NOAA Technical Report NMFS CIRC-376

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

Bottom-Water Temperatures on the Continental Shelf, Nova Scotia to New Jersey

JOHN B. COLTON, JR. and RUTH R. STODDARD

SEATTLE, WA
June 1973

National Marine Fisheries Service, Circulars

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341. Report of the Bureau of Commercial Fisheries Biological Laboratory, Beaufort, N.C., for the fiscal year ending June 30, 1968. By the Laboratory staff. August 1970, iii + 24 pp., 11 figs., 16 tables.

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U.S. DEPARTMENT OF COMMERCE
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NATIONAL MARINE FISHERIES SERVICE

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BOTTOM-WATER TEMPERATURES ON THE CONTINENTAL SHELF, NOVA SCOTIA TO NEW JERSEY

JOHN B. COLTON, JR. and RUTH R. STODDARD[1]

INTRODUCTION

It is not easy to generalize and to designate any one physical factor as having greater ecological influence than any other in the complex environment of continental shelf waters. However, both laboratory and field observations have shown that temperature is a factor of prime importance because of its action (1) directly upon physiological processes such as metabolic rate and reproductive cycle and (2) indirectly through its influence on other environmental factors such as dissolved gases, viscosity, and density.

There is good evidence to the effect that the distribution of benthic organisms in continental shelf waters in temperate latitudes is controlled to a large extent by seasonal temperature conditions (Fritz, 1965; Haynes and Wigley, 1969; Hutchins, 1947; Schopf, 1967; Taylor, Bigelow, and Graham, 1957). Temperatures exert a direct control over distribution in cases where they become too extreme for survival or do not attain or maintain critical values necessary for reproduction or completion of life cycles. In addition, temperature also indirectly controls the distribution of higher trophic level organisms such as fish by regulating the dispersal of primary prey organisms.

Although an appreciable number of hydrographic surveys have been made on the continental shelf off New England and the Maritime Provinces since the early 1900's, the coverage has been sporadic. Up to the present time it has been only possible to summarize in detail the distribution of bottom-water temperatures for limited areas and time periods. Bigelow (1927, 1933) described the seasonal cycles and ranges in bottom-water temperatures in various physiographic areas in the Gulf of Maine and on the continental shelf between Cape Cod and Chesapeake Bay based on observations made during the periods 1912-26 and 1927-32. A brief description and a plot of the distribution of bottom-water temperatures on the continental shelf between Nova Scotia and New Jersey based on average values determined from bathythermograph observations made during September-November 1955-61 are given by Fritz (1965). Schopf (1967) presents data on the range and seasonal cycle of bottom-water temperatures on Nantucket Shoals, Georges Bank, Scotian Shelf, and in the Gulf of Maine and shows contour charts of average bottom-water temperatures for the coldest (February-March) and warmest (September-October) parts of the year in the area between Nova Scotia to Hudson Canyon. Schopf's data are based on bathythermograph observations obtained during the period 1955-66. Walford and Wicklund (1968) constructed monthly bottom-water temperature contour charts based on estimated values from a series of 38 monthly temperature profiles across the continental shelf between Cape Cod and the Florida Keys. These temperature profiles were drawn on a basis of average values determined from a selected sample of hydrographic station and bathythermograph data collected during the period 1914-64.

In studies being undertaken at the NMFS Northeast Fisheries Center, Woods Hole, Mass., on the distribution and ecology of groundfish and benthic food organisms, we have long felt the need for a more comprehensive and detailed summary of the long-term seasonal distribution

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of bottom-water temperatures. Such a compendium would serve as a norm to which individual cruise data could be compared. It was not until recently, however, that sufficient data were available to construct truly representative contour charts in which the isotherm intervals were sufficiently small to accurately delineate homogenous regions.

To meet this need we present in this paper, charts of monthly average bottom-water temperatures and of long-term annual minimum and maximum bottom-water temperatures in the area of the continental shelf between Nova Scotia and New Jersey (Fig. 1). We hope that these charts will prove useful in defining faunal regions and lead to a better understanding of the relation of temperature to the distribution of benthic organisms.

SOURCE DATA

The long-term temperature data are for the period 1940-66 and are from the file of bathythermograph trace prints at the Woods Hole Oceanographic Institution. This is the most complete catalogue of temperature data for the area and consists principally of observations made by the Woods Hole Oceanographic Institution, Canadian Naval Research Establishment, Fisheries Research Board of Canada, U.S. Coast Guard, U.S. Coast and Geodetic Survey, and the Bureau of Commercial Fisheries (now National Marine Fisheries Service). The year 1940 was chosen as the starting point as this was the year of the introduction of the bourdon-type bathythermograph (Spilhaus, 1940) and the beginning of a period of extensive temperature measurement in the area. The bathythermographs used throughout this period were calibrated in various temperature and depth intervals. The maximum depth limit of any bathythermograph used extensively was 275 m, and this isobath was used to delineate the offshore limit of the area of coverage.

EDITING AND ANALYSIS

In order to insure a sufficient number of observations to make valid spatial and temporal comparisons, it was necessary to treat the data in terms of 30-min quadrangle areas (Fig. 1). Bottom-water temperatures over most of the area are governed chiefly by depth, but also to some extent by locality. Thus, to insure positional accuracy of the isotherms it was necessary to subdivide the 30-min quadrangle areas into depth zones and to determine average temperature values within these zones. The depth limits of the zones used were determined in part by the number of observations available, but also by the nature of the seasonal temperature cycle at specific depths. The majority of the observations were in depths shoaler than 100 m. Bottom-waters at these depths are characterized by pronounced seasonal temperature variations and a complex and unstable temperature structure which is controlled for the most part by solar heating and wind stirring. At depths greater than 100 m the bottom-water temperature structure is less variable and controlled for the most part by advection. The nine depth zones designated were as follows: 1-20 m; 21-40 m; 41-60 m; 61-80 m; 81-100 m; 101-150 m; 151-200 m; 201-250 m; and greater than 250 m.

Bottom temperatures were read to the nearest 0.1°. The majority of the temperature values were in degrees Fahrenheit. All Celcius values were converted to this scale for initial tabulation. In editing the individual bathythermograph traces, a comparison was made of bathythermograph, echo sounder, and chart depths. Observations were excluded in situations where these soundings varied significantly or in which it was obvious that there was a position error or that the bathythermograph did not reach bottom or a depth where the bottom-water temperature could be accurately interpolated. After the initial editing, the data included approximately 22,000 observations.

The following data for each observation were then entered on punch cards: latitude and longitude in degrees and minutes, 30-min quadrangle area location coded as shown in the Appendix, bottom-water temperature in 0.1°F, depth in meters, and depth zone allocation number. A computer program was written to give a listing by 30-min quadrangle area, month, and depth zone of the number of observations, number of days' observations, number of years' observations, average bottom-water temperature, and maximum and minimum bottom-water temperatures in degrees Centigrade. Observations

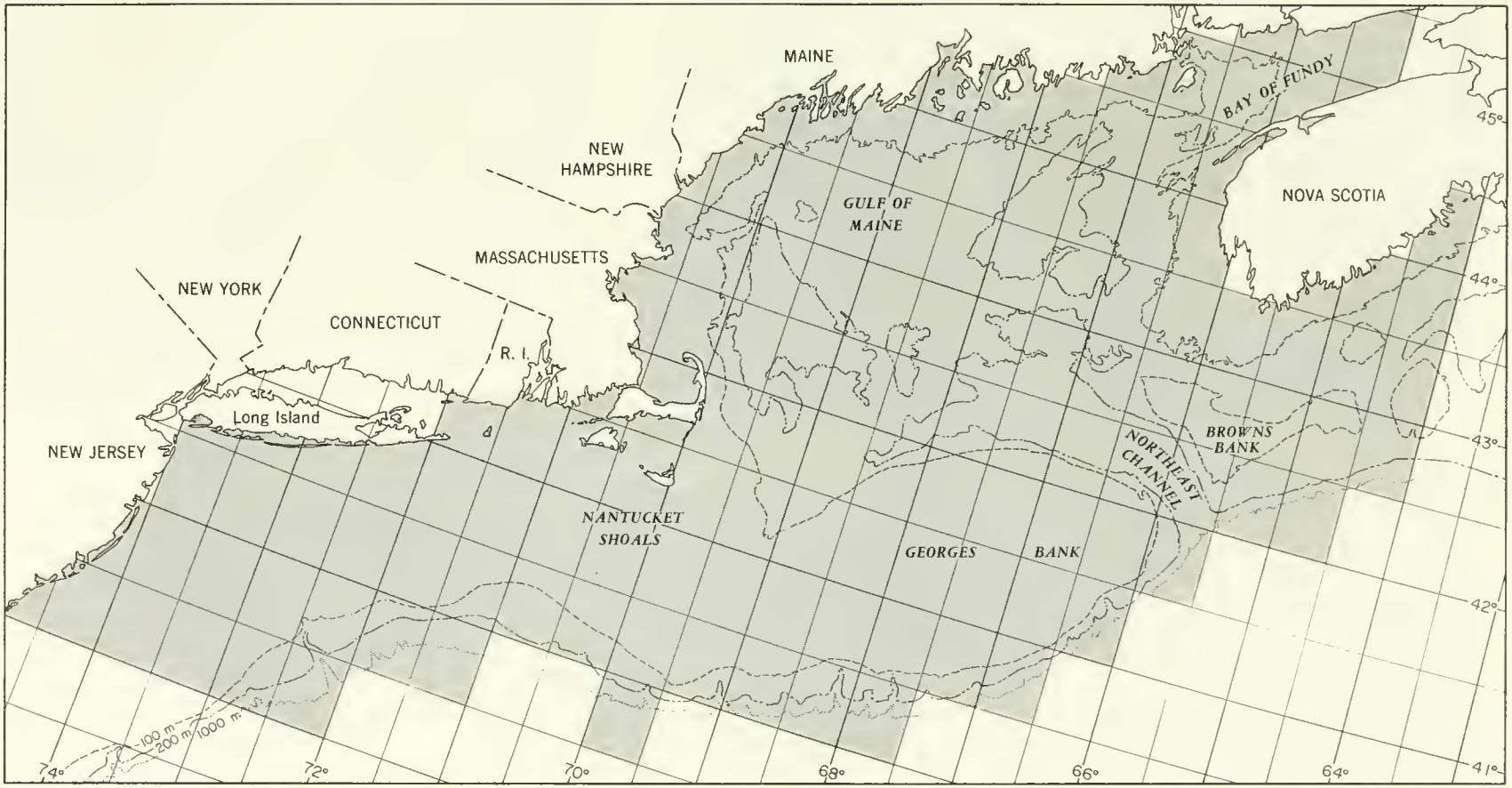

Figure 1.—Chart of the continental shelf showing the location, by shading, of the 30-min quadrangle areas used in determining average, maximum, and minimum temperature values.

for any month within a given year were weighted in favor of certain days (dates) so that in computing monthly means, all data for a given day were averaged and monthly means based on the daily means rather than on the total number of observations. To indicate the density of coverage and the variability to be expected in each 30-min quadrangle, the minimum and maximum bottom-water temperatures, the number of years' observations, and the number of day's observations are tabulated by month and depth zone in the Appendix. The few observations made at depths greater than 250 m have not been included in these tables.

In all areas and at all depths the number of observations were biased in favor of certain months and years. To offset this bias, the 1940-66 monthly mean values for each 30-min quadrangle area and for each depth zone within the 100-m isobath were plotted, and smooth curves showing the seasonal cycle of temperature were drawn as described by Fuglister (1947) and Colton (1968a). In drawing these curves the greatest weight was given to mean values represented in the greatest number of years. The resulting curves for specific depth zones in adjacent quadrangles were so closely similar that the occasional inconsistencies in the data were obvious. In general, the magnitude of the correction applied to the monthly mean value was inversely proportional to the number of years represented.

Although there were appreciable monthly variations in mean bottom-water temperatures at depths greater than 100 m, there was no evidence of a consistent seasonal temperature cycle. In addition, the number of observations were so few in any month in most depth zones and areas that it was impossible to attach any significance to the monthly mean temperature variations. The analysis of long-term subsurface temperature trends made by Colton (1968b) indicates that these monthly variations are due in large measure to the fact that the majority of observations in some months were made during periods of warming while in other months during periods of cooling. To offset this sampling bias we have based our estimates of monthly mean bottom-water temperatures at depths greater than 100 m on 3-month moving averages (January = December-February mean).

TEMPERATURE CHARTS

The monthly distribution of bottom-water temperature is shown in Figures 2 - 13. In constructing these charts, contours were drawn on a basis of corrected values read from 1940-66 mean seasonal temperature curves or determined from 3-month moving averages and entered at the approximate geographic center of each depth zone within 30-min quadrangle areas. The boundaries of the depth zones were based on the bathymetry given in U.S. Geological Survey, Miscellaneous Geological Investigations Map, I-451, Sheets 2 and 3. Isotherms were drawn for each whole degree Centigrade as this appeared to be an interval most useful to ecologists and one appropriate for displaying maximum resolution in the temperature structure consistent with the quality of the data. In most cases, the isotherms were drawn directly to the data, but in some instances when an isolated temperature value, based on a limited number of observations, was unsupported by data in adjoining quadrangles, some smoothing and interpolation were necessary. Isotherms drawn on the basis of limited data are indicated by a dashed line. Relatively few observations were made in water shoaler than 20 m and deeper than 250 m, so that for the most part the isotherm lines were terminated at these depth contours.

Most useful statistics for delineating faunal boundaries are the seasonal and annual ranges of temperature in various geographical areas. In general, the magnitude of the range of bottom-water temperature decreases and the timing of the seasonal temperature extremes occurs later with increasing depth. The maximum and minimum observed bottom-water temperatures for the period of record are listed by month, area, and depth zone in the Appendix. We had initially planned to present charts showing the long-term monthly maximum and minimum bottom-water temperature distribution, but the data proved inadequate for this purpose. There were a sufficient number of observations, however, to construct valid distribution charts of the long-term annual maximum and minimum bottom-water temperatures. These charts are shown in Figures 14 and 15 and are based on the maximum and minimum observed temper-

atures within 30-min quadrangle areas and the prescribed depth zones for the period of record regardless of season. For the most part, the isotherms were drawn directly to the data, but smoothing and interpolation were necessary to eliminate segregated thermal patches resulting from a paucity of observations in specific quadrangle areas and depth zones. Although in most areas the coverage was such that the temperature extremes given cannot be considered as all encompassing, the charts do give a general picture of the maximum range of temperature to which resident populations of benthic animals in various regions could be subjected.

ACKNOWLEDGMENTS

We thank Miss E. H. Schroeder for access to the temperature data collection at the Woods Hole Oceanographic Institution; Mrs. K. Payne for writing the computer program for data reduction; Mrs. M. Cory, Mrs. T. Crabtree, and Mr. S. R. Nickerson for assistance in tabulation; and Dr. R. L. Wigley and Dr. T. J. M. Schopf for critical reading of the manuscript.

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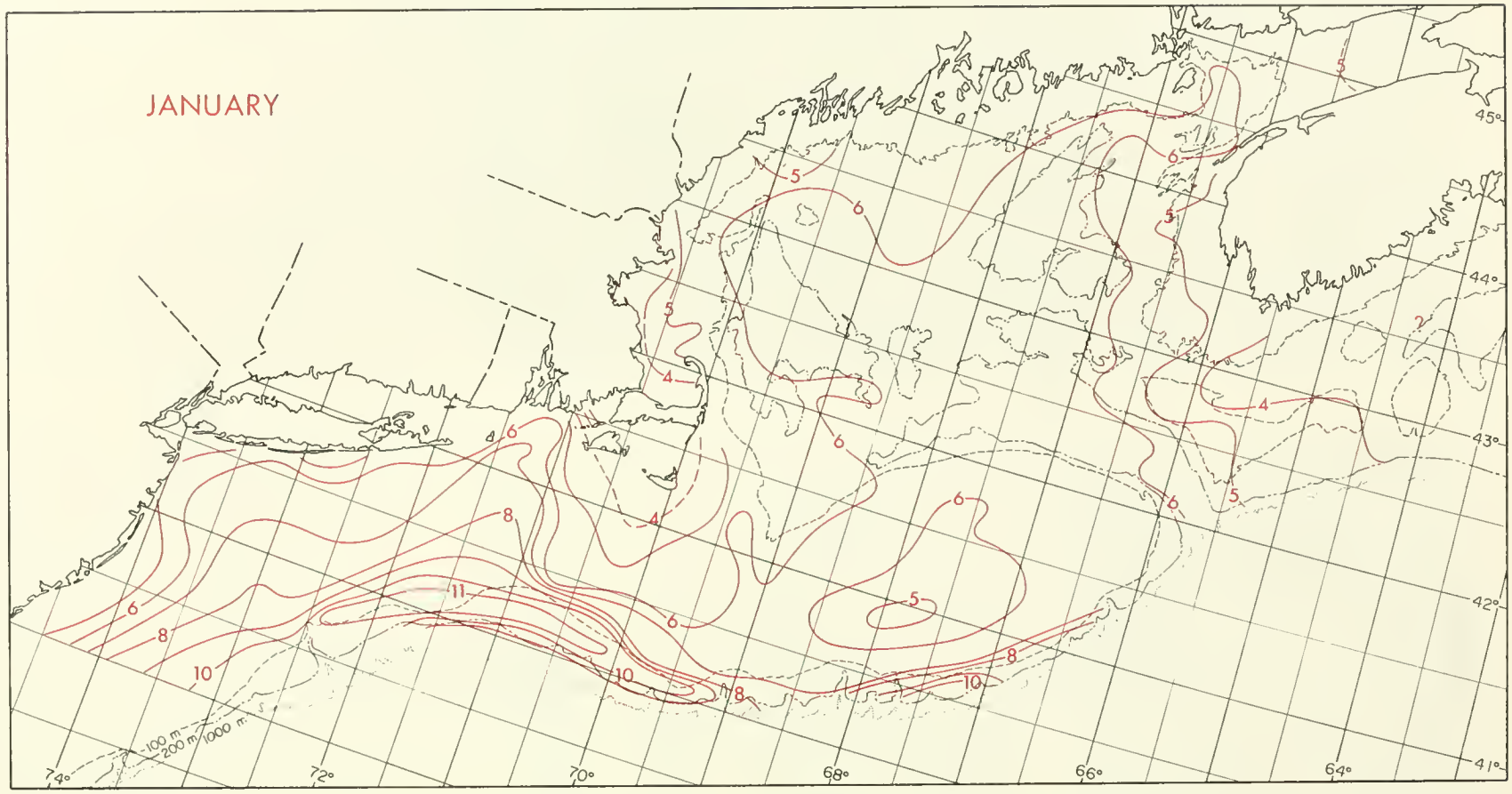

Figure 2.—Distribution of average bottom-water temperatures during January.

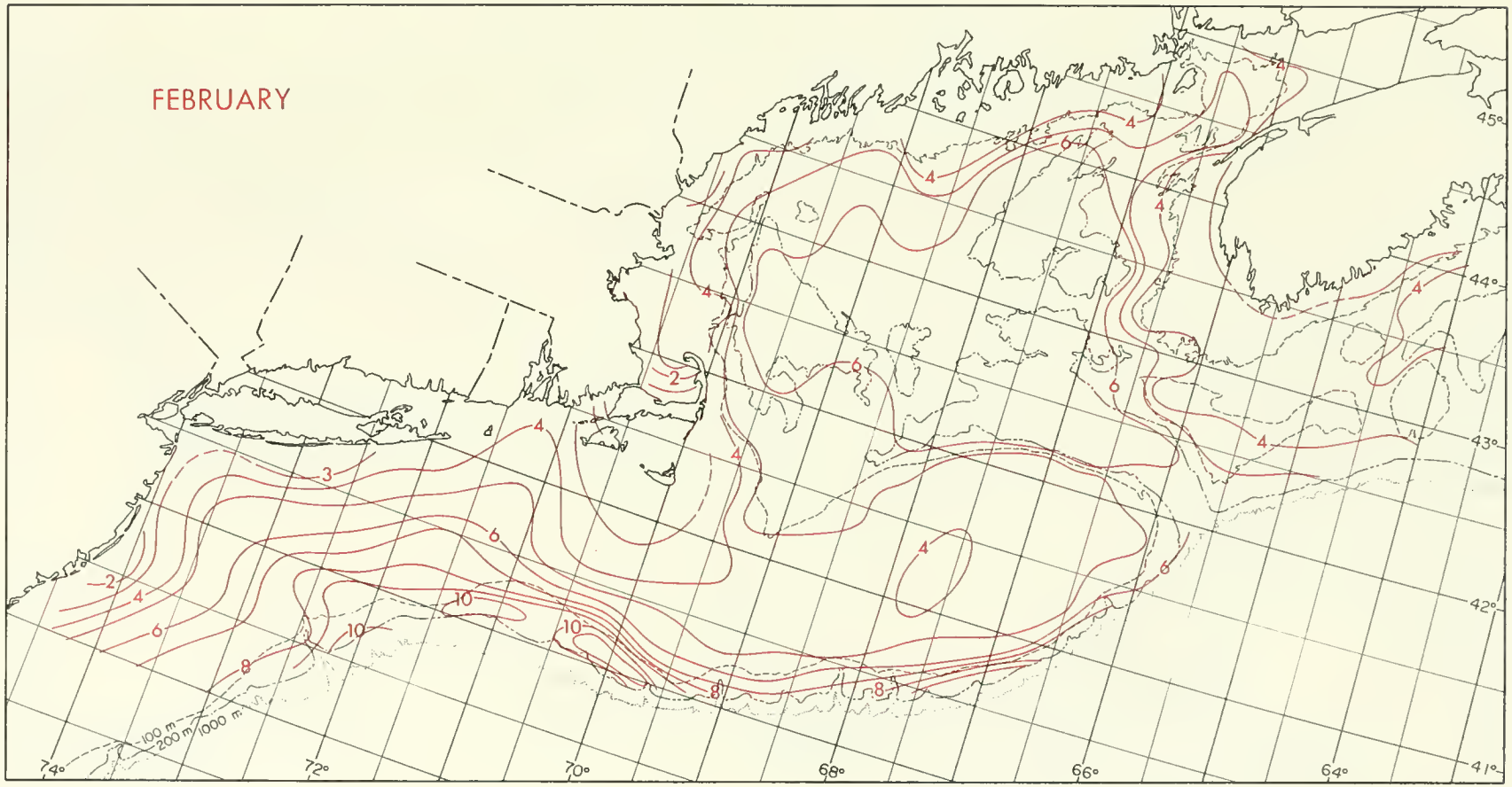

Figure 3.—Distribution of average bottom-water temperatures during February.

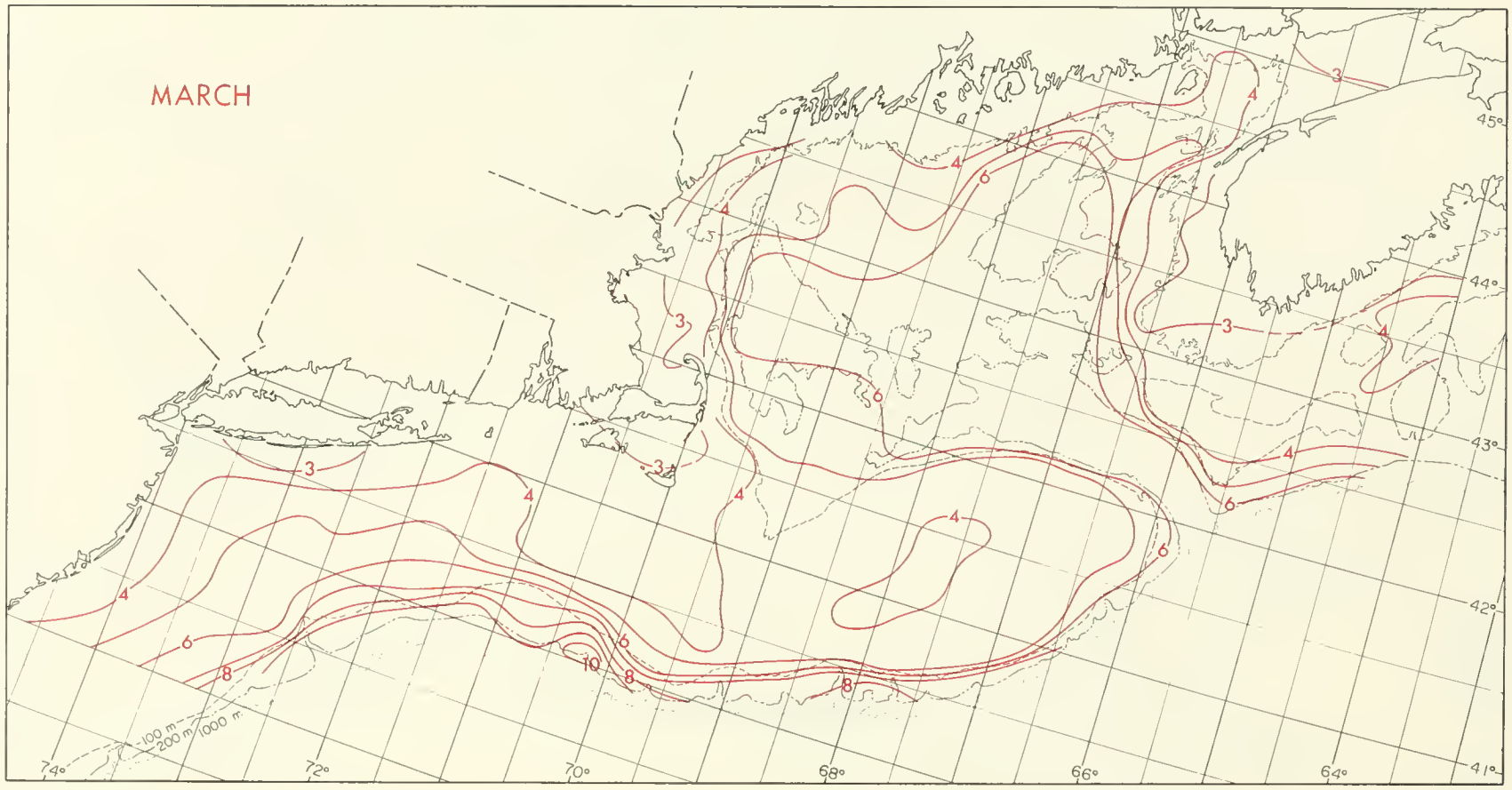

Figure 4.—Distribution of average bottom-water temperatures during March.

