

## Pacific remains close to El Niño thresholds

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Most climate indicators in the tropical Pacific Ocean remain at values near the threshold of an El Niño event. Although indicators such as the Southern Oscillation Index (SOI) and trade winds are less El Niño-like than they were a month ago, ocean surface temperatures continue to show a pattern, and in some places values, typical of the development stage of an El Niño. Climate models suggest weak El Niño conditions are likely to be reached some time in late winter or spring. No climate models suggest a return to La Niña conditions.

During El Niño events, large parts of eastern Australia are typically drier than normal during winter and spring, while southern Australian daytime temperatures tend to be warmer. However, El Niño does not guarantee widespread dry conditions.

The Indian Ocean Dipole (IOD) is currently neutral. Outlooks from the Bureau's climate model indicate neutral to weak positive IOD conditions are likely through winter and spring.

Next update expected by 14 August 2012 | [print version](#)

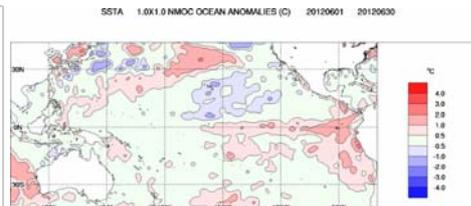
## Further Details

### Sea Surface Temperatures

#### Monthly sea surface temperatures:

Sea surface temperatures (SSTs) in the central and eastern equatorial Pacific Ocean warmed during June. Water in the far eastern equatorial Pacific is more than 1 °C warmer than usual. The SST anomaly map for June shows SSTs remain near average across the western half of the tropical Pacific, and the area of weak cool anomalies north of the equator also remains similar to the previous month. Warm anomalies in the far western Pacific north of the Maritime Continent have also decreased.

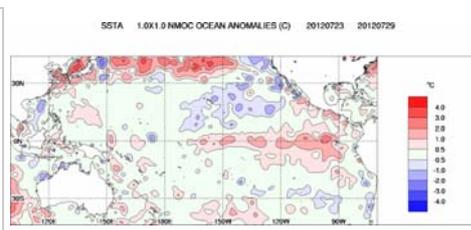
<a href="#">Index</a>	May	June	Temperature change
<a href="#">NINO3</a>	+0.3	+0.8	0.4 °C warmer
<a href="#">NINO3.4</a>	0.0	+0.4	0.4 °C warmer
<a href="#">NINO4</a>	-0.1	+0.1	0.2 °C warmer



#### Weekly sea surface temperatures:

Warm sea-surface temperature (SST) anomalies in the central tropical Pacific have increased slightly when compared to two weeks ago. The SST anomaly map for the week ending 29 July shows warm anomalies extend along the equator east of about 170°W, reaching more than 1 °C warmer than usual in parts of the eastern tropical Pacific. Tropical SSTs in the western half of the Pacific are near average for this time of the year.

<a href="#">Index</a>	Previous	Current	Temperature change (2 weeks)
<a href="#">NINO3</a>	+1.0	+1.0	no change
<a href="#">NINO3.4</a>	+0.5	+0.7	0.2 °C warmer
<a href="#">NINO4</a>	+0.2	+0.3	0.1 °C warmer

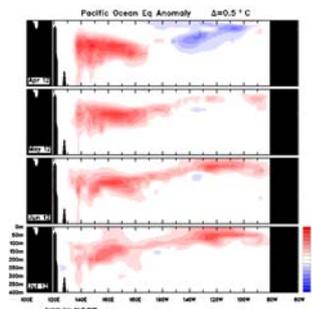


[An animation of recent SST changes](#) | [Weekly data graph](#)

### Pacific ocean sub-surface temperatures

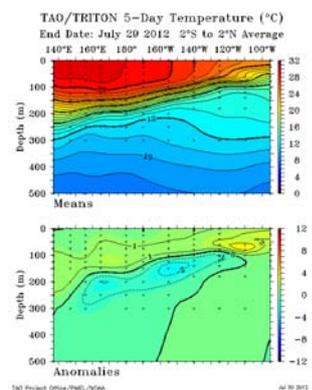
#### Monthly sub-surface:

The four-month sequence (to 26 July) of sub-surface temperature anomalies in the equatorial Pacific Ocean shows warm anomalies are in place across the sub-surface of the entire equatorial Pacific. After a gradual warming of the sub-surface during April, May and June, July anomalies have remained generally similar in strength to those for June. Areas of the ocean sub-surface in both the eastern and western Pacific were 2 to 3 °C warmer than average during July.



