



A neutral ENSO state likely for the next season

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Atmospheric and oceanic indicators of the El Niño-Southern Oscillation (ENSO), such as the Southern Oscillation Index (SOI), trade winds and ocean temperatures have generally remained in the neutral range since mid to late 2012.

Climate models indicate ENSO-neutral conditions are likely to persist through the southern hemisphere autumn. While it is known that predictions from dynamical models during the April through June period have lower skill, all models currently forecast an ENSO-neutral state to continue for the next season.

Ocean temperatures around most of Australia are warmer than average. This may promote increased regional rainfall in favourable weather patterns.

The Indian Ocean Dipole (IOD) has little influence upon Australia's climate from December through to April.

Next update expected on 12 March 2013 | [print version](#)

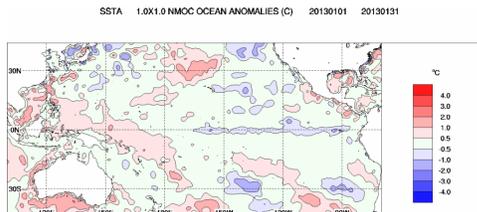
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

When compared to the previous month, the sea-surface temperature (SST) anomaly map for January shows the emergence of cool anomalies along the equator in the central and eastern tropical Pacific Ocean. Weak warm anomalies remain in the western tropical Pacific, while warm SST anomalies were also present around Australia's northwest and southern coasts where surface waters are more than 1 °C warmer than average.

Index	December	January	Temperature change
NINO3	+0.1	-0.4	0.5 °C cooler
NINO3.4	+0.1	+0.1	no change
NINO4	+0.5	+0.1	0.4 °C cooler

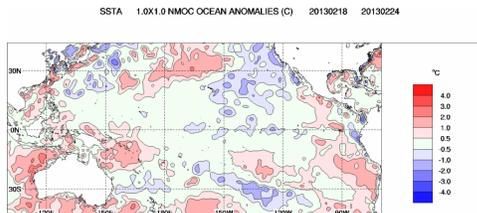


Baseline period 1961–1990.

Weekly sea surface temperatures:

Sea surface temperature anomaly patterns in the tropical Pacific generally remained similar to those of two weeks ago, although reducing slightly in strength. Weak cool anomalies have been evident along the equator in the eastern half of the Pacific for a number of weeks (see the SST anomaly map for the week ending 24 February below). Anomalies are more than 1 °C warmer than average around much of Australia.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	-0.4	-0.1	0.3 °C cooler
NINO3.4	-0.3	-0.3	no change
NINO4	+0.1	-0.1	0.2 °C cooler



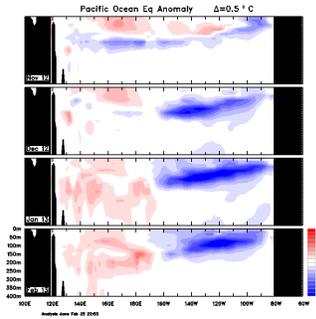
Baseline period 1961–1990.

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

Pacific ocean sub-surface temperatures

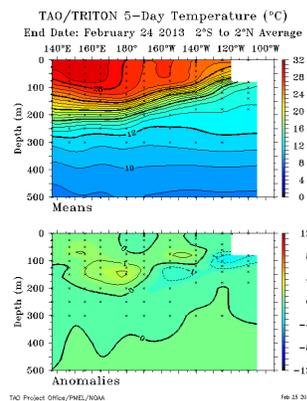
Monthly sub-surface:

The four-month sequence of sub-surface temperature anomalies (to 25 February) shows cool anomalies in the sub-surface of the eastern equatorial Pacific. A large volume of cooler-than-average water has been in this area since December; much of this water was more than 4 °C cooler than average during February. Western Pacific sub-surface waters have generally warmed over the last four months.



Weekly sub-surface:

The map for the 5 days ending 24 February shows sub-surface waters across the equatorial Pacific are slightly warmer than average in the west and cooler than average in the east. Compared to two weeks ago, the magnitude of these anomalies has been reduced in both areas although small regions remain more than 2 °C above/below average.



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

Southern Oscillation Index:

The Southern Oscillation Index (SOI) continued to drop before rising over the past two weeks. It is currently within neutral values. The latest (24 February) 30-day SOI value is -5.4.

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.

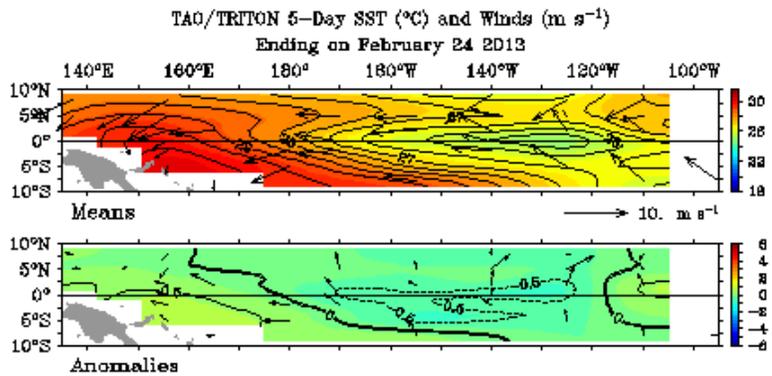


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

The anomaly map for the 5 days ending 24 February shows trade winds are somewhat stronger than average across the western half of the tropical Pacific and near average in the east.

