U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1961
Volume 12 No. 1

ASHEVILLE: 1961

CONTENTS

SURFACE DATA

General Summary of Weather Conditions---------- 3

Condensed Climatological Data - States---------- 4

Climatological Data - Stations - English Units---------- 5

Climatological Data - Stations - Metric Units---------- 13

Heating Degree Days---------- 21

Storm Summary---------- 22

General Summary of River and Flood Conditions---------- 23

Flood Stage Data---------- 25

UPPER AIR DATA

Rawinsonde Data---------- 26

SOLAR RADIATION DATA

Solar Radiation Intensities---------- 32

Daily Totals and Average Daily Totals by Weeks---------- 33

TOTAL OZONE DATA---------- 35

CHARTS I-XVII---------- 37

Beginning with the January 1961 issue, this publication will contain CLIMATOLOGICAL DATA tables in both English and Metric Units. The separate table in metric units is obtained by conversion from data in the English units table.

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

SUBSCRIPTION PRICE: Monthly 20 cents and annual 40 cents per copy; yearly subscription, including monthly and annual issues, $2.50 domestic, $3.50 foreign. Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to "Superintendent of Documents, Government Printing Office, Washington 25, D. C."

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 1

JANUARY 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Precipitation for January was much below normal in the interior of the contiguous United States, and generally somewhat below in the coastal and southwestern border States. Much above normal amounts were limited mainly to extreme southern Florida and central and southwestern Texas. The month was unseasonably mild in the northern Great Plains and Far West, and unusually cold in Texas, Arkansas, Louisiana, and east of the Mississippi River. A heavy snow cover persisted throughout the month in the Northeast, but the cover was lighter than usual in north-central areas during most of the month, and the snowpack in the western mountains remained below normal. Some flooding occurred during the second and third weeks in east Texas, Louisiana, and western Washington. Some glaze damage occurred in the Southeast on the 25th.

TEMPERATURE. --East of the Rocky Mountains, a period of extreme cold weather began on the 20th and persisted through the remainder of the month. During this period subzero minima ranged from -40° or lower in North Dakota and Minnesota to 0° or lower in Texas, Arkansas, Tennessee, and Virginia. Freezing extended over most of Florida on the 21st, 22d, and 23d for the first general freeze of the winter in the Everglades, but caused only light damage to the citrus and vegetable crops. In much of the South, where temperatures were slightly below normal during the first half of the month, this was the coldest January since 1940, and in northern areas, where the first half of the month was unseasonably mild, this was the coldest January since 1948 at many stations and the coldest since 1918 at some others. December 1960 and January 1961 combined was the coldest such period in the middle and lower Atlantic Coastal States since 1917-18.

In the Far West, where temperatures generally averaged well above normal, this was the warmest January on record at San Diego and Los Angeles, Calif., and the second warmest in Seattle, Wash. A high of 71° on the 20th at Medford, Oreg., was a new record for January. The only unusually cold weather in the Far West occurred in the San Joaquin and lower Sacramento Valleys of California, where monthly averages were slightly below normal. Bakersfield, Calif., had 15 days with minimum temperatures below freezing, which is 9 more than average.

PRECIPITATION. --In most of the area between the Cascade and Sierra Nevada Mountains in the Far West and the Appalachians in the East, precipitation was less than 50 percent of normal. In some areas it was less than 25 percent of normal. At many stations in this area, totals for January were the least in many years. Precipitation was the least for January at Winnemucca, Nev., Salt Lake City, Utah, Alpena and Detroit, Mich, and Memphis, Tenn.; equaled the least for January at Kansas City, Mo., and was the least since 1871 at Cleveland, Ohio. Grand Junction, Colo., and Prescott, Ariz., had more than 50 days during December and January without measurable precipitation for their longest winter dry spells on record.

Precipitation was notably heavy in the Rio Grande Valley and central portions of Texas where monthly totals at many stations ranged from 200 to more than 400 percent of normal. Abilene had 3.99 inches which was the most for January since 1886 and Waco had 5.83 inches, the most on record. Some lowland flooding occurred along streams in the eastern part of the State during the middle portion of the month. In western Washington, where precipitation was above normal and monthly totals ranged up to 31.43 inches at Spruce, some flooding also occurred along streams that drain into Puget Sound about midmonth.

SNOW. --At the beginning of the month, snow covered interior sections of the Pacific Northwest, the Rocky Mountain ranges, the upper Great Plains, the Ohio Valley, and the Northeast. The cover was heavy in the Northeast, but lighter than usual in the Great Lakes region. During the first half of the month, the cover in the midcontinent area retreated to the upper Great Lakes region and the eastern Dakotas, and there was also considerable bare ground in the Pacific Northwest, but the heavy cover persisted in the Northeast. The cover from the Great Lakes westward remained below normal the remainder of the month.

Two major snowstorms in the Northeast maintained a heavy cover there during the second half of the month. The first storm on the 15th and 16th off the New England coast deposited several inches of snow in the mountains of Maryland, 7 to 9 inches in southeastern Pennsylvania and New York, 2 to 10 inches in western Massachusetts, and 10 to 15 inches in south-central Massachusetts and northwestern Connecticut. The next major snowstorm in the Northeast moved from the middle Mississippi Valley across Virginia and up the Atlantic coast on the 19th and 20th. Snowfall during this storm measured about 2 inches in southern Maryland and ranged from about 5 to 16 inches in north-central and western portions of the State, with nearly 8 inches in Washington, D. C. In New Jersey 10- to 12-inch falls were measured over most of the State with 24 to 30 inches in the extreme northwestern portion. Falls ranged from 4 to 12 inches in most of Pennsylvania with 19 inches in the Susquehana Valley, 6 to 12 inches in southeastern New York, and 10 to 20 inches in southern New England.

Heavy snow fell in mountainous areas of the Far Southwest during the last week, with falls of over a foot reported in the mountains of New Mexico. At the end of the month the snowpack in the western mountain ranges generally was below to much below normal.

DESTRUCTIVE STORMS. --Losses from severe local storms were insignificant. The northeastern storm on the 19th and 20th, with gale-force winds, caused widespread flooding of coastal lowlands in New England and forced 25 families to evacuate in the Massachusetts Bay area. Snow removal in the Northeast cost large sums, and many deaths were due to overexertion and traffic accidents.

A glaze storm from Louisiana to the Carolinas on the 25th, damaged lines in northern Georgia.

Sunshine was abundant in central interior portions of the Country, with Topeka, Kans., Lincoln, Nebr., and Burlington, Iowa, reporting the sunniest January on record.