**Weekly sub-surface:**

When compared with two weeks ago, shallow sub-surface temperature anomalies have remained generally unchanged. Below about 100 m, the sub-surface has cooled slightly, with much of the water between depths of 100 and 250 m more than 1 °C cooler than usual. Closer to the surface, the map for the 5 days ending 29 July shows mild warm anomalies are in place across the shallow sub-surface of the entire equatorial Pacific.



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

**Southern Oscillation Index:**

The Southern Oscillation Index (SOI) has continued to rise over the past two weeks, remaining within neutral values during the past fortnight. The latest (29 July) 30-day SOI value is +0.9.

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.

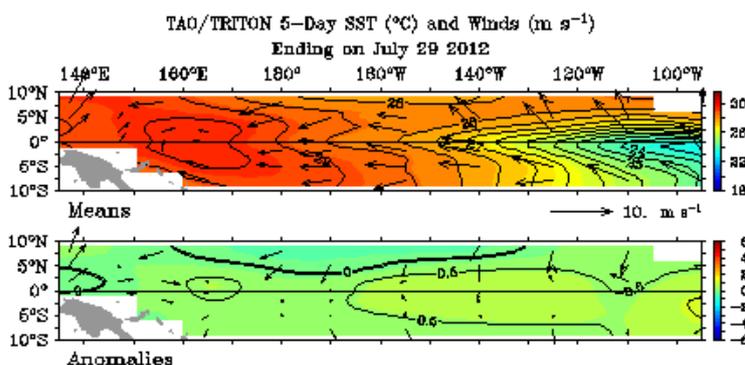


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

**Trade winds:**

Trade winds are generally near average over the tropical Pacific (see wind anomaly map for the 5 days ending 29 July). Westerly wind anomalies (indicating a weakening of the trade winds) have reappeared in the far western tropical Pacific.

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.

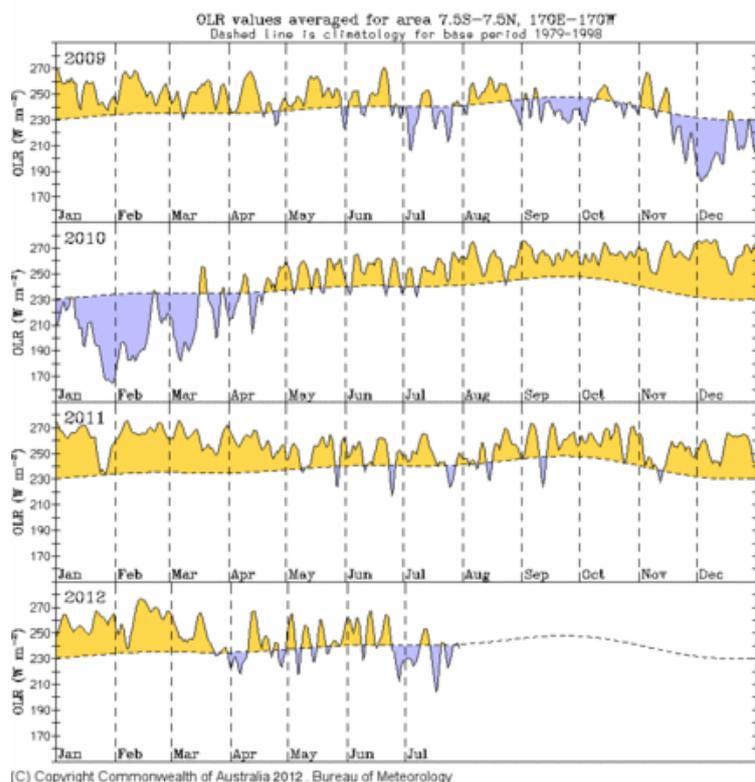


**Cloudiness near the Date Line:**

Cloudiness near the Date Line has continued to fluctuate, but has remained generally enhanced over the