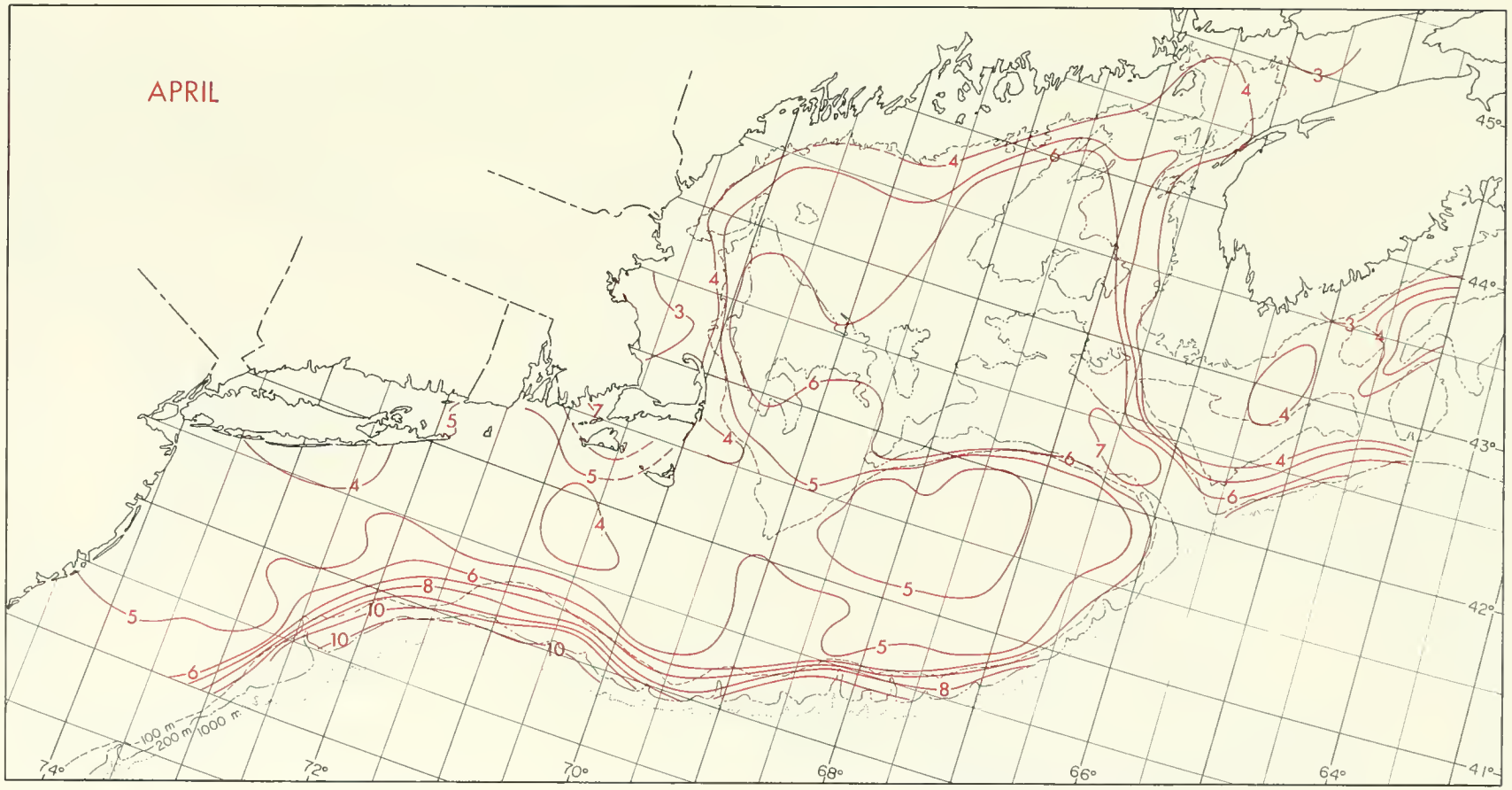

Figure 5.—Distribution of average bottom-water temperatures during April.

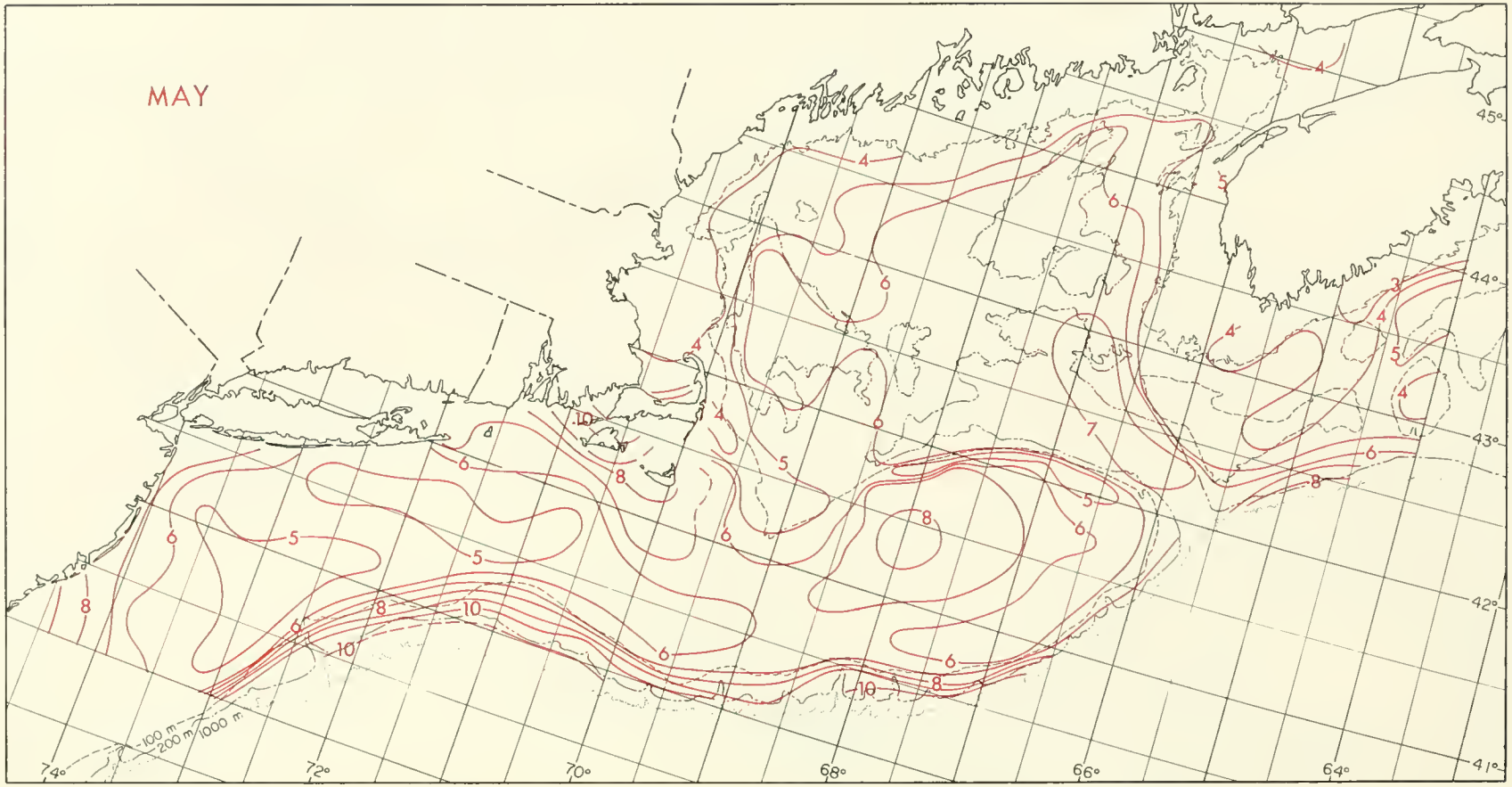

Figure 6.—Distribution of average bottom-water temperatures during May.

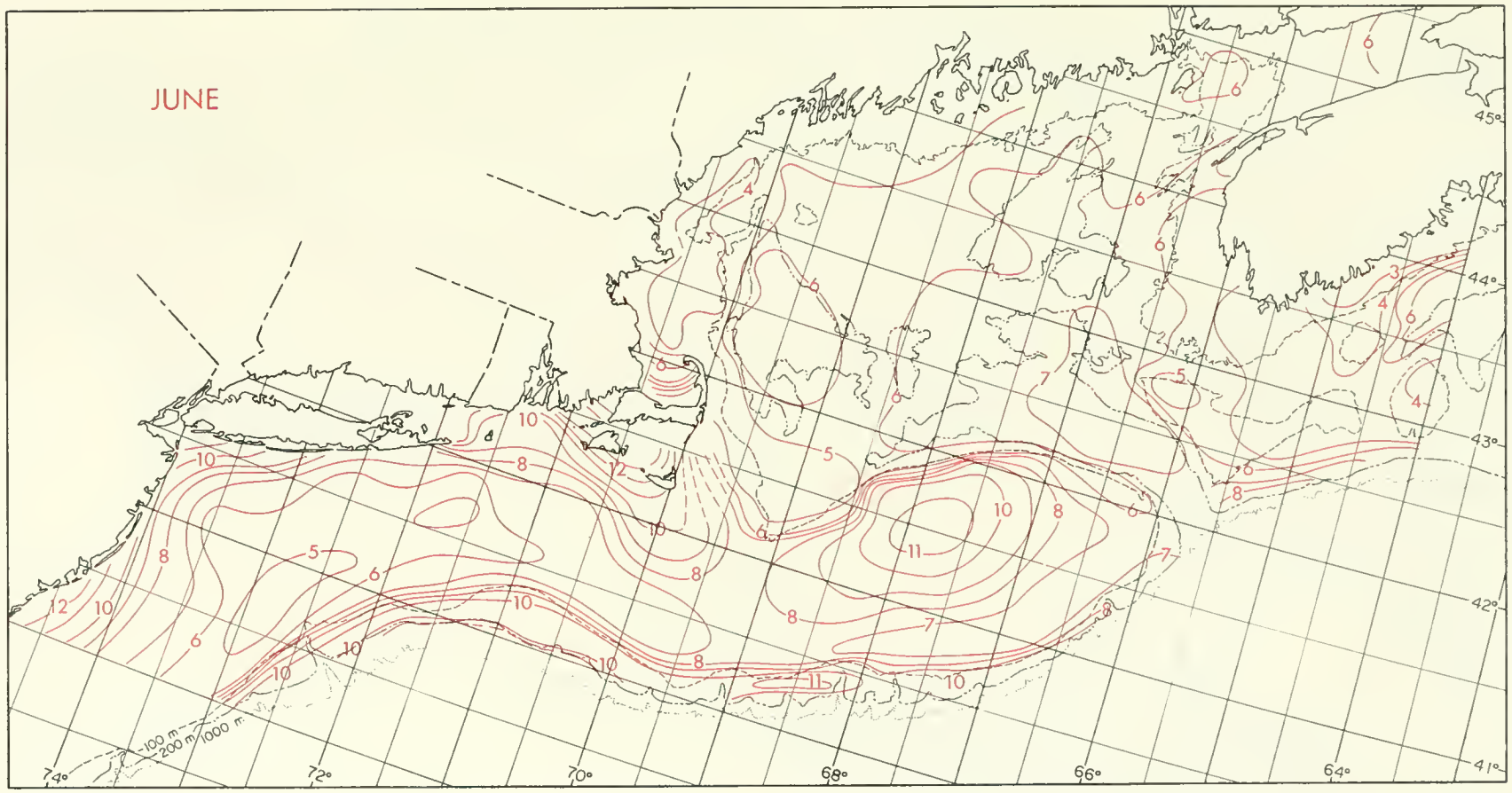

Figure 7.—Distribution of average bottom-water temperatures during June.

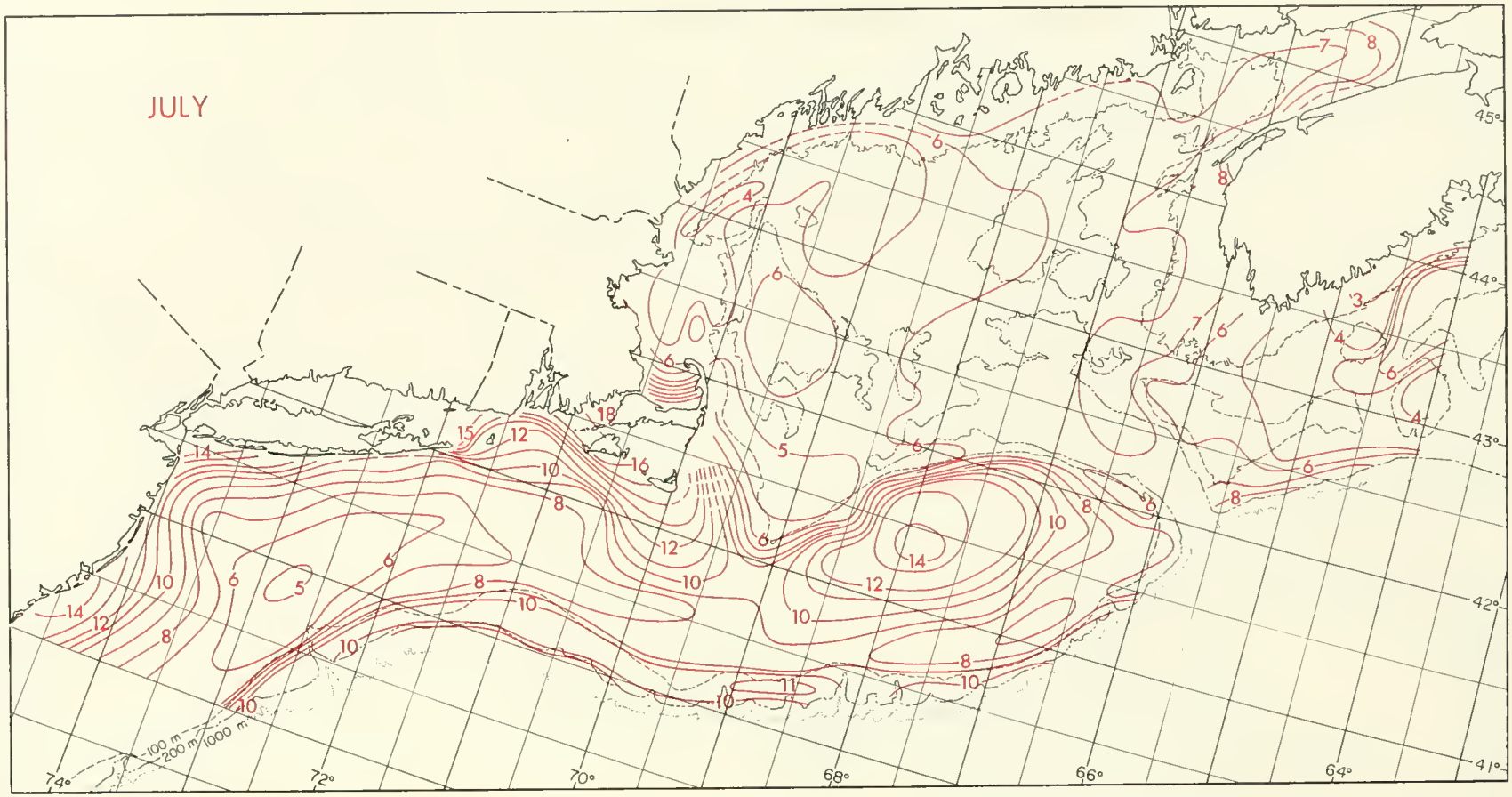

Figure 8.—Distribution of average bottom-water temperatures during July.

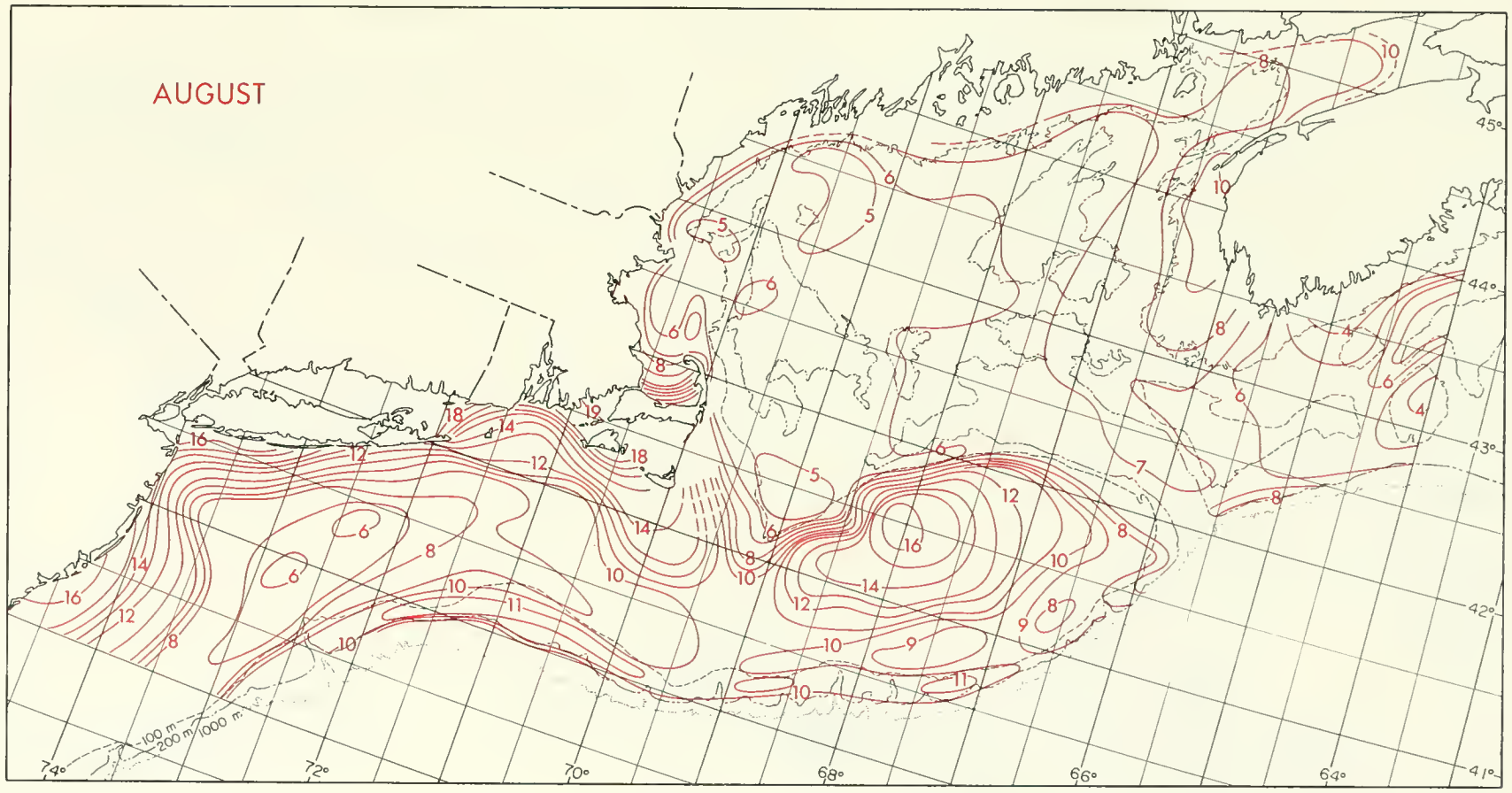

Figure 9.—Distribution of average bottom-water temperatures during August.

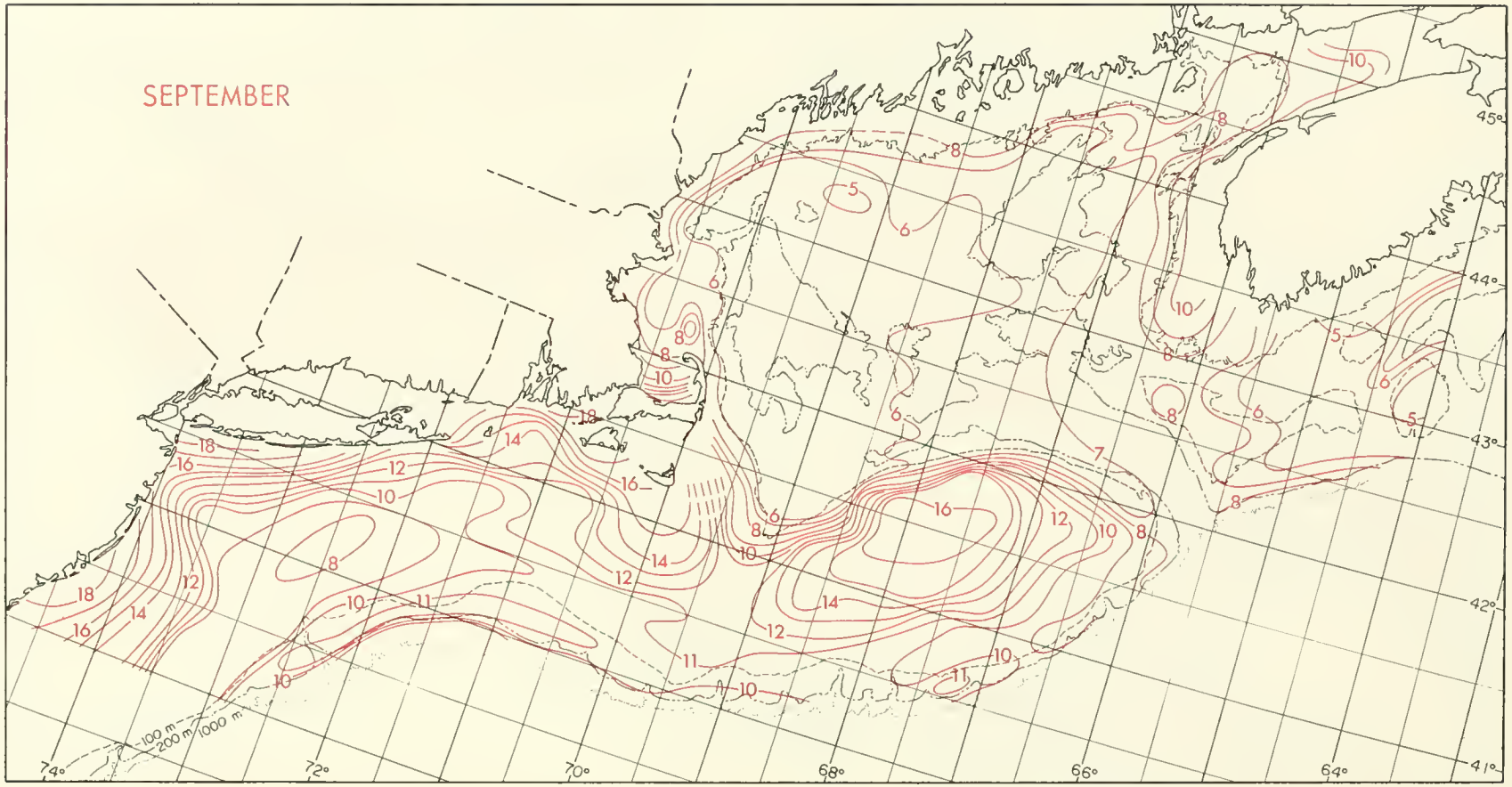

Figure 10.—Distribution of average bottom-water temperatures during September.

