



Australian Government
Bureau of Meteorology

Tropical Pacific neutral

Issued on Wednesday 8 June | Product Code IDCKGEW00

Climate indicators across the equatorial Pacific are currently near normal. Ocean temperatures, trade winds, the Southern Oscillation Index (SOI) and cloudiness over the Pacific are all at neutral levels (i.e. neither La Niña nor El Niño).

International climate models predict continued warming of the tropical Pacific Ocean, as the Pacific transitions away from the La Niña conditions that have dominated over the last 9-12 months. Neutral conditions are forecast as being the most likely later in the year.

The influence of the Indian Ocean Dipole (IOD) on Australian rainfall is currently neutral. A weakly positive IOD event has been forecast to develop during winter. In the past, positive IOD events have been associated with drier conditions over parts of Australia, particularly in the southeast, during the winter and spring seasons.

Next update expected by 22 June 2011 | [print version](#)

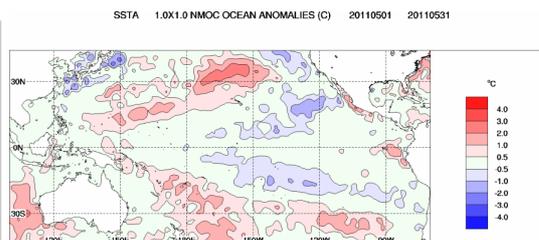
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

When compared with the previous month, sea surface temperature (SST) anomalies for May have continued to warm across the surface of the tropical Pacific Ocean. The sea surface temperature (SST) anomaly map for May shows that anomalies along most of the equator were near normal for that month.

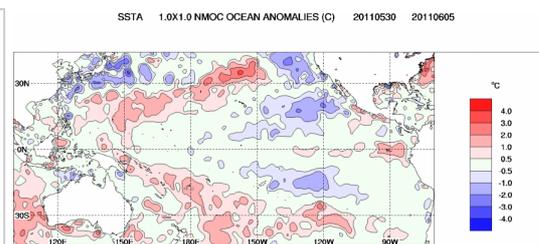
Index	Apr	May	Temperature change
NINO3	-0.0	0.1	0.1 °C warmer
NINO3.4	-0.5	-0.2	0.3 °C warmer
NINO4	-0.5	-0.3	0.2 °C warmer



Weekly sea surface temperatures:

Weekly sea surface temperature anomalies in the central equatorial Pacific Ocean have remained relatively similar, when compared with two weeks ago. The SST anomaly map for the week ending 5 June shows near normal temperatures along nearly all of the equator, with a small area of SST anomalies more than 1 °C warmer than normal for this time of the year in the far eastern equatorial Pacific.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.2	+0.3	0.1 °C warmer
NINO3.4	0.0	0.1	0.1 °C warmer
NINO4	-0.2	-0.1	0.1 °C warmer



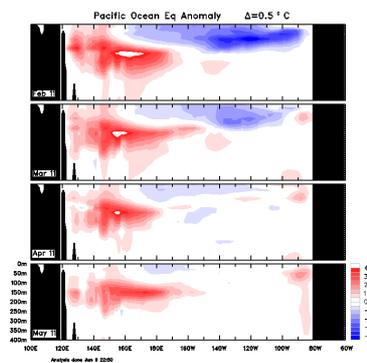
[An animation of recent SST changes](#) | [Weekly data graph](#)

Pacific ocean sub-surface temperatures

Monthly sub-surface:

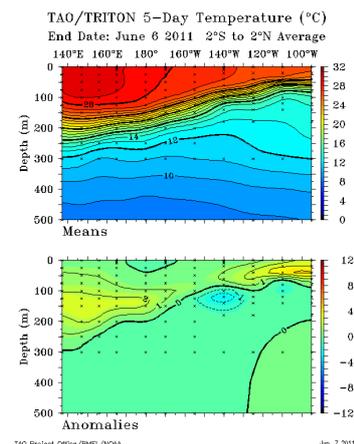
The four-month sequence of sub-surface Pacific Ocean equatorial temperature anomalies, to the end of May, shows that the volume of cooler than normal sub-surface water has warmed to neutral values

during the past month. Positive anomalies in the western Pacific remain in excess of 3 °C.