CONDENSED CLIMATOLOGICAL SUMMARY

JANUARY 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	75	18	3 Stations	4	22	Mobile	6.49	Muscle Shoals FAA AP	1.20
Arizona	Yuma WB AP	83	16	2 Stations	-7	29+	Fort Grant	2.60	Winslow WB AP	T
Arkansas	3 Stations	73	18	Mammoth Springs	-6	28	Devils Knob	3.34	Berryville 4NW	.14
California	do	90	18+	White Mountain 1	-5	28	Honeydew 2WSW	17.57	Eagle Mtn.	.00
Colorado	Boulder	70	23	Fraser	-38	28	Mancos	1.23	5 Stations	.00
Connecticut	Norwich Pub Util Pl	55	15	Coventry	-32	22	Norfolk 2SW	4.23	Storrs	1.50
Delaware	Selbyville	59	7	Newark University Farm	-9	22	Selbyville	D4.32	Wilmington Porter Resvr	2.43
Florida	2 Stations	85	26+	2 Stations	15	22	South Miami 3W	8.52	Cape Sable Ranger Sta.	.93
Georgia	Ashburn	77	12	Blairsville Exp Sta	-8	22	Valdosta WB Airport	5.93	Atlanta WB Airport	1.74
Idaho	Slate Creek RS	61	15+	Island Park Dam	-28	27	Wallace	4.72	3 Stations	.00
Illinois	Harrisburg	66	13	2 Stations	-13	27+	Golconda Dam 51	2.34	Morris 5N	.03
Indiana	Johnson Exp Farm	63	13	New Castle	-24	25	W. Baden Spgs Col	2.42	Rochester	.02
Iowa	2 Stations	62	31+	2 Stations	-23	24	Donnellson 4N	.89	Humboldt No. 2	T
Kansas	do	71	31+	Washington	-16	27	Mound Valley 3WSW	.66	Numerous Stations	.00
Kentucky	Princeton	69	13	Cynthiana 2	-21	28	Jeremiah	4.90	Munfordville	1.25
Louisiana	2 Stations	78	19+	2 Stations	10	29	Colfax	11.85	Marion	1.53
Maine	Bridgton 1NNW	50	14	Squa Pan Dam	-35	31+	Bar Harbor	4.44	Sanford 2NNW	1.03
Maryland	Crisfield Hammock Pt	63	14	Unionville	-19	22	Cambridge 4W	D4.45	Benson Police Barracks	1.73
Massachusetts	Rochester	57	15	South Egremont	-31	22	Ashburnham	4.34	Adams	1.03
Michigan	Monroe Sewage Plant	56	14+	2 Stations	-27	30+	Whitefish Point	2.45	Howell Sewage Plant	.06
Minnesota	Canby	53	12	Bigfork	-43	22	Tower Ranger Station	.74	7 Stations	T
Mississippi	Pelahatchie	79	18	Houston 2NE	8	22	Prentiss 2NNE	9.46	Ripley	.77
Missouri	Ozark Beach	68	18	Festus 2NW	-22	28	Fisk	2.50	Carthage	.00
Montana	3 Stations	63	15+	West Yellowstone	-43	27	Heron 2NW	4.06	10 Stations	.00
Nebraska	Greeley	68	31	2 Stations	-22	24	Bloomfield	.76	Numerous Stations	.00
Nevada	2 Stations	73	17+	Geyser Ranch	-13	29	Goldfield	1.18	2 Stations	.00
New Hampshire	Blackwater Dam	52	15	First Conn Lake	-39	11	Greenville	3.97	Lancaster	.48
New Jersey	5 Stations	58	14+	Layton 3NW	-29	22	Toms River	4.90	High Point Park	1.39
New Mexico	Hobbs	72	17	Eagle Nest	-28	29	Sandia Crest	2.14	3 Stations	.00
New York	2 Stations	56	7	Poughkeepsie FAA AP	-30	21	Pulaski	6.10	Ovid	.28
North Carolina	Williamston 1ESE	70	14	Oconalufty	-10	22	Coweeta 8	6.43	Mount Gilead 4W	1.01
North Dakota	Mandan Ft. Lincoln P	55	16	Belcourt Indian Res	-41	24	Arvilla State Park	.64	Numerous Stations	T
Ohio	Chilo Dam 34	60	13	2 Stations	-21	26+	Proctorville Dam 27	3.93	Montpelier	.05
Oklahoma	Tishomingo Natl WLR	73	17	Kenton	-7	28	Checotah	1.97	10 Stations	.00
Oregon	Cascadia RS	73	21	La Grande 16WSW	-14	4	Valsetz	18.94	Mitchell	.07
Pennsylvania	Norristown	59	7	Mercer 2NNE	-32	22	Johnstown	5.56	Greenville	.56
Puerto Rico	4 Stations	91	31+	Cayey 1NW	52	31	Rio Blanco Upper	11.39	Mona Island	.00
Rhode Island	Providence WB AP	56	14	Kingston	-14	22	Providence WB AP	3.52	Kingston	1.80
South Carolina	3 Stations	72	12	Caesars Head	-1	22	Sassafras Mountain	4.90	Loris	D1.09
South Dakota	Orman Dam	65	31	Andover 7N	-35	24	Wagner	1.04	3 Stations	.00
Tennessee	Brownsville	68	13	Oneida	-13	29	Haw Knob	4.11	Memphis WB City	.71
Texas	Rio Grande City 2ESE	82	19	Stratford	-1	28	Beaumont	11.52	Bravo	.00
Utah	2 Stations	67	17+	Flaming Gorge	-20	27	Beaver Canyon PH	1.09	54 Stations	.00
Vermont	do	51	15+	2 Stations	-32	22	Mays Mill	3.63	Enosburg Falls	.39
Virginia	St. Paul	65	13	Timberville 2N	-16	28	Dunbar	5.71	Newport 2NW	1.00
Washington	Kosmos	70	20	Stockdill Ranch	-9	2	Spruce	31.43	Priest Rapids Dam	.22
West Virginia	2 Stations	65	14+	Kumbrabow State Forest	-26	25	Birch River 6SSW	5.88	Wellsburg 3NE	1.09
Wisconsin	3 Stations	56	13	Gordon 2ESE	-34	22	Gurney	1.05	Breed	T
Wyoming	Metz Ranch	64	5	Bondurant	-41	27	Moran	.54	21 Stations	.00

