Western Region Technical Attachment
No. 95-13
April 18, 1995

EL NINO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC ADVISORY 95/4

CLIMATE ANALYSIS CENTER/NMC
April 12, 1995

[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.)

Warm episode conditions have weakened considerably since the end of 1994. Sea surface temperature anomalies have decreased throughout most of the equatorial Pacific (Fig. 1), the pattern of convection has returned to near normal over the tropical Pacific, and the low-level easterlies have increased to near-normal intensity over the entire equatorial Pacific. Consistent with the strengthening of the low-level easterlies, the Southern Oscillation Index (SOI) has increased from the very low values observed during the last half of 1994 to near zero in March.

The evolution of the pattern of equatorial SST anomalies during the last three months has been remarkable, especially in regards to the rapidity with which the pattern has changed. In particular large positive SST anomalies everywhere east of the date line during December 1994 were replaced with near-normal or even below-normal SSTs in the eastern Pacific during the last two months (Fig. 2). This evolution was accompanied by a rapid decrease in the depth of the thermocline everywhere east of the date line (Fig. 3).

Both statistical prediction techniques indicate a gradual decrease in SST anomalies with near-normal temperatures by the end of 1995. In contrast, the most recent coupled model predictions indicate very little change in the pattern of SST anomalies during the next nine months. Taking into account these predictions and the indications by most atmospheric and oceanic indices it seems likely that near- or slightly warmer-than-normal conditions will prevail in the tropical Pacific during the next several months.

Since warm (ENSO) episode conditions have ceased to exist in the tropical Pacific, this will be the last advisory in this series. The next advisory will be issued only when oceanic and atmospheric patterns indicate the development of a new warm episode.

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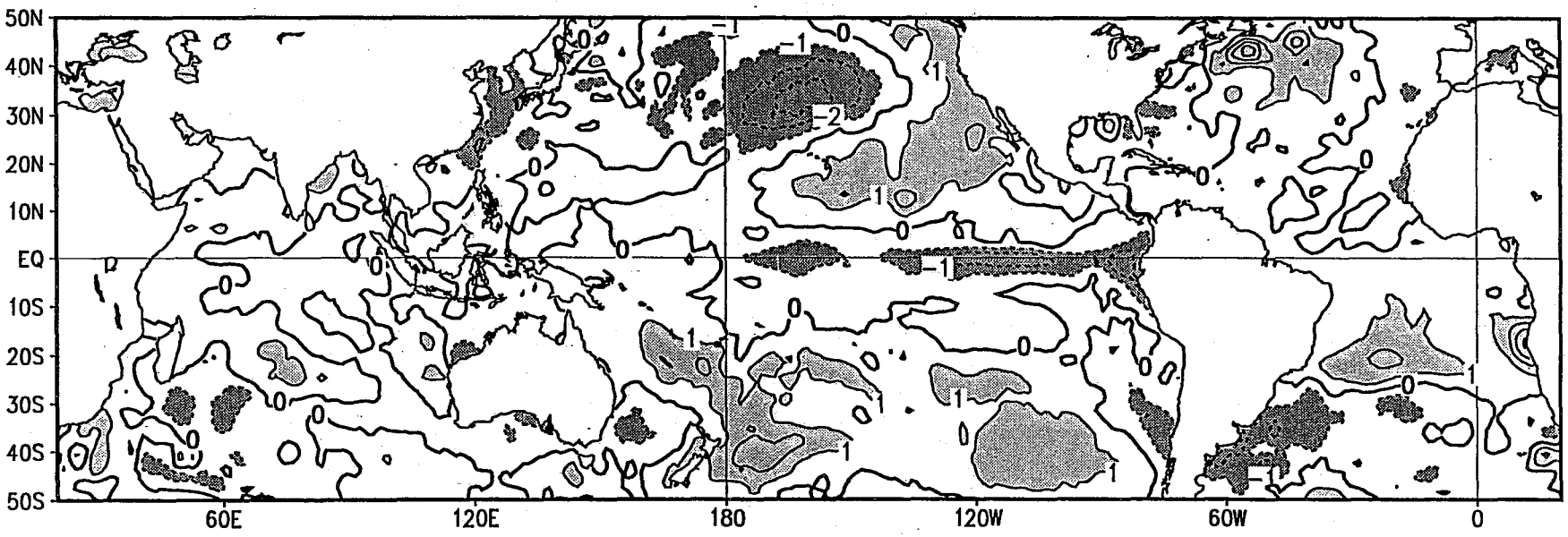

FIGURE 1. Difference between December 1994 and March 1995 sea surface temperature (SST) anomalies. Contour interval is 1.0°C. Anomalies are departures from the adjusted OI climatology (Reynolds and Smith, submitted to *J. Climate*).

