Monthly mean sea surface temperatures and their anomalies, or departures from a 20-yr (1948-67) mean, for 1976 have been mapped for the Gulf of Alaska-Bering Sea, the eastern North Pacific, and the western North Atlantic (Appendix 9.1). The western North Atlantic was mapped for 1974 (McLain 1976) and all three areas were mapped for 1975 (McLain 1978). The maps are based on surface marine weather observations made routinely by ships of many nations. The observations are available in near real-time and at low cost, and are used to produce several data products including these monthly mean maps. There are other maps of sea surface temperature available, in particular gulfstream and Fishing Information. The areas covered are distinct and there are a few important processing differences. Fishing Information uses the same 20-yr base period as the present maps. The temperatures and anomalies are contoured and thus reflect analysis; the data are not presented. The gulfstream presents the data and uses a full data set historical mean. The reference period includes years of sparse data, particularly before World War II, and clusters of data from classical research cruises.

**Technique**

The observations of sea surface temperature were edited through a two-stage filter. In the first stage, all observations < -2.0°C or > 40°C were rejected. In the second stage, observations > 8.0°C from a reference value were rejected. The reference value was the base period mean for the particular month and the particular

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1 Pacific Environmental Group, National Marine Fisheries Service, NOAA, Monterey, CA 93949.
2 The marine weather observations are transmitted worldwide over the GTS network. They are received at the Fleet Numerical Weather Central, U.S. Navy, Monterey, CA 93940.
3 The gulfstream Oceanographic Services Branch, National Weather Service, NOAA, Silver Spring, MD 20910.
4 Fishing Information, Southwest Fisheries Center, NMFS, NOAA, La Jolla, CA 92038.
1-deg square for the first two observations of that month; for later observations the reference value was the current mean for the particular month and 1-deg square.

Saur (1963) and McLain (1976, 1978) discussed sources of error in the observations and in the maps.

LITERATURE CITED

McLAIN, D. R.

SAUR, J. F. T.
APPENDIX 9.1

The maps present by month and by 1-deg square the mean monthly sea surface temperature, the departure from a 20-yr (1948-67) mean, and the number of accepted observations. The temperatures were not plotted if there were two or fewer observations in that particular 1-deg square. Also, anomalies were not plotted if there were fewer than five years represented in the 20-yr mean. Anomalies of magnitude greater than 1.0°C are shaded.

The maps cover the following regions:

- Gulf of Alaska and Bering Sea 45N-63N 122W-180W
- Eastern North Pacific 25N-50N 110W-150W
- Western North Atlantic 20N-46N 60W-99W
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