

EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

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Synopsis: A transition from ENSO-neutral to La Niña conditions is possible during the next 2-3 months.

The pattern of anomalously warm SSTs associated with El Niño disappeared from the equatorial Pacific east of the date line during February (compare top and bottom panels in **Fig. 1**). By the end of the month, SSTs were near average in the vicinity of the date line, and below average over the eastern equatorial Pacific between 140°W and the west coast of South America. Also, the main area of anomalously warm SSTs along the equator had become centered well west of the date line, which is also consistent with the disappearance of El Niño.

The latest weekly SST departures have decreased to near 0.5°C in the Niño 4 region and to near 0 °C in the Niño 3.4 region, and have become slightly negative in the Niño 3 and Niño 1+2 regions (**Fig. 2**). Accompanying this drop in SST anomalies, the equatorial upper-ocean heat content (average temperature departures in the upper 300 m of the ocean) decreased rapidly during December 2006-January 2007 (**Fig. 3**), as the upper ocean cooled and negative temperature anomalies developed. These trends in surface and subsurface ocean temperatures indicate that the warm (El Niño) episode has ended and that conditions are becoming favorable for La Niña to develop.

Most of the statistical and coupled models, including the NCEP Climate Forecast System (CFS) (**Fig. 4**), indicate additional anomalous cooling during the next 2-3 months. Some of the forecast models, especially the CFS, indicate a rapid transition to La Niña conditions during March-May 2007. This scenario is supported by the latest surface and subsurface oceanic conditions, and the persistence of stronger than-average low-level easterly winds over the central equatorial Pacific.

This discussion is a consolidated effort of NOAA and its funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center website ([El Niño/La Niña Current Conditions and Expert Discussions](#)). Forecasts for the evolution of El Niño/La Niña are updated monthly in the [Forecast Forum](#) section of CPC's Climate Diagnostics Bulletin. The next ENSO Diagnostics Discussion is scheduled for 5 April 2007. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

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Figure 1. SST anomalies (°C) for the weeks centered on 31 January 2007 (top) and 28 February 2007 (bottom). The SST anomalies are computed with respect to the 1971-2000 base period means (Xue et al. 2003, *J. Climate*, **16**, 1601-1612).