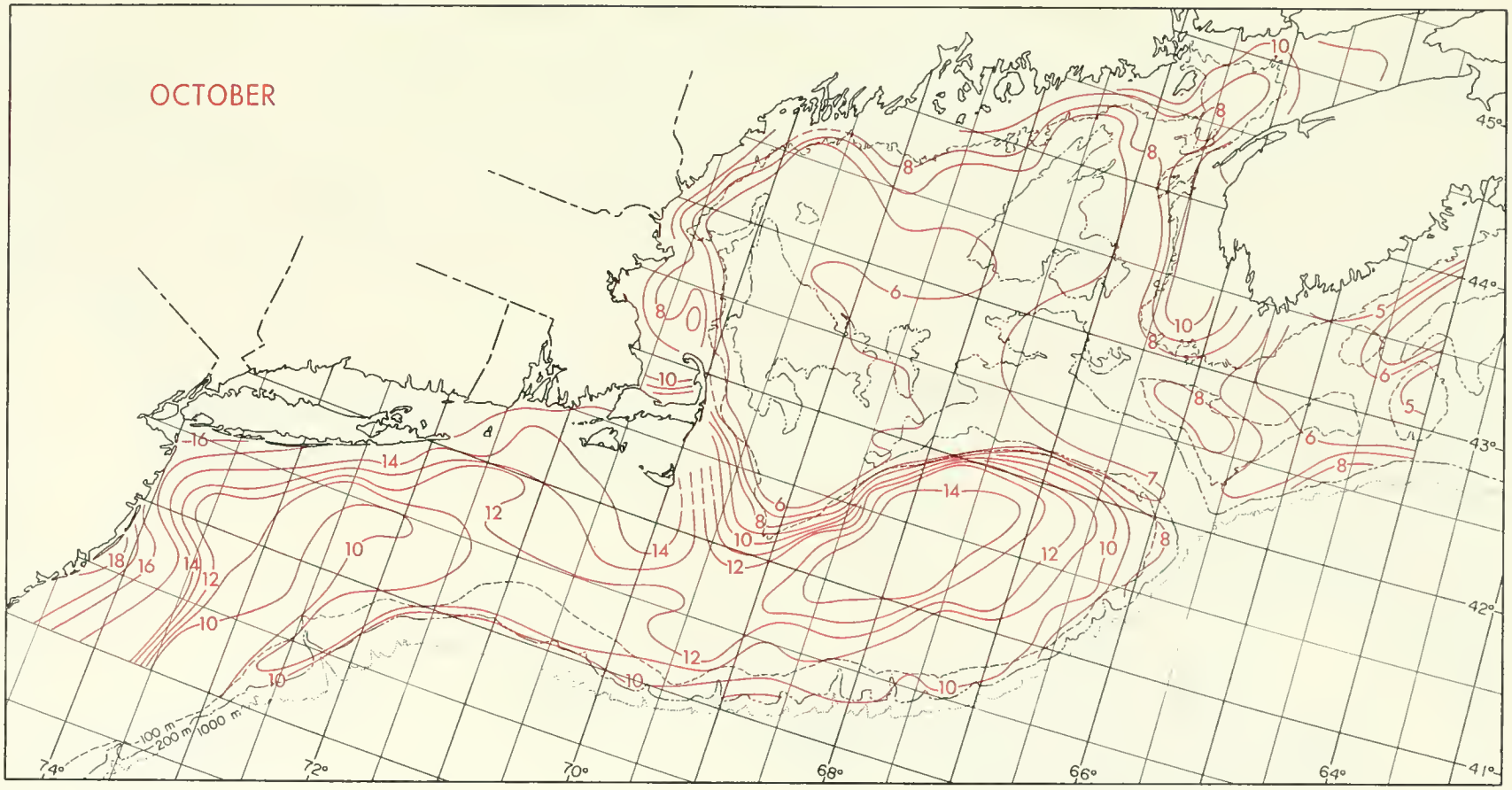

Figure 11.—Distribution of average bottom-water temperatures during October.

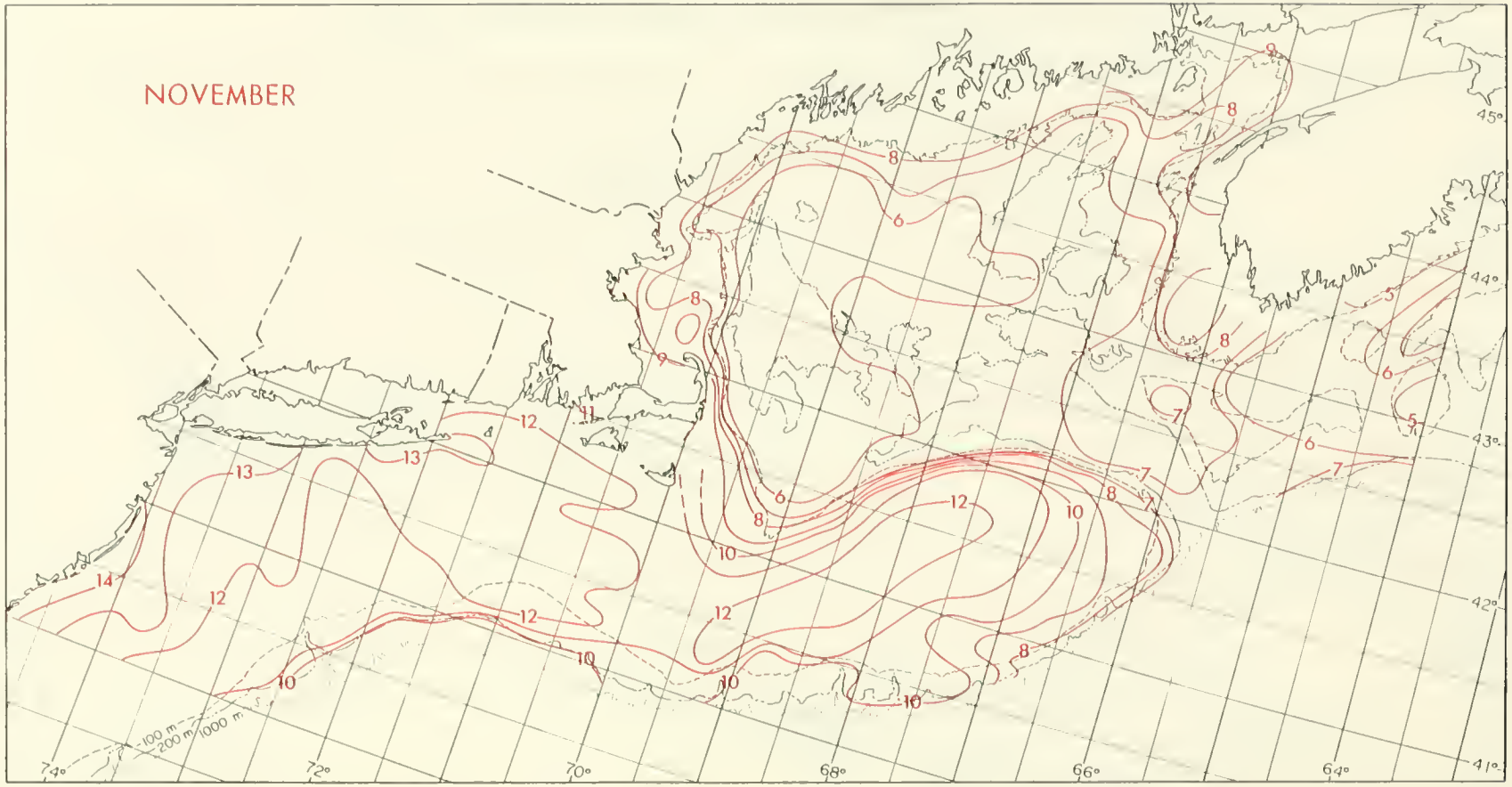

Figure 12.—Distribution of average bottom-water temperatures during November.

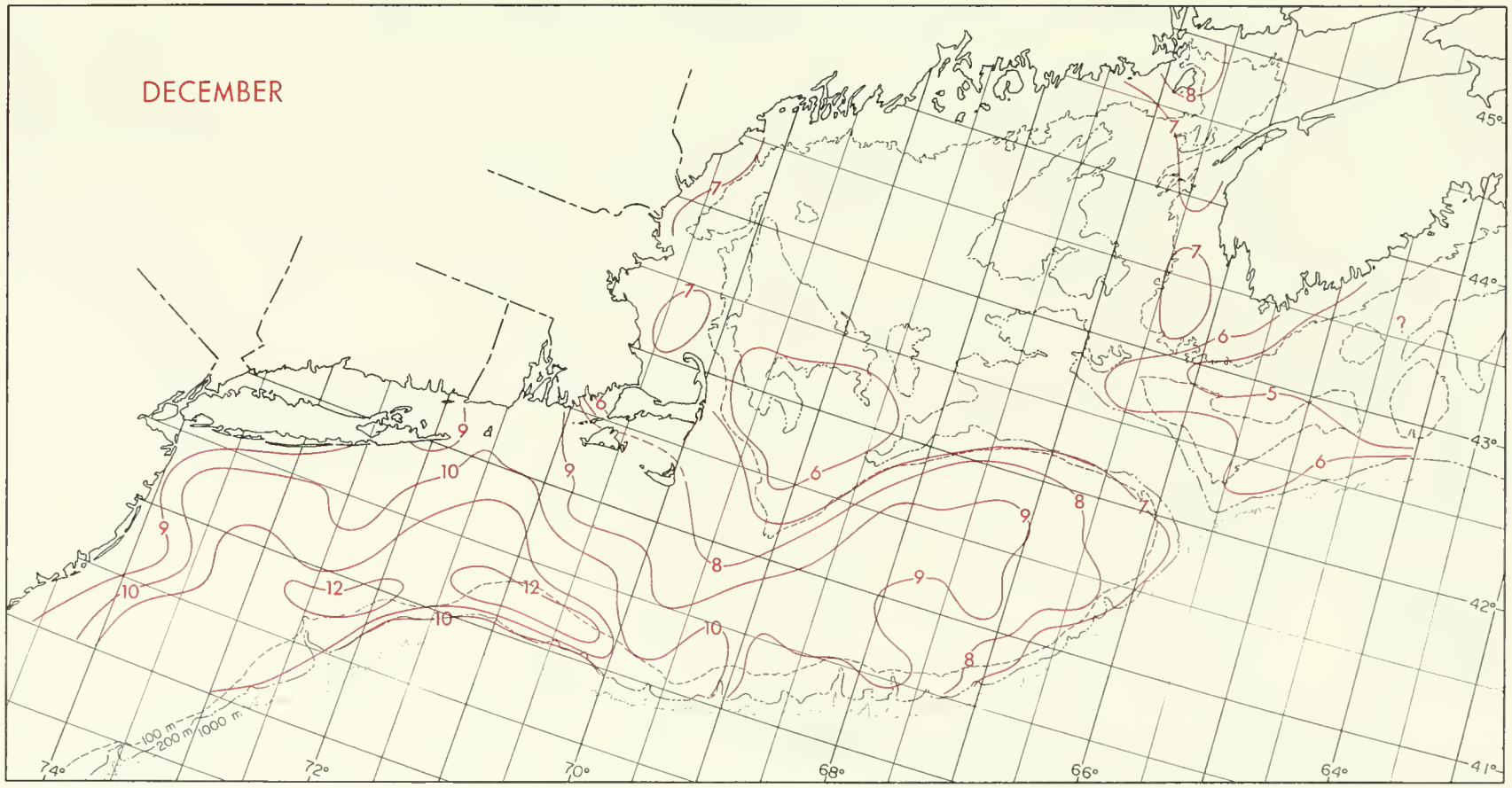

Figure 13.—Distribution of average bottom-water temperatures during December.

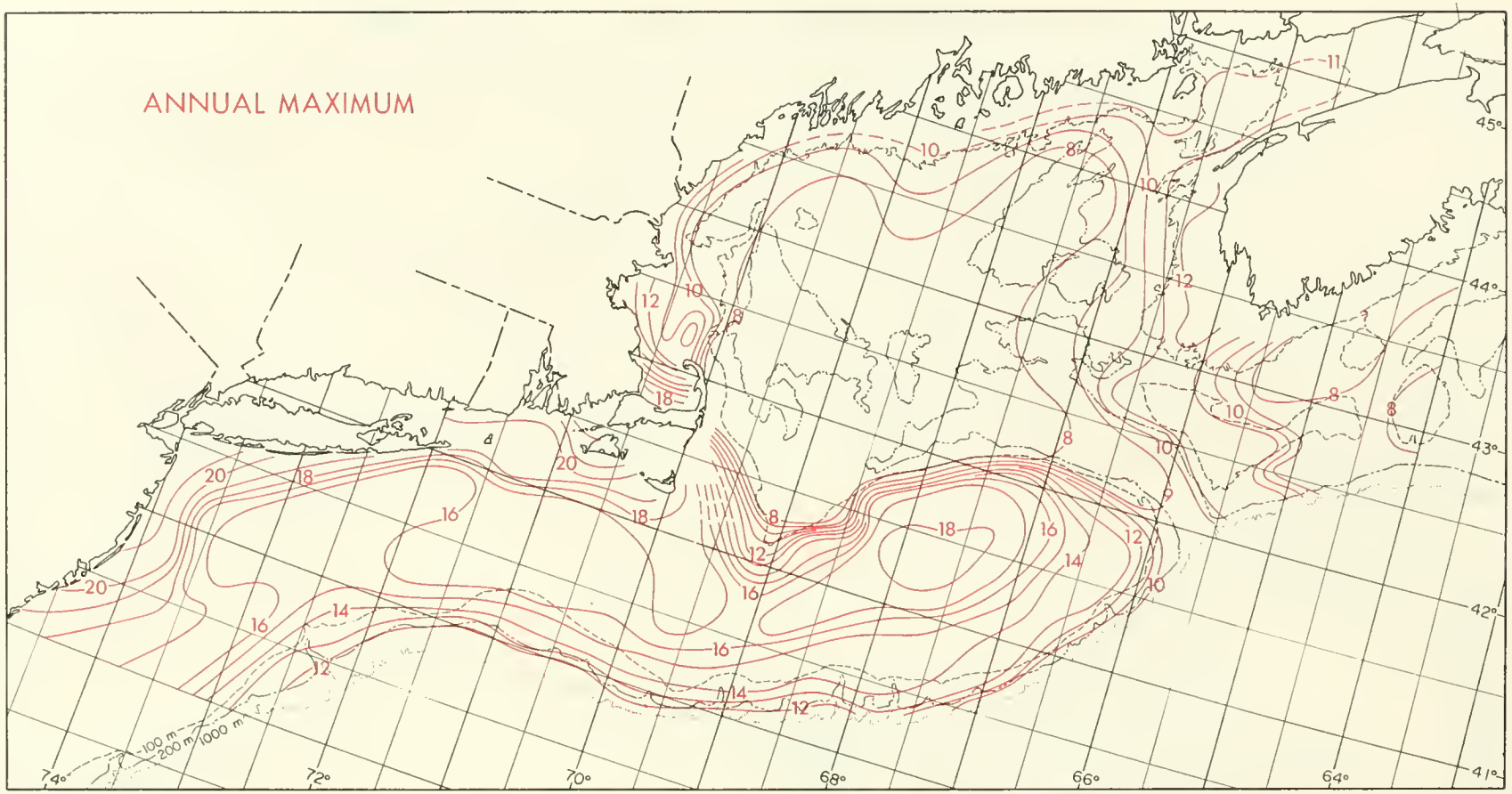

Figure 14.—Distribution of long-term annual maximum bottom-water temperatures.

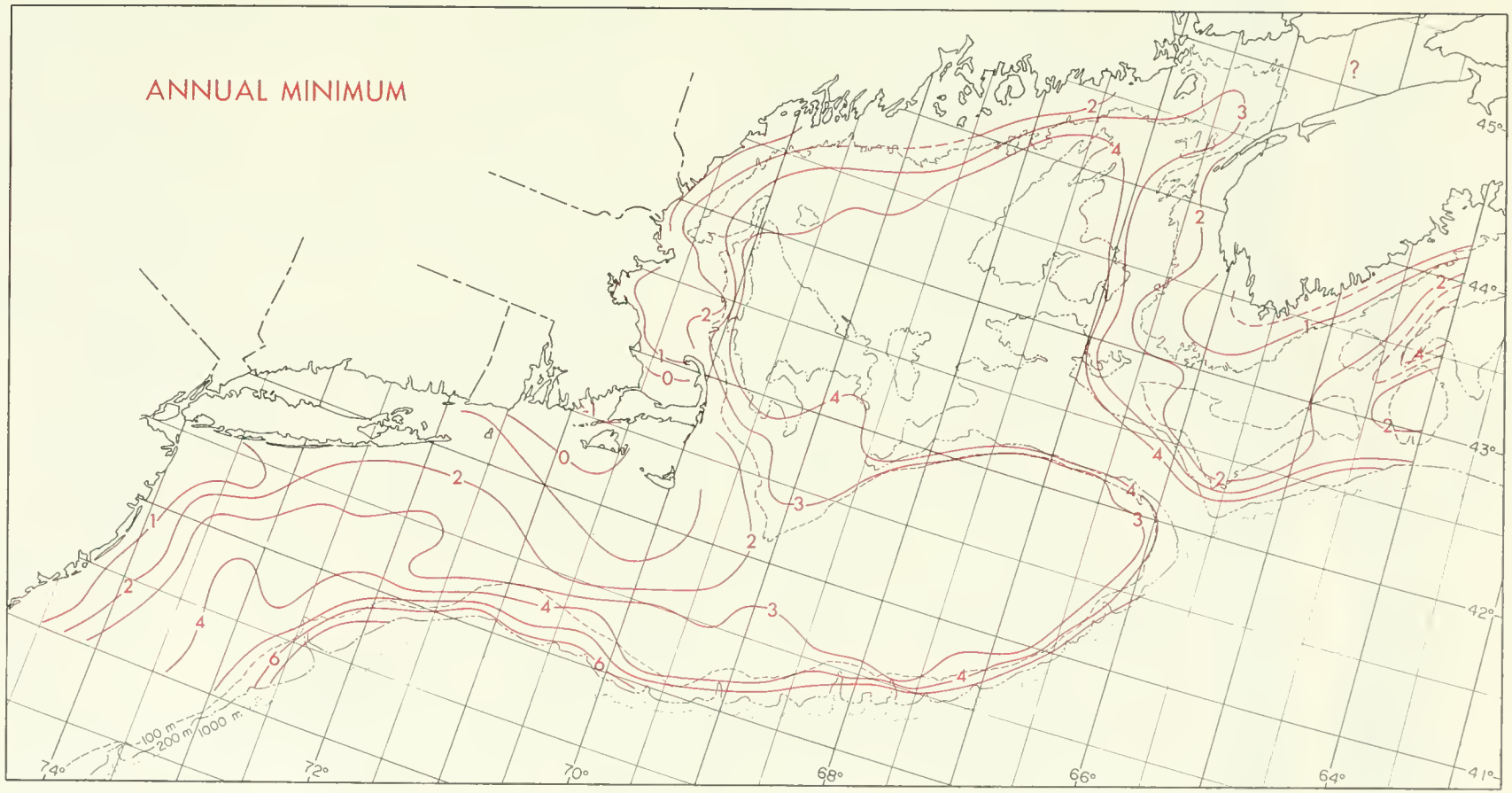

Figure 15.—Distribution of long-term annual minimum bottom-water temperatures.

APPENDIX

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

JANUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3972																																	
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	1													11.4	11.8	2	2	7.3	13.1	5	8	11.3	13.8	4	5					10.7	12.1	1	1
	2													4.8	11.2	3	4	10.9	12.2	1	1												
	3									5.2	10.0	5	6	6.1	10.9	4	5																
	4					2.8	8.6	5	5	3.8	9.4	4	5	4.8	10.5	2	2																
4072																																	
	1													4.9	5.1	1	2																
	2					8.4	8.4	1	1	4.5	9.4	3	3																				
	3					8.3	8.9	1	1																								
	4					8.2	9.3	1	1																								
4073																																	
	1					6.7	10.7	2	4	4.6	10.6	4	4																				
	2	5.8	5.8	1	1	5.2	10.5	5	7	6.7	6.7	1	1	4.5	8.7	2	2																
	3	8.2	8.2	1	1																												
	4	8.1	9.3	1	1																												
4165																																	
	4																					5.4	7.7	2	2								
4166																																	
	2													7.3	8.2	1	2	7.7	7.7	1	1												
	3													3.9	7.1	2	2	4.9	7.1	2	2	4.6	4.6	1	1								
	4									5.4	6.7	1	2	4.9	7.3	2	2	7.2	7.2	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

JANUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4167																																	
	1									3.9	7.4	2	3	4.4	4.5	1	1																
	2					7.6	7.7	1	1	4.2	4.2	1	1	4.2	4.3	1	2																
	3									5.5	7.2	3	3	7.2	7.2	1	1																
	4					5.1	6.6	2	2	5.5	7.1	2	2					5.0	5.0	1	1	5.3	5.3	1	1	6.1	6.1	1	1				
4168																																	
	1					8.4	8.4	1	1	4.1	8.9	2	2	7.2	7.2	1	1																
	2													5.1	8.4	2	2	5.1	5.1	1	1	6.4	6.4	1	1					6.0	6.0	1	1
	3									5.4	5.4	1	1	6.8	6.9	2	2					5.0	6.9	3	3					6.1	7.2	2	5
	4																					6.8	6.9	1	1	5.2	7.2	3	3				
4169																																	
	1					6.3	6.3	1	1	5.9	6.1	1	1	4.2	6.6	2	2	5.4	5.4	1	1	5.2	6.7	3	3								
	2					3.9	6.2	2	2																								
	3																					6.2	6.2	1	1	6.0	6.2	2	3				
	4	3.3	3.3	1	1	4.5	4.8	1	3	4.8	5.8	2	2					4.7	4.7	1	1	5.9	5.9	1	1								
4170																																	
	1					1.7	1.7	1	1																								
	2	1.4	1.4	1	1	0.8	5.7	8	11	1.8	7.1	4	5																				
	3					3.4	3.4	1	1	4.4	4.4	1	1																				
	4	-0.4	3.2	2	2	5.2	5.2	1	1																								
4171																																	
	1	3.4	4.7	1	1	1.9	10.1	8	11	4.1	9.6	5	6																				
	2	4.6	6.0	1	2	2.8	7.6	4	6	5.5	10.1	4	4																				
4264																																	
	3																					3.3	3.3	1	1					4.8	4.8	1	1
	4																					4.0	4.8	1	1								
4265																																	
	1																													4.8	4.8	1	1
	2																	3.4	3.4	1	1	3.4	3.4	1	1	4.6	4.6	1	1	4.9	4.9	1	1
	3																					3.2	4.0	1	2	4.8	4.8	1	1				
	4																	3.3	7.4	2	2	3.0	3.0	1	1					5.6	5.6	1	1
4266																																	
	1																													5.1	5.5	1	2
	2													4.6	4.6	1	1	4.4	4.4	1	1	8.1	8.1	1	1								
	3													2.8	2.8	1	1	2.9	3.3	1	2	3.8	4.4	1	2	5.3	5.3	1	1				
	4																	2.8	2.8	1	1	4.3	4.3	1	1	5.3	5.7	1	1	5.8	5.8	1	1
4267																																	
	1													6.7	6.7	1	1					5.3	5.3	1	1	6.1	6.1	1	1	5.9	5.9	1	1
	2																									5.6	7.7	2	4	5.4	7.2	2	3
	4																									6.6	6.6	1	1	5.8	6.1	2	2
4268																																	
	1																									6.2	7.9	3	3	8.3	8.3	1	1
	2																									5.2	5.9	2	2	6.0	6.1	2	2
	3																									6.0	7.6	3	3	5.9	7.8	3	3
	4																									5.9	7.8	2	2	6.2	7.8	3	3
4269																																	
	1																					6.2	6.2	1	1	5.0	6.4	2	3	6.5	6.6	1	1
	2																													5.7	6.6	2	2
	3																					6.6	6.6	1	1	5.7	6.6	2	2	6.5	6.6	1	1
	4																													6.3	6.3	1	1
4270																																	
	1					3.2	4.2	2	3	2.9	4.8	2	3	2.8	7.3	3	4	3.4	3.4	1	1												
	2					2.3	4.6	5	10	4.4	4.9	1	1																				
	3													3.8	3.8	1	1	4.8	5.6	2	2	5.0	5.0	1	1								
	4					3.7	3.7	1	1	4.6	4.6	1	1	5.0	5.0	1	1	4.6	4.9	2	2												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

JANUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4364																																	
	2																	67	67	1	1												
	3																	49	49	1	1												
4365																																	
	1																									48	48	1	1				
	2									33	33	1	1	42	42	1	1																
4366																																	
	1									44	44	1	1																				
	2																					33	33	1	1								
	3					38	38	1	1	32	32	1	1	57	62	2	2	28	28	1	1												
	4																	30	68	4	5	30	67	3	4	50	50	1	1				
4367																																	
	1																									61	62	1	2	61	61	1	1
	2																									58	58	1	1				
	3																					43	54	2	2	51	70	2	2				
	4																									57	67	1	1	68	68	1	1
4368																																	
	1																									60	66	2	2				
	2																					64	64	1	1	61	67	2	2	67	67	1	1
	3																	28	28	1	1	32	32	1	1	59	67	2	3				
	4																	66	66	1	1	36	46	1	1	43	66	2	2				
4369																																	
	1																					67	67	1	1	51	51	1	1				
	2																					22	66	2	2	66	66	1	1	64	64	1	1
	3																					67	67	1	1								
	4					51	51	1	1					43	43	1	1	41	41	1	1												
4370																																	
	1									44	44	1	1					62	62	1	1	42	78	4	5								
	3					34	34	1	1	21	65	10	17																				
4465																																	
	4													63	63	1	1	62	62	1	1												
4466																																	
	1																	51	54	1	1	66	66	1	1	68	68	1	1	44	44	1	1
	2									31	31	1	1					55	55	1	1	31	31	1	1	42	68	2	2				
	3																	72	72	1	1	30	72	2	3	46	46	1	1				
	4																	65	71	1	1	67	67	1	1					71	71	1	1
4467																																	
	2													30	30	1	1					68	68	1	1								
	3					71	71	1	1	27	62	2	2	30	30	1	1																
4468																																	
	1													27	67	2	2	44	68	2	2												
4565																																	
	1									40	57	1	2	44	49	1	1																
	2									51	51	1	1	51	51	1	1	60	66	1	2												
4566																																	
	1									66	66	1	1	41	67	2	2																

	1-20M	21-40M	41-60M	61-80M	81-100M	101-150M	151-200M	201-250M

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

FEBRUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																													5.2	5.2	1	1
3971																																	
	3																									6.6	6.6	1	1				
	4																					6.2	12.8	2	2	6.6	10.9	3	3				
3972																																	
	1																					8.0	11.0	2	2	8.7	8.7	1	1	8.2	8.2	1	1
	2																					7.0	10.7	2	3								
	3																	7.9	9.2	2	2	7.1	10.6	3	3	8.7	10.8	3	3				
	4									4.1	10.0	4	17	4.7	7.3	2	3	5.7	5.7	1	1												
3973																																	
	1									3.4	3.4	1	1	6.9	11.1	2	2																
	2					4.4	4.4	1	1																								
	3					4.6	5.4	2	2	4.4	5.5	3	3	5.6	6.0	2	2																
	4					1.7	6.3	11	32																								
3974																																	
	1	-1.4	-0.4	1	1	1.3	3.4	2	2																								
	3	1.1	1.1	1	1	1.2	2.8	2	2																								
4066																																	
	4																	4.4	7.8	2	2	5.2	5.2	2	2	5.2	5.2	1	1	5.0	5.0	1	1
4067																																	
	2																					8.3	8.3	1	1	5.4	13.1	3	3				
	3																	4.5	8.3	3	3	4.7	12.7	3	3	5.9	5.9	1	1	5.3	5.9	2	2
	4													4.1	6.1	2	3	2.7	7.1	2	3	4.1	12.2	3	4								
4068																																	
	1																					4.1	5.4	2	2	5.6	5.6	1	1	5.9	5.9	1	1
	2																	3.2	3.2	1	1	3.9	8.3	3	3	5.1	12.2	3	4				
	3									0.7	5.6	4	5	2.9	4.3	2	2	5.2	5.2	1	1	3.1	4.3	2	2								
	4									3.8	5.6	3	3	3.6	6.1	6	8	4.8	4.8	1	1												
4069																																	
	1													3.4	5.1	4	4	4.9	6.7	3	3	5.4	11.2	1	1	5.1	5.6	2	2	4.3	4.3	1	1
	2													3.2	10.4	2	2	4.2	8.2	3	3	5.2	12.7	3	4	12.8	12.8	2	2				
	3									2.8	5.7	11	22	3.9	5.3	5	5	4.8	4.8	1	1												
	4					1.2	2.5	2	2	2.8	5.9	3	3	3.1	4.6	3	4																
4070																																	
	1													2.7	5.7	1	3	6.0	10.7	2	2	5.1	12.3	3	3	9.9	9.9	1	1	9.3	9.3	1	1
	2													1.7	2.6	1	1	2.8	6.8	3	3	6.0	14.1	5	5	5.3	6.6	1	2	7.0	7.0	1	1
	3					1.8	4.0	2	2	1.0	6.3	6	6	1.8	6.3	3	3																
	4									1.1	6.2	6	7	1.7	4.9	3	3																
4071																																	
	1																	2.8	8.3	4	4	9.7	11.7	2	3								
	2													4.1	7.2	2	3	4.1	9.1	2	2												
	3									3.6	6.6	4	4	3.9	7.2	5	5																
	4					1.1	4.1	4	5	2.0	3.5	2	3	6.4	7.2	2	2																
4072																																	
	1									2.9	10.1	2	3	11.1	11.1	1	1																
	2									3.9	6.0	3	4	4.9	4.9	1	1																
	3					1.7	4.8	3	3	2.7	6.1	3	4																				
	4					1.7	3.8	3	4	4.3	4.3	1	1																				
4073																																	
	1					1.2	2.1	2	2	3.1	5.2	1	2																				
	2	1.7	3.2	2	3	0.3	5.4	6	8	2.8	3.9	2	3																				
	3	1.3	1.2	1	1	1.6	2.1	2	2																								
	4	-0.1	2.3	2	4																												
4165																																	
	4																	5.3	6.1	2	2	4.1	5.6	3	3	6.6	6.6	1	1	4.9	4.9	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

FEBRUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	4.4	7.2	3	3	5.3	7.9	3	4	5.2	5.2	1	1	5.6	5.6	1	1
	2													3.2	5.7	4	6	3.7	5.9	5	5												
	3																	2.3	7.1	6	13	4.4	4.4	2	2								
	4									3.9	3.9	1	1	4.0	5.8	4	6	5.6	5.6	1	1												
4167																																	
	1									3.1	5.6	8	13	2.9	6.1	5	5																
	2					3.9	5.2	3	3	2.9	5.7	6	8																				
	3									2.8	6.2	4	6	3.9	5.1	5	7																
	4	4.9	5.2	1	2	3.5	4.9	2	2	4.1	6.3	3	3	2.7	6.1	2	2																
4168																																	
	1					3.6	5.3	2	2	3.0	5.7	5	8	3.9	6.2	3	5																
	2									4.7	6.1	3	3	2.2	6.1	5	7	2.1	5.1	2	3	3.7	6.2	4	4								
	3									2.0	6.4	3	3	3.2	3.2	1	1	2.2	3.9	2	2	5.1	5.1	1	1	5.2	5.2	1	1	7.4	7.9	2	2
	4																	5.4	5.4	1	1	3.9	5.5	3	3	5.0	7.6	4	4				
4169																																	
	1					5.4	5.4	1	1	1.2	3.3	2	2	1.5	2.1	1	1	4.2	5.6	3	3	4.8	4.8	1	1	3.7	5.2	3	3				
	2					4.4	4.7	1	1																								
	3																	1.2	1.2	1	1	4.8	4.8	1	1	4.3	5.6	3	3	5.4	5.6	1	1
	4					2.7	5.0	3	3	1.9	3.9	2	2	3.2	4.5	1	2	4.0	4.0	1	1	5.0	5.4	2	2	5.6	5.6	1	1				
4170																																	
	2	-0.1	4.4	3	3	-0.3	6.2	7	9	0.8	6.0	4	4																				
	3	0.7	0.7	1	1	0.0	2.3	5	5																								
	4	-1.1	0.9	3	4	2.9	2.9	1	1																								
4171																																	
	1	1.2	5.1	3	4	-0.3	6.9	8	19	1.6	7.2	6	11																				
	2	2.9	3.6	1	2	1.1	4.7	6	13	1.4	6.1	5	8																				
4264																																	
	3																	2.1	3.4	2	2	3.4	5.2	2	2								
	4																					3.0	4.5	2	2								
4265																																	
	1																					2.5	6.2	3	3								
	2																	3.0	6.1	2	2	3.1	10.6	5	5	4.9	8.9	3	3	4.1	8.4	5	5
	3																	1.8	5.2	4	4	3.2	6.1	4	4	2.9	3.2	1	1				
	4													3.8	3.8	1	1	1.6	9.3	8	10	2.1	5.7	3	3	6.6	6.6	1	1				
4266																																	
	1																	3.8	5.6	2	2	5.6	6.1	2	2	4.4	4.4	1	1	4.8	7.1	2	2
	2													3.8	5.5	4	4	5.7	5.7	1	1	5.4	6.1	3	3					6.1	8.2	2	3
	3													1.7	4.0	5	5	2.2	6.0	4	5	4.9	4.9	2	2					4.8	8.2	3	3
	4																					5.6	7.8	2	2	4.1	6.4	3	3	5.2	7.7	2	4
4267																																	
	1																	3.9	3.9	1	1					6.3	7.8	2	2				
	2																									5.0	7.4	5	6	5.9	7.8	5	5
	3																													5.6	7.3	2	2
	4																									5.9	5.9	1	1	8.7	8.7	1	1
4268																																	
	1																									5.9	7.6	2	2	5.9	8.3	2	2
	2																					4.7	5.4	2	2	4.9	8.2	4	4	5.1	5.1	1	1
	3																									5.7	8.3	4	4	5.8	5.8	1	1
	4																									5.2	7.8	3	3				
4269																																	
	1																					6.2	6.2	1	1	6.2	6.2	1	1	5.0	6.8	3	4
	2									4.6	4.6	1	1									5.1	6.1	2	3	5.7	5.7	2	2	5.0	7.8	4	5
	3																					6.9	6.9	1	1	6.1	7.9	2	2				
	4																									5.0	6.7	4	4	4.9	7.2	3	3
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

FEBRUARY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					2.5	4.6	3	3	-0.1	4.4	7	9	1.2	4.4	4	4	1.6	4.1	2	2	5.3	5.5	2	2	6.6	6.6	1	1				
	2					1.2	4.0	11	23	1.0	3.3	4	4	3.0	3.9	2	2																
	3													3.8	5.6	3	3	3.2	4.3	3	3												
	4					2.2	3.3	2	2	1.7	3.4	4	5	1.4	4.9	2	2	4.4	4.9	1	1												
4364																																	
	1																	1.3	3.9	3	3	2.5	2.5	1	1	5.0	7.7	3	3	5.9	5.9	1	1
	2													1.1	3.4	2	2					2.6	4.9	3	4	5.4	5.4	1	1				
	3																	1.7	1.7	1	1	3.8	3.8	1	1	3.4	6.0	2	2				
	4									1.2	5.1	3	4	1.7	1.7	1	1					2.9	6.1	2	2								
4365																																	
	2					2.2	2.2	1	1									2.9	5.5	3	3	1.9	1.9	1	1								
4366																																	
	1					4.4	4.4	2	2	2.7	2.7	1	1	1.6	2.9	2	2	2.0	3.3	2	2	2.9	2.9	1	1								
	2																	2.2	2.2	1	1	1.9	3.5	1	1	4.8	5.2	1	1	7.0	7.0	1	1
	3					1.7	4.6	3	4	2.8	2.9	2	2	2.8	3.9	3	3	2.1	5.6	3	3	2.3	2.3	1	1								
	4													3.3	3.3	1	1	3.9	4.0	2	2	2.8	5.1	3	3	3.9	5.4	2	2				
4367																																	
	1																													6.0	6.0	1	2
	2																													5.3	5.8	1	3
	3																					4.9	5.7	2	2					5.9	8.7	2	2
4368																																	
	1																									5.2	6.7	2	2				
	2																									4.9	4.9	1	1				
	3																					4.0	5.6	3	3	5.1	7.3	3	3				
	4																	4.6	4.6	1	1	2.7	4.0	1	2	4.2	4.7	2	2				
4369																																	
	1																					7.2	7.2	1	1	4.2	5.1	1	2				
	2																	3.3	3.3	1	1	3.8	5.4	3	3	4.0	7.7	2	3				
	3																	3.8	4.9	2	2	4.6	5.6	3	3								
	4					1.4	3.9	2	2					3.8	3.8	1	1	3.9	4.3	2	2	4.1	4.1	1	1								
4370																																	
	1																	2.0	5.0	3	3	3.1	5.1	3	3	3.5	4.5	2	2				
	2	1.2	3.0	2	2	1.1	3.3	3	3	0.9	3.8	2	3																				
	3					2.1	2.1	1	1	0.9	5.1	10	16																				
4464																																	
	1					2.1	2.1	1	1	0.9	1.5	2	2	1.7	3.8	4	4	2.6	2.6	1	1	2.4	5.0	2	2	8.1	8.1	1	1				
4465																																	
	4									2.8	2.8	1	1																				
4466																																	
	1					2.1	3.3	2	2	2.8	3.4	2	2	3.2	3.2	1	1					3.9	5.4	2	2	6.3	6.3	1	1				
	2													2.9	2.9	1	1	2.7	4.4	2	2	2.6	4.5	2	2	5.2	5.2	1	1				
	3																	3.8	3.8	1	1	2.2	4.8	2	2					3.1	3.1	1	1
	4																	2.3	2.3	1	1	2.6	5.6	3	3	3.4	6.4	2	2				
4467																																	
	1													2.7	2.7	1	1	2.9	2.9	1	1	3.2	5.4	2	2								
	2									2.7	2.7	1	1	1.6	3.4	2	3	5.8	5.8	1	1					7.9	7.9	1	1				
	3													4.9	4.9	1	1																
4468																																	
	1																	5.0	5.0	1	1												
4565																																	
	1					0.3	2.7	2	2	-0.4	4.6	1	2																				
	2									3.9	3.9	1	1																				
4566																																	
	1													2.3	4.5	1	1																
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
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DEPTH ZONE

MARCH		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																									6.1	6.6	1	1				
3971																																	
	4																									8.8	11.1	1	2				
3972																																	
	1																					10.5	10.9	2	3	10.7	11.2	1	4	9.4	11.1	2	2
	2																	5.7	6.1	1	2	6.3	10.5	3	6								
	3																	8.9	8.9	1	1	7.8	9.5	1	3	10.7	10.7	1	1				
	4									6.2	7.9	1	5	3.9	9.2	5	6					5.1	5.1	1	1								
3973																																	
	1									5.1	5.1	1	1																				
	2					2.8	3.9	1	1	5.5	5.5	1	1																				
	3					3.8	6.7	2	2	3.8	5.5	2	2																				
	4					1.9	6.6	11	33																								
4066																																	
	4													7.3	7.3	1	1	6.1	6.1	1	1	8.4	8.4	1	1					8.2	8.5	1	1
4067																																	
	2																					7.5	10.5	2	3								
	3													3.3	3.3	1	1	3.6	5.4	2	2	5.7	9.7	2	2								
	4													3.9	5.3	3	7	3.0	6.2	3	4	5.2	10.2	3	3								
4068																																	
	1																	4.4	4.4	1	1	8.1	9.3	4	4					10.4	10.4	1	1
	2									2.8	2.8	1	1	4.3	7.6	2	2	3.6	6.8	2	3	4.6	4.6	1	1	5.6	6.6	2	2				
	3									3.8	5.1	2	3	4.1	5.5	4	4																
	4									2.9	4.5	4	4	3.9	6.6	4	6	2.9	4.9	2	2												
4069																																	
	1													3.4	4.2	2	2	3.9	3.9	2	2	4.4	7.9	3	3	6.0	6.0	1	1				
	2																	3.8	4.1	2	2	3.9	12.1	4	5	10.7	10.7	1	1				
	3					3.4	3.4	1	1	1.7	5.4	11	23	3.1	5.1	7	9	3.2	5.3	4	4												
	4					3.1	3.7	1	1	1.2	4.9	6	9	2.9	5.0	5	5																
4070																																	
	1													4.2	5.1	2	2	4.3	9.9	2	2	12.2	12.2	1	1	10.4	12.8	2	2	11.1	11.1	1	1
	2																	8.2	8.2	1	1	4.2	11.7	4	4	10.6	10.6	1	1	11.0	11.0	1	1
	3					3.6	4.8	2	2	1.0	4.0	5	6	2.1	5.1	4	4																
	4									1.6	4.4	7	10	2.0	4.1	3	3																
4071																																	
	1													2.5	2.5	1	1	3.9	8.4	5	6	4.4	10.9	2	8	6.3	10.7	2	2	10.4	11.1	1	2
	2													3.9	9.4	4	4	2.9	5.0	3	4	4.5	4.5	1	1								
	3									1.7	5.8	7	9	2.4	4.9	6	8																
	4					2.8	4.5	5	5	3.9	5.1	3	3	3.8	5.6	4	6																
4072																																	
	1													3.9	5.0	2	2																
	2									4.8	5.1	3	3	4.1	5.1	2	2																
	3					5.1	5.1	1	1	2.8	5.6	3	3																				
	4					2.8	2.8	1	1	3.5	5.5	3	3																				
4073																																	
	1					0.6	6.6	2	5	5.1	5.1	1	1																				
	2	2.1	4.1	2	8	2.1	4.5	8	15	3.3	3.3	1	1	4.6	4.6	1	1																
	3					2.8	2.8	1	1																								
	4	1.6	4.8	3	8	1.7	4.6	2	2																								
4165																																	
	4																					4.7	6.8	4	5	5.4	5.4	1	1				
4166																																	
	1																	4.1	6.0	4	6	6.2	6.2	1	1	8.4	8.4	1	1				
	2													2.9	5.2	4	5	2.9	6.6	6	8	4.4	6.7	2	2	5.0	5.0	1	1				
	3													3.9	5.6	3	3	3.1	6.1	5	10	7.8	7.8	1	1								
	4													3.0	5.4	9	13	2.9	3.2	2	2												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

MARCH		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4167																																	
	1					50	50	1	1	40	54	3	4	39	54	3	7																
	2					38	39	1	2	24	49	3	3	38	38	1	1																
	3					31	31	1	1	29	51	4	7	39	51	2	3																
	4	54	56	1	2	31	51	3	3	37	43	2	3																				
4168																																	
	1					39	39	1	1	39	56	2	4																				
	2									35	59	2	2	45	62	2	3	45	60	2	3	33	46	2	2								
	3					50	55	2	2	46	54	2	2	57	57	1	1					57	57	1	1	44	69	3	3	58	73	2	3
	4													51	51	1	1	41	41	1	1	33	51	4	5	42	73	6	11				
4169																																	
	1									57	57	1	1	56	57	2	2	43	46	2	2	33	54	4	4	49	49	1	1				
	2									31	31	1	1																				
	3													32	32	1	1	34	35	1	2	38	39	3	3	43	62	5	7	51	61	2	2
	4					29	29	1	1	23	43	3	3	23	53	2	2	37	37	1	1	34	61	5	6	43	43	1	1	43	43	1	1
4170																																	
	1	57	57	1	1	33	33	1	1	17	17	1	1																				
	2	27	60	3	3	21	60	5	9	19	40	5	9																				
	3					16	19	2	3	18	22	1	1																				
	4	12	59	3	5	17	56	3	4																								
4171																																	
	1	19	48	4	9	12	50	8	18	13	57	7	15																				
	2	27	49	2	2	23	50	6	9	23	51	4	6																				
4264																																	
	2																					58	77	2	2								
	3																					49	49	1	1	42	42	1	1				
	4																	31	31	1	1	23	56	7	8	79	85	1	3				
4265																																	
	1																	29	57	3	3	30	73	4	5								
	2																	39	67	2	2	28	93	4	5	42	42	1	1	57	57	1	1
	3																	27	46	3	4	12	83	5	8								
	4													44	44	1	1	13	44	8	12	16	42	8	9	46	46	1	1				
4266																																	
	1													56	56	1	1	46	63	4	4					48	48	1	1	61	73	4	6
	2									49	49	1	1	12	49	5	6	29	56	5	5	44	44	1	1	65	65	1	1	49	54	3	3
	3									23	40	3	3	11	50	7	10	21	39	6	6	25	82	3	3	34	71	4	4	39	67	2	2
	4																					30	66	3	3	25	73	3	3	42	74	3	3
4267																																	
	1									23	52	7	8	49	49	1	1	40	40	1	1					57	57	1	1				
	2									28	52	6	6	32	51	3	3	55	55	1	1	39	39	1	1	50	50	1	1	51	78	3	3
	3																													56	73	2	2
	4																									67	73	2	2	51	67	4	4
4268																																	
	1																									55	73	3	3	59	76	2	2
	2																					45	60	2	2	40	56	3	3	72	72	1	1
	3																									66	72	3	3				
	4																					56	66	2	2	50	72	2	2	59	60	2	2
4269																																	
	1																									51	51	1	1				
	2									33	33	1	1	29	44	2	2					42	56	2	2	50	60	2	2	51	73	6	7
	3													58	58	1	1					62	62	1	1	61	61	1	1				
	4																									55	59	1	1	41	74	4	6
4270																																	
	1					24	34	5	5	28	35	3	4	26	44	3	3	23	39	4	4	31	50	4	4								
	2					12	39	12	24	21	29	2	2	19	33	3	3	23	23	1	1												
	3									28	28	1	1	21	47	3	4	22	57	6	8	44	69	3	3	72	72	1	1				
	4					28	33	2	2	13	38	3	5	34	34	1	1	22	33	2	2												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

MARCH		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4364																																	
	1																	1.9	6.8	4	4	1.6	29	2	2	4.1	8.3	3	3				
	2													0.0	1.8	3	3	2.1	2.7	2	2	3.0	6.7	3	3	3.3	5.2	2	2				
	3																					2.5	5.1	2	2	1.9	5.7	2	2				
	4									0.5	0.5	1	1					4.0	4.0	1	1	1.6	4.7	2	2	4.4	4.4	1	1				
4365																																	
	1													1.1	1.1	1	1	1.6	3.3	2	2	2.2	3.8	2	2	4.3	4.8	3	3				
	2									0.8	1.1	2	2					1.1	2.4	3	3	1.6	4.7	4	4								
	3													0.4	0.9	2	2																
4366																																	
	1									2.3	3.3	1	1	1.0	1.0	1	1	1.3	1.3	1	1	1.6	4.9	2	2								
	2													1.9	1.9	1	1	1.8	1.8	1	1	2.7	3.7	3	3	4.4	7.7	2	2				
	3									2.1	3.3	2	2	2.4	3.3	2	2	3.2	3.2	1	1												
	4																	3.8	4.7	3	3	2.0	7.7	5	5	2.7	5.0	4	4	8.2	8.2	1	1
4367																																	
	1																									6.7	6.7	1	1	6.7	8.4	2	2
	2																									5.7	5.7	2	2	5.8	5.8	1	1
	3																									7.2	7.2	1	1	6.8	6.8	1	1
	4																													5.7	5.9	2	2
4368																																	
	2																									3.2	7.7	3	3	5.2	5.2	1	1
	3																									7.2	7.2	1	1				
	4																					1.9	5.1	4	4	4.0	5.9	1	1				
4369																																	
	2																	4.6	4.6	1	1	4.1	5.7	3	3	4.0	4.0	1	1	5.1	5.1	1	1
	3																					4.4	4.6	1	1								
	4					2.8	3.2	2	2	3.9	3.9	1	1									5.0	5.0	1	1	3.9	3.9	1	1				
4370																																	
	1									2.9	4.1	2	2	3.0	4.4	3	3	4.3	4.9	3	3	2.8	5.1	3	3								
	2					3.4	3.4	1	1					2.4	4.0	2	2	2.2	2.8	3	3												
	3	3.3	3.3	1	1	2.9	3.7	1	3	1.9	4.3	13	24																				
4464																																	
	1													0.0	0.0	1	1	0.2	0.2	1	1	3.6	3.6	1	1								
4466																																	
	1													1.6	1.6	1	1	2.7	2.7	1	1												
	2									2.9	2.9	1	1	2.2	2.2	1	1	2.1	4.3	4	4	3.8	4.2	2	2	3.5	7.9	3	3				
	3																	2.5	2.5	1	1	2.8	5.0	2	2					5.0	5.0	1	1
	4																	3.2	4.3	2	2	3.0	5.5	3	3					2.5	2.5	1	1
4467																																	
	1													3.6	5.4	2	2	2.6	2.6	1	1	3.0	5.5	4	4					5.6	5.6	1	1
	2									1.9	1.9	1	1					1.8	1.8	1	1					4.7	6.0	2	2	5.4	5.8	2	2
	3													2.8	2.8	1	1																
4468																																	
	2													2.0	2.0	1	1	1.6	1.6	1	1												
4564																																	
	2									2.7	3.3	2	2																				
4565																																	
	1					2.1	2.1	1	1																								
	2									1.1	2.3	2	2	3.4	3.4	1	1	4.4	4.9	2	2												

