

Tropical Pacific remains ENSO neutral

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The tropical Pacific remains neutral with respect to ENSO (El Niño-Southern Oscillation), that is, neither El Niño nor La Niña. Climate models indicate this situation is likely to remain through the southern hemisphere summer. Hence, in contrast to the previous two summers, Australian rainfall and temperatures are unlikely to be strongly influenced by ENSO.

Atmospheric indicators of ENSO, such as the Southern Oscillation Index (SOI), trade winds, and tropical cloud patterns have persisted at neutral levels over recent months. Temperatures in the tropical Pacific Ocean were consistently warmer than normal during winter and spring, occasionally reaching or exceeding El Niño thresholds. Temperatures in the tropical Pacific are now at neutral levels.

After reaching positive levels during spring, the Indian Ocean Dipole (IOD) has returned to neutral. The IOD has limited influence upon Australian climate over summer and autumn.

Next update expected on 18 December 2012 | [print version](#)

Further Details

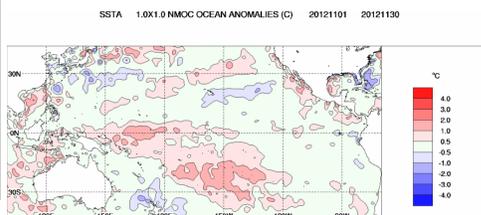
Sea Surface Temperatures

Monthly sea surface temperatures:

When compared to that for the previous month, the sea-surface temperature (SST) anomaly map for November shows the focus of warm SST anomalies in the tropical Pacific Ocean has shifted westward. SSTs are slightly above average in the western half of the equatorial Pacific, while in the east anomalies have all but disappeared. The warmest anomalies remain west of the Date Line, where an area of water is more than 1 °C warmer than usual. Warm SST anomalies also remain around Australia's northwest and western coast.

Index	October	November	Temperature change
NINO3	+0.3	+0.2	0.1 °C cooler
NINO3.4	+0.4	+0.2	0.1 °C cooler
NINO4	+0.8	+0.8	no change

Baseline period 1961–1990.

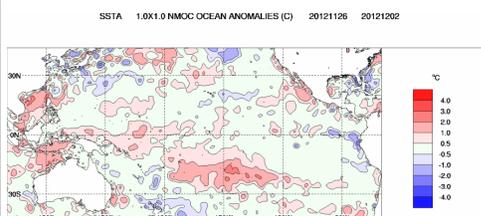


Weekly sea surface temperatures:

When compared to two weeks ago, SST anomalies have cooled in the central and western tropical Pacific. Very weak warm anomalies remain along the equator west of about 170°E (see the SST anomaly map for the week ending 2 December below). SSTs in the central and eastern tropical Pacific are generally close to average, although some small areas of cool water are present adjacent to the South American coast. Compared to two weeks ago, warm SST anomalies to Australia's northwest have strengthened. Warm anomalies also remain in the south Pacific, near the South Pacific Convergence Zone.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.2	+0.1	0.1 °C cooler
NINO3.4	+0.4	+0.3	0.1 °C cooler
NINO4	+0.9	+0.6	0.3 °C cooler

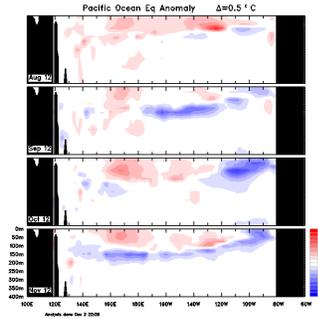
Baseline period 1961–1990.



Pacific ocean sub-surface temperatures

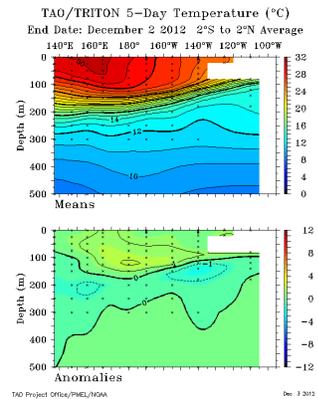
Monthly sub-surface:

The four-month sequence of sub-surface temperature anomalies (to November) shows water across the entire equatorial Pacific Ocean was cooler than average at about 150 meters of depth. The anomalies reached more than 2 °C below average in places, while closer to the surface weak warm anomalies were present.



Weekly sub-surface:

Compared to two weeks ago, sub-surface temperature anomalies in the equatorial Pacific have cooled slightly. The map for the 5 days ending 2 December shows very weak warm anomalies 50 to 150 m beneath the surface of the central and western equatorial Pacific, overlying similarly weak cool anomalies in deeper waters.



[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 (2 December) 30-day SOI value is +4.2.

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.

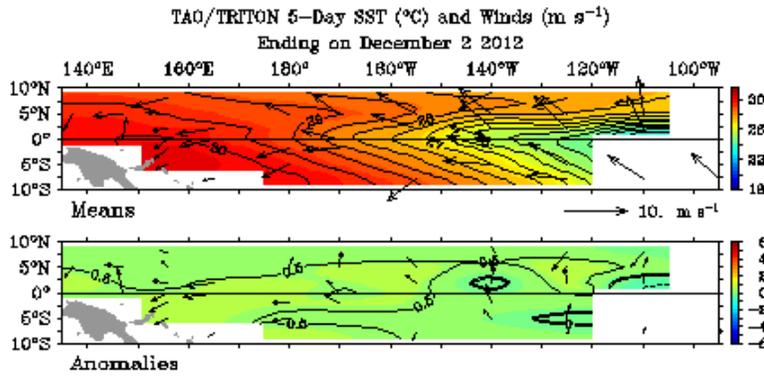


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

The anomaly map for the 5 days ending 2 December shows trade winds are slightly stronger than average across the majority of the central and western tropical Pacific.

