



**Western Region Technical Attachment
No. 92-06
January 28, 1992**

**EL NINO/SOUTHERN OSCILLATION (ENSO)
DIAGNOSTIC ADVISORY 92/01**

CLIMATE ANALYSIS CENTER/NMC

[Editor's Note: This following Technical Attachment is a Diagnostic Advisory on the El Nino/Southern Oscillation (ENSO) situation, issued by the Climatic Analysis Center of NMC.]

The development of enhanced convection in the central equatorial Pacific during the last two months signifies the onset of the mature phase of a Pacific warm (ENSO) episode. Consistent with this evolution, drier than normal conditions have been observed in many sections of the Philippines, Indonesia, and northern Australia. Wetter than normal conditions have been observed in the central equatorial Pacific, over northern Mexico and the southern United States, and over central South America. These features, inferred from the ongoing long-wave radiation anomalies obtained from NOAA's polar orbiting satellites, are consistent with those generally found at this time of year during the mature phase of warm (ENSO) episodes (Fig. 1).

Sea surface temperature (SST) anomalies in the eastern and central equatorial Pacific increased during December, with the greatest anomalies (greater than $+2^{\circ}\text{C}$) found along the equator near 160°W (Fig. 2). At the same time, the oceanic thermocline was deeper than normal in the central and eastern equatorial Pacific, and shallower than normal in the western equatorial Pacific. These features are similar to those observed during the mature phase of the 1986-1987 warm (ENSO) episode.

There are certain features of the present warm episode which are evolving differently from the 1986-1987 warm episode. The SST anomalies in December 1991 were greater than those observed in December 1986. Also, the area of enhanced convection (cloudiness and precipitation) during November and December 1991 was shifted farther east than was observed during late 1986. Finally, the low-level easterlies in the central equatorial Pacific have been substantially weaker during the last two months than at any time during the 1986-1987 warm episode.

During the next three months, our attention will be focused on the evolution of both the enhanced convection in the central Pacific and the positive SST anomalies in the eastern equatorial Pacific, especially along the South American coast. Positive SST anomalies can have a strong impact on the distribution of cloudiness and precipitation throughout the eastern equatorial Pacific at the time of year (February - April) when sea surface temperatures are seasonally highest.