	1-20M	21-40M	41-60M	61-80M	81-100M	101-150M	151-200M	201-250M

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

APRIL		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3971																																	
	4																					58	90	2	2	106	106	1	1				
3972																																	
	1																					74	117	3	3								
	2													35	35	1	1					74	83	2	2								
	3																	30	73	3	8	89	96	3	4	90	90	1	1	80	80	1	1
	4									39	66	3	16	44	58	2	2																
3973																																	
	1									51	54	2	2	51	51	1	1																
	2					55	55	1	1																								
	3					67	67	1	1	41	72	3	4	45	49	1	1																
	4					32	74	11	33	51	51	1	1																				
3974																																	
	1	63	75	2	3	67	67	1	1																								
	2	66	99	2	3																												
	3	53	53	1	1																												
4066																																	
	4																	18	57	3	3	63	129	3	3	100	100	1	1	93	93	1	1
4067																																	
	2																					59	121	2	2	78	78	1	1	68	68	1	1
	3													44	48	2	2	30	69	6	6	43	117	3	6					80	80	1	1
	4									55	63	3	3	26	63	7	13	29	78	6	6	29	111	3	3								
4068																																	
	1																	31	71	3	3	67	101	5	5	53	70	1	1	95	95	1	1
	2									94	94	1	1	51	57	2	2	57	73	3	3	129	129	1	1	70	95	3	4	106	106	1	1
	3					56	56	1	1	29	60	3	5	12	67	4	5	29	68	2	3												
	4									51	59	2	2	30	72	6	10																
4069																																	
	1													30	38	2	2	31	46	2	3	41	105	3	4	91	107	2	2				
	2													37	44	2	2	31	45	2	2	51	109	4	4	117	117	1	1				
	3									29	67	11	24	32	82	7	11	50	59	3	3												
	4					28	60	3	3	32	55	6	8	38	54	2	2																
4070																																	
	1													126	126	1	1	132	132	1	1	54	133	3	4	108	108	1	1	67	79	2	2
	2																	52	52	1	1	44	84	3	4	78	92	2	3	71	100	2	2
	3					29	61	5	5	19	56	8	9	78	78	1	1																
	4									32	53	5	7	27	52	6	13																
4071																																	
	1													47	59	2	2	34	103	4	5	47	132	4	4	65	80	2	2	95	124	2	2
	2									52	52	1	1	42	51	3	3	26	60	3	4												
	3									46	62	4	4	29	82	6	7																
	4					54	64	2	2	44	66	3	3	29	49	2	2																
4072																																	
	1									62	62	1	1	51	61	2	2	39	41	1	2												
	2									40	69	4	5	49	49	1	1																
	3									46	50	1	1																				
	4					58	58	1	1																								
4073																																	
	1					21	68	4	7	28	70	5	6	69	69	1	1																
	2	45	89	2	3	33	62	9	12	40	48	2	3																				
	3	47	71	2	2	39	39	1	1																								
	4	46	91	2	3																												
4165																																	
	4																	54	54	1	1	51	100	4	7	60	73	3	3	62	70	2	2
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

APRIL		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	4.5	7.7	3	5	3.9	8.6	4	5								
	2									3.0	3.0	1	1	2.0	6.8	8	22	2.1	7.8	6	15	8.1	8.1	1	1								
	3																	2.1	6.5	9	21	5.0	8.6	2	2								
	4									5.2	6.0	2	2	2.8	6.1	11	21	3.9	6.5	3	4												
4167																																	
	1					3.0	5.7	3	3	2.8	11.2	8	16	1.2	6.3	9	15																
	2					3.1	6.7	7	9	2.8	6.2	6	9	5.7	5.7	1	1																
	3					6.8	6.8	1	1	2.8	6.7	10	20	3.9	6.8	7	10																
	4	5.8	6.4	1	3	3.1	6.2	5	7	3.9	6.7	8	10	3.2	5.1	2	4	4.1	4.8	2	3	5.2	5.4	1	2	5.9	6.6	2	2				
4168																																	
	1					5.7	6.3	2	2	2.9	6.8	8	9	5.6	5.6	1	1																
	2									4.0	4.5	3	3	4.1	7.1	4	4	5.6	5.6	1	1	5.2	5.3	1	1	4.3	4.3	1	1				
	3					4.1	7.2	5	5	5.6	6.6	4	4	4.5	6.0	3	4	4.2	6.2	4	10	4.0	5.3	2	2	5.0	7.3	5	5	6.6	7.2	2	2
	4													5.3	5.3	1	1	5.3	5.3	1	1	4.3	5.6	4	6	5.1	7.2	6	8				
4169																																	
	1									4.3	5.4	2	2	4.6	5.4	2	2	3.7	4.9	3	3	4.4	5.1	2	2								
	2					3.3	4.8	2	2																								
	3													3.7	3.7	1	1	5.1	5.1	1	1	3.9	3.9	1	1	4.6	7.2	5	7	6.1	6.4	1	2
	4	4.4	4.4	1	1	3.4	5.0	4	5	3.3	5.6	3	3	3.8	3.8	1	1	3.4	5.4	2	2	4.6	5.4	3	3	5.4	5.4	1	1				
4170																																	
	1	5.1	6.7	1	2	4.0	4.6	1	1	4.6	4.6	1	1																				
	2	4.0	7.6	3	5	2.7	8.1	5	13	3.9	3.9	1	1																				
	3	5.4	6.6	1	4	4.0	6.6	2	5	3.7	4.4	2	2																				
	4	4.4	8.4	3	11	4.4	7.6	1	2																								
4171																																	
	1	6.5	7.2	1	3	2.6	6.3	9	14	3.8	5.4	7	9																				
	2	3.5	7.1	3	3	2.3	6.7	6	8	3.9	6.2	3	3																				
4264																																	
	2																					10.6	10.6	1	1	9.4	9.4	1	1				
	3																					6.6	6.6	1	1								
	4																	4.9	4.9	1	1	3.2	8.5	4	6	8.2	8.3	1	1				
4265																																	
	1																					4.4	7.1	4	5					9.6	9.6	1	1
	2																	4.4	7.7	2	2	2.2	8.3	6	6	6.0	8.9	2	2	4.2	8.8	7	8
	3																	1.8	4.2	4	6	2.8	5.6	3	5	3.5	3.5	1	1				
	4													2.7	4.3	3	3	1.9	5.1	5	5	2.2	5.0	3	5	5.5	5.5	1	1				
4266																																	
	1													4.4	6.2	5	7	4.2	5.2	3	3					7.5	7.5	1	1	3.3	11.1	5	7
	2									4.0	4.0	1	1	2.8	5.6	5	6	2.8	5.9	4	5	3.9	4.8	2	2	5.1	5.1	1	1	5.0	7.9	3	3
	3																	4.0	6.2	6	7	6.7	6.7	1	1	3.6	5.5	2	2	5.4	8.3	7	9
	4																					5.1	5.1	1	1	5.8	7.2	2	3	7.6	7.7	2	2
4267																																	
	1									2.9	6.0	7	10	4.7	4.7	1	1	3.1	6.2	3	3	4.0	7.2	2	2	4.2	7.2	4	5	5.3	6.6	2	2
	2									3.9	5.6	3	3	4.4	5.1	2	2	6.9	6.9	1	1	5.6	5.6	1	1	5.7	7.2	4	6	5.3	7.3	2	2
	3																													7.5	7.8	2	2
	4																									6.8	6.8	1	1	7.2	7.2	1	1
4268																																	
	1																									5.1	7.7	6	6	5.5	7.8	4	5
	2																					3.5	5.6	3	3	4.4	7.1	5	5				
	3																					6.1	6.1	1	1					6.6	6.7	1	1
	4																					5.1	5.1	1	1	6.7	6.7	1	1	6.8	7.2	2	2
4269																																	
	1																									4.6	5.6	2	2	5.2	6.1	3	3
	2									3.4	3.4	1	1	4.4	4.9	2	2	4.3	4.3	1	1	3.8	3.8	1	1	4.7	4.7	1	1	5.2	7.2	5	11
	3																					5.0	5.0	1	1	5.3	7.1	2	2				
	4																									5.7	6.6	1	1	7.3	7.3	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

APRIL		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					44	56	3	3	31	54	6	7	19	54	3	3	28	54	2	3	50	50	1	1								
	2	39	39	1	1	14	56	13	22	34	34	1	1																				
	3									28	37	2	2	27	44	4	5	27	34	2	3	37	60	4	5								
	4					33	33	1	1	28	34	2	3	29	34	2	2																
4364																																	
	2																					39	39	1	1								
	3																					18	67	2	2	36	54	1	1				
	4																	29	29	1	1	44	59	2	2								
4365																																	
	1													28	58	2	2	17	62	2	2	18	62	2	2								
	2					34	34	1	1	34	58	2	2									42	61	2	2								
	3																	27	54	2	2												
4366																																	
	1									36	38	1	1	17	21	1	1	37	41	1	1	34	65	2	2								
	3									40	44	1	1	22	44	3	5	44	44	1	1												
	4																	34	36	2	2	32	55	3	5								
4367																																	
	2																													58	68	1	2
	3																									62	78	2	2	78	78	1	1
4368																																	
	1																									72	72	1	1				
	3																									73	81	2	2				
	4													27	27	1	1					34	65	2	2								
4369																																	
	1																									68	68	1	1				
	2																					38	40	1	1								
	3					54	54	1	1													23	51	3	4								
	4																	34	34	1	1	33	51	2	3								
4370																																	
	1																	28	32	1	1	51	51	1	1								
	2													55	55	1	1																
	3									19	45	10	16																				
4464																																	
	1									-04	00	1	2	-02	08	2	3	07	07	1	1	05	17	1	1								
4465																																	
	4	33	33	1	1					33	33	1	1					33	33	1	1	35	35	1	1								
4466																																	
	1	33	34	1	2	28	47	2	3	32	44	2	3	44	49	2	2	45	45	1	1					44	45	1	1				
	2																	49	49	1	1	46	49	2	2	55	56	2	2				
	3																	39	44	2	2	36	39	2	2	54	62	2	4	56	61	2	3
	4									14	43	2	2	44	44	2	2	27	49	3	5	47	51	3	4	44	44	1	1				
4467																																	
	1													53	53	1	1					46	46	1	1								
	3													41	41	1	1																
4468																																	
	1					23	23	1	1	19	19	1	1																				
	2					23	23	1	1	18	21	1	1																				
4564																																	
	2													32	32	1	1																
4565																																	
	1									29	34	1	3	29	39	1	2																
	2													27	29	1	2	29	31	1	2												
4566																																	
	1					22	22	1	1									35	35	1	1												
	2																	27	27	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

MAY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3972																																	
	1																					97	110	2	2								
	2													39	42	1	2	94	94	1	1	55	108	5	5	106	106	1	1				
	3													51	51	1	1	39	122	4	4	75	114	5	6	119	119	1	1	117	117	1	1
	4									33	71	4	7	38	100	5	6	46	46	1	1	82	82	1	1								
3973																																	
	1									45	73	2	2	43	46	1	2																
	2					66	81	2	2	70	77	2	2																				
	3					61	77	3	3	53	72	5	5																				
	4					41	88	11	32																								
3974																																	
	1	73	101	5	5	66	101	3	5																								
	2	85	121	3	6																												
	3	55	89	4	6																												
4066																																	
	4																	54	75	3	5	82	82	1	1	86	108	2	2				
4067																																	
	2																					72	127	5	5	92	94	1	1	128	128	1	1
	3													29	73	8	12	30	85	11	18	39	122	6	8	100	100	7	7				
	4									48	84	3	5	33	68	9	20	45	123	10	17	72	116	6	6								
4068																																	
	1													90	90	1	1	68	68	1	1	60	128	5	8	84	112	4	4	97	103	2	2
	2													53	67	2	3	40	123	5	7	77	123	3	4	68	99	2	2				
	3									58	89	5	6	51	86	8	9	47	72	9	12	66	112	5	7								
	4									55	86	5	5	52	89	11	17	39	72	5	5												
4069																																	
	1													62	74	4	4	54	111	8	11	52	122	5	9					117	117	1	1
	2													54	57	2	2	52	84	4	5	51	117	3	6								
	3					70	70	1	1	41	88	10	21	45	84	10	15	46	86	6	6												
	4					55	80	3	3	55	83	7	7	55	76	4	5																
4070																																	
	1													55	68	2	3	57	89	4	5	83	128	4	6	106	122	2	3				
	2													84	84	1	1	50	106	4	5	72	139	4	6	121	121	1	1	94	133	1	3
	3					68	89	5	6	51	88	9	13	64	67	2	2																
	4									45	78	9	17	49	62	6	9																
4071																																	
	1													50	65	3	5	47	110	8	12	56	121	3	3	120	126	2	2	107	118	2	2
	2													39	124	6	11	40	124	7	10												
	3									44	73	7	10	42	64	6	11																
	4					56	75	4	4	45	73	8	10	29	64	8	9																
4072																																	
	1									33	73	3	4	34	66	4	7	44	44	1	1												
	2					57	57	1	1	34	66	6	7																				
	3					46	57	3	3	38	67	4	4	49	49	1	1																
	4					46	57	2	2	44	64	2	2																				
4073																																	
	1					60	73	3	3	49	71	4	4																				
	2	72	72	1	1	49	88	8	15	63	63	1	1	60	60	1	1																
	3	51	80	2	2	61	66	1	1																								
	4	66	94	2	7																												
4165																																	
	4																					55	78	2	6	67	97	2	2	56	56	1	1
4166																																	
	1																	40	83	6	10	31	100	5	10								
	2													31	71	8	16	31	119	8	14	52	52	1	1								
	3													52	82	5	7	29	81	9	20	67	89	2	2								
	4									51	83	3	4	41	83	10	22	42	66	7	7												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

MAY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4167																																	
	1					8.3	8.3	1	1	5.3	9.0	6	12	4.0	8.8	11	21																
	2					6.1	9.9	4	7	6.7	9.5	5	9	5.1	9.0	6	6																
	3					8.1	8.8	2	2	5.5	8.9	8	14	5.9	6.3	2	2																
	4	6.3	8.3	1	3	6.2	9.3	6	7	4.9	9.4	5	6	4.6	4.6	1	1	4.3	5.0	1	2												
4168																																	
	1					6.7	10.1	4	5	5.9	9.0	7	16	6.6	8.9	3	3																
	2									5.1	7.9	4	6	3.9	8.3	4	8	3.8	6.6	4	6	3.9	6.6	4	4								
	3					6.6	8.2	3	3	4.9	8.8	4	4	4.9	6.8	4	4	4.5	7.8	4	5	3.9	6.0	3	5	4.4	6.8	2	4	5.2	6.5	2	4
	4																	4.3	5.9	2	2	4.4	6.6	4	5	4.1	12.2	8	20				
4169																																	
	1					4.9	7.2	2	2	3.8	7.1	5	6	4.9	6.7	3	3	3.4	5.6	5	8	3.8	6.6	4	5								
	2	7.1	7.1	1	1	4.9	7.8	5	6																								
	3													3.7	3.7	1	1	4.4	5.7	2	2	3.6	5.5	6	6	4.2	7.2	6	11	6.1	6.1	1	1
	4	5.1	5.1	1	1	3.8	7.1	5	5	3.3	6.2	6	7	4.3	4.3	1	1	6.2	6.2	1	1	2.1	6.7	4	5	3.8	6.8	4	4				
4170																																	
	1					7.3	9.3	1	3	8.4	8.8	1	1																				
	2					4.0	11.2	8	18	5.6	8.8	6	7																				
	3	6.2	7.9	2	3	3.7	6.7	2	3	4.0	4.0	1	1																				
	4	8.1	13.1	3	7	4.9	4.9	1	1																								
4171																																	
	1	5.4	11.3	2	3	4.7	11.2	12	26	4.8	8.5	9	14																				
	2	7.1	7.8	2	3	4.0	11.0	4	9	5.1	7.2	5	6																				
4264																																	
	2																					7.8	7.8	1	1								
	3																	3.9	6.7	4	4	5.0	8.4	2	4								
	4																	2.9	5.3	2	2	3.3	10.1	7	9	7.2	7.8	1	1				
4265																																	
	1																					4.1	10.0	5	6					8.3	8.3	1	1
	2																	5.3	5.5	2	2	3.9	10.6	3	3	5.9	9.7	4	4	6.0	6.2	2	2
	3																	2.2	5.6	7	8	1.0	8.7	9	13	4.4	4.9	2	2				
	4													5.2	8.2	3	3	3.7	7.3	6	11	1.7	10.0	7	8	4.8	4.8	1	1				
4266																																	
	1													4.1	4.1	1	1	3.6	6.9	6	11	6.8	6.8	1	1	6.8	7.9	1	1	7.3	8.2	2	3
	2													3.8	7.7	8	10	3.4	6.8	7	12	3.6	3.6	1	1					5.4	6.3	2	2
	3													3.9	7.2	3	4	3.6	10.0	3	4	5.0	6.4	4	4	7.5	8.5	2	2				
	4																					3.3	4.1	2	2	6.7	9.3	5	6	7.7	7.7	1	1
4267																																	
	1									4.1	8.3	8	10	3.8	7.2	6	8	3.7	7.7	6	6	4.6	4.9	2	2	6.2	7.7	2	2	5.3	5.3	1	1
	2									5.1	7.3	4	4	4.8	4.8	1	1	4.2	5.6	3	3					4.8	7.9	6	6	5.3	7.8	4	5
	3																									7.3	7.8	3	3	4.7	8.3	3	4
	4																					5.8	5.8	1	1	7.8	7.9	1	1	5.2	7.1	3	3
4268																																	
	1																									6.4	7.9	5	7	6.8	7.8	4	4
	2																					4.5	7.2	2	2	4.2	7.2	6	7	5.6	6.1	1	2
	3																									6.3	7.7	2	2	6.7	7.8	2	2
	4																									4.9	7.7	3	3	5.0	6.7	3	3
4269																																	
	1																									7.5	7.5	1	1	5.7	7.7	3	5
	2																	4.4	4.4	1	1					5.6	6.6	3	3	6.1	7.8	5	5
	3																					5.0	5.5	2	2	5.1	5.1	1	1				
	4																									6.2	6.2	1	1	6.8	7.9	3	5
4270																																	
	1					4.1	5.6	2	2	3.2	5.3	2	3	2.5	4.5	5	5	2.9	3.9	3	3	3.3	4.4	3	3								
	2					2.8	5.7	7	18	2.9	2.9	1	1	3.3	3.4	1	1																
	3													3.6	4.1	2	2	3.1	5.4	3	4	3.5	6.1	3	6	3.9	3.9	1	1				
	4	7.2	7.2	1	1	4.9	4.9	1	1	2.6	3.8	2	2	2.8	5.2	3	3	2.6	2.6	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

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DEPTH ZONE

MAY

		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4364																																	
	1																	0	4	6	6	6	9	4.4	4	4	1	1				8.8	8	8	1	1
	2													1	7	5.6	3	3	3.3	3	3	2	2	2	2	2	4	2	2	3.0	5.6	3	3				
	3																		-1.1	-1.1	1	1	2	8	5	1	3	3	8	7	8	9	2	2	9	0	9	0	1	1
	4									0	1	1.7	2	3	0.6	2	1	2	2	1.1	4	0	3	3	-0	3	6.6	4	5	3	0	3	0	1	1				
4365																																	
	1									0	3	0.3	1	1	2	3	2	3	1	1	3	4	4	7	2	3	5	6	5	6	1	1	3	4	3	4	1	1		
	2	3	4	3.9	2	2	3	3	5.2	3	5	0	8	5.5	6	7	3	4	3	4	1	1	3	3	4	8	3	3	2	1	3	7	3	4					
	3									0	5	1.2	2	2	1	1	1	1	1	1																		
4366																																	
	1					5	1	5.9	2	2	3	8	5	9	5	5	3	9	5	4	5	6	4	3	6	7	3	4	3	8	5	3	3					
	2																	3	6	5	6	4	4	4	9	7	1	6	8	6	7	7	7	3	3	7	7	7	7	1	1
	3									3	3	5	6	2	2	3	8	5	4	3	4	4	4	5	0	2	2												
	4																	3	1	5	6	4	4	4	5	6	1	5	5	7	3	7	3	1	1				
4367																																	
	1																													6	2	6	7	2	2	6	6	7	8	2	3
	2																													5	1	6	2	2	2	5	0	6	1	3	3
	3																							7	2	7	2	1	1	4	9	7	1	3	3	7	8	7	8	1	1
	4																													5	0	5	6	2	2	4	7	7	9	3	3
4368																																	
	2																							7	1	7	1	1	1	4	5	5	2	1	1	5	0	5	0	1	1
	3																													8	1	8	1	1	1						
	4													3	4	3	9	2	2					3	4	4	6	2	2	4	9	5	7	3	3						
4369																																	
	1																							6	1	6	1	1	1	5	5	6	7	2	2						
	2																							6	2	6	8	1	1	3	5	3	5	1	1						
	3																							3	1	5	6	2	2												
	4					6	6	6	6	1	1							3	3	3	3	1	1	3	5	3	5	1	1												
4370																																	
	1									5	1	5.2	2	2	3	3	3	3	1	1	2	8	2	8	2	2	2	9	5	7	2	2								
	2					5	6	5	6	1	1																														
	3					5	9	6	0	1	1	2	2	5	1	12	20																						
4464																																	
	1														0	2	1	1	2	2	0	3	2	8	2	2												
4465																																	
	4									6	0	6.0	1	1	3	9	5	6	2	2	4	4	4	4	1	1												
4466																																	
	1	4	9	6	2	2	2	4	9	7	7	1	4	4	4	6.6	1	4	4	6	4	6	1	1	4	2	5	9	3	3	4	6	4	6	1	1	4	6	5	1	2	2
	2									3	9	4	3	2	2							3	5	6	2	6	7	4	4	5	4	1	2	5	1	6	8	4	6		
	3																					3	8	4	4	1	2	3	4	4	9	2	2	4	9	9	6	2	2		
	4														4	9	4	9	1	1	0	6	5	1	2	2	5	1	5	2	2	2	3	4	5	4	4	4	4	9	4	9	1	1
4467																																	
	1																		3	9	3	9	1	1	4	1	5	7	3	4	4	7	7	6	3	3	6	6	6	6	1	1
	2														3	9	3	9	1	1							4	8	4	8	1	1	5	0	5	3	2	2	5	2	6	7	3	3
	3					4	4	4	4	1	1				5	6	5	6	2	2																						
4468																																	
	1					6	1	6	1	1	1																														
	2					4	4	4	4	1	1											4	1	4	1	1	1												
4565																																	
	1									6	2	6	4	1	1	3	9	5	5	2	2	3	8	3	8	1	1												
	2									5	4	5	4	1	1	2	4	5	0	2	2	3	7	4	9	2	2												
4566																																	
	1					4	2	4.2	1	1								3	9	3	9	1	1	3	3	4	4	2	3												
	2					3	7	3	7	1	1											3	0	3	0	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

JUNE		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																									9.1	11.4	1	1				
3971																																	
	4																					10.7	10.7	1	1								
3972																																	
	1																					11.2	11.3	1	1								
	2													5.5	7.4	2	2	6.9	7.6	2	2	10.0	10.7	4	4	12.4	12.4	1	1				
	3													4.6	7.1	3	4	5.3	7.2	3	3	7.9	11.5	3	4	10.9	10.9	1	1				
	4									3.5	5.6	6	12	4.2	6.0	4	7	6.8	6.8	1	1	9.5	9.5	1	1								
3973																																	
	1									5.7	7.1	2	2	5.0	6.0	2	2	4.1	4.1	1	1												
	2					6.9	7.8	3	3	6.8	6.9	2	2																				
	3									5.0	6.1	3	4	6.1	7.5	2	2																
	4					6.3	12.2	10	30																								
3974																																	
	1	8.8	17.8	3	4	8.8	10.7	2	3																								
	2	9.8	18.9	3	3																												
	3	13.6	18.3	1	1	9.0	9.0	1	1																								
4066																																	
	4																	6.5	6.6	1	1	6.7	12.8	4	5	11.7	12.8	2	2				
4067																																	
	2																					10.8	11.8	3	4								
	3													5.6	6.6	2	2	5.6	12.8	6	9	6.8	6.8	1	1	9.4	11.2	2	2				
	4									6.9	8.9	3	4	5.9	8.2	6	10	5.8	12.1	5	6	10.2	11.2	2	2								
4068																																	
	1																	8.8	8.8	1	1	6.8	11.9	6	6	12.1	12.1	1	1	9.1	9.1	1	1
	2													7.6	7.6	1	1	6.4	9.1	3	3	10.7	14.2	1	1	7.9	11.4	2	2				
	3									7.0	11.6	8	9	5.3	9.4	7	7	6.7	9.0	5	5	10.3	10.3	1	1								
	4									6.1	10.5	5	5	5.9	10.1	11	19	6.8	7.7	2	2												
4069																																	
	1													7.2	12.3	5	6	5.8	11.7	5	6	6.1	12.1	3	3	11.0	11.0	1	1	9.4	9.4	1	1
	2													6.7	10.2	6	9	4.1	10.3	7	12	7.7	13.8	7	9	9.5	9.5	1	1				
	3									4.9	10.5	10	22	5.2	9.4	8	11	7.3	8.8	4	4												
	4					8.6	9.4	2	4	7.2	11.6	6	10	4.1	10.5	8	8																
4070																																	
	1													6.3	9.7	4	5	5.9	8.8	5	8	6.6	12.9	6	7	9.1	12.8	4	6	9.4	10.4	2	2
	2													4.1	6.2	1	2	6.0	10.5	5	7	5.9	12.3	7	12	10.1	10.6	2	2	7.7	8.9	1	2
	3					8.2	12.2	4	6	6.6	12.3	8	11	6.6	9.4	5	6																
	4									4.9	10.0	10	16	3.8	8.6	6	8																
4071																																	
	1													5.7	6.1	2	2	4.1	10.4	9	14	6.4	12.2	6	11	9.3	12.3	5	6	9.3	9.3	1	1
	2													5.0	7.3	4	5	4.6	9.8	3	4	6.2	6.2	1	1								
	3									4.4	9.4	10	14	4.3	9.4	10	13																
	4					6.7	7.2	3	3	4.6	9.8	5	6	3.9	5.7	5	7																
4072																																	
	1									5.3	5.7	2	3	5.3	5.9	2	2																
	2									4.1	6.1	4	6	3.9	4.8	2	2																
	3					6.1	9.2	2	2	5.5	7.7	3	3	5.7	5.7	1	1																
	4					6.2	6.3	1	1	4.0	5.6	4	4																				
4073																																	
	1					5.4	7.6	3	3	5.9	6.1	2	2																				
	2					6.9	8.2	3	6	5.3	5.3	1	1																				
	3	11.2	11.2	1	1	9.6	9.6	1	1																								
4165																																	
	4																					5.1	8.3	2	3	6.2	9.4	2	3				
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