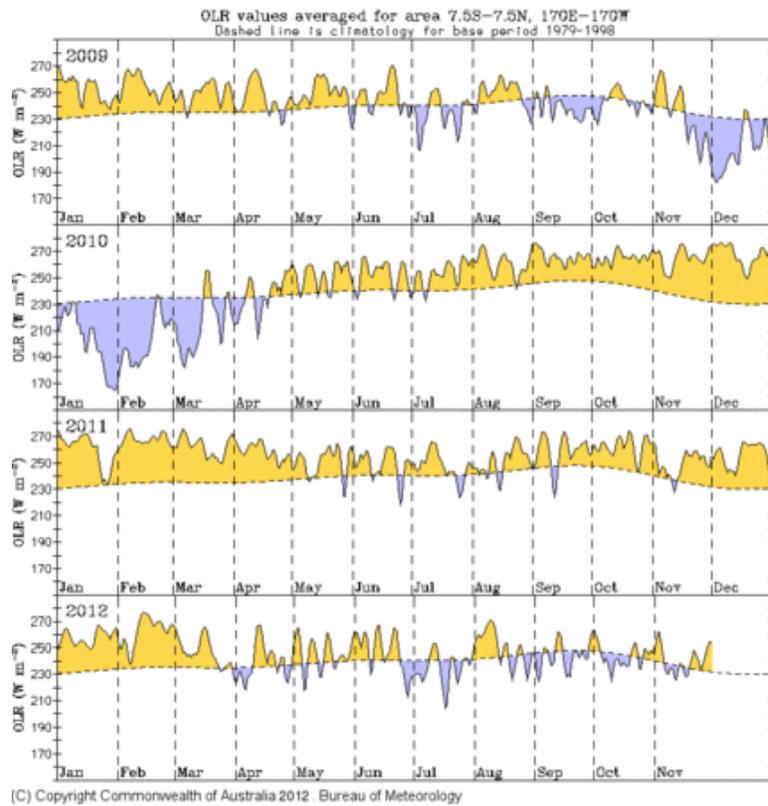
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the Date Line:

Cloudiness near the Date Line has been somewhat below average during the past two weeks.

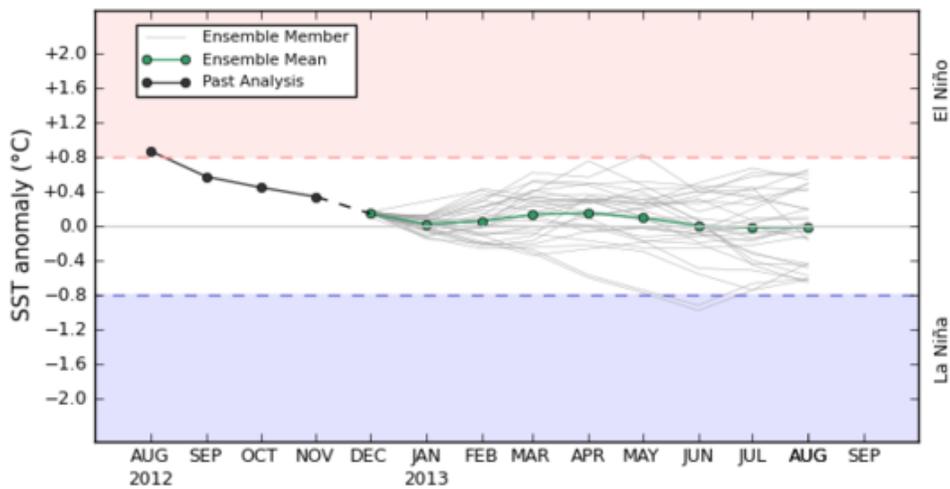
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



Climate Models:

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

POAMA monthly mean NINO34 - Forecast Start: 1 DEC 2012

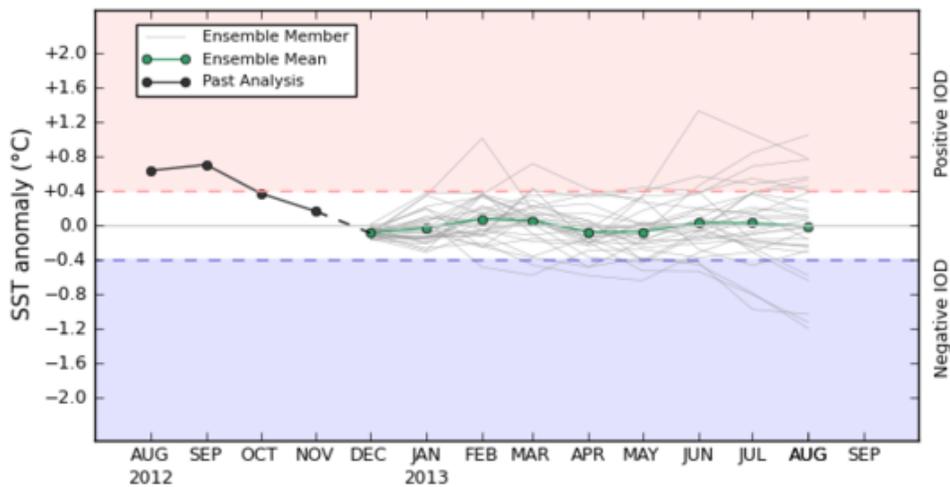


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Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) is currently neutral, with the latest IOD index value at +0.1°C for the week ending 2 December. The IOD typically has limited influence on Australia during the summer.

POAMA monthly mean IOD - Forecast Start: 1 DEC 2012



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

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