

# EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by

**CLIMATE PREDICTION CENTER/NCEP/NWS  
and the International Research Institute for Climate and Society  
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**ENSO Alert System Status: El Niño Watch**

**Synopsis: The chance of El Niño is about 70% during the Northern Hemisphere summer and is close to 80% during the fall and early winter.**

During June 2014, above-average sea surface temperatures (SST) were most prominent in the eastern equatorial Pacific, with weakening evident near the International Date Line (Fig. 1). This weakening was reflected in a decrease to +0.3°C in the Niño-4 index (Fig. 2). The Niño-3.4 index remained around +0.5°C throughout the month, while the easternmost Niño-3 and Niño-1+2 indices are +1.0°C or greater. Subsurface heat content anomalies (averaged between 180°-100°W) have decreased substantially since late March 2014 and are now near average (Fig. 3). However, above-average subsurface temperatures remain prevalent near the surface (down to 100m depth) in the eastern half of the Pacific (Fig. 4). The upper-level and low-level winds over the tropical Pacific remained near average, except for low-level westerly anomalies over the eastern Pacific. Convection was enhanced near and just west of the Date Line and over portions of Indonesia (Fig. 5). Still, the lack of a clear and consistent atmospheric response to the positive SSTs indicates ENSO-neutral.

Over the last month, no significant change was evident in the model forecasts of ENSO, with the majority of models indicating El Niño onset within June-August and continuing into early 2015 (Fig. 6). The chance of a strong El Niño is not favored in any of the ensemble averages for Niño-3.4. At this time, the forecasters anticipate El Niño will peak at weak-to-moderate strength during the late fall and early winter (3-month values of the Niño-3.4 index between 0.5°C and 1.4°C). The chance of El Niño is about 70% during the Northern Hemisphere summer and is close to 80% during the fall and early winter (click [CPC/IRI consensus forecast](#) for the chance of each outcome).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site ([El Niño/La Niña Current Conditions and Expert Discussions](#)). Forecasts are also updated monthly in the [Forecast Forum](#) of CPC's Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an [ENSO blog](#). The next ENSO Diagnostics Discussion is scheduled for 7 August 2014. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: [ncep.list.ens0-update@noaa.gov](mailto:ncep.list.ens0-update@noaa.gov).

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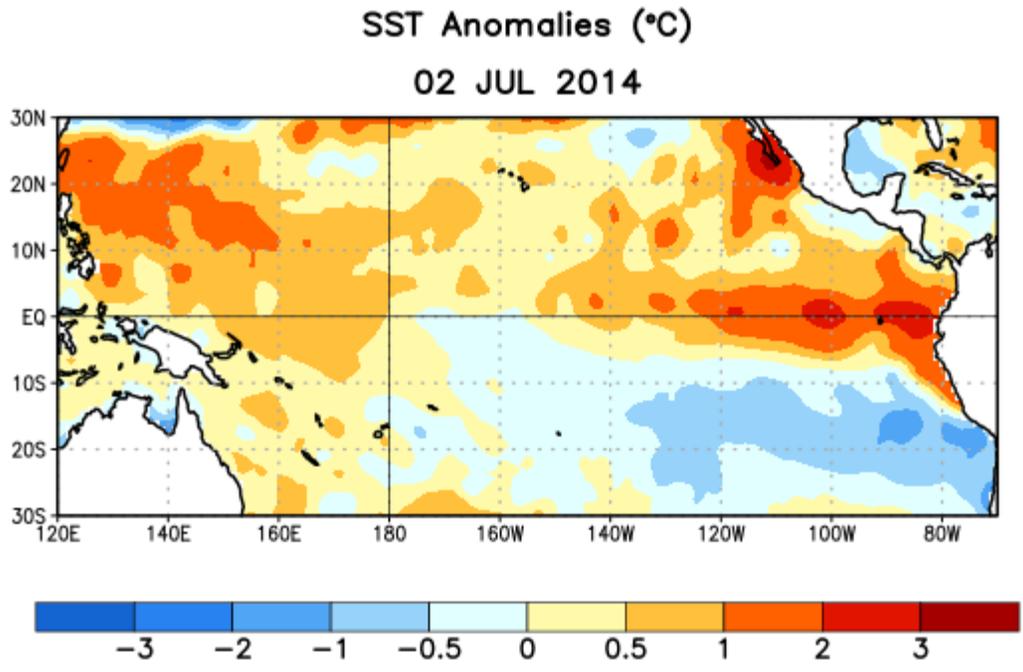


