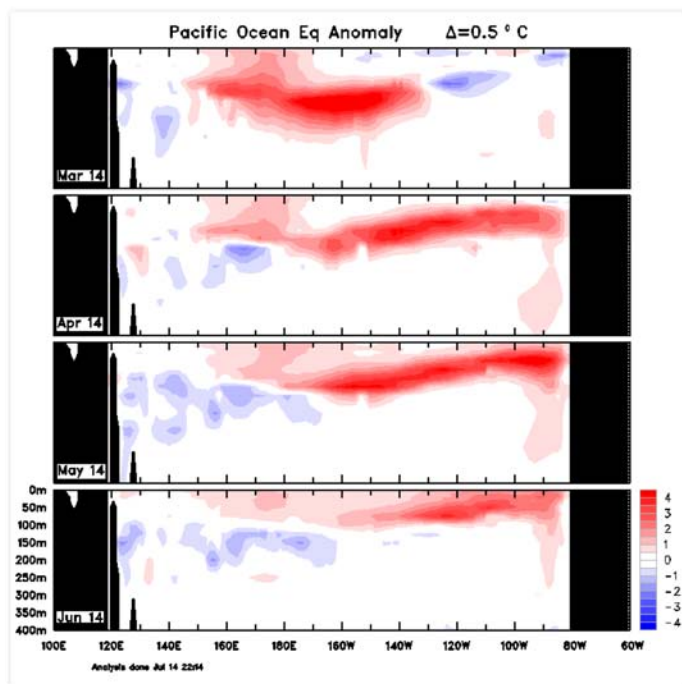
## 5-day sub-surface temperatures

The sub-surface temperature map for the 5 days ending 13 July shows waters in the eastern equatorial Pacific are warmer than average in the top 75 m. Water in part of this area is more than 3 °C warmer than average. Elsewhere, sub-surface temperatures are generally near average to slightly below average.



## Monthly sub-surface temperatures

The four-month sequence of sub-surface temperature anomalies (to June) shows warm temperature anomalies across the top 100 m of the equatorial Pacific between the Date Line and the South American coast. Some cooling of the central and eastern equatorial Pacific has taken place over the past month, but sub-surface waters remain more than 3 °C warmer than average in a large part of the eastern equatorial Pacific.

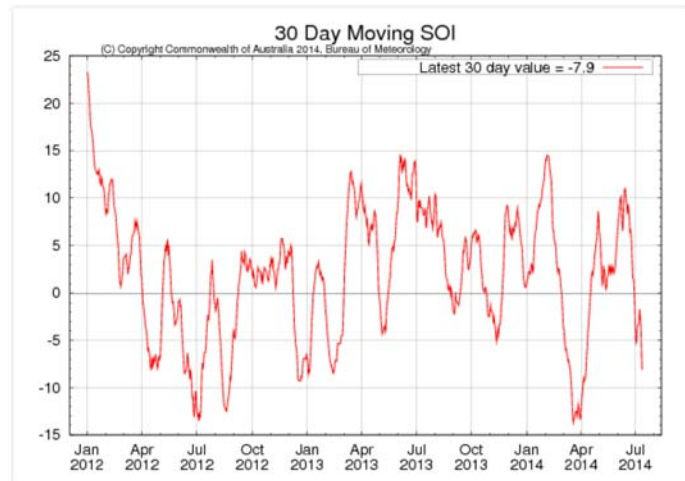


See also: [Animation of recent sub-surface temperature changes](#)

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

## Southern Oscillation Index

The Southern Oscillation Index (SOI) has continued to fall over the past two weeks. The latest approximate 30-day SOI value to 13 July is  $-7.9$ . The  $-8.0$  value recorded on 12 July was the lowest SOI value since 10 April 2014.



See also:

[Monthly SOI graph](#)

[Table of monthly SOI values](#)

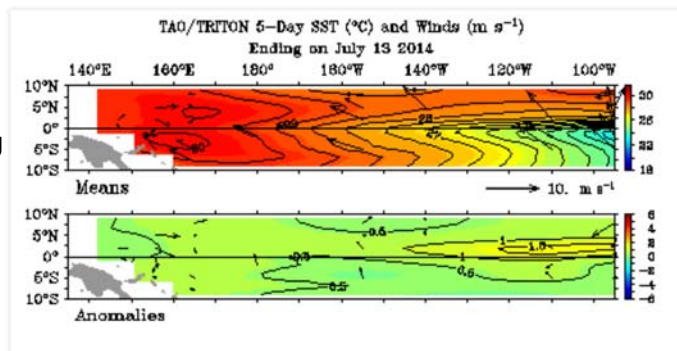
[30-day SOI values](#)

## Trade winds

Weak westerly wind anomalies are present over part of the western tropical Pacific, on and to the north of the equator, and near-average across the remainder of the tropical Pacific (see anomaly map for the 5 days ending 13 July). If these westerly winds continued they could drive further warming of surface waters in the central and eastern Pacific.

