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INFORMAL REPORT

TEMPERATURE, SALINITY,
AND DENSITY OF THE WORLD'S SEAS
EAST CHINA SEA

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ABSTRACT

The variation and distribution of temperature, salinity, and density in the East China Sea are influenced by the monsoonal rains, continental runoff, waters of the Kuroshio, and bottom topography. During the winter monsoon, mixing produces a homogeneous vertical water structure over the Continental Shelf and a deep mixed layer in the basin portion of the sea. Conversely, during the summer monsoon, a warmer, less saline surface layer develops as a result of increased solar radiation, continental runoff, and precipitation.

SANDRA E. SEIM

DOUGLAS R. HAMILTON

Environment Branch
Oceanographic Analysis Division
Marine Sciences Department

This manuscript has been reviewed
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for *R. M. Holcomb*
A. R. GORDON, JR.
Division Director

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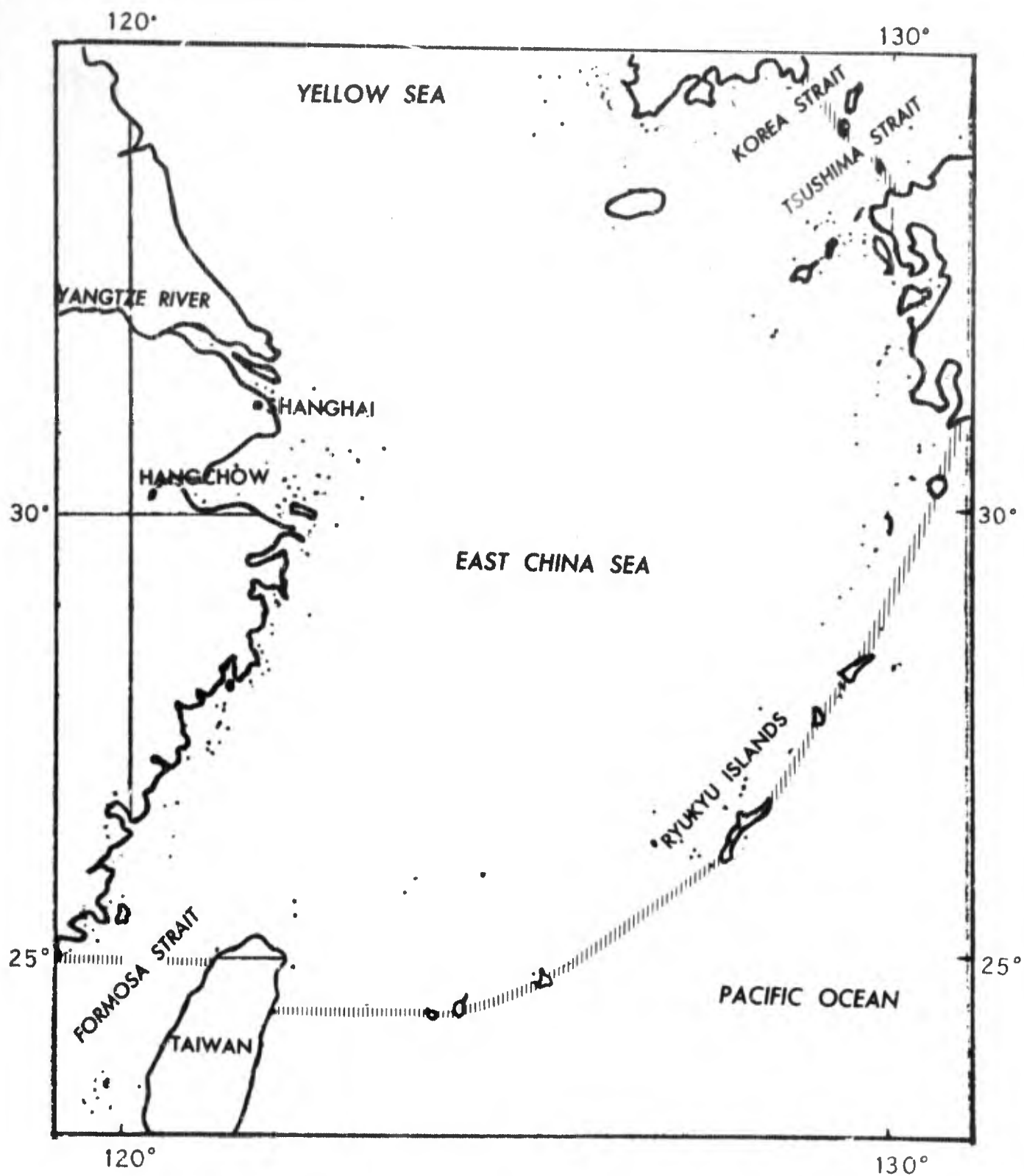
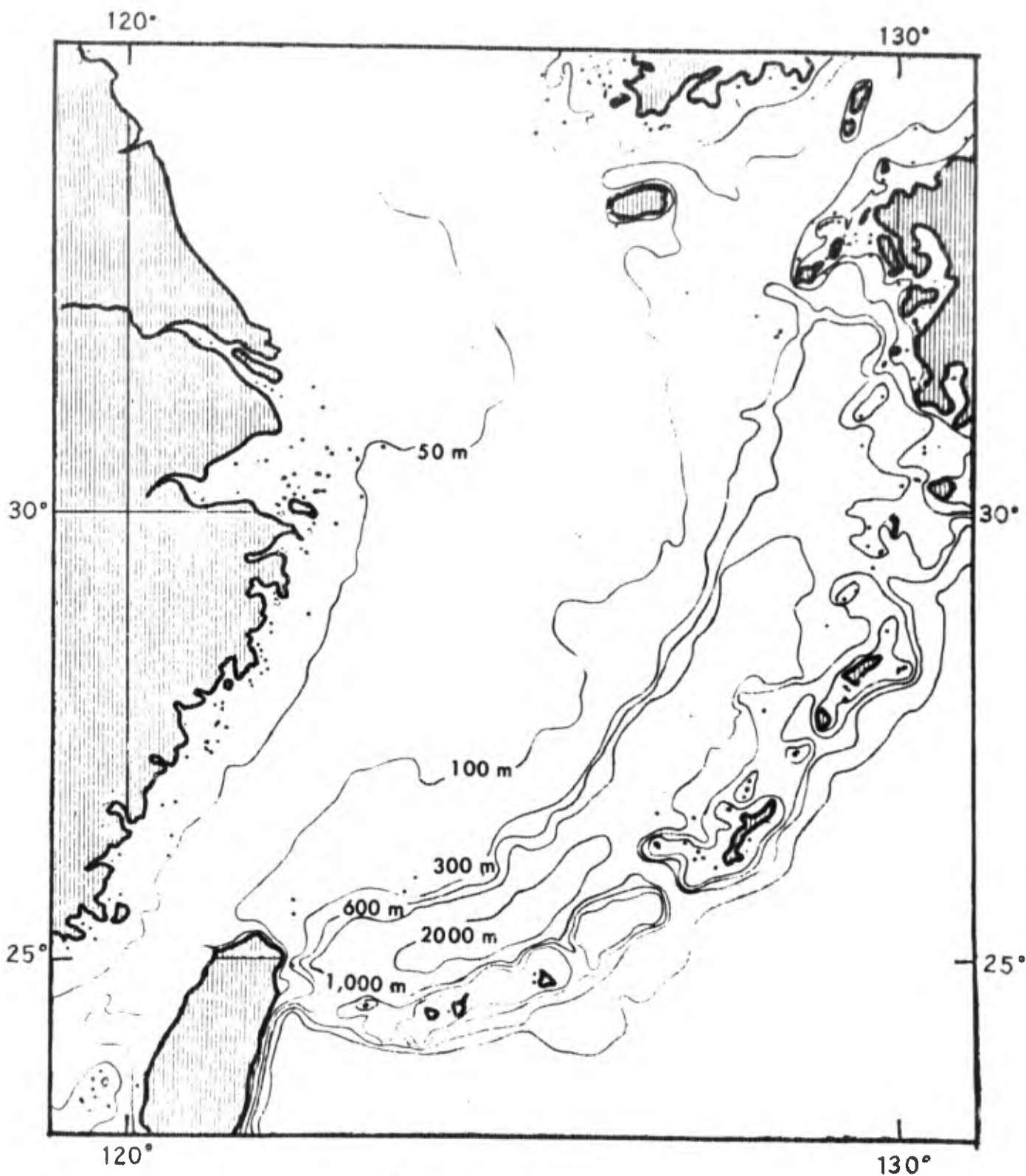


CHART OF THE AREA



BATHYMETRY OF THE AREA

ACKNOWLEDGMENTS

This study is a product of the Physical Properties Section, Environment Branch, Oceanographic Analysis Division. The data collection was the work of the entire Section. The authors, however, wish to acknowledge especially the assistance of Messrs. Byron B. Baker, Jr. and Paul E. LaViolette in the preparation of this study.

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TEMPERATURE, SALINITY, AND DENSITY OF THE WORLD'S SEAS:

EAST CHINA SEA

INTRODUCTION AND DEFINITIONS

This study is a continuation of a series describing the temperature, salinity, and density distributions in various seas of the world. The sources and amount of data on which this report is based, as well as a discussion of regions and periods needing additional data, are given in the sections entitled Data Sources and Bibliography.

In this study, the distribution of the physical properties of sea water is represented by mean values. Wherever sufficient data are available, ranges and percent frequencies of occurrence are also presented.

Units are reported in the metric and British systems, with emphasis placed on the system in which the parameter was measured or analyzed. Thus, temperature is analyzed in degrees Fahrenheit for depths in meters.

a. Temperature -- In this study, temperature is given in both degrees Celsius ($^{\circ}\text{C}.$) and degrees Fahrenheit ($^{\circ}\text{F}.$). Water is considered isothermal when its vertical temperature varies by less than $2.5^{\circ}\text{C}.$ per 100 meters ($1.4^{\circ}\text{F}.$ per 100 feet). A negative thermal gradient, or thermocline, is arbitrarily considered to exist when the reduction of temperature with depth attains or exceeds this amount. If the water is isothermal from the surface to a certain depth, the initial mixed layer is called the isothermal layer, and the depth at which the layer ceases to be isothermal is labeled the isothermal layer depth. In this area, the isothermal layer depth generally corresponds to the top of the thermocline.

b. Salinity -- In this study, salinity is given in parts per thousand (‰). Water of uniform salinity is said to be isohaline, and a well-defined positive gradient of salinity is known as a halocline.

c. Density -- Density as used here is equivalent to specific gravity and represents the ratio at atmospheric pressure of the weight of a given volume of sea water to that of an equal volume of distilled water at 4.0°C. (39.2°F.). For simplicity, it is expressed as sigma-t (σ_t), an abbreviated form wherein water whose density is 1.02650 has a σ_t value of 26.50.

A column of water is assumed to be isopycnic, i.e., to have uniform density, if the change in σ_t is equal to or less than 0.65 per 100 meters (0.20 per 100 feet). A vertical gradient of density, known either as a pycnocline or a density layer, is considered to exist when the change in density exceeds the stated isopycnic limits. The pycnocline generally begins at the same depth as the thermocline.

DISCUSSION OF THE AREA

The values and variations of temperature, salinity, and density in the waters of the East China Sea are dependent upon the monsoonal regime*, the position of the Kuroshio, coastal runoff, and bottom topography.

Oceanographically, the East China Sea may be divided into a shallow Continental Shelf region and a deep basin region. During the winter monsoon, surface water is convectively and mechanically mixed

* The monsoons affecting the area are separated into two periods: Winter monsoon (October through March) and summer monsoon (June through August). The months April and May, and September, represent the spring and autumn transition periods, respectively, between the monsoons.

with the water at depth by the high evaporation, cooling, and winds associated with this monsoon. This mixing results in a water column which is nearly homogeneous from the surface to the bottom over the shelf and homogeneous to about 100 meters (328 feet) in the deep portion of the sea. Cold saline water is characteristic of the winter monsoon. In spring, the surface layer is warmed by solar heating and diluted by rain and land runoff.

During the summer monsoon, warm, low-salinity water of continental origin* spreads over the cooler winter water in the shelf region. The extent and thickness of the surface layer depend upon the strength of the monsoon and the position of the Kuroshio. In the basin portion of the sea, heating and precipitation cause development of strong thermoclines and haloclines. Rapid cooling during the autumn transition and early winter monsoon causes the surface water to become more dense than the water at 50 meters (164 feet); this unstable condition produces the mixing which results in the homogeneous winter structure.

Water over the Continental Shelf may be particularly unstable because of combinations of the influences of river runoff, precipitation, tidal currents, and meteorological changes.

Sea ice rarely occurs south of 35°N. along the coast of China.

* The total outflow of the Yangtze River into the East China Sea amounts to approximately 758 cubic kilometers (approximately 182 cubic miles) per year. For comparison, the yearly outflow of the Yangtze River is approximately 16.5% of the yearly outflow of the Mississippi River. The maximum outflow of the Yangtze River occurs from June through October.

DATA SOURCES

All presentations dealing with sea surface temperature were derived from the punchcard decks retained by the U. S. Weather Bureau (Source 3) and summarized by one-degree quadrangles. These data consist mostly of injection temperatures collected by various marine organizations and cover the period from 1854 through June 1961. Because injection temperatures are commonly taken below the surface and may be influenced by heat from the ship's engines or boilers, they are not individually considered as reliable as temperatures derived from bucket thermometers or Nansen casts. However, if temperatures are taken in sufficient quantities by a number of ships over a prolonged period, as in this study, the overall reliability of the data improves considerably.

Although all data were examined on mean charts, the data in those quadrangles containing fewer than 10 observations were omitted from the analysis of the charts of minimum and maximum temperatures. In addition, because of the inherent error in this type of data, the extreme temperature in each quadrangle was taken as the first whole temperature above 2.5 percent of the data (minimum), and the first whole temperature above 97.5 percent of the data (maximum).

The summarization of the data by one-degree quadrangles precludes a more detailed analysis of surface temperature in the coastal regions, and interpretations of the smoothed analysis must be made with this limitation in mind.

The subsurface temperature data, obtained primarily from listings of all available oceanographic stations, were generally sparse and

increasingly deficient with depth. Temperature distributions at 50 meters (164 feet) are presented for February, May, August, and November. Because of the decrease in seasonal variation and decreasing amount of data with depth, the temperature observations at 100 meters (328 feet) were combined into trimonthly periods. At greater depths, where seasonal effects are negligible, all months were combined.

The surface and subsurface salinity distributions were also obtained from listings of all available station data. As with temperature, the data were generally sparse and the salinity distributions at 0, 50, and 100 meters (0, 164, and 328 feet) are presented for trimonthly periods. At greater depths, all available data were averaged together.

All density presentations were constructed from the same sources as temperature and salinity. Their reliability was improved and discrepancies minimized by combining the temperature and salinity analysis; however, the density distributions at 50 meters (164 feet) showed considerable instability and cannot be presented.

Useful textual information on the overall distribution of physical properties in this study area was collected from Sources 1 and 2.

In general, the amount and coverage of the data are inadequate. In certain regions, particularly near the coast, few data are available throughout the year. For this reason, vertical traces are limited to the deeper portions of the East China Sea. Because of the variability of the seasons from year to year, synoptic data not now available are needed. Also, more data of all types are needed throughout the study area before it can be fully described and understood.

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3. U. S. Naval Oceanographic Office and U. S. Weather Bureau. "Sea Surface Temperature in °F. for Marsden Square 096." Compiled from Decks 110, 117, 195 (U. S. Navy Marine Surface Observations and Ship Logs), Decks 118, 119 (Japanese Marine), Decks 184, 194 (British Marine), Decks 189, 193 (Dutch Marine), Deck 192 (Deutsche Seewart Marine), and Deck 281 (U. S. Navy Aerological Record). Washington. Unpublished.

TEMPERATURE CONVERSION TABLE - °F. to °C.							
(°F.)	(°C.)	(°F.)	(°C.)	(°F.)	(°C.)	(°F.)	(°C.)
28	-2.2	45	7.2	62	16.7	79	26.1
29	-1.7	46	7.8	63	17.2	80	26.7
30	-1.1	47	8.3	64	17.8	81	27.2
31	-0.6	48	8.9	65	18.3	82	27.8
32	0.0	49	9.4	66	18.9	83	28.3
33	0.6	50	10.0	67	19.4	84	28.9
34	1.1	51	10.6	68	20.0	85	29.4
35	1.7	52	11.1	69	20.6	86	30.0
36	2.2	53	11.7	70	21.1	87	30.6
37	2.8	54	12.2	71	21.7	88	31.1
38	3.3	55	12.8	72	22.2	89	31.7
39	3.9	56	13.3	73	22.8	90	32.2
40	4.4	57	13.9	74	23.3	91	32.8
41	5.0	58	14.4	75	23.9	92	33.3
42	5.6	59	15.0	76	24.4	93	33.9
43	6.1	60	15.6	77	25.0	94	34.4
44	6.7	61	16.1	78	25.6	95	35.0

TEMPERATURE CONVERSION TABLE - °C. to °F.			
(°C.)	(°F.)	(°C.)	(°F.)
-2	28.4	17	62.6
-1	30.2	18	64.4
0	32.0	19	66.2
1	33.8	20	68.0
2	35.6	21	69.8
3	37.4	22	71.6
4	39.2	23	73.4
5	41.0	24	75.2
6	42.8	25	77.0
7	44.6	26	78.8
8	46.4	27	80.6
9	48.2	28	82.4
10	50.0	29	84.2
11	51.8	30	86.0
12	53.6	31	87.8
13	55.4	32	89.6
14	57.2	33	91.4
15	59.0	34	93.2
16	60.8	35	95.0

HORIZONTAL DISTRIBUTION OF TEMPERATURE (°F.)

Isotherms are presented in °F. Because of the large rivers along the coast, as well as the heavy monsoonal rains, temperature values may be subject to extensive short-term variations from the mean conditions presented.

Since relatively large numbers of observations are available, the mean sea surface temperature distribution is presented for all months in Figures 1 through 12. The minimum and maximum sea surface distributions are presented for February, May, August, and November in Figures 13 through 16 and 17 through 20, respectively. In addition, the monthly variability of sea surface temperature is graphed for selected regions in Figure 21.

The mean temperature distribution at 50 meters (164 feet) is shown for February, May, August, and November in Figures 22 through 25; temperature distribution at 100 meters (328 feet) is shown for trimonthly periods in Figures 26 through 29. Because of insufficient observations and decreasing variability with depth, the temperature distributions at 300 meters (984 feet) and 600 meters (1,968 feet) are averaged for the entire year in Figures 30 and 31, respectively.

Conversion tables of degrees Celsius (°C.) and degrees Fahrenheit (°F.) are given on page 7.