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	997.1	1023.4	50	28	39.0	- 6.2	66	18	13	22	0	22	35	73	1.49	-3.49	0.65	7	0	T	T	7.6	NNW	33	NW	19	10	5	16	6.3	50
HUNTSVILLE	605	999.2	1023.3	47	26	36.3		63	12	10	22	0	26	32	70	1.76		0.62	6	1	T	T	6.2	NW	24*	NW	21+	7	9	15	6.5	
MOBILE	211	1020.8	1023.1	55	36	45.4	- 7.3	72	18	21	22	0	13	41	72	6.14	1.12	2.45	9	0	T	0	11.0	N	30*	NW	19	9	6	16	6.2	
MONTGOMERY	195	1014.7	1023.2	51	31	40.6	- 8.6	66	12	15	22	0	20	36	72	2.18	-2.42	0.66	9	0	T	0	8.5	NW	31	NW	19	10	5	16	6.2	50
ALASKA																																
ANCHORAGE	90	998.0	1003.1	27	15	20.9	7.9	50	19	- 6	9	0	29	16	80	1.51	0.75	1.19	7	0	1.7	3	6.5	NNE	25*	SSE	20	9	2	20	6.8	36
ANNETTE	110	1005.1	1009.2	45	33	39.1	4.5	61	19	23	27	0	11	33	80	9.69	0.29	1.64	19	0	4.4	3	10.5	ESE	37*	SE	11	7	6	18	7.0	
BARROW	22	1021.7	1022.1	- 7	-16	-11.0	4.1	30	22	-32	18	0	31	-21	62	0.27	0.11	0.21	5	0	2.5	13	13.4	E	35*	SE	19	2V	0V	5V		
BARTER ISLAND	39	1021.0	1022.7	- 6	-16	-11.0	4.5	26	22	-31	18+	0	31	-21	60	0.07	-0.32	0.05	4	0	0.9	8	11.9	ENE	29*	E	19	5X	2X	8X		
BETHEL	125	997.3	998.6	17	5	11.1	4.3	38	24+	-20	11	0	30	4	73	0.08	-0.82	0.03	7	0	0.6	14	15.4	NE	38*	NE	11	5	4	22	7.6	
COLD BAY	90	987.5	990.7	36	26	31.0	1.9	43	27	7	14	0	21	27	83	1.93	-0.59	0.45	20	0	11.1	3	19.3	SE	60*	ESE	19+	2	8	21	8.1	
CORDOVA	40	1001.4	1003.5	40	25	32.6	7.6	58	21	0	9	0	22	27	83	7.59	0.54	2.13	20	0	16.2	8	6.0	ESE	40*	ESE	20	8	2	21	7.1	
FAIRBANKS	436	991.9	1009.9	8	-12	- 2.0	7.8	47	21	-34	8	0	31	-10	66	0.25	-0.74	0.17	4	0	7.4	15	4.5	NNE	18*	SE	20	13	8	10	5.1	
JUNEAU	17	1007.8	1008.6	35	26	30.5	4.3	46	27	17	23	0	27	26	86	3.76	-0.72	0.89	15	0	18.9	7	7.9	ESE	35*	ESE	1	5	4	22	7.7	37
KING SALMON	44	993.9	996.0	29	14	21.3	7.2	45	28+	- 6	16	0	27	17	80	0.83	-0.22	0.49	9	0	4.3	4	10.0	N	46*	E	18	6	9	16	6.9	
KOTZEBUE	10	1010.2	1010.8	13	1	6.6	13.2	39	20	-24	10	0	31	0	73	0.26	-0.21	0.08	9	0	3.2	15	12.2	E	37*	ESE	20	6	5	20	7.5	
MC GRATH	334	992.9	1006.1	7	-11	- 1.7	7.0	46	20	-37	9	0	31	-10	69	0.10	-1.04	0.05	4	0	4.0	18	3.2	NW	24*	ENE	20	11	11	9	4.7	
NOME	13	1004.1	1004.6	20	9	14.8	9.2	38	25+	-14	14	0	30	8	75	0.92	-0.33	0.29	14	0	10.6	24	12.6	ENE	39*	NE	10	2	4	25	8.4	20
SHEMYA	122	986.1	990.0	34	29	31.0		38	30+	24	12	0	27	28	87	1.46		0.23	22	0	19.4	7	20.7	NE	64*	SSE	5	0	7	24	8.7	
ST. PAUL ISLAND	22	990.5	991.5	31	24	27.3	0.9	39	20+	9	11	0	25	24	88	3.32	1.50	1.02	22	0	30.1	25						0	2	29	9.4	
YAKUTAT	28	1004.4	1005.4	39	25	31.7	5.2	49	20	5	8	0	26	27	85	7.56	-4.04	2.57	19	0	40.7	15	6.5	ENE	29*	E	30	7	4	20	7.3	
ARIZONA																																
FLAGSTAFF	6993			46	14	30.2	4.9	56	12+	- 2	29	0	31			1.15	-0.54	1.13	2	0	11.2	10						15	6	10	4.3	
PHOENIX	1109	979.0	1019.3	69	40	54.2	4.5	78	16	31	7+	0	3	29	45	0.23	-0.37	0.18	5	0	0.0	0	4.3	E	16*	SW	27	14	6	11	4.6	84
PRESCOTT	5014	850.3	1022.3	56	24	40.1	4.8	65	18	14	3	0	27	17	46	0.60	-0.50	0.59	2	1	T	0	4.5	SSW	28	SW	27	16	6	9	4.1	79
TUCSON	2584	928.9	1018.2	64	41	52.5	2.8	74	16	32	7	0	1	31	50	0.95	0.32	0.77	4	0	0.0	0	9.0	ESE	33	SE	9+	15	2	14	5.1	71
WINSLOW	4880	857.1	1026.8	43	17	29.6	- 3.1	59	25	4	3	0	29	20	72	T	-0.37	T	0	0	T	T	6.6	SW	26*	SW	27	16	5	10	4.4	
YUMA	199	1014.2	1019.5	73	46	59.7	4.4	83	16	37	1	0	0	25	32	0.24	-0.09	0.18	3	0	0.0	0	8.5	N	21	N	19+	18	3	10	3.7	80
ARKANSAS																																
FORT SMITH	449	1007.5	1024.6	48	24	35.7	- 4.3	63	18	9	21	0	28	25	69	0.44	-2.45	0.33	5	0	0.4	T	7.2	NE	29	NW	20	12	4	15	5.5	64
LITTLE ROCK	257	1010.8	1024.5	48	24	35.9	- 5.9	68	18	11	25	0	27	26	70	0.75	-4.37	0.46	7	0	T	1	8.0	WSW	31	W	20	12	6	13	5.7	50
