



**Western Region Technical Attachment
No. 90-40
November 20, 1990**

**EL NINO/SOUTHERN OSCILLATION (ENSO)
CLIMATE ANALYSIS CENTER/NMC**

[Editor's Note: The following Technical Attachment is a Diagnostic Advisory on the El Niño/Southern Oscillation (ENSO) situation, issued by the Climatic Analysis Center of NMC. Since this advisory has already been released to the press, offices may be receiving increasing numbers of questions on ENSO.]

Most atmospheric indices in the tropical Pacific indicated near normal conditions during October in spite of anomalously warm sea surface temperatures in the central and western equatorial Pacific (Fig. 1). The sea surface temperature (SST) and SST anomaly in the Niño 4 region have increased steadily during the last year, and the October 1990 values were comparable to previous warm episodes (Fig. 2). The areal extent of SSTs exceeding 30°C increased considerably during the last two months. However, SST anomalies remained close to zero throughout the eastern portion of the equatorial Pacific.

The Southern Oscillation Index (SOI) was near zero for October and low-level (850 mb) winds in the central equatorial Pacific were near normal. Anomalously strong (weak) easterly low-level winds were observed in the western (eastern) equatorial Pacific. Atmospheric convective activity was near normal along the equator in the vicinity of the date line.

The increase in sea surface temperature in the Niño 4 region indicates a continued trend towards warm episode conditions. This index is less noisy than other oceanic and atmospheric indices and has reliably indicated previous warm episodes. Conditions in the central equatorial Pacific will continue to be closely monitored, especially in regards to the development of persistent enhanced atmospheric convection in the region.

Climate Analysis Center
National Meteorological Center
National Weather Service
World Weather Building
Washington, D.C. 20233

