



La Niña steady in the Pacific

Issued on Wednesday 23 November | Product Code IDCKGEWOO

La Niña conditions have undergone little change over the past fortnight, with most atmospheric and oceanic indicators remaining at, or just exceeding, La Niña thresholds. Climate models surveyed by the Bureau suggest this event is likely to peak near the end of the year and persist into early 2012. Current observations of this La Niña show that it is considerably weaker than the very strong 2010-11 event.

Atmospheric indicators of La Niña, such as the trade winds and cloudiness in the tropical Pacific, remain at levels consistent with a La Niña event. Likewise, oceanic indicators continue to be cooler than normal for this time of year, despite a slight warming of the waters below the surface of the central to western Pacific Ocean over the past fortnight.

La Niña periods are usually, but not always, associated with above normal rainfall during the second half of the year across large parts of Australia, particularly the eastern and northern regions. Daytime temperatures are typically cooler than average and tropical cyclone risk for northern Australia increases during the cyclone season (November to April). During La Niña years, the first tropical cyclone to cross the Australian coast typically occurs in the first half of December. Widespread above average rainfall over Australia during the last few months is consistent with the current La Niña event. For detailed rainfall and temperature outlooks, please see: www.bom.gov.au/climate/ahead.

Next update expected by 7 December 2011 | [print version](#)

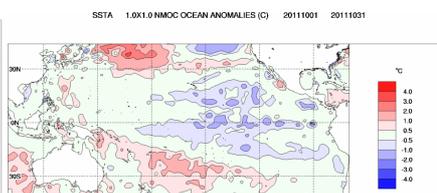
Further Details

Sea Surface Temperatures

Monthly sea surface temperatures:

Sea surface temperature (SST) anomalies continued to cool across the tropical Pacific Ocean during October. The sea surface temperature (SST) anomaly map for October shows cool anomalies have increased in the central and eastern Pacific when compared to September, and now extend across the entire equatorial Pacific east of the dateline.

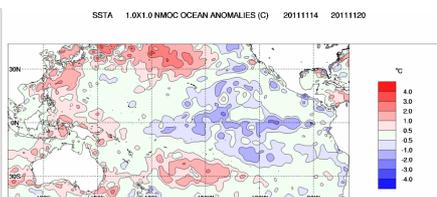
Index	September	October	Temperature change
NINO3	0.4	-0.6	0.2 °C cooler
NINO3.4	-0.6	-0.7	0.1 °C cooler
NINO4	-0.4	-0.4	no change



Weekly sea surface temperatures:

Weekly sea surface temperature anomalies have cooled slightly, when compared to the map from two weeks ago. The SST anomaly map for the week ending 20 November shows cool anomalies extend across the equatorial Pacific east of the dateline, with a few small areas reaching more than 2 °C cooler than normal for this time of the year.

Index	Previous	Current	Temperature change (2 weeks)
NINO3	-0.7	-0.8	0.1 °C cooler
NINO3.4	-0.8	-0.8	no change
NINO4	-0.4	-0.4	no change

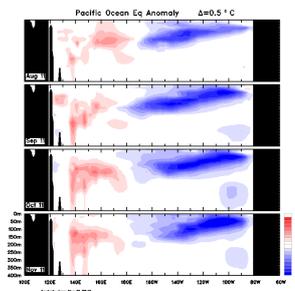


[An animation of recent SST changes](#) | [Weekly data graph](#)

Pacific ocean sub-surface temperatures

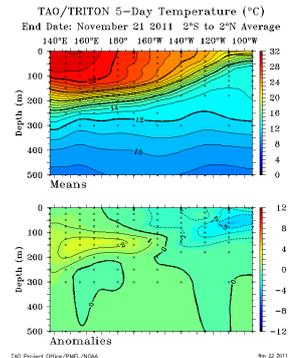
Monthly sub-surface:

The four-month sequence of sub-surface Pacific Ocean equatorial temperature anomalies, to 21 November, shows cool anomalies in the sub-surface of the eastern Pacific have contracted slightly eastward during the month although the region where water is more than 4 °C cooler than average has increased. Cool sub-surface anomalies extend across the entire Pacific east of the dateline.



Weekly sub-surface:

Temperatures in the sub-surface of the tropical Pacific have remained relatively unchanged over the past two weeks (see the map for the 5 days ending 21 November). The central focus of cool anomalies in the sub-surface of the eastern tropical Pacific has migrated slightly eastward and remains more than 3 °C cooler than usual, for this time of the year. The sub-surface of the western tropical Pacific has warmed slightly.

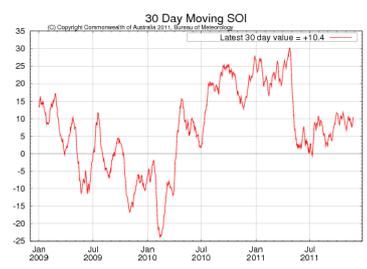


[Animation of recent sub-surface changes](#) | [Archive of sub-surface temperature charts](#)

Southern Oscillation Index:

The Southern Oscillation Index (SOI) has declined over the last two weeks but remains near La Niña thresholds. The latest (21 November) 30-day SOI value is +7.7.

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.