Weekly sub-surface:

The temperature in the sub-surface of the tropical Pacific Ocean shows little change when compared with two weeks ago (see the map for the 5 days ending 6 June). The volume of warmer than usual water in the western tropical Pacific has cooled slightly when compared with the preceding fortnight; weekly temperature anomalies in this area are around 2 °C warmer than usual for this time of the year.



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

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has remained stable over the last two weeks after falling rapidly during May to within neutral values. The latest (6 June) 30-day SOI value is +3.6.

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.

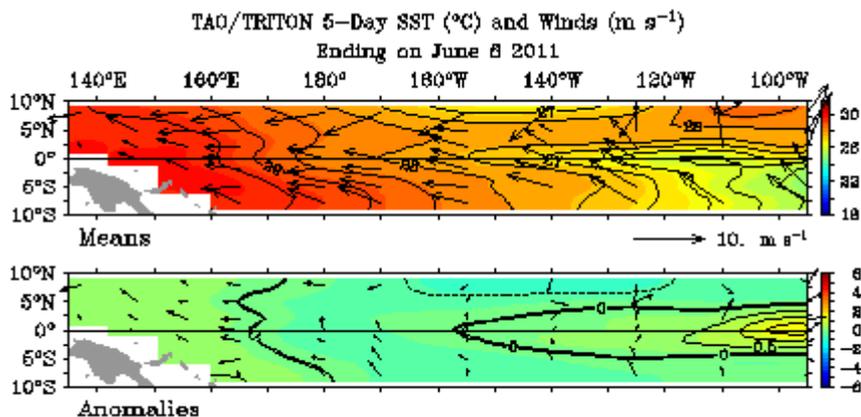


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

Trade winds have remained slightly stronger than normal across the far western equatorial Pacific, but were near normal across the remainder of the equatorial Pacific. The latest wind anomaly map for the 5 days ending 6 June is shown below.

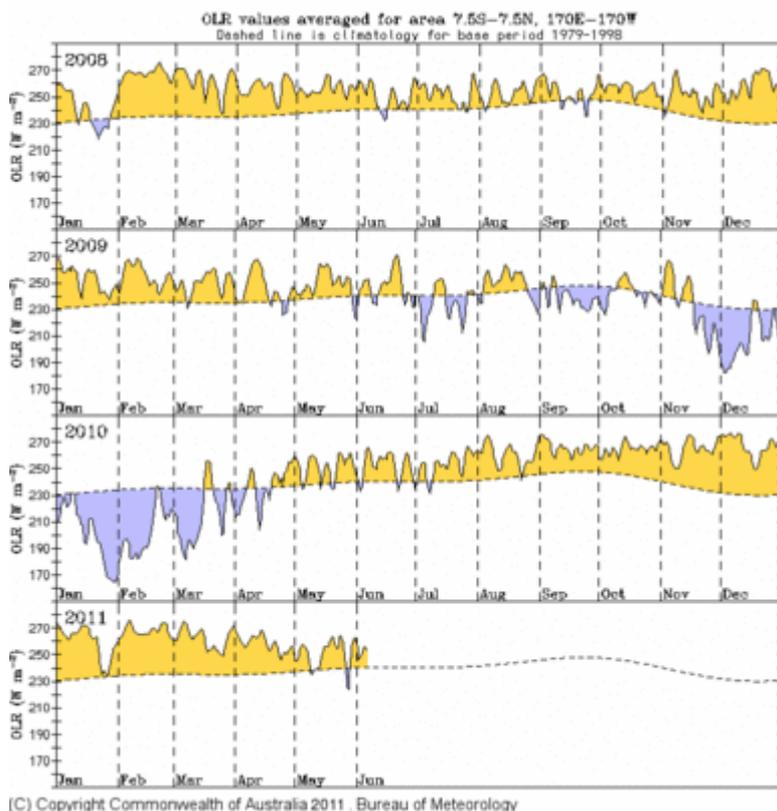
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the date-line:

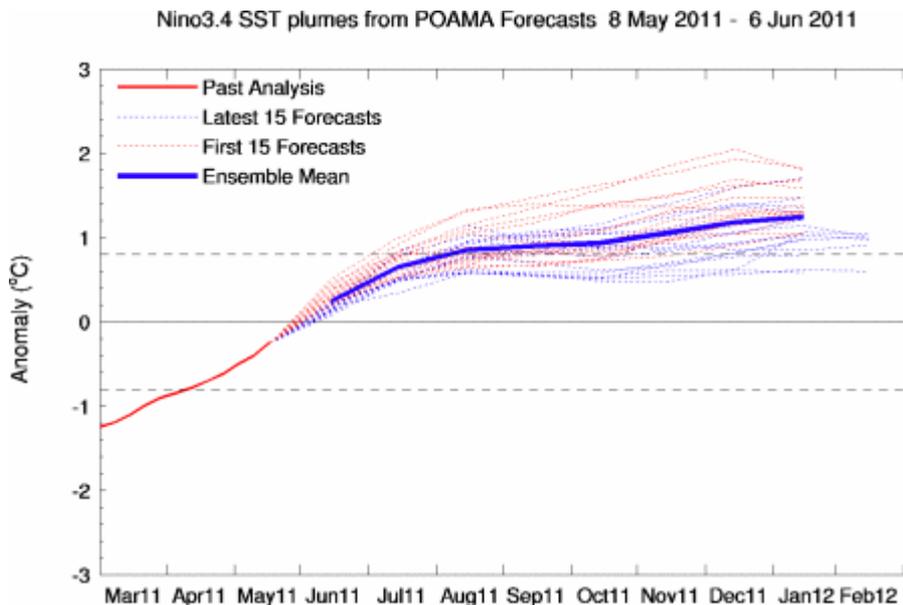
Cloudiness near the date-line has been below average (suppressed) over the last two weeks, but much less so than in previous months. Cloudiness, along with other atmospheric indicators, is returning to neutral conditions.

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



Computer Models:

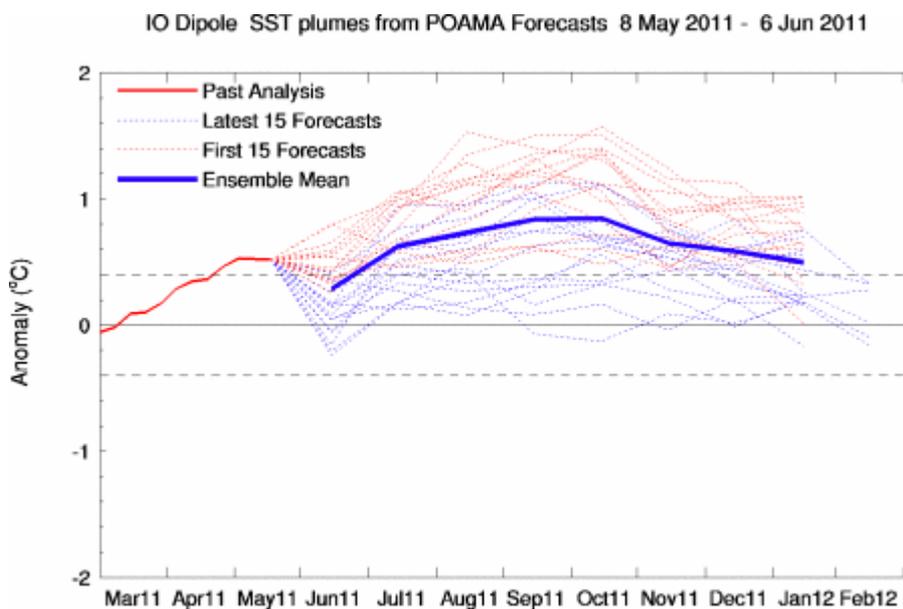
The majority of leading international [climate models](#) surveyed by the Bureau predict neutral ENSO conditions will persist through the southern hemisphere winter and spring. Some models indicate that oceanic conditions may become slightly warmer than normal during the southern hemisphere spring.



Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) has remained neutral over the past two weeks, which is typical for this time of year; the IOD index value for the week ending 5 June was +0.2.

Recent forecasts from the [POAMA model](#) predict that a weakly positive IOD event will develop during the southern hemisphere winter, with values of the index remaining weakly positive into spring. Positive IOD events have been associated with drier conditions over parts of Australia, particularly in the south east, during the winter and spring seasons.



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

© Australian Government, Bureau of Meteorology