



## Neutral ENSO conditions dominate Pacific

Issued on Tuesday 24 April | Product Code IDCKGEW00

Climate indicators across the tropical Pacific Ocean remain neutral (neither El Niño or La Niña). Climate models surveyed by the Bureau of Meteorology suggest that the tropical Pacific Ocean will remain at neutral levels at least into early winter.

All major indicators of ENSO, including cloudiness, trade winds, the Southern Oscillation Index (SOI) and sea surface temperatures in the tropical Pacific, lie well within the ENSO-neutral range. Over the past week, the SOI has returned to values not seen since April 2010.

Some, but not all, climate models note an increased risk of El Niño conditions evolving during winter or spring. Historically, about 70% of two-year La Niña events are followed by neutral or El Niño phases.

The Indian Ocean Dipole (IOD) has limited influence on Australian rainfall from December through to April. Model outlooks currently suggest neutral conditions are the most likely scenario heading into the southern winter.

Next update expected by 8 May 2012 | [print version](#)

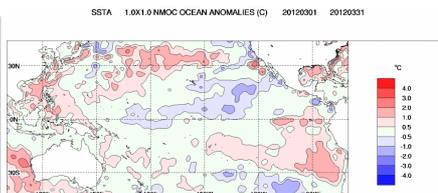
## Further Details

### Sea Surface Temperatures

#### Monthly sea surface temperatures:

Sea surface temperature (SST) in the central and eastern equatorial Pacific Ocean warmed during March. The SST anomaly map for March shows SSTs were near normal across most of the tropical Pacific. Small areas of warm anomalies more than 1 °C warmer than usual are present in the far east, near the equator and along the South American coast.

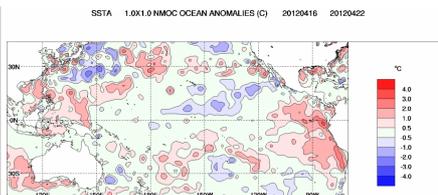
Index	February	March	Temperature change
<a href="#">NINO3</a>	+0.1	+0.1	no change
<a href="#">NINO3.4</a>	-0.5	-0.3	0.2 °C warmer
<a href="#">NINO4</a>	-0.7	-0.4	0.3 °C warmer



#### Weekly sea surface temperatures:

The general distribution of warm and cool sea-surface temperature (SST) anomalies across the tropical Pacific Ocean remain similar to that of two weeks ago. All three NINO indices monitored remain within neutral values. The SST anomaly map for the week ending 22 April shows neutral sea-surface temperature anomalies across most of the equatorial Pacific. Some residual cool anomalies persist north of the equator in the central Pacific, with warm anomalies in the far east and far west of the tropical Pacific. The area covered by these warm anomalies in the far western Pacific has increased over the past two weeks.

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

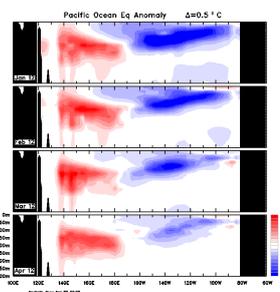


[An animation of recent SST changes](#) | [Weekly data graph](#)

### Pacific ocean sub-surface temperatures

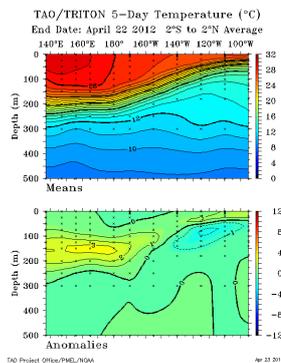
#### Monthly sub-surface:

The four-month sequence of sub-surface Pacific Ocean equatorial temperature anomalies to 23 April shows a significant decay of cool anomalies in the sub-surface of the eastern Pacific over the past two months, most dramatically in April. Cool anomalies in the eastern Pacific sub-surface have been declining since late January. Only a small volume of water more than 2 °C cooler than average remains in the eastern Pacific. In the western Pacific warm anomalies remain generally similar to previous months, with water here slightly cooler during April, more than 3 °C warmer than average.



**Weekly sub-surface:**

Over the past fortnight the volume of cooler-than-average water in the sub-surface of the eastern equatorial Pacific has continued to decrease in overall size, with warmer conditions now more evident. The map for the 5 days ending 22 April shows a small volume of water remains more than 2 °C cooler than usual. Shallow warm anomalies in the far eastern equatorial Pacific have now connected with warm sub-surface anomalies in the western Pacific.



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

**Southern Oscillation Index:**

The Southern Oscillation Index (SOI) has continued to drop over the past fortnight, and has hovered around -7 to -8 over the last week. The latest (22 April) 30-day SOI value is -7.2. The SOI is at its lowest level since April 2010.

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.