JUNE		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1													5.8	5.8	1	1	5.7	7.1	6	7	6.0	9.4	4	4	11.1	11.1	1	1				
	2													4.1	9.2	7	11	5.7	7.5	5	7												
	3													7.8	8.9	3	4	6.1	7.7	5	6	6.1	7.2	2	2								
	4													7.0	9.4	8	14	6.7	8.3	3	4												
4167																																	
	1									8.2	11.6	8	11	5.1	9.0	6	8																
	2					9.9	10.6	5	6	7.1	10.7	6	9																				
	3									7.7	10.7	5	5	7.5	9.8	3	3																
	4	9.4	9.9	1	3	9.2	11.9	5	6	8.3	11.4	3	4	4.4	10.6	4	4					5.6	5.6	1	1								
4168																																	
	1					7.8	11.7	3	3	8.4	17.2	9	12					5.6	5.6	1	1												
	2									9.2	9.9	4	4	5.1	10.1	10	11	4.0	8.4	6	6	3.8	5.5	4	7	3.8	4.0	1	2				
	3					8.0	12.2	4	4	6.6	11.6	6	8	4.2	8.8	7	7	4.1	4.4	2	2	3.9	5.9	3	3	6.8	6.8	1	1	6.4	6.4	1	1
	4																	3.1	3.1	1	1	3.2	6.2	4	6	3.8	6.1	3	4				
4169																																	
	1					6.6	7.4	2	2	5.1	6.1	3	3	2.5	8.2	3	4	2.8	8.9	5	6	3.9	6.6	4	6	4.9	5.0	1	1				
	2					5.8	9.9	6	7																								
	3																	5.1	5.1	1	1	2.4	5.0	3	3	4.5	6.7	3	3	5.6	5.6	1	1
	4	11.1	11.1	1	1	6.2	12.3	3	3	3.9	5.7	3	3	3.9	4.8	2	2	3.2	5.3	4	5	3.3	6.0	3	3	4.2	5.5	2	2				
4170																																	
	1	16.1	18.3	2	2	9.4	13.3	2	3																								
	2	10.1	16.9	3	3	7.8	17.8	11	16	4.9	9.3	13	18																				
	3	12.9	16.1	1	1	8.1	12.9	2	2	5.1	7.8	2	2																				
	4	13.3	18.3	3	5	9.4	10.6	1	1																								
4171																																	
	1	10.7	12.7	2	5	6.6	13.6	13	24	5.8	13.2	11	18																				
	2	11.1	15.3	3	5	8.3	15.0	8	18	3.4	15.0	11	18																				
4264																																	
	2																					3.9	3.9	1	1								
	3																	2.3	2.3	1	1	3.6	3.6	1	1	6.2	6.2	1	1	10.8	10.8	1	1
	4																					4.3	4.3	1	1	7.2	7.8	1	3				
4265																																	
	1																					2.3	11.7	3	3								
	2																	3.9	5.6	1	2	4.5	11.8	5	6	7.3	7.3	1	1	6.6	7.3	1	2
	3																	2.9	4.5	3	4	2.1	6.1	4	5	4.4	4.4	1	1				
	4													6.1	6.2	1	1	4.2	6.2	3	6	2.9	5.7	4	5	4.6	4.6	1	1				
4266																																	
	1																	5.2	6.1	3	4	6.1	6.1	1	1					6.1	7.7	3	5
	2													6.5	10.4	4	4	5.3	7.2	4	5	7.1	7.7	1	2								
	3									6.2	6.3	1	2	4.3	6.2	3	3					5.1	6.7	3	4					5.6	7.7	2	2
	4																					6.7	6.7	1	1	7.7	8.2	2	2	7.7	7.7	1	1
4267																																	
	1									4.9	11.2	5	7	3.4	10.5	4	5					5.0	5.1	2	2								
	2									8.9	8.9	1	1													6.8	6.8	1	1	4.8	7.5	4	4
	3																													5.7	7.3	2	2
	4																													6.2	7.2	3	3
4268																																	
	1																									4.2	7.2	2	2	6.6	7.7	2	2
	2																									4.9	6.7	4	4	5.2	5.8	1	1
	3																									6.3	7.3	3	4	5.3	6.8	2	2
	4																									5.0	5.3	2	2	4.5	6.6	3	3
4269																																	
	1																									6.8	6.8	1	1	6.4	6.6	1	1
	2													4.5	4.5	1	1					4.4	5.9	3	3					6.2	6.3	2	2
	3																									3.9	5.5	3	3	6.6	6.6	1	1
	4																									4.6	4.6	1	1	6.8	6.8	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

JUNE

		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					31	60	4	8	33	43	2	3	33	38	3	3	32	41	2	2	49	56	2	2								
	2					28	67	8	16					38	38	1	1																
	3					39	39	1	1	28	30	2	2	31	33	2	2	34	34	1	1	29	39	1	1	50	50	1	1				
	4					38	47	2	3	33	78	3	6	33	39	3	3	32	32	1	1	27	27	1	1								
4364																																	
	1																	19	50	2	3	34	48	2	2	83	83	1	1				
	2													41	41	1	1	16	42	2	2	28	62	3	3								
	3																	29	29	1	1												
	4									26	26	1	1	32	32	1	1																
4365																																	
	1																					39	39	1	1								
	2									70	72	1	1	57	57	1	1	50	57	3	3	51	51	1	1								
4366																																	
	1									72	101	2	2					56	56	1	1												
	2																	56	60	2	2	56	56	1	1	63	72	2	2				
	3													61	71	2	2					56	56	1	1								
	4																	59	70	2	2	52	60	2	3	64	67	1	2				
4367																																	
	1																									58	72	2	3	61	73	2	2
	2																									65	65	1	1	40	77	2	3
	3																									56	56	1	1	59	63	1	3
	4																									63	63	1	1	61	71	2	2
4368																																	
	1																									44	66	1	3	51	62	1	3
	2																					39	67	2	2	53	64	1	2	51	51	1	1
	3																					50	56	2	2	64	68	2	3	49	67	2	3
	4																	45	45	1	1	34	45	2	3	49	50	1	1				
4369																																	
	1																									40	57	2	3				
	2																					34	44	2	3	51	51	1	1				
	3					77	77	1	1					38	38	1	1					38	39	1	1	46	46	1	1				
	4													36	36	1	1					39	39	1	1								
4370																																	
	1									48	48	1	1					34	34	1	1	33	33	1	1	28	45	2	3				
	2					58	58	1	1									33	33	1	1												
	3					63	63	1	1	36	67	9	18																				
4464																																	
	1																	18	18	1	1												
4465																																	
	4																	55	60	1	1												
4466																																	
	1													55	55	1	1	72	72	1	1					38	72	3	3				
	2									66	66	1	1					60	71	2	2	56	71	4	4	62	62	1	1	62	62	1	1
	3																	44	44	1	1	57	57	1	1	57	64	2	2				
	4													44	44	1	1					66	66	1	1	35	62	2	2				
4467																																	
	1																					56	62	2	2	66	66	1	1				
	2																													60	72	2	2
4468																																	
	1					74	74	1	1									57	57	1	1					61	61	1	1				
	2									40	40	1	1																				
4565																																	
	1													56	56	1	1																
	2																	49	49	1	1												
4566																																	
	1																					44	44	1	1								

1-20M | 21-40M | 41-60M | 61-80M | 81-100M | 101-150M | 151-200M | 201-250M

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

JULY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3971																																	
	4																					10.5	10.5	1	1					8.9	8.9	1	1
3972																																	
	1																					7.8	7.8	1	1	9.0	11.8	2	2				
	2													5.0	7.1	2	3	7.1	8.6	2	2	6.3	12.3	3	4	8.4	8.4	1	1				
	3													7.2	11.2	2	2	5.7	10.6	3	3	8.8	11.2	3	3	7.8	7.8	1	1	9.8	9.8	1	1
	4									4.0	5.1	2	3	4.5	11.9	4	8	4.6	6.4	2	3												
3973																																	
	1					7.2	9.3	1	4	6.1	9.4	4	6	5.0	9.0	4	5	8.8	8.8	1	1												
	2					8.6	8.9	2	5	5.2	8.4	3	4																				
	3					4.5	9.1	4	5	5.6	7.3	2	6	6.1	6.1	1	1																
	4					6.9	11.5	11	36	8.7	8.7	1	1																				
3974																																	
	1	7.9	21.0	3	4	7.9	9.3	2	3																								
	2	8.4	20.1	2	2																												
	3	6.7	20.3	2	2	11.8	11.8	1	1																								
4066																																	
	4													6.7	7.1	2	2	12.9	12.9	1	1	8.9	11.8	2	2					8.0	9.1	2	2
4067																																	
	2																					7.3	7.3	1	1								
	3													5.2	11.4	4	6	4.2	13.3	2	4	12.4	12.4	1	1	11.8	11.8	1	1				
	4									7.0	12.5	2	3	6.1	10.9	3	4	5.7	10.0	4	5												
4068																																	
	1																					10.2	12.1	2	2								
	2													9.9	9.9	1	1	6.7	6.7	1	1	12.8	13.2	1	1								
	3									8.9	14.5	3	4	6.9	11.6	3	4	5.7	7.3	2	2												
	4					15.1	15.1	1	1	14.9	14.9	1	1	7.7	11.2	5	5	11.1	11.1	1	1												
4069																																	
	1																	8.2	12.8	2	4	11.7	11.7	1	1								
	2													8.6	10.1	3	4	9.4	12.2	2	4	11.1	11.1	1	1								
	3									6.0	14.4	10	20	7.8	10.0	3	3	9.0	11.2	3	3												
	4	15.9	15.9	1	1	12.8	13.6	2	2	8.0	11.2	3	3	8.3	9.7	2	2																
4070																																	
	1													7.2	10.8	4	6	6.2	12.3	4	5	7.9	12.2	4	5	10.3	10.3	1	1	6.7	7.7	1	1
	2													6.3	7.9	2	2	6.6	10.1	3	6	6.3	11.8	4	9	9.7	10.0	2	2	6.2	9.4	2	4
	3	14.4	14.4	1	1	10.0	15.7	3	3	8.2	10.4	4	6	6.1	7.8	5	6																
	4									5.7	9.2	5	12	5.7	8.9	4	8																
4071																																	
	1													4.9	8.7	4	4	5.2	11.8	9	12	9.6	13.0	5	5	11.6	11.6	1	1	9.4	9.4	1	1
	2									4.9	4.9	1	1	5.0	5.0	1	1	5.9	9.4	3	3												
	3									5.3	8.4	7	9	5.2	9.3	7	8																
	4					8.9	10.3	3	4	4.4	7.9	5	7	4.7	7.3	4	4																
4072																																	
	1									4.7	5.5	2	3	4.8	5.4	2	2																
	2									6.1	7.0	3	3																				
	3					8.9	9.9	1	1	5.7	8.1	3	3																				
	4	19.0	19.0	1	1	5.8	9.7	3	3	6.9	8.1	3	3																				
4073																																	
	1					4.8	13.8	3	7	4.4	6.9	4	10					6.0	6.2	1	1												
	2	4.9	19.2	2	3	5.5	12.8	8	14	5.8	7.8	1	4	6.8	6.8	1	1																
	3	16.3	16.3	1	1	9.9	10.4	1	1																								
	4	16.4	16.7	1	1																												
4165																																	
	4																					5.9	9.2	5	5	5.2	5.2	1	1	6.9	6.9	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

JULY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	30	86	4	6	87	87	1	1	88	88	1	1	63	63	1	1
	2									66	89	2	2	56	98	3	6	42	63	3	3												
	3													32	89	4	7	38	82	7	13	41	71	4	4								
	4													62	126	5	12	69	79	2	2												
4167																																	
	1					131	131	1	1	83	142	5	10	84	127	3	3																
	2					123	177	6	7	91	179	3	5	97	97	1	1																
	3					139	168	2	2	100	127	4	5	99	122	2	2																
	4					111	172	3	4	83	148	5	6	74	81	2	2	56	56	1	1	32	32	1	1								
4168																																	
	1					168	168	1	1	107	159	4	7	82	150	2	2																
	2									106	154	4	4	69	111	2	3	32	107	4	5	29	67	3	4								
	3					112	173	4	5	79	160	5	7	63	123	3	5	61	72	2	2	31	40	1	1	49	66	4	5	51	66	4	4
	4																					32	51	2	4	39	62	4	5				
4169																																	
	1					68	68	1	1	48	67	1	2	32	104	2	3	54	55	1	1	30	33	2	2	34	34	1	1				
	2					44	116	4	4	90	117	2	2	61	61	1	1																
	3																	38	38	1	1	28	28	1	1	33	62	2	6	57	57	1	1
	4					56	111	3	3	38	69	5	5	38	54	2	2	33	44	2	2	30	78	3	3	38	61	4	4	51	57	2	2
4170																																	
	1					129	145	1	1																								
	2	156	201	3	6	84	200	11	14	62	101	8	10																				
	3	83	156	2	2	51	206	6	10	161	161	1	1																				
	4	174	217	5	10	204	204	1	1																								
4171																																	
	1	132	189	5	5	84	178	11	19	71	161	5	7																				
	2	149	149	1	1	90	181	6	9	87	140	4	5																				
4264																																	
	3																					21	39	1	1								
	4																	32	32	1	1	28	57	3	3								
4265																																	
	1																					31	66	2	2	86	86	1	1	91	91	1	1
	2																	60	112	2	2	67	88	3	3	50	71	2	2	45	67	2	3
	3																	39	88	4	4	34	88	4	6	37	43	2	2				
	4													54	54	1	1	36	89	5	7	56	95	4	6								
4266																																	
	1													29	31	1	1	13	77	4	5	72	72	1	1	52	59	2	2	58	89	3	4
	2									99	99	1	1	36	99	4	7	30	78	5	8					61	72	2	2				
	3									72	72	1	1	49	66	4	4					60	93	2	2	56	88	5	5	83	83	1	1
	4																					71	71	1	1	62	89	2	4				
4267																																	
	1					105	105	1	1	61	132	6	7	21	100	3	4	30	56	2	2					50	64	1	1				
	2									72	72	1	1					56	56	1	1	39	56	3	3	56	70	3	4	60	73	2	2
	3																													64	83	3	3
	4																									83	83	1	1	71	71	1	1
4268																																	
	1																									47	66	4	5	46	67	4	4
	2																									43	56	2	2	56	63	2	2
	3																					50	76	2	2	59	66	2	3				
	4																					77	77	1	1	57	62	1	1	62	62	1	1
4269																																	
	1																									49	60	2	2	57	67	2	3
	2					53	53	1	1									38	44	2	2	44	44	1	1	61	61	1	1	49	71	3	4
	3													61	65	1	1									52	63	3	3	56	71	3	3
	4																									56	56	1	1	46	59	2	2
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

JULY		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					39	68	6	8	28	69	5	5	29	60	6	7	34	38	2	2	53	56	2	2								
	2					46	74	8	15																								
	3									46	54	2	2	26	51	4	4	39	39	1	1	29	57	5	6	45	51	2	2				
	4					44	62	2	2	33	57	3	8	06	53	4	8	36	37	1	2	38	38	1	1								
4364																																	
	1																	15	23	2	2					57	57	1	1				
	2													33	33	1	1	57	57	1	1												
	3																	36	36	1	1	84	84	1	1	43	43	1	1	58	68	2	2
	4																	22	34	2	2	42	47	2	2								
4365																																	
	1									38	38	1	1					44	64	3	3					29	30	1	1				
	2	87	87	1	1	56	77	2	2									49	73	3	3												
	3									27	27	1	1																				
4366																																	
	1					93	93	1	1	84	84	1	1	73	73	1	1	58	107	3	3	66	105	2	2								
	2																	69	69	1	1	73	79	2	2	60	73	2	2				
	3													65	79	3	3	52	61	1	1												
	4																	71	84	2	3	69	77	1	1	54	67	2	2				
4367																																	
	1																													77	82	1	1
	2																									60	68	2	2	56	66	4	4
	3																									57	73	2	3	67	68	2	2
	4																									62	62	1	1	57	67	2	2
4368																																	
	1																									53	58	2	2	50	50	1	1
	2																					44	44	1	1	50	61	2	2				
	3																									50	62	3	3	59	59	1	1
	4													62	62	1	1	72	72	1	1	55	66	2	4	57	68	2	3				
4369																																	
	1																									40	55	2	3				
	2																					47	56	2	2	47	56	2	2	59	59	1	1
	3	104	110	1	1	95	95	1	1													48	48	1	1								
	4	100	212	1	2	82	213	1	2									38	38	1	1	36	37	2	2	45	45	1	1				
4370																																	
	1													51	53	2	2	32	53	2	2	38	52	4	4								
	3					101	111	2	2	38	97	12	19																				
4464																																	
	1																	38	38	1	1	22	27	1	1								
4465																																	
	4													94	94	1	1	83	86	1	1												
4466																																	
	1																	78	78	1	1												
	2																					50	82	2	2	50	72	2	2				
	3																	79	84	1	2	67	67	1	1	66	66	1	1				
	4													89	89	1	1	74	93	1	2	73	78	1	3	71	71	1	1				
4467																																	
	1									63	63	1	1									51	51	1	1	51	51	1	1				
	2																	60	60	1	1												
	3													69	69	1	1	69	84	2	2												
4468																																	
	1	87	87	1	1	98	98	1	1	70	70	1	1									59	74	2	2								
	2	90	121	1	1	71	110	1	2	71	86	2	4	72	72	1	1																
4565																																	
	1									116	117	1	1	101	114	3	3																
	2									110	117	1	1	101	104	1	2	93	94	1	2												
	3					114	114	1	1					88	89	2	2	77	77	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

AUGUST		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																									8.7	9.9	2	2	8.1	11.4	2	2
3971																																	
	3																													8.0	8.0	1	1
	4																	6.6	6.6	1	1	9.7	12.8	3	3	10.6	12.7	1	2	7.9	9.0	1	1
3972																																	
	1																					9.9	12.5	3	3	10.7	10.7	1	1	7.1	7.1	1	1
	2													4.1	7.3	2	2					9.3	11.2	2	3								
	3													5.4	5.4	1	1	3.9	11.3	2	2	7.0	12.1	4	5	9.7	12.2	2	2				
	4									4.6	8.4	4	6	4.1	10.2	5	6	7.2	7.2	1	1												
3973																																	
	1					6.7	6.7	1	1	5.7	5.7	1	1	4.9	8.6	2	2																
	2									6.0	6.0	1	1																				
	3					5.8	12.2	6	9	5.0	10.4	6	7	6.3	9.5	2	2																
	4					6.9	20.0	13	43	7.2	7.2	1	1																				
3974																																	
	1	11.6	13.4	2	3	7.8	11.9	2	2																								
	2	13.7	15.4	2	2																												
	3	9.6	18.1	4	5																												
4066																																	
	4																	8.1	13.4	4	5	5.9	12.2	2	5	6.1	11.8	2	4	10.5	10.5	1	1
4067																																	
	2																					8.9	12.2	5	5	9.0	10.4	2	2				
	3													8.8	8.8	1	1	6.5	12.2	6	10	6.8	12.2	7	9					9.9	9.9	1	1
	4									11.7	14.0	3	3	7.2	11.1	5	6	6.1	10.7	4	5	8.6	11.1	3	3								
4068																																	
	1																	7.8	10.8	4	4	7.2	11.6	6	7	8.1	10.4	3	3				
	2													7.7	11.1	2	2	7.2	11.2	5	6	9.4	11.8	4	4	8.0	11.4	4	4				
	3									8.3	15.0	6	6	9.3	12.8	2	2	7.6	10.0	5	7	8.8	8.8	1	1								
	4									12.7	15.6	3	3	8.1	12.9	8	9	8.8	8.8	1	1												
4069																																	
	1													7.7	10.0	5	6	8.3	12.2	7	8	8.0	12.5	5	8	8.1	11.8	3	3	8.2	8.2	1	1
	2													7.8	10.7	5	6	7.7	10.8	5	6	8.0	13.3	6	8								
	3					14.2	14.2	1	1	7.7	16.7	14	27	8.1	12.9	7	10	8.9	12.8	5	5												
	4					10.9	15.7	7	7	9.2	14.0	7	8	7.2	12.1	5	7																
4070																																	
	1													6.8	8.9	4	4	7.6	10.9	5	6	9.8	12.5	8	10	9.1	11.7	3	3	7.3	11.0	2	2
	2													7.3	11.7	4	6	5.8	12.2	6	10	7.7	13.5	6	17	6.6	11.7	4	6	8.7	10.6	3	3
	3					9.2	16.8	4	5	6.3	13.4	10	17	6.3	10.0	9	11																
	4									5.3	10.2	14	20	7.3	12.2	8	11																
4071																																	
	1													7.1	10.6	4	5	5.0	11.8	11	13	8.3	12.9	8	9	11.0	11.0	1	1	7.8	7.8	1	1
	2													3.8	11.0	5	6	7.2	13.1	5	6												
	3									4.0	12.9	9	18	5.9	12.8	10	14																
	4					8.6	12.1	8	8	5.6	12.1	11	17	5.1	10.9	9	11																
4072																																	
	1									5.1	6.2	2	2	4.7	5.6	2	2																
	2					6.1	11.1	2	2	4.5	11.1	7	8																				
	3	18.7	19.0	1	1	7.7	14.6	4	5	5.9	11.2	7	8																				
	4	19.4	19.4	1	1	9.4	18.6	2	2	5.2	10.8	4	4																				
4073																																	
	1					6.6	16.3	6	10	5.9	10.3	3	4																				
	2	12.2	15.4	3	5	5.8	21.1	11	20	5.4	9.3	5	8	6.6	7.8	1	2																
	3	19.1	20.3	3	4	9.2	17.8	3	3																								
	4	11.8	18.6	4	6	13.1	18.8	2	2																								
4165																																	
	4																					6.9	8.4	3	3	7.8	7.8	1	1				
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