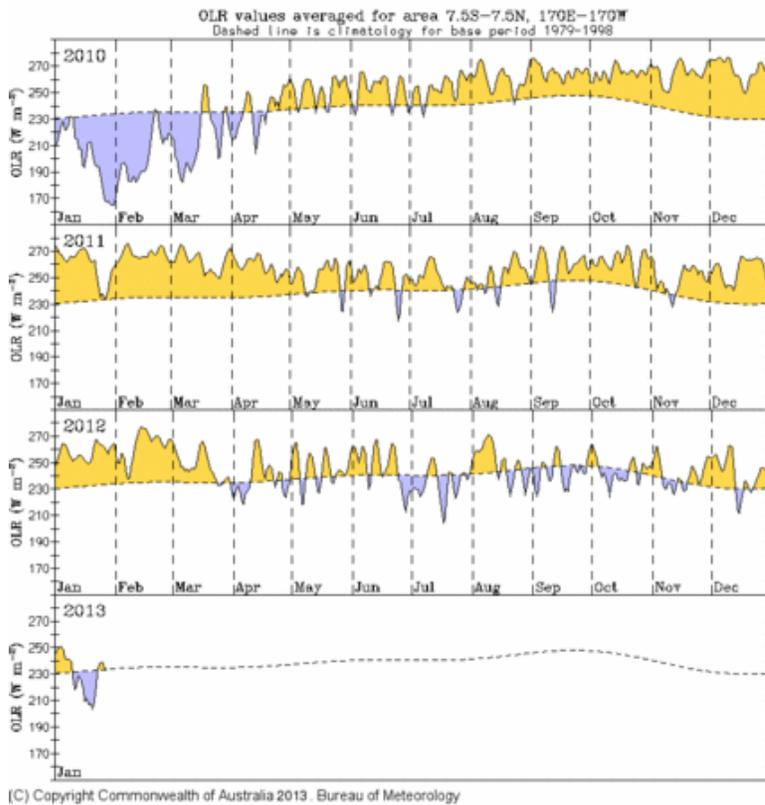
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the Date Line:

Cloudiness near the Date Line has remained near average over the past two weeks.

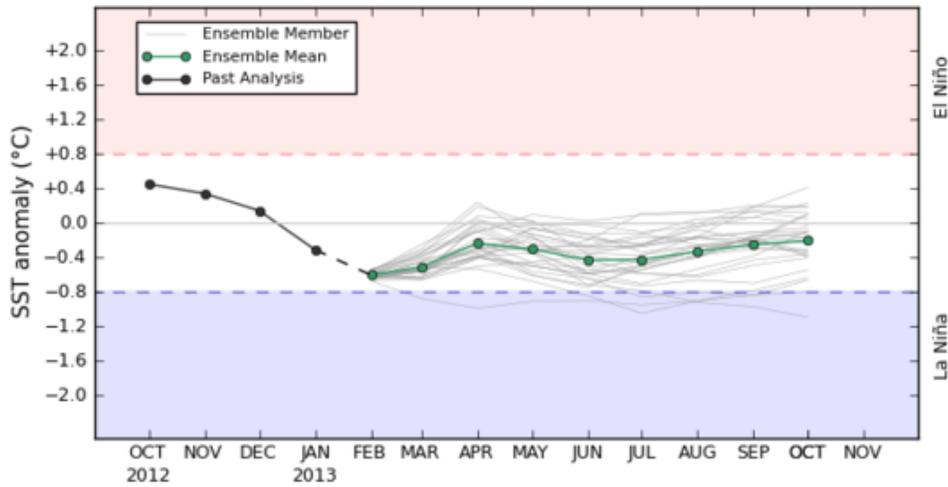
Cloudiness along the equator, near the Date Line, is an important indicator of ENSO conditions, as it typically increases (negative OLR anomalies) near and to the east of the Date Line during an El Niño event and decreases (positive OLR anomalies) during a La Niña event.



Climate Models:

International [climate models](#) surveyed by the Bureau indicate that SSTs in the equatorial Pacific Ocean are expected to slowly warm but remain neutral 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 FEB 2013

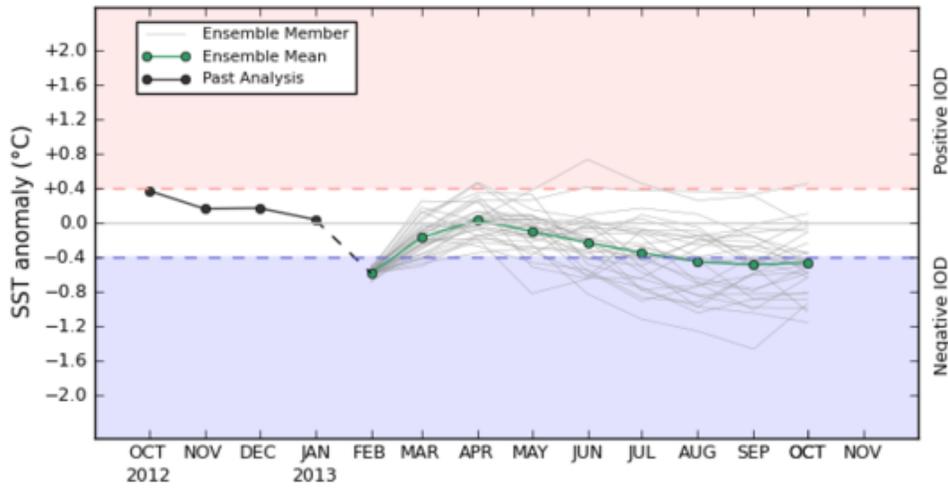


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Indian Ocean Dipole:

The Indian Ocean Dipole (IOD) is currently neutral, with the latest IOD index value at +0.3 °C for the week ending 24 February. The IOD typically has limited influence on Australia during the summer.

POAMA monthly mean IOD - Forecast Start: 1 FEB 2013



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

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