As mentioned in the previous ENSO Wrap-Up, the Madden–Julian Oscillation (MJO) is currently at the border of phase 5/6, moving from the Maritime Continent into the western Pacific. Phases 6 and 7 (western Pacific) favour westerly wind anomalies over the tropical Pacific and may be contributing to some El Niño-like characteristics in the atmosphere. See the Bureau's [MJO Monitoring](#) for more information on location and tracking of the MJO.

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:

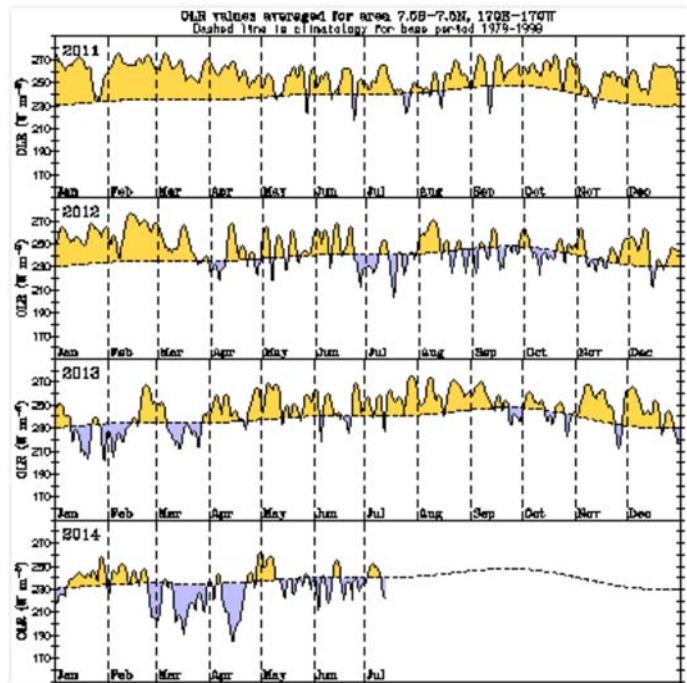
[TAO/TRITON data](#)

[Time-longitude wind anomalies](#)

### Cloudiness near the Date Line

Cloudiness near the Date Line has continued to fluctuate around the long-term average during 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.

