



Australian Government
Bureau of Meteorology

Tropical Pacific currently neutral, but La Niña remains possible in 2011

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Neutral conditions persist in the equatorial Pacific Ocean, though a return to La Niña towards the end of 2011 cannot be ruled out. Trends over the past fortnight include further cooling of the central Pacific Ocean, persistent positive Southern Oscillation Index (SOI) values and stronger than normal trade winds. However, cloud patterns are currently close to normal, and all indicators remain well short of the strong La Niña conditions evident at the same time last year.

The majority of international climate model forecasts of ENSO predict that neutral conditions are likely to continue into the southern spring. While no models suggest El Niño conditions are likely, half of the models predict further cooling over the coming season and into the southern summer.

It's worth noting that since 1900, about half of all La Niña events re-emerged in the second year. Further cooling of the central Pacific Ocean coupled with persistent positive SOI values in the next few months would further increase the chance of a La Niña event at the end of 2011.

Next update expected by 14 September 2011 | [print version](#)

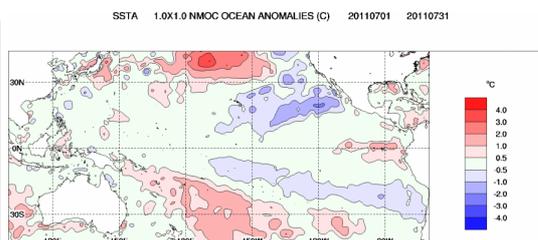
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

When compared with the previous month, sea surface temperature (SST) anomalies across the tropical Pacific Ocean for July remain relatively similar to those for June. The sea surface temperature (SST) anomaly map for July shows near normal anomalies along the equator, except for a small area of warmer than usual SSTs in the far eastern equatorial Pacific.

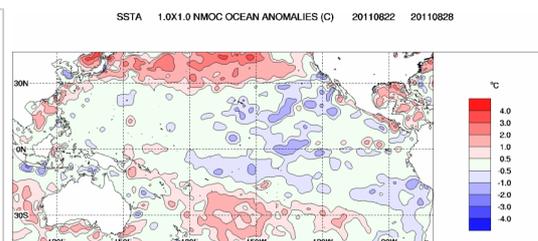
Index	June	July	Temperature change
NINO3	0.2	0.2	no change
NINO3.4	0.0	-0.1	0.1 °C cooler
NINO4	-0.1	-0.1	no change



Weekly sea surface temperatures:

When compared with two weeks ago, weekly sea surface temperature anomalies have continued to cool in the central equatorial Pacific Ocean. The SST anomaly map for the week ending 28 August shows cool anomalies on the equator around in the central Pacific reaching more than 1 °C cooler than normal for this time of the year.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	-0.2	-0.4	0.2 °C cooler
NINO3.4	-0.5	-0.5	no change
NINO4	-0.1	-0.1	no change



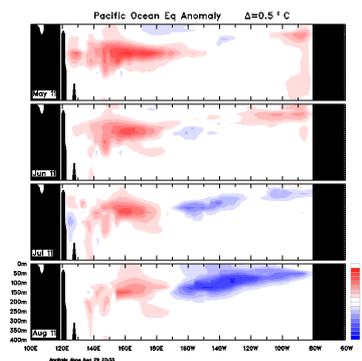
[An animation of recent SST changes](#) | [Weekly data graph](#)

Pacific ocean sub-surface temperatures

Monthly sub-surface:

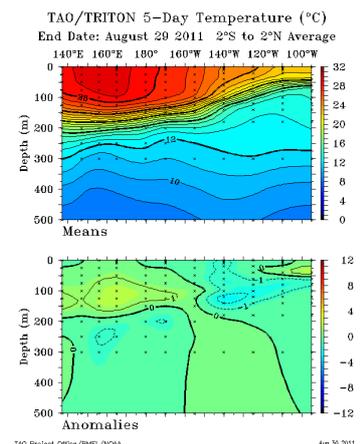
The four-month sequence of sub-surface Pacific Ocean equatorial

temperature anomalies, to 29 August, shows a large area of cool temperature anomalies across the eastern and central Pacific. Anomalies in the central Pacific are more than 3 °C cooler than average. The extent of positive anomalies in the western Pacific has continued to decrease during August.



