



## La Niña nears its end

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The 2011–12 La Niña event is nearing its end, with most indicators approaching or at neutral values. Climate models surveyed by the Bureau of Meteorology suggest that the Pacific Ocean will continue to warm over the coming months, with a neutral ENSO state expected to persist at least through the second half of autumn. While La Niña is nearing its end, waters around Australia remain warmer than normal, maintaining the potential for increased rainfall over the continent.

The declining state of the La Niña is evident in several indicators. Sea surface temperatures across the central tropical Pacific Ocean are now near-normal and the Southern Oscillation Index (SOI) has been in the neutral range since late February. Central Pacific trade winds have weakened over the past fortnight, while cloudiness near the Date Line has also returned towards more normal levels.

During La Niña events, the number of tropical cyclones in the Australian region is typically above normal over the November to April tropical cyclone season, with February and March the peak. The influence of La Niña on Australian rainfall and temperature typically peaks during winter to mid-summer, and then weakens over the following autumn.

The Indian Ocean Dipole (IOD) has limited influence on Australian rainfall from December through to April. Neutral IOD conditions are forecast for the austral winter.

Next update expected by 27 March 2012 | [print version](#)

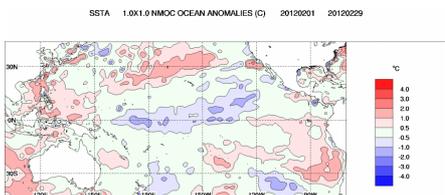
## Further Details

### Sea Surface Temperatures

#### Monthly sea surface temperatures:

Sea surface temperature (SST) anomalies in the central and eastern equatorial Pacific Ocean warmed during February. However, the sea surface temperature (SST) anomaly map for February shows small areas of cool anomalies more than 1 °C cooler than normal still remain in the central Pacific.

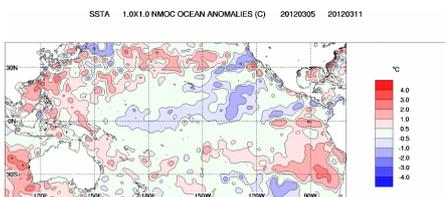
Index	January	February	Temperature change
<a href="#">NINO3</a>	-0.4	+0.1	0.5 °C warmer
<a href="#">NINO3.4</a>	-0.9	-0.5	0.4 °C warmer
<a href="#">NINO4</a>	-1.0	-0.7	0.3 °C warmer



#### Weekly sea surface temperatures:

Sea surface temperatures in the eastern equatorial Pacific have shown a reduction in the extent of warm anomalies during the past two weeks, with an area of cooler-than-usual water emerging north of the equator. Anomalies in the central equatorial Pacific remain generally similar to the preceding fortnight, although there has been some warming of sea surface temperatures immediately west of the Date Line and to the north of Australia. The SST anomaly map for the week ending 11 March shows cool anomalies remain in the central equatorial Pacific, with some areas more than 1 °C cooler than normal for this time of the year.

Index	Previous	Current	Temperature change (2 weeks)
<a href="#">NINO3</a>	+0.5	-0.1	0.6 °C cooler
<a href="#">NINO3.4</a>	-0.2	-0.4	0.2 °C cooler
<a href="#">NINO4</a>	-0.6	-0.5	0.1 °C warmer



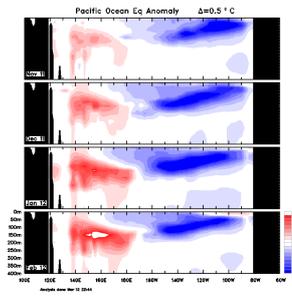
[An animation of recent SST changes](#) | [Weekly data graph](#)

### Pacific ocean sub-surface temperatures

#### Monthly sub-surface:

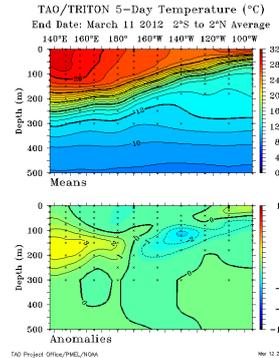
The four-month sequence of sub-surface Pacific Ocean equatorial temperature anomalies shows cool anomalies in the sub-surface of the central and eastern Pacific contracted during February, and shallow warm anomalies emerged in the far eastern Pacific. In the sub-surface of the eastern Pacific the large volume of cooler-than-usual water remains more than 4 °C cooler than average, while in the west, warm anomalies

have continued to strengthen, with an increase in the volume of water more than 4 °C warmer than average.



**Weekly sub-surface:**

The volume of cooler than average water in the sub-surface of the eastern tropical Pacific has continued to decrease over the past two weeks. The map for the 5 days ending 11 March shows a small volume of water more than 3 °C cooler than usual for this time of the year remains in the sub-surface. Shallow warm anomalies in the far eastern tropical Pacific and warm sub-surface anomalies in the western Pacific remain relatively unchanged compared with two weeks ago.



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

**Southern Oscillation Index:**

During the past fortnight, the Southern Oscillation Index (SOI) has fluctuated within low positive values, and has now been within neutral ENSO range since late February. The latest (11 March) 30-day SOI value is +2.7.

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.

