

Both Pacific and Indian oceans neutral

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Indicators of the El Niño-Southern Oscillation remain at neutral levels. Atmospheric indicators such as the Southern Oscillation Index, trade winds, and tropical cloud patterns have persisted at neutral levels through much of the southern winter and spring. Temperatures in the tropical Pacific Ocean are generally warmer than normal in western and central areas, but are very close to their average values in the east.

Climate models surveyed by the Bureau of Meteorology suggest sea surface temperatures in the tropical Pacific Ocean are likely to remain neutral, but warmer than average through until at least early 2013.

This year has seen a positive Indian Ocean Dipole (IOD), which has contributed to below average rainfall across large parts of Australia during recent months. The positive IOD pattern in the Indian Ocean has declined over the last few weeks, and has now returned to neutral levels. This is typical behaviour of the IOD, which usually breaks down before the onset of the Australian monsoon.

Next update expected on 20 November 2012 | [print version](#)

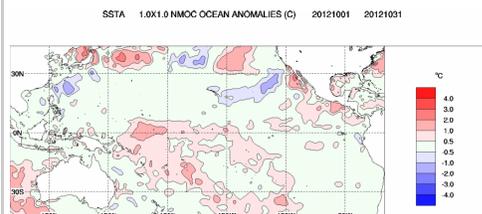
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

The sea-surface temperature (SST) anomaly map for October shows warm SST anomalies in the tropical Pacific Ocean have shifted westward when compared to the map for September. Between about 150°W and 160°E SSTs are slightly above average. The warmest anomalies remain west of the Date Line, where an area of water is more than 1 °C warmer than usual.

Index	September	October	Temperature change
NINO3	+0.6	+0.3	0.3 °C cooler
NINO3.4	+0.6	+0.4	0.2 °C cooler
NINO4	+0.6	+0.8	0.2 °C warmer

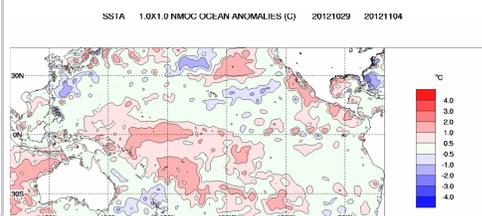


Baseline period 1961–1990.

Weekly sea surface temperatures:

When compared to two weeks ago, sea-surface temperature (SST) anomalies in the western tropical Pacific have warmed. Warm anomalies are present along the equator west of 150°W (see the SST anomaly map for the week ending 4 November). Isolated areas of warm anomalies are also present in the eastern equatorial Pacific. A significant area of warm SST anomalies has emerged around Australia's northwest coast in recent weeks.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.3	+0.2	0.1 °C cooler
NINO3.4	+0.5	+0.4	0.1 °C cooler
NINO4	+0.9	+1.0	0.1 °C warmer



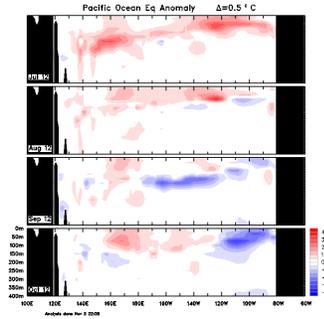
Baseline period 1961–1990.

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

Pacific ocean sub-surface temperatures

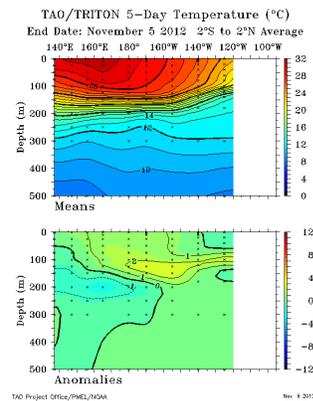
Monthly sub-surface:

The four-month sequence (to October) of sub-surface temperature anomalies in the equatorial Pacific Ocean shows an area of cooler-than-average water in sub-surface of the eastern equatorial Pacific. During October the coolest anomalies in the eastern Pacific were more than 3 °C cooler than usual.