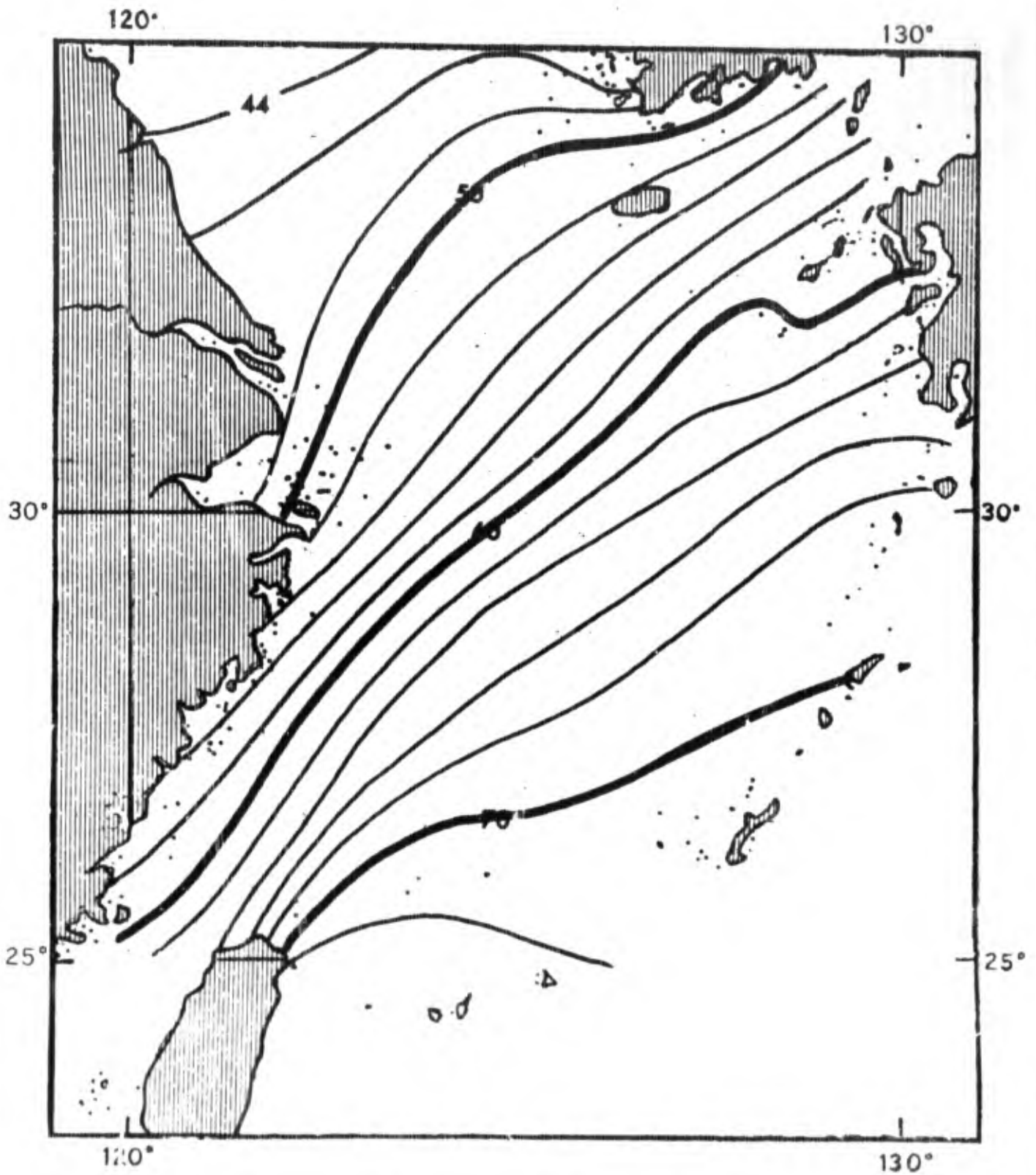


FIGURE 1 MEAN SEA SURFACE TEMPERATURE (°F), JANUARY

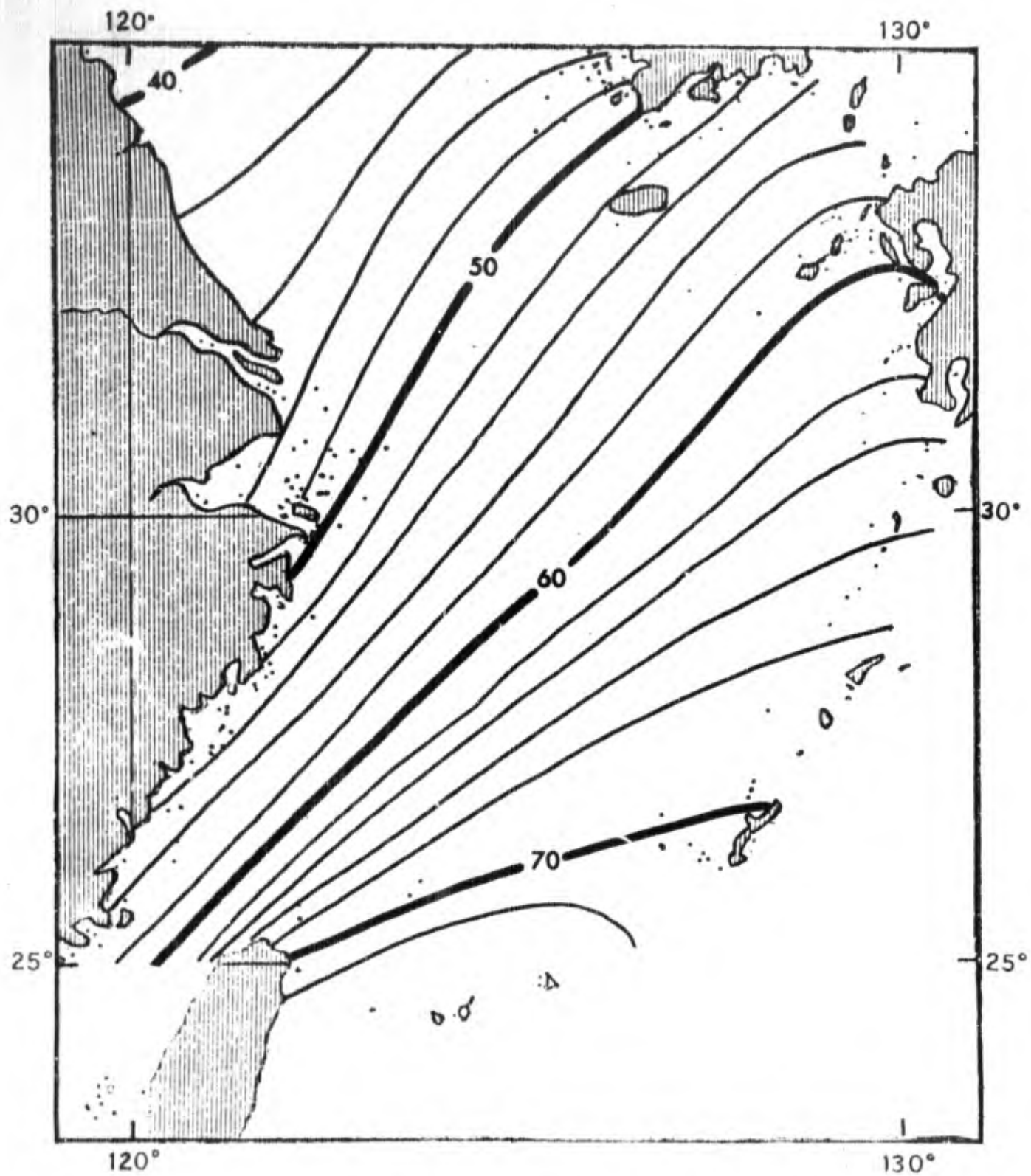


FIGURE 2 MEAN SEA SURFACE TEMPERATURE (°F), FEBRUARY

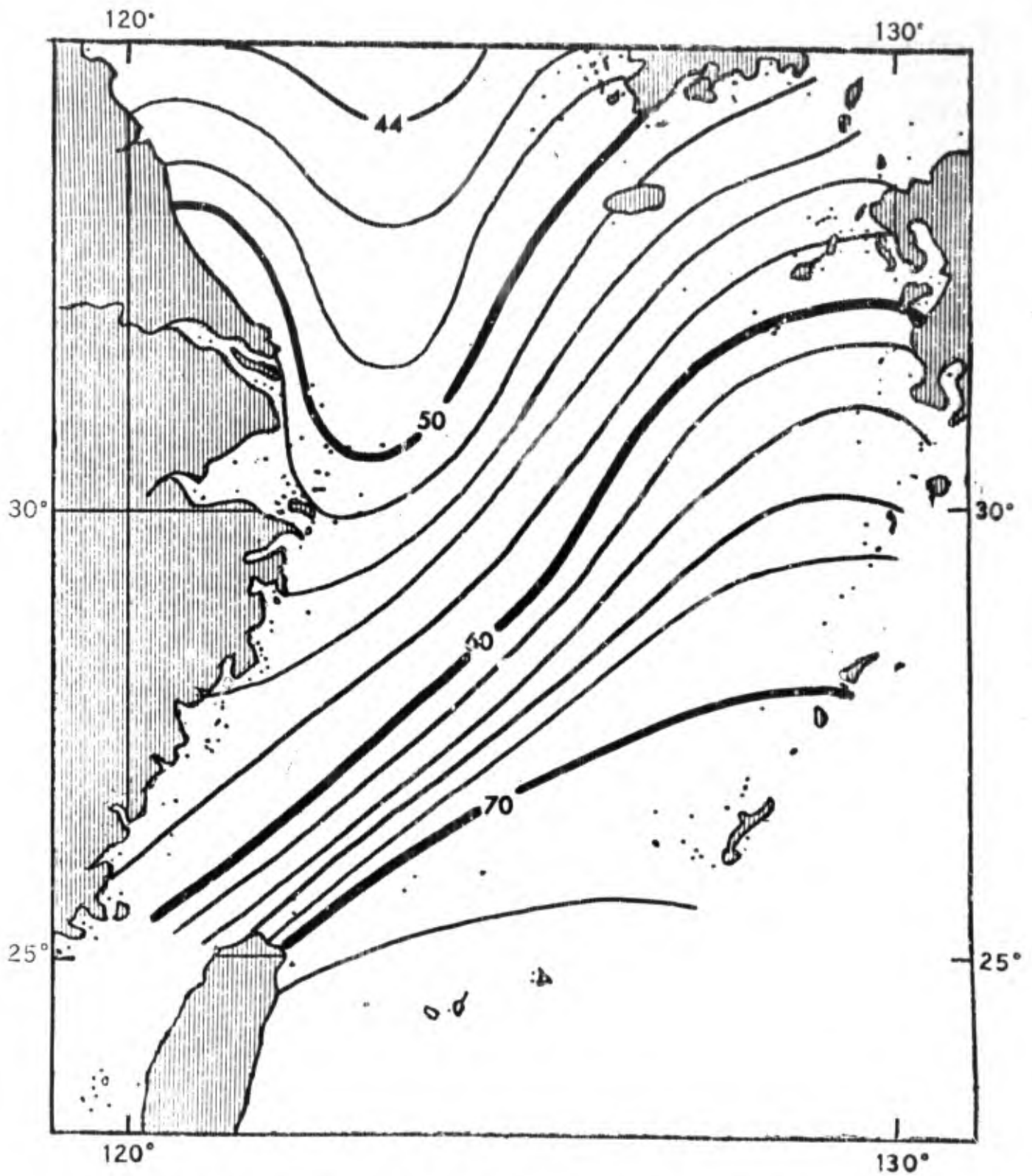


FIGURE 3 MEAN SEA SURFACE TEMPERATURE (°F), MARCH

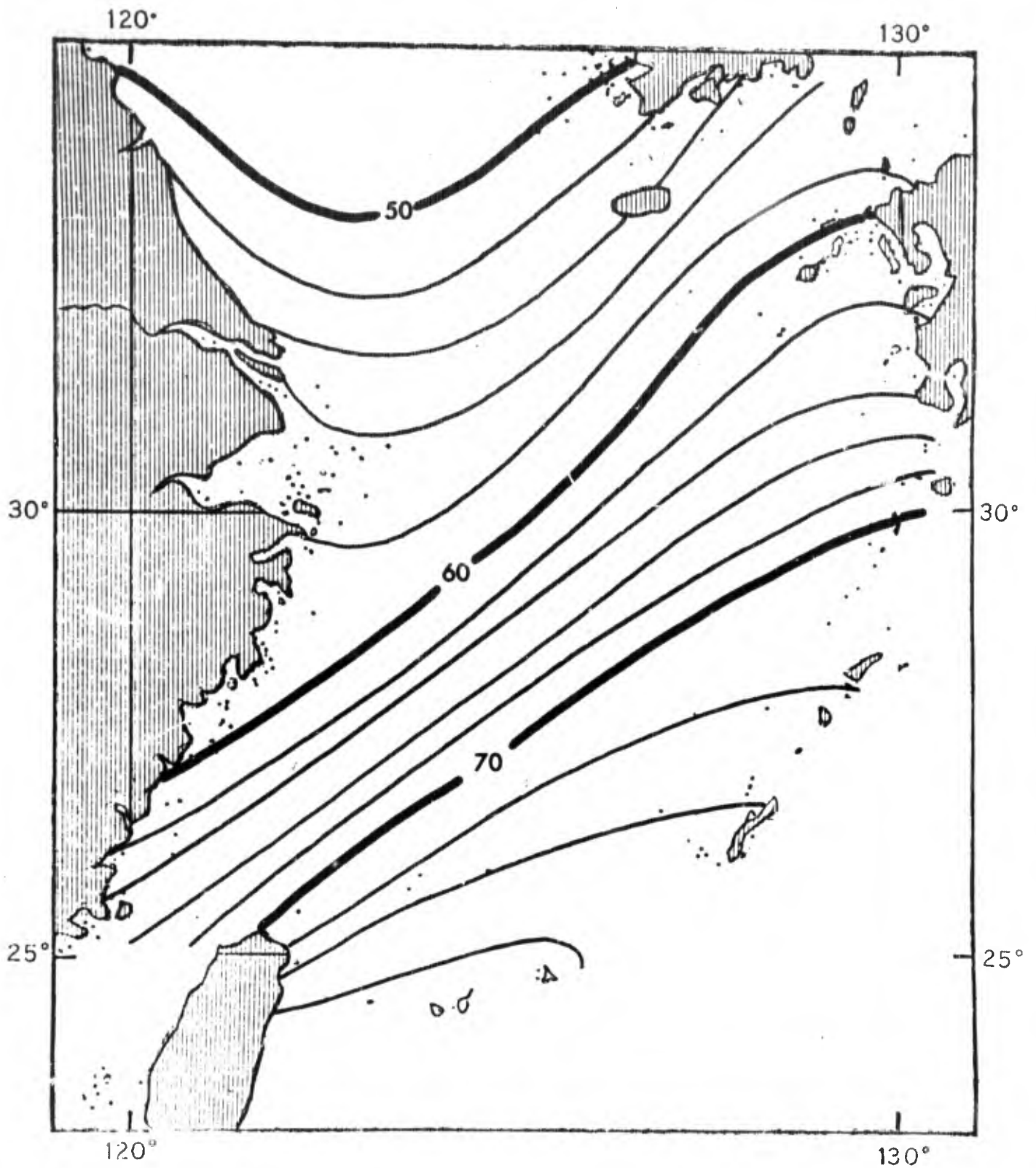


FIGURE 4 MEAN SEA SURFACE TEMPERATURE (°F), APRIL

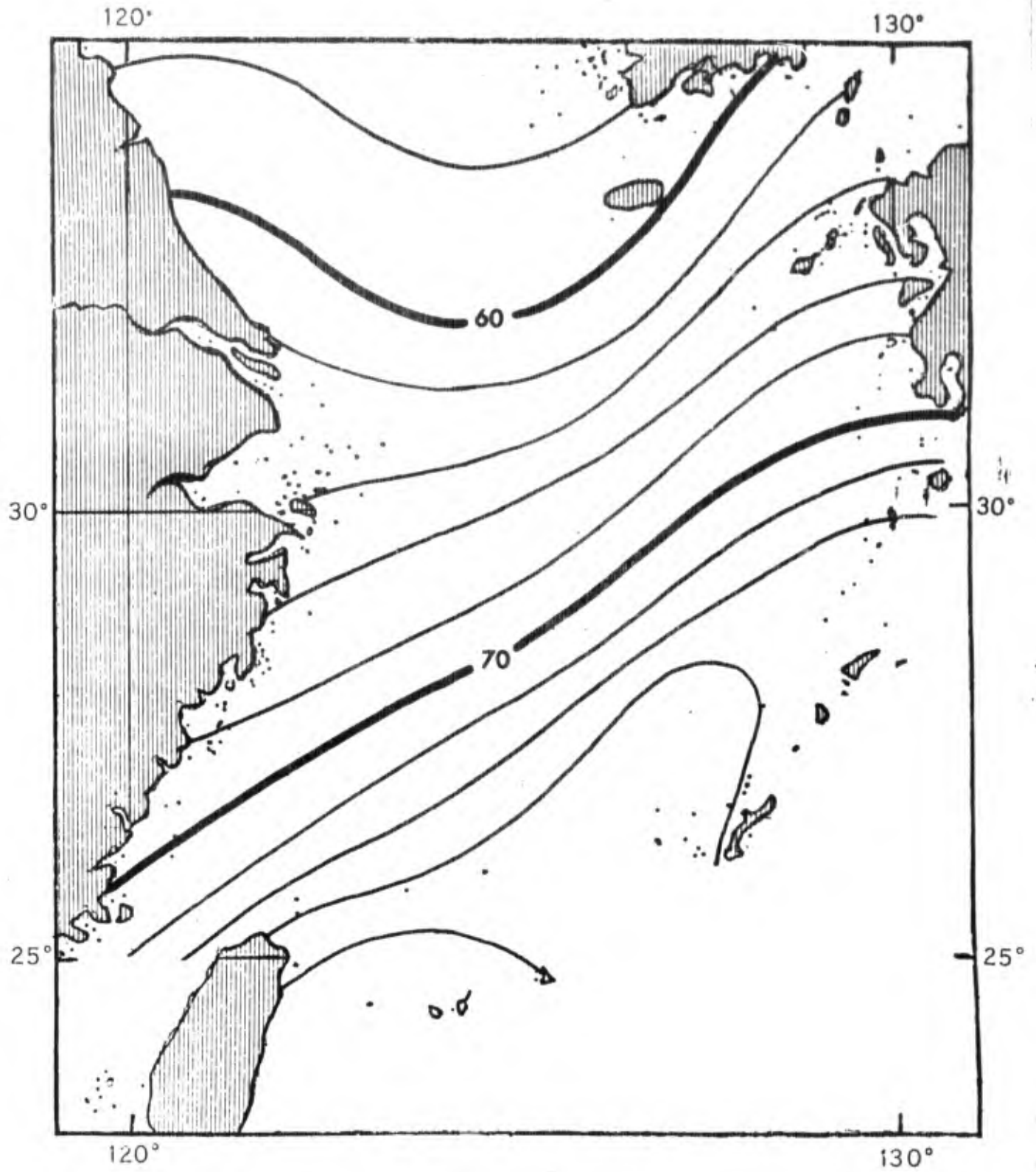


FIGURE 5 MEAN SEA SURFACE TEMPERATURE (°F), MAY

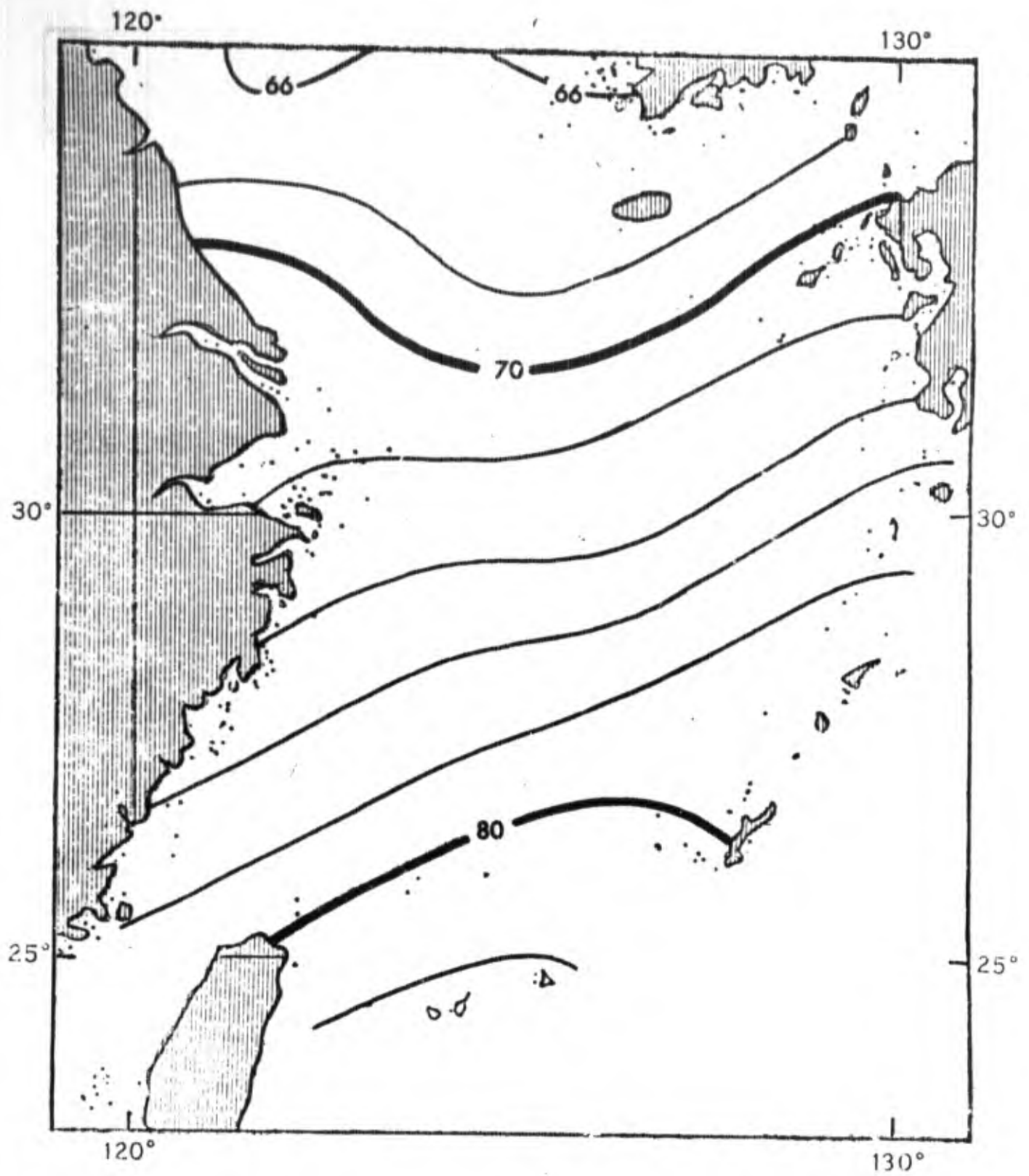


FIGURE 6 MEAN SEA SURFACE TEMPERATURE (°F), JUNE

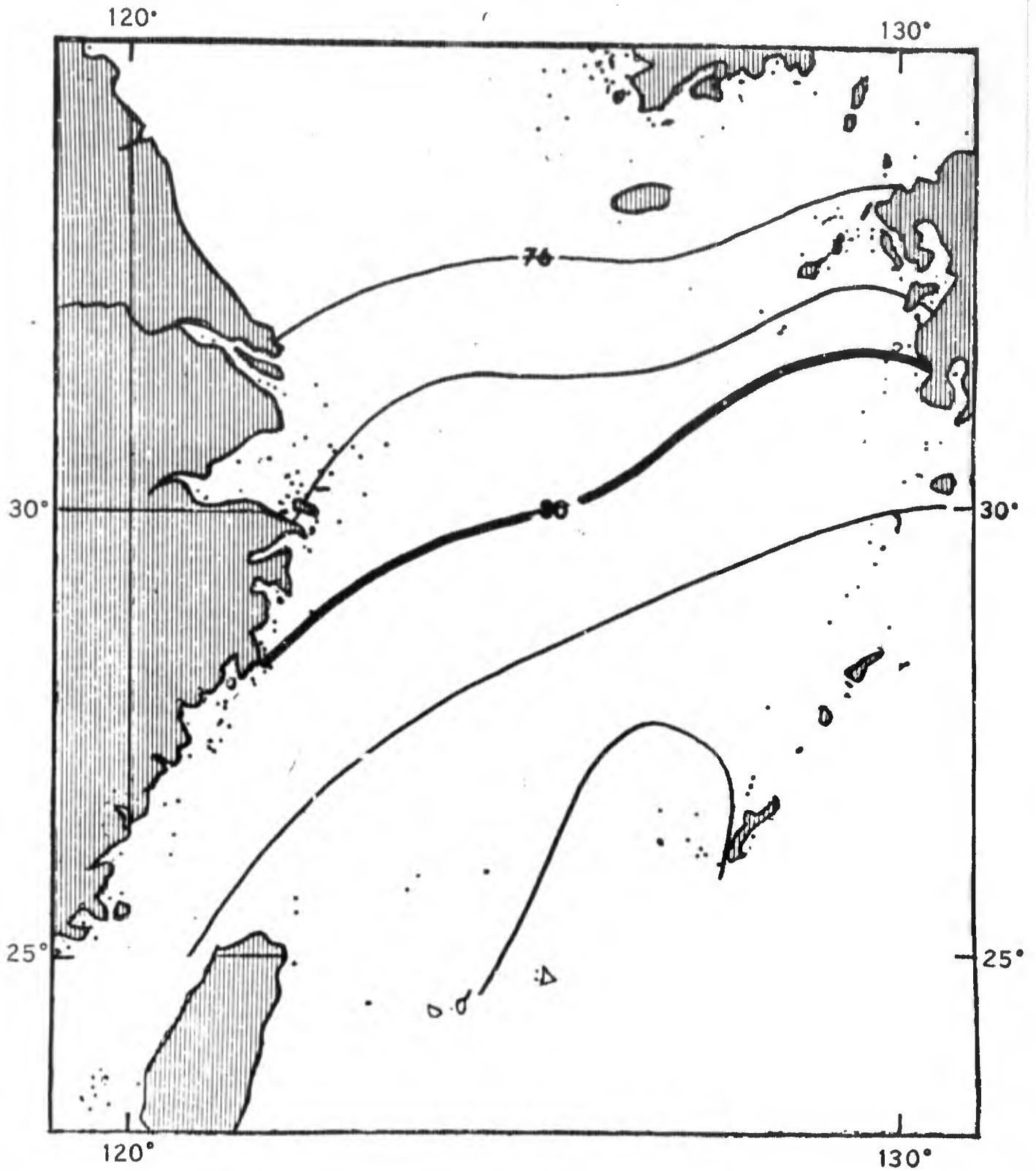


FIGURE 7 MEAN SEA SURFACE TEMPERATURE (°F), JULY

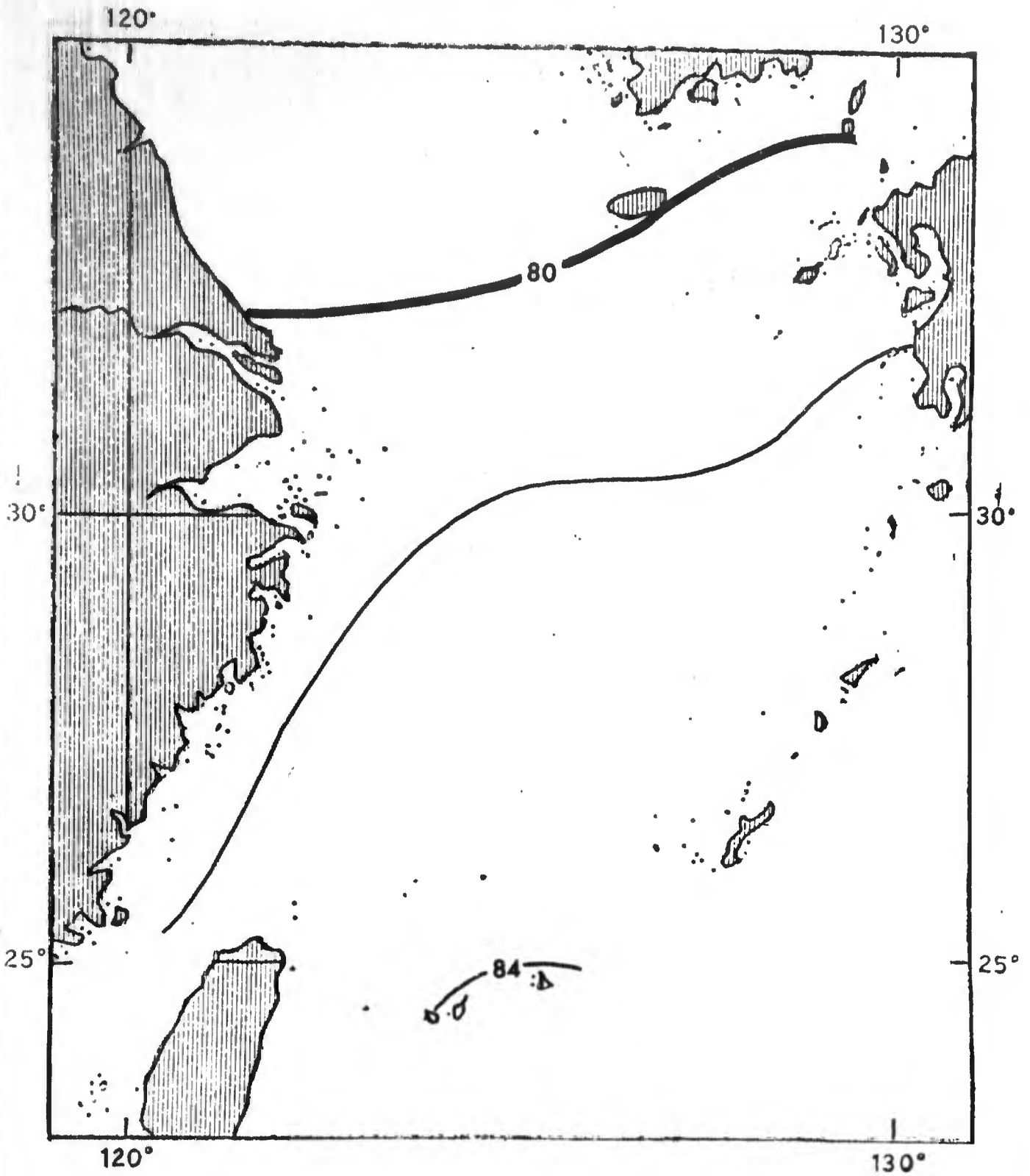


FIGURE 8 MEAN SEA SURFACE TEMPERATURE (°F), AUGUST

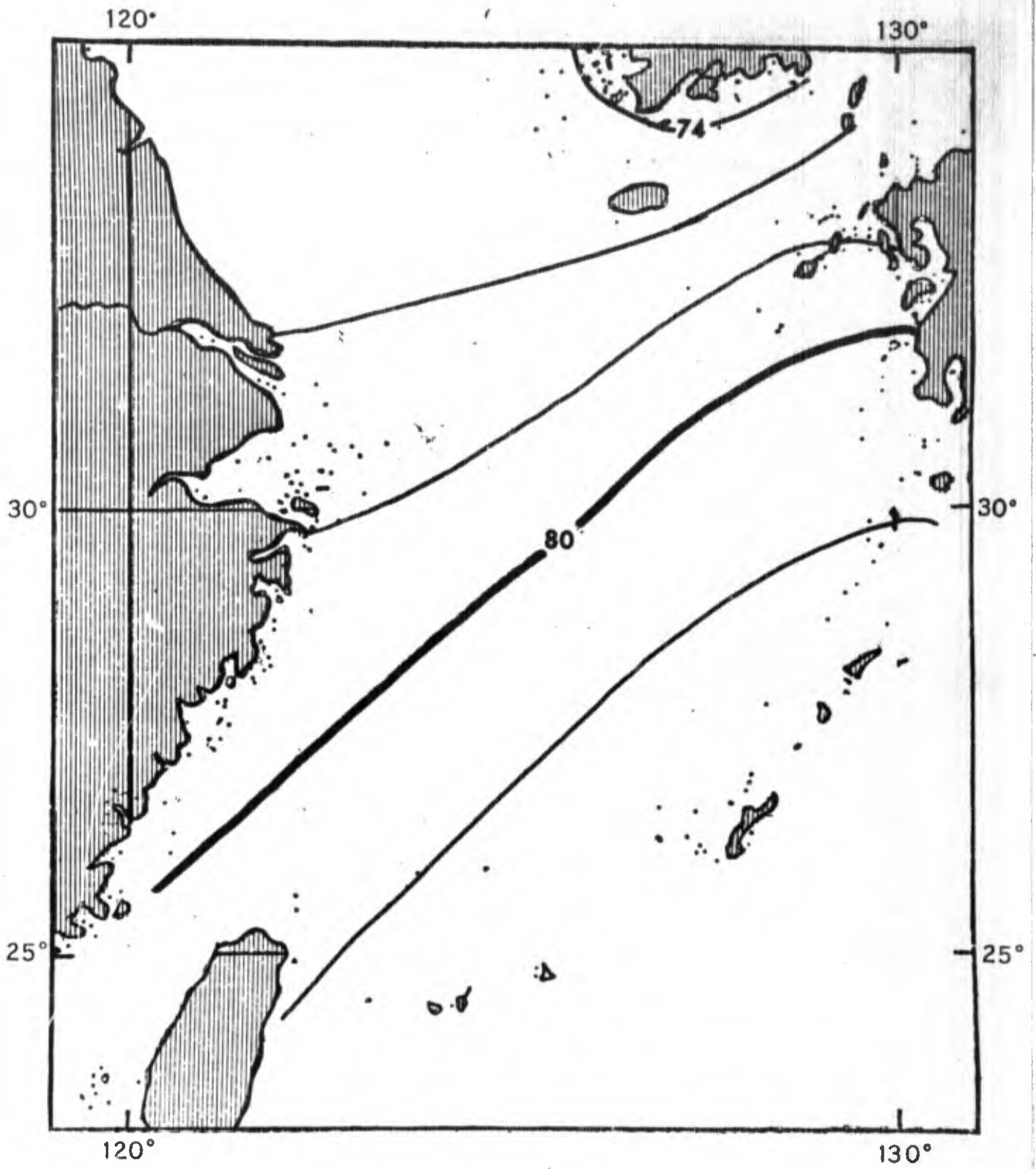


FIGURE 9 MEAN SEA SURFACE TEMPERATURE (°F), SEPTEMBER

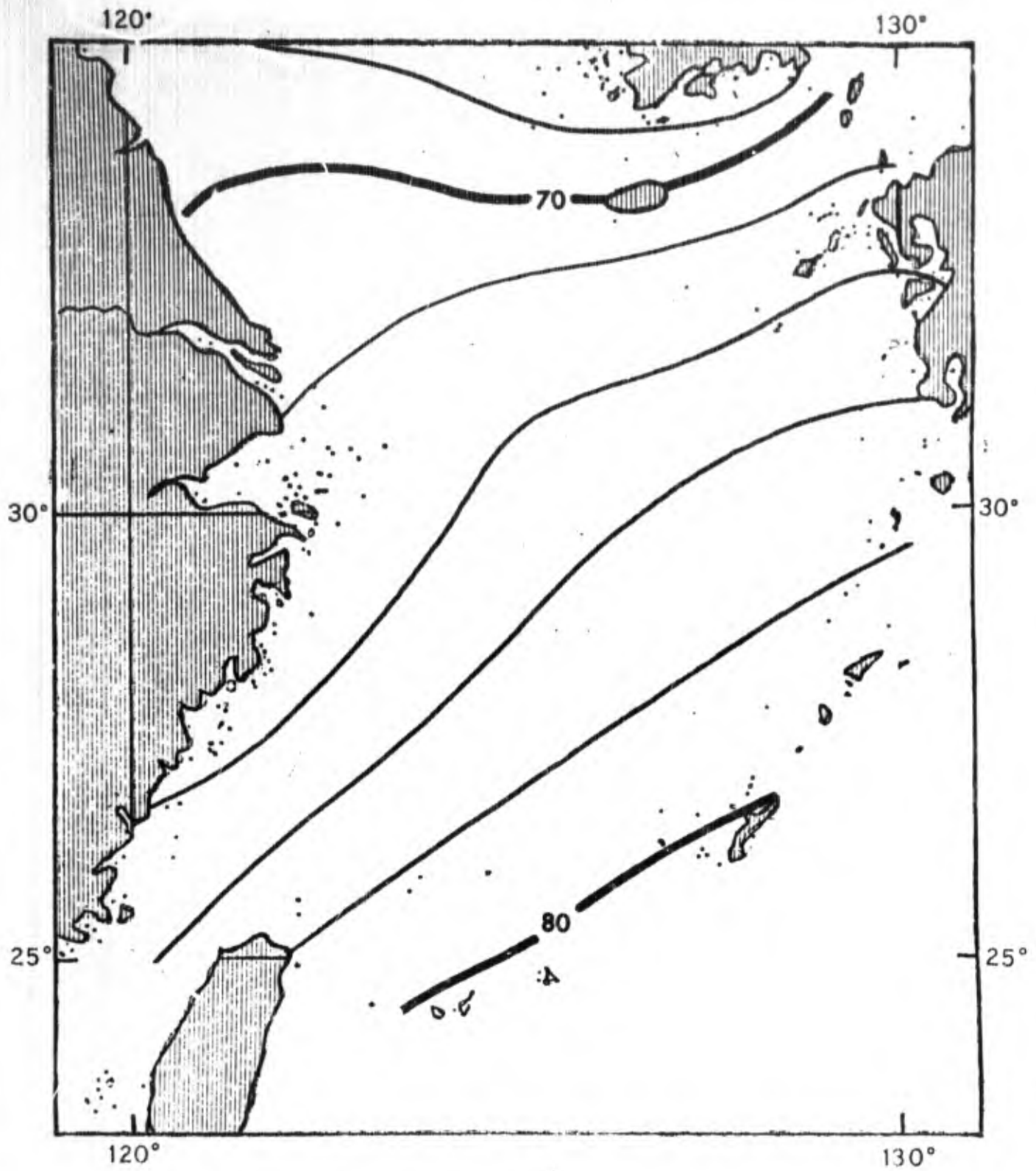


FIGURE 10 MEAN SEA SURFACE TEMPERATURE (°F), OCTOBER

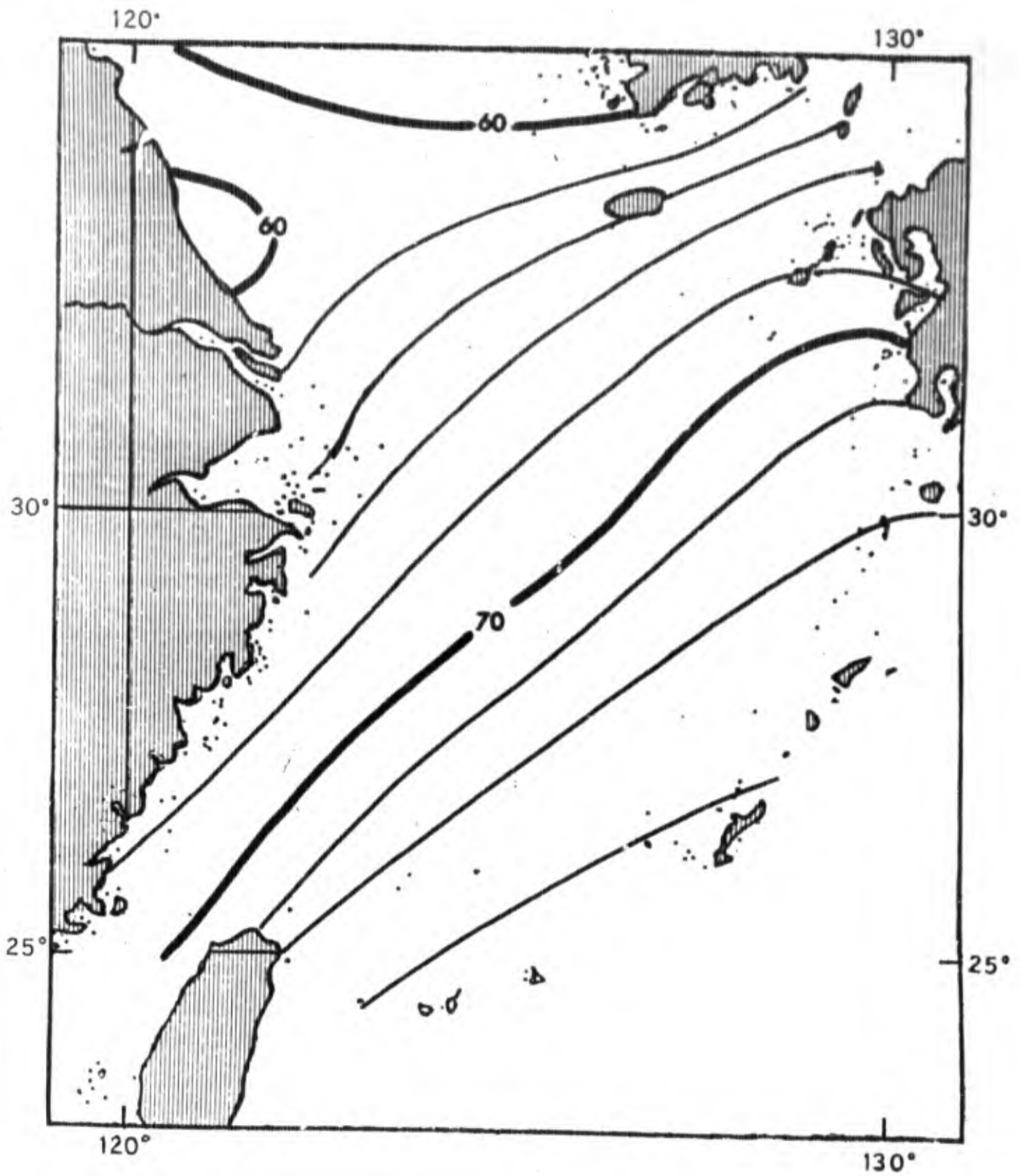


FIGURE 11 MEAN SEA SURFACE TEMPERATURE (°F), NOVEMBER

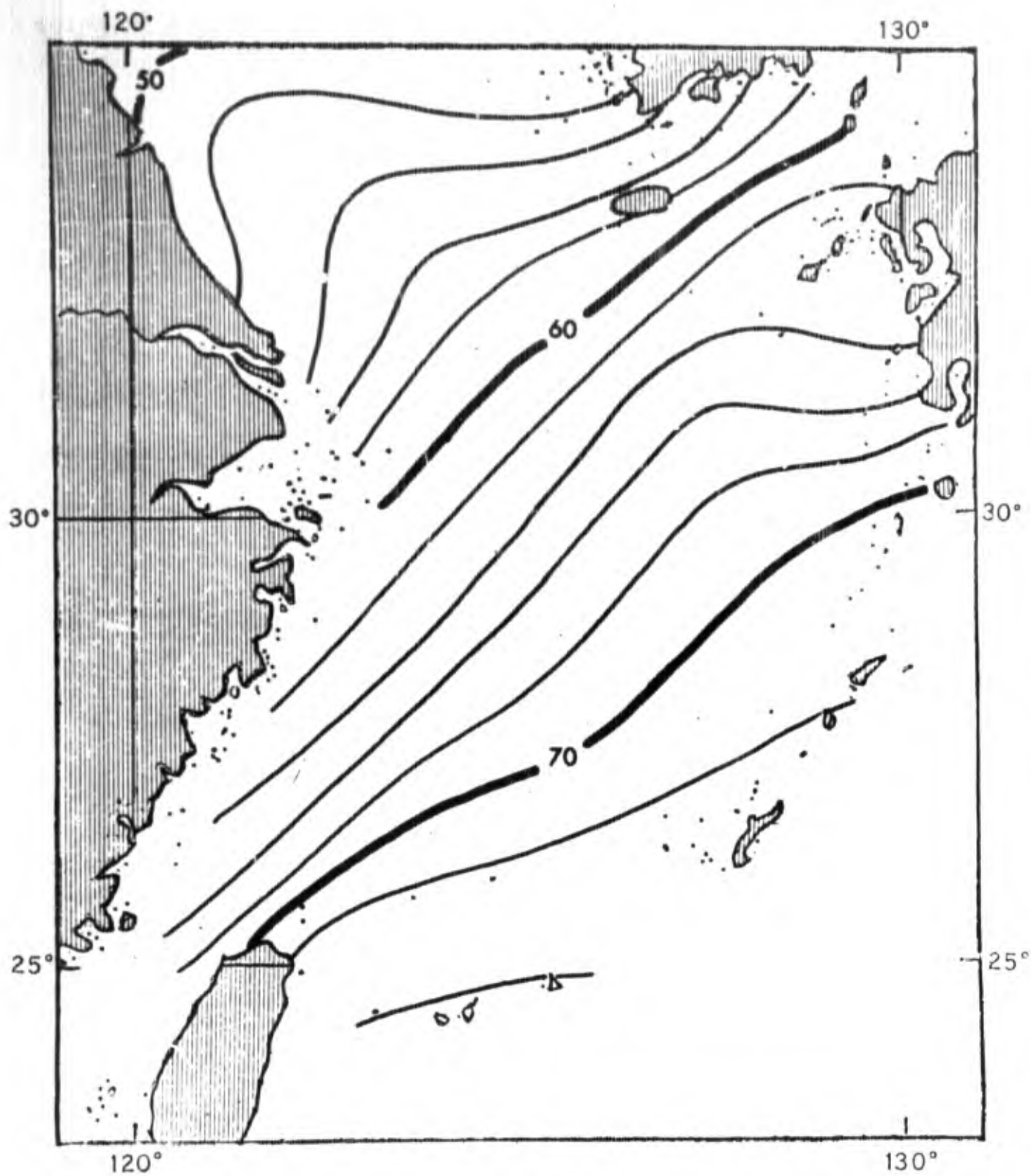


FIGURE 12 MEAN SEA SURFACE TEMPERATURE (°F), DECEMBER

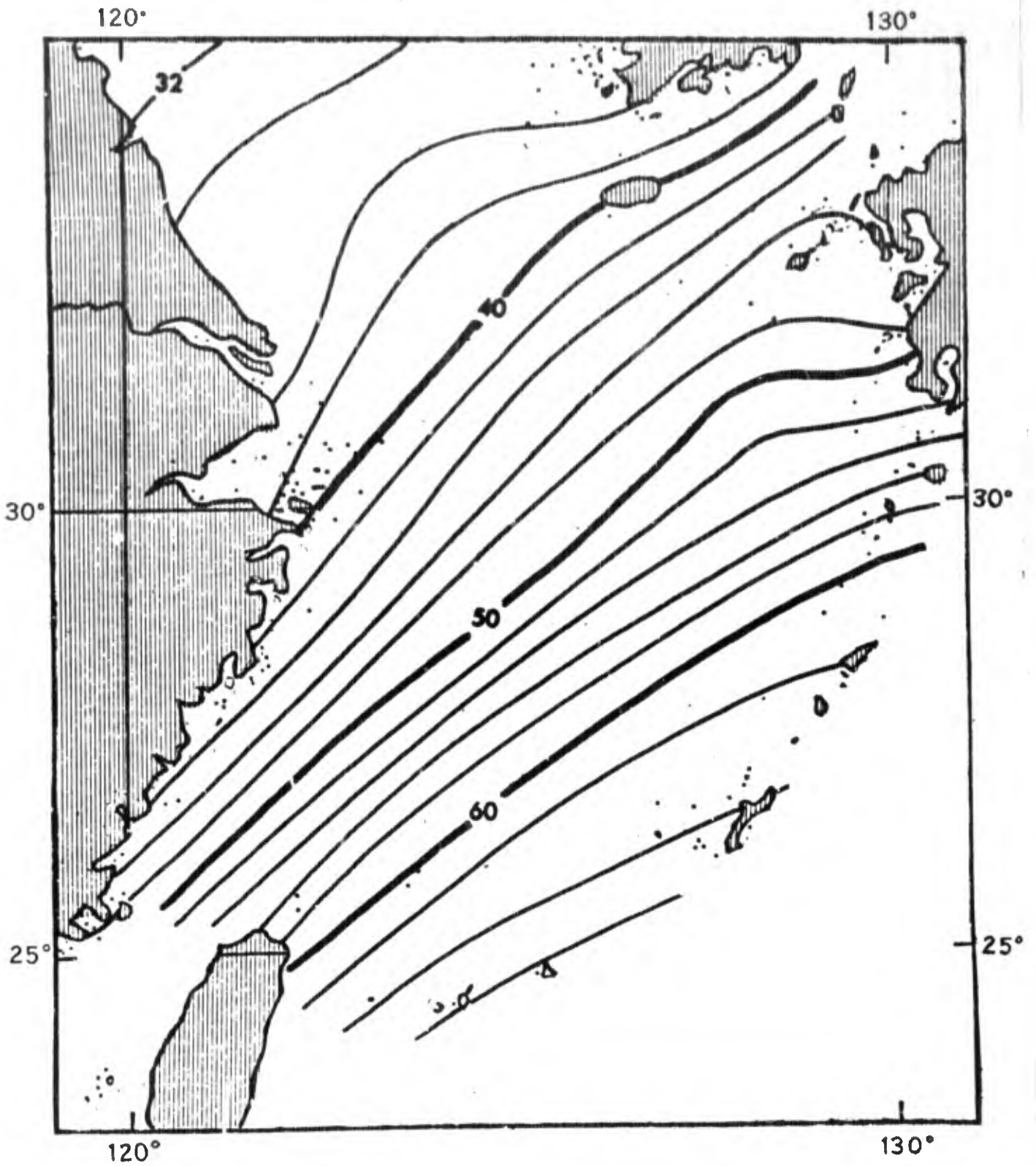


FIGURE 13 MINIMUM SEA SURFACE TEMPERATURE (°F), FEBRUARY

A.

