

Tropical Pacific ENSO neutral

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The tropical Pacific remains neutral - neither El Niño nor La Niña. Current atmospheric and oceanic indicators as well as climate model forecasts indicate neutral conditions are likely to continue through the remainder of the southern hemisphere autumn.

Despite the April to June period being historically the most difficult time of the year for making ENSO (El Niño-Southern Oscillation) predictions, all dynamical models agree that neither El Niño nor La Niña is likely to develop in the coming months. Likewise, observations of ocean temperatures in the tropical Pacific and atmospheric indicators have consistently remained within neutral ranges since spring 2012.

Following Australia's warmest summer on record with respect to land and ocean temperatures, southern waters remain unusually warm. High ocean temperatures may promote increased local rainfall in favourable weather conditions.

The Indian Ocean Dipole (IOD) has little influence upon Australia's climate from December through to April. The consensus of current model projections is for neutral IOD conditions for late autumn into early winter.

Next update expected on 9 April 2013 | [print version](#)

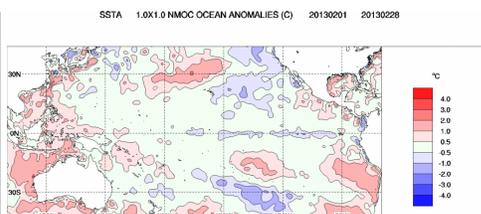
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

The sea-surface temperature (SST) anomaly map for February shows weakening of cool anomalies along the equator in the eastern Pacific when compared to the map for the previous month; small areas of weak cool anomalies remain east of 170°W. Warm anomalies in the western Pacific have also generally weakened. Warm anomalies around the northwestern half of Australia have strengthened while warm anomalies to Australia's south remain similar to last month; surface waters in these areas are generally more than 1 °C warmer than average.

Index	January	February	Temperature change
NINO3	-0.4	-0.3	0.1 °C warmer
NINO3.4	+0.1	-0.2	0.3 °C cooler
NINO4	+0.1	+0.0	0.1 °C cooler



Baseline period 1961–1990.

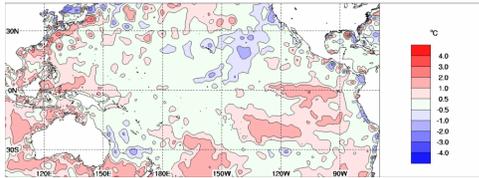
Weekly sea surface temperatures:

SST anomalies have warmed in the eastern tropical Pacific when compared to two weeks ago. The SST anomaly map for the week ending 24 March shows warm anomalies in the far eastern tropical Pacific, and near-average anomalies through the central and eastern Pacific. There are warm anomalies to the north of the Maritime Continent in the far western Pacific, which have warmed over the last two weeks.

Warm anomalies have reappeared around Australia's north and western coast over the last fortnight, with anomalies around parts of northern, western and southern Australia of 2 °C.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	+0.3	+0.6	0.3 °C warmer
NINO3.4	+0.1	+0.1	no change
NINO4	-0.1	0.0	0.1 °C warmer

SSTA 1.0X1.0 NMOC OCEAN ANOMALIES (C) 20130318 20130324



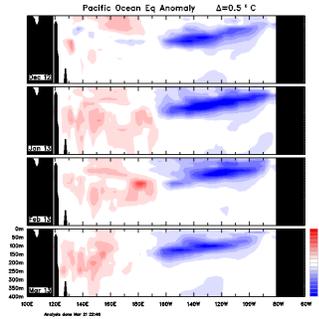
Baseline period 1961–1990.

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

Pacific ocean sub-surface temperatures

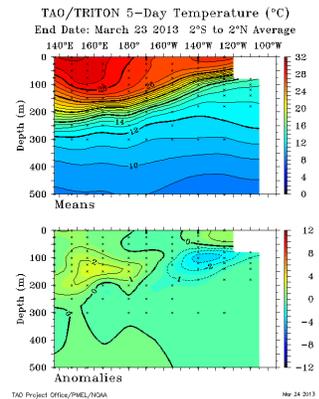
Monthly sub-surface:

The four-month sequence of sub-surface temperature anomalies (to 23 March) shows cool anomalies in the sub-surface of the eastern equatorial Pacific, this pool of cooler than normal water has weakened slightly since February. Western Pacific sub-surface waters are warmer than average to the west of the Date line.



Weekly sub-surface:

The map for the 5 days ending 23 March shows a deepening of the cool anomalies at 100 m depth in the eastern equatorial Pacific, while there has been a strengthening of the warm anomalies in the western Pacific.



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

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has fallen slightly in recent days as the influence from local weather events in the tropical Pacific has reduced. The latest (23 March) 30-day SOI value is +8.4.

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.

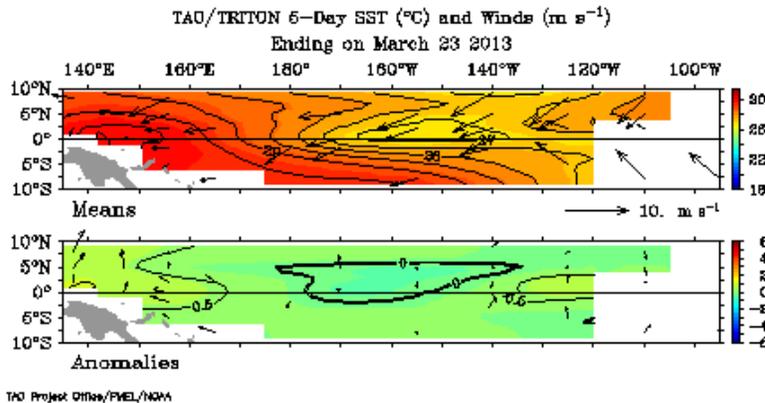


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

Trade winds remain weak across most of the tropical Pacific. The anomaly map for the 5 days ending 23 March shows trade winds are stronger than average in the far western equatorial Pacific, and near average across the remainder of the tropical Pacific.