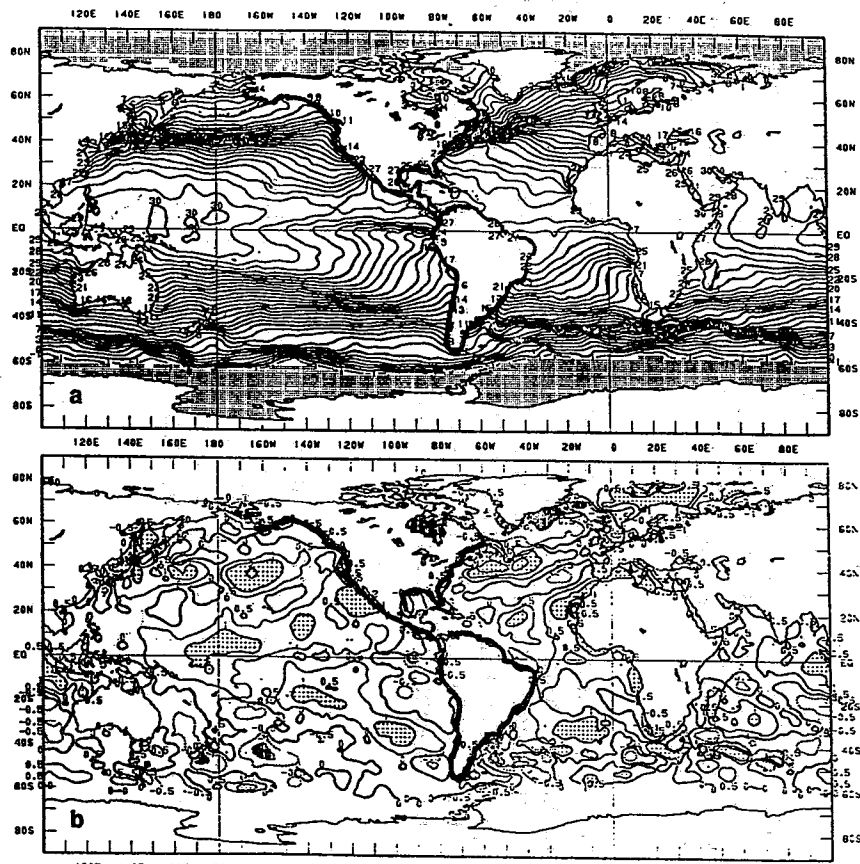


FIGURE 1- BLENDED SEA SURFACE TEMPERATURE a) mean and b) anomaly for OCT 1996. The contour interval is 1°C and negative contours are dashed. Heavy contours are at 0°C and multiples of 5°C . The stippling in a) indicates the sea ice cover. In b), anomalies less than -1°C are shaded and greater than 1°C are stippled. Additional anomaly contours of $\pm 0.5^{\circ}\text{C}$ are shown. Anomalies in b) are computed as departures from the COADS/ICE climatology (Reynolds, 1988, *J.Clim.*, 1, 75-86).

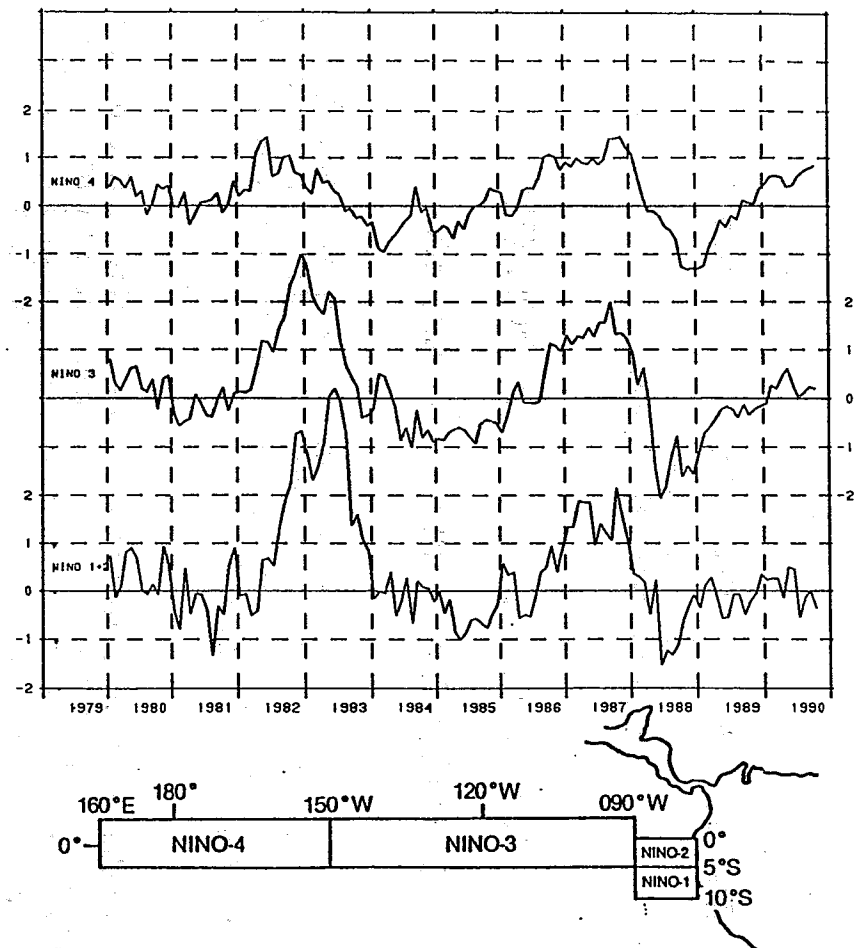


FIGURE 2- Equatorial Pacific sea surface temperature anomaly indices ($^{\circ}\text{C}$) for the areas indicated at the bottom of the figure. Niño 1+2 is the average over the Niño 1 and Niño 2 areas. Anomalies are computed with respect to the COADS/ICE climatology (see the September 1986 *Climate Diagnostics Bulletin* or Reynolds, 1988, *J. Clim.*, 1, 75-86).