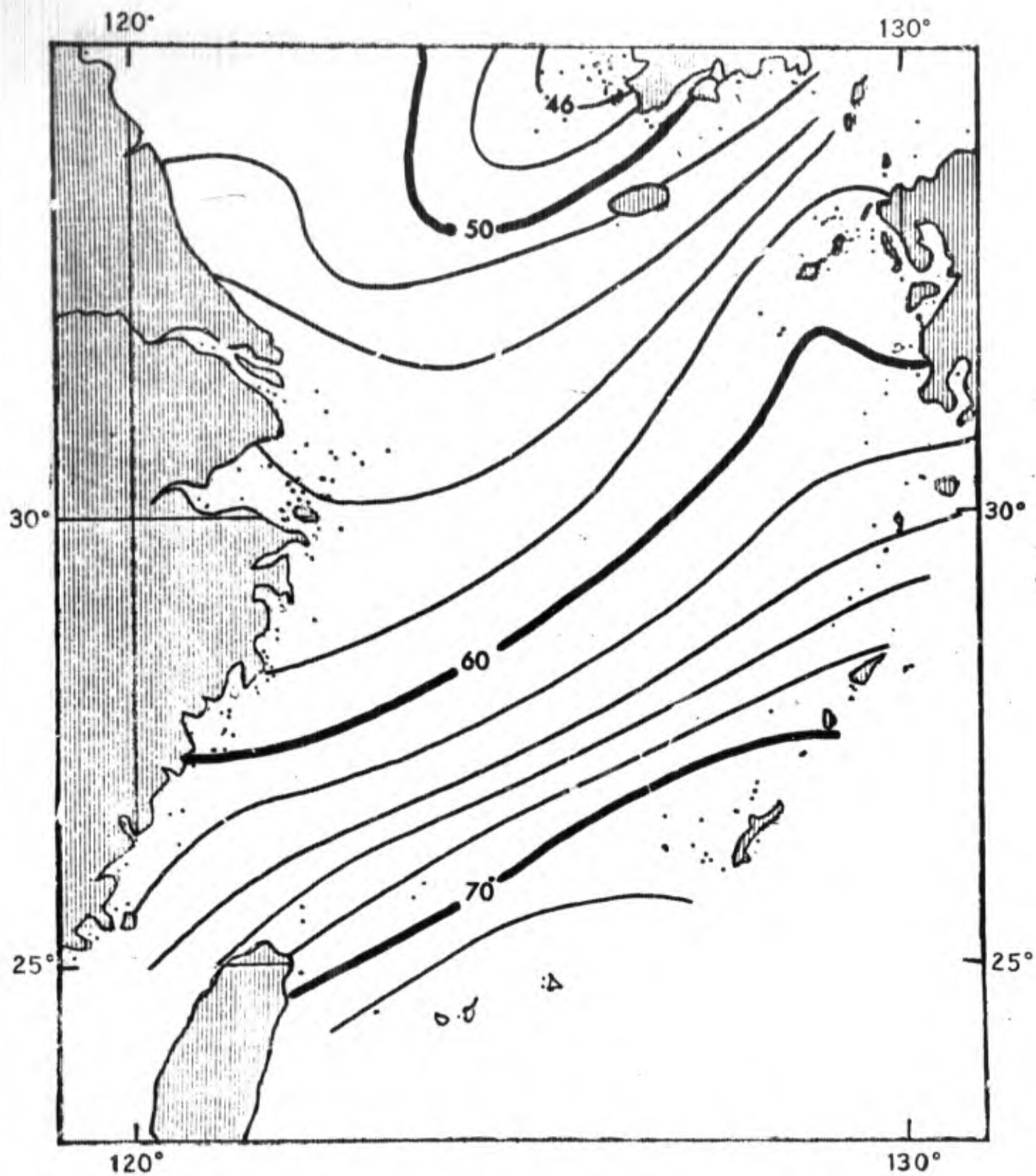


FIGURE 14 MINIMUM SEA SURFACE TEMPERATURE (°F), MAY

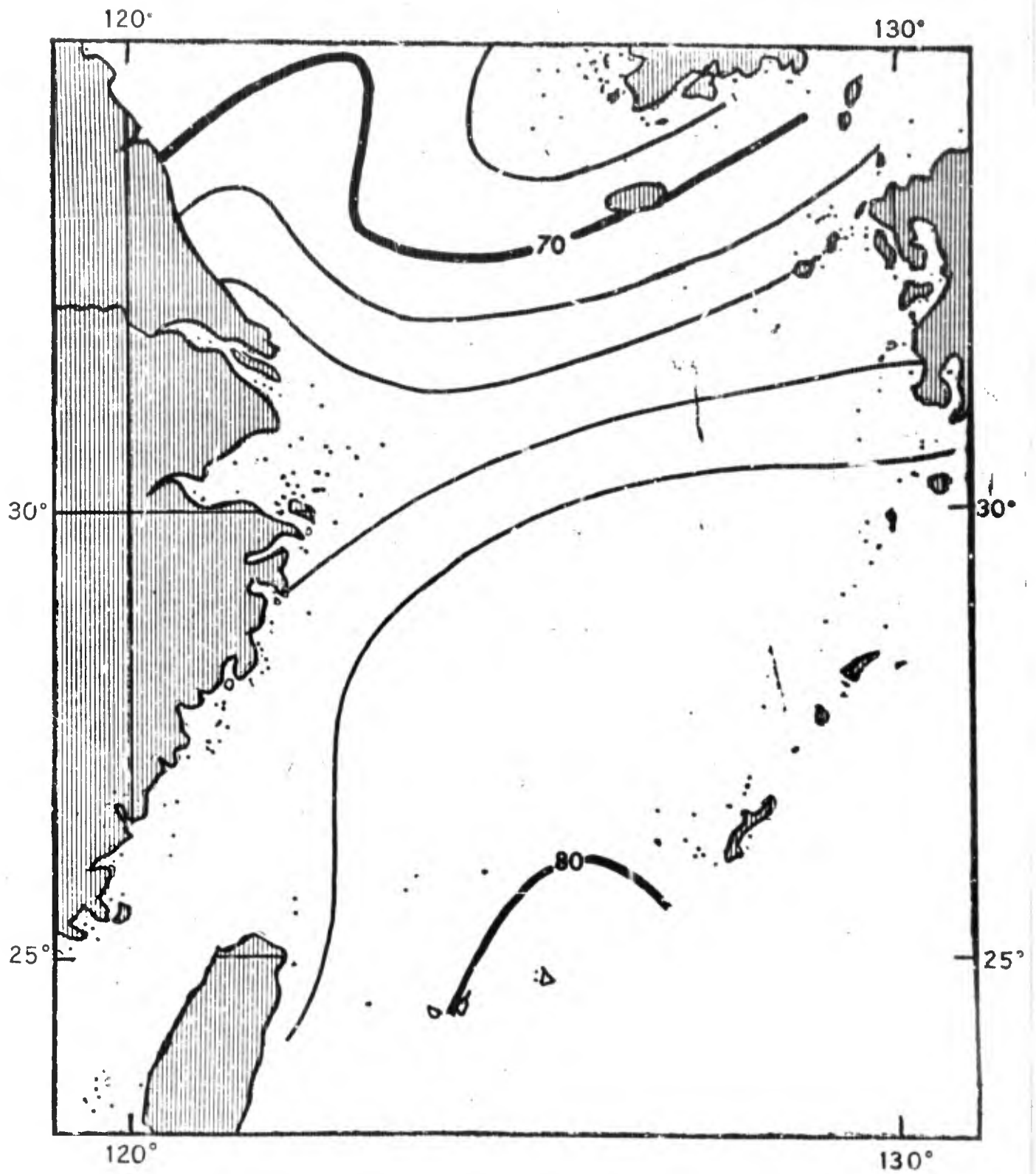


FIGURE 15 MINIMUM SEA SURFACE TEMPERATURE (°F), AUGUST

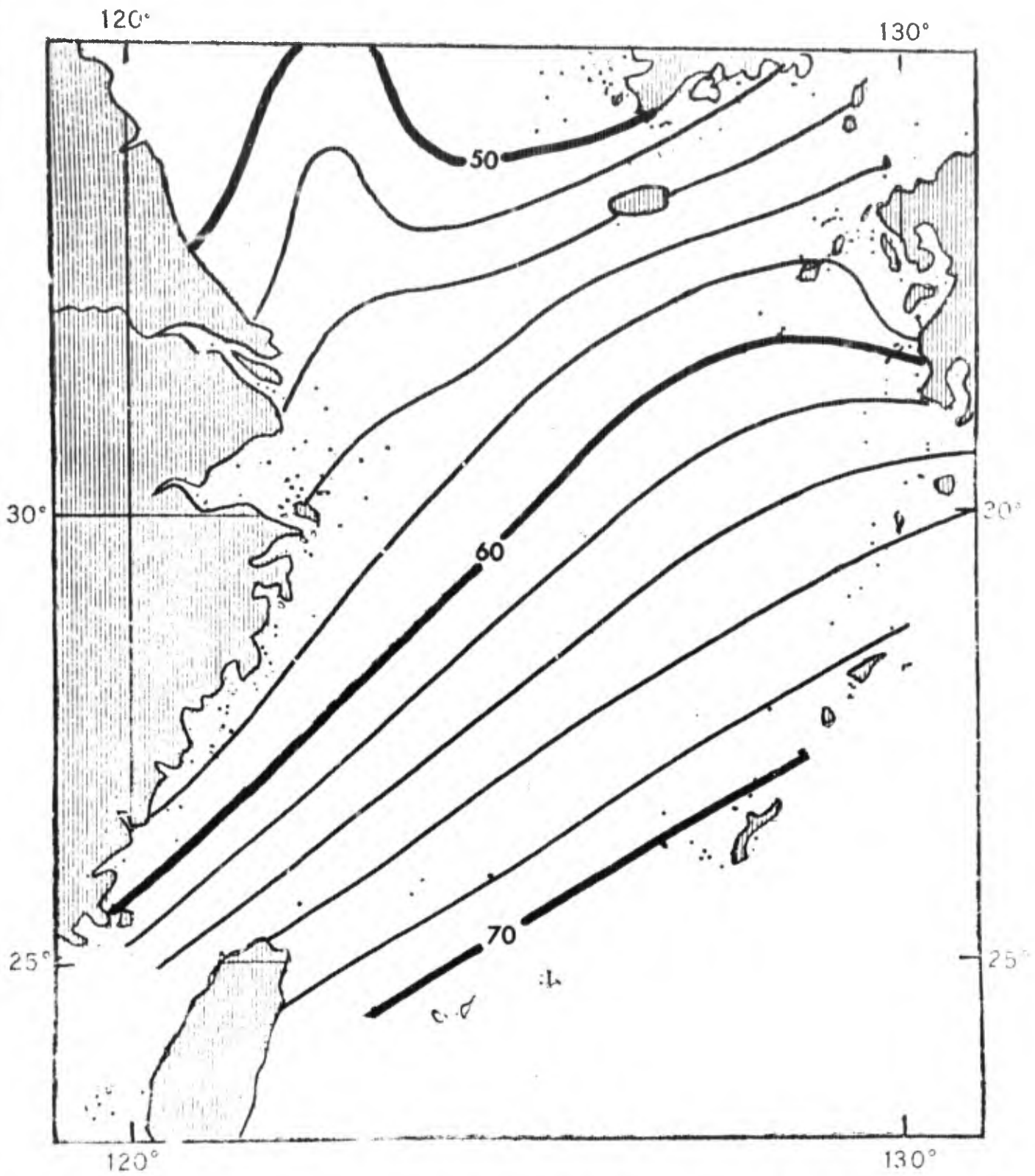


FIGURE 16 MINIMUM SEA SURFACE TEMPERATURE (°F), NOVEMBER

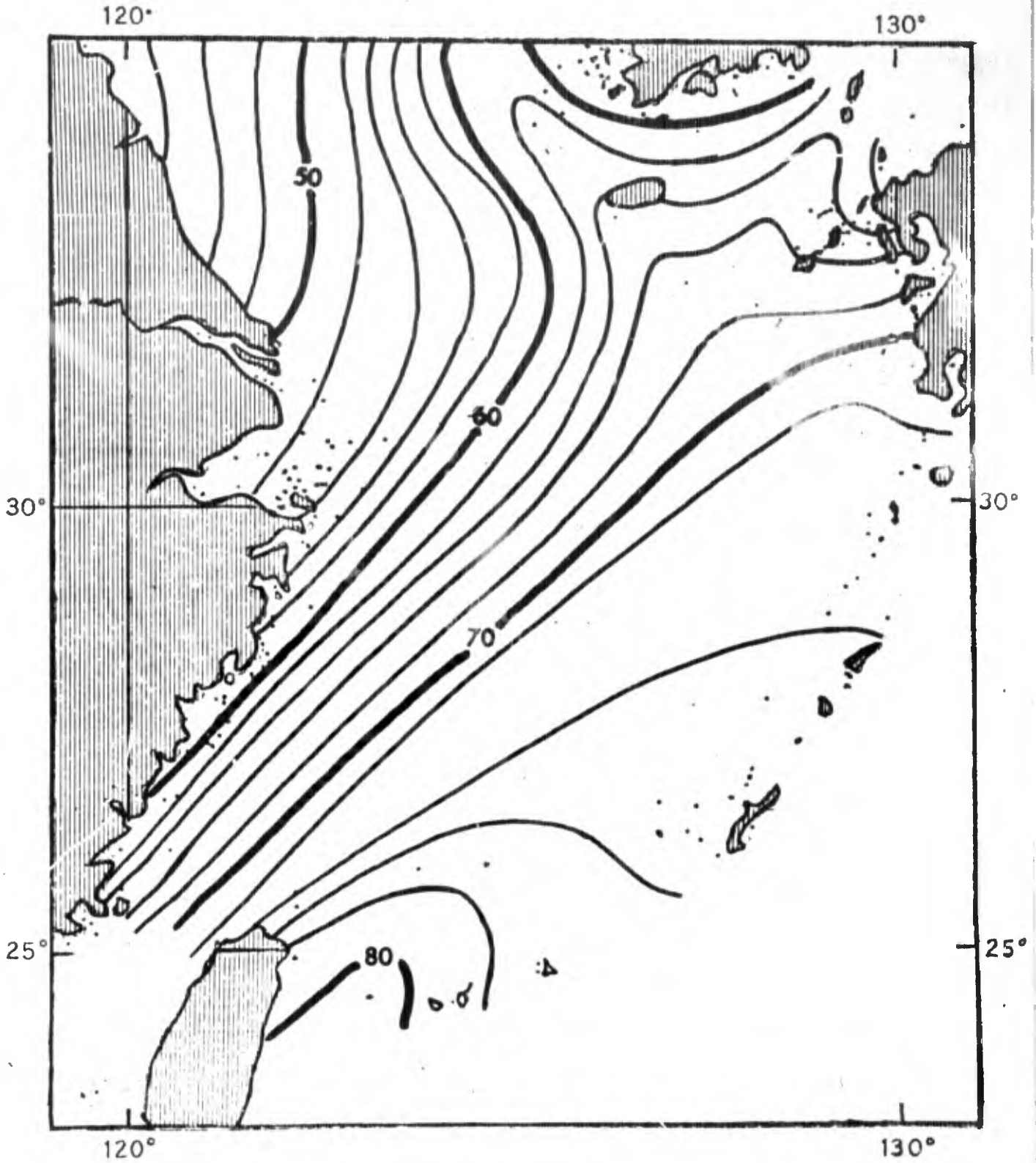


FIGURE 17 MAXIMUM SEA SURFACE TEMPERATURE (°F), FEBRUARY

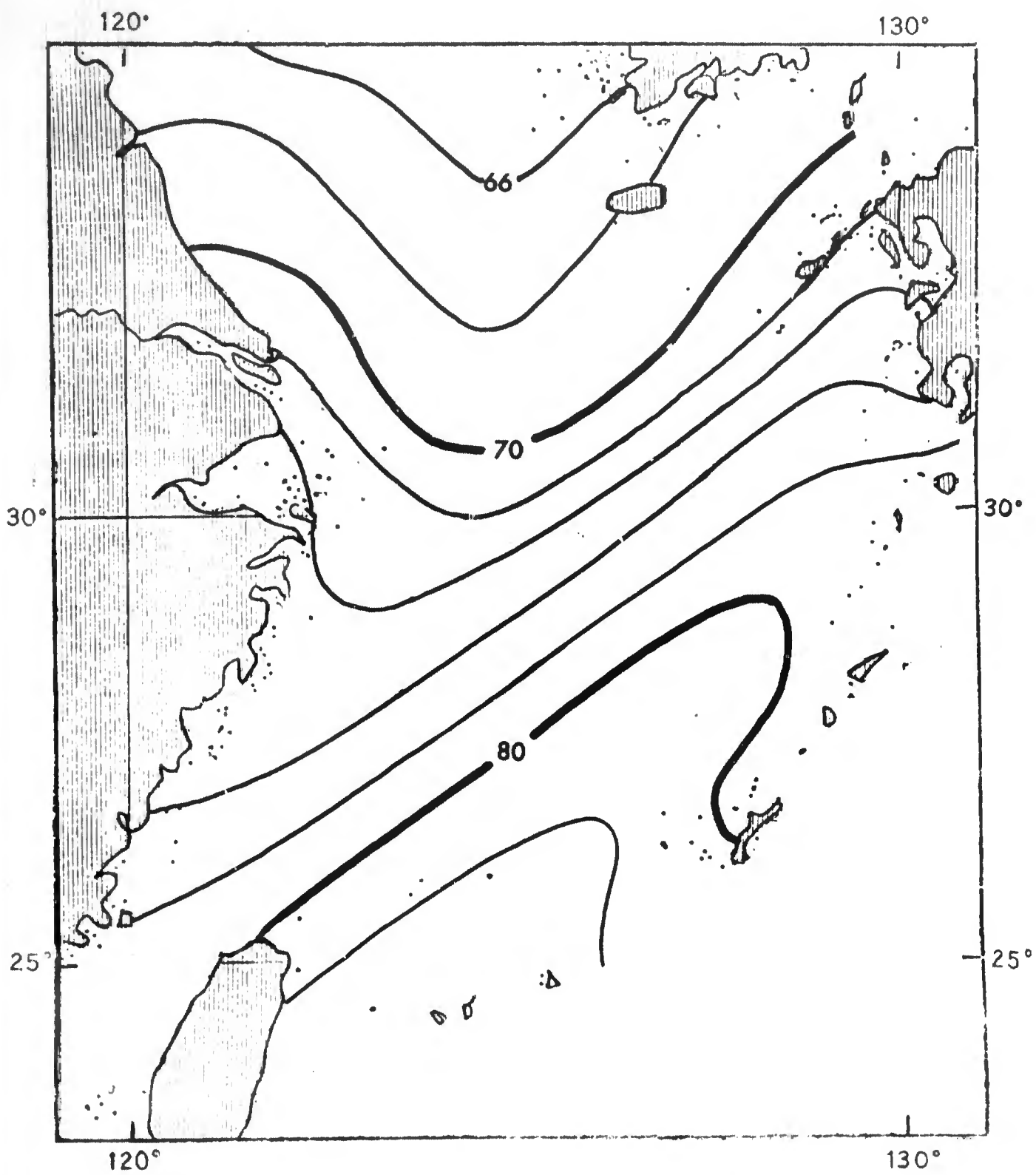


FIGURE 18 MAXIMUM SEA SURFACE TEMPERATURE (°F), MAY

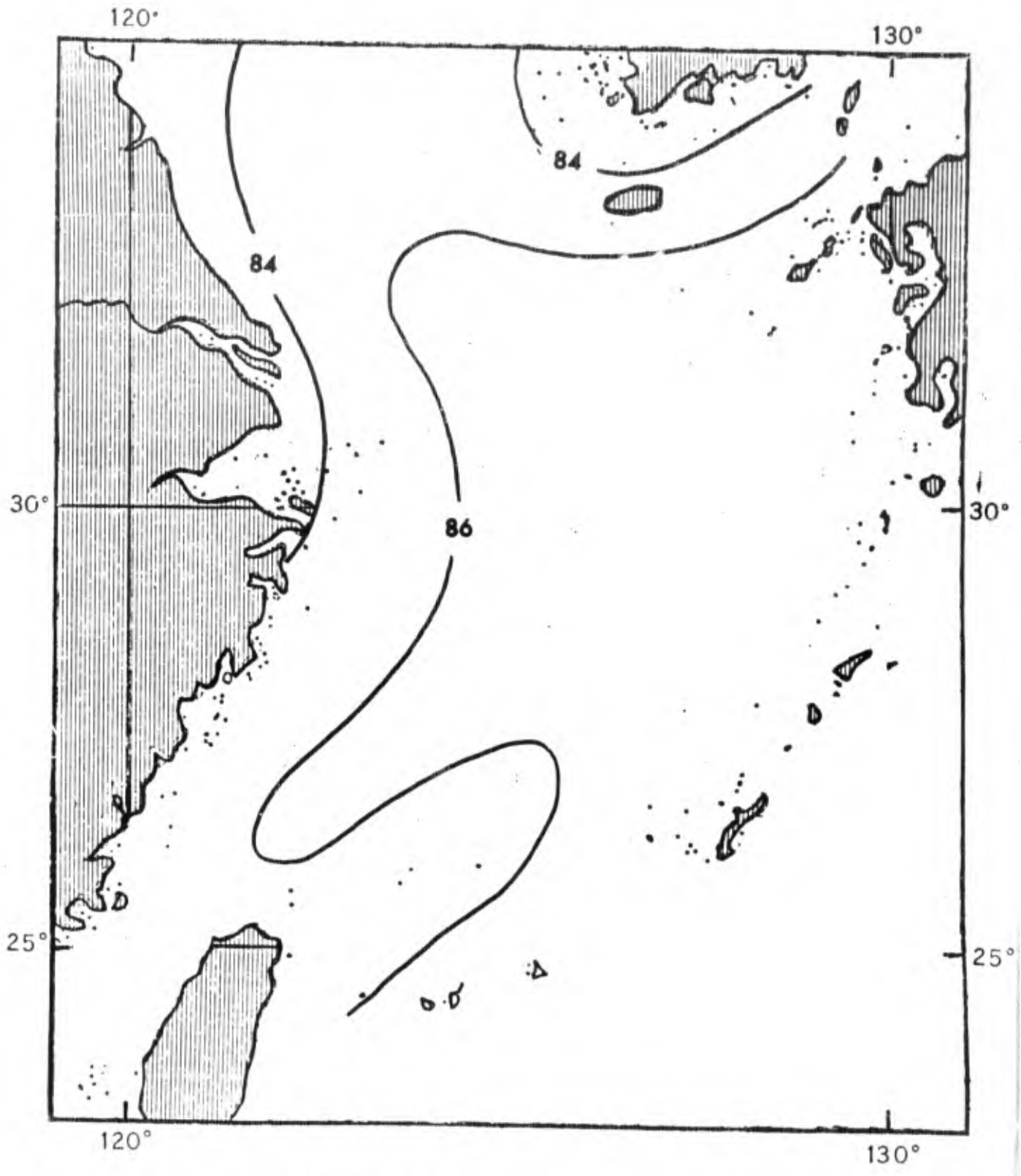


FIGURE 19 MAXIMUM SEA SURFACE TEMPERATURE (°F), AUGUST

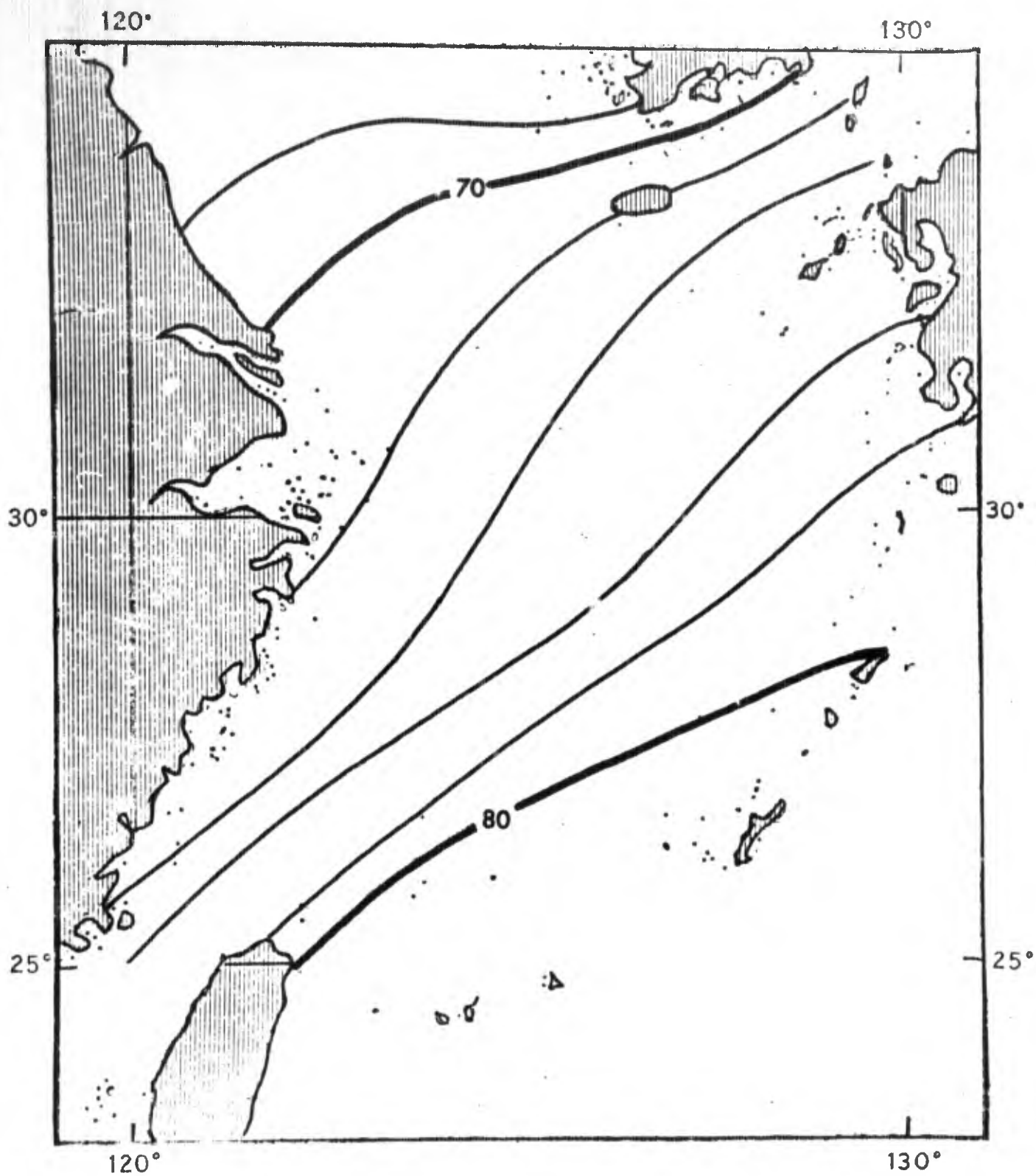
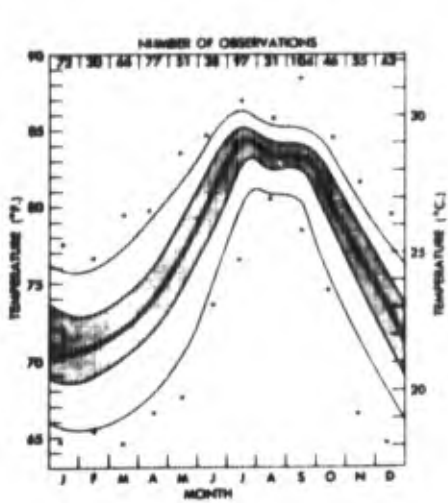
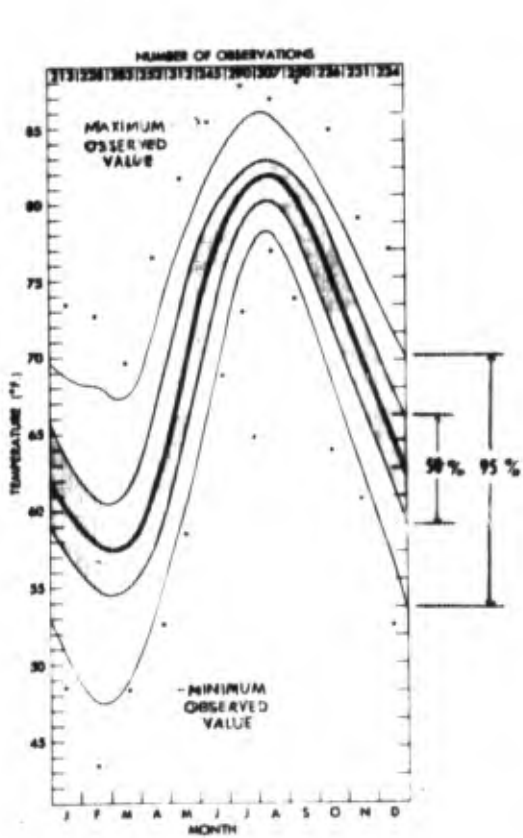
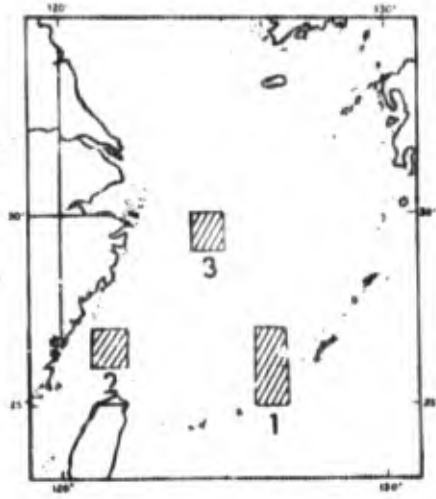