AUGUST		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	77	122	5	5	52	138	7	10	71	88	2	2				
	2													71	112	4	5	56	127	6	8	112	112	1	1								
	3													95	95	1	1	52	134	9	22	67	88	2	2								
	4													94	141	5	14	99	134	2	3												
4167																																	
	1					139	139	1	1	108	160	7	8	90	143	4	5																
	2					126	179	7	8	101	179	7	10	92	127	2	2																
	3					168	168	1	1	115	177	8	11	131	134	2	2																
	4	149	162	1	4	84	177	3	4	173	173	2	2	52	60	2	2	89	96	2	2	82	82	1	1	63	63	1	1				
4168																																	
	1					143	172	3	3	120	167	5	9	104	118	2	2																
	2									130	161	6	7	71	149	3	5	45	83	4	4	39	54	2	3								
	3					158	178	2	2	99	156	4	4	69	69	1	1					45	50	2	2	42	62	3	3	45	66	4	4
	4																					39	57	3	3	38	67	6	7	59	59	1	1
4169																																	
	1					92	128	2	3	41	118	9	16	48	118	4	4	51	97	3	4	33	41	1	1	39	54	4	5				
	2					77	144	6	9	143	143	1	1																				
	3													57	57	1	1	49	51	2	2	48	48	1	1	42	62	5	6	46	46	2	2
	4	82	82	1	1	33	82	6	6	51	72	7	7	50	57	4	5	33	56	4	4	34	61	5	6	50	50	1	1				
4170																																	
	1					117	184	5	8	104	104	1	1																				
	2	158	220	7	11	100	205	10	18	90	112	6	6																				
	3	153	153	1	1	50	173	8	13	79	94	2	2																				
	4	60	224	8	9	106	106	1	1																								
4171																																	
	1	175	194	3	4	101	178	11	30	79	144	10	16																				
	2	169	199	5	5	90	197	10	19	86	177	6	11																				
4264																																	
	3																	54	62	1	2	68	68	1	1								
	4																					59	77	1	1								
4265																																	
	1																					43	94	2	2								
	2																	56	89	3	5	51	103	6	11					68	83	2	4
	3																	39	73	5	6	29	77	4	4	44	58	2	2				
	4																	29	99	6	9	19	84	6	7	56	56	1	1	68	68	1	1
4266																																	
	1													106	121	2	2	72	106	2	6	50	50	1	1	69	69	1	1	57	75	4	4
	2													48	105	5	5	57	57	1	1	41	72	2	2	50	50	1	1	59	72	3	3
	3									72	96	2	5	50	94	3	6	56	80	2	2	56	75	2	4	61	73	2	3	60	78	3	4
	4																													62	82	4	5	61	71	3	3
4267																																	
	1									54	110	3	3	53	130	2	3	58	131	3	3	50	102	4	5	71	71	1	1				
	2									89	89	1	1	62	69	1	1	62	79	3	3					48	66	3	3	49	77	5	6
	3																									54	54	1	1	55	77	3	3
	4																									55	59	2	2	49	60	3	3
4268																																	
	1																									47	66	4	5	46	67	4	4
	2																					45	45	1	1	49	61	4	4	49	66	3	3
	3																									48	68	3	4	58	68	2	3
	4																									50	52	2	2	56	57	1	1
4269																																	
	1																									51	60	1	1	50	67	4	4
	2													58	58	1	1	51	51	1	1	46	57	2	2	51	51	1	1	50	89	5	5
	3													46	61	2	2									46	58	3	3	49	71	4	4
	4																					38	38	1	1								
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

AUGUST		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					89	89	1	1	51	94	4	5	44	61	6	6	40	49	2	2	34	61	3	3								
	2					55	86	8	14	59	59	1	1	68	68	1	1																
	3									40	68	3	3	37	61	3	3	40	73	4	5	33	67	4	5	51	51	1	1				
	4									54	54	1	1	52	60	2	2	47	49	2	2												
4364																																	
	1																	39	51	2	4	51	83	1	1	84	89	2	2				
	2													41	41	1	1	42	44	1	1	51	66	2	3	62	62	1	1				
	3																	28	39	2	2	49	49	1	1	90	92	1	1				
	4									18	18	1	1	28	39	3	3	31	47	2	2	58	67	2	2								
4365																																	
	1					36	36	1	1	37	37	1	1	27	27	1	1	27	56	2	2	41	58	2	2	55	55	1	1				
	2					77	99	2	2	48	78	2	2	49	49	1	1	61	84	3	3	44	44	1	1								
4366																																	
	1									72	99	3	3	72	104	3	4	67	96	3	3	49	88	4	4								
	2																	71	89	2	2	59	89	2	2								
	3					111	111	1	1	102	106	1	2	88	97	3	5	80	96	4	4	109	109	1	1								
	4																	84	95	3	5	66	87	4	5	93	93	1	1				
4367																																	
	1																									62	62	1	1				
	2																									53	53	1	1	47	66	2	2
	3																					50	50	1	1	48	48	1	1	51	72	2	2
	4																													51	53	1	2
4368																																	
	1																									48	68	3	3	66	66	1	1
	2																									48	68	2	3				
	3																					77	77	1	1								
	4													82	82	1	1									52	72	2	2				
4369																																	
	1																									41	47	1	1				
	2																					41	41	1	1	53	53	1	1				
	3																					47	60	1	1								
	4													70	70	1	1																
4370																																	
	1									81	81	1	1	56	56	1	1	50	50	1	1	33	40	1	1								
	2					78	78	1	1	61	61	1	1																				
	3									64	94	9	18																				
4464																																	
	1					44	44	1	1	34	34	1	1	33	33	1	1	33	33	1	1	44	46	1	2								
4466																																	
	1									95	95	1	1	94	94	1	1	64	99	5	6	87	90	2	2	58	103	2	4	82	82	1	1
	2																	82	95	4	4	57	97	5	5	55	99	2	3	96	96	1	1
	3																					65	87	5	7	60	92	3	3				
	4													72	72	1	1	68	98	3	4	71	104	4	5	59	61	1	1				
4467																																	
	1																					77	80	1	1	74	74	1	1	81	81	1	1
	2													82	82	1	1	72	72	1	1					47	47	1	1				
	3																	89	107	2	2												
4468																																	
	2	73	93	1	2																												
4566																																	
	1									95	95	1	1	93	93	1	1																
	2					98	98	1	1	98	98	1	1																				
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

SEPTEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3971																																	
	4																					11.9	11.9	1	1								
3972																																	
	1																					12.0	12.0	1	1	11.3	11.3	1	1	12.2	12.2	1	1
	2													7.9	8.4	1	2	11.7	11.9	1	2	10.5	10.6	1	2	5.3	11.1	2	2				
	3													8.6	9.2	2	2	6.5	12.2	5	5	8.9	12.7	4	4	10.9	10.9	1	2	9.1	11.6	2	2
	4									5.7	15.1	7	9	4.9	12.4	5	7	11.0	11.0	1	1	9.9	11.2	3	3								
3973																																	
	1					17.3	17.3	1	1	7.5	7.5	1	1	5.9	8.8	3	3																
	2					15.3	16.2	1	1	14.3	15.3	1	1																				
	3					7.7	19.3	5	7	6.1	10.5	4	4	6.7	16.8	3	3																
	4					8.2	20.6	12	38	8.1	17.5	3	3																				
3974																																	
	1	17.9	19.0	1	1	17.7	17.7	1	1																								
	2					8.9	8.9	1	1																								
	3	16.9	20.7	2	2	16.6	20.3	3	3																								
4066																																	
	4													11.2	11.6	2	3	7.0	12.8	5	6	9.6	12.7	2	2	10.1	10.1	1	1				
4067																																	
	2																					10.6	10.8	1	1	11.0	12.9	2	2	8.6	11.0	1	2
	3													7.2	10.8	3	5	5.6	13.9	5	8	10.2	14.4	4	4	9.3	9.3	1	1	8.8	8.8	1	1
	4									12.8	15.5	3	3	9.1	14.4	4	7	6.3	13.3	6	11	6.8	13.9	6	8	10.6	10.6	1	1				
4068																																	
	1													10.3	10.3	1	1					10.3	11.8	3	3	10.3	11.1	2	2	10.4	10.4	1	1
	2													9.5	12.8	2	2	8.4	12.7	3	5	10.4	12.9	4	4	7.7	8.2	3	3	7.6	7.6	1	1
	3					14.3	14.3	1	1	15.4	16.9	1	1	8.9	14.4	3	4	9.0	13.2	4	5	10.3	13.4	2	2								
	4									12.2	17.3	3	4	10.2	15.6	6	10	7.0	14.3	6	7												
4069																																	
	1													10.1	12.7	2	3	10.4	12.3	3	4	10.8	10.8	1	1								
	2													7.8	11.6	3	3	7.2	13.2	5	6	9.0	12.7	5	5	11.0	11.8	2	2				
	3					14.0	14.0	1	1	9.9	13.9	11	17	7.6	14.3	6	12	7.6	12.8	2	2												
	4					15.5	16.6	1	1	9.2	14.6	5	8	7.2	12.5	6	8																
4070																																	
	1													8.9	10.5	3	4	8.9	10.7	4	5	10.4	12.7	4	5	11.2	11.4	2	2	9.3	9.3	1	1
	2													9.3	11.2	3	4	7.4	12.2	5	7	8.1	12.9	6	8	10.9	11.2	2	2	9.7	9.7	1	1
	3					13.4	16.9	3	5	9.9	14.2	8	11	9.4	13.3	6	6																
	4									9.1	12.1	7	10	7.5	11.1	8	11																
4071																																	
	1													8.3	11.8	6	6	8.1	11.6	10	14	9.6	14.2	6	7	10.0	10.8	2	2	10.3	10.3	1	1
	2													7.6	9.4	4	6	7.1	12.2	6	7												
	3									6.7	12.6	7	13	6.7	12.2	9	13																
	4					10.4	13.6	2	2	6.1	13.2	12	18	5.9	12.4	7	12																
4072																																	
	1									5.4	9.4	4	4	4.9	11.8	5	5	10.7	10.7	1	1												
	2									5.1	12.2	7	11	4.4	12.1	4	4																
	3					13.4	16.9	3	3	7.1	12.6	4	5																				
	4					14.9	15.1	2	2	7.0	12.8	5	5																				
4073																																	
	1					7.7	18.9	5	8	6.4	14.9	5	8	14.3	14.3	1	1																
	2	16.8	16.8	1	1	7.8	17.5	8	14	6.2	16.3	3	6																				
	3	15.6	15.6	1	1	17.2	18.7	2	3																								
	4	18.5	18.9	1	2																												
4165																																	
	4																					6.2	11.0	5	6	7.9	7.9	1	1	6.9	6.9	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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4	3
2	1

DEPTH ZONE

SEPTEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	59	100	7	13	61	119	6	9	103	107	2	2				
	2									94	94	1	1	88	144	9	14	53	112	8	14	52	69	2	3								
	3													87	136	6	6	54	122	11	26	69	113	3	4								
	4													92	155	7	19	68	127	6	10												
4167																																	
	1									126	170	4	4	82	137	6	8																
	2					154	188	4	4	141	164	4	5	102	117	2	2																
	3					150	179	2	2	136	178	5	9	102	151	4	5																
	4	153	166	1	3	155	172	3	3	108	182	7	8	96	98	2	2	54	90	4	5	58	62	2	2								
4168																																	
	1					153	184	4	4	150	176	3	6	112	133	3	3																
	2									133	162	6	7	72	183	5	8	62	96	5	9	50	73	6	7	55	55	1	1				
	3					166	166	1	1	78	126	3	3	49	90	4	5	42	101	3	6	51	89	3	4	47	64	2	2	67	69	2	2
	4																	43	60	3	3	51	66	5	6	41	66	5	6				
4169																																	
	1					51	111	4	5	59	126	3	3	68	119	5	6	57	89	6	7	49	72	7	9	36	66	3	6				
	2	126	126	1	1	101	167	3	6																								
	3													72	72	1	1	61	72	3	3	50	71	2	2	56	68	3	5	58	58	1	1
	4					44	107	6	6	61	80	4	4	51	78	4	4	61	73	2	2	47	113	3	3	42	64	2	2				
4170																																	
	2	148	184	4	4	112	201	8	12	99	142	11	15																				
	3	142	142	1	1	77	119	5	5																								
	4	182	212	3	5																												
4171																																	
	1					117	192	5	10	95	192	5	8																				
	2	140	140	1	1	79	179	5	6	95	144	6	7																				
4264																																	
	2																					114	114	1	1								
	3																					49	57	2	2								
	4																	54	54	1	1	32	82	4	4	77	77	1	1	84	85	1	1
4265																																	
	1																					45	121	4	4					133	133	1	1
	2																	71	83	2	2	38	110	5	5	89	94	1	2	70	78	3	3
	3																	65	66	2	2	55	67	2	2	57	57	1	1				
	4													101	117	1	1	45	105	6	7	30	88	6	7	83	88	2	2				
4266																																	
	1													67	90	1	2	59	84	2	2	61	61	1	1	73	88	2	2	53	84	4	4
	2													50	129	4	7	45	97	5	7	59	94	3	3	59	59	1	1	61	76	5	5
	3													71	84	2	2	48	89	2	2	56	113	4	7	89	95	2	2	84	109	3	3
	4																					50	81	3	4	83	99	2	4	52	80	3	3
4267																																	
	1									79	156	6	7	41	118	3	4	40	116	3	5	51	92	4	4								
	2									71	145	3	6	76	78	2	2	75	117	1	2	53	70	2	2	58	71	4	5	59	72	5	6
	3																													78	78	1	1
	4																									73	76	1	1	61	74	4	5
4268																																	
	1																									46	82	5	6	52	72	4	4
	2																									41	68	7	8	56	56	2	2
	3																									50	67	3	3	51	69	2	2
	4																									44	77	5	5	50	73	4	4
4269																																	
	1																					43	51	2	2	62	62	1	1	50	66	4	5
	2																	75	75	1	1	61	72	2	2					48	66	6	8
	3													55	60	2	2					63	67	2	2	62	71	2	2	50	51	1	2
	4																					56	56	1	1	47	62	2	3	49	68	2	9
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
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DEPTH ZONE

SEPTEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					8.3	10.6	2	2	5.6	9.4	2	3	7.8	7.8	1	1	5.6	7.7	2	3	4.5	5.5	2	2	4.3	4.3	1	1				
	2					6.1	13.3	8	18	5.0	7.2	1	1	4.3	4.3	1	1																
	3									4.9	10.4	2	4	6.1	7.6	2	2	6.1	8.3	2	2	3.4	7.4	8	9	4.2	6.6	3	3				
	4					7.7	9.4	2	2	4.8	8.1	4	4	5.1	6.6	4	4	3.2	6.8	5	6												
4364																																	
	1																	3.3	6.7	2	2					6.6	8.9	1	2				
	2																	3.3	4.3	2	2	2.3	6.6	5	5	4.0	5.2	2	2				
	3																	4.7	4.9	1	1	4.4	5.0	1	1	7.2	8.4	2	2	7.2	7.2	1	1
	4					11.7	11.7	1	1	4.0	4.0	1	1	11.5	11.5	1	1	2.4	4.4	4	4	1.8	1.8	1	1	4.0	5.1	2	2				
4365																																	
	1													4.5	6.4	2	2	4.4	4.4	1	1	5.1	6.1	3	3	4.9	4.9	1	1				
	2					6.6	6.6	1	1	1.8	10.6	5	5	5.6	9.3	2	2	6.3	8.8	2	3	1.8	2.6	3	3								
	3					4.6	4.6	1	1	3.2	3.2	1	2	2.4	7.8	4	4	2.2	2.2	1	1												
4366																																	
	1									8.8	12.2	3	4	10.0	10.0	1	1	9.0	9.2	2	2												
	2													7.2	9.2	3	3	6.9	8.9	2	2	5.8	9.4	6	6	8.6	8.6	1	1	7.3	7.4	1	2
	3					12.9	12.9	1	1					8.8	12.4	3	3	9.3	10.4	2	3												
	4																	8.4	10.1	2	2	6.8	8.9	6	7	7.5	7.5	1	1				
4367																																	
	1																									7.7	8.9	3	3				
	2																									5.4	5.4	1	1	5.5	9.5	5	6
	4																									6.6	6.6	1	1	4.9	7.2	4	5
4368																																	
	1																					7.1	7.3	2	2	4.8	4.9	2	2				
	2																					5.4	9.5	2	4	4.8	10.0	5	6				
	3																	8.8	8.8	1	1					5.1	7.2	3	3				
	4													7.5	7.5	1	1	8.9	9.9	1	2	5.1	7.8	6	6	4.8	7.8	3	3				
4369																																	
	1																					5.0	5.3	1	1	4.3	6.2	2	2				
	2													5.6	5.8	2	2	9.4	9.4	1	1	4.2	7.2	3	4	4.1	6.4	6	6	6.4	6.4	1	1
	3									8.9	8.9	1	1					7.7	8.1	2	2	7.8	7.8	1	1								
	4					11.7	11.7	1	1	5.8	5.8	1	1	6.9	8.6	2	2	7.2	7.2	1	1	3.5	5.6	3	3	4.2	4.2	1	1	5.0	5.0	1	1
4370																																	
	1					11.8	11.8	1	1	7.1	9.6	2	2	6.7	6.7	1	1	4.4	4.4	1	1	7.1	7.1	1	1	4.6	4.6	1	1				
	2									6.7	7.3	1	2					4.4	7.0	3	3												
	3									6.4	9.4	9	18																				
4464																																	
	1	13.9	13.9	1	1					2.9	4.4	3	3	1.2	3.3	3	4	3.2	3.3	1	1	2.9	6.5	3	4								
4466																																	
	1	11.1	12.1	1	3	10.1	12.6	2	5	10.1	11.1	2	4	10.2	11.0	2	3	9.8	9.8	1	1					8.2	8.8	2	2	7.8	7.8	1	1
	2									8.3	8.3	1	1	8.1	8.1	1	1	7.8	10.0	4	5	7.6	10.7	2	2	7.6	11.8	4	5				
	3																									7.7	9.8	3	3				
	4													11.1	11.1	2	2	9.9	11.0	2	2	9.2	9.4	1	1	6.1	7.7	3	4				
4467																																	
	1													8.9	8.9	1	1					6.1	7.9	2	3	8.2	8.2	1	1				
	2					13.6	13.6	1	1	9.1	9.1	1	1	8.1	11.6	3	3	9.0	9.0	1	1	6.2	6.2	1	1	5.8	6.2	2	2	4.9	7.1	3	4
	3													10.6	11.7	2	2																
4468																																	
	1																					8.3	8.8	1	2								
	2	10.7	11.1	1	2									7.9	7.9	1	1	8.0	8.9	2	2												
4565																																	
	1									11.6	11.6	1	1																				
	2									11.2	11.2	1	1					9.6	9.6	1	1												
4566																																	
	1													8.8	8.8	1	1																
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

OCTOBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																									10.7	10.7	1	1	10.1	10.1	1	1
3971																																	
	3																					9.5	9.5	1	1								
	4													9.1	11.7	2	4																
3972																																	
	1																					12.8	12.8	1	1	11.6	11.6	1	1	7.8	7.8	1	1
	2													8.9	11.0	4	4	8.8	11.1	2	3	10.2	11.2	3	3	11.2	11.2	1	1				
	3													8.8	8.8	1	1	9.2	9.2	1	1	9.8	14.0	6	6	11.6	11.6	1	1				
	4									7.3	16.6	5	9	7.0	12.1	5	8	7.8	11.4	3	3												
3973																																	
	1									6.7	12.3	4	5	7.7	11.2	4	5	7.4	11.1	2	2												
	2					12.1	14.2	2	2	7.2	18.1	4	6																				
	3					9.9	15.2	3	4	6.8	14.9	4	6	6.9	13.6	2	4																
	4					10.5	19.1	9	28	15.9	15.9	1	1																				
3974																																	
	1	17.3	18.1	3	4	10.7	17.8	4	7																								
	2	16.6	18.9	2	3	15.8	15.8	1	1																								
	3	17.6	18.9	2	2	14.7	14.7	1	1																								
4066																																	
	4																	10.0	12.2	2	2	8.3	11.7	2	3	11.0	11.0	1	1	7.8	8.2	1	1
4067																																	
	2																					8.9	14.2	2	2	9.0	13.4	2	2				
	3													8.0	11.9	4	4	5.2	13.8	4	7	7.9	13.8	5	8	11.5	11.5	1	1				
	4									10.8	11.0	1	1	6.2	12.4	4	9	6.1	14.7	4	8	7.6	7.9	2	2								
4068																																	
	1																					7.4	12.9	2	2	11.6	11.6	1	1				
	2																	8.5	11.0	2	2	7.7	7.7	1	1								
	3									10.8	13.8	5	6	8.5	13.4	4	7	8.4	8.6	1	1												
	4									12.8	14.8	3	4	9.6	19.4	4	10	9.7	12.9	1	2												
4069																																	
	1													10.0	15.8	2	2	10.0	17.6	2	2	9.0	9.0	1	1								
	2													10.6	17.5	2	2	12.8	13.3	2	2	8.9	10.8	1	1								
	3									9.6	17.1	9	17	9.7	16.8	5	10	10.5	13.2	2	2												
	4					11.1	13.2	2	3	11.1	17.2	3	5	10.2	14.9	3	4																
4070																																	
	1																	9.4	12.7	5	5	8.2	13.4	2	3					9.5	9.5	1	1
	2													9.2	9.2	1	1	7.9	14.0	5	7	9.2	13.9	8	13	10.0	11.6	2	3				
	3					13.2	15.4	2	2	10.7	16.0	5	7	10.0	14.3	2	2																
	4									8.0	16.1	9	14	7.9	17.3	8	10																
4071																																	
	1													11.3	11.3	1	1	8.6	17.7	5	5	11.3	11.3	3	3								
	2													7.2	16.8	7	7	8.0	13.4	4	6												
	3									10.8	15.7	4	6	9.9	13.8	4	6																
	4					12.9	14.9	3	3	7.8	15.0	5	7	7.4	14.5	6	6																
4072																																	
	1									8.8	15.9	2	4	8.1	15.9	4	5																
	2									8.8	14.9	4	7	8.2	10.7	2	3																
	3					13.4	15.1	3	3	11.0	15.5	4	6	10.8	10.8	1	1																
	4					13.6	16.1	2	2	12.6	15.1	1	2																				
4073																																	
	1					9.1	16.2	6	9	10.3	15.7	5	7	11.3	11.3	1	1																
	2	13.9	14.9	1	2	11.4	15.6	9	15	14.0	14.2	2	2																				
	3	13.9	14.4	1	1	12.0	14.8	2	2																								
	4	13.3	18.3	2	2																												
4165																																	
	4																					7.3	10.2	6	7	7.3	8.8	3	3	5.0	8.3	4	5
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

OCTOBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	83	134	4	4	75	86	3	3	83	89	2	2				
	2													93	132	5	5	81	117	5	5												
	3													87	123	3	3	69	110	9	10	58	104	1	2								
	4									133	133	1	1	100	145	7	14	81	106	3	4												
4167																																	
	1									117	150	9	16	103	134	5	7																
	2					130	164	3	3	128	162	5	7																				
	3									115	156	5	9	126	145	5	6																
	4					122	162	7	8	108	161	4	5	95	122	3	3	56	117	3	3	45	86	3	3	60	67	2	2				
4168																																	
	1					140	143	1	1	122	162	6	9	99	133	3	4	92	95	1	1												
	2									114	155	3	6	83	153	8	10	58	139	5	9	42	72	6	9	51	51	1	1				
	3					131	150	3	3	78	144	5	5	56	125	6	6	51	115	5	5	50	69	2	3	58	82	3	3	50	74	3	4
	4																	82	82	1	1	46	66	6	8	45	67	6	8				
4169																																	
	1									68	117	8	10	50	122	6	9	51	106	5	7	54	77	3	6	44	54	4	4				
	2	132	132	1	1	101	113	3	3																								
	3													71	71	1	1	52	61	2	2	51	55	1	2	43	61	6	9	49	62	3	3
	4	112	129	2	2	82	126	6	8	53	112	8	12	52	101	3	3	43	83	4	4	48	62	4	5	40	62	5	5				
4170																																	
	1					132	156	2	2																								
	2	143	161	4	5	112	172	10	15	123	145	4	6																				
	3	128	128	1	1	83	116	4	6	79	117	3	3																				
	4	139	163	3	8	100	119	1	1																								
4171																																	
	1	146	146	1	1	117	173	8	17	112	167	5	8																				
	2	138	171	1	2	122	171	5	8	117	162	4	6																				
4264																																	
	3																	37	44	2	2	56	70	3	3					78	78	1	1
	4																					39	81	2	2	85	85	1	1				
4265																																	
	1																					38	87	5	5								
	2																	49	101	2	2	59	94	7	7	60	100	4	4	52	95	6	6
	3																	39	128	7	7	48	67	5	6	30	46	3	3				
	4													78	78	1	1	60	122	10	16	52	83	5	6	40	103	5	5				
4266																																	
	1													72	72	1	1	61	100	4	5	56	68	4	4	55	80	2	2	51	89	5	5
	2									63	111	2	2	84	120	6	7	113	117	2	2	60	60	1	1	57	81	4	4	68	78	3	3
	3									93	112	3	3	59	112	6	8	61	113	3	3	66	113	4	4	62	106	4	4				
	4																																
4267																																	
	1									47	122	4	6	50	131	7	10	61	86	2	2	53	68	2	2	50	65	3	3				
	2									114	114	1	1	57	78	2	4	61	73	2	2	49	67	4	5	48	78	4	5	56	78	5	7
	3																													67	67	1	1
	4																													56	65	3	3
4268																																	
	1																													51	73	6	9
	2																					55	55	1	1	42	60	7	7	51	66	3	5
	3																													54	72	4	4
	4																													52	66	3	3
4269																																	
	1																													50	63	3	4
	2									51	51	1	1	84	84	1	1	64	71	2	2	49	68	1	2	51	60	2	2	51	66	3	5
	3																	52	52	1	1	47	50	1	2	51	67	5	6	50	57	1	2
	4																													47	58	4	6
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

OCTOBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					59	123	6	10	66	111	5	7	56	106	5	6	49	89	4	6	51	60	3	4								
	2					69	132	8	17	66	77	2	2	71	71	1	1	59	59	1	1												
	3									74	78	1	1	66	75	2	2	45	89	5	5	39	77	6	7	48	60	2	2				
	4					77	116	3	3	82	112	4	4	74	104	3	3	42	56	2	2												
4364																																	
	1																	18	51	6	6					50	89	2	2				
	2													46	67	4	4	51	70	2	2	31	71	5	5								
	3													49	49	1	1					29	58	2	2	67	67	1	1	58	110	2	2
	4									33	65	2	2	49	56	1	1	38	45	2	2	38	38	1	1	42	42	1	1				
4365																																	
	1																	32	61	3	3					30	49	4	4				
	2									78	94	3	3	62	111	1	2	58	94	4	4	58	83	2	2								
4366																																	
	1					95	95	1	1	94	127	4	4	96	112	2	2	66	122	3	3	61	75	2	2								
	2																	88	101	1	1	57	70	5	5	66	71	2	2	63	89	2	2
	3					107	107	1	1					73	102	3	3	69	111	5	5	79	111	2	2								
	4													76	100	2	2	88	109	5	5	61	88	4	5	62	72	2	2				
4367																																	
	1																									59	66	2	2	55	75	4	5
	2																									59	59	1	1	58	62	2	3
	3																					51	51	1	1	56	65	3	3	57	77	2	2
	4																													51	71	4	4
4368																																	
	1																									53	53	1	1	52	59	2	2
	2																					51	88	2	2	50	56	3	3	48	48	1	1
	3																	79	79	1	1	88	88	1	1	50	61	3	4				
	4																	72	101	2	2	64	64	1	1	58	75	2	2	72	72	1	1
4369																																	
	1																					48	48	1	1	46	52	2	2				
	2																					46	68	2	2	44	56	2	2	50	50	1	1
	3					105	105	1	1					71	71	1	1	62	70	1	2												
	4					99	99	1	1					49	49	1	1					44	114	3	3								
4370																																	
	1					81	81	1	1	81	101	2	3	88	88	1	1	45	89	3	4	41	79	5	7	38	56	2	3				
	2					100	111	1	2	89	89	1	1																				
	3									65	101	6	10																				
4464																																	
	1									34	34	1	1					46	50	2	2												
4465																																	
	4	133	133	1	1									104	104	1	1																
4466																																	
	1	111	111	1	1	104	116	3	4	103	111	1	2	97	107	2	2	102	102	1	1	95	95	1	1	66	98	4	4	68	81	2	2
	2																	72	124	6	6	69	93	3	3	60	65	1	1				
	3																	75	117	2	2	64	95	2	2	70	101	5	5	70	73	2	2
	4	104	104	1	1	104	104	1	1	101	101	1	1	101	102	1	2	98	103	2	2	93	99	5	6	83	86	2	2				
4467																																	
	1																	61	103	2	2	94	94	1	1	53	68	3	3	63	63	1	1
	2					111	111	1	1					80	86	1	1	78	81	2	2	61	61	1	1					57	75	3	3
	3													103	103	1	1	103	103	1	2												
4468																																	
	1									107	107	1	1	79	79	1	1	104	104	1	1												
4564																																	
	2									109	109	1	1																				
4565																																	
	1					118	118	1	1	102	121	2	2	118	118	1	1																
	2									111	114	2	2	106	106	1	1	103	104	2	2												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

NOVEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																									11.9	12.5	1	1	9.2	9.2	1	1
3970																																	
	3																									10.0	10.0	1	1				
	4																					10.4	12.2	3	3	9.6	10.4	2	2	9.0	10.0	2	2
3972																																	
	1																					10.5	11.0	2	2	10.0	10.6	2	2	8.6	10.1	2	2
	2																	9.1	13.1	2	2	11.0	13.1	3	4	11.3	11.3	1	1	8.2	11.0	2	2
	3																	10.8	17.1	3	3	11.1	13.5	3	3	10.4	12.0	3	3	8.3	10.9	3	3
	4									9.7	15.5	5	6	8.3	16.0	4	4	12.1	14.2	2	2												
3973																																	
	1					13.9	13.9	1	1	15.5	15.5	1	1	13.3	16.7	2	2																
	3					13.6	15.6	2	2	12.3	15.7	4	4	15.1	15.1	1	1																
	4					10.0	16.0	11	33																								
3974																																	
	1	13.2	13.2	1	2	12.7	13.1	1	1																								
	2	12.9	12.9	1	1																												
4066																																	
	4																	7.0	16.0	2	2	6.2	8.3	2	2	10.1	10.1	1	1	7.0	7.0	1	1
4067																																	
	2																					7.3	12.9	2	2	11.2	11.2	1	1	7.0	7.0	1	1
	3													13.0	13.0	1	1	7.0	10.4	3	3	6.9	16.1	3	3	7.7	10.1	2	2				
	4									11.5	11.6	2	2	7.9	13.3	4	5	8.5	18.2	4	4	11.4	11.4	1	1								
4068																																	
	1																	10.7	10.8	1	1					8.0	8.6	1	1				
	2													9.9	9.9	1	1	8.2	11.7	3	3	8.2	12.2	2	2	8.8	10.8	3	3	9.9	10.0	1	1
	3									11.9	13.2	4	5	11.6	11.6	1	1	9.1	17.5	3	3	9.3	9.3	1	1								
	4									12.2	13.8	2	2	10.5	19.8	8	8	12.2	12.2	1	1												
4069																																	
	1													11.2	11.7	2	2	8.8	13.2	2	2	9.9	13.4	4	4	11.6	11.9	2	3	9.6	10.8	2	2
	2													9.0	17.5	3	3	8.1	11.4	3	4	8.2	12.9	2	3								
	3					11.1	11.1	1	1	8.3	15.1	9	21	8.9	16.2	4	4	8.4	12.8	3	3												
	4	11.1	11.1	1	1	10.9	12.2	3	3	10.2	13.9	6	7	10.3	12.8	3	3																
4070																																	
	1													8.7	14.9	3	3	10.8	14.5	2	2	10.1	13.4	4	5	10.6	11.1	3	4	8.1	8.7	3	3
	2																	8.3	13.6	5	6	9.2	14.2	6	7	9.6	11.2	3	3	8.8	9.3	2	2
	3									10.4	16.7	9	13	10.4	16.6	3	3																
	4									9.3	14.3	9	11	9.2	16.2	6	6																
4071																																	
	1													10.8	14.9	2	2	10.2	15.0	4	5	11.7	14.1	3	5	10.8	12.1	1	2	8.0	11.5	2	2
	2													9.5	16.2	3	3	9.4	15.7	2	2												
	3									9.4	16.4	4	5	9.5	17.7	3	3																
	4					12.3	15.2	3	3	8.7	15.4	5	5	8.2	16.0	6	6																
4072																																	
	1									8.1	8.9	2	2	8.1	15.7	4	4																
	2					14.8	14.9	1	1	8.8	14.8	4	4	8.8	12.1	2	2																
	3					13.7	14.9	2	2	8.0	14.6	4	4																				
	4					8.5	8.5	1	1	8.2	8.2	1	1																				
4073																																	
	1					8.1	14.9	4	4	9.3	14.2	5	5																				
	2					10.7	14.8	7	8																								
	3					14.4	14.4	1	1																								
4074																																	
	4																					7.3	8.6	2	2	5.6	6.7	2	2	6.6	6.6	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

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2	1

DEPTH ZONE

NOVEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																	7.1	10.7	2	2	5.1	11.2	3	3	7.8	7.8	1	1	6.8	6.8	1	1
	2													7.5	11.6	5	5	7.3	10.1	3	3												
	3																	5.8	11.2	5	7	6.2	7.9	1	1								
	4									11.2	11.2	1	1	8.8	12.5	5	7																
4167																																	
	1									9.9	12.2	4	6	9.0	9.4	2	2	8.2	8.2	1	1												
	2					11.2	12.7	2	2	10.1	13.7	4	6																				
	3									10.1	12.8	3	4	9.4	9.4	1	1																
	4									8.2	11.7	4	5	6.1	10.3	4	5	6.0	8.3	3	3	6.0	6.0	1	1	4.9	4.9	1	1				
4168																																	
	1					12.6	12.9	2	2	10.1	13.2	3	5																				
	2									11.0	12.8	2	2	8.3	13.1	5	5	6.8	9.0	3	3	6.1	6.1	1	1								
	3									9.0	12.9	4	5	6.2	11.1	3	4	7.1	9.3	3	5					4.4	7.2	4	4	7.2	7.2	1	1
	4																					5.0	6.6	5	6	4.4	6.2	3	5	5.4	6.8	2	2
4169																																	
	1									8.3	10.8	2	2	8.9	8.9	1	1	8.3	9.4	3	3												
	3																					6.1	6.1	1	1	4.5	5.8	2	5	5.0	6.7	4	5
	4					8.2	10.1	2	2	8.9	11.2	3	3	7.7	9.3	3	6	8.4	8.4	1	1	4.8	7.3	5	6	5.1	5.7	2	2	5.0	5.0	1	1
4170																																	
	1					11.9	12.2	2	2	12.5	12.5	1	1																				
	2	9.9	12.8	2	2	11.4	14.4	5	7	9.9	14.6	4	4																				
	3	9.4	9.4	1	1	9.1	10.1	3	4																								
	4	6.7	12.2	3	5																												
4171																																	
	1	12.8	13.9	2	2	12.0	14.8	3	6	9.7	14.4	3	5																				
	2	8.3	10.7	2	2	11.7	14.0	3	6	12.6	15.1	3	5																				
4264																																	
	3																	3.7	6.7	5	5	4.5	7.0	2	3								
	4																					6.1	8.6	1	2								
4265																																	
	1																					2.9	11.2	6	6	7.8	7.8	1	1				
	2																	5.7	8.4	2	2	5.1	9.3	3	4	5.6	8.8	5	5	5.0	8.9	4	5
	3																	2.8	8.2	3	4	4.3	8.2	4	4	3.4	5.0	2	2				
	4																	4.2	11.5	9	9	4.8	8.4	3	4	9.6	9.6	1	1				
4266																																	
	1													5.6	5.6	1	1	6.2	9.9	4	5	7.1	7.1	1	1	5.2	5.6	1	1	5.8	7.7	1	2
	2													7.3	11.9	5	6	7.2	9.7	2	3	6.2	7.5	2	3	5.6	7.8	2	3				
	3									7.3	7.3	1	1	6.1	7.1	2	2	5.6	8.6	3	3	4.5	6.4	2	2	5.4	7.1	2	3				
	4																	3.9	3.9	1	1					5.8	11.1	3	4	6.8	6.9	2	2
4267																																	
	1									8.3	9.9	3	4	6.7	11.1	3	4	6.2	8.6	3	3	5.8	6.7	2	2	6.2	6.2	1	1	6.4	7.1	2	2
	2													8.7	11.8	2	2	6.6	11.8	2	2	4.8	8.3	2	2	5.1	7.2	3	6	6.0	6.8	2	4
	3																										6.9	6.9	1	1				
	4																										6.5	6.9	2	2	5.9	7.3	1	3
4268																																	
	1																										5.1	7.8	3	4	6.0	6.9	3	4
	2																					4.4	4.4	1	1	4.4	6.1	3	6	6.1	6.5	2	2
	3																										5.7	7.2	4	5	6.6	7.2	3	3
	4																										6.6	6.7	2	2	7.1	7.1	1	1
4269																																	
	1																					4.9	4.9	1	1	4.7	5.0	2	2	4.9	6.6	3	5
	2									8.4	10.6	2	3					7.2	7.7	2	2	5.0	7.2	3	5	5.0	5.6	2	4	5.0	6.3	3	6
	3																	6.2	6.8	2	2	6.1	7.2	2	2	6.1	11.9	1	1	5.0	5.0	1	1
	4																					6.1	6.1	1	1	5.9	6.0	2	2	5.0	5.0	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

NOVEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					8.6	10.6	5	9	6.7	10.6	5	9	7.8	10.2	4	6	6.9	9.4	5	8	6.1	7.7	3	5								
	2					6.2	10.9	10	19									7.5	7.8	2	3												
	3									9.6	9.9	2	2	8.3	9.7	1	1	5.7	7.5	2	3	5.8	8.8	4	4	5.6	5.6	1	1				
	4									5.0	10.1	3	3	6.1	8.8	3	4	5.6	8.4	4	5												
4364																																	
	1																	3.3	6.1	8	9	3.9	5.0	2	2	5.4	7.5	4	4				
	2													5.4	7.3	5	5	4.5	4.5	1	1	4.5	7.7	3	3								
	3													4.9	4.9	1	1	5.1	5.1	1	1					5.7	7.6	1	1	7.9	8.3	1	1
	4									6.1	10.6	5	5	5.7	7.3	2	2	4.3	6.0	3	4	3.1	6.7	4	4								
4365																																	
	2					8.3	8.4	1	1	8.9	9.9	3	3					5.3	9.9	6	6												
	3													9.6	9.6	1	1																
4366																																	
	1									7.9	11.0	5	5	9.9	11.1	2	2	8.3	10.9	4	4	7.3	9.4	3	3								
	2																	6.2	8.9	2	2	5.9	8.7	3	4	6.2	9.9	4	4	6.5	6.5	1	1
	3									7.5	8.5	1	1	6.7	10.1	3	3	7.3	11.6	5	5												
	4																	7.1	11.8	4	4	5.9	10.6	5	7	7.3	8.1	3	3				
4367																																	
	1																													5.8	7.3	2	3
	2																									5.7	5.7	1	1	5.8	5.8	1	1
	3																									5.8	7.7	3	5	7.3	7.7	2	3
	4																									7.3	7.9	1	3	5.5	7.7	3	3
4368																																	
	1																					6.3	6.3	1	1	4.7	7.1	3	4	6.6	6.7	1	1
	2																	8.9	9.0	2	2	6.3	6.3	1	1	5.0	7.5	5	8	5.0	5.0	1	1
	3																									4.8	7.7	4	7				
	4													9.8	9.8	1	1	8.8	8.8	2	2	7.7	9.0	3	5	7.7	7.7	1	1				
4369																																	
	1																					5.9	8.7	1	1	5.0	7.2	2	3				
	2													7.8	8.2	2	2	7.1	7.1	1	1	6.2	6.3	3	3	4.9	7.1	2	2	6.1	6.1	1	1
	3																					8.2	8.2	1	1	7.1	7.1	1	1				
4370																																	
	1					12.2	12.2	1	1	7.7	7.7	1	1					8.8	8.8	1	1	7.0	8.6	2	3								
	3									5.5	9.7	7	13																				
4464																																	
	1																	3.9	3.9	1	1	3.3	3.9	2	2								
4465																																	
	3									9.4	9.4	1	1	9.0	9.0	1	1	9.3	9.3	2	2												
4466																																	
	1	8.5	8.5	1	1	8.4	9.3	2	3	8.4	9.4	2	2	7.8	7.8	1	1	8.2	11.1	5	5	9.9	10.7	2	2	6.4	8.9	4	5	7.8	7.8	1	1
	2																	10.2	10.6	2	2	7.2	11.2	2	3	8.8	10.6	2	3				
	3																					7.2	8.6	4	5	7.1	9.3	3	3				
	4									9.4	9.4	1	1					9.8	10.9	3	4	9.9	10.6	3	5	6.3	8.2	3	4	7.6	7.6	1	1
4467																																	
	1													8.1	8.9	1	2	10.0	10.0	1	1	7.0	8.4	2	3	5.9	6.1	1	2	5.8	5.8	1	1
	2																	8.8	8.8	1	1	7.2	7.9	1	1	6.5	6.5	1	1				
	3													10.2	10.2	1	1	10.0	10.0	1	1												
4468																																	
	1																	7.9	7.9	1	1	7.7	7.8	2	2								
4565																																	
	1					9.6	9.6	1	1	9.5	10.6	2	3	6.5	6.5	1	1																
	2									10.1	10.1	1	1	9.6	9.6	1	1	9.6	9.6	1	1												
4566																																	
	1									9.4	9.4	1	1																				

	1-20M	21-40M	41-60M	61-80M	81-100M	101-150M	151-200M	201-250M

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

DECEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
3969																																	
	4																													11.7	11.7	1	1
3971																																	
	3																					13.2	13.2	1	1	11.3	11.3	1	1				
	4																					13.3	13.3	1	1	10.6	11.7	2	2				
3972																																	
	1																									10.9	10.9	1	1				
	2													11.1	12.9	2	2	11.0	14.0	3	3	10.0	13.9	2	2								
	3																	10.2	13.9	3	4	10.9	13.3	3	3	11.2	11.2	1	1				
	4									9.0	11.7	4	4	8.5	14.4	5	5	11.2	11.2	1	1	9.4	10.1	2	2								
3973																																	
	1									9.8	11.2	3	3	9.2	10.3	2	2																
	2					11.1	11.1	1	1																								
	3					9.4	9.4	1	1	9.4	13.3	2	2	10.2	10.6	2	2																
	4					3.9	12.3	12	35																								
3974																																	
	1	8.1	8.2	1	1	8.3	8.5	1	1																								
	2	7.9	7.9	1	1																												
	3	7.9	9.3	2	2																												
4066																																	
	4																	7.3	7.3	1	1	5.8	6.2	1	1								
4067																																	
	2																					12.1	12.1	1	1	8.6	13.5	2	3				
	3																	7.3	7.3	1	1	5.6	13.6	2	2					5.2	5.2	1	1
	4									6.2	6.2	1	1	7.6	14.3	4	6	7.2	14.0	3	5	8.9	8.9	1	1	9.0	9.0	1	1				
4068																																	
	1																					7.9	7.9	1	1								
	2																	9.6	9.6	1	1	9.6	9.6	1	1	5.9	10.9	3	3				
	3									6.2	12.9	4	4	11.3	11.3	1	1	13.2	13.2	1	1												
	4									8.2	9.7	3	3	8.2	13.2	4	5	7.0	7.9	2	2												
4069																																	
	1													10.9	10.9	1	1	11.9	11.9	1	1	11.7	11.7	1	1	12.1	12.1						
	2													7.1	7.1	1	1	8.2	8.2	1	1	5.9	15.2	4	5								
	3									5.9	17.4	6	13	7.4	13.1	4	4	8.2	8.9	2	2												
	4					6.1	8.4	2	2	6.2	12.1	5	7	8.1	9.5	2	2																
4070																																	
	1													11.9	16.1	3	3	13.4	15.7	3	3	8.2	14.7	4	6								
	2																	13.9	13.9	1	1	12.8	13.9	1	3					10.1	10.1	1	1
	3					7.9	9.4	2	2	5.4	12.1	5	7	12.9	14.2	2	2																
	4									7.6	11.7	7	10	7.3	14.7	8	9																
4071																																	
	1													13.3	14.4	1	2	9.3	15.0	4	9	9.9	13.4	3	5	9.1	11.7	3	3	9.1	10.8	2	2
	2													10.2	14.7	3	4	8.8	14.5	4	5	7.8	12.3	2	2								
	3									8.9	12.6	5	9	9.1	15.3	4	6																
	4					8.1	9.3	2	2	8.5	11.1	2	2	8.8	14.4	6	9																
4072																																	
	1									9.0	9.4	1	1	10.3	11.7	3	4																
	2									8.9	12.9	4	5	10.5	10.5	1	1																
	3					7.6	9.3	2	2	8.3	11.7	3	4																				
	4					8.2	8.2	1	1	7.5	12.8	4	4																				
4073																																	
	1					9.7	10.7	2	2	8.4	12.8	2	2	14.4	14.4	1	1																
	2					7.7	9.7	3	3																								
	3					9.7	9.7	1	1																								
4074																																	
	4																	8.3	8.3	1	1	9.0	9.0	1	1								
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four-digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree-quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days.

4	3
2	1

DEPTH ZONE

DECEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4166																																	
	1																					57	107	2	2	48	48	1	1				
	2													66	89	4	4	60	112	4	5	49	51	2	2								
	3													70	70	1	1	72	84	2	3												
	4													62	86	3	6	67	71	2	2												
4167																																	
	1					104	104	1	1	68	108	5	6	89	95	2	3																
	2					78	106	4	5	76	107	6	7	60	88	3	3																
	3					72	72	1	1	68	81	3	3	77	88	2	3																
	4					68	83	3	4	69	80	4	5	73	73	1	1	74	74	1	1												
4168																																	
	1					78	96	2	2	84	104	3	3																				
	2									76	102	5	5	72	84	6	6	63	84	3	3	61	67	3	3								
	3									78	78	1	1	69	77	3	3	68	77	4	4	63	67	2	2	48	72	2	2	51	57	1	2
	4																	52	71	2	2	51	62	2	2	45	72	5	7				
4169																																	
	1					73	73	1	1	59	88	5	5	81	81	1	1					56	68	4	4	61	61	1	1				
	2					59	72	2	2	69	69	1	1																				
	3																					61	61	1	1	47	61	4	4	60	60	1	1
	4					73	73	1	1	67	79	4	5	71	79	3	4	71	71	2	2	61	68	2	2	49	62	3	3				
4170																																	
	2	81	92	2	2	44	104	4	7	71	88	3	4																				
	3	61	78	1	2	61	83	1	2	83	83	1	1																				
	4	39	83	3	3	51	64	1	1																								
4171																																	
	1					56	98	2	4	72	122	6	8																				
	2	87	87	1	1	62	78	4	5	78	114	4	4																				
4264																																	
	3																					39	39	1	1								
	4																					30	66	3	3								
4265																																	
	1																					38	38	1	1								
	2																	84	84	1	1	57	78	3	3					69	69	1	1
	3																	56	56	1	1												
	4																	31	84	3	3	48	48	1	1								
4266																																	
	1																									77	77	1	1	66	73	1	1
	2																	60	67	3	3	81	81	1	1					62	68	2	2
	4																					51	51	1	1	42	42	1	1				
4267																																	
	1													73	73	1	1	72	72	1	1					78	78	1	1				
	2									68	71	2	2	72	72	1	1									72	78	2	2	73	76	2	2
	3																													79	79	1	1
	4																													61	62	2	2
4268																																	
	1																									49	77	3	3				
	2																									48	58	5	5				
	3																									53	72	2	2				
	4																									50	73	2	2	51	62	2	2
4269																																	
	1																					56	67	2	2	56	60	2	2				
	2																					64	64	1	1					48	62	4	4
	3																									65	66	1	1	68	68	1	1
	4																									64	66	1	1	62	62	1	1
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

KEY The four digit numbers in the column on the left give the latitude and longitude of the southeast corner of each one degree quadrangle. Each one-degree quadrangle is divided into 30-minute quadrangles, numbered as in the diagram to the right. The columns of these tables give: A - minimum temperature, B - maximum temperature, C - number of years, D - number of days

4	3
2	1

DEPTH ZONE

DECEMBER		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
4270																																	
	1					71	71	1	1	72	84	1	2	72	72	1	1					63	63	1	1	61	61	1	1				
	2					44	79	11	24	71	73	3	3	53	67	2	2																
	3									79	83	1	1	72	83	2	3	68	82	2	2	63	79	2	3								
	4					69	73	2	2	71	84	1	2	45	68	3	3	49	49	1	1												
4364																																	
	2																	56	56	1	1	22	59	2	2	38	38	1	1				
	4					62	62	1	1													20	36	2	2								
4365																																	
	1													60	60	1	1	40	40	1	1												
	2									61	61	1	1	83	83	1	1					29	30	2	2								
	3	72	72	1	1																												
4366																																	
	1													73	73	1	1					79	79	1	1								
	2													62	62	1	1	52	52	1	1	48	52	2	2								
	3									67	67	1	1	77	78	1	2																
	4																	50	78	2	3	52	52	1	1								
4367																																	
	2																									59	59	1	1	51	60	2	2
	3																													57	57	1	1
	4																													58	59	2	2
4368																																	
	1																									60	60	1	1				
	2																					82	82	1	1	52	52	1	1	49	50	1	1
	3													83	83	1	1									61	61	1	1				
	4													49	59	2	2					79	83	1	1	51	77	2	2				
4369																																	
	2																					50	61	1	1	52	62	2	2				
	4	36	49	1	3																	53	66	2	3								
4370																																	
	1									68	84	2	2	69	83	3	3					63	63	1	1	50	50	1	1				
	2																	53	70	2	2												
	3	45	54	1	1					42	84	11	15																				
4464																																	
	1													38	58	2	2	43	43	1	1												
4465																																	
	4					61	61	1	1					72	76	2	2	74	75	1	2	77	77	1	1								
4466																																	
	1	63	72	1	2	67	73	1	1	72	73	1	3					72	72	1	1	77	100	2	2	79	84	2	2				
	2									49	59	2	2					50	72	3	3					73	79	1	2	79	79	1	1
	3																	67	78	2	4	72	78	2	2								
	4																	71	72	1	1	73	103	2	2	57	84	3	3	79	99	2	2
4467																																	
	1													59	73	2	2					52	63	2	2								
	2									52	52	1	1									53	53	1	1	63	63	1	1	52	52	1	1
	3													71	71	1	1	72	72	1	1												
4468																																	
	1									79	79	1	1																				
	2													59	59	1	1	49	49	1	1												
4565																																	
	1									67	71	1	2	67	67	1	1																
	2													72	74	1	2	74	74	1	1												
		1-20M				21-40M				41-60M				61-80M				81-100M				101-150M				151-200M				201-250M			

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