Weekly sub-surface:

When compared with two weeks ago, the temperature in the sub-surface of the central tropical Pacific has warmed (see the map for the 5 days ending 29 August). However, anomalies in this region remain more than 2 °C cooler than usual, for this time of the year.

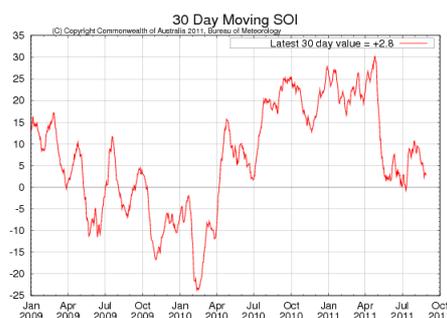


[Animation of recent sub-surface changes](#) | [Archive of sub-surface temperature charts](#)

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has fallen over the last two weeks, although values remain positive. The latest (29 August) 30-day SOI value is +2.8.

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.

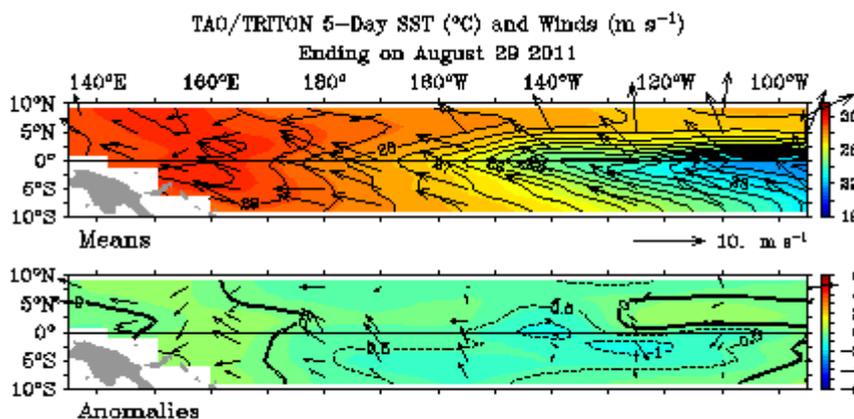


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

When compared with two weeks ago, trade winds in the western Pacific have strengthened. The latest wind anomaly map, for the 5 days ending 29 August, shows trade winds are stronger than average across the central and western equatorial Pacific Ocean.

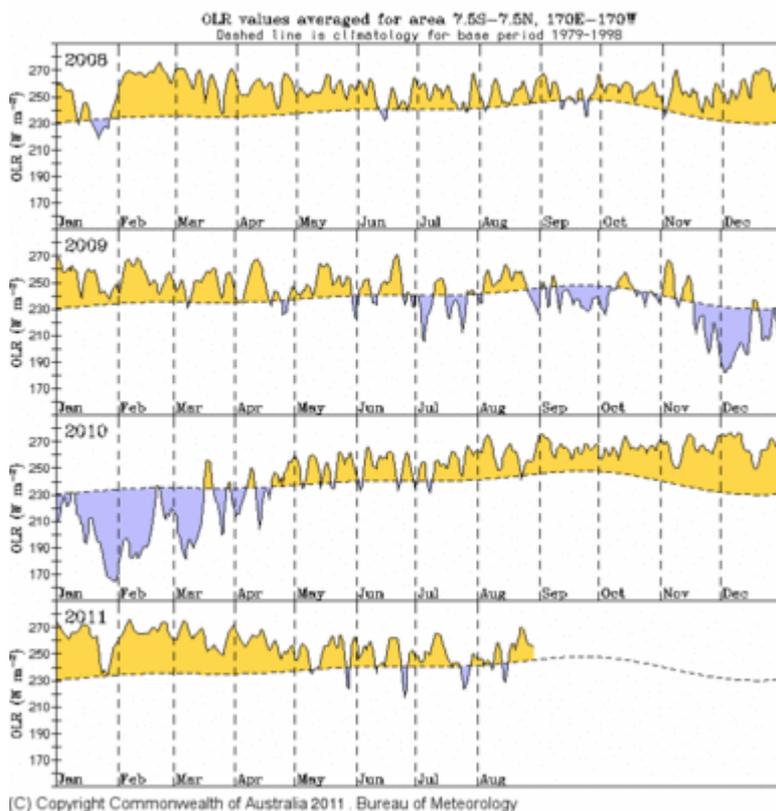
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the date-line:

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

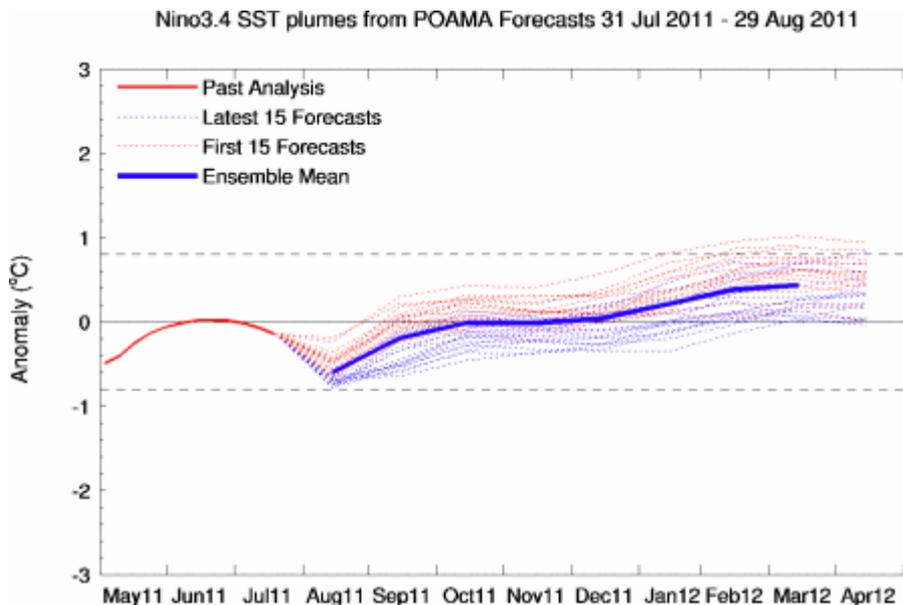
Cloudiness along the equator, near the date-line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the dateline during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



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Computer Models:

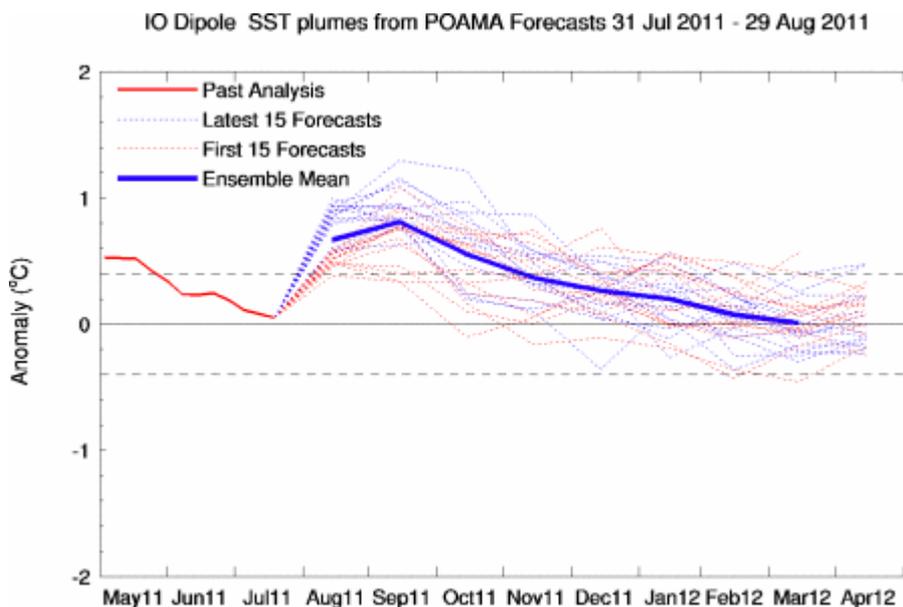
The majority of leading international [climate models](#) surveyed by the Bureau predict neutral ENSO conditions will persist through the southern hemisphere spring. Several of the surveyed models also forecast neutral conditions for the summer.



Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) has remained neutral over the past two weeks; the IOD index value for the week ending 28 August was +0.2.

Recent forecasts from the [POAMA model](#) predict that a weak positive IOD event will occur during the southern hemisphere spring, with values of the index returning to neutral by summer. 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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