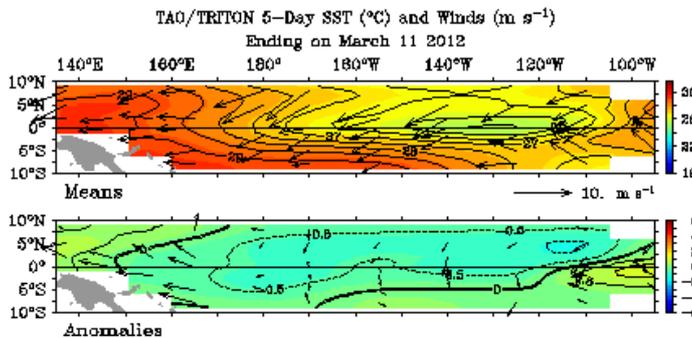


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

**Trade winds:**

Trade winds have weakened in the central tropical Pacific over the past two weeks. The latest wind anomaly map, for the 5 days ending 11 March, shows trade winds continue to be stronger than average across the far western equatorial Pacific.

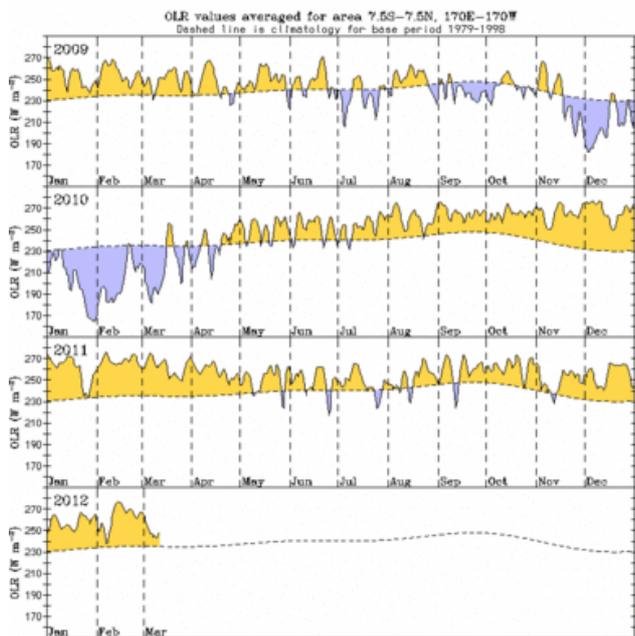
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



**Cloudiness near the Date Line:**

Cloudiness near the Date Line has remained suppressed 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.

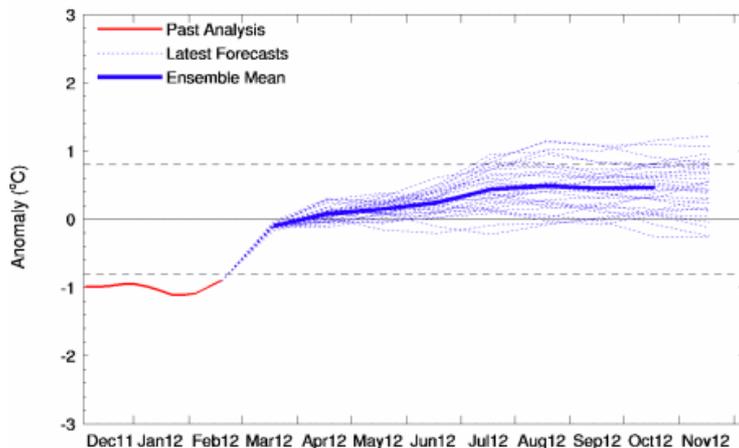


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**Climate Models:**

All outlooks from leading international [climate models](#) surveyed by the Bureau forecast neutral ENSO conditions for the coming remainder of autumn.

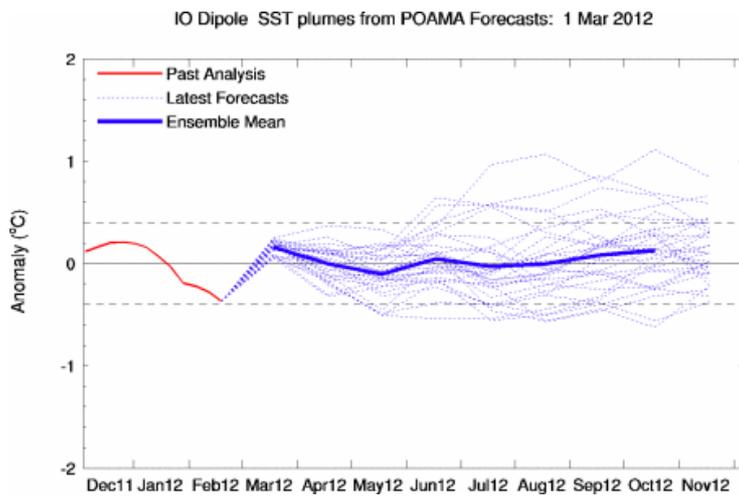
Nino3.4 SST plumes from POAMA Forecasts: 1 Mar 2012



**Indian Ocean Dipole:**

The Indian Ocean Dipole (IOD) typically has little influence in Australia over summer. The IOD index is currently neutral.

Recent forecasts from the [POAMA model](#) predict neutral IOD conditions for autumn.



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

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