Figure 1. Average sea surface temperature (SST) anomalies (°C) for the week centered on 2 July 2014. Anomalies are computed with respect to the 1981-2010 base period weekly means.

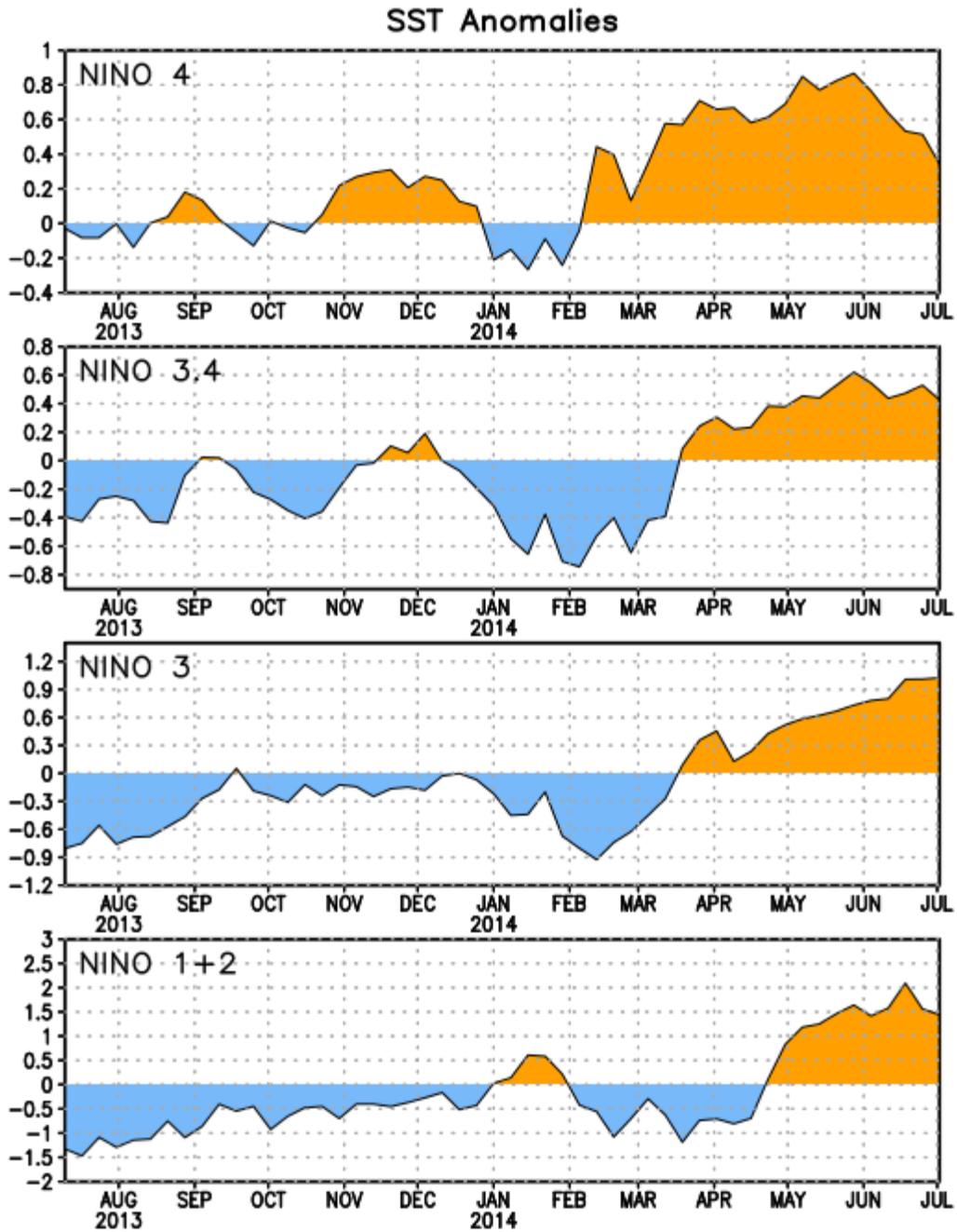


Figure 2. Time series of area-averaged sea surface temperature (SST) anomalies ( $^{\circ}\text{C}$ ) in the Niño regions [Niño-1+2 ( $0^{\circ}$ - $10^{\circ}\text{S}$ ,  $90^{\circ}\text{W}$ - $80^{\circ}\text{W}$ ), Niño 3 ( $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ ,  $150^{\circ}\text{W}$ - $90^{\circ}\text{W}$ ), Niño-3.4 ( $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ ,  $170^{\circ}\text{W}$ - $120^{\circ}\text{W}$ ), Niño-4 ( $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ ,  $150^{\circ}\text{W}$ - $160^{\circ}\text{E}$ )]. SST anomalies are departures from the 1981-2010 base period weekly means.

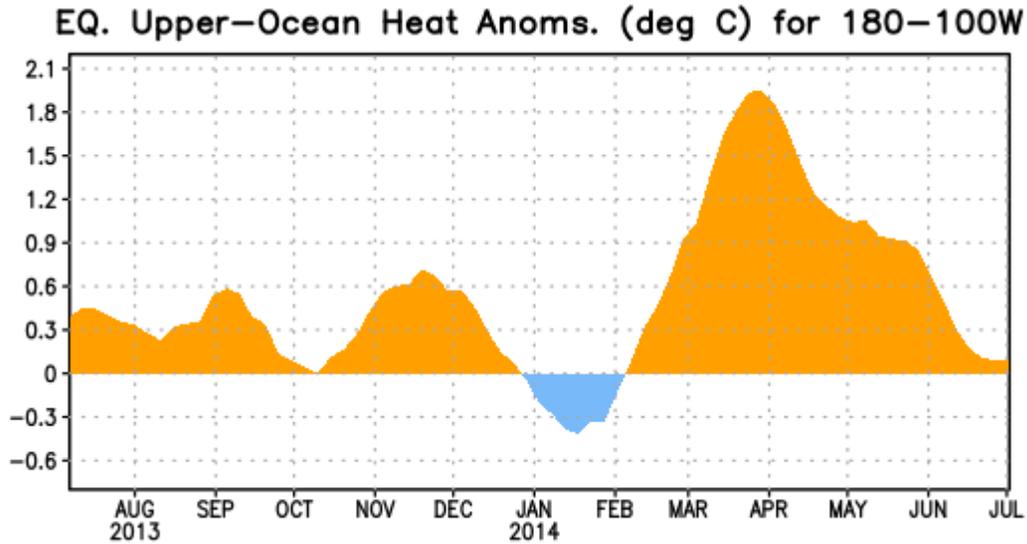


Figure 3. Area-averaged upper-ocean heat content anomaly ( $^{\circ}\text{C}$ ) in the equatorial Pacific ( $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ ,  $180^{\circ}$ - $100^{\circ}\text{W}$ ). The heat content anomaly is computed as the departure from the 1981-2010 base period pentad means.