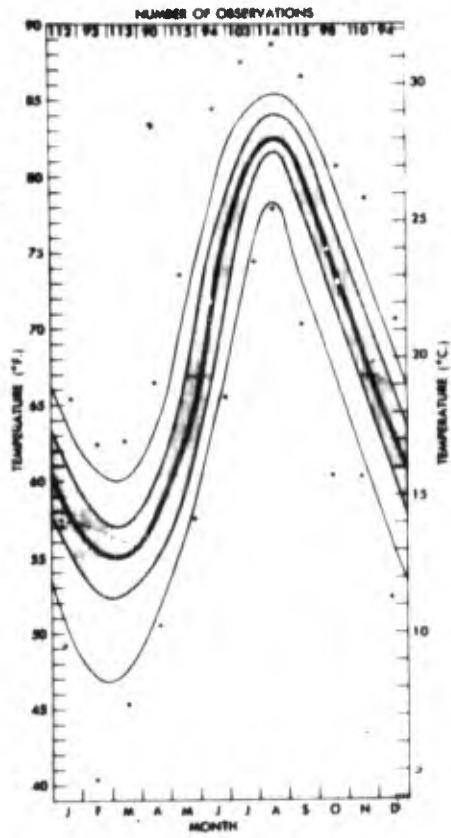
FIGURE 20 MAXIMUM SEA SURFACE TEMPERATURE (°F), NOVEMBER



1



2



3

FIGURE 21 MONTHLY VARIABILITY OF SEA SURFACE TEMPERATURE AT SELECTED LOCATIONS

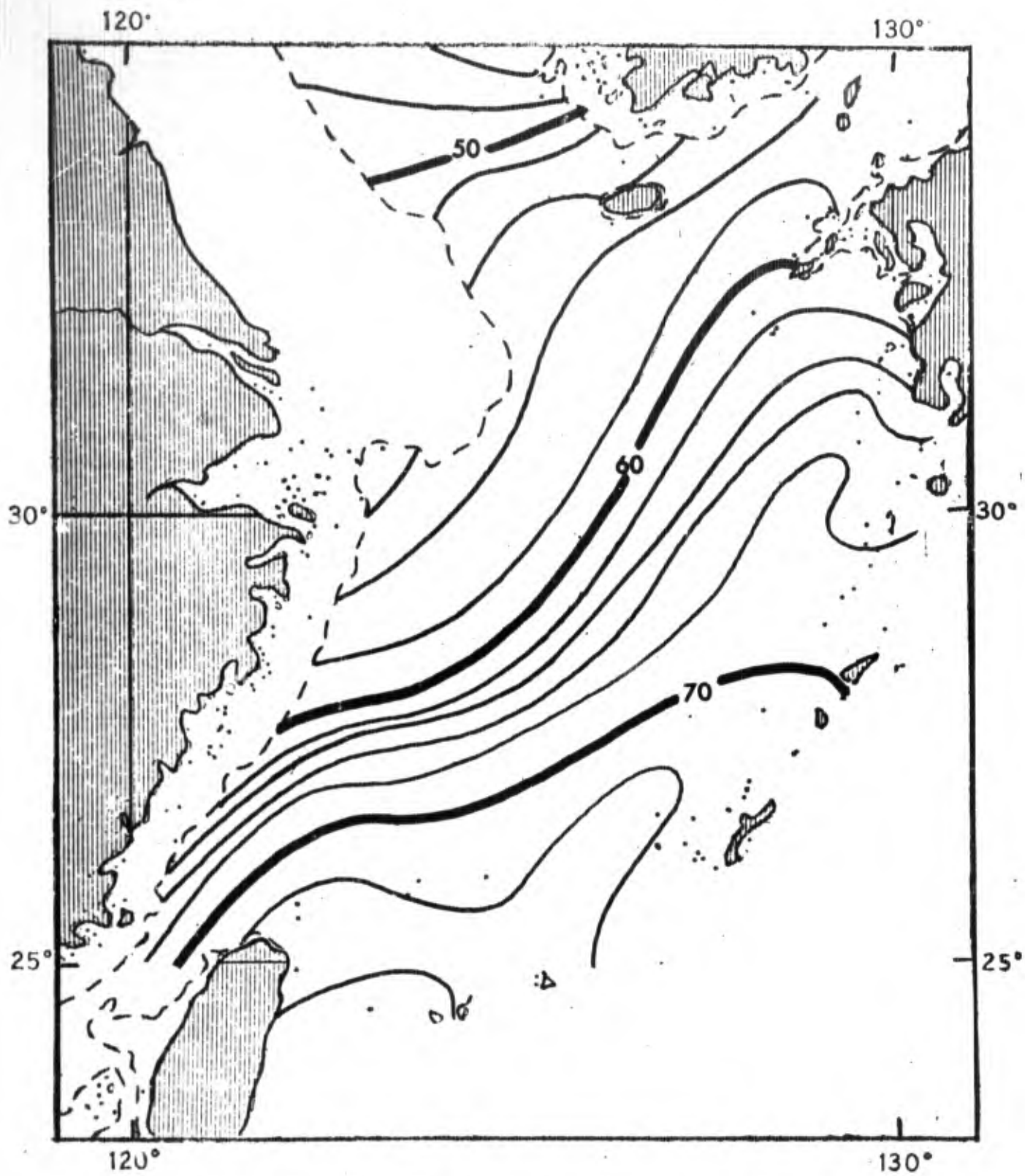


FIGURE 22 MEAN TEMPERATURE (°F) AT 50 METERS (164 FEET), FEBRUARY

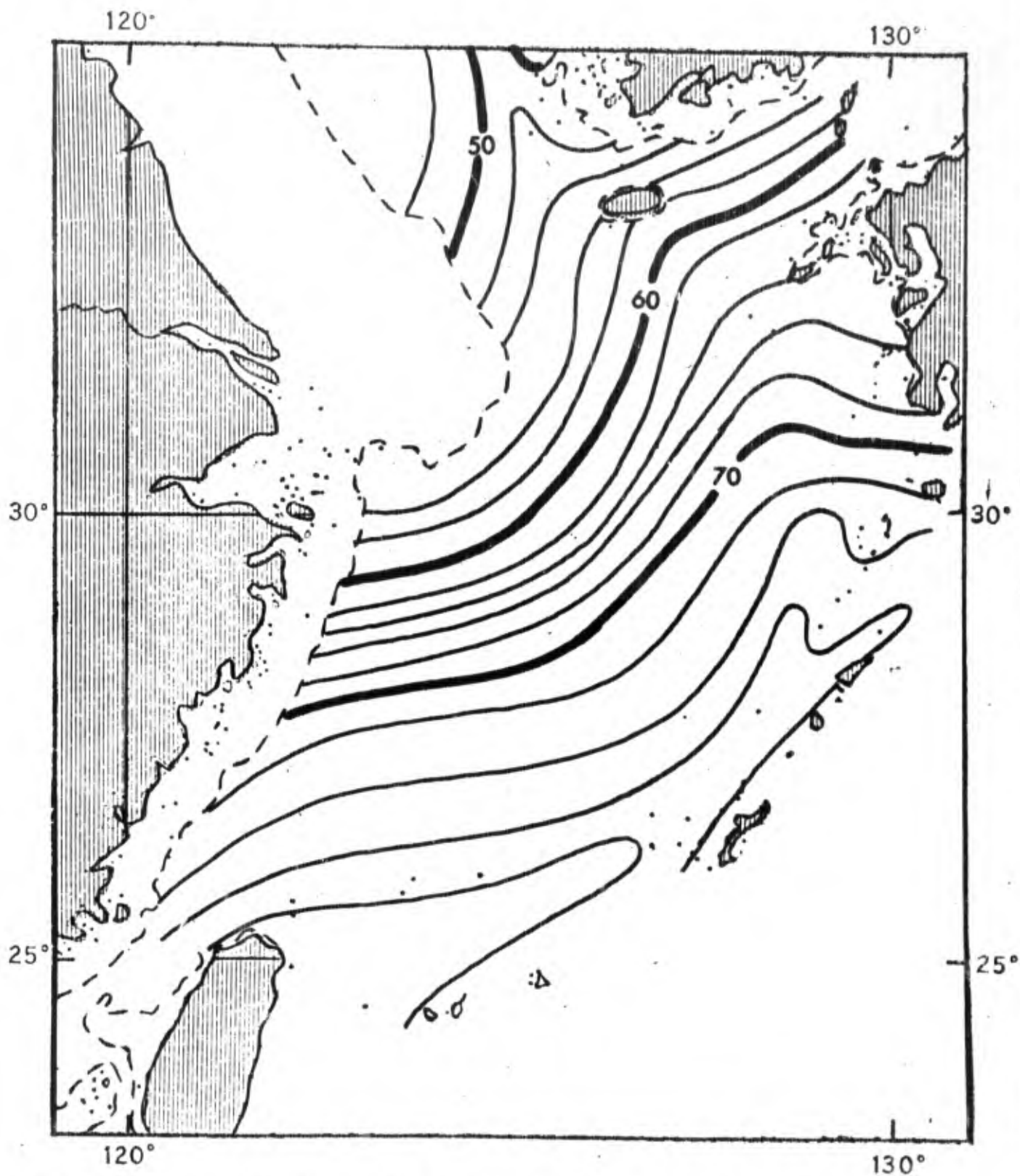


FIGURE 23 MEAN TEMPERATURE (°F) AT 50 METERS (164 FEET), MAY

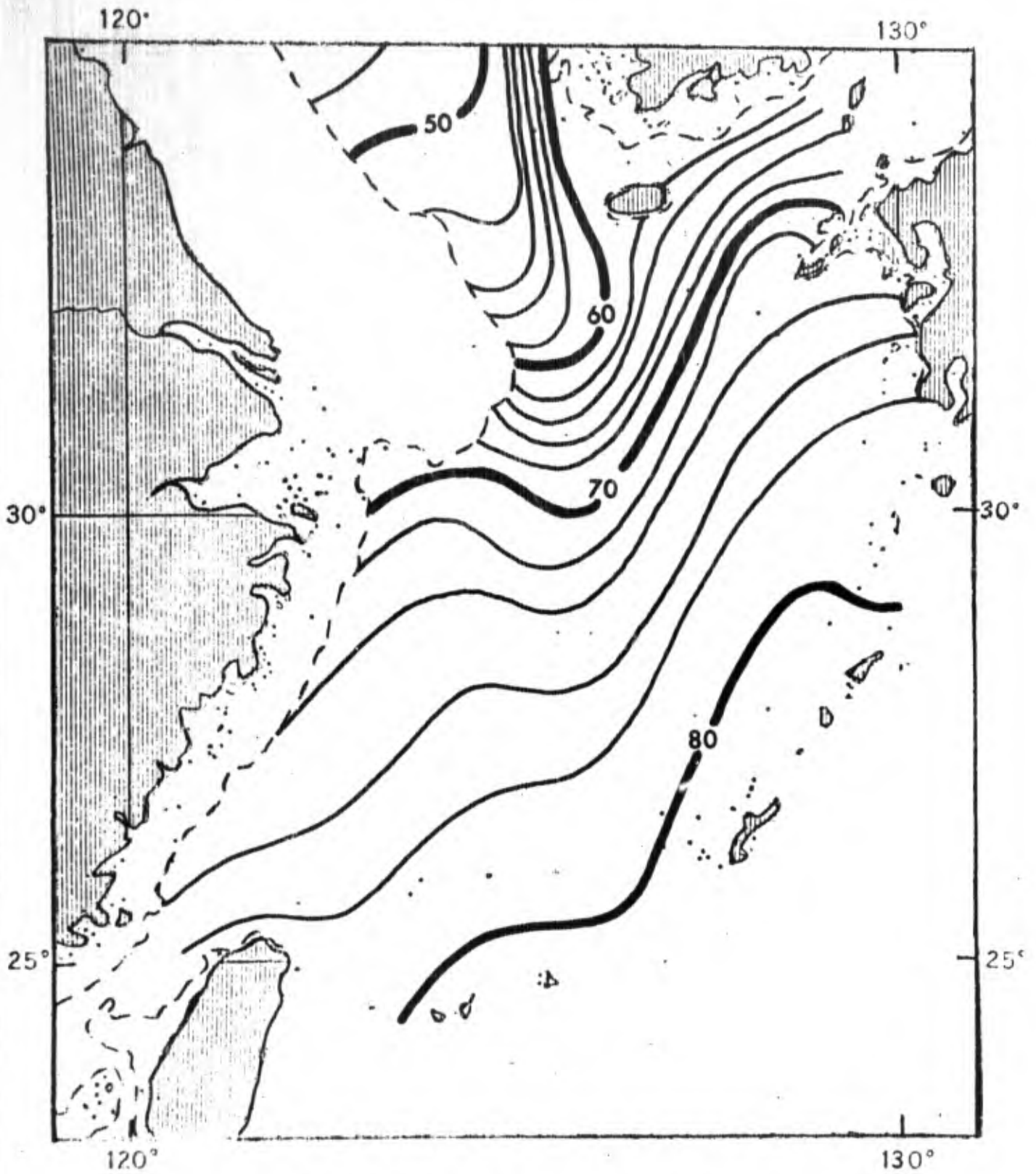


FIGURE 24 MEAN TEMPERATURE (°F) AT 50 METERS (164 FEET), AUGUST

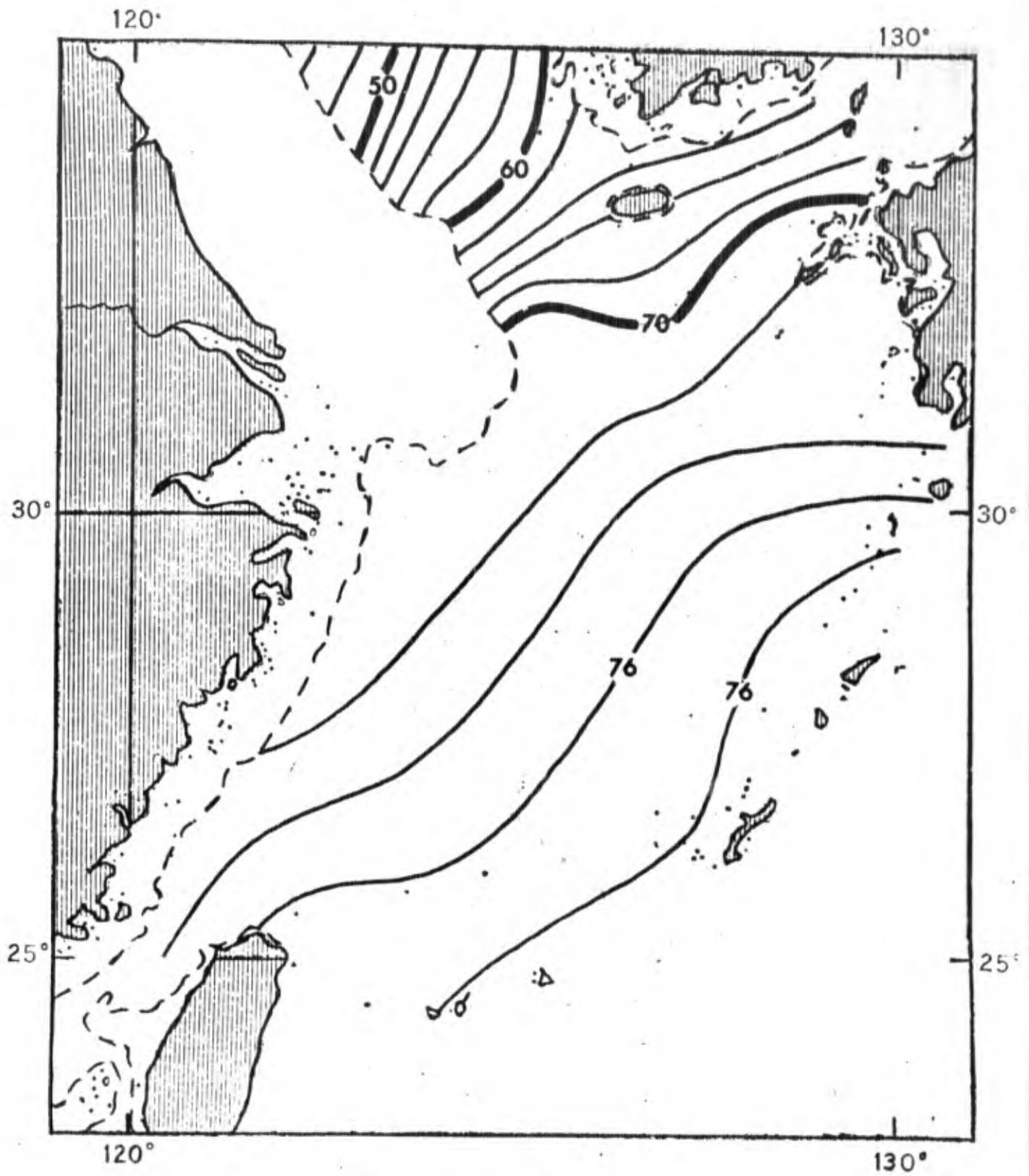


FIGURE 25 MEAN TEMPERATURE (°F) AT 50 METERS (164 FEET), NOVEMBER

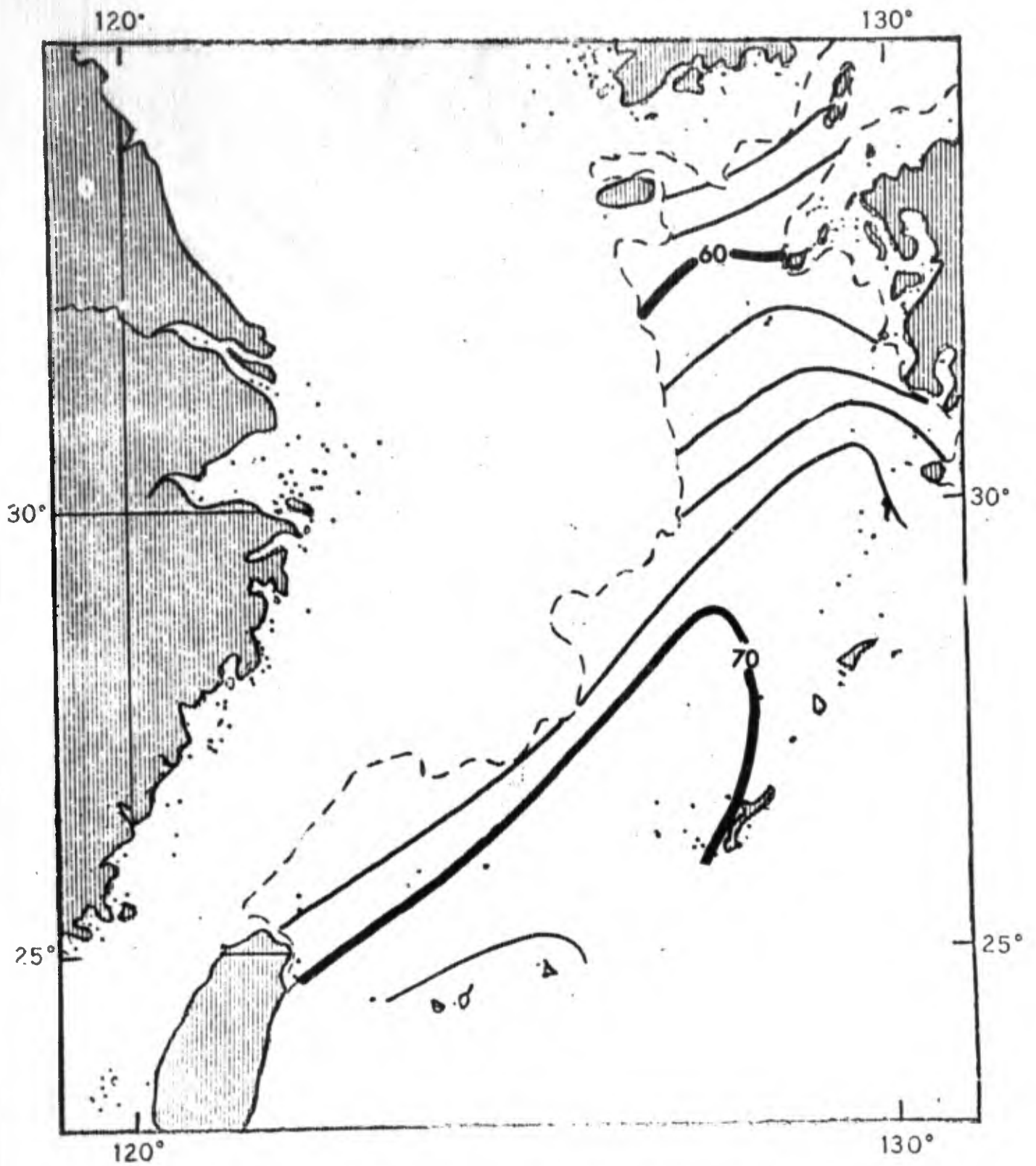


FIGURE 26 MEAN TEMPERATURE (°F) AT 100 METERS (328 FEET), JANUARY THROUGH MARCH

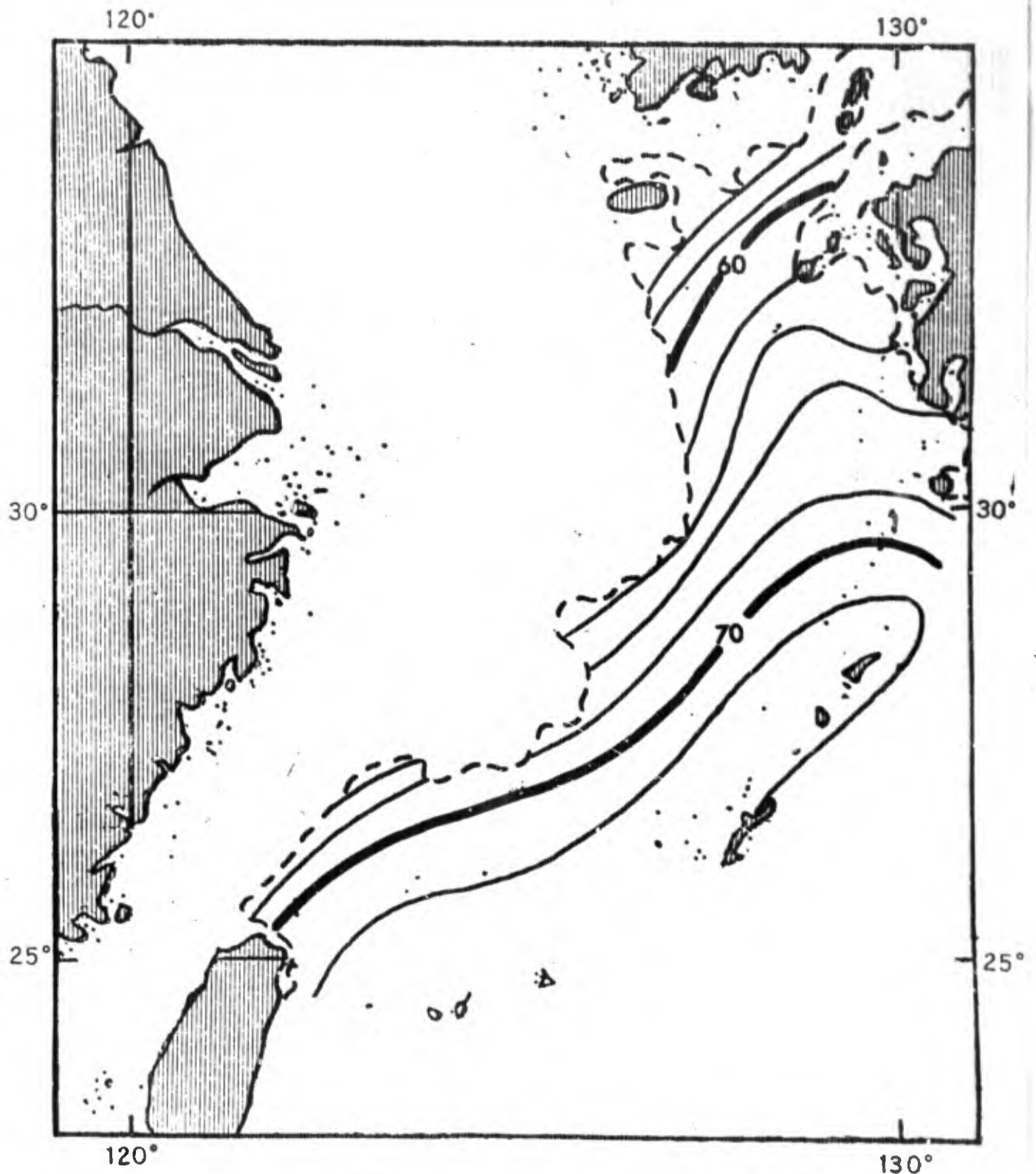


FIGURE 27 MEAN TEMPERATURE (°F) AT 100 METERS (328 FEET), APRIL THROUGH JUNE

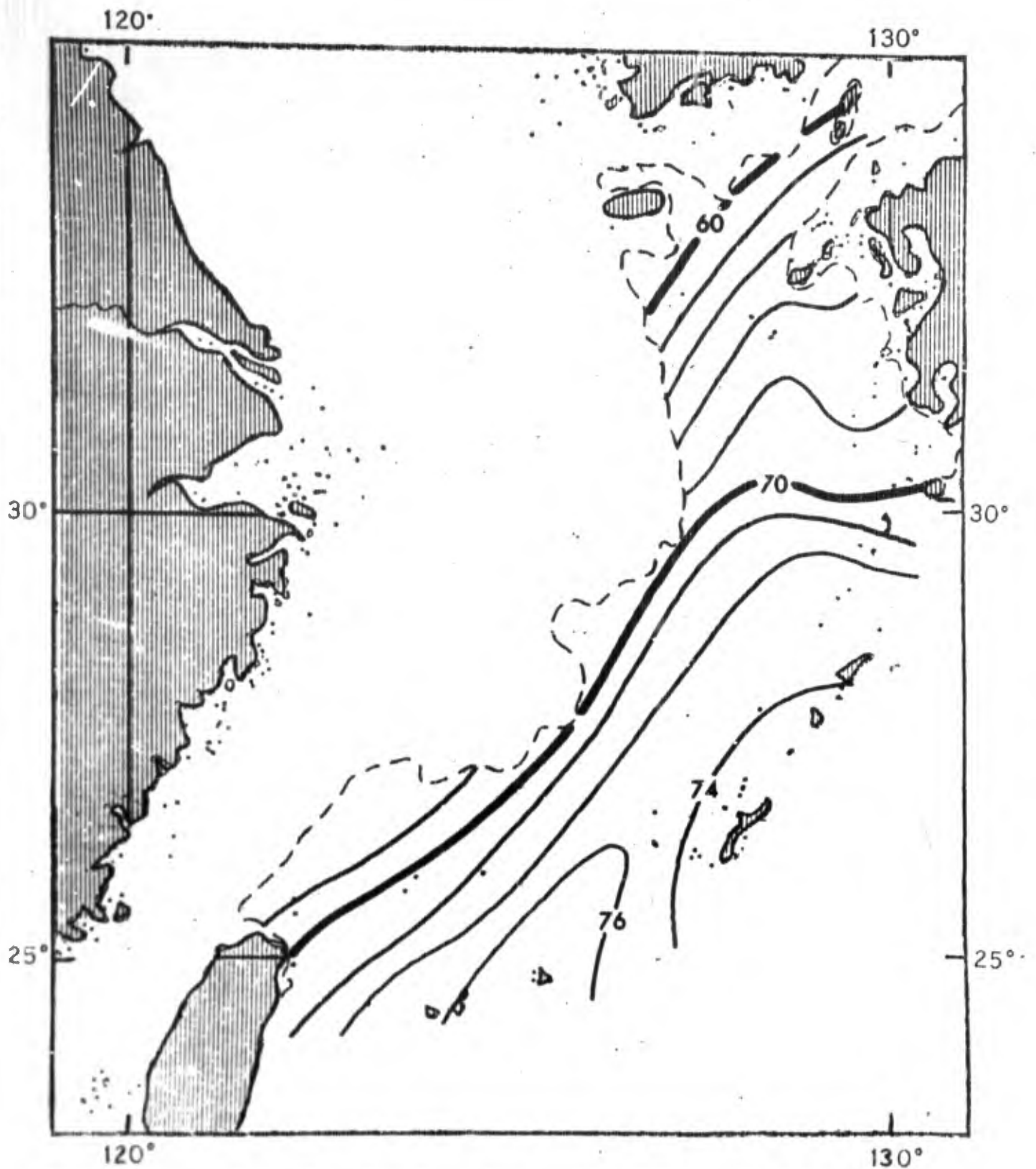


FIGURE 28 MEAN TEMPERATURE (°F) AT 100 METERS (328 FEET), JULY THROUGH SEPTEMBER

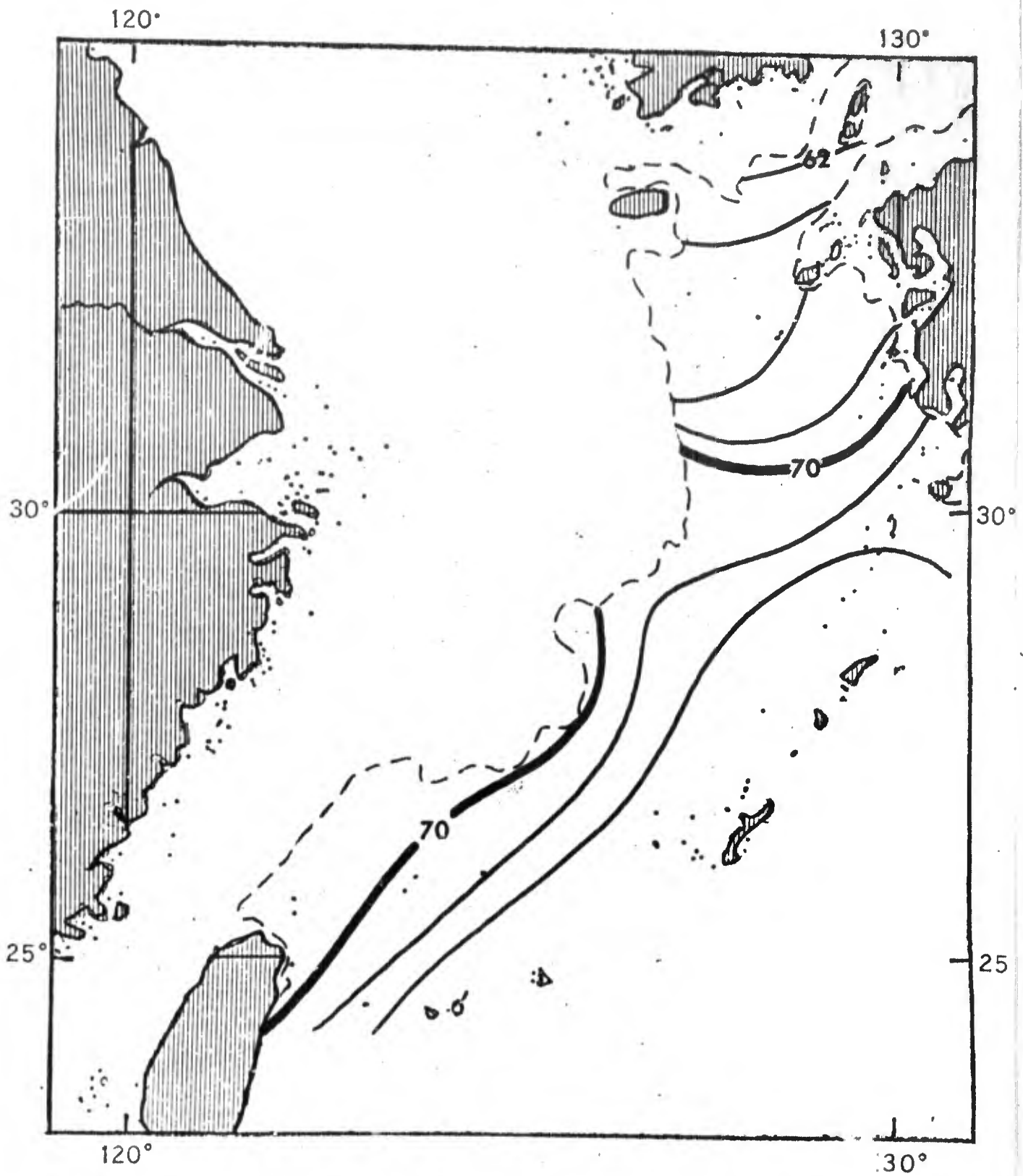


FIGURE 29 MEAN TEMPERATURE (°F) AT 100 METERS (328 FEET), OCTOBER THROUGH DECEMBER

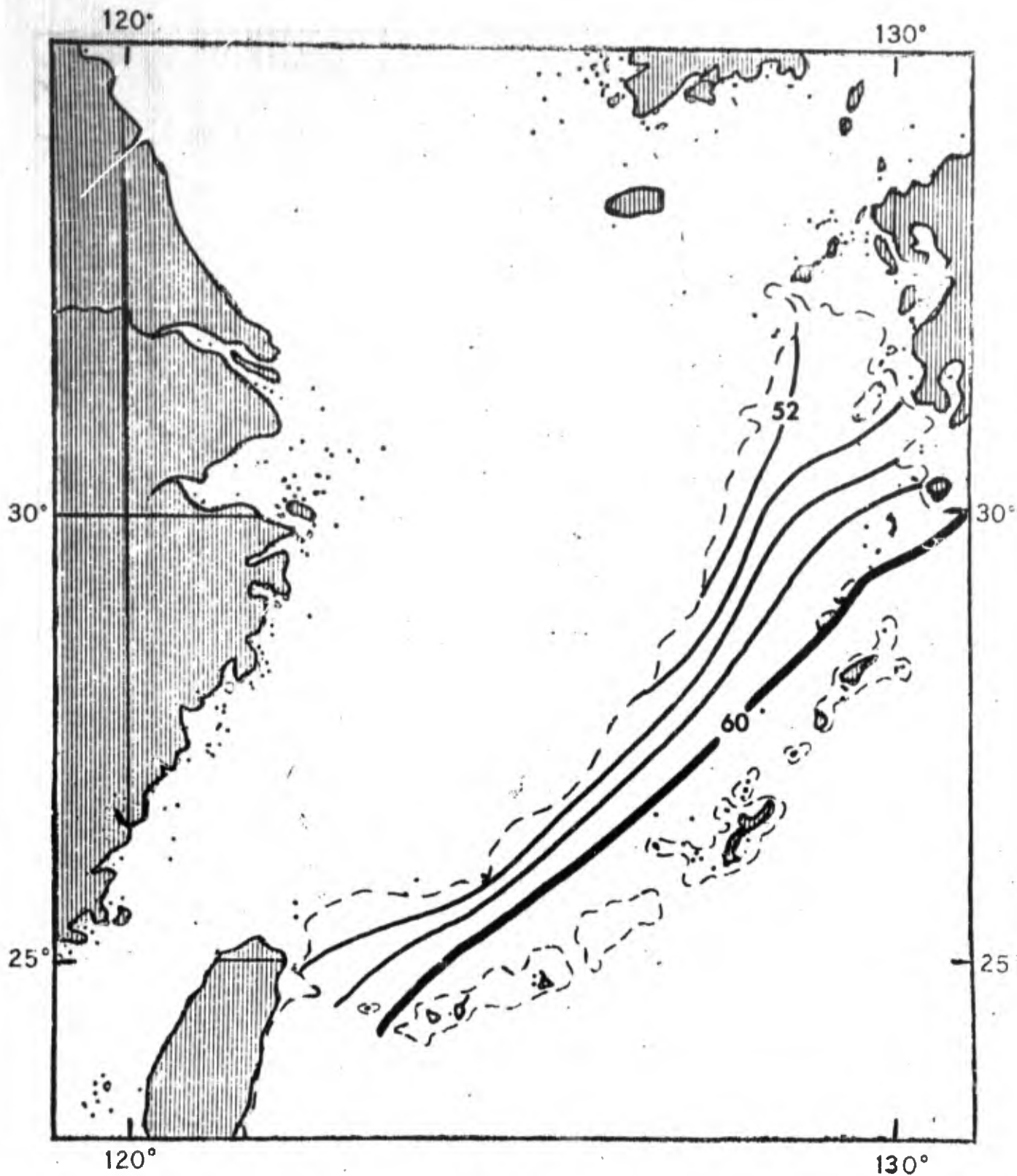


FIGURE 30 MEAN TEMPERATURE (°F) AT 300 METERS (984 FEET)

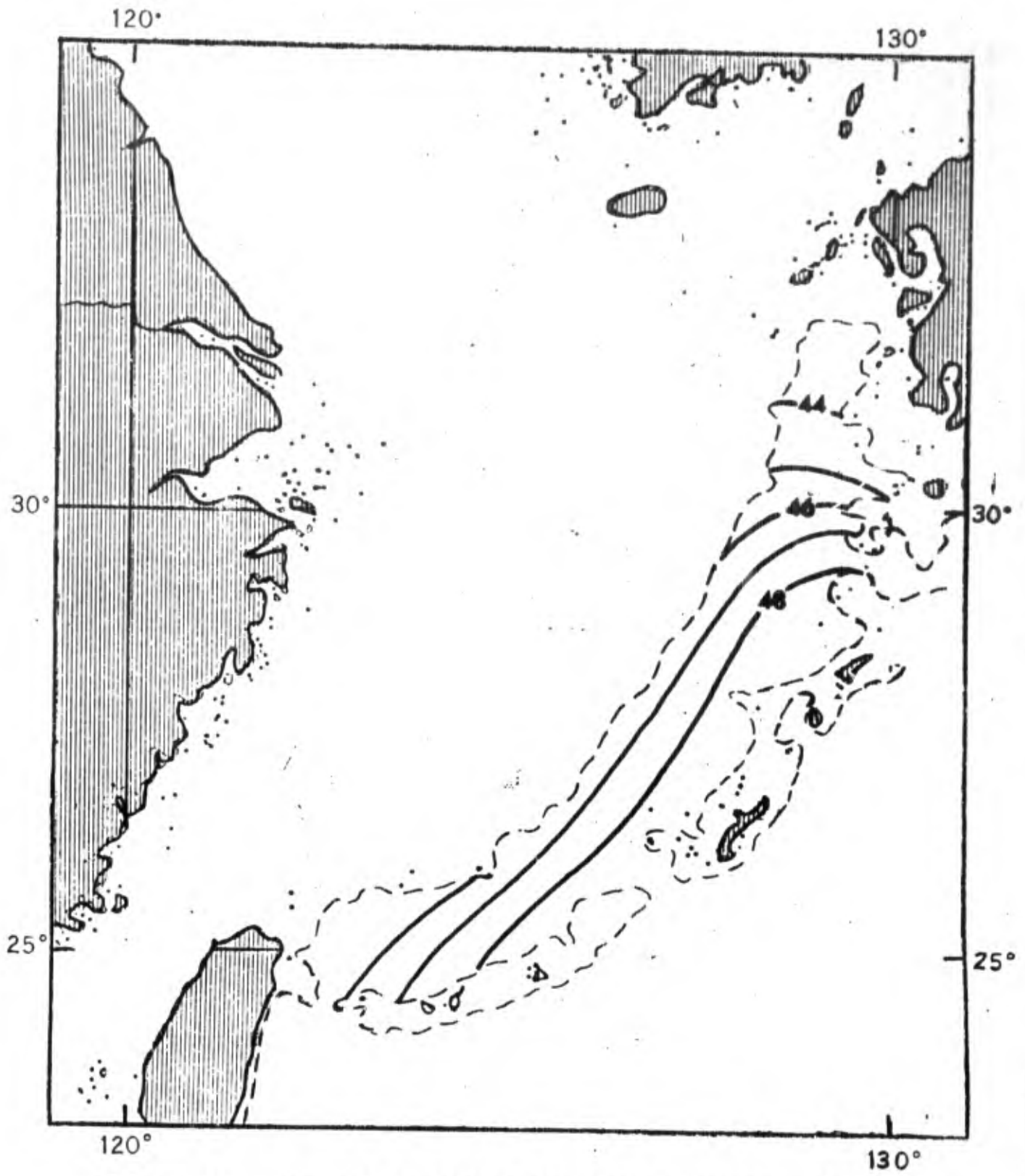


FIGURE 31 MEAN TEMPERATURE (°F) AT 600 METERS (1,968 FEET)

HORIZONTAL DISTRIBUTION OF SALINITY (‰)

Isobalines are presented in parts per thousand (‰). To show greater detail, intermediate values are inserted (thin lines) wherever possible. River runoff and heavy rainfall may cause extensive short-term variations in salinity, and values may be much lower than indicated in the figures.

The mean horizontal distributions of salinity at the surface, 50 meters (164 feet), and 100 meters (328 feet) are presented for trimonthly periods in Figures 32 through 35, 36 through 39, and 40 through 43, respectively. At 300 meters (984 feet) and 600 meters (1,968 feet) salinity is averaged for all months and is depicted in Figures 44 and 45, respectively.