TEXARKANA	361		1023.8	52	31	41.3	- 4.6	71	18	16	21	0	20	31	69	1.46	-3.66	1.13	8	0	1.9	2	5.7	NE								
CALIFORNIA																																
BAKERSFIELD	494	1004.7	1023.3	54	34	43.7	- 3.2	72	23	25	1	0	15	37	82	0.39	-0.63	0.33	2	0	0.0	0	3.9	E	17*	N	26	6	4	21	7.3	
BISHOP	4108	879.1	1022.7	60	21	40.5	2.6	71	18+	13	3	0	29			0.17	-0.95	0.17	1	0	0.0	0						18	7	6	3.7	
BLUE CANYON	5280	841.9	1019.6	53	38	45.5	9.3	69	18	28	28	0	5			3.83	-5.34	1.97	7	0	5.3	2	6.8	ENE	31	SSE	7	10	6	15	5.9	
BURBANK	699	992.6	1019.1	73	45	59.3	6.7	84	18+	38	3+	0	0	31	41	1.64	-0.71	1.53	2	0	0.0	0	4.8	NNW	21*	N	15	18	4	9	3.8	
EUREKA U	43	1018.0	1020.3	58	43	50.5	3.3	69	22	34	2+	0	0			4.54	-1.66	2.58	13	0	0.0	0	5.0	E*	36	SE	7	9	5	17	6.8	55
FRESNO	331	1010.2	1022.7	50	34	42.4	- 2.3	69	22	22	7	0	14	37	87	1.52	-0.05	1.23	4	0	0.0	0	4.7	ESE	20	SW	26	3	5	23	8.1	35
LONG BEACH	34	1018.3	1019.6	72	44	58.0		85	16	34	3	0	0	36	51	1.28		1.18	2	0	0.0	0	5.2	WNW	21*	SW	31	14	10	7	4.3	
LOS ANGELES	99	1015.2	1019.2	70	48	58.9	5.7	83	16	40	7	0	0	36	48	1.27	-0.74	1.22	2	1	0.0	0	5.6	W	14*	SE	26	17	4	10	4.2	
LOS ANGELES U	312			73	51	62.0	7.0	84	18	41	2	0	0	38	48	1.28	-1.10	1.04	2	0	0.0	0	6.5	N*	17	E	26+	19	5	7	3.6	79
MT SHASTA R	3544	896.4	1022.7	51	28	39.6	6.8	65	20	17	4+	0	26			2.73	-1.81	1.67	8	0	0.6	1						11	4	16	5.9	
OAKLAND	3	1021.3	1021.8	56	39	47.2	0.0	64	31	28	5	0	9	40	79	2.63	-0.67	1.69	7	0	0.0	0	6.4	ENE	22*	SSE	31	7	9	15	6.4	
POINT ARGUELLO	367	1005.4	1018.9	66	40	53.0		80	11	30	5	0	1			1.10		1.02	5	0	0.0	0	6.5		25*	SSE	25	18	7	6	3.9	
RED BLUFF	341	1009.5	1022.5	52	37	44.5	- 0.6	66	10	26	4+	0	11	38	83	2.62	-1.11	0.79	11	0	0.0	0	8.2	N	40	SE	31	4	9	18	7.3	44
SACRAMENTO	17	1021.7	1022.9	47	37	42.4	- 1.9	61	31+	26	2	0	10	40	94	3.47	0.81	1.52	6	0	0.0	0	4.0	SE	20	SE	31	0	4	27	9.2	18
SANDBERG R	4517	865.9	1020.0	52	41	46.4	6.6	62	17	34	28+	0	0			1.24	-1.06	1.24	2	0	0.0	0	15.3	ENE	38*	E	19	18	7	6	3.3	
SAN DIEGO	19	1014.9	1018.3	71	50	60.7	5.8	82	17	43	3+	0	0	39	51	1.21	-0.48	1.09	3	0	0.0	0	4.1	N	22	SE	26	16	5	10	4.2	75
SAN FRANCISCO	8	1021.0	1021.8	54	41	47.7	- 0.2	65	31	32	4+	0	2	43	84	2.63	-0.84	1.80	7	0	0.0	0	5.5	ESE	22	SSE	30	5	10	16	6.8	
SAN FRANCISCO U	52			54	44	49.1	- 1.0	64	10	35	6+	0	0			2.79	-1.24	1.76	8	0	0.0	0	6.0	N*	21	SE	31					68
SANTA MARIA	238	1011.2	1020.2	70	38	54.1	3.7	83	19+	29	5+	0	7	37	60	0.91	-1.80	0.81	3	0	0.0	0	5.3	WNW	26*	ESE	25	18	6	7	3.6	
COLORADO																																
ALAMOSA	7536	773.5	1030.3	33	- 7	12.9	- 4.0	42	31+	-23	4	0	31			0.09	-0.14	0.09	2	0	2.1	2						18	9	4	3.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	812.7	1025.5	46	14	30.1	1.3	62	8	0	27	0	31	6	44	0.14	-0.08	0.11	3	0	3.0	2	9.4	N	30*	NNW	18	16	10	5	3.7	
DENVER	5292	840.2	1023.8	44	19	31.7	3.0	64	23	- 3	27	0	30	14	54	0.07	-0.43	0.04	3	0	1.0	1	8.7	SSW	24	NW	1	17	7	7	3.8	85
GRAND JUNCTION	4849	865.9	1028.6	43	15	29.4	5.4	49	25+	6	4	0	31	9	45	T	-0.60	T	0	0	T	T	7.8	ESE	24	NE	27+	19	7	5	3.1	95
PUEBLO	4639	860.1	1024.8	48	14	30.9	1.5	67	23	0	28	0	31	15	59	0.04	-0.34	0.04	2	0	1.8	2	5.8	W	56	N	18	18	5	8	3.7	86
CONNECTICUT																																
BRIDGEPORT	7	1016.7	1017.7	32	17	24.5	- 4.7	49	7	- 1	22	0	29	22	66	2.37	-1.06	0.99	7	0	18.0	12	11.6	NW	39	NNE	20	11	11	9	5.2	
HARTFORD	169	1010.1	1016.4	28	5	16.9	-10.1	46	7	-26	22	0	31	16	66	2.56	-0.59	1.08	8	0	30.6	25	8.6	N	35	NW	4	10	10	11	5.5	76
NEW HAVEN	6	1016.6		32	15	23.7	- 5.4	49	7	- 7	22	0	30			2.23	-1.66	0.98	8	0	20.0	14	8.7		33	NW	20	14	7	10	5.2	72
DELAWARE																																