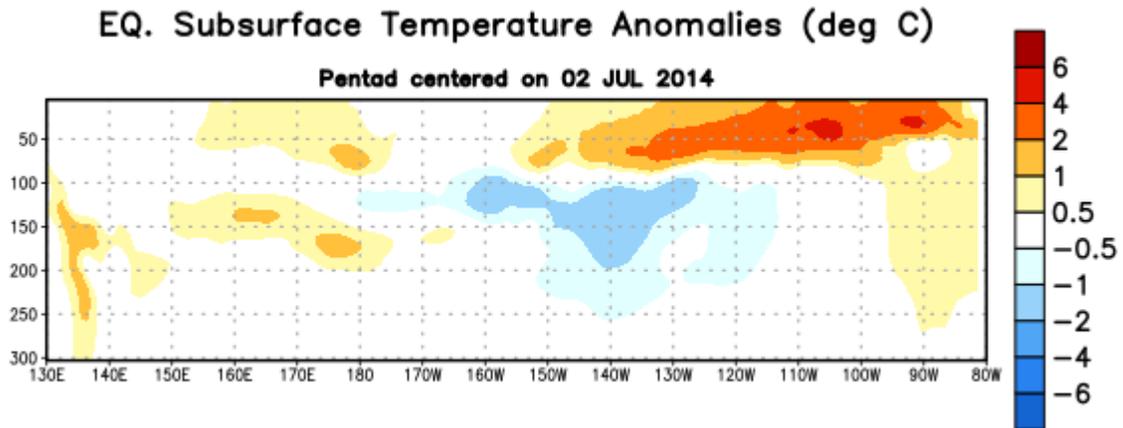


Figure 4. Depth-longitude section of equatorial Pacific upper-ocean (0-300m) temperature anomalies ( $^{\circ}\text{C}$ ) centered on the pentad of 2 July 2014. The anomalies are averaged between  $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ . Anomalies are departures from the 1981-2010 base period pentad means.

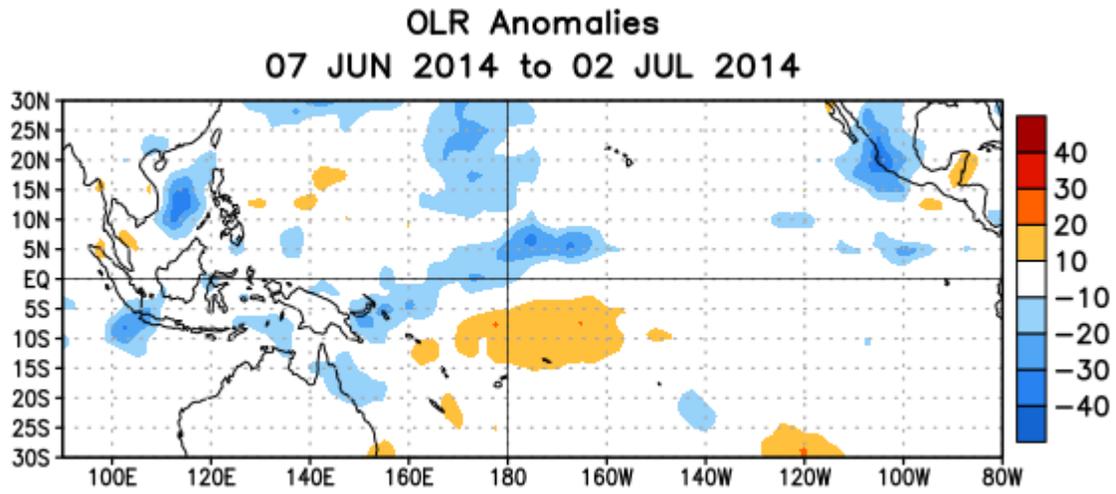


Figure 5. Average outgoing longwave radiation (OLR) anomalies ( $W/m^2$ ) for the period 7 June – 2 July 2014. OLR anomalies are computed as departures from the 1979-1995 base period pentad means.