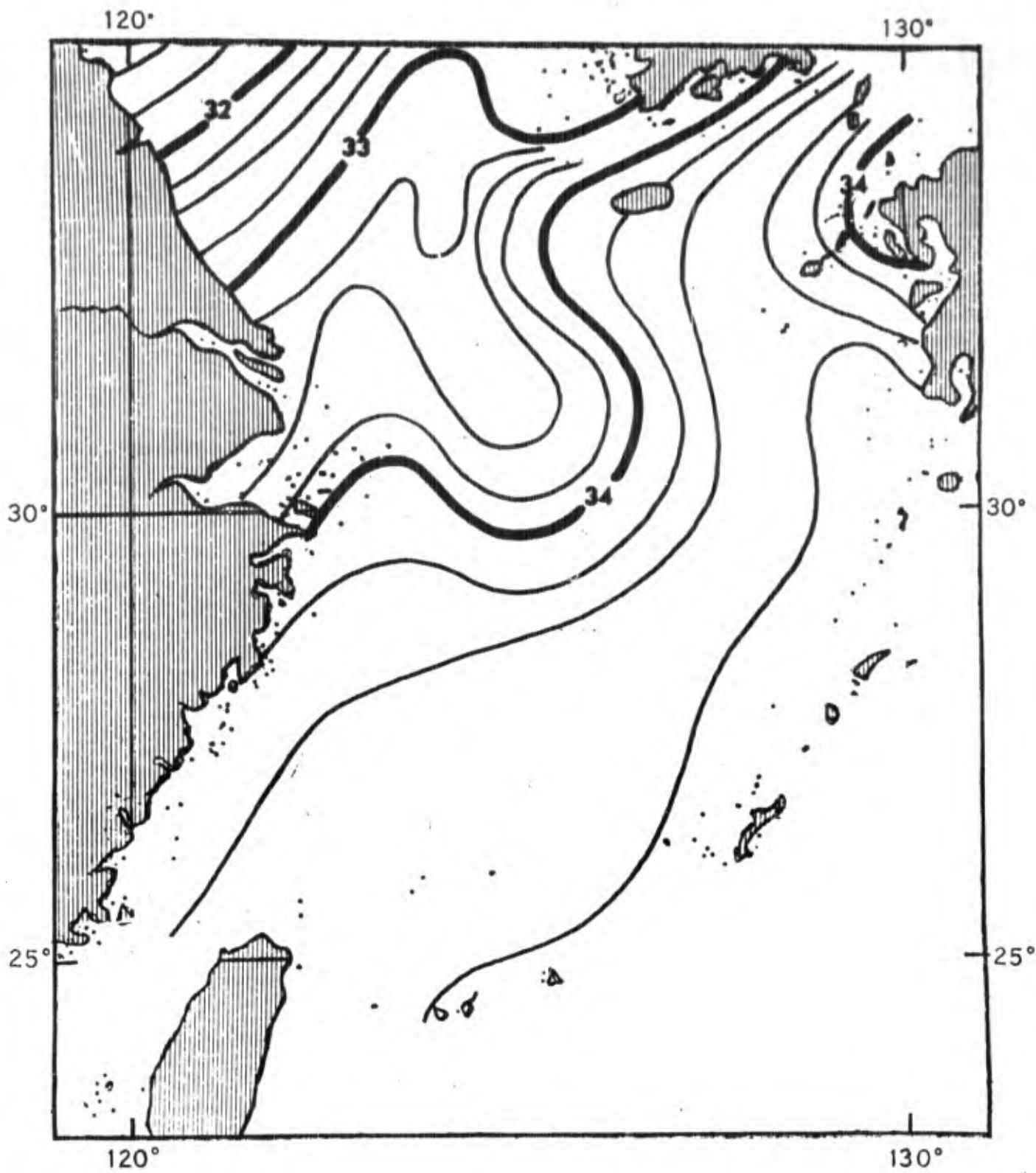


FIGURE 32 MEAN SEA SURFACE SALINITY (PARTS PER THOUSAND), JANUARY THROUGH MARCH

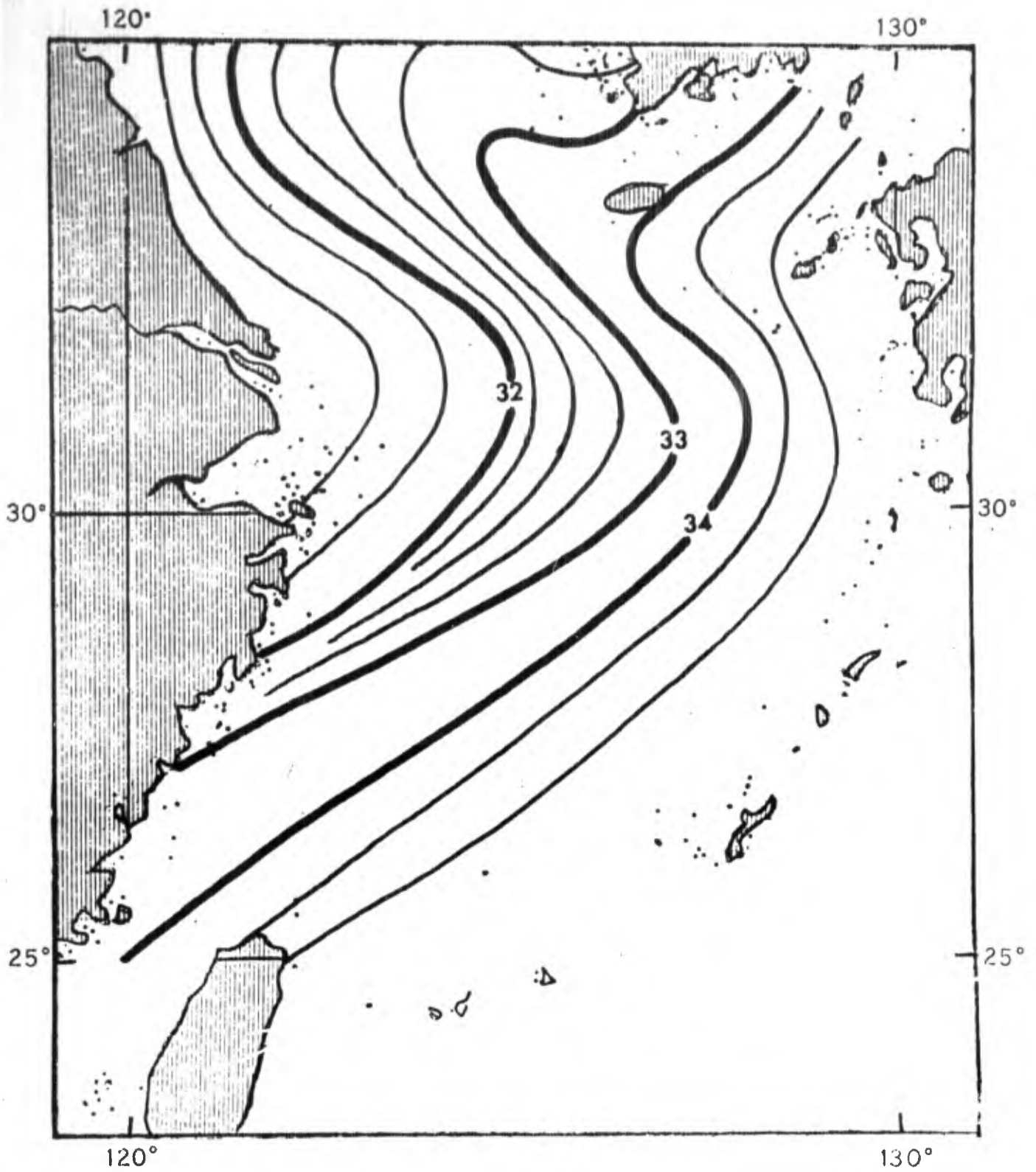


FIGURE 33 MEAN SEA SURFACE SALINITY (PARTS PER THOUSAND), APRIL THROUGH JUNE

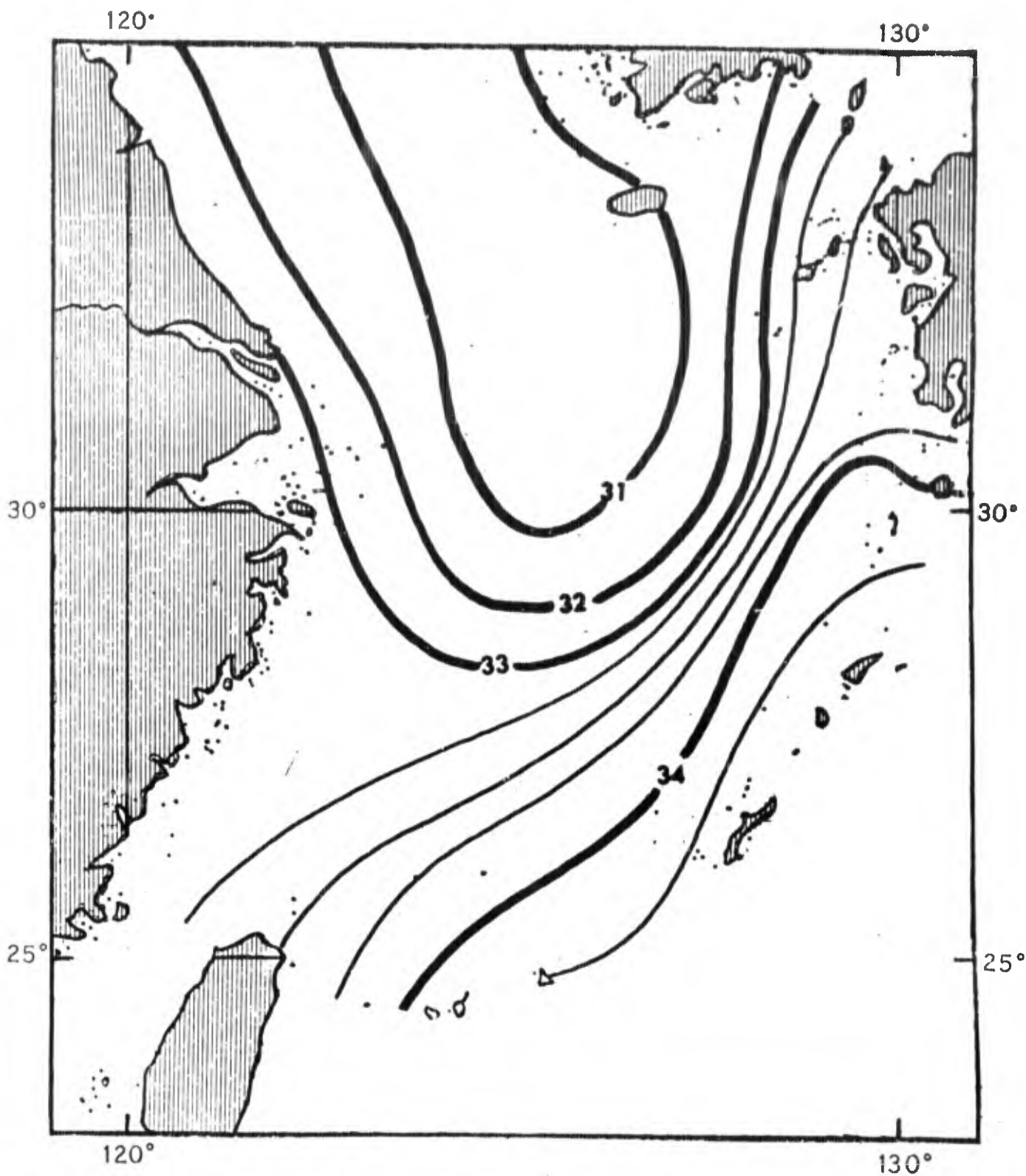


FIGURE 34 MEAN SEA SURFACE SALINITY (PARTS PER THOUSAND), JULY THROUGH SEPTEMBER

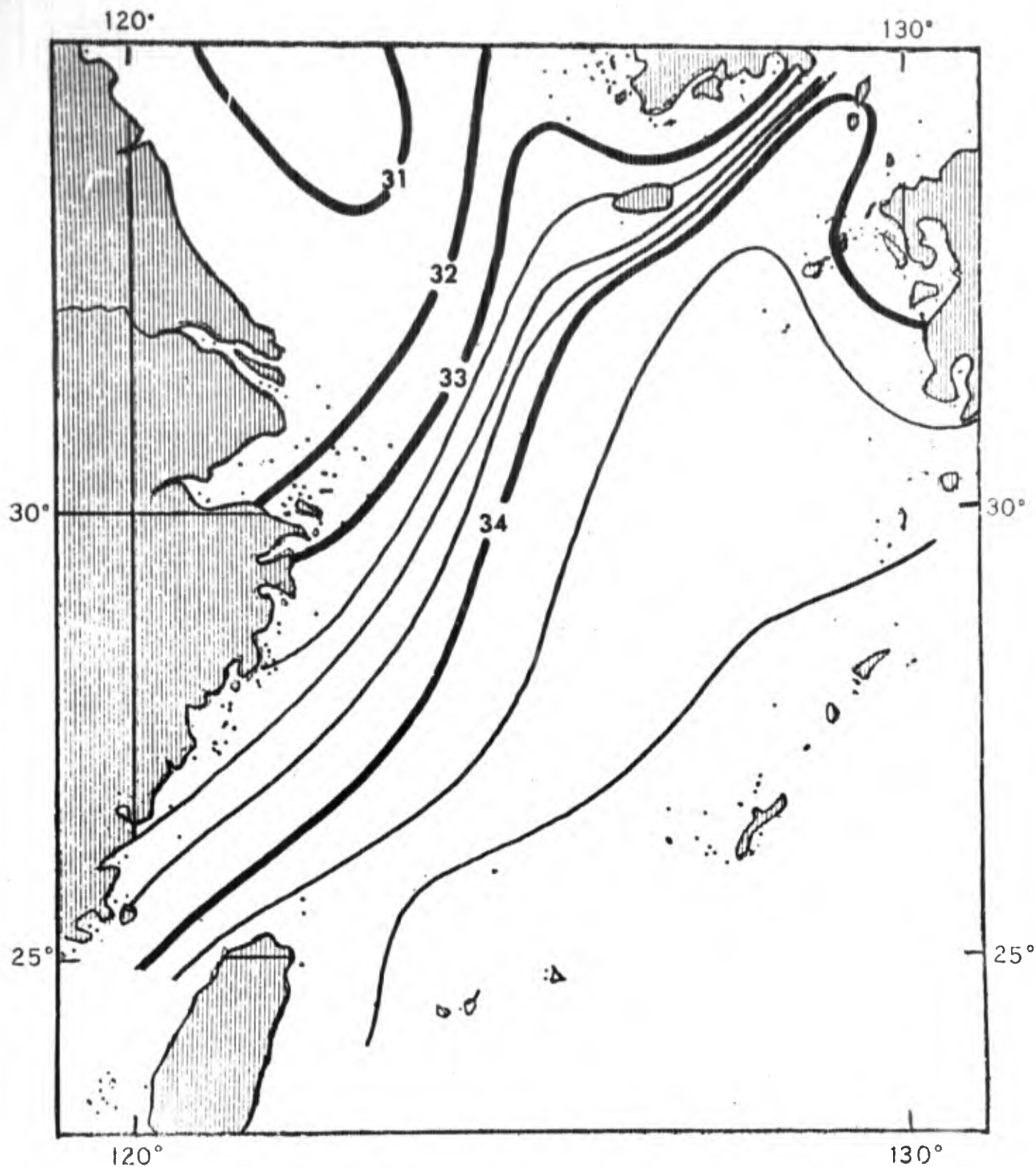


FIGURE 35 MEAN SEA SURFACE SALINITY (PARTS PER THOUSAND), OCTOBER THROUGH DECEMBER

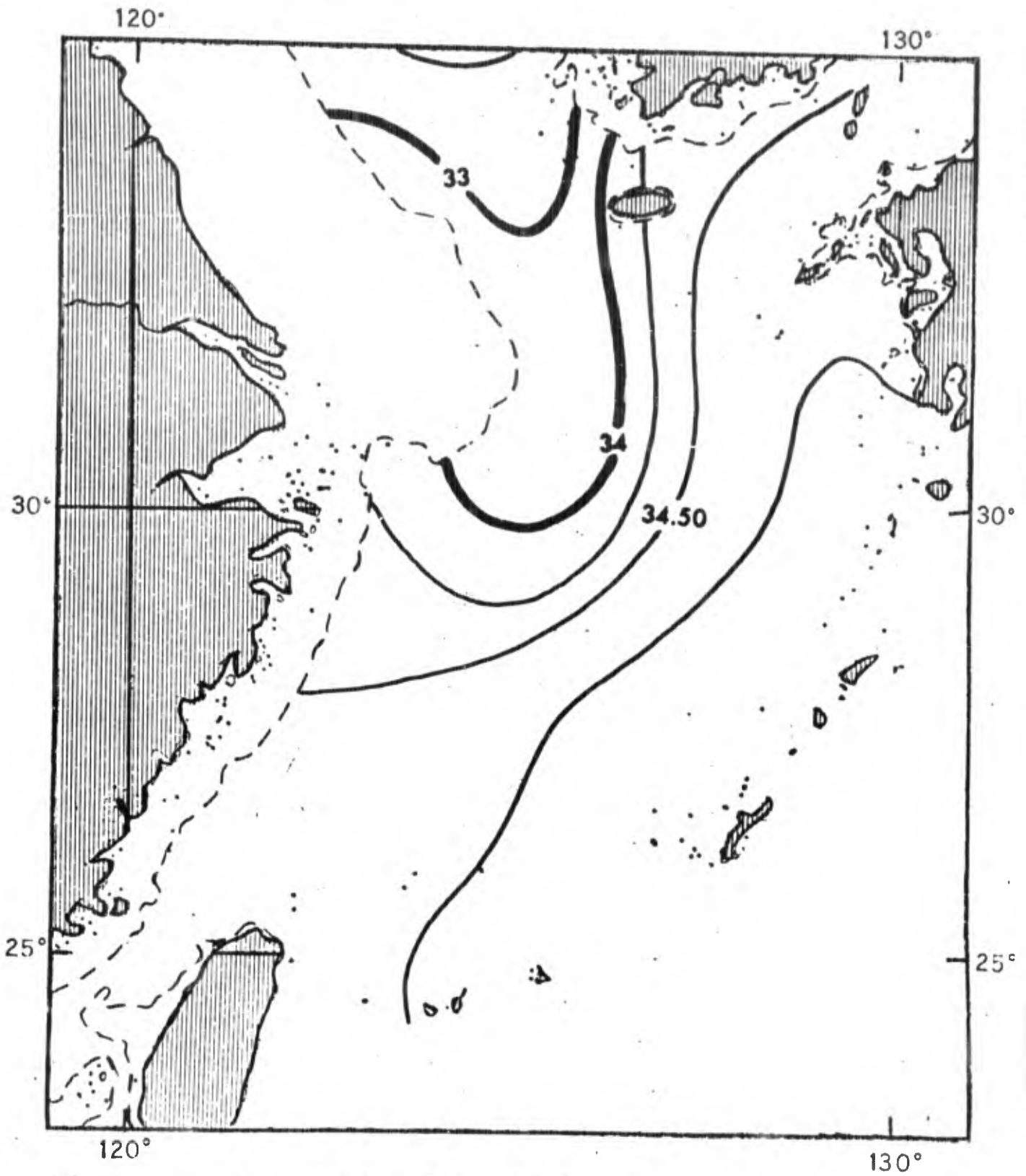


FIGURE 36 MEAN SALINITY (PARTS PER THOUSAND) AT 50 METERS (164 FEET), JANUARY THROUGH MARCH

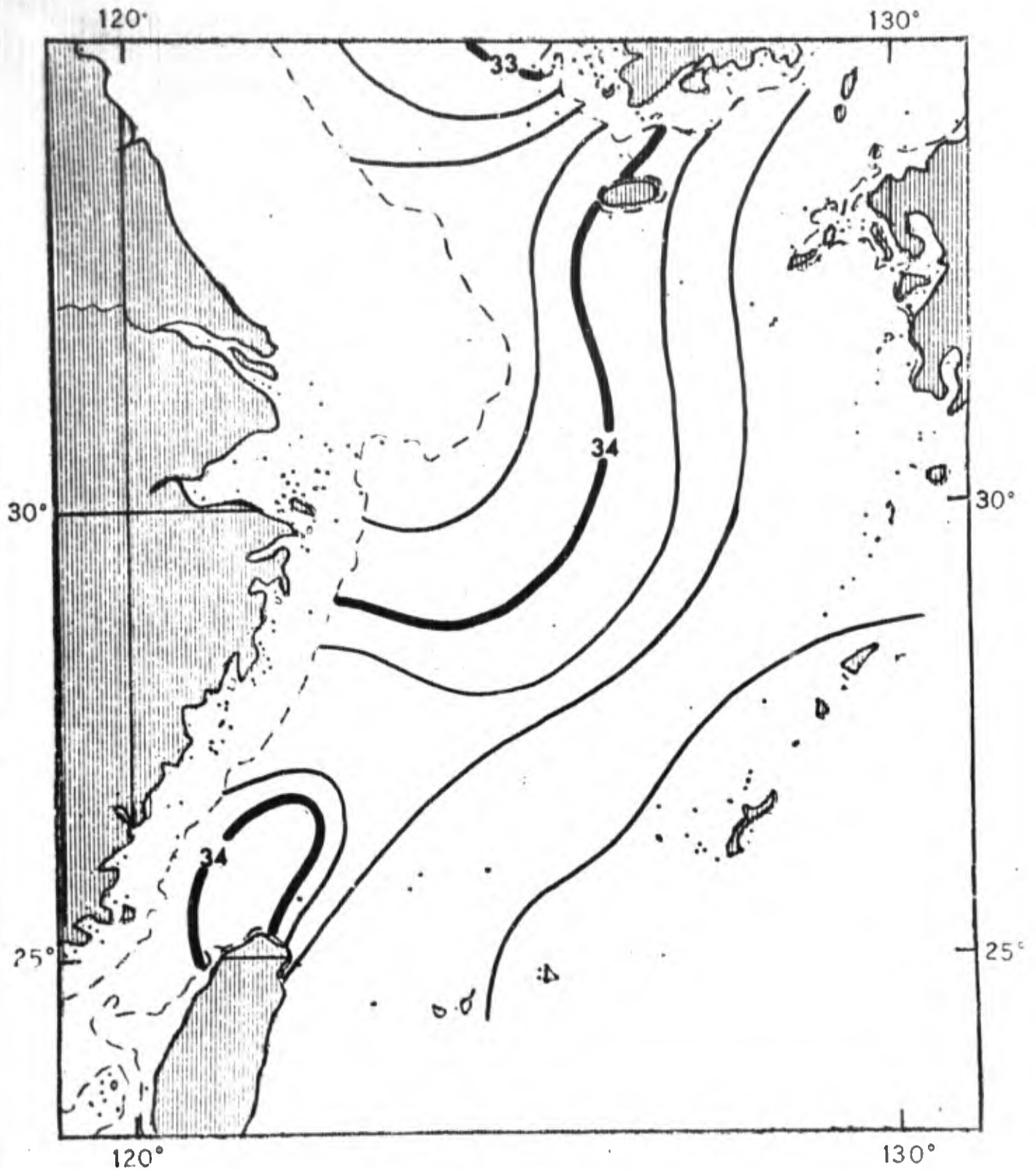


FIGURE 37 MEAN SALINITY (PARTS PER THOUSAND) AT 50 METERS (164 FEET), APRIL THROUGH JUNE

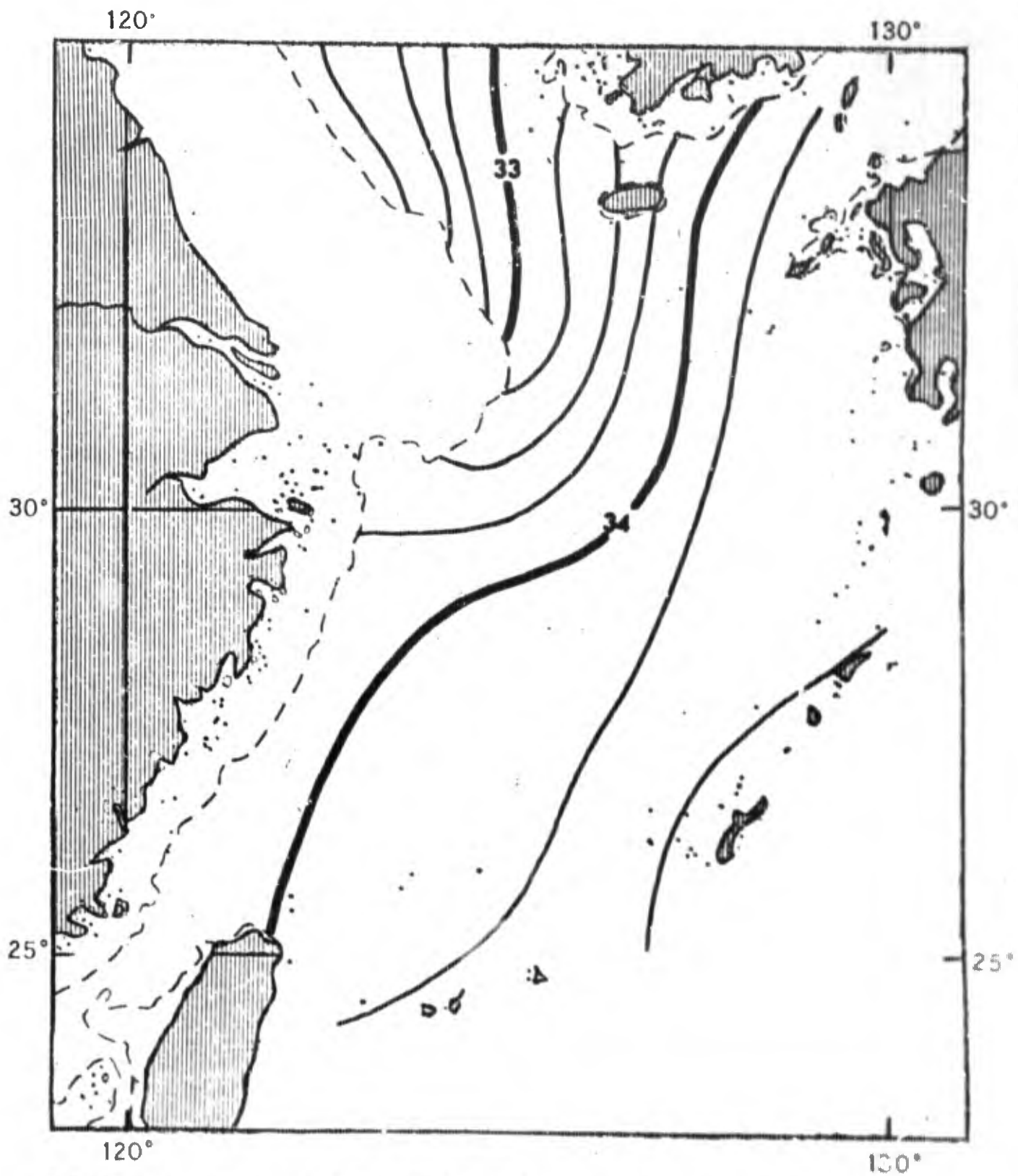


FIGURE 38 MEAN SALINITY (PARTS PER THOUSAND) AT 50 METERS (164 FEET), JULY THROUGH SEPTEMBER

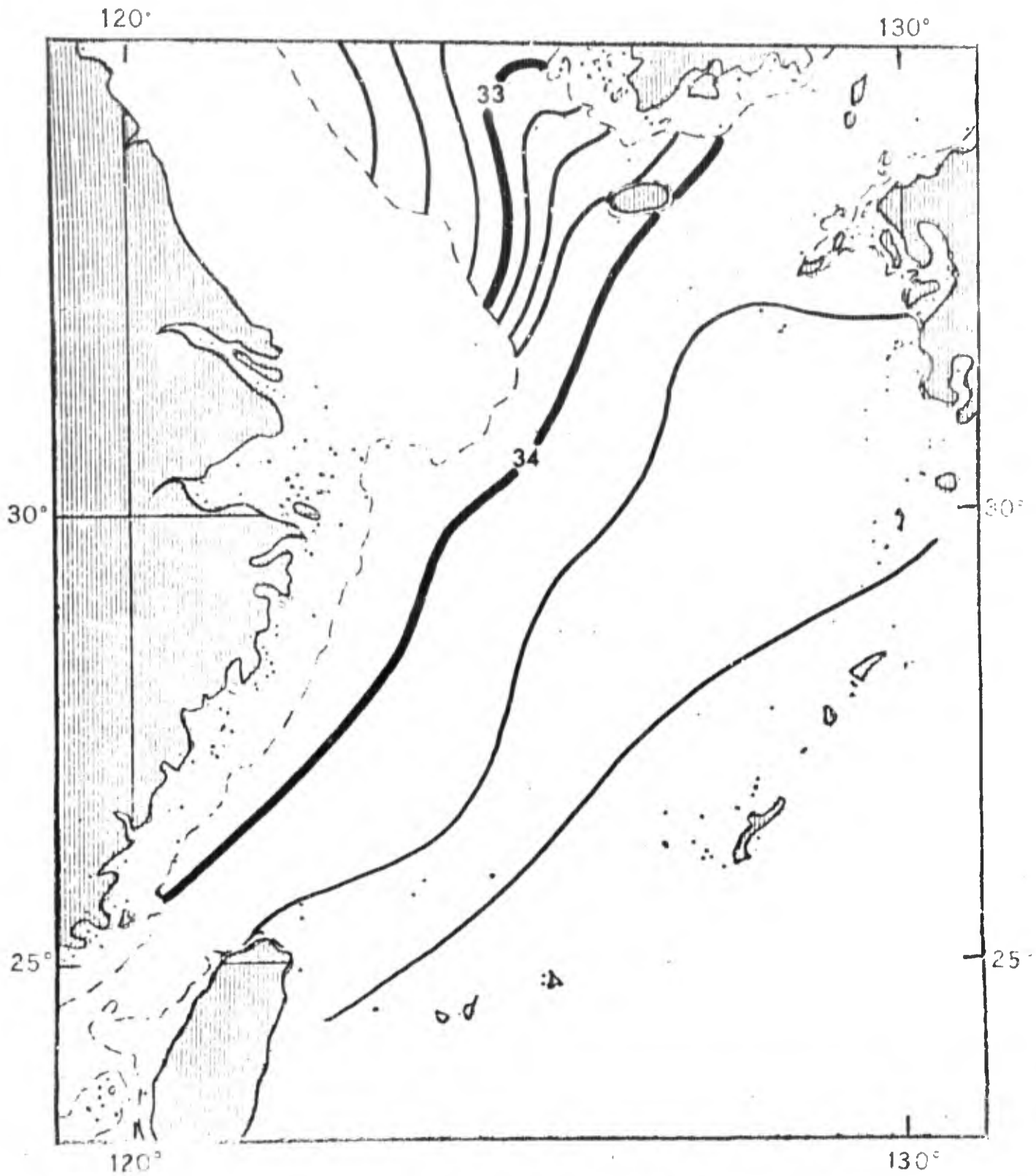


FIGURE 39 MEAN SALINITY (PARTS PER THOUSAND) AT 50 METERS (164 FEET), OCTOBER THROUGH DECEMBER

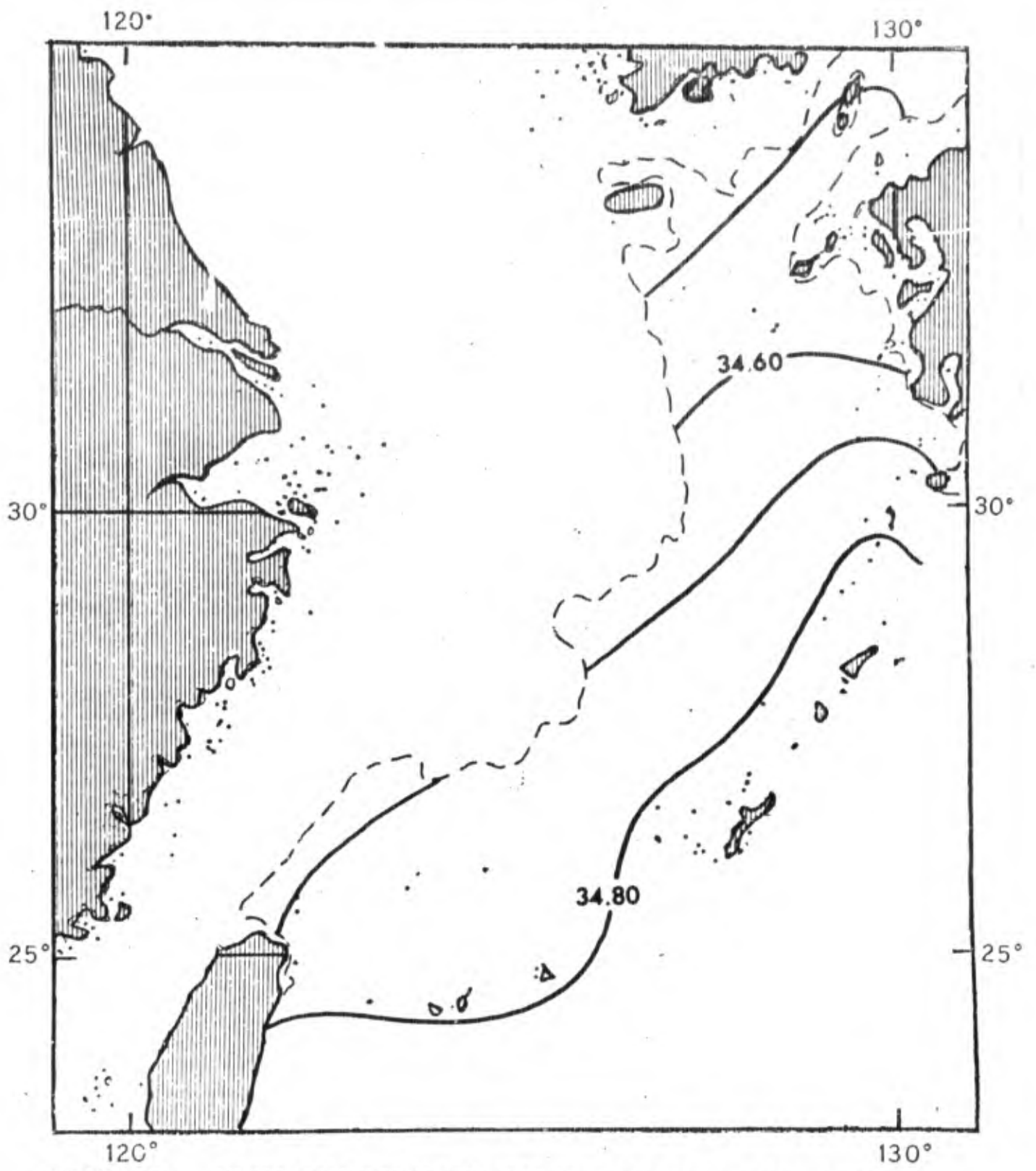


FIGURE 40 MEAN SALINITY (PARTS PER THOUSAND) AT 100 METERS (328 FEET), JANUARY THROUGH MARCH

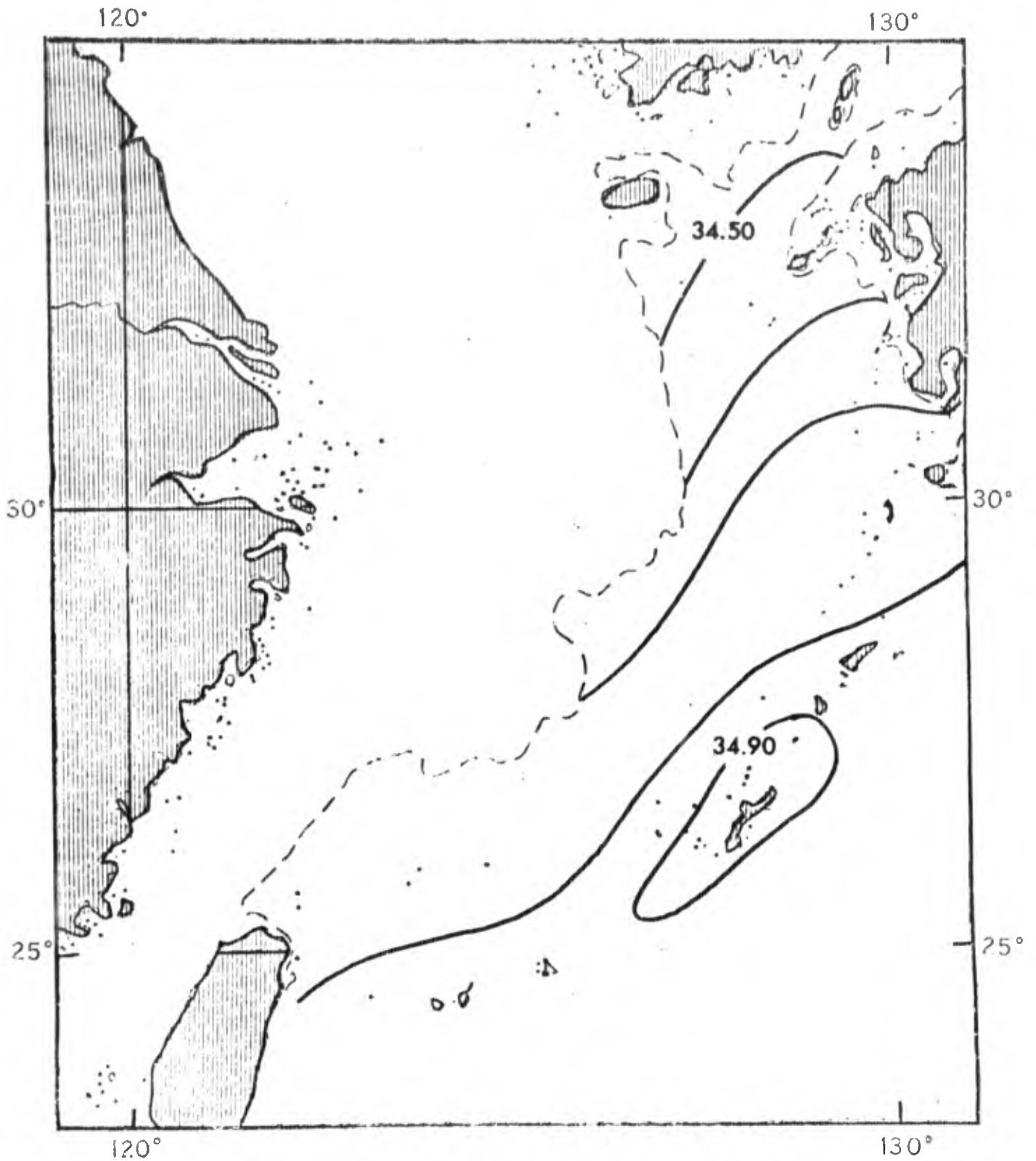


FIGURE 41 MEAN SALINITY (PARTS PER THOUSAND) AT 100 METERS (328 FEET), APRIL THROUGH JUNE

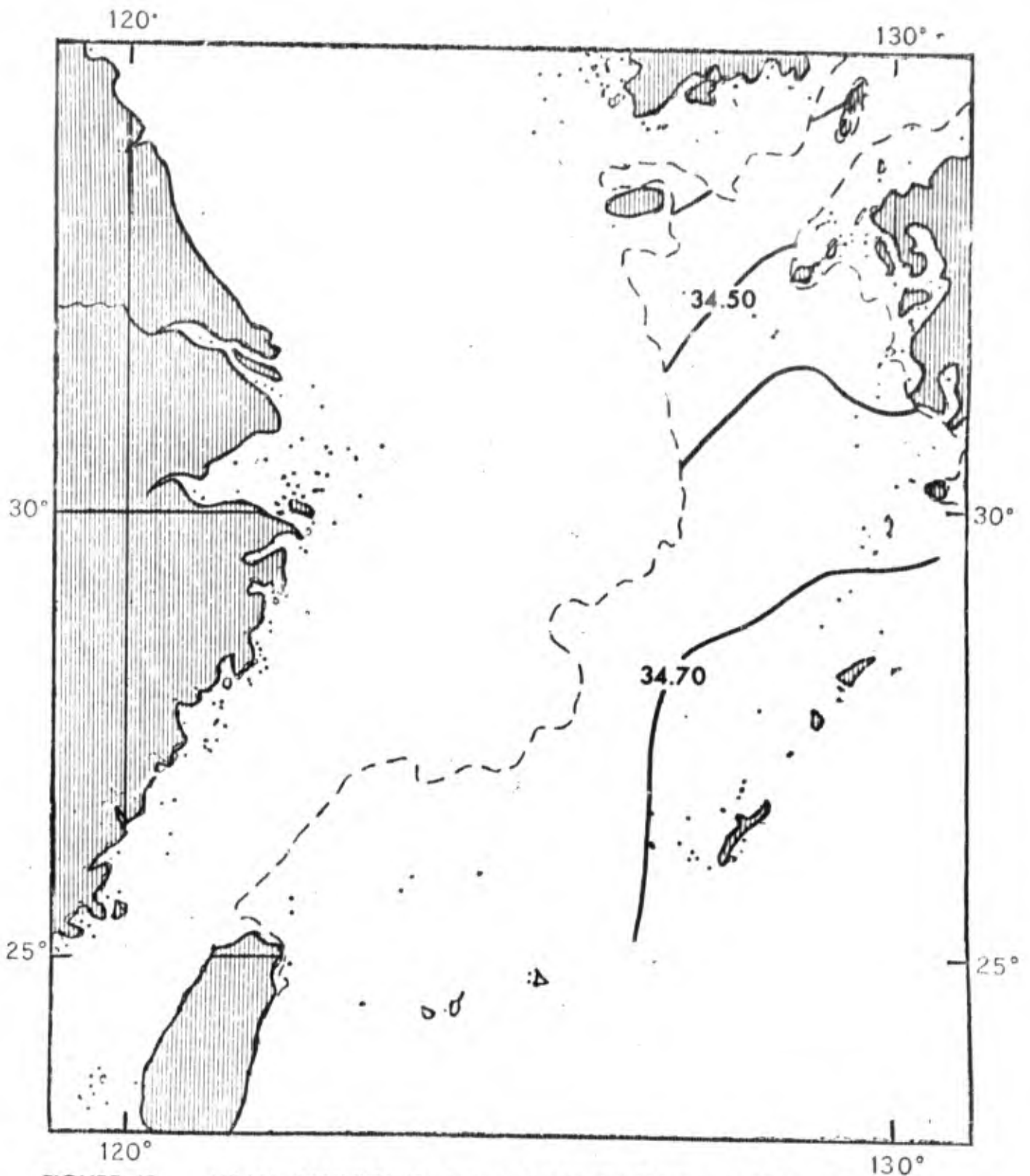


FIGURE 42 MEAN SALINITY (PARTS PER THOUSAND) AT 100 METERS (328 FEET), JULY THROUGH SEPTEMBER

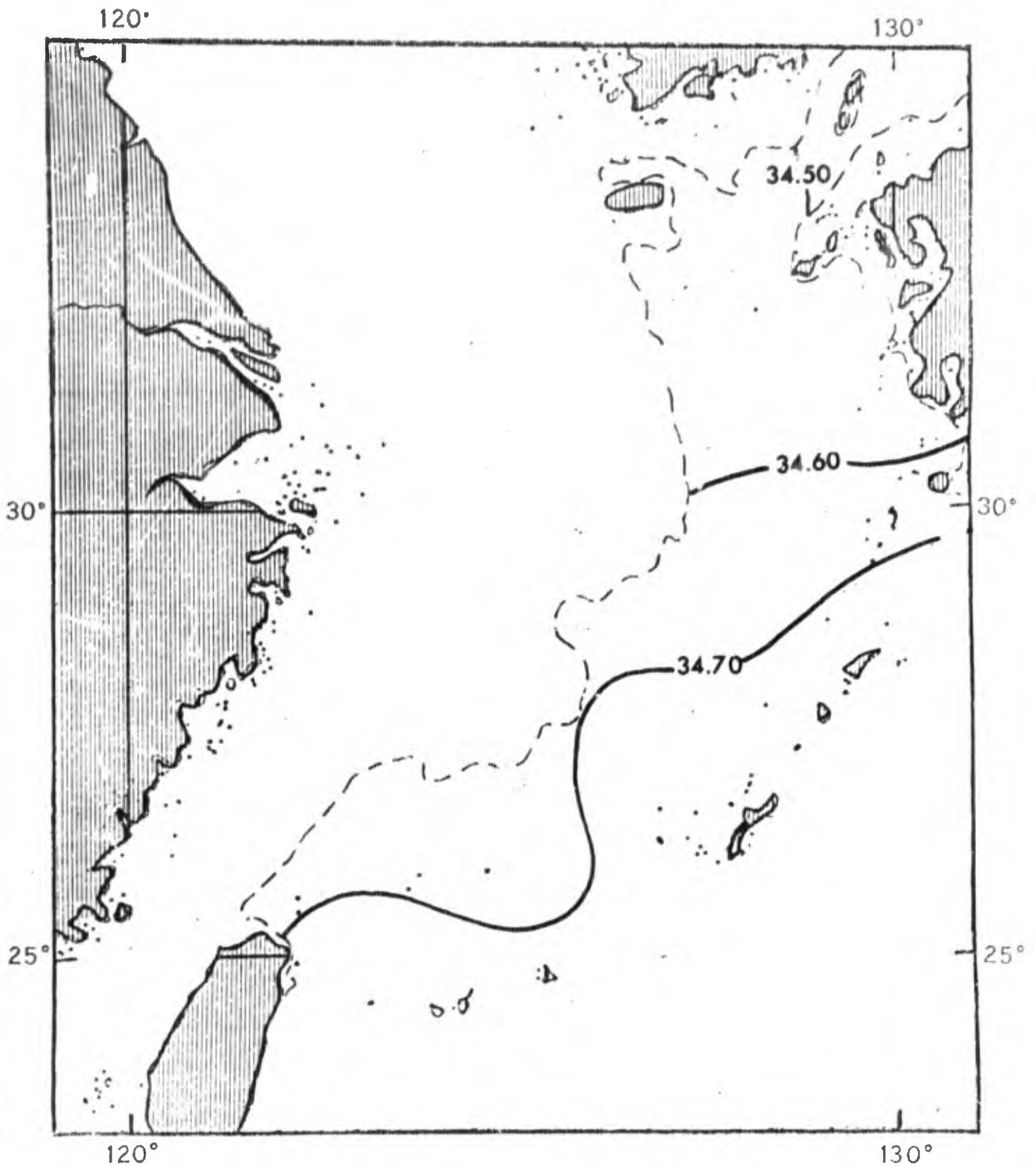


FIGURE 43 MEAN SALINITY (PARTS PER THOUSAND) AT 100 METERS (328 FEET), OCTOBER THROUGH DECEMBER

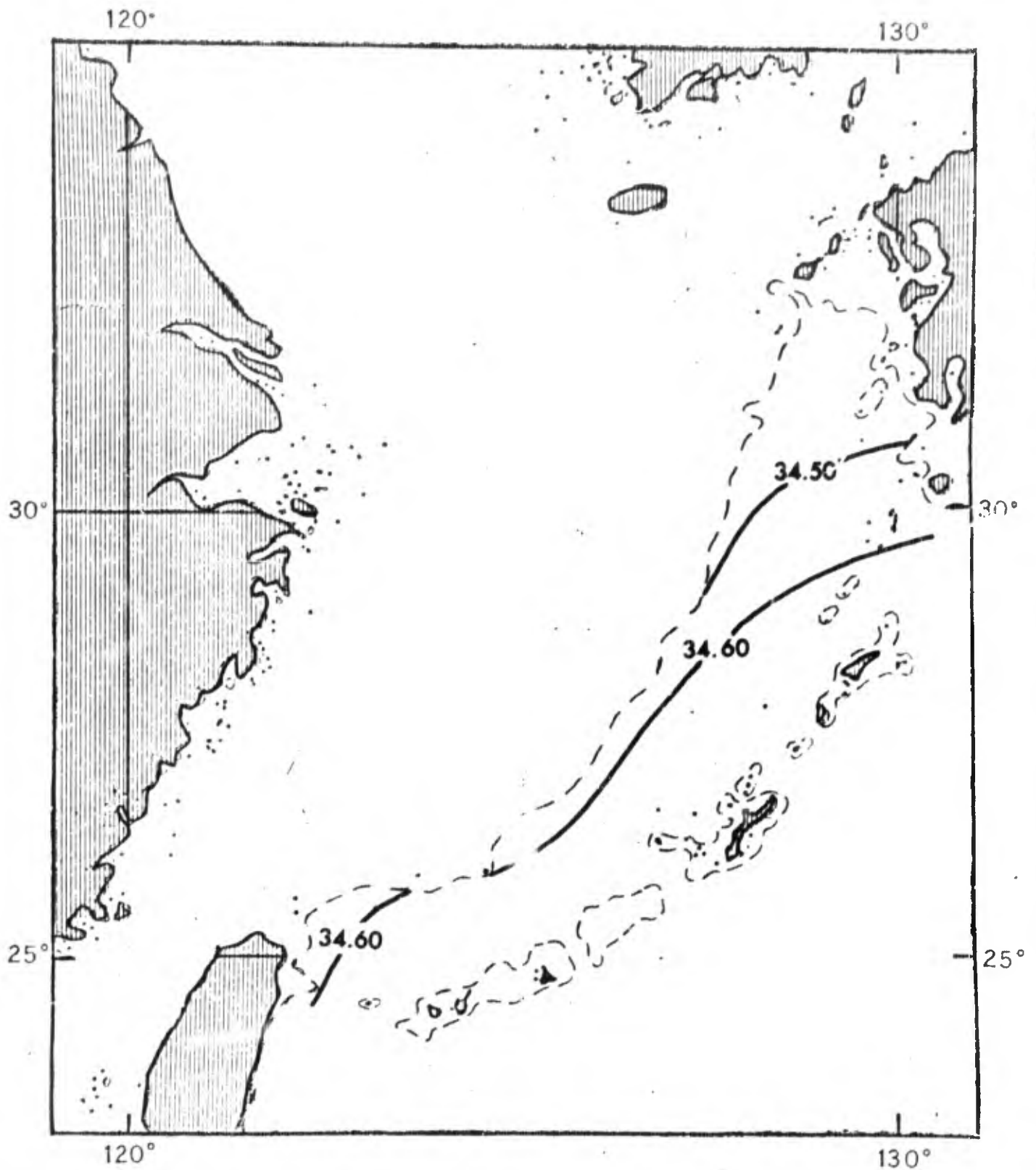


FIGURE 44 MEAN SALINITY (PARTS PER THOUSAND) AT 300 METERS (984 FEET)