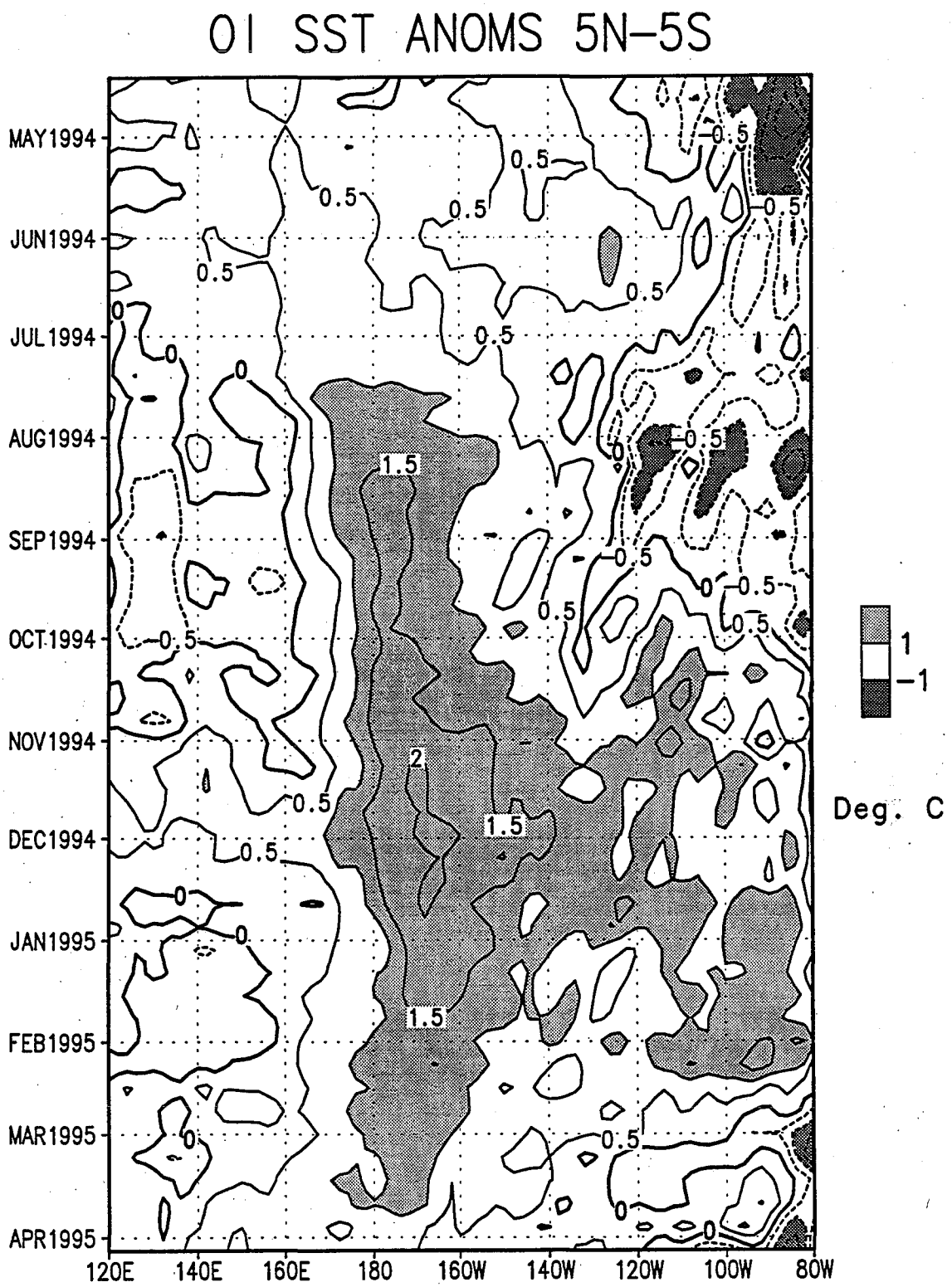

FIGURE 2. Time-longitude section of anomalous equatorial sea surface temperature. Contour interval is 0.5°C. Anomalies are departures from the adjusted OI climatology (Reynolds and Smith, submitted to *J. Climate*).