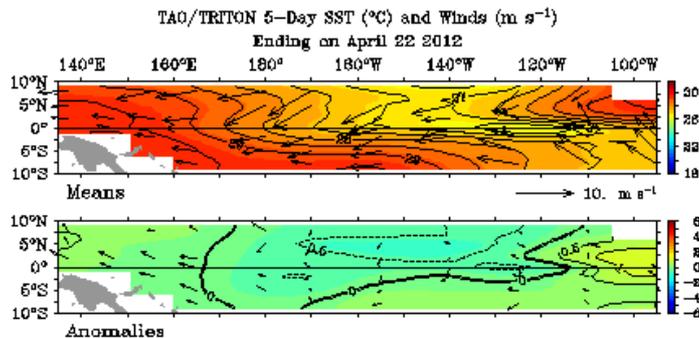


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

**Trade winds:**

Trade winds have strengthened over most of the tropical Pacific over the past two weeks. Easterly wind anomalies are again in place over the western tropical Pacific and the eastern tropical Pacific south of the equator, with trade winds in the central region and north of the equator in the east near normal (see wind anomaly map for the 5 days ending 8 April).

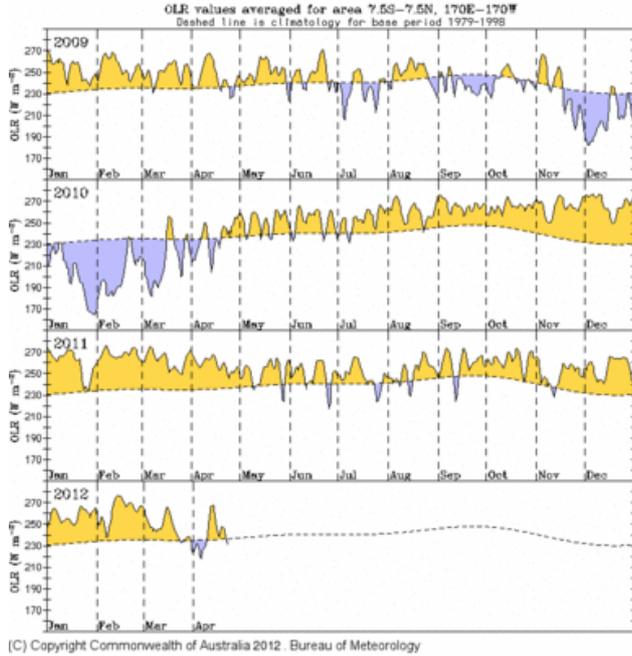
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



**Cloudiness near the Date Line:**

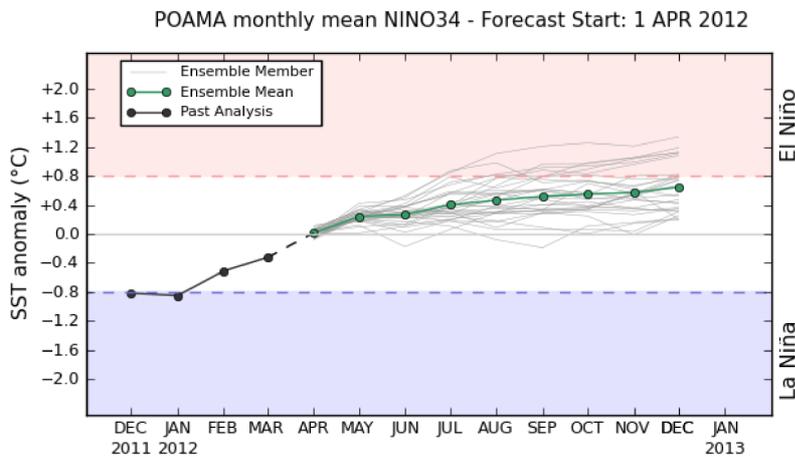
Cloudiness near the dateline has declined from slightly enhanced to weakly suppressed over the past two weeks.

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 an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



**Climate Models:**

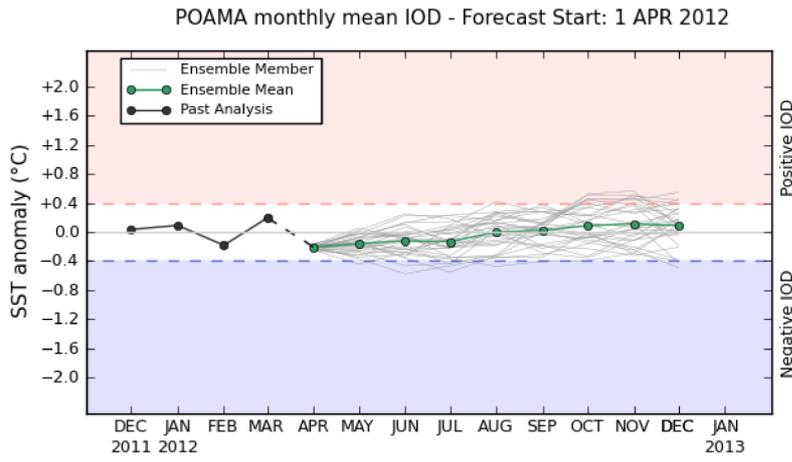
All outlooks from leading international [climate models](#) surveyed by the Bureau indicate neutral ENSO conditions are the most likely scenario for the remainder of autumn and early winter. Some models forecast neutral conditions to continue during winter into spring, while other models note a heightened likelihood of El Niño conditions emerging during this period.



**Indian Ocean Dipole:**

The Indian Ocean Dipole (IOD) typically has little influence in Australia between December and April. The IOD index is currently neutral, with a value of +0.3 for the week ending 22 April.

Recent forecasts from the [POAMA model](#) predict neutral IOD conditions for autumn and winter.



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

This page was created at **on**

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