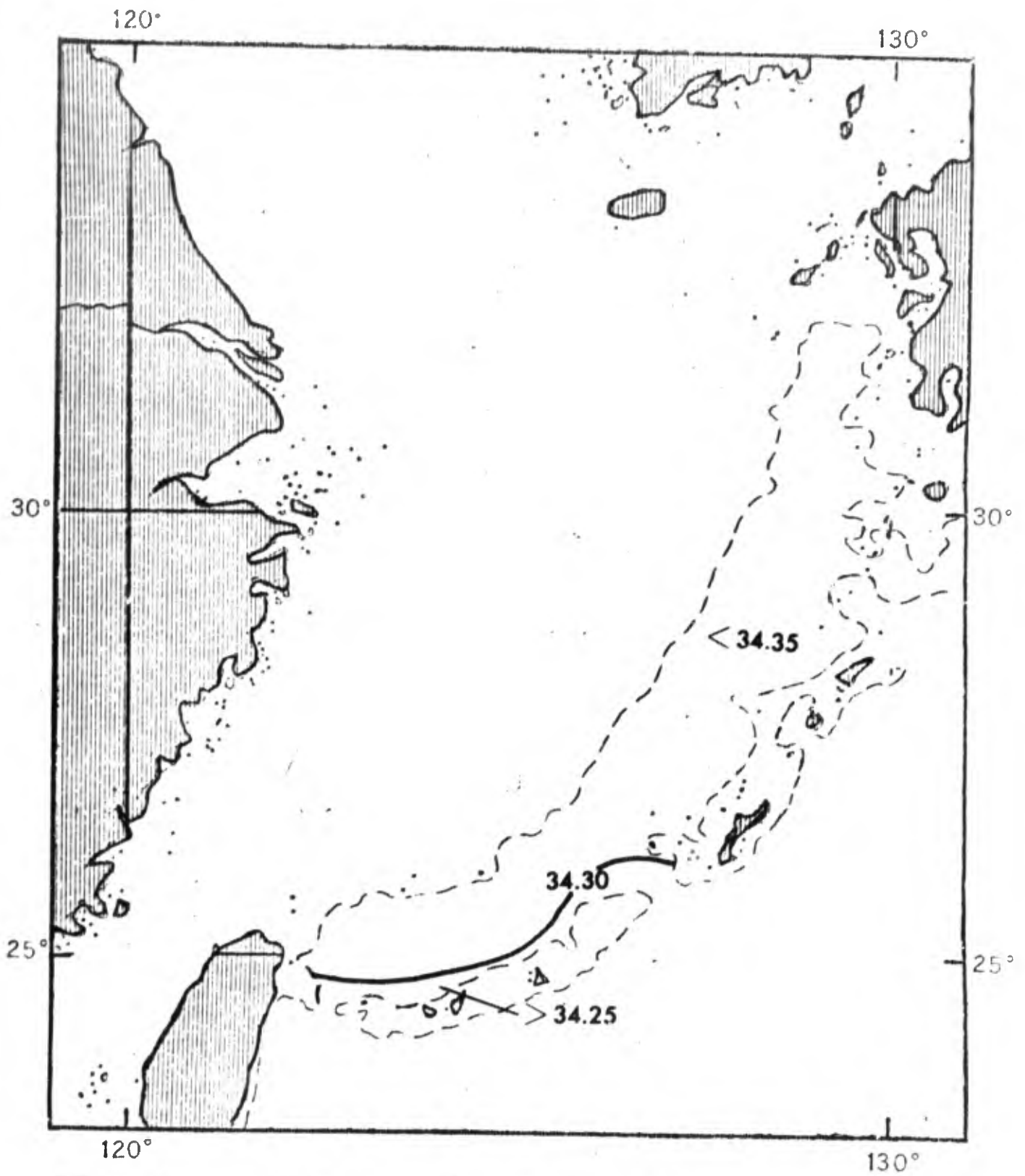


FIGURE 45 MEAN SALINITY (PARTS PER THOUSAND) AT 600 METERS (1,968 FEET)

HORIZONTAL DISTRIBUTION OF DENSITY (σ_t)

Isopycnics are presented in units of sigma-t (σ_t). To show greater detail, intermediate values are inserted (thin lines) wherever possible. To improve the analysis, the mean temperature and salinity distributions were combined to derive the mean density distributions.

Because of heavy river runoff and rainfall, density is subject to extensive short-term variations and may be much lower than the indicated values.

The mean distribution of sea surface density is presented for February, May, August, and November in Figures 46 through 49. The distribution of density at 50 meters (164 feet) cannot be presented because of the instability which occurs during the early winter monsoon. At 100 meters (328 feet), where the variability is small and the data are sparse, the density distribution is given by tri-monthly periods in Figures 50 through 53. At 300 meters (984 feet) and 600 meters (1,968 feet) seasonal changes are negligible and the data inadequate; all density data for these depths are combined in Figures 54 and 55, respectively.

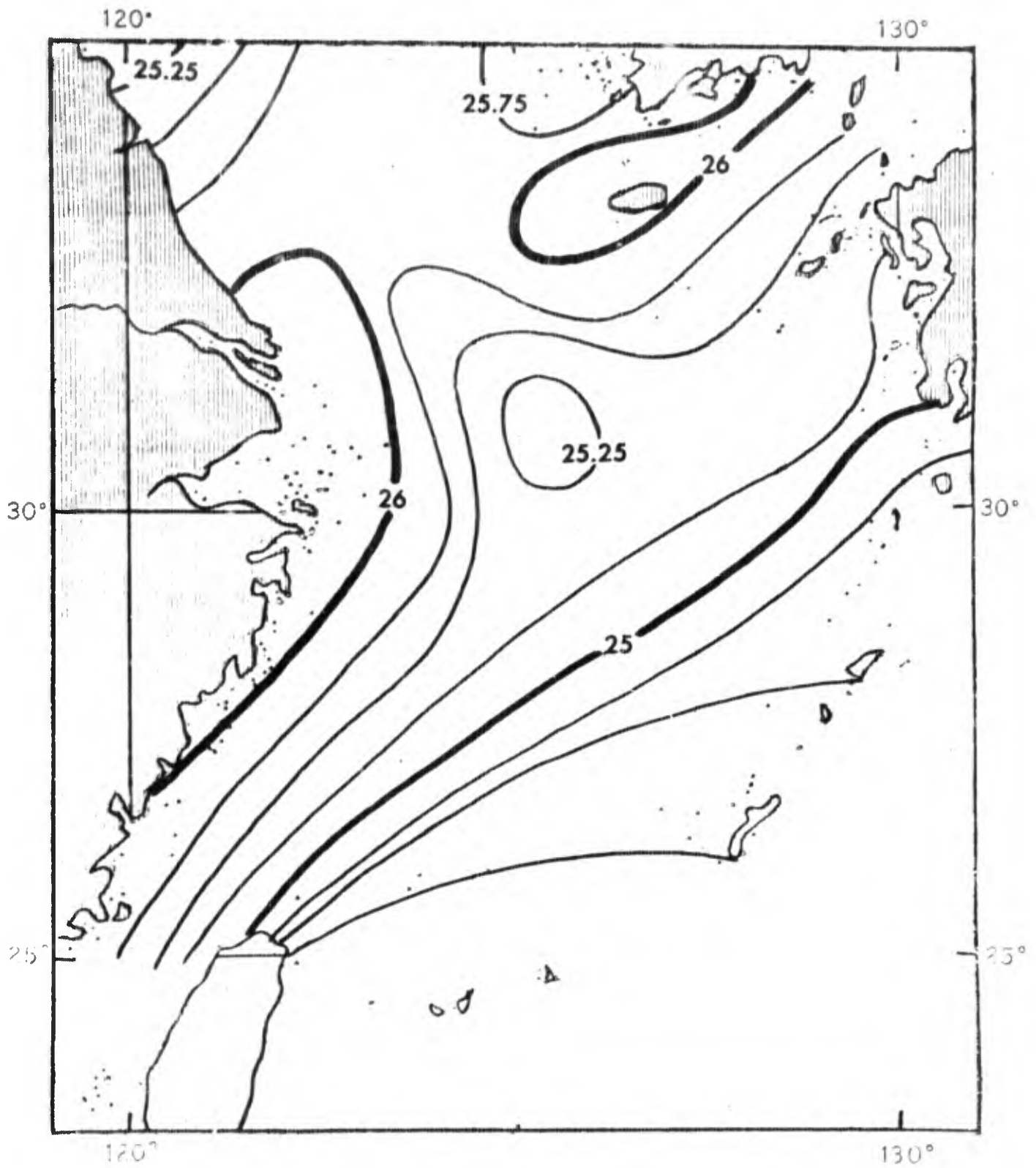


FIGURE 46 MEAN SEA SURFACE DENSITY (σ), FEBRUARY

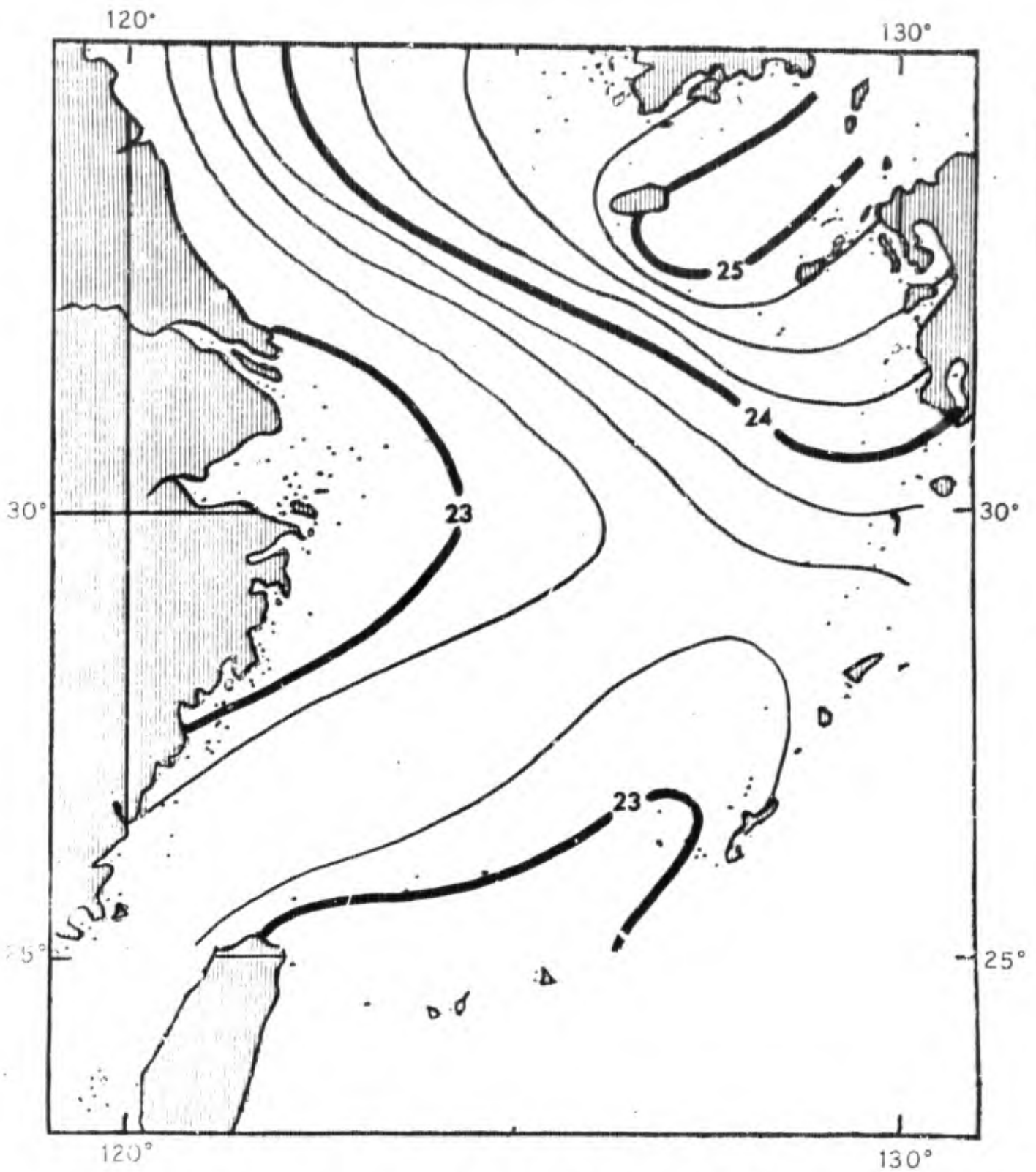


FIGURE 47 MEAN SEA SURFACE DENSITY (σ_t), MAY

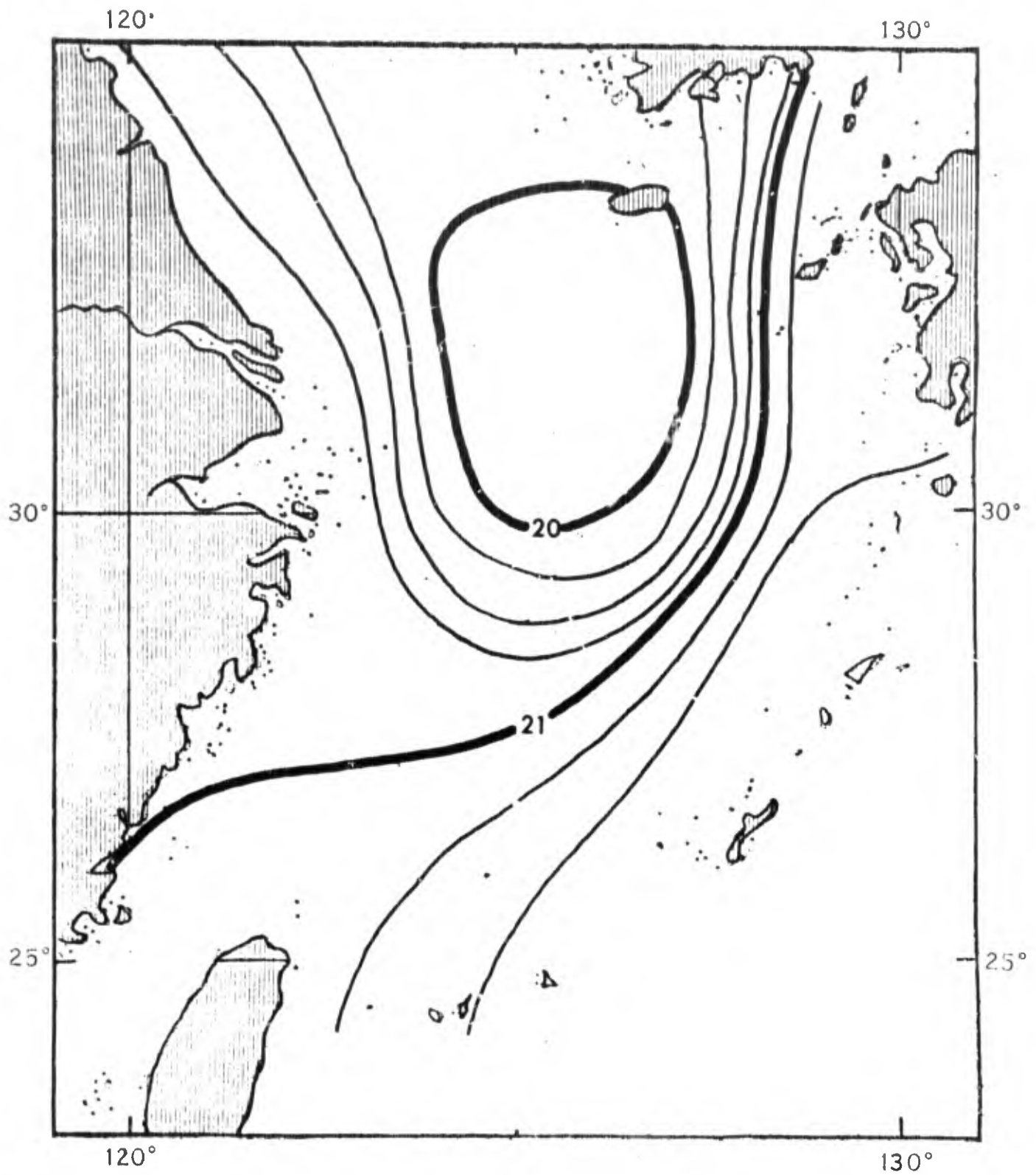


FIGURE 48 MEAN SEA SURFACE DENSITY (σ_t), AUGUST

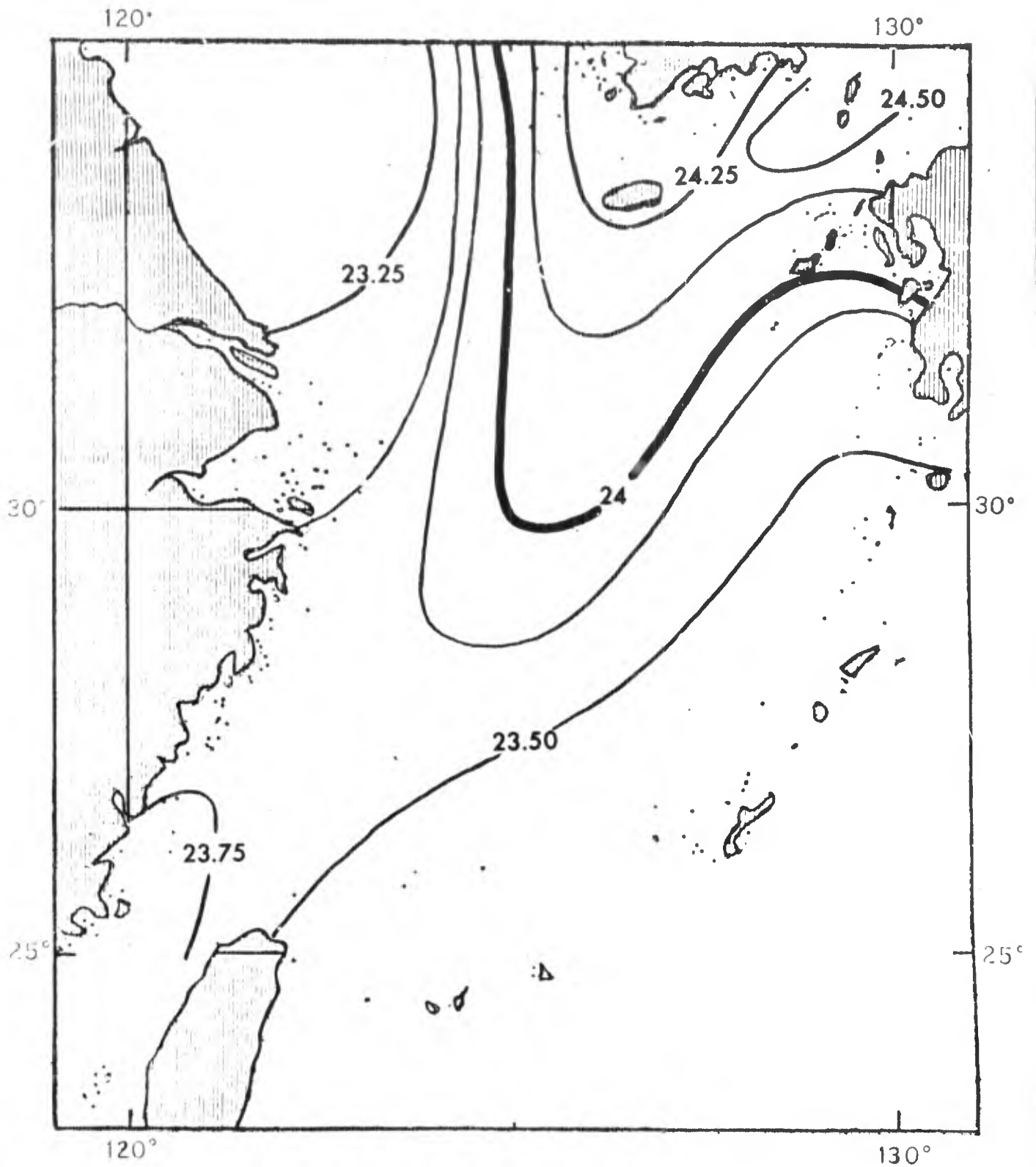


FIGURE 49 MEAN SEA SURFACE DENSITY (σ_t), NOVEMBER

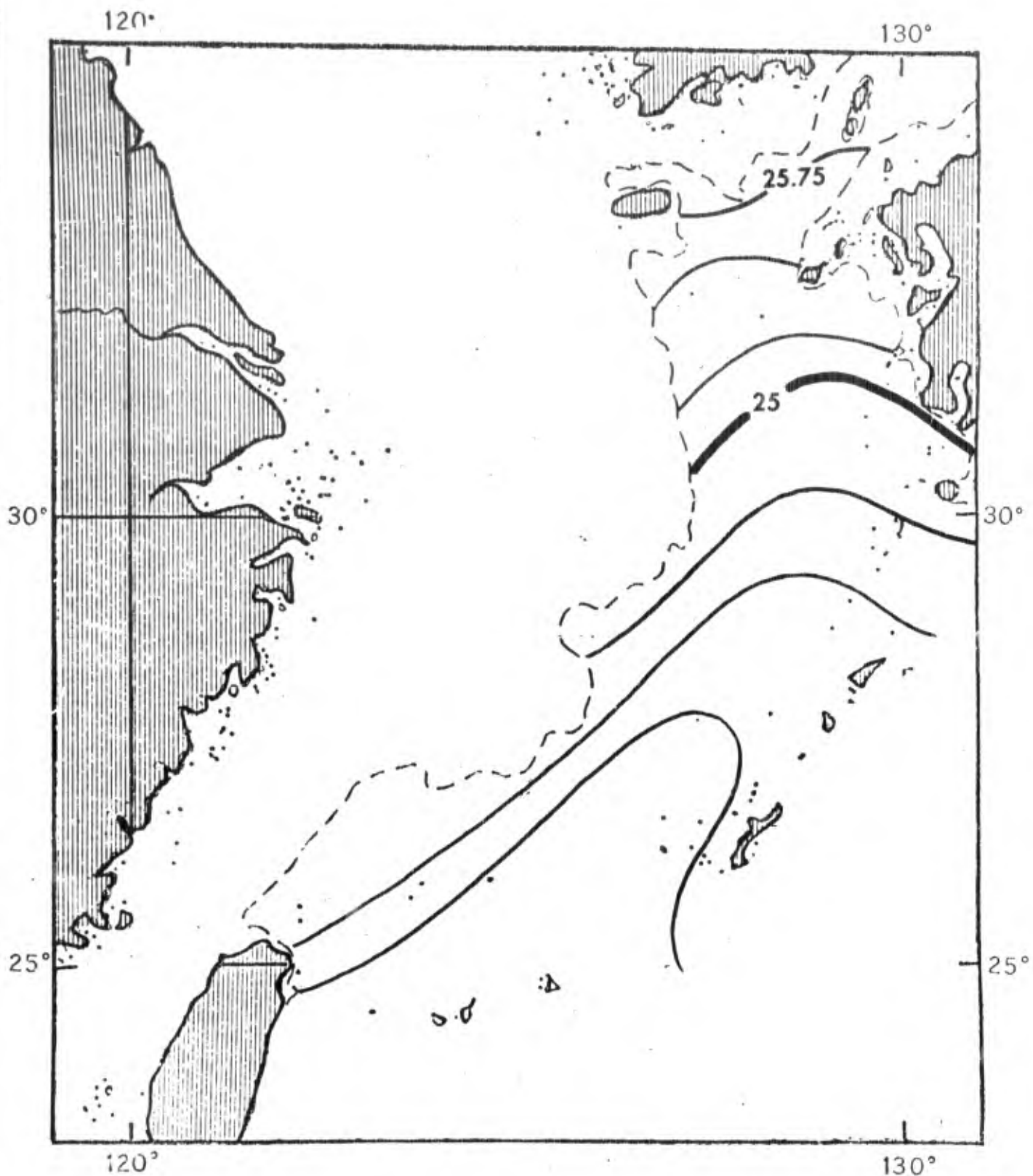


FIGURE 50 MEAN DENSITY (σ_t) AT 100 METERS (328 FEET), JANUARY THROUGH MARCH

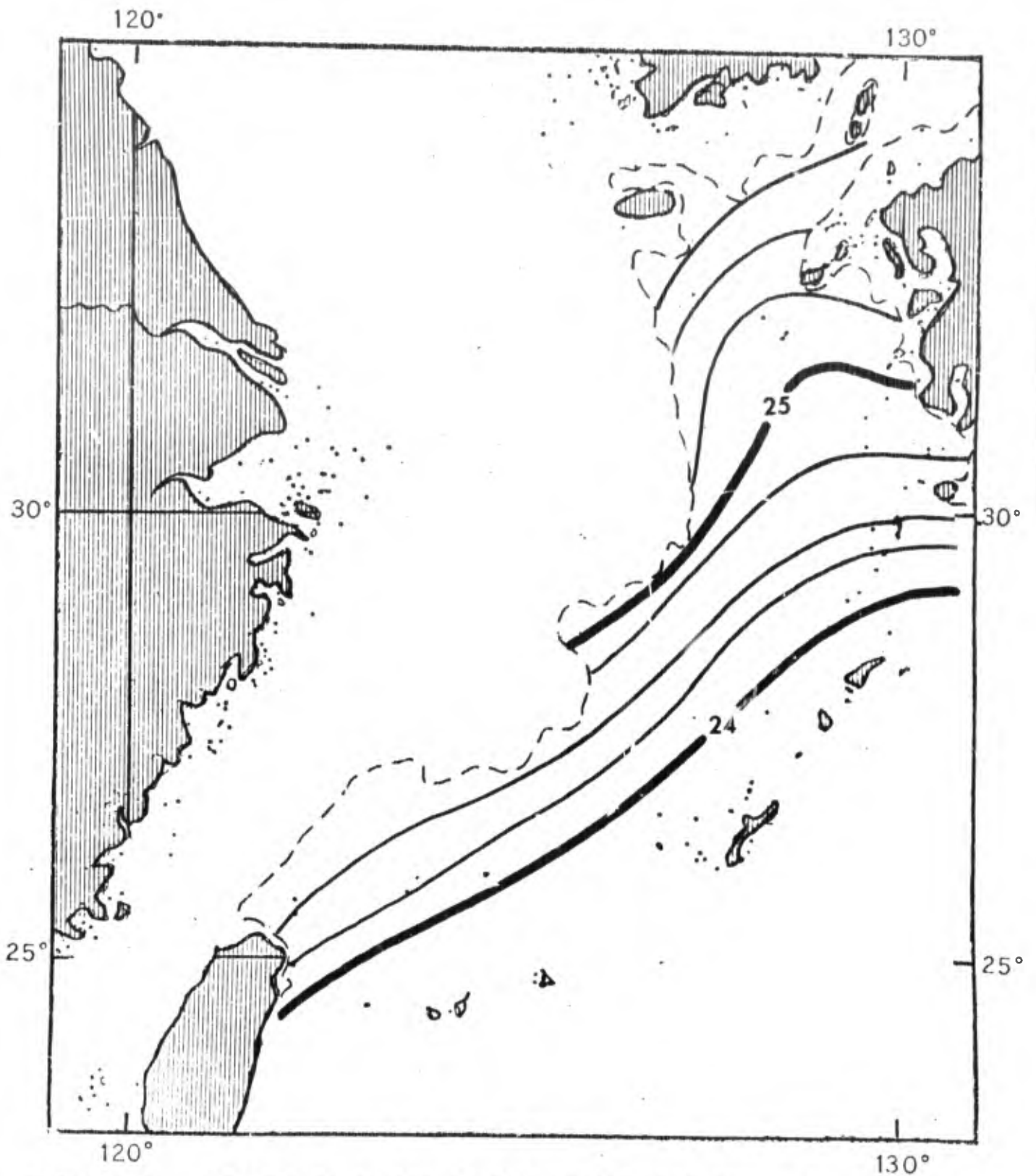


FIGURE 51 MEAN DENSITY (σ_t) AT 100 METERS (328 FEET), APRIL THROUGH JUNE

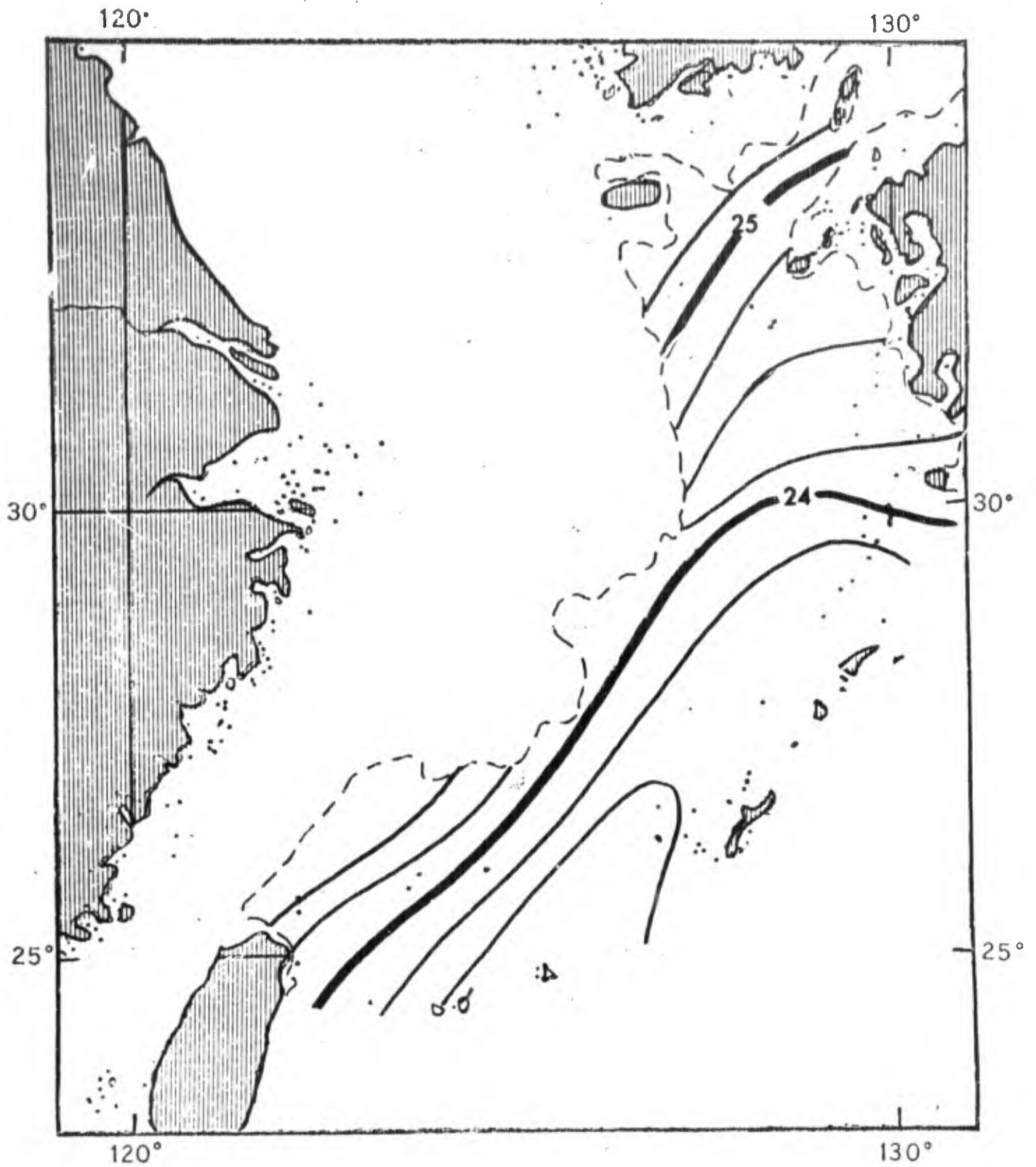


FIGURE 52 MEAN DENSITY (σ_t) AT 100 METERS (328 FEET), JULY THROUGH SEPTEMBER



FIGURE 53 MEAN DENSITY (σ_t) AT 100 METERS (328 FEET), OCTOBER THROUGH DECEMBER

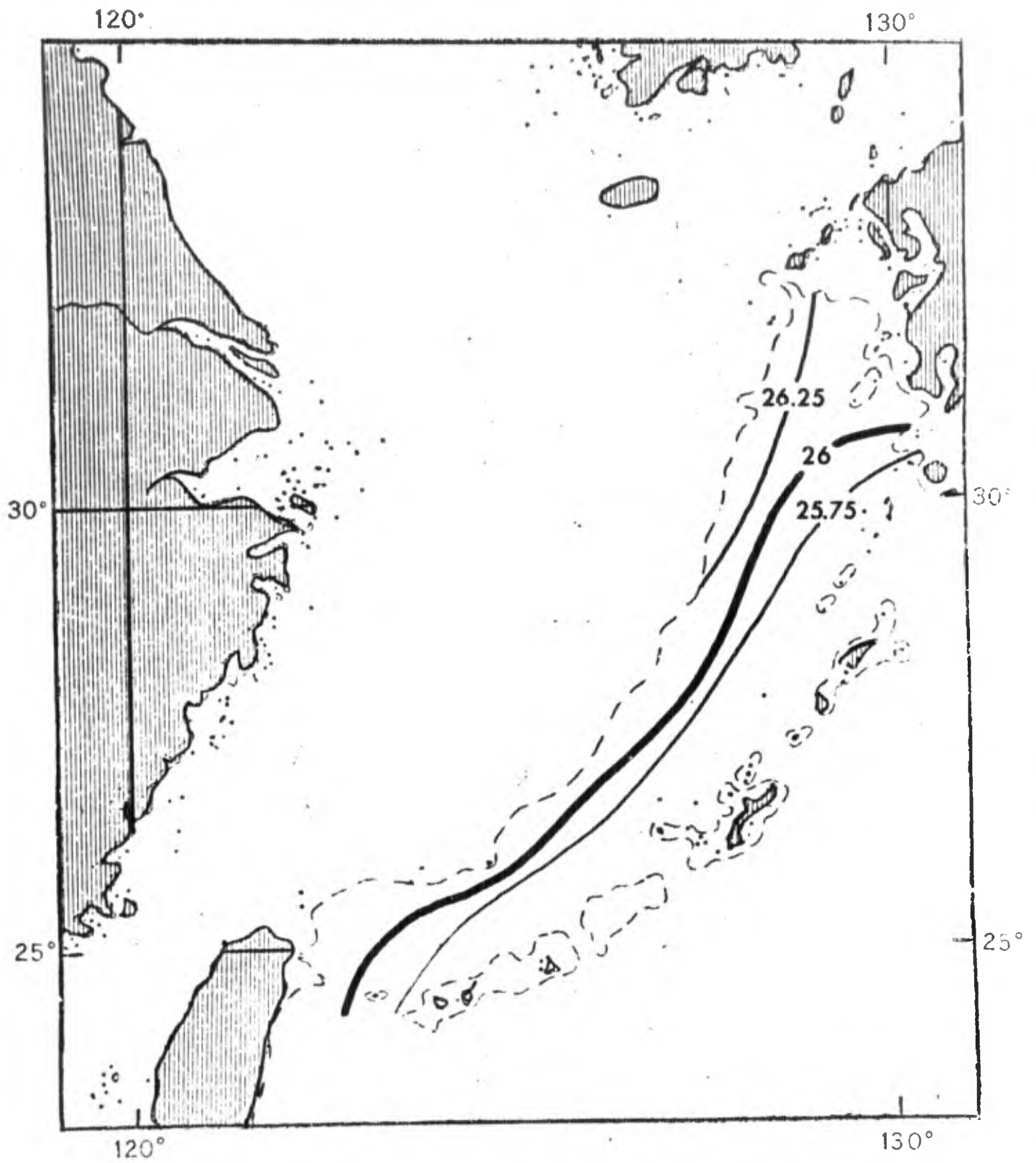


FIGURE 54 MEAN DENSITY (σ_t) AT 300 METERS (984 FEET)

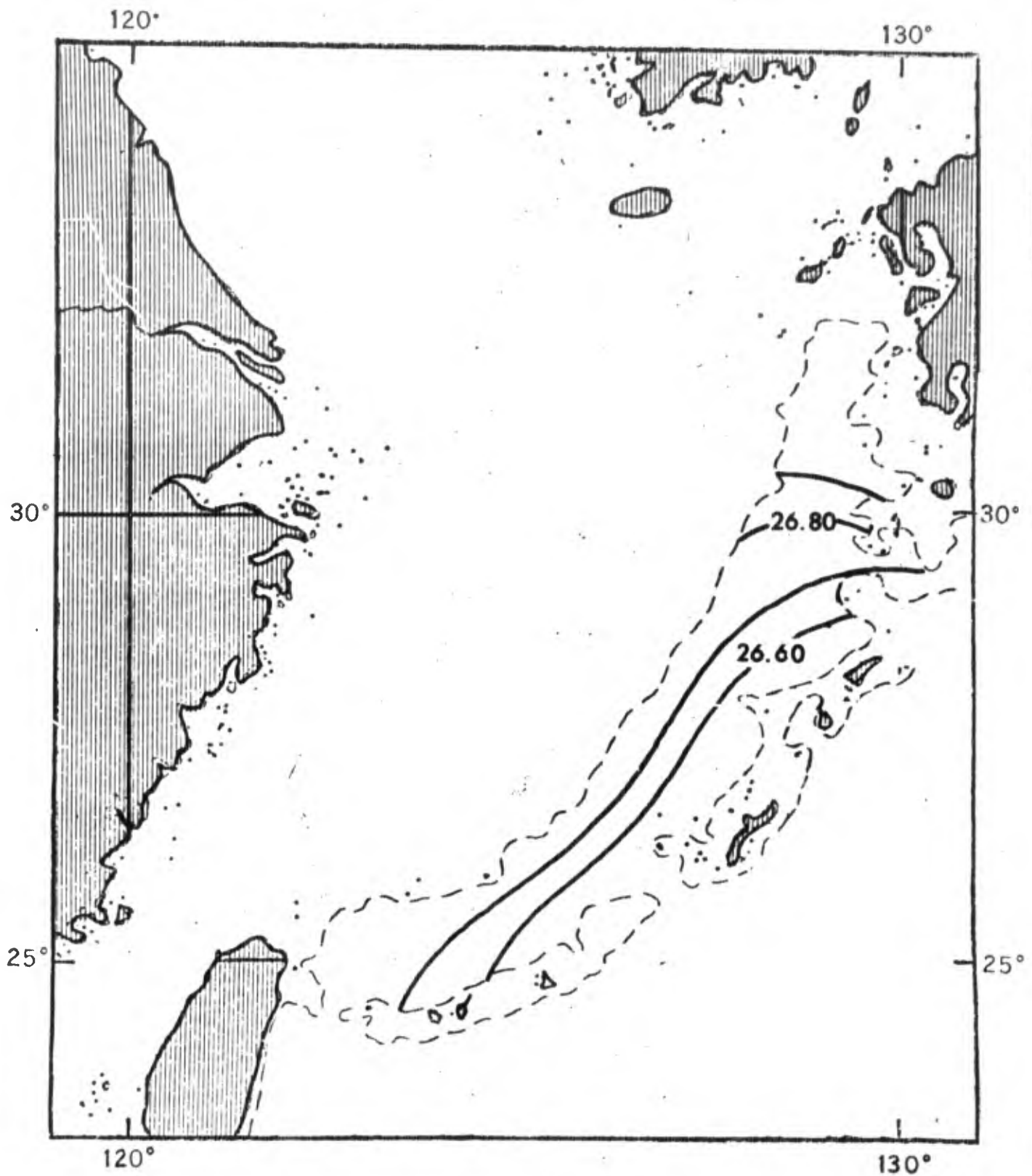


FIGURE 55 MEAN DENSITY (σ_t) AT 600 METERS (1,968 FEET)

VERTICAL DISTRIBUTION OF TEMPERATURE, SALINITY, AND DENSITY

Typical traces of temperature, salinity, and density in the upper 610 meters (2,000 feet) are displayed in Figures 56 through 67 for trimonthly periods. These modal traces represent the most common vertical trace found in each region and are enclosed in an envelope containing 100% of the data. The number of oceanographic stations used to derive the traces for each trimonthly period is shown with the temperature trace of each region.