## Mid-Jun 2014 Plume of Model ENSO Predictions

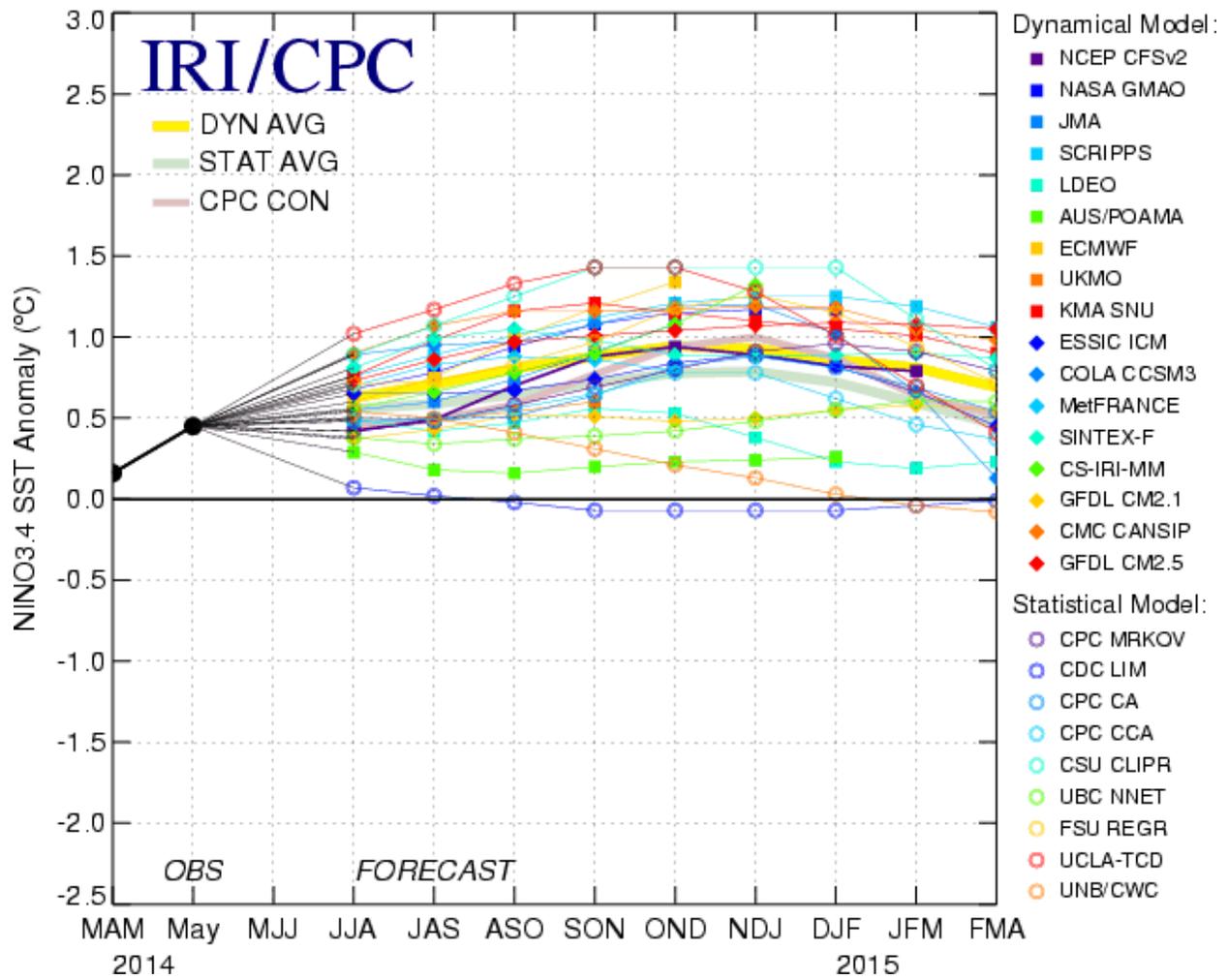


Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N-5°S, 120°W-170°W). Figure updated 17 June 2014.