WILMINGTON	78	1015.0	1018.3	35	17	25.6	- 7.7	55	7	- 3	22	0	29	23	68	2.84	-0.72	1.08	7	0	16.5	11	10.0	WNW	32	NW	24	7	13	11	5.8	
FLORIDA																																
APALACHICOLA U	13	1020.0		58	42	49.8	- 5.4	65	26+	26	22	0	3			4.39	0.78	1.81	11	1	0.0	0	8.4		29	NW	19	9	9	13	6.1	71
DAYTONA BEACH	31	1019.4	1021.3	64	44	54.0	- 5.5	78	26	27	22	0	5	49	74	1.96	-0.14	1.18	7	1	0.0	0	9.3	NW	23*	N	25+	7	9	15	6.3	
FORT MYERS	15	1019.8		72	51	61.5	- 3.1	80	8+	34	22	0	0		75	3.31	1.79	2.02	5	2	0.0	0	8.2		24*	SSW	29	11	7	13	5.6	
JACKSONVILLE	24	1020.4	1021.8	60	41	50.5	- 5.4	70	24+	24	22	0	5	45	71	2.87	0.19	1.30	10	0	T	0	9.9	NW	33	E	13+	10	7	14	5.8	58
KEY WEST	5	1018.4	1019.7	72	62	67.0	- 3.8	83	1	52	23	0	0	62	78	1.25	-0.29	0.49	6	0	0.0	0	11.3	NE	33	N	20	7	15	9	6.1	68
LAKELAND U	214			66	48	56.8	- 5.2	80	26	30	22	0	1			1.70	-0.46	0.92	8	1	0.0	0	8.1					12	8	11	5.4	66
MIAMI BEACH	9			74	61	67.2	- 2.8	80	15+	42	22	0	0			2.53	0.49	1.11	9		0.0	0			25	E	10+	13	6	12	5.2	64
MIAMI	7	1018.5	1019.8	73	57	64.9	- 3.4	82	1	39	22	0	0	59	72	5.12	3.06	2.20	7	2	0.0	0	8.8	NNW	25	NW	29	9	8	14	6.0	
ORLANDO	106	1016.4	1021.3	67	47	56.9	- 5.0	83	26	29	22	0	1	51	72	1.75	-0.30	1.16	6	0	0.0	0	8.6	NNE	21*	NW	21	9	11	11	6.0	
PENSACOLA U	13			56	40	48.0	- 6.0	65	12	25	22	0	6			3.19	-1.36	1.03	10	0	0.0	0	10.9		25	NW	19					48
TALLAHASSEE	64	1019.0	1021.9	58	38	47.8	- 5.8	69	12	18	22	0	10	43	73	2.85	-1.27	0.96	9	1	0.0	0	6.7	NNW	25*	NW	19	10	5	16	5.9	
TAMPA	19	1019.9	1021.5	67	48	57.7	- 3.8	79	11	31	22	0	1	52	71	1.45	-0.54	0.62	8	1	0.0	0	11.4	NNE	29*	NNW	21+	8	7	16	6.2	63
WEST PALM BEACH	15	1018.9	1020.2	73	54	63.6	- 3.4	80	26+	36	22	0	0	58	73	3.17	0.69	2.20	6	0	0.0	0	11.2	NNW	27*	E	11	7	8	16	6.1	
GEORGIA																																
ATHENS	798	991.4	1021.3	51	28	39.3	- 5.4	67	12	11	22	0	21	35	65	2.25	-2.76	0.75	7	0	1.0	1	9.4	W	28*	NW	19	12	9	10	4.7	
ATLANTA	975	979.4	1022.3	48	29	38.5	- 6.1	65	12	10	22	0	23	33	60	1.74	-2.93	0.93	7	0	0.1	1	13.7	WNW	46*	NW	19	11	9	11	5.2	60
AUGUSTA	143	1014.1	1021.2	54	29	41.4	- 6.0	70	12	10	22	0	22	36	66	2.70	-0.76	1.50	6	0	0.2	1	6.5	WSW	25*	NW	19	13	6	12	5.2	
COLUMBUS	385	1008.0		53	30	41.5	- 5.9	68	18+	12	22	0	21			2.34	-2.24	0.77	10	0	T	0	8.9		29*	W	1	10	6	15	6.0	
MACON	356	1007.9	1021.9	54	32	42.7	- 6.8	72	12	15	22	0	18	37	64	2.73	-1.28	1.05	9	0	0.6	T	8.8	NW	32	W	19	11	6	14	5.6	69
ROME	637	998.3		48	24	35.8	- 6.9	64	12	5	22	0	27			2.19	-3.36	0.73	6	1	1.1	1						11	8	12	5.6	
SAVANNAH	48	1019.0	1021.9	57	35	45.6	- 6.0	69	12+	17	22	0	15	41	71	2.15	-0.30	1.07	8	1	T	T	9.4	WNW	31	NW	19	11	8	12	5.4	58
THOMASVILLE U	283			57	38	47.4	- 6.8	70	12	20	22	0	10			3.83	-0.18	1.24	11	0	0.0	0										
HAWAII																																
HILO	31	1012.9	1014.2	81	63	71.7	1.3	86	17+	55	24	0	0	62	76	2.34	-11.79	0.84	12	0	0.0	0	9.2	SW	30*	S	1	6	19	6	5.5	55
HONOLULU	7	1013.5	1014.0	81	66	73.6	1.4	85	14	59	1	0	0	62	70	4.17	-0.48	2.49	8	0	0.0	0	10.0	NE	40	SW	17	19	7	5	3.8	72
LIHUE	115	1008.5	1013.5	79	64	71.3	1.2	83	29+	56	18	0	0	62	77	1.27	-4.96	0.41	15	1	0.0	0	10.0	NE	31	SE	25	13	13	5	4.3	57
IDAHO																																
BOISE	2842	928.2	1027.6	43	23	32.9	5.6	55	15	12	5+	0	28	25	77	0.42	-0.91	0.29	5	0	T	T	5.2	SE	20	SE	29	9	4	18	6.4	68
IDAHO FALLS 42NW R	4790			34	0	17.2	4.9	47	30	-20	27	0	31			T	-0.53	T	0				2.9	NNE	24A	S	31					
IDAHO FALLS 46W R	4933	854.7	1030.1	36	3	19.5	3.8	47	30	-12	27	0	31			T	-0.66	T	0	0	T	T	3.1	NNE	19A	SW	31					
LEWISTON	1413	971.6	1024.7	42	30	35.7	4.9	54	14	15	4+	0	28			0.84	-0.21	0.28	9	0	2.9	3						2	4	25	8.7	