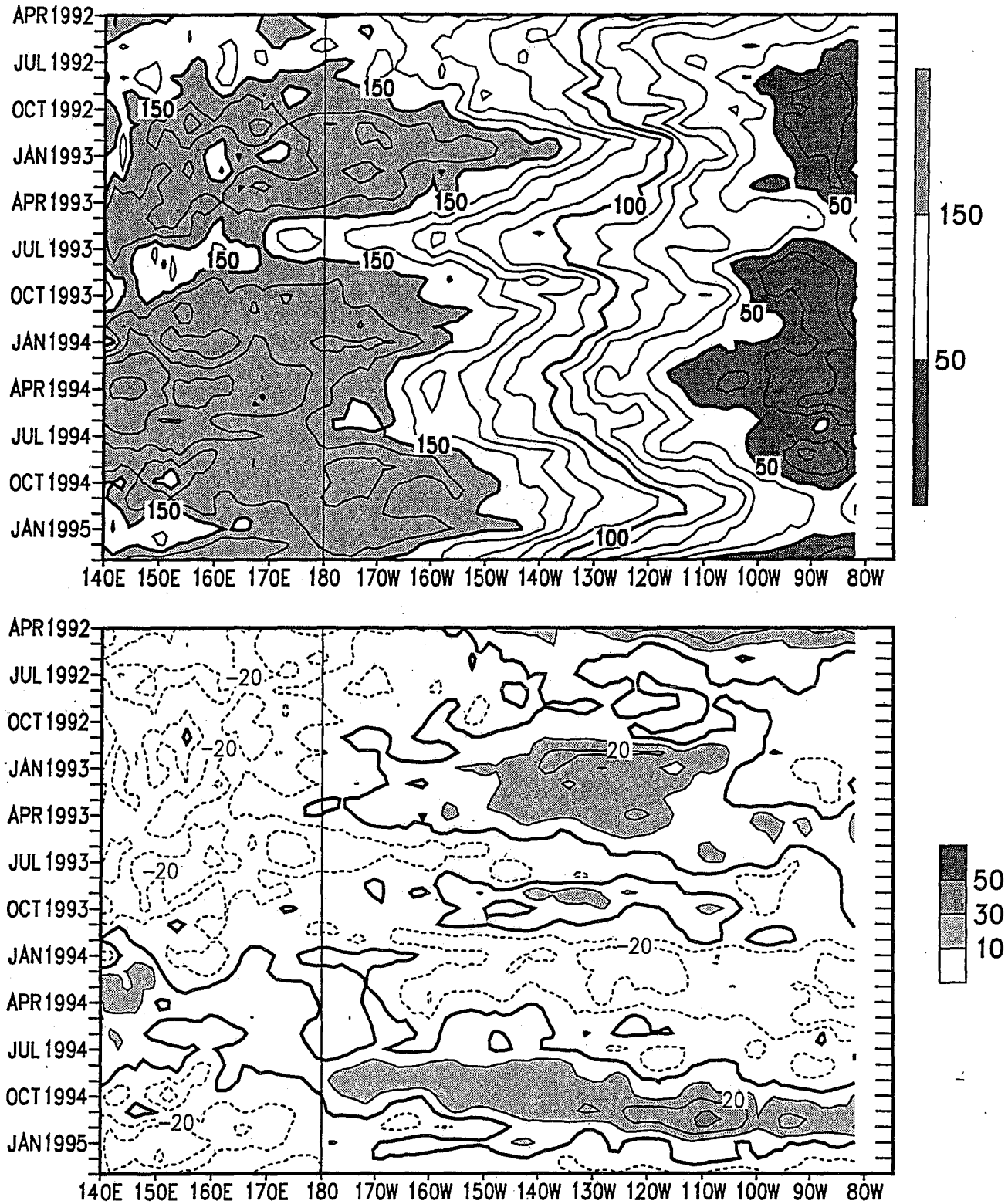

FIGURE 3. Mean (top) and anomalous (bottom) depth of the 20°C isotherm for 5°N-5°S in the Pacific Ocean. Data are derived from an analysis system which assimilates oceanic observations into an oceanic GCM (Leetmaa and Ji 1989, *Dyn. Atmos. Oceans*, **13**, 465-490). The contour interval is 10 m. Dashed contours in bottom panel indicate negative anomalies. Anomalies are departures from the 1983-1992 base period means.