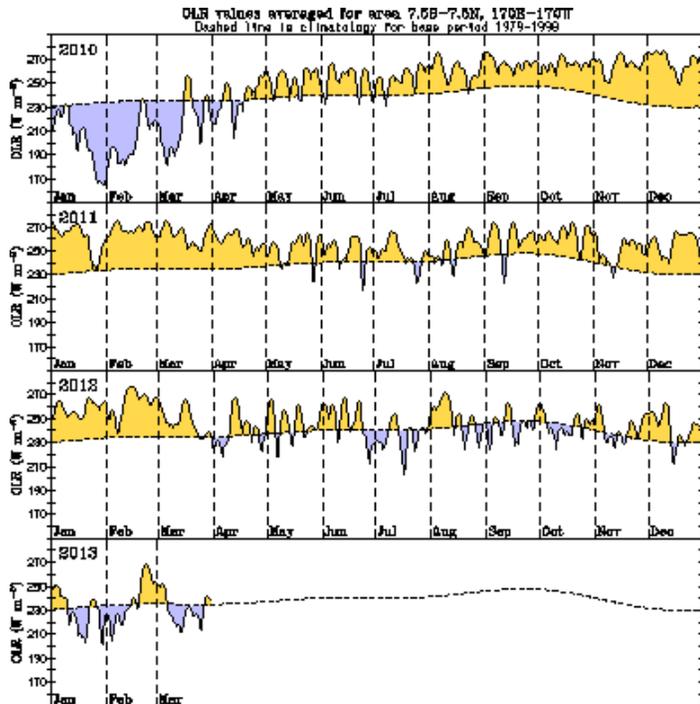
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the Date Line:

Cloudiness near the Date Line has remained close to average over the past two weeks. There has not been a sustained deviation in cloudiness since March 2012.

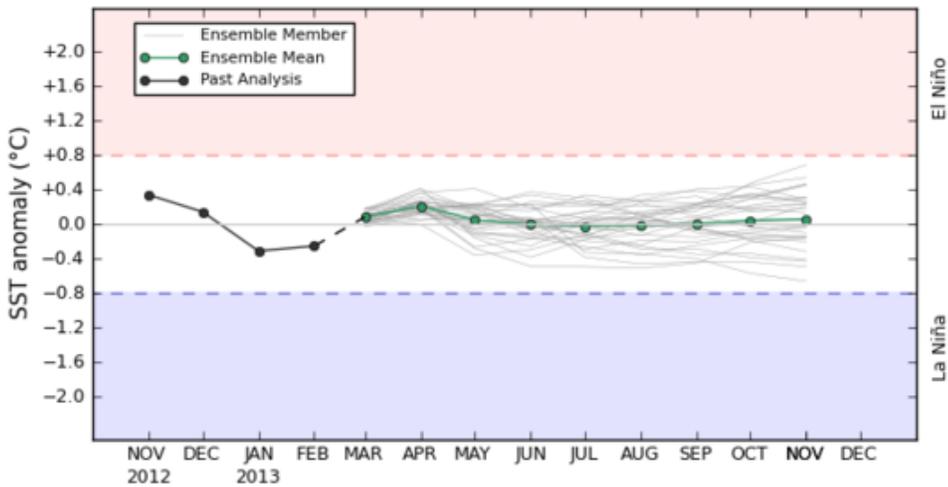
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



Climate Models:

International [climate models](#) surveyed by the Bureau indicate that SSTs in the equatorial Pacific Ocean are expected remain close to average through the southern hemisphere autumn. Predictions from dynamical models are known to have lower skill during the April to June period, however, all surveyed models are consistent in their outlooks.

POAMA monthly mean NINO34 - Forecast Start: 1 MAR 2013

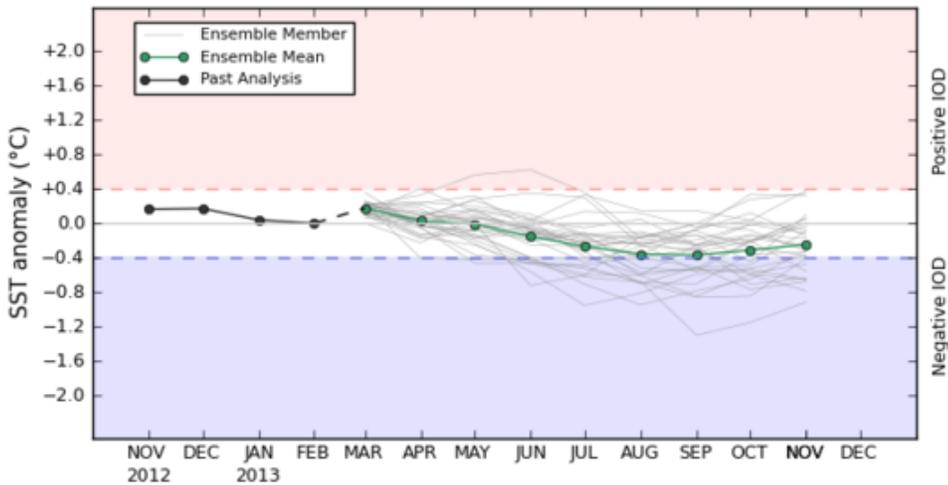


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Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) is currently neutral, with the latest IOD index value at -0.2 °C for the week ending 17 March. Current [model outlooks](#) indicate the IOD will remain neutral throughout the southern hemisphere autumn.

POAMA monthly mean IOD - Forecast Start: 1 MAR 2013



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

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