Deep traces of temperature, salinity, and density based on selected oceanographic stations that extend deeper than 610 meters (2,000 feet) are given in Figures 68 through 71 for one month representative of each trimonthly period.

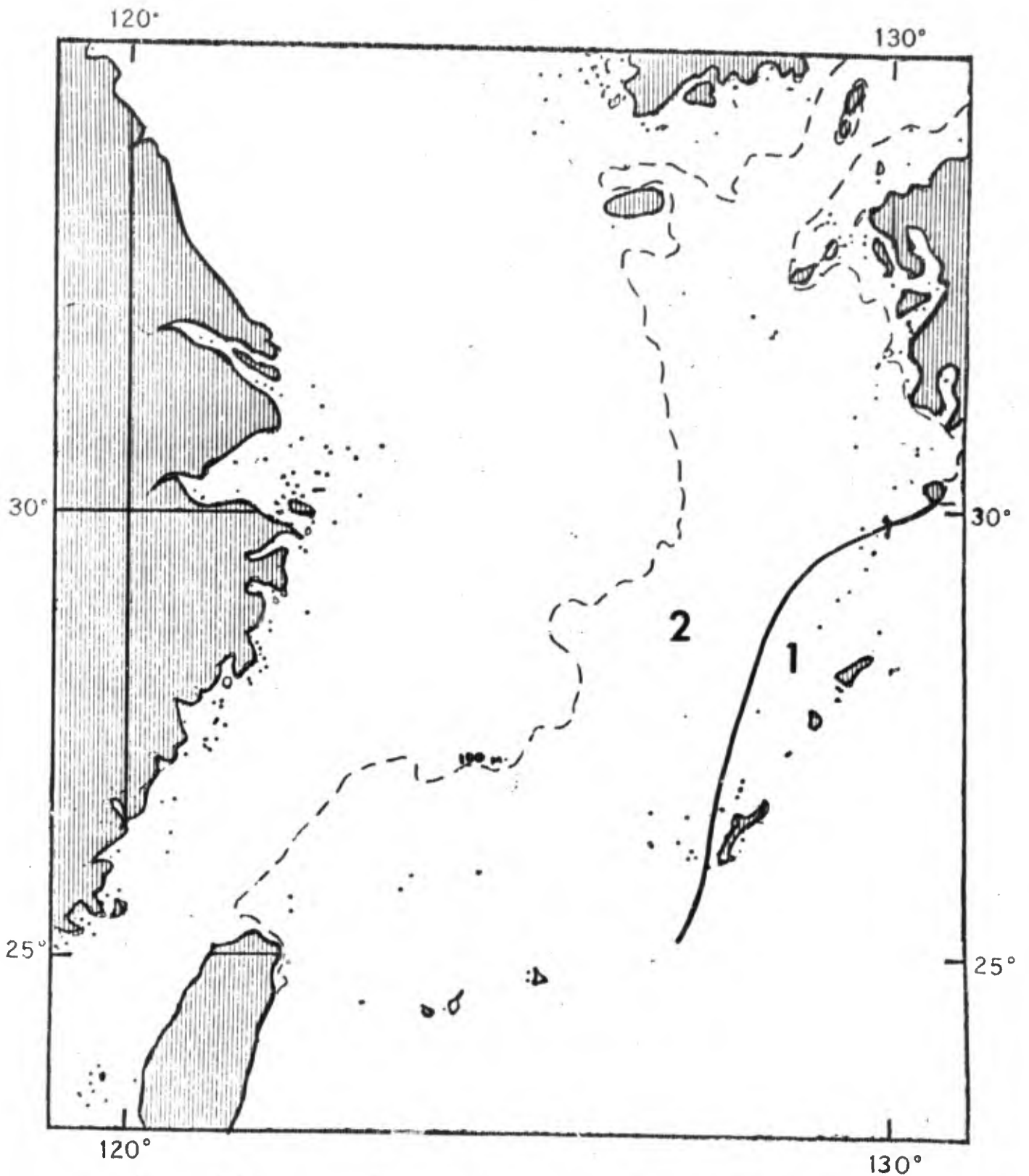


FIGURE 56 LOCATOR CHART - TYPICAL TRACES OF TEMPERATURE, SALINITY, AND DENSITY IN SELECTED REGIONS, JANUARY THROUGH MARCH

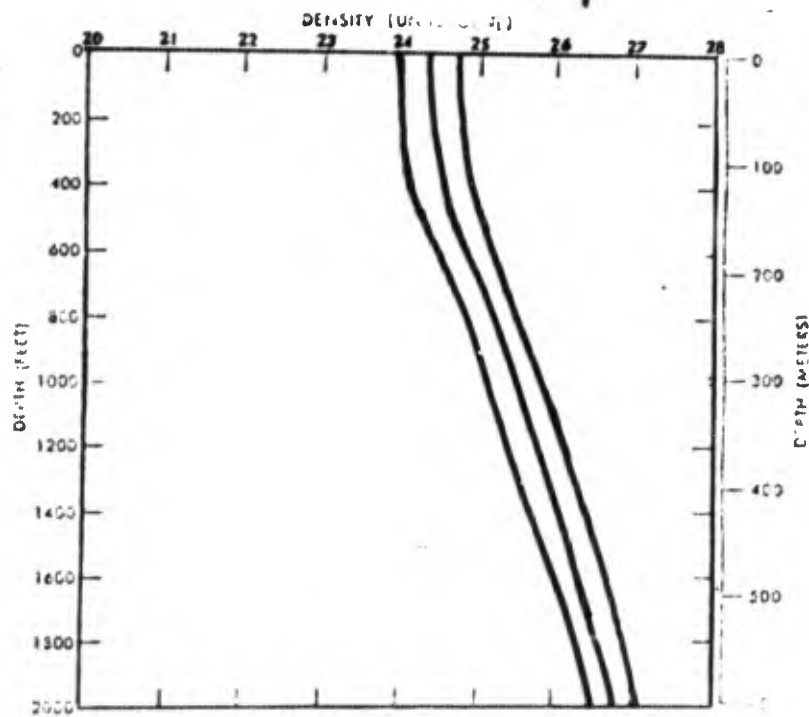
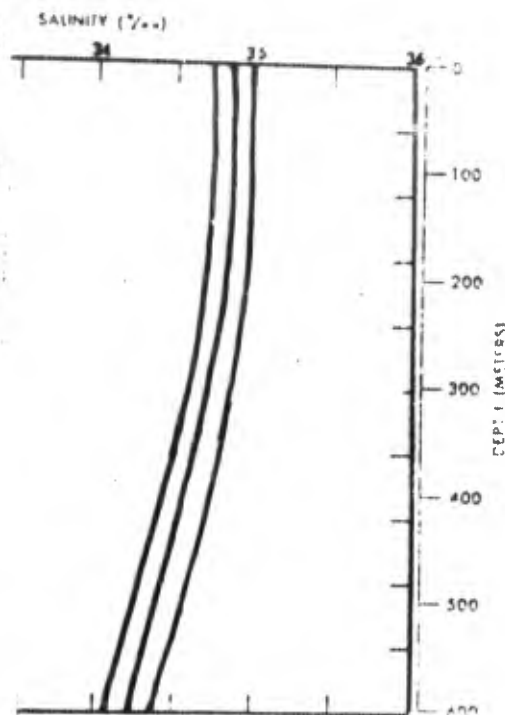
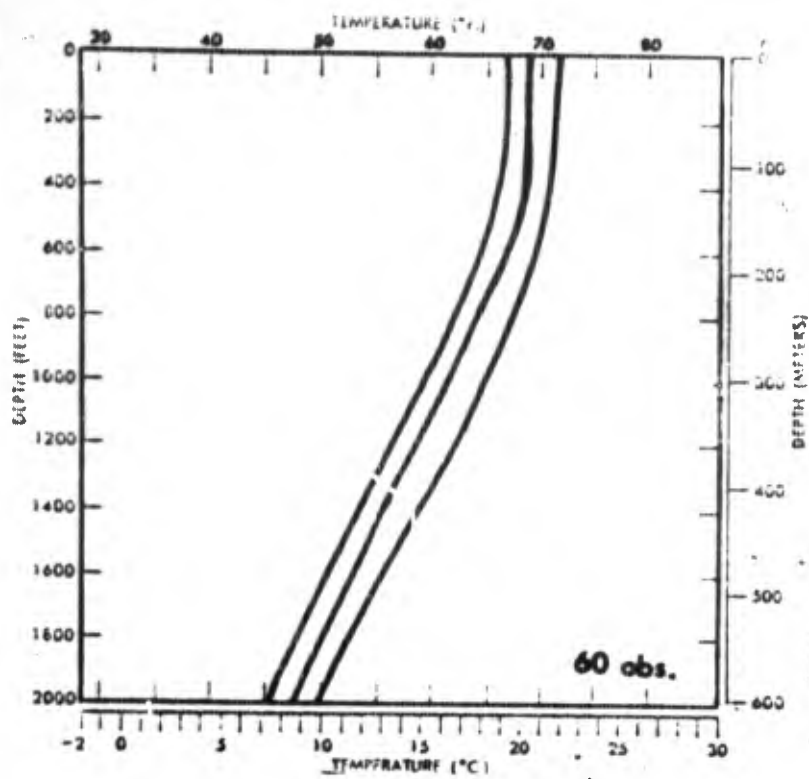
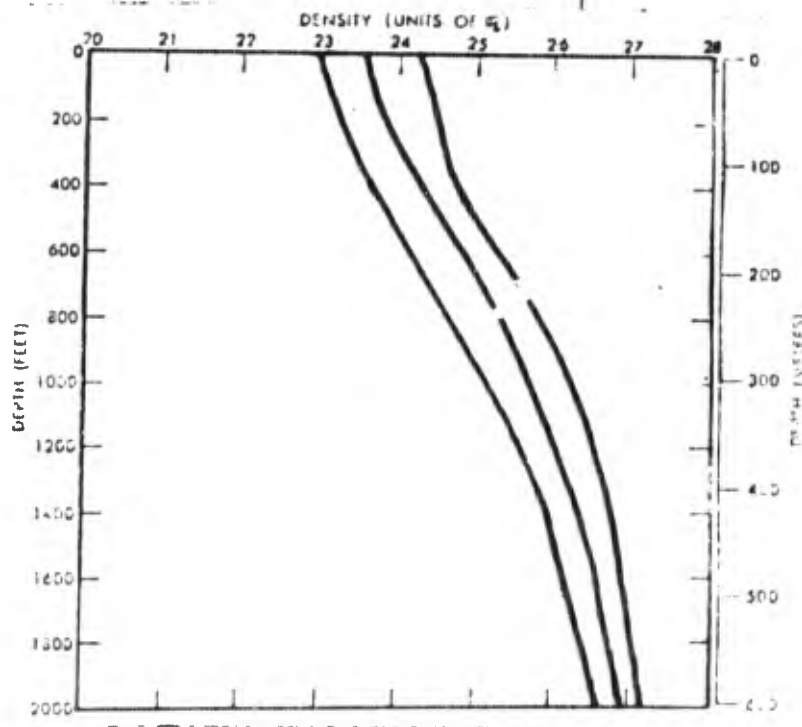
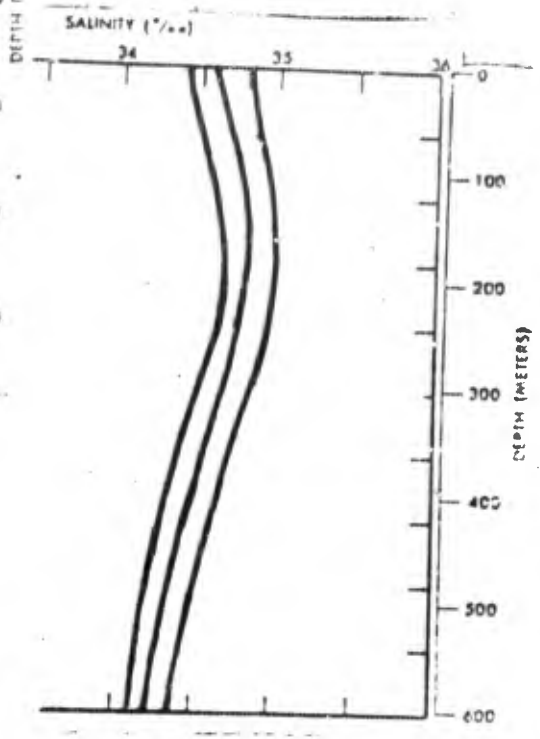
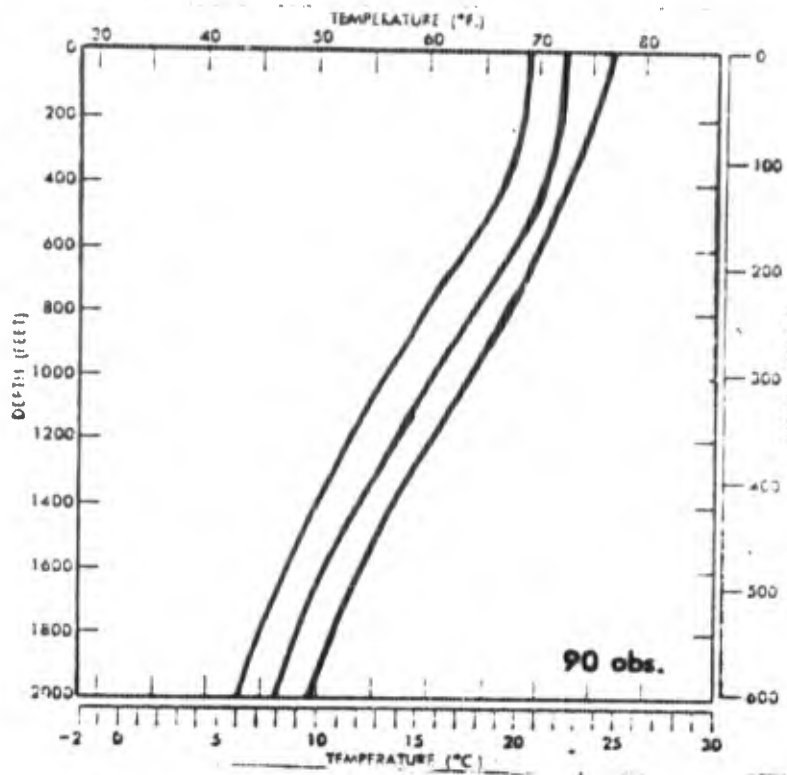


FIGURE 57 TYPICAL TRACES
 JANUARY THROUGH MARCH
 REGION 1



**FIGURE 58 TYPICAL TRACES
JANUARY THROUGH MARCH
REGION 2**

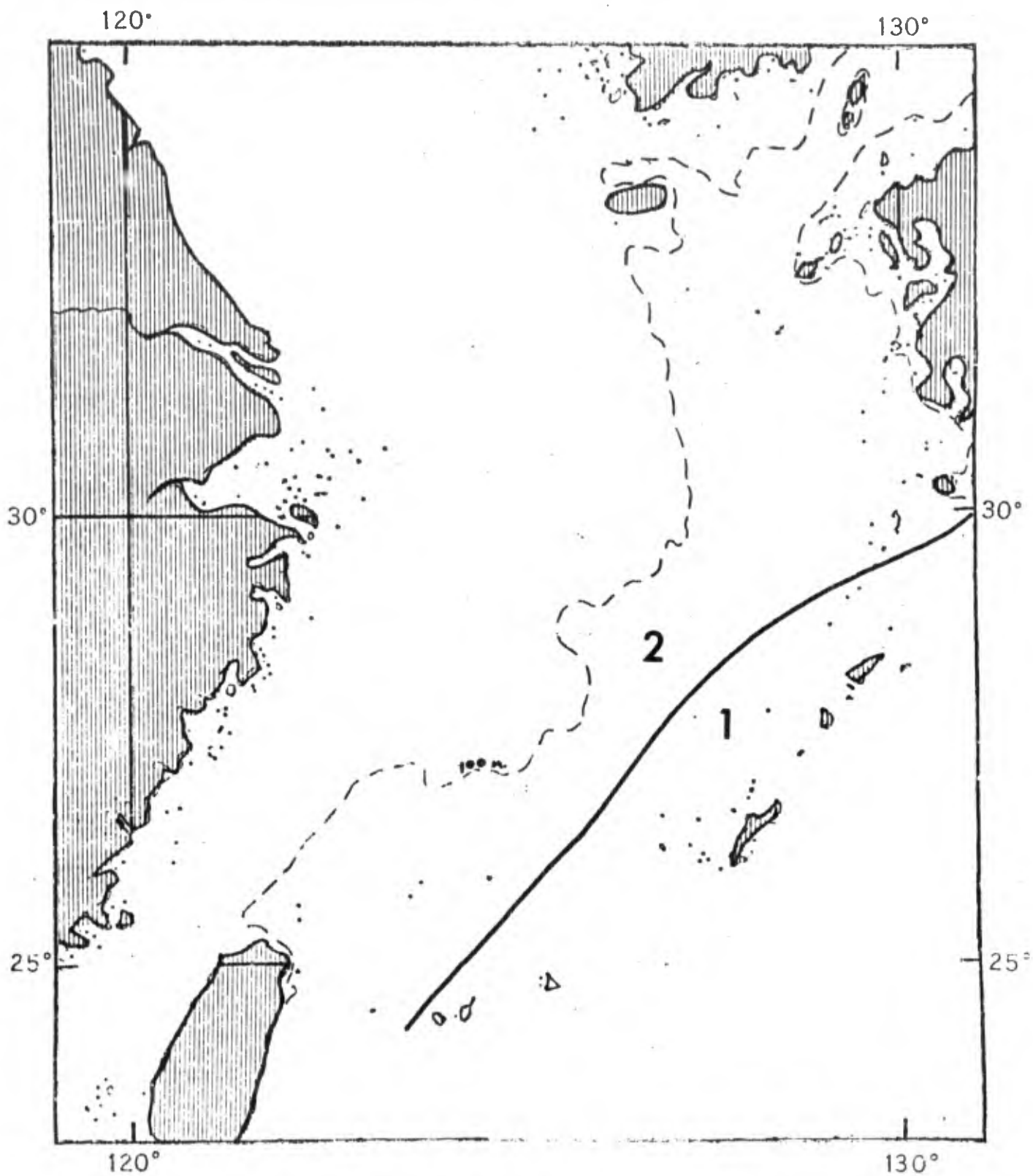


FIGURE 59 LOCATOR CHART-TYPICAL TRACES OF TEMPERATURE, SALINITY, AND DENSITY IN SELECTED REGIONS, APRIL THROUGH JUNE

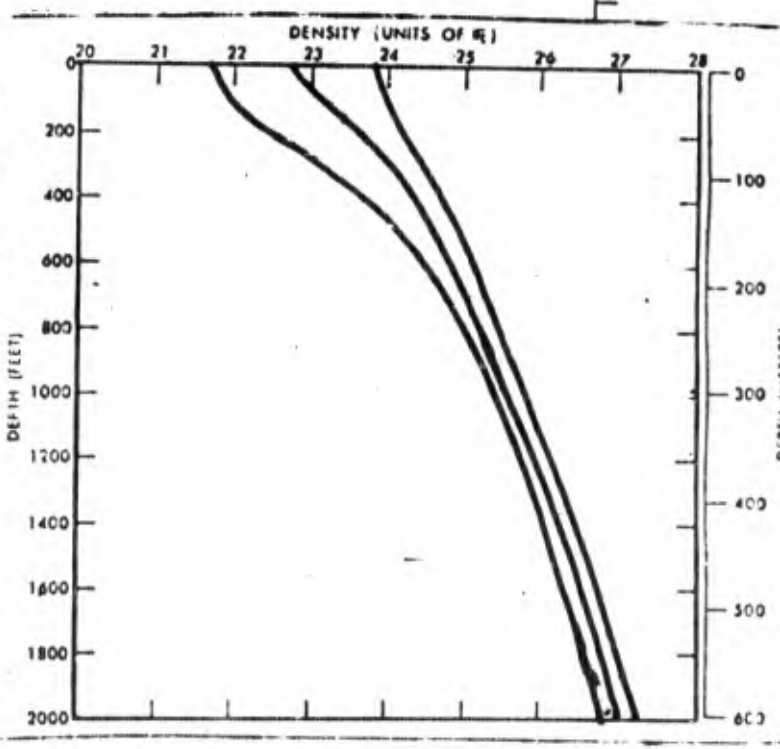
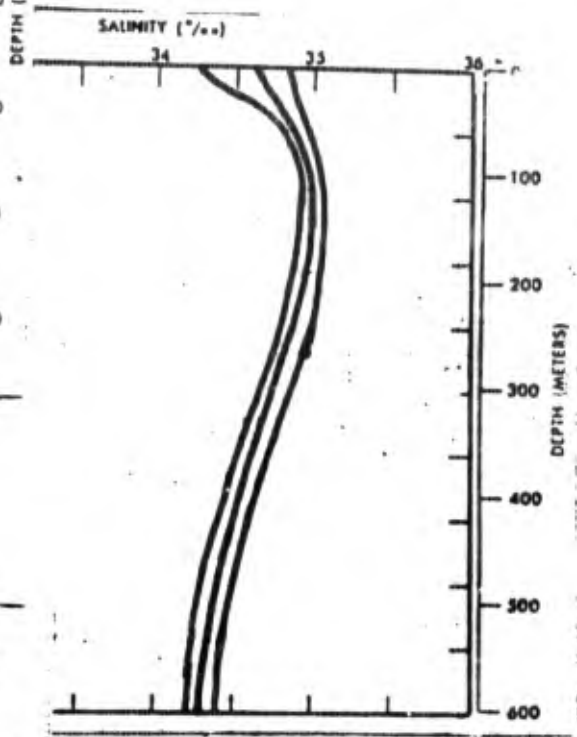
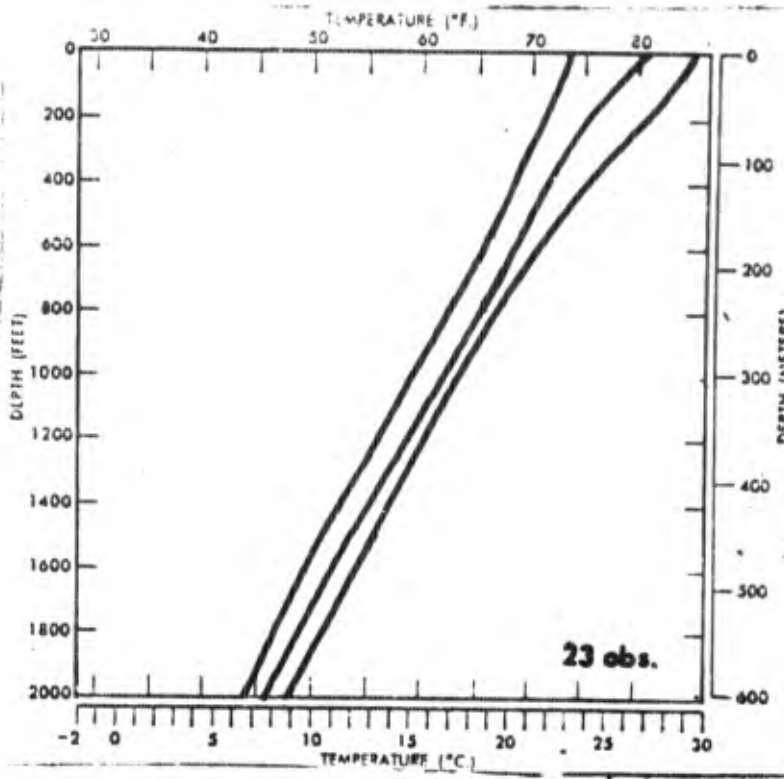


FIGURE 60 TYPICAL TRACES
APRIL THROUGH JUNE
REGION 1

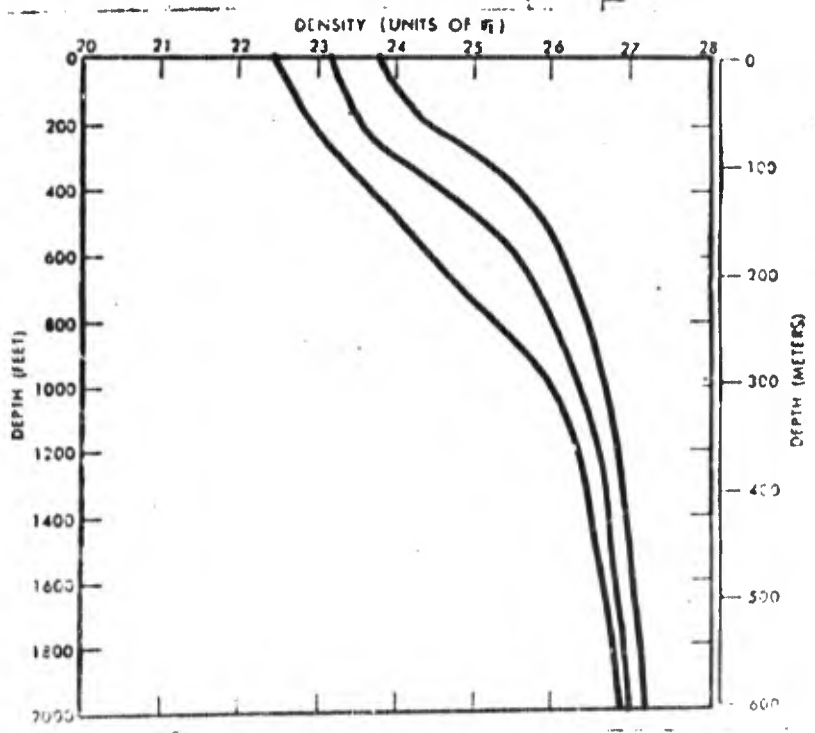
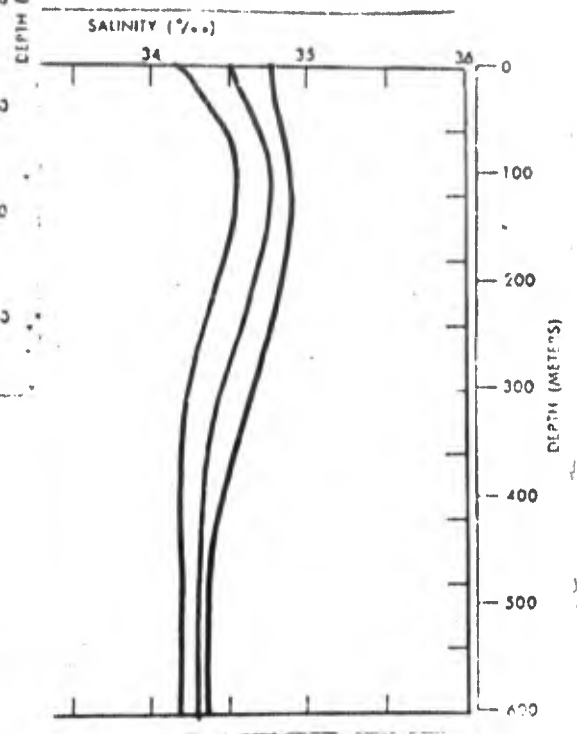
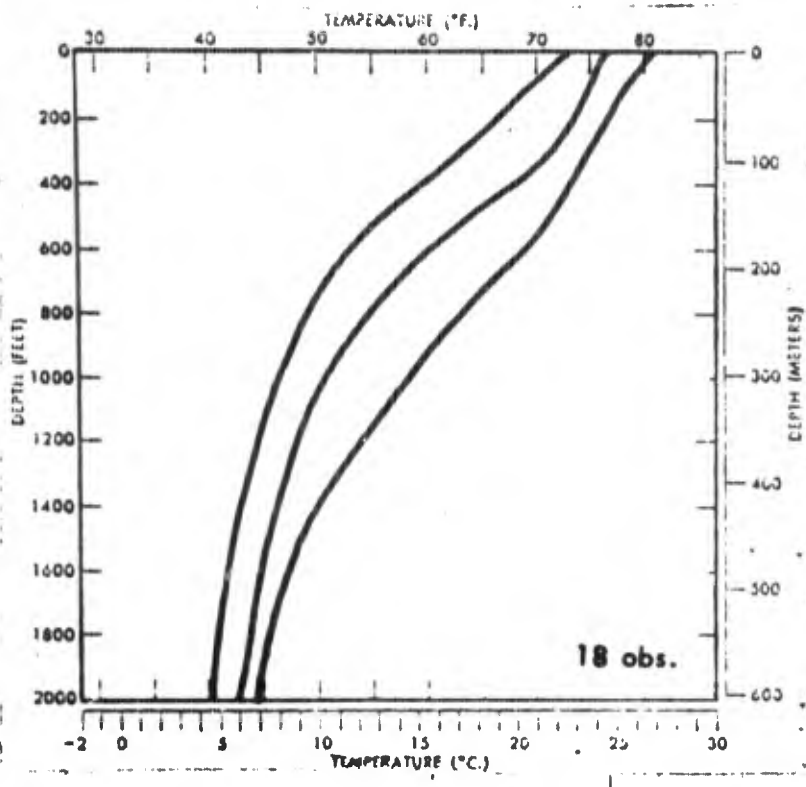


FIGURE 61 TYPICAL TRACES
APRIL THROUGH JUNE
REGION 2

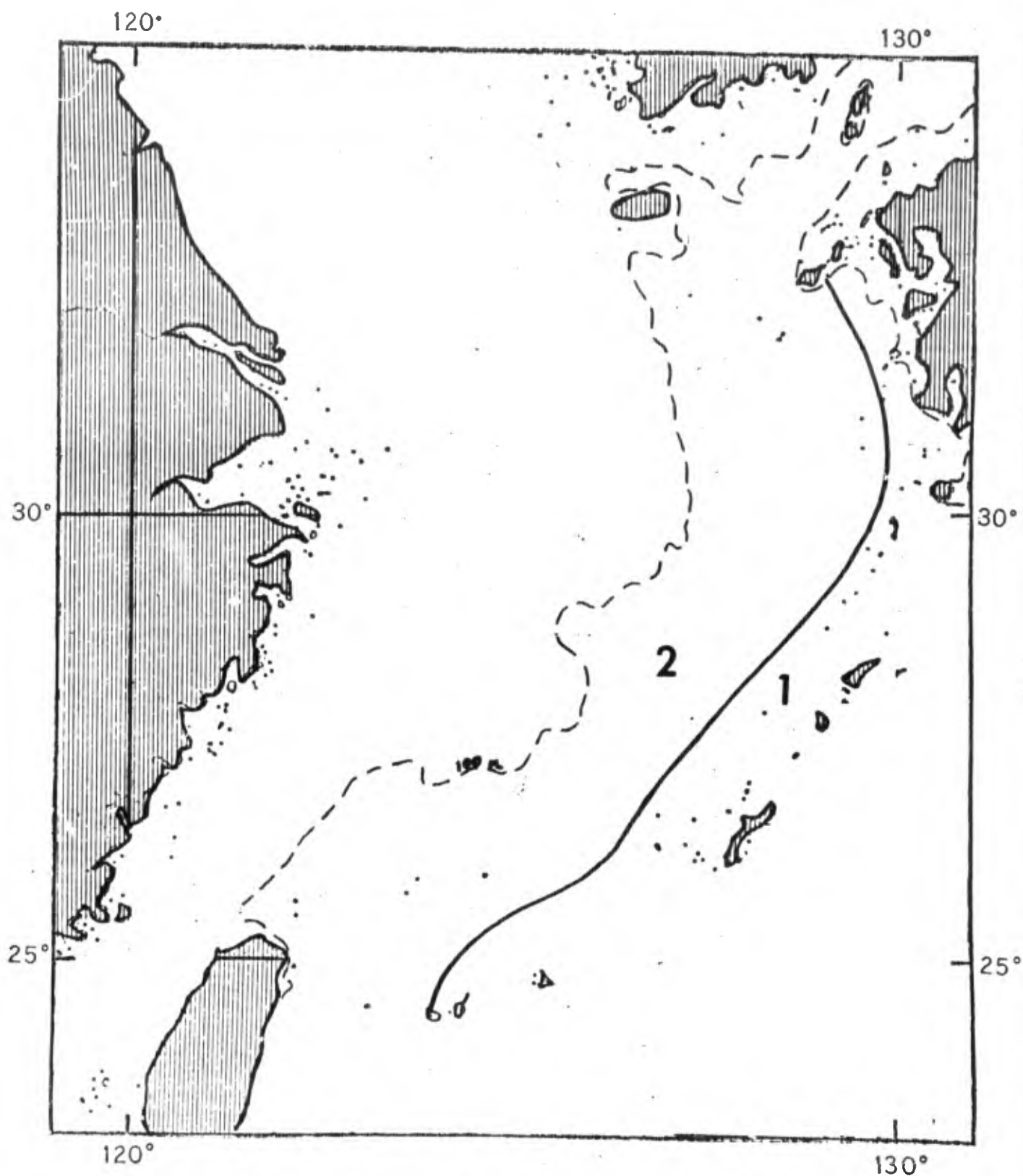


FIGURE 62 LOCATOR CHART- TYPICAL TRACES OF TEMPERATURE, SALINITY, AND DENSITY IN SELECTED REGIONS, JULY THROUGH SEPTEMBER