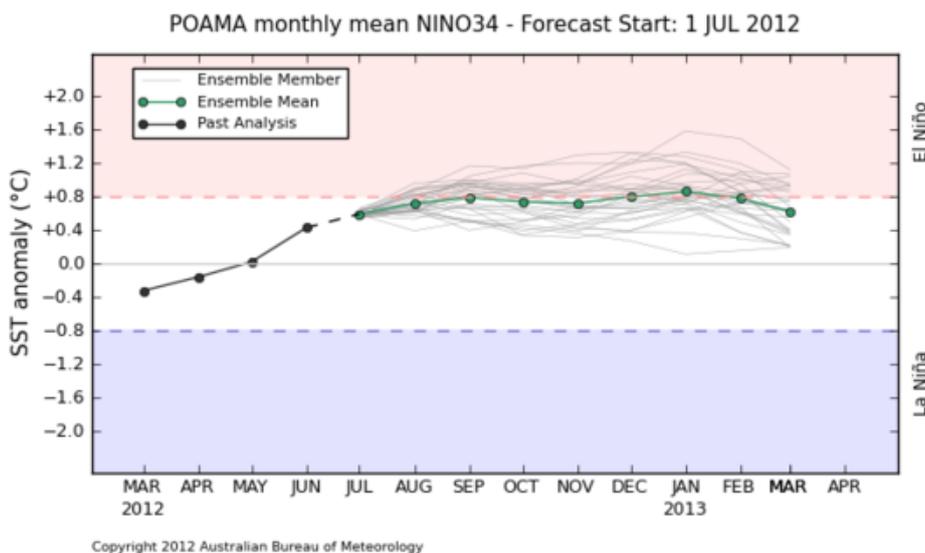
past two weeks.

Cloudiness along the equator, near the dateline, 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:**

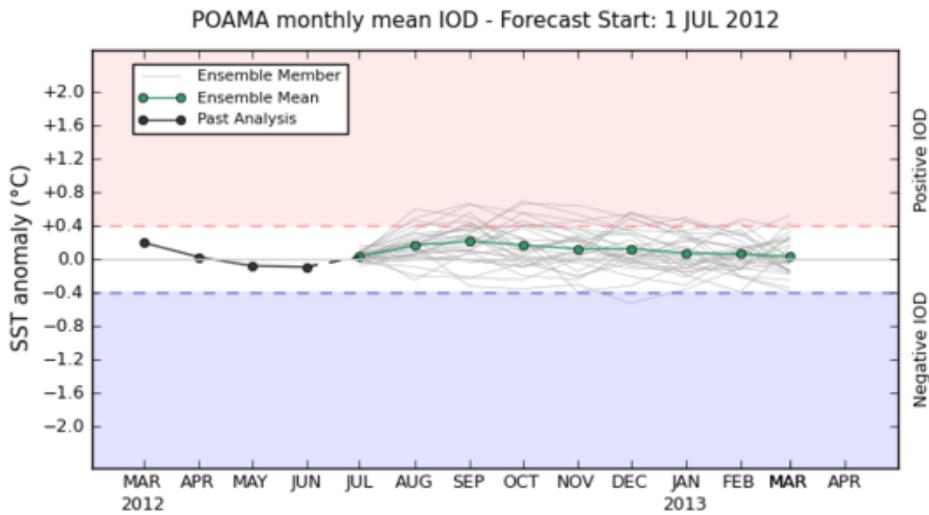
Most international [climate models](#) surveyed by the Bureau predict that the equatorial Pacific Ocean is likely to remain near El Niño thresholds throughout late winter and early spring 2012. Some models continue to predict the chance of an El Niño developing before the end of the year. However, several of the surveyed models continue to exhibit a degree of spread in their forecasts, indicating that a level of uncertainty remains.



**Indian Ocean Dipole:**

The IOD has been neutral for a number of weeks. The latest IOD index value is +0.16 for the week ending 22 July.

Recent forecasts from the [POAMA model](#) indicate neutral to weak positive IOD conditions are likely through winter and spring.



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

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