



Australian Government
Bureau of Meteorology

Neutral conditions remain in the tropical Pacific

Issued on Wednesday 3 August | Product Code IDCKGEW00

Neutral ENSO conditions persist in the tropical Pacific, with most atmospheric and oceanic indicators at near normal levels. Pacific Ocean temperatures have cooled over the last month, but remain within neutral thresholds. Atmospheric indicators of ENSO such as trade winds and cloudiness near the date-line have fluctuated around normal.

The majority of international climate model forecasts of ENSO show that neutral conditions are likely to continue for the remainder of the southern winter and into spring with the chances of an El Niño developing now considered unlikely. In fact, more models are now predicting further cooling over the coming season.

The influence of the Indian Ocean Dipole (IOD) on Australian rainfall is currently neutral. Our climate model, POAMA, suggests there remains a chance of a positive IOD event forming during late winter. In the past, positive IOD events have been associated with drier conditions over parts of Australia, particularly in the southeast, during winter and spring.

Next update expected by 17 August 2011 | [print version](#)

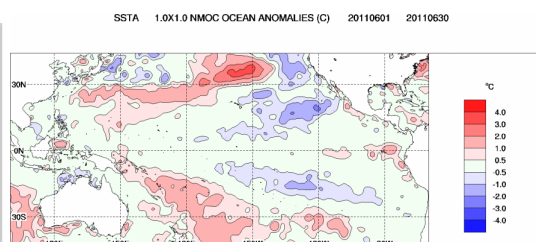
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

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

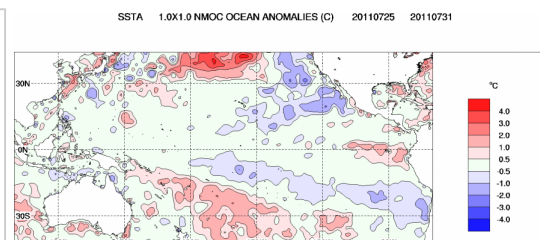
Index	May	June	Temperature change
NINO3	-0.1	0.2	0.1 °C warmer
NINO3.4	-0.2	0.0	0.2 °C warmer
NINO4	-0.3	-0.1	0.2 °C warmer



Weekly sea surface temperatures:

Weekly sea surface temperature anomalies in the central equatorial Pacific Ocean have remained relatively unchanged, when compared with two weeks ago. The SST anomaly map for the week ending 31 July shows near normal temperatures along nearly all of the equator, with small areas 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	+0.2	no change
NINO3.4	0.0	-0.2	0.2 °C cooler
NINO4	-0.1	-0.1	no change



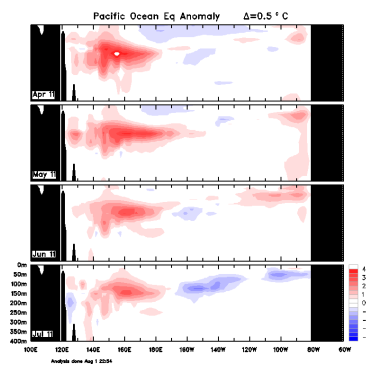
[An animation of recent SST changes](#) | [Weekly data graph](#)

Pacific ocean sub-surface temperatures

Monthly sub-surface:

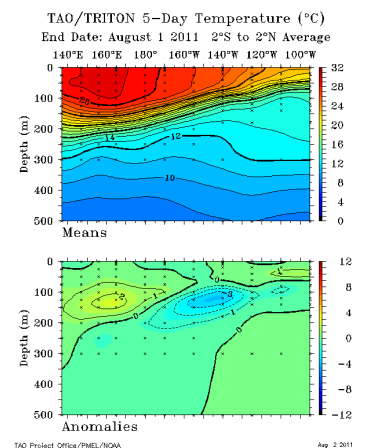
The four-month sequence of sub-surface Pacific Ocean equatorial temperature anomalies, to the end of July, shows slight cool

temperature anomalies in parts of the eastern and central Pacific. Anomalies in much of this area exceed 1 °C cooler than average, with a small area in the central Pacific more than 2 °C cooler than average. The extent of positive anomalies in the western Pacific has continued to decrease over the past month.