POCATELLO	4444	869.6	1029.3	38	13	25.6	3.6	54	17	- 8	3	0	28	17	73	0.24	-0.97	0.09	6	0	1.9	2	7.5	S	27	S	30+	8	5	18	6.7	76
ILLINOIS																																
CAIRO U	314	1009.8		41	25	33.0	- 4.4	62	13	5	21	0	24			1.51	-2.97	1.13	6	1	3.2	3	8.7	SW#	28	N	19	12	10	9	4.8	66
CHICAGO O HARE	656	994.9	1021.0	29	11	20.3		52	13	- 8	25	0	31	13	75	0.27		0.13	4	0	3.0	2	10.9	WSW	30*	NNW	24	6	9	16	6.5	
CHICAGO MIDWAY	610	997.3	1021.3	30	17	23.3	- 1.6	51	13	- 2	25	0	28	15	71	0.26	-1.58	0.13	7	0	6.3	4	11.7	NW	34	W	7	7	8	16	6.4	48
MOLINE	589	998.6	1022.1	30	12	21.1	- 2.1	58	13	- 9	27+	0	30	13	70	0.31	-1.19	0.15	6	0	3.4	2	8.7	WSW	31	NW	24+	7	9	15	6.3	60
PEORIA	652	998.6	1023.0	30	13	21.3	- 3.7	49	17	- 8	25	0	30	14	76	0.32	-1.65	0.11	6	0	3.5	2	9.6	S	29	NW	24+	13	4	14	5.6	66
ROCKFORD	728	992.9	1021.6	28	11	19.5	- 4.2	54	13	- 7	25	0	31	12	75	0.18	-1.76	0.11	3	0	1.9	2	9.5	WNW	23*	SW	23	5	12	14	6.3	
SPRINGFIELD	588	998.6	1023.3	34	15	24.5	- 2.9	53	13	- 5	25	0	28	15	70	0.35	-1.68	0.09	6	0	3.4	1	12.4	SW	35	N	24	13	6	12	5.2	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	383	1006.4	1022.9	39	19	29.4	- 5.3	60	13	-13	28	0	25	21	72	0.97	-2.96	0.53	7	0	4.4	3	10.1	SW	32	NW	24	12	6	13	5.5	66
FORT WAYNE	801	987.8	1021.1	30	14	21.9	- 4.4	49	13	- 9	25	0	31	15	76	0.40	-2.14	0.11	10	0	4.5	2	12.8	WSW	42	NW	8	5	12	14	6.7	49
INDIANAPOLIS	793	990.5	1021.8	33	15	23.6	- 5.2	56	13	-10	28	0	31	16	73	1.22	-1.93	0.90	7	0	3.6	3	8.3	WSW	30	NW	24	10	9	12	5.7	57
SOUTH BEND	768	990.9	1020.3	30	14	21.8	- 2.8	50	13	-16	25	0	31	16	76	0.95	-1.05	0.36	14	0	20.7	10	11.2	SW	26*	NW	24+	2	8	21	7.9	
IOWA																																
BURLINGTON	694	996.3	1023.3	33	12	22.6	- 1.4	56	13	-10	27	0	31	14	70	0.51	-1.23	0.16	5	0	5.3	2	11.3	NW	35	NW	7	11	6	14	5.6	74
DES MOINES	948	991.2	1024.3	33	11	22.0	- 0.1	56	12	-12	27	0	31	13	71	0.33	-0.90	0.15	8	0	5.5	3	12.2	NW	41	NW	20	9	11	11	5.9	75
DUBUQUE	1065	995.6	1022.1	26	9	17.4	- 2.0	48	13	-10	27+	0	31	10	71	0.32	-1.05	0.13	4	0	3.6	5						6	8	17	6.6	
SIOUX CITY	1095	980.4	1024.2	29	7	18.2	- 0.9	48	31	-16	24	0	31	10	71	0.30	-0.44	0.27	4	0	4.0	4	10.7	NW	35	NW	19	8	9	14	6.0	79
WATERLOO	870	988.8	1022.7	26	6	16.0	- 2.7	50	12	-15	24	0	31	9	74	0.31	-0.85	0.10	7	0	5.2	2	7.4	NW	27*	NNW	20	4	13	14	6.3	
KANSAS																																
CONCORDIA U	1375	972.6		42	17	29.8	1.7	66	31	- 3	27+	0	29		61	0.06	-0.53	0.06	1	0	0.8	1	6.5	W#	34	N	20	20	5	6	3.1	88
DODGE CITY	2594	932.6	1023.8	48	19	33.2	2.9	67	23	4	25	0	31	17	58	T	-0.49	T	0	0	T	T	15.1	WSW	50	N	18	17	8	6	3.8	88
GOODLAND	3645	891.6	1023.2	45	16	30.4	4.6	65	31+	- 4	27	0	31	16	63	0.01	-0.30	0.01	1	0	0.3	2	12.0	WSW	37*	N	18	17	4	10	4.0	
TOPEKA	877	986.8	1024.4	43	15	28.8	0.1	62	31	- 4	27	0	31	17	65	0.07	-1.00	0.06	2	0	0.9	1	11.0	SSW	42	N	24+	18	3	10	3.8	82
WICHITA	1321	972.6	1023.9	44	19	31.4	- 0.6	59	17	4	21	0	31	21	72	0.02	-1.03	0.02	1	0	0.3	T	11.9	N	43	N	18	16	6	9	4.1	77
KENTUCKY																																
LEXINGTON	979	984.8	1022.2	36	20	27.8	- 6.1	58	13	- 8	28	0	24	26	77	1.71	-2.79	0.91	8	0	6.2	4	8.6	SSW				10	7	14	5.8	
LOUISVILLE	474	1002.0	1022.3	38	20	28.8	- 6.1	57	12	- 8	28	0	25	26	74	1.57	-2.53	0.91	7	0	3.8	3	7.9	WSW	25	NW	24+	10	10	11	5.5	64
LOUISIANA																																
ALEXANDRIA	92	1019.0	1023.8	54	31	42.5		72	18	18	30	0	20	35	78	8.72		5.37	10	1	T	T	6.7	NE				8	9	14	6.1	
BATON ROUGE	64	1020.3	1023.5	54	34	44.3	- 8.1	72	18	21	29	0	14	36	75	5.20	-0.29	2.12	9	0	0.0	0	9.6	NE				6	7	18	6.9	
LAKE CHARLES	12	1021.7	1023.2	55	38	46.7	- 5.9	73	17	25	29	0	12	39	78	4.39	-0.43	1.90	11	2	T	T	6.3	NNE	21*	NNE	19	6	7	18	7.1	