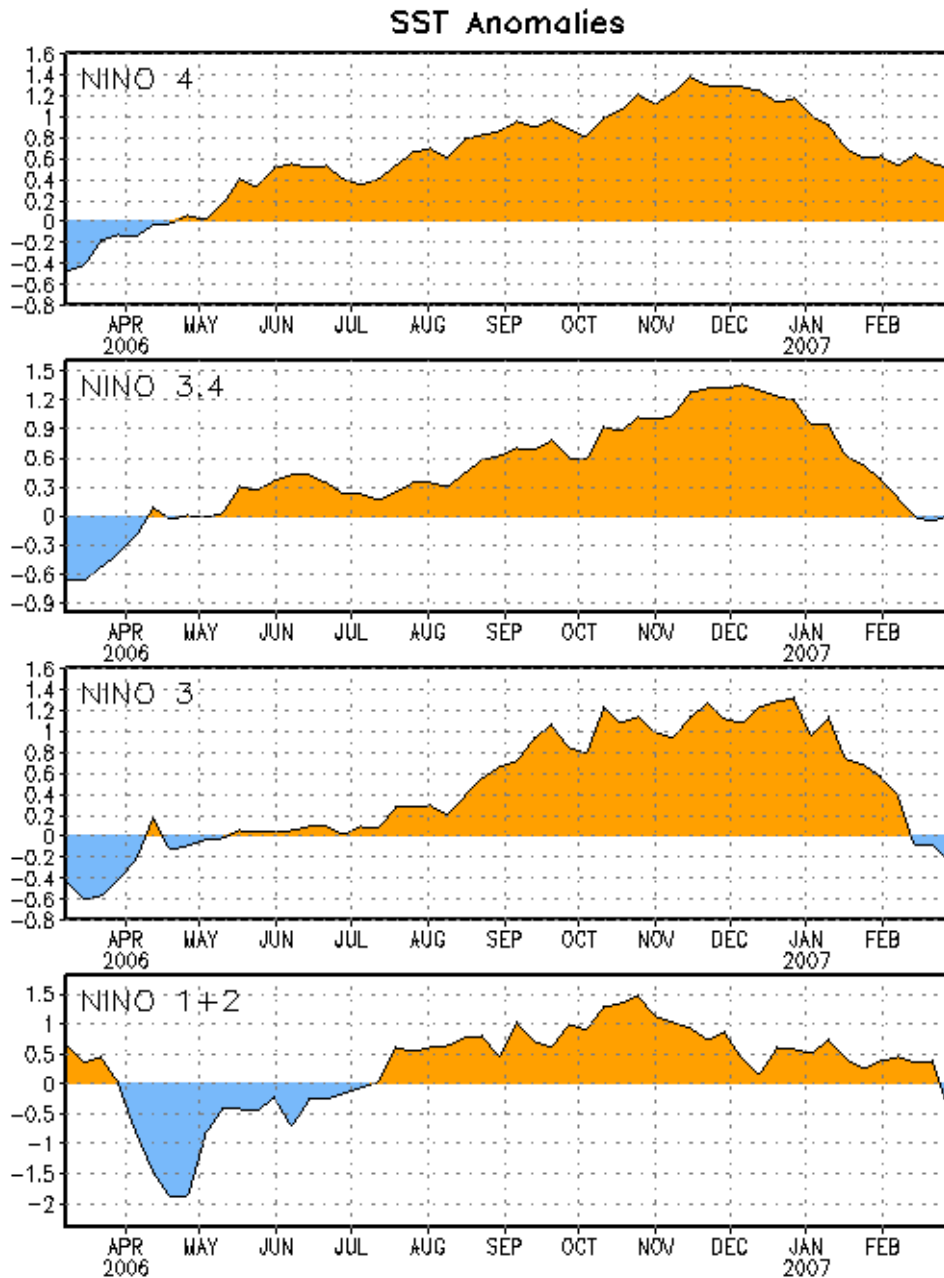


Figure 2. Time series of SST departures ($^{\circ}\text{C}$) for the Niño regions. The SST departures are computed with respect to the 1971-2000 base period means (Xue et al. 2003, *J. Climate*, **16**, 1601-1612).

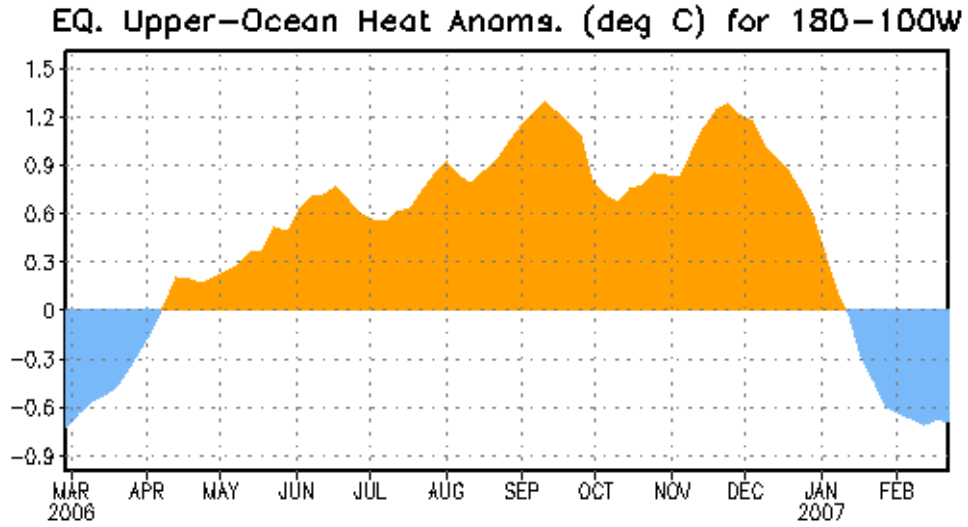


Figure 3. Anomalous equatorial upper-ocean heat content averaged over the longitude band 180°-100°W. Heat content anomalies are computed as departures from the 1982-2004 base period means.

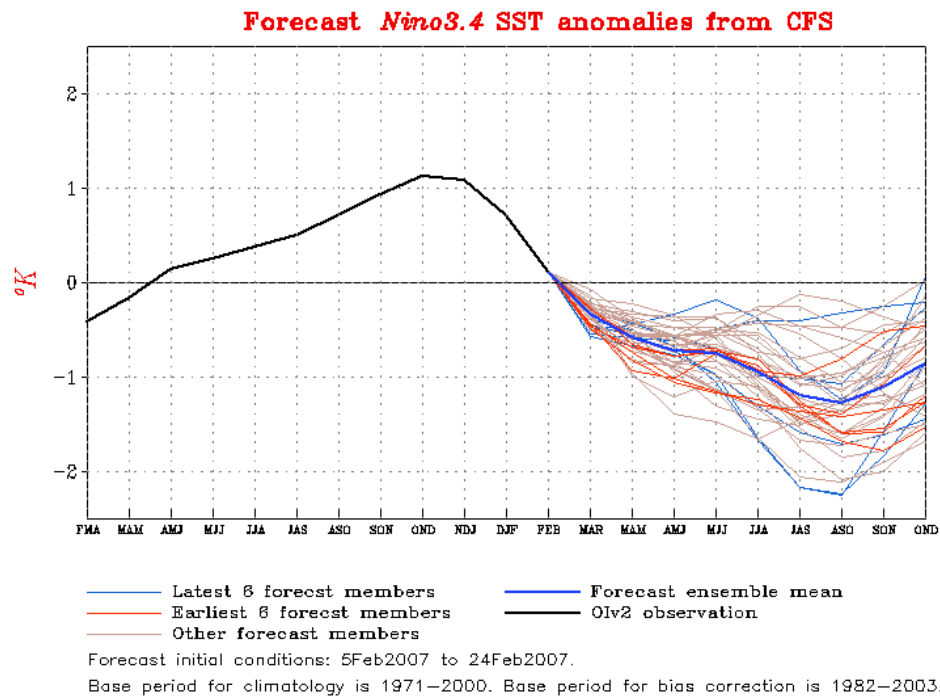


Figure 4. Forecasts of the SST anomalies for the Niño 3.4 region, derived from the NCEP/Climate Forecast System (CFS).