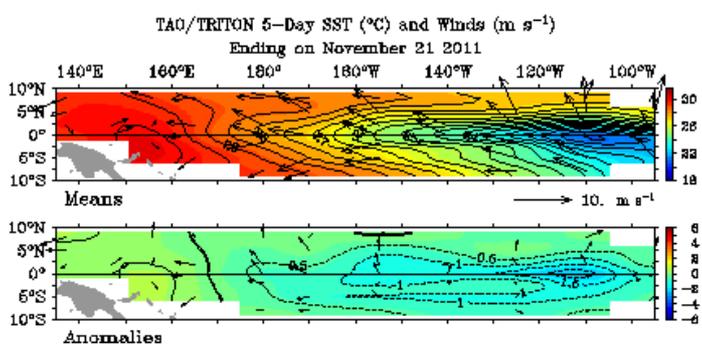


[Monthly graph](#) | [SOI table](#) | [SOI text](#)

Trade winds:

When compared with two weeks ago, trade winds in the central Pacific have weakened slightly. The latest wind anomaly map, for the 5 days ending 21 November, shows trade winds are stronger than average across the west-central equatorial Pacific Ocean, but elsewhere are near-neutral.

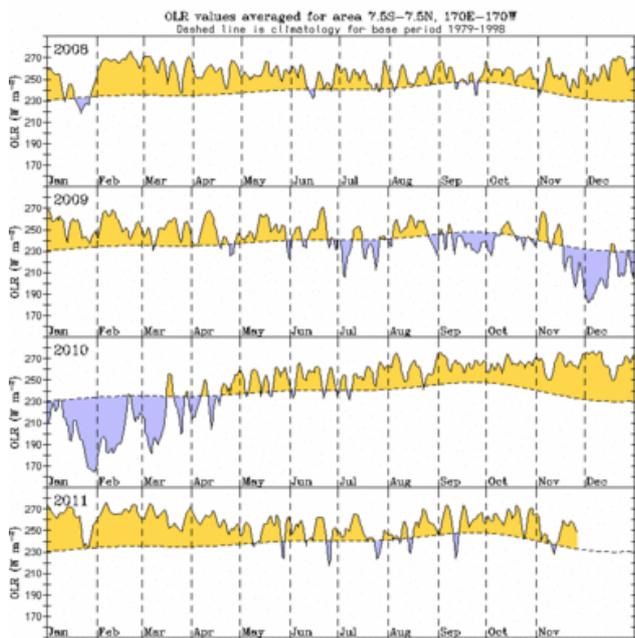
During La Niña events, there is a sustained strengthening of the trade winds across much of the tropical Pacific, while during El Niño events there is a sustained weakening of the trade winds.



Cloudiness near the dateline:

Cloudiness near the dateline returned to near neutral values in the earlier part of the past fortnight, but has since remained suppressed.

Cloudiness along the equator, near the dateline, 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.

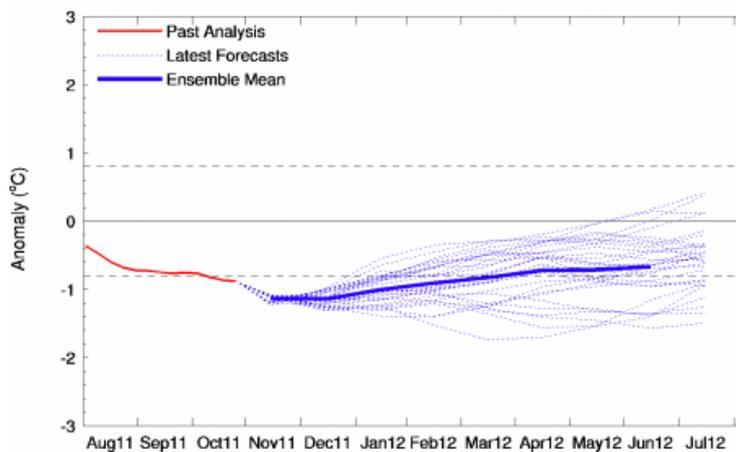


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Climate Models:

The majority of outlooks from leading international [climate models](#) surveyed by the Bureau indicate that the current La Niña may be nearing its peak. Cool Pacific Ocean temperatures are forecast to persist throughout the southern summer.

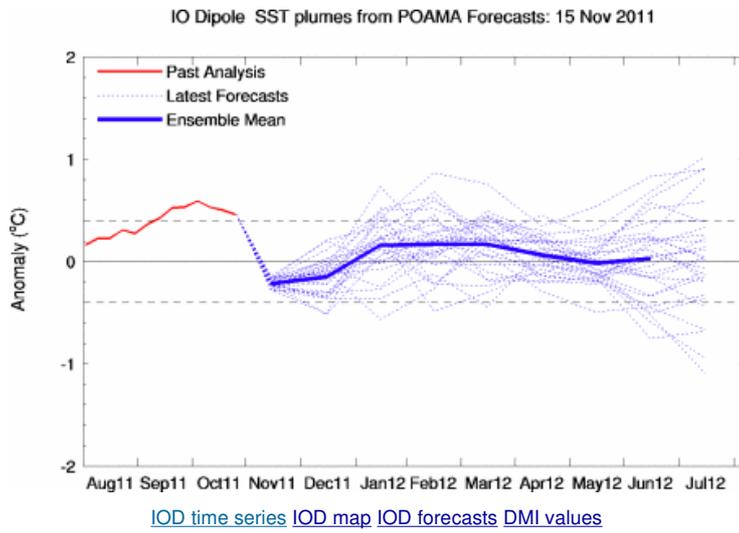
Nino3.4 SST plumes from POAMA Forecasts: 15 Nov 2011



Indian Ocean Dipole:

The positive Indian Ocean Dipole (IOD) event is decaying, as is usual for this time of the year. The IOD index value for the week ending 20 November was +0.3.

Recent forecasts from the POAMA model predict that the event is drawing to a close. Positive IOD events have been associated with drier conditions over parts of Australia, particularly in the southeast, during winter and spring.



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