Weekly sub-surface:

When compared with two weeks ago, the temperature in the sub-surface of the tropical Pacific Ocean has cooled (see the map for the 5 days ending 1 August). Anomalies in the central region are now more than -3 °C cooler than usual, for this time of the year. The shallow warm anomalies in the far eastern Pacific have continued to cool.

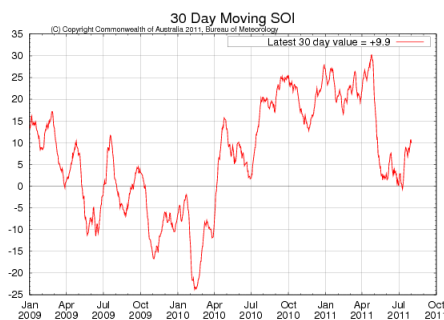


[Animation of recent sub-surface changes](#) | [Archive of sub-surface temperature charts](#)

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has risen slightly over the last two weeks. The latest (1 August) 30-day SOI value is +9.9.

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.

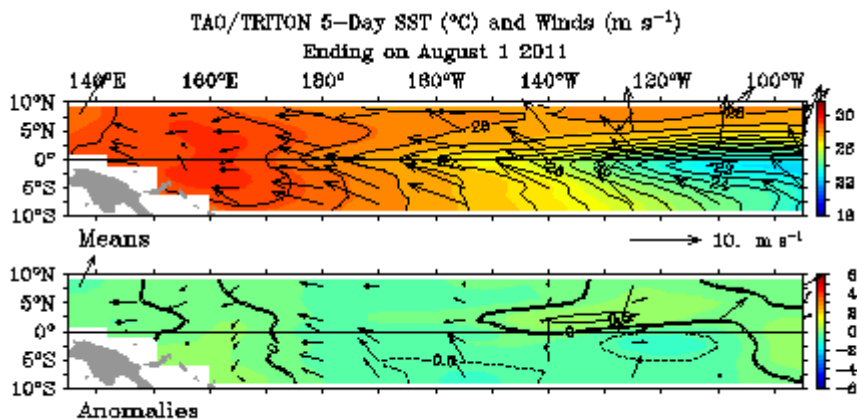


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

The latest wind anomaly map, for the 5 days ending 1 August, shows trade winds have weakened in the western tropical Pacific, when compared with two weeks ago. Trade winds are stronger than average across the central equatorial Pacific.

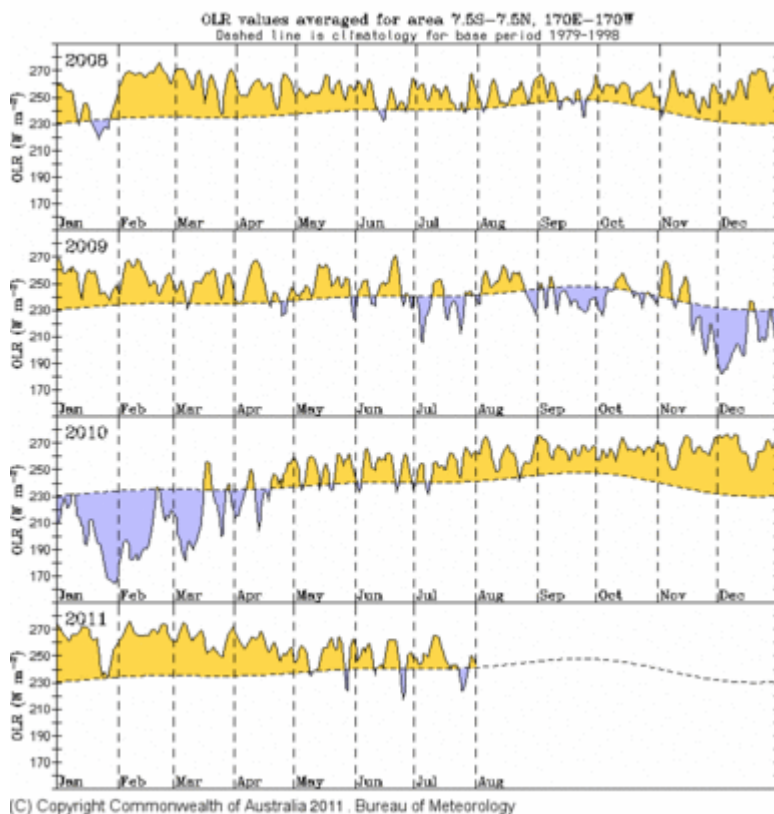
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the date-line:

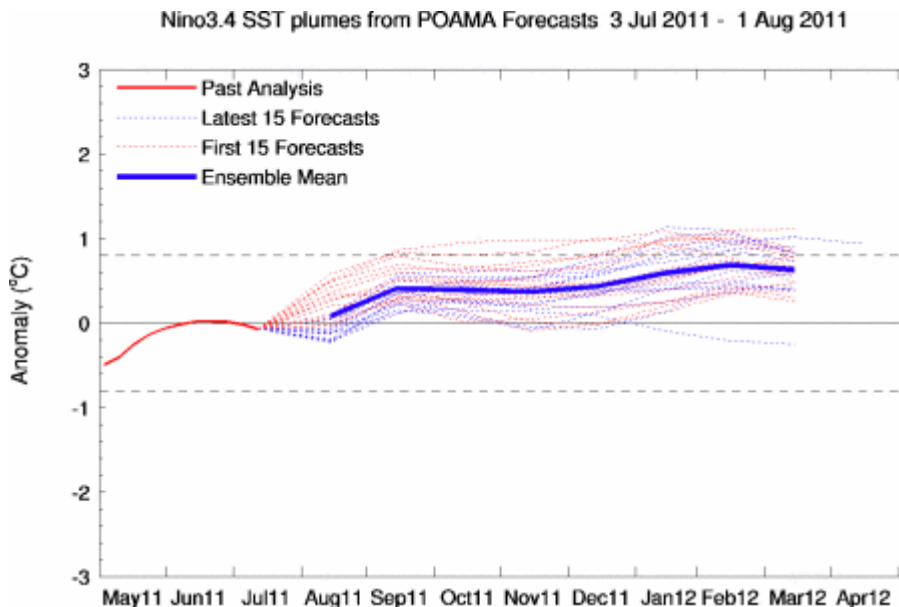
Cloudiness near the date-line has remained near average over the last two weeks.

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



Computer Models:

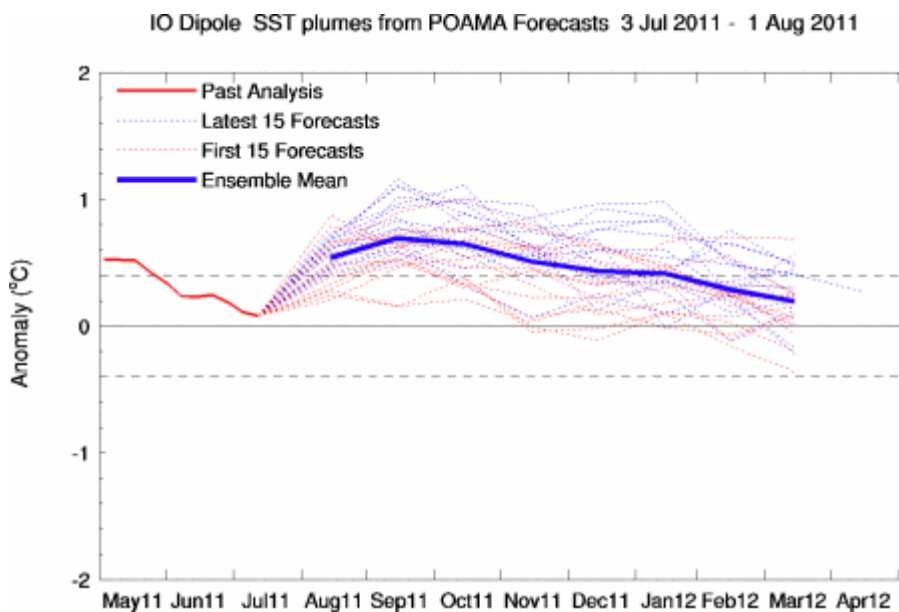
The majority of leading international [climate models](#) surveyed by the Bureau predict neutral ENSO conditions will persist through the southern hemisphere spring, and continue neutral into summer.



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 31 July was +0.1.

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



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

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