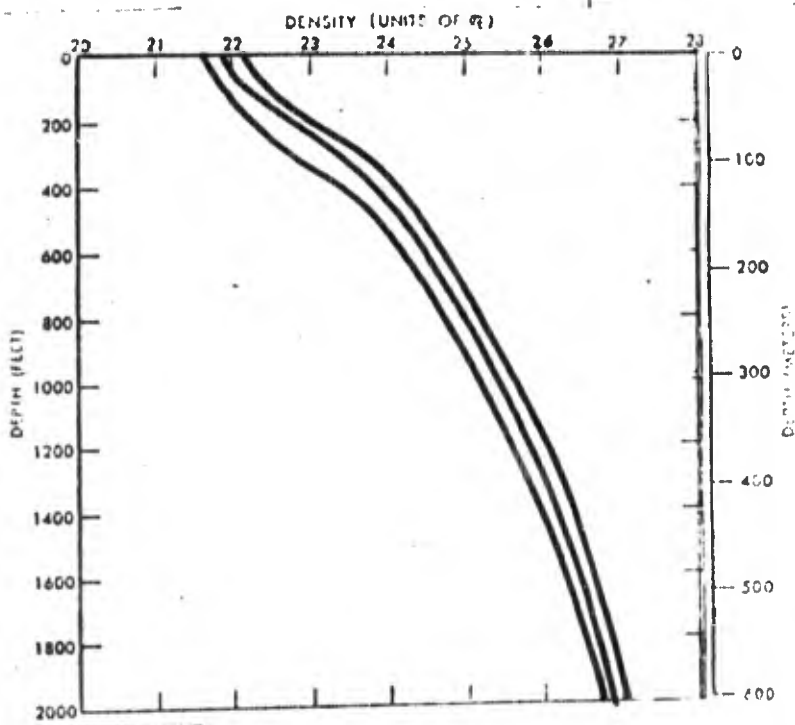
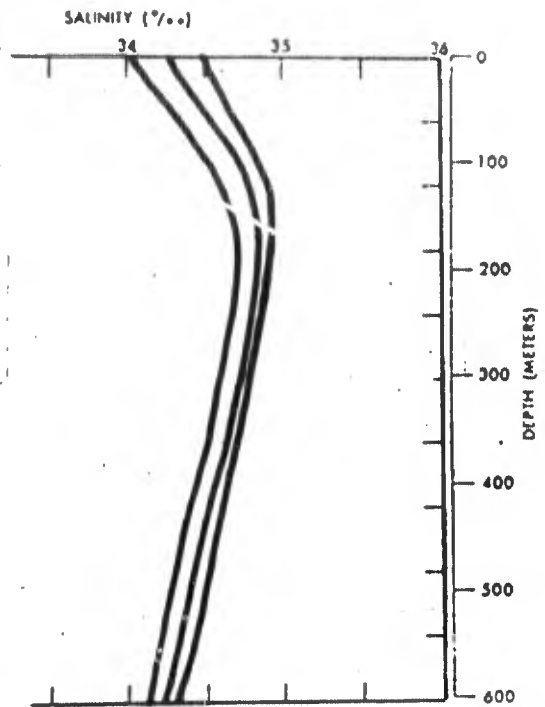
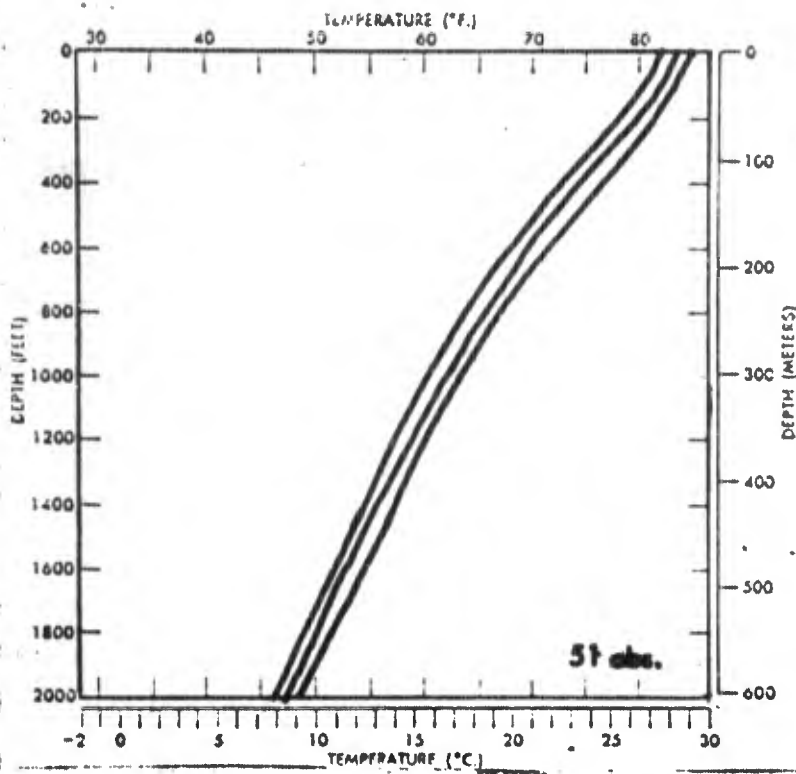
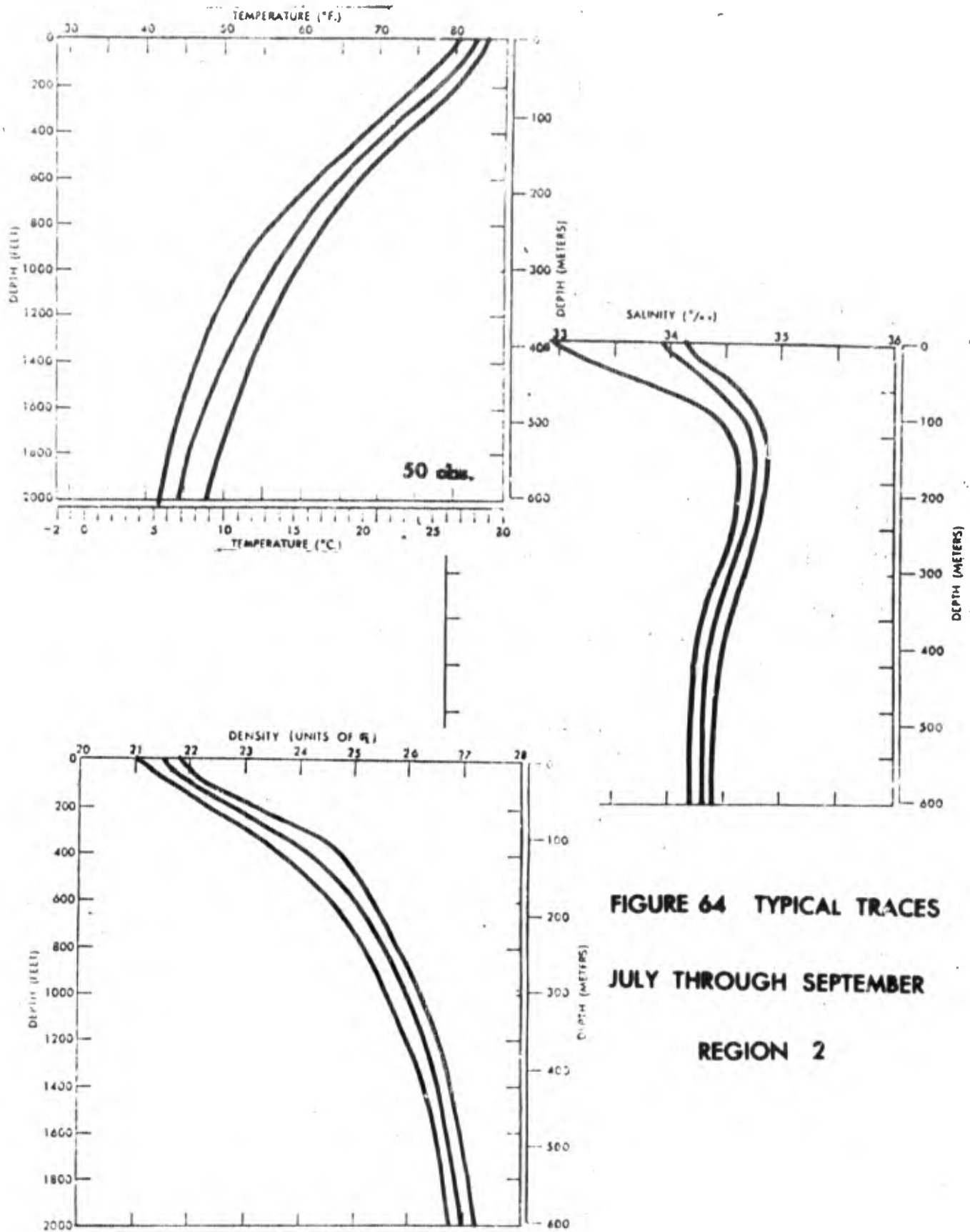


FIGURE 63 TYPICAL TRACES
 JULY THROUGH SEPTEMBER
 REGION 1



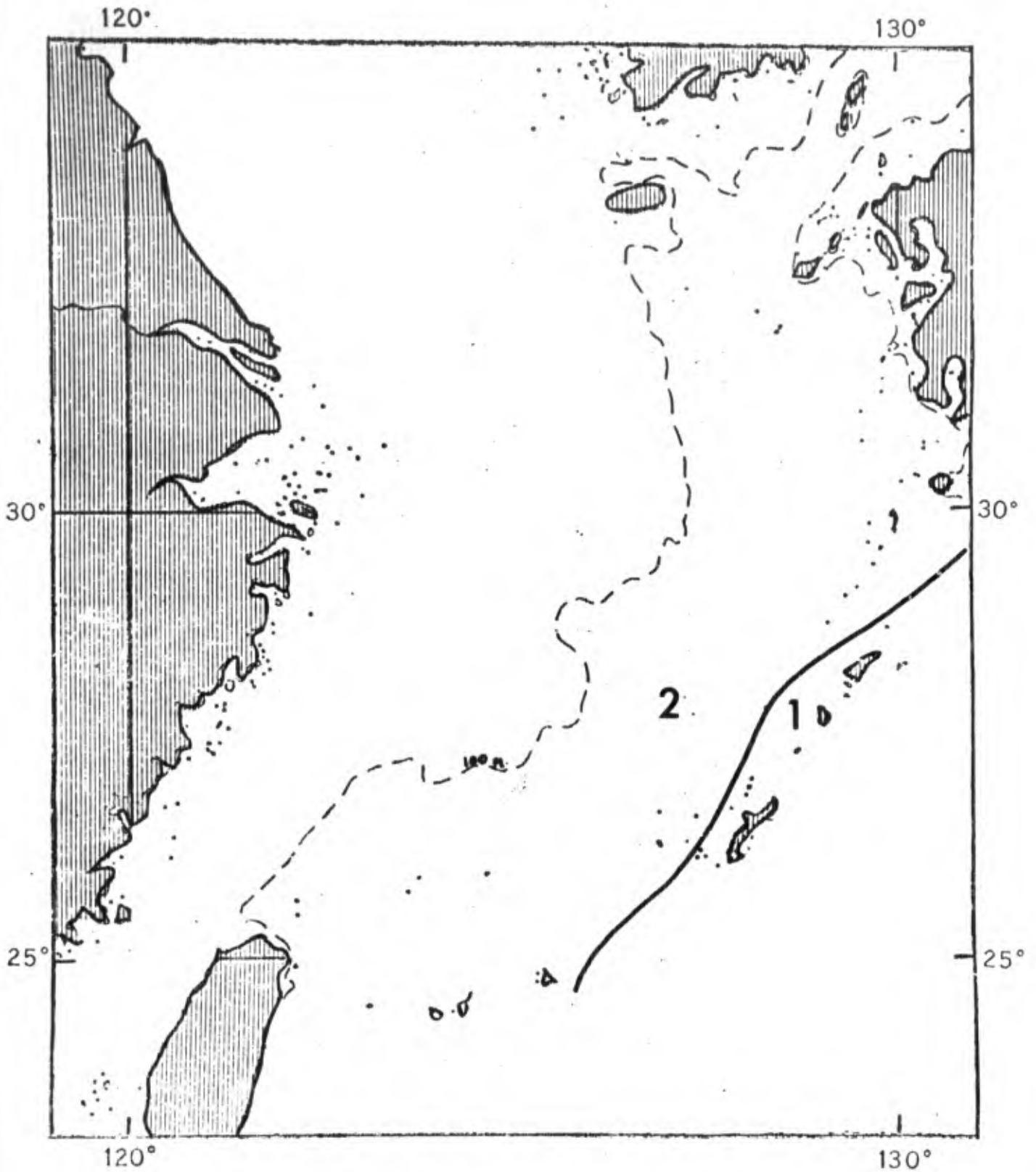
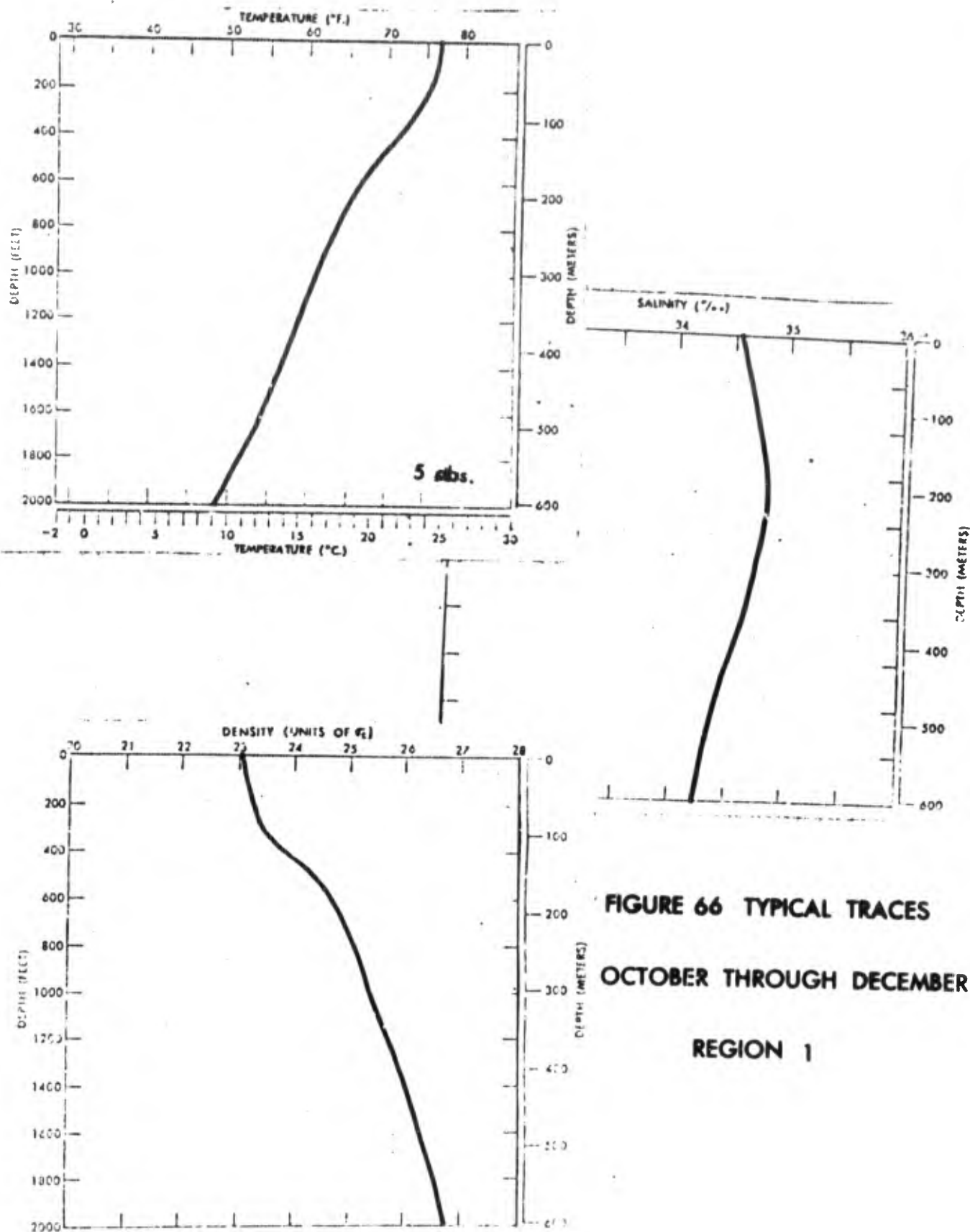


FIGURE 65 LOCATOR CHART-TYPICAL TRACES OF TEMPERATURE, SALINITY,
AND DENSITY IN SELECTED REGIONS, OCTOBER THROUGH DECEMBER



**FIGURE 66 TYPICAL TRACES
OCTOBER THROUGH DECEMBER
REGION 1**

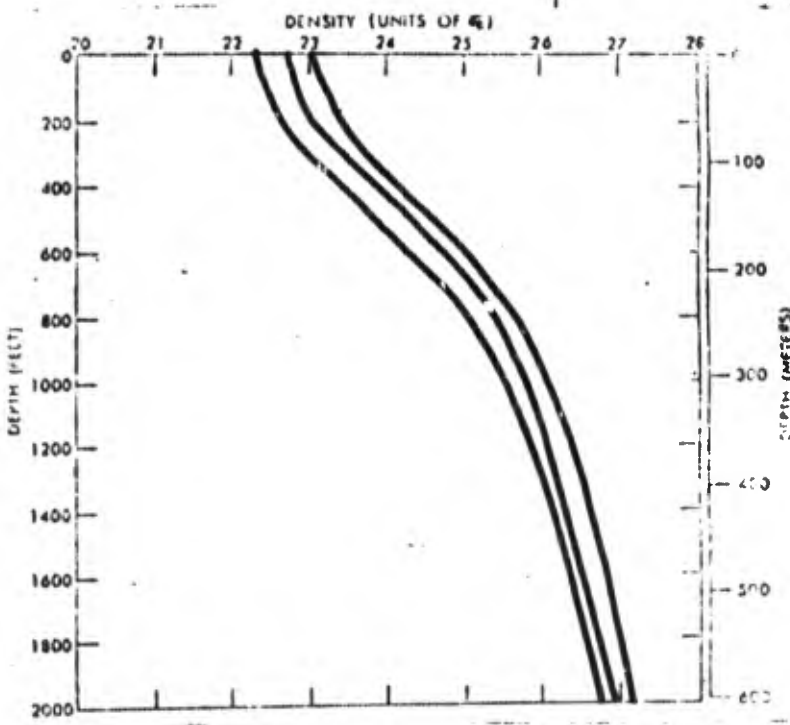
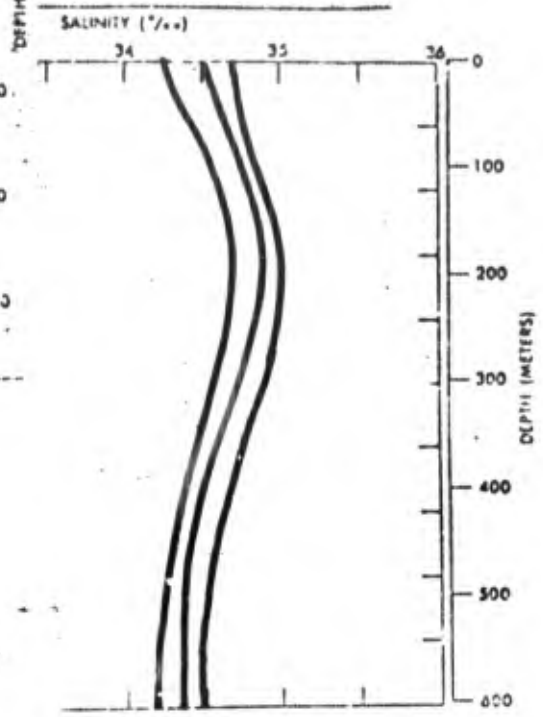
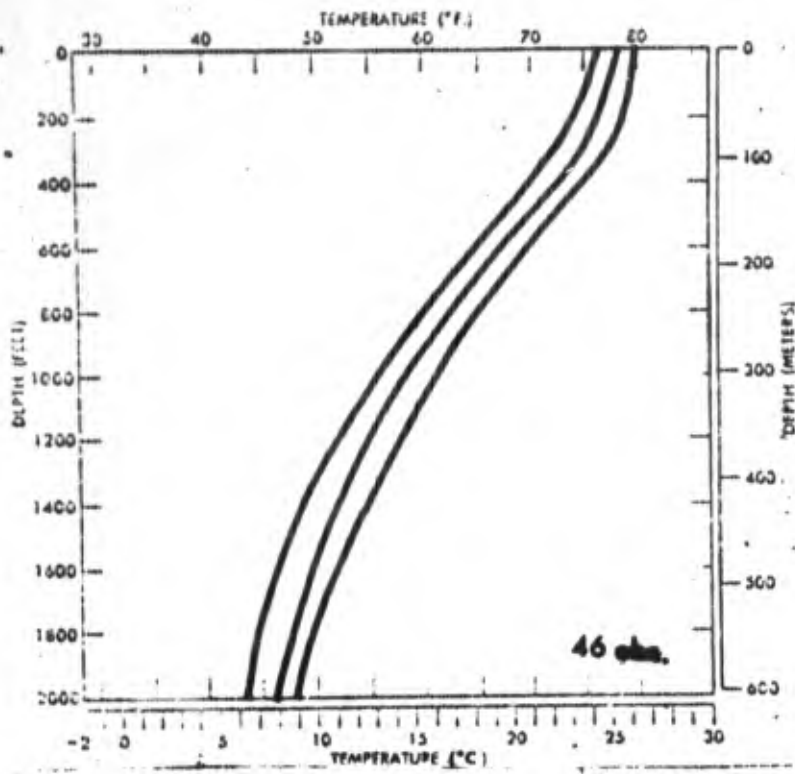


FIGURE 67 TYPICAL TRACES
OCTOBER THROUGH DECEMBER
REGION 2

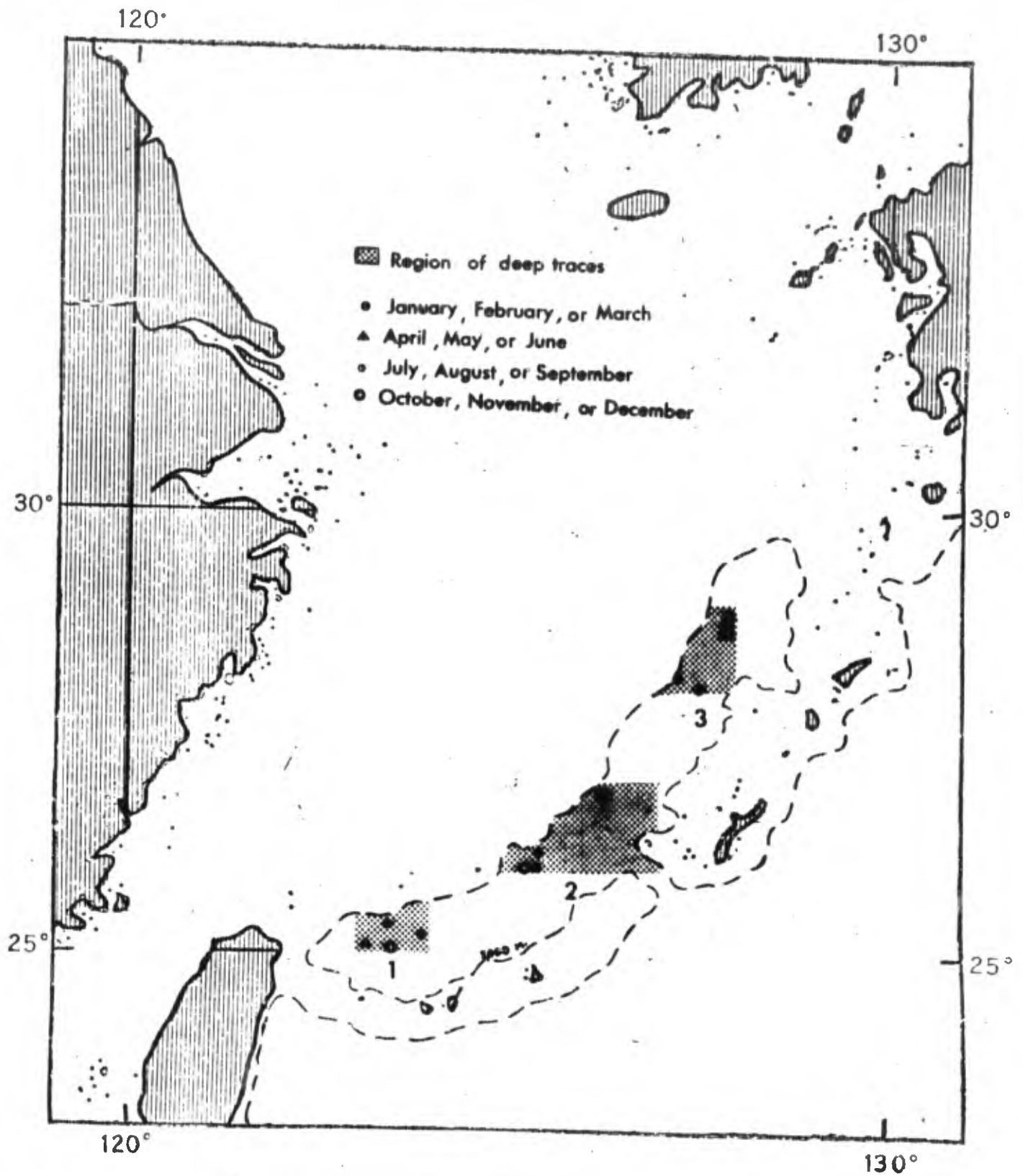


FIGURE 68 LOCATOR CHART FOR DEEP TRACES

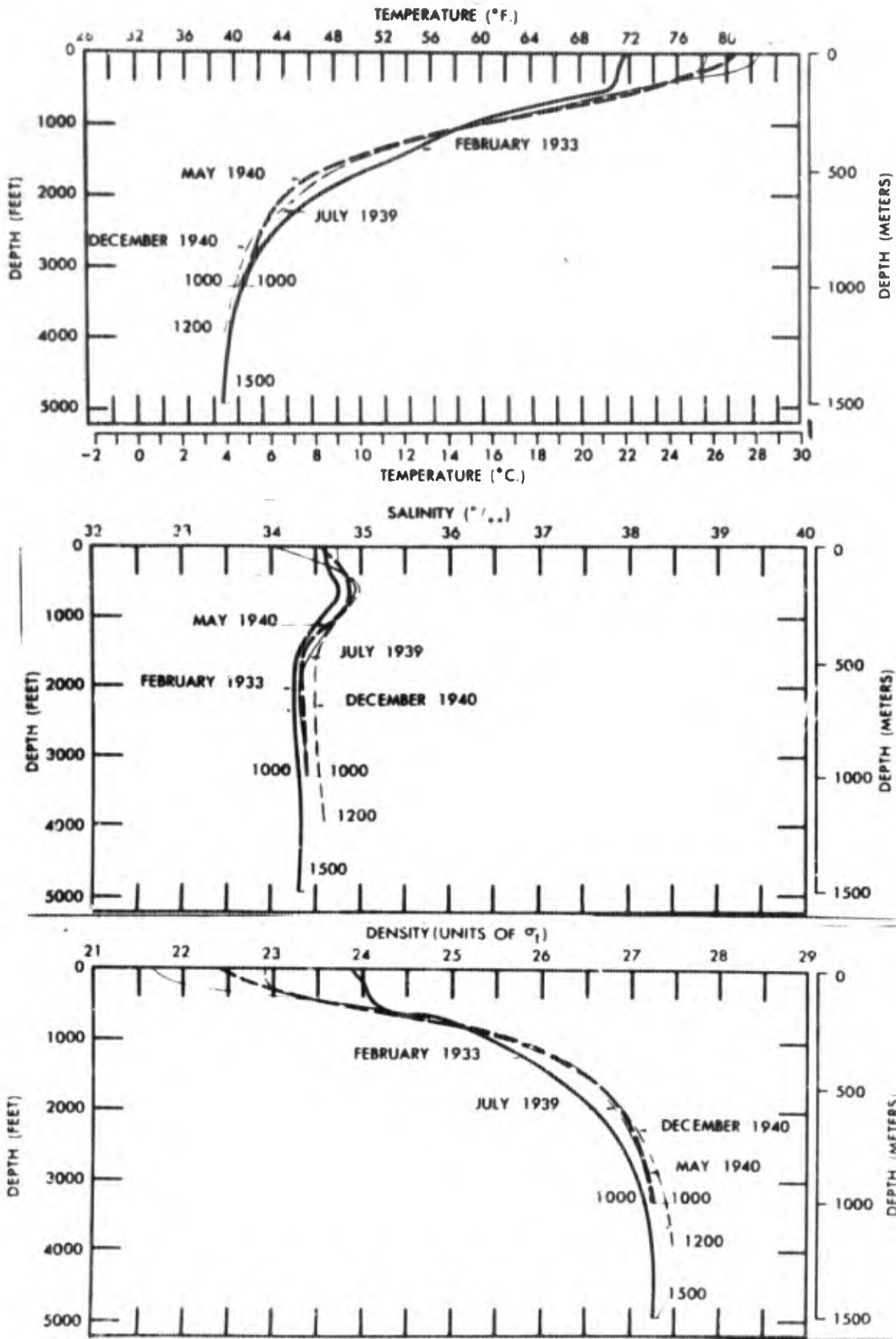


FIGURE 69 DEEP TRACES OF TEMPERATURE, SALINITY, AND DENSITY
REGION 1

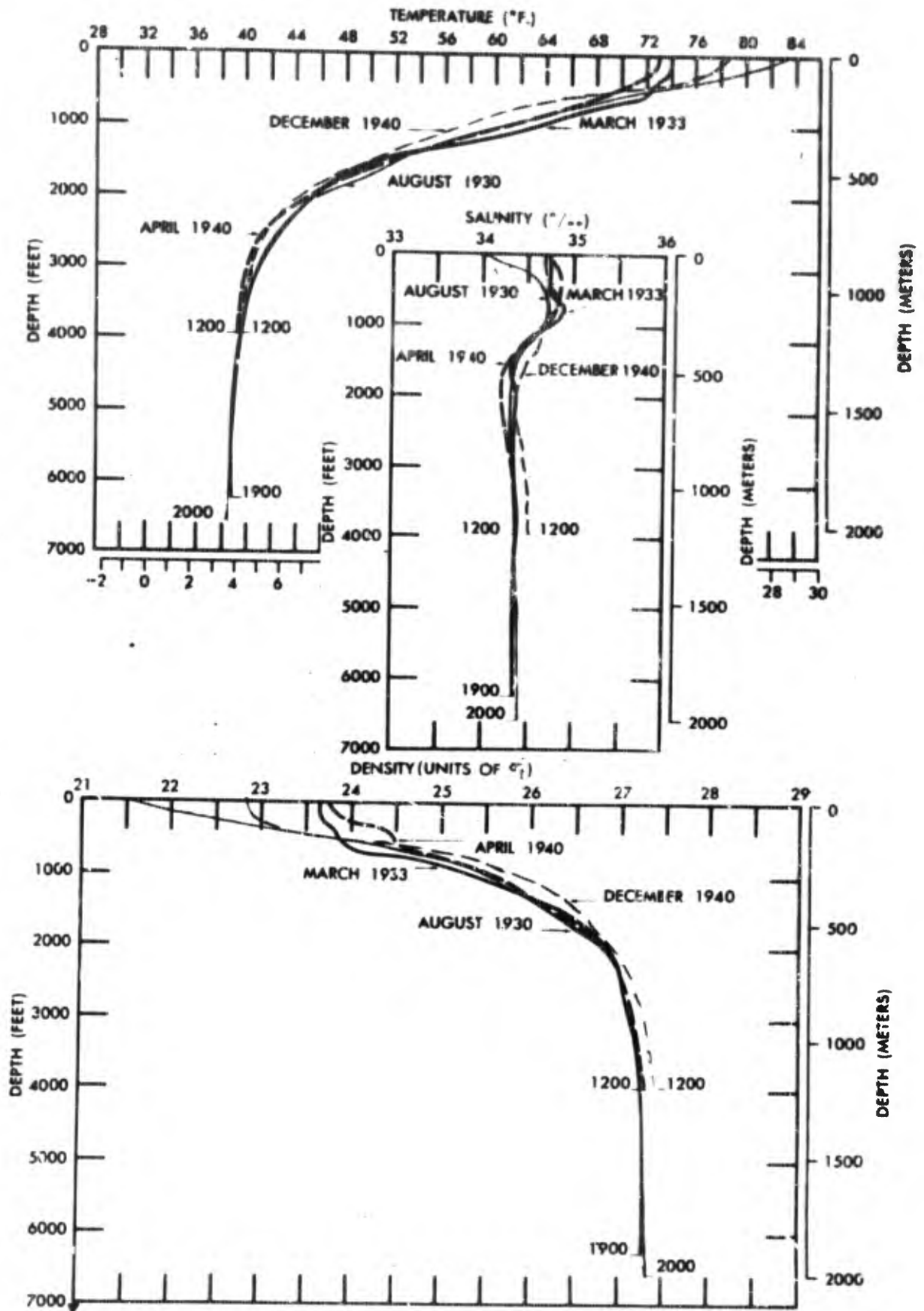


FIGURE 70 DEEP TRACES OF TEMPERATURE, SALINITY, AND DENSITY
REGION 2

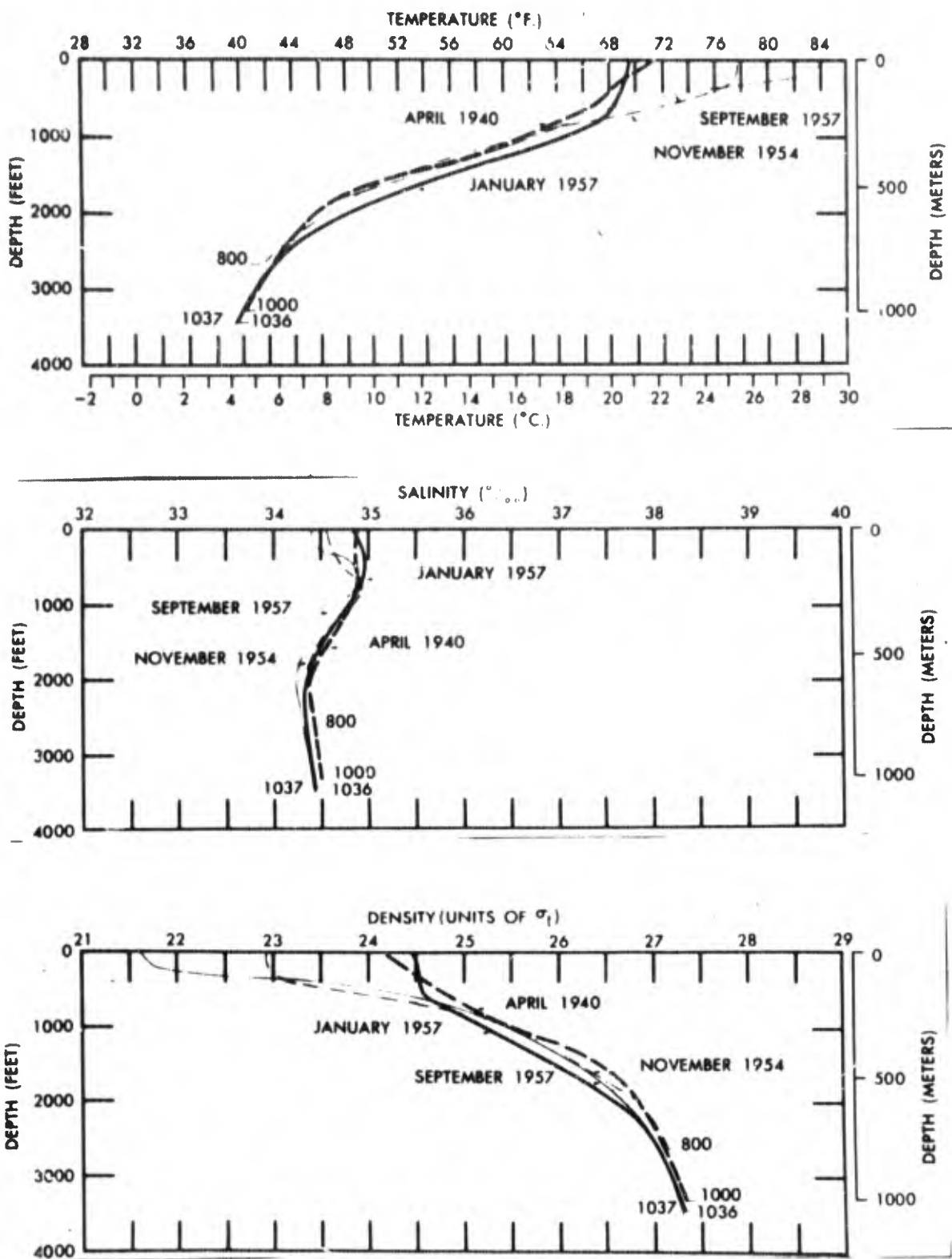


FIGURE 71 DEEP TRACES OF TEMPERATURE, SALINITY, AND DENSITY
REGION 3

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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11 SUPPLEMENTARY NOTES None		12 SPONSORING MILITARY ACTIVITY Naval Oceanographic Office	
13 ABSTRACT The variation and distribution of temperature, salinity, and density in the East China Sea are influenced by the monsoonal rains, continental runoff, waters of the Kuroshio, and bottom topography. During the winter monsoon, mixing produces a homogeneous vertical water structure over the Continental Shelf and a deep mixed layer in the basin portion of the sea. Conversely, during the summer monsoon, a warmer, less saline surface layer develops as a result of increased solar radiation, continental runoff, and precipitation.			

Unclassified

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Temperature Salinity Density East China Sea Water Structure						

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Security Classification