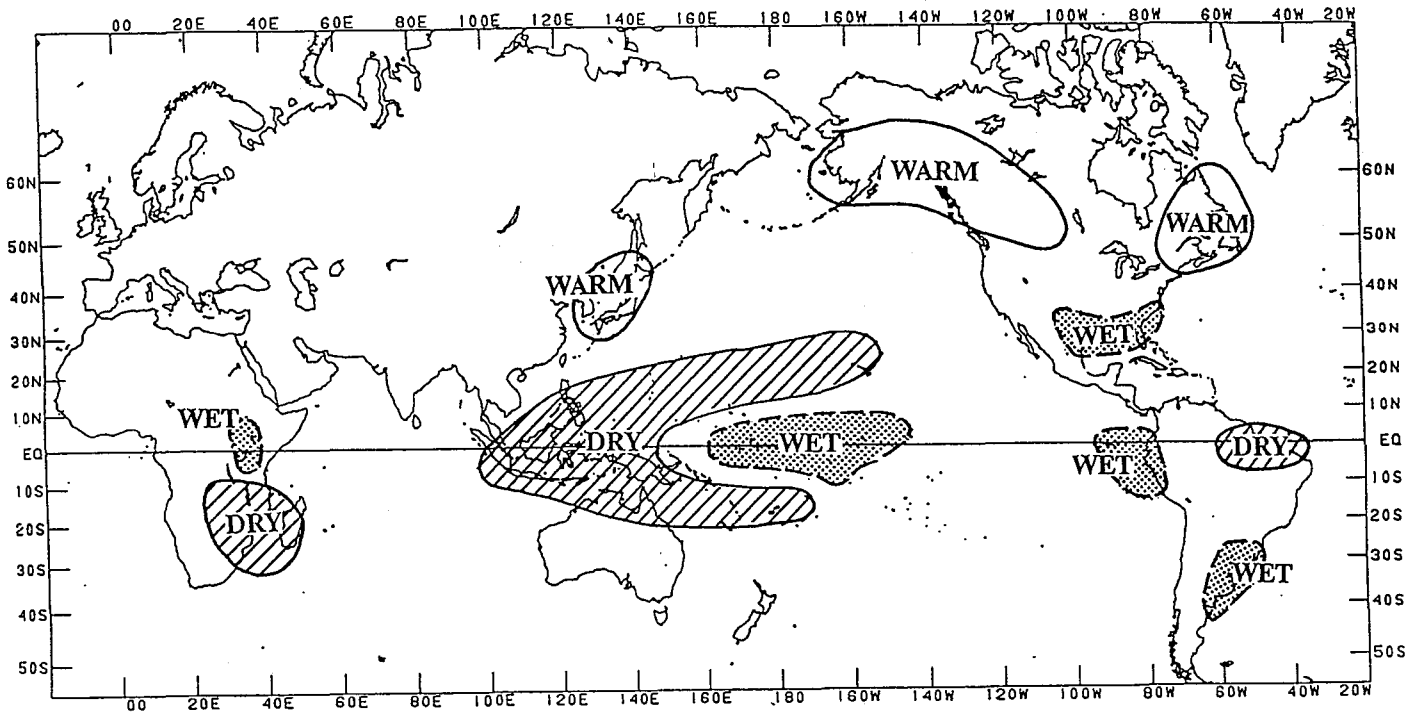


FIGURE 1 Temperature and precipitation anomaly patterns generally found during November - March in warm (ENSO) episodes.

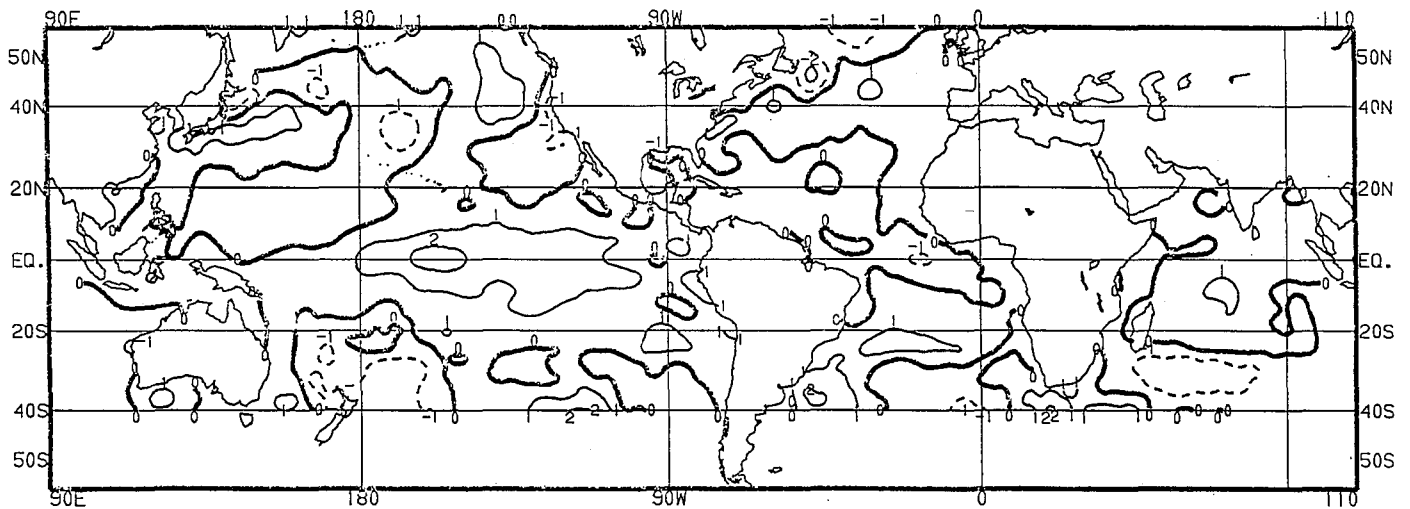


FIGURE 2 Sea surface temperature anomalies for December 1991. Contour interval is 1°C. Negative values are indicated by dashed contours.