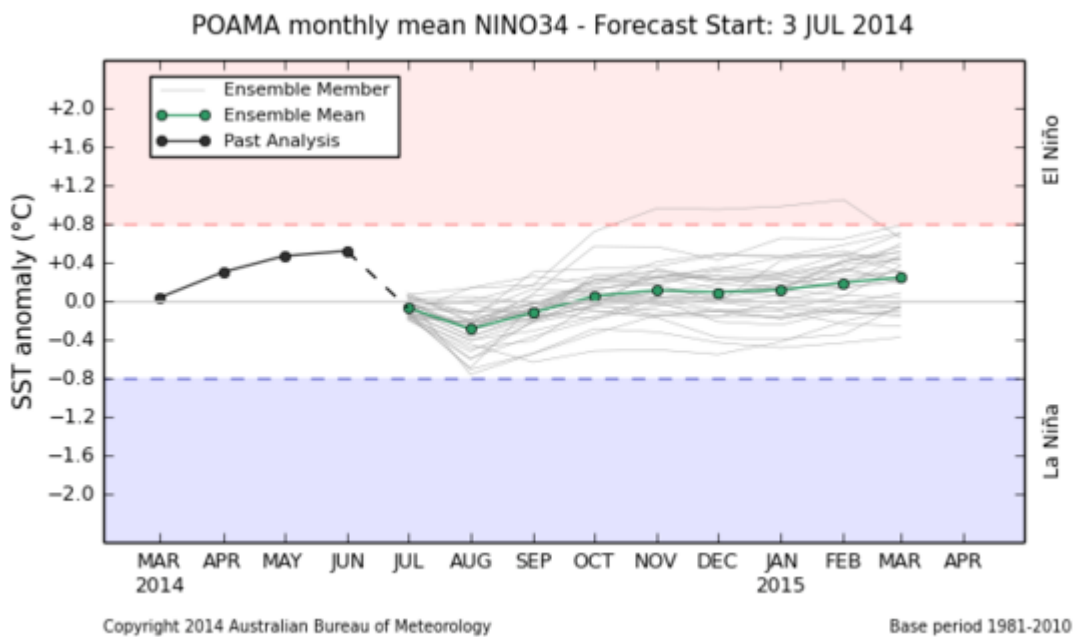


- Spatial cloudiness
- Regional cloudiness
- Out-going longwave radiation maps



## Model outlooks

Five of the eight surveyed international [climate models](#) indicate that El Niño remains likely to develop by the end of spring, with around half the models expecting the event to become established by September. Easing in the predictions of how much the equatorial Pacific will warm by are in line with the slowdown of El Niño development.



See also:

[Climate model summary](#)

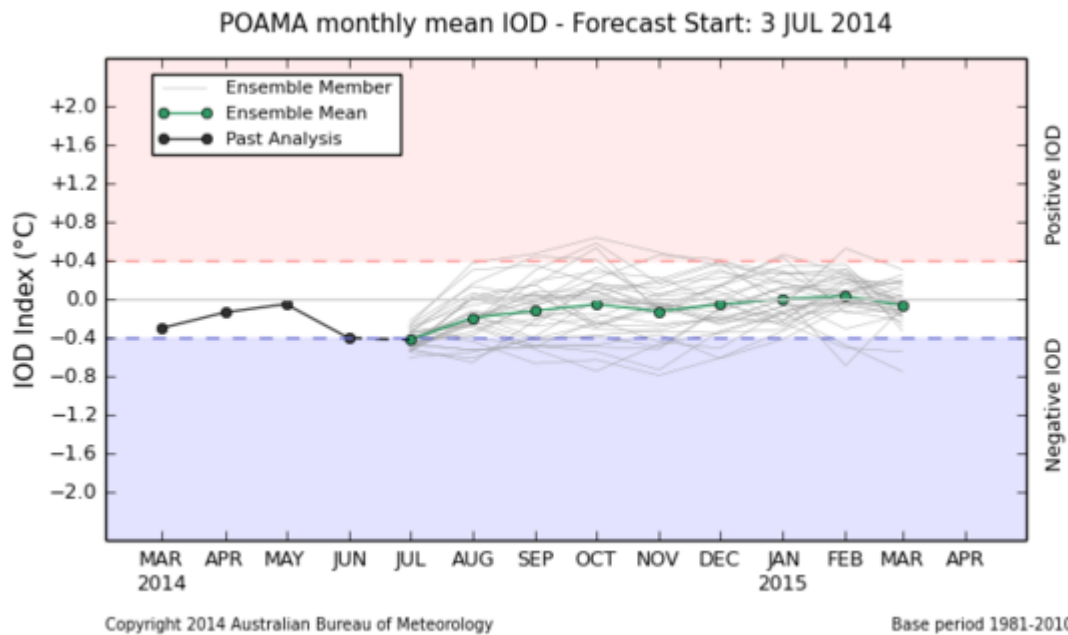
[POAMA model](#)

[Map of NINO regions](#)

## Indian Ocean Dipole

Values of the Indian Ocean Dipole (IOD) have remained in negative territory over the past two weeks, with the latest weekly index value (13 July)  $-0.4$  °C. Waters to the northwest of Australia and south of Indonesia are warmer than average while sea surface temperatures in the Arabian Sea are near average. Values of the IOD index have been below the threshold level since mid-June; if values of or below  $-0.4$  °C persist until early August, 2014 will be considered a negative IOD year.

Climate models surveyed in the [model outlooks](#) favour neutral IOD values over the coming months, though one model reaches negative IOD levels in the spring.



See also:

[POAMA model](#)

[IOD time series](#)

[Map of IOD regions](#)

[IOD forecasts](#)

[Weekly IOD values](#)



## Archive

- [Previous ENSO Wrap-Ups](#)

---

This page was created at **15:13 on Tuesday 15 July 2014 (AEST)**

---

© [Copyright](#) Commonwealth of Australia 2014, Bureau of Meteorology (ABN 92 637 533 532) | [Disclaimer](#) | [Privacy](#) | [Accessibility](#)