NEW ORLEANS U	9			56	43	49.3	- 6.6	72	18	30	29	0	3		73	7.56	2.78	2.67	11	2	0.0	0	7.2		19	N	19+	8	9	14	6.5	43
NEW ORLEANS	3	1020.7	1023.0	57	38	47.4	- 7.5	72	18	22	22	0	7	41	83	6.94	2.26	2.48	10	1	T	0	9.4	NNE	24*	ENE	7	6	8	17	6.7	
SHREVEPORT	252	1014.6	1024.3	54	33	43.4	- 4.4	74	17	21	29+	0	16	34	74	3.79	-0.93	1.68	10	1	0.8	1	10.0	NNE				11	7	13	5.8	58
MAINE																																
CARIBOU	624	988.3	1013.2	13	- 6	3.8	- 4.9	35	14	-29	24	0	31	3	63	1.08	-1.16	0.44	15	0	31.6	26	11.5	WNW	32*	NW	14	7	12	12	5.9	
PORTLAND	61	1010.2	1014.5	27	4	15.3	- 5.4	47	14	-17	22	0	31	15	67	1.46	-2.97	0.84	6	0	15.8	8	9.7	WSW	35	N	20	11	8	12	5.7	65
MARYLAND																																
BALTIMORE	146	1014.4	1019.4	37	18	27.6	- 6.6	58	7	- 1	29+	0	28	24	60	2.91	-0.75	0.88	7	0	14.3	8	10.0	WNW	37	NW	1	11	12	8	4.9	61
BALTIMORE U	14			38	25	31.2	- 5.4	58	7	8	25	0	24			3.15	-0.51	1.22	7													
FREDERICK	294			34	15	24.0	- 8.7	52	7	- 8	22	0	31			2.07	-0.81	0.73	5	0	18.0	8										
MASSACHUSETTS																																
BLUE HILL OBS R	629	989.5		30	14	21.7		51	14	- 3	25	0	29		62	3.61	-0.48	1.16	7		21.1	17	17.4	W	48	NE	20					67
BOSTON	15	1009.7	1014.7	32	18	25.0	- 4.1	56	14	4	25	0	29	22	58	2.92	-0.58	1.22	8	0	18.7	13	15.3	W	41	NNE	20	11	9	11	5.3	73
NANTUCKET	43	1014.1		34	21	27.6	- 4.5	49	7	7	25	0	28			4.06	0.19	1.65	12	0	21.9	17	14.0	WNW	48	NW	20	12	8	11	5.6	61
PITTSFIELD	1170			26	4	15.1	- 6.1	49	14	-17	23	0	31			1.27	-1.83	0.42	9		20.4	17										
WORCESTER	986	975.8	1013.1	27	11	18.7	- 5.3	50	14	- 6	25	0	30	15	59	3.02	-0.31	1.23	6	0	32.4	28	11.3	WSW	39*	NNE	20+	12	9	10	5.3	
MICHIGAN																																
ALPENA	689	991.5		24	2	13.0	- 8.1	51	13	-18	20	0	31	7	70	0.16	-1.96	0.05	6	0	5.1	7	7.1	SW#	28	NW	7	2	14	15	7.4	45
DETROIT	619	991.9	1020.0	30	17	23.1	- 3.1	53	13	- 1	25	0	29	14	70	0.23	-1.85	0.07	8	0	3.3	2	12.0	W	35	NW	7	3	12	16	7.5	42
DETROIT M WAYNE CO	630	994.2	1019.6	30	14	21.7		52	13	- 5	25	0	31	14	72	0.27		0.14	6	0	3.7	2	11.5	SW				4	9	18	7.0	
DETROIT WILLOW RUN	722	989.8	1019.5	30	15	22.5	- 2.8	53	13	- 4	25	0	31	15	71	0.25	-1.55	0.12	4	0	4.7	3	12.2	SW	31*	W	7	3	10	18	7.3	
ESCANABA U	594	995.3		22	8	15.3	- 2.2	42	17	-11	23	0	31		70	0.23	-1.30	0.10	7	0	2.9	2	9.7		38	NW	7	6	6	19	7.2	38
FLINT	766	990.5	1019.8	28	11	19.2	- 4.0	52	13	- 9	25	0	31	13	76	0.32	-1.26	0.08	11	0	6.3	3	9.5	SW	25*	W	27	3	8	20	7.7	
GRAND RAPIDS	681	993.2	1020.0	28	14	20.9	- 2.6	50	13	-14	25	0	31	15	77	1.35	-0.55	0.27	18	0	30.0	11	9.7	SSW	29	W	7	4	4	23	8.1	38
LANSING	852	986.1	1019.7	28	12	19.9	- 3.9	54	13	-10	25	0	31	13	75	0.45	-1.42	0.12	10	0	5.6	4	12.4	SW	49	W	7	3	6	22	7.7	45
MARQUETTE U	677	990.2		23	9	16.0	- 2.7	45	13	- 6	23	0	31		70	0.97	-1.20	0.28	12	0	18.6	11	8.3	W#	33	NW	7	1	7	23	8.2	45
MUSKEGON	627	995.6	1019.9	28	16	22.0	- 2.9	42	13	- 3	25	0	31	17	79	1.36	-0.59	0.21	16	0	26.6	11	10.9	W	35*	W	7	2	5	24	8.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
SAULT STE MARIE	721	993.9	1018.1	19	2	10.7	- 3.1	40	13	-18	24	0	31	4	75	0.51	-1.65	0.12	16	0	8.3	17	8.0	E	32*	NW	17	5	4	22	7.5	45
MINNESOTA																																
DULUTH	1409	977.0	1020.8	19	- 3	7.9	- 0.4	40	10+	-28	24	0	31	- 2	64	0.14	-1.09	0.07	6	0	2.8	11	13.2	WNW	41	NW	17	10	5	16	6.1	63
INTERNATIONAL FALLS	1179	977.3	1021.8	13	-10	1.7	- 1.3	41	16	-35	24	0	31	- 7	67	0.46	-0.43	0.33	7	0	4.8	13	8.0	W	25*	NW	17	8	9	14	5.9	
MINNEAPOLIS	830	986.8	1022.7	23	2	12.0	- 2.6	46	16	-21	24	0	31	4	70	0.28	-0.52	0.14	4	0	4.6	2	9.3	WSW	35	NNW	23	7	12	12	6.0	72