Weekly sub-surface:

Sub-surface temperature anomalies in the equatorial Pacific remain generally similar to those of two weeks ago. The map for the 5 days ending 5 November shows warm anomalies 50 to 150 m beneath the surface of the central and eastern equatorial Pacific.



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

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has remained within neutral values during the past fortnight. The latest (5 November) 30-day SOI value is +3.7.

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.

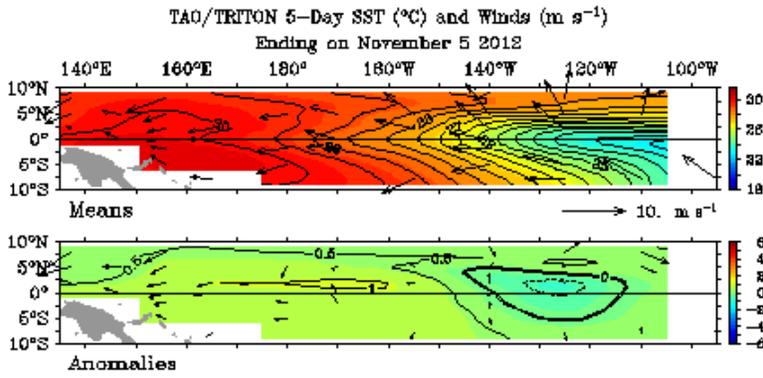


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

Over the past two weeks trade winds have strengthened in the western tropical Pacific. The anomaly map for the 5 days ending 5 November shows trade winds are near-average across the central and eastern tropical Pacific, with weak easterly anomalies present in the western tropical Pacific.

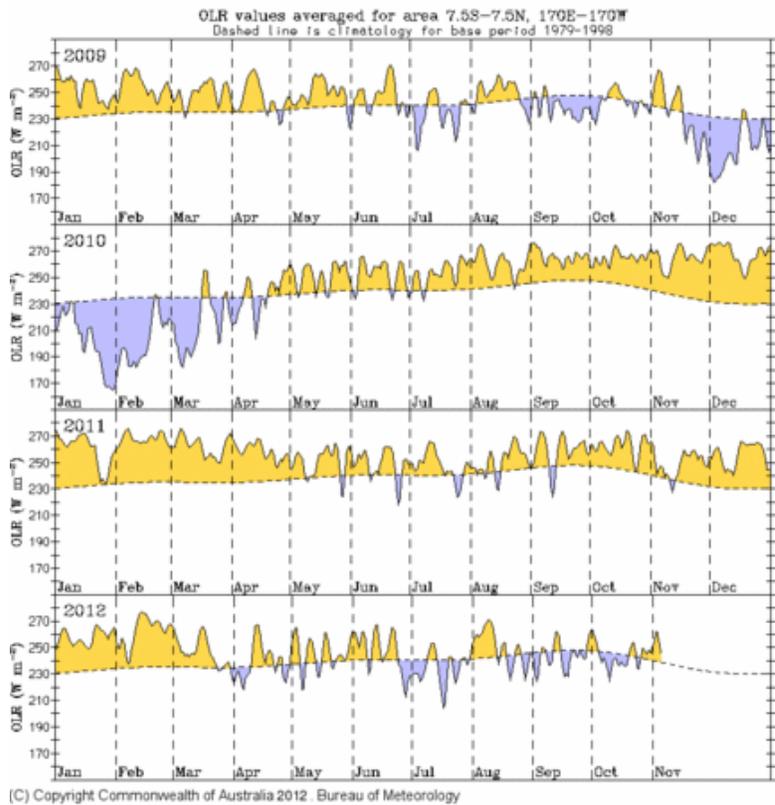
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the Date Line:

Cloudiness near the Date Line has been slightly below average during the past two weeks, but has remained within neutral values.

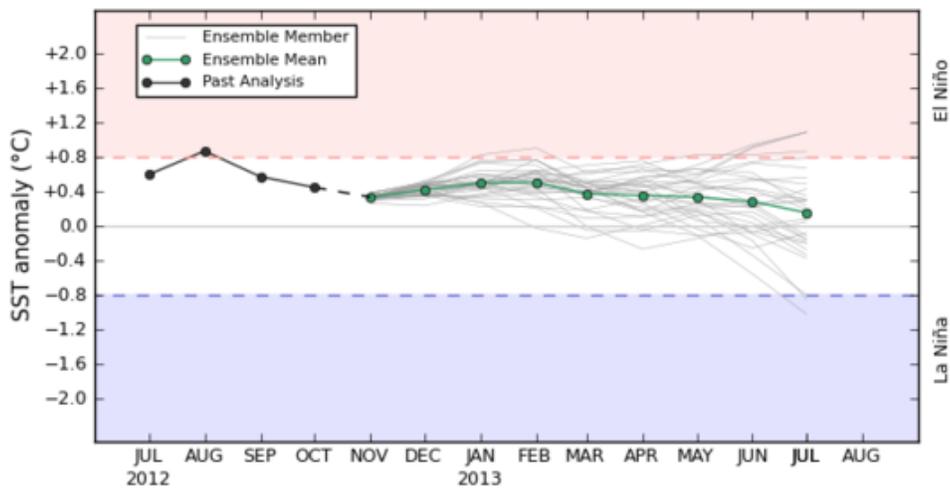
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



Climate Models:

International [climate models](#) surveyed by the Bureau indicate that SSTs in the equatorial Pacific Ocean are likely to remain in the neutral range for the austral summer 2012-13.

POAMA monthly mean NINO34 - Forecast Start: 1 NOV 2012



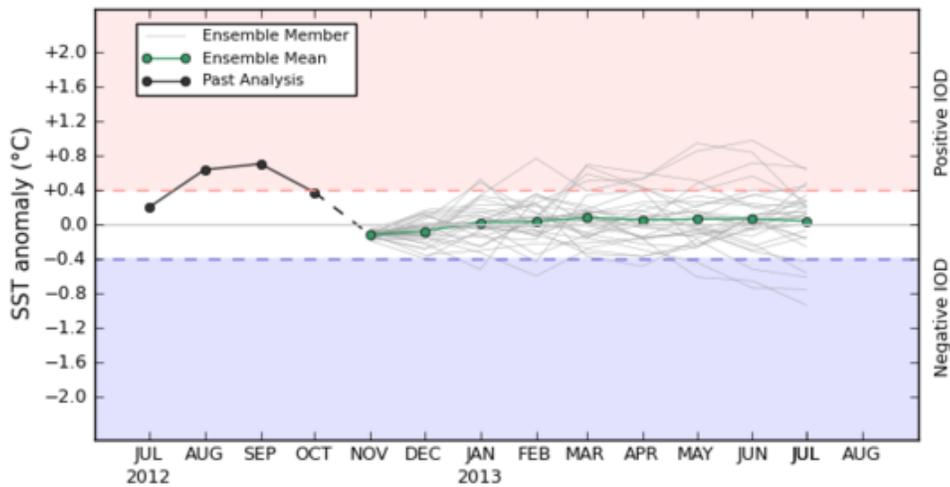
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Indian Ocean Dipole:

The positive Indian Ocean Dipole (IOD) event which has been present during recent months has concluded. Values of the IOD index have returned to neutral over recent weeks; this is a typical progression as IOD events usually break down before the onset of the Australian monsoon. The latest IOD index value was +0.0 for the week ending 4 November.

Recent forecasts from the [POAMA model](#) indicate the IOD is expected to remain neutral for the summer and following autumn.

POAMA monthly mean IOD - Forecast Start: 1 NOV 2012



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

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