ROCHESTER	1297	971.6	1022.0	24	7	15.1	0.8	44	12	-20	24	0	31	8	74	0.07	-0.86	0.03	4	0	1.7	1	11.4	NNW				4	13	14	6.5	
ST CLOUD	1034	982.1	1022.7	22	- 1	10.9	0.4	47	16	-24	24	0	31	3	69	0.07	-0.68	0.05	3	0	2.7	2						8	14	9	5.7	
MISSISSIPPI																																
JACKSON	305	1011.4	1023.9	51	30	40.6	- 7.7	72	18	19	29+	0	20	37	72	3.07	-2.02	0.97	9	0	T	0	5.1	NNW	36	N	19	11	4	16	6.1	47
MERIDIAN	292	1009.5	1023.8	52	29	40.4	- 7.1	73	18	13	22	0	22	36	77	2.57	-2.52	0.72	9	0	T	T	7.2	NE	26*	NW	21	9	9	13	5.9	
VICKSBURG U	234	1014.2		50	34	42.1	- 7.1	70	18	19	29	0	15			4.29	-1.15	1.47	10	1	T	T	8.0		34	NW	19	9	8	14	6.0	54
MISSOURI																																
COLUMBIA	778	992.6	1022.8	40	19	29.4	- 0.4	59	12	- 4	27	0	27	18	68	0.24	-1.56	0.10	7	0	2.7	1	10.9	NW	32	NW	20	15	5	11	4.5	67
KANSAS CITY	741	987.5	1023.9	43	21	31.7	1.7	62	31	- 5	27	0	26	15	55	0.05	-1.38	0.03	2	0	0.7	1	9.0	SW	30	NW	20	16	6	9	4.3	79
ST JOSEPH	809	987.5		40	15	27.4	0.3	59	31	- 8	27	0	31			0.09	-1.06	0.06	3	0	1.0	1	11.8	S	37*	NNW	20	17	4	10	4.2	
ST LOUIS	560	1001.7	1023.5	39	18	28.3	- 3.9	58	6	- 6	25	0	26	18	69	0.39	-1.53	0.14	6	0	5.3	4	8.6	WSW	26	NW	20+	13	5	13	5.0	60
ST LOUIS RFC	465			40	23	31.9	- 1.4	60	12+	- 1	21	0	19			0.57	-1.75	0.20	6		6.0	3										
SPRINGFIELD	1265	974.3	1023.8	44	19	31.2	- 1.5	61	31	1	28+	0	30	18	63	0.08	-2.23	0.08	2	0	0.8	1	11.9	SSE	42	NW	20	12	10	9	4.7	75
MONTANA																																
BILLINGS	3567	894.0	1021.6	42	22	32.2	9.3	61	23	2	29+	0	23	14	52	0.15	-0.38	0.08	2	0	1.7	1	13.8	WSW	33	W	6	5	10	16	6.9	71
GLASGOW	2277	944.8	1022.5	28	10	18.8	8.3	46	16+	-14	26	0	31	13	80	0.09	-0.31	0.07	4	0	1.5	2						5	11	15	7.0	
GREAT FALLS	3664	891.0	1020.9	42	24	32.8	10.1	55	16	2	30+	0	22	13	49	0.22	-0.33	0.19	4	0	2.9	2	14.5	SW	47	SW	15	5	8	18	7.4	61
HAVRE U	2488	929.6	1021.7	37	18	27.5	11.3	54	15	-13	26	0	27			0.18	-0.28	0.18	2	0	2.0	2	10.3	SW#	34	SW	5	7	9	15	6.3	53
HELENA	3893	877.4	1024.9	39	16	27.4	9.8	57	15	- 6	27	0	30	13	64	0.12	-0.39	0.08	3	0	1.8	1	6.9	W	34	S	6	8	5	18	6.9	65
KALISPELL	2965			32	16	23.9	3.6	47	16	-11	2	0	29			0.75	-0.57	0.26	7	0	5.5	7						3	7	21	8.0	
MILES CITY	2629	935.3	1023.3	34	15	24.4	8.3	56	16	- 9	27	0	30	16	72	0.08	-0.39	0.05	4	0	1.4	1	9.0	NW	32*	NW	19	4	9	18	7.1	
MISSOULA	3200	908.2	1027.8	30	13	21.6	2.2	48	16	-14	4	0	30	19	89	0.53	-0.28	0.37	6	0	7.9	10	4.2	NNW	22	NW	8	2	4	25	8.0	24
NEBRASKA																																
GRAND ISLAND	1841	954.3	1023.5	41	11	26.0	3.0	63	31	-11	24	0	31	12	62	T	-0.58	T	0	0	T	T	11.9	WSW				14	8	9	4.3	
LINCOLN U	1150			39	13	26.1	1.1	62	12	-12	27	0	31			0.24	-0.58	0.15	2	0	2.0	1	9.0	NW#	34	NE	13	15	8	8	4.3	82
NORFOLK	1544	964.8	1023.3	33	8	20.3	1.0	53	31	-16	24	0	31	11	65	0.20	-0.59	0.20	1	0	2.7	4						11	11	9	5.0	
NORTH PLATTE	2779	919.7	1023.0	43	11	26.6	2.6	63	31	- 9	27	0	31	13	61	T	-0.39	T	0	0	T	2	10.6	NNW	46	N	18	14	9	8	4.9	80
OMAHA	978	981.7	1024.0	36	13	24.6	1.6	59	12	-12	24	0	31	14	67	0.23	-0.62	0.14	3	0	4.7	3	10.5	NNW	47	N	20	10	13	8	5.0	77
OMAHA N OMAHA APT	1323	972.9		33	11	22.2	1.6	58	12	-16	27	0	30			0.19	-0.66	0.12	2	0	4.4	3						9	13	9	5.1	
SCOTTSBLUFF	3950	882.2	1023.7	42	13	27.4	3.9	59	31	- 6	27	0	31	15	63	T	-0.33	T	0	0	0.1	1	11.7	NW	39*	NNW	20	11	6	14	5.5	
VALENTINE	2587	927.9		37	11	24.1	4.1	60	31	-14	24	0	31		73	T	-0.56	T	0	0	0.3	1	9.4	W#	35	SW	8	10	9	12	5.5	85
NEVADA																																
ELKO	5075	850.3	1027.0	44	10	27.2	5.3	54	30	- 3	28	0	31	14	61	0.04	-1.03	0.02	2	0	0.3	T	4.0	ENE	17*	NNW	9	12	9	10	5.0	
ELY	6257	813.1	1025.8	46	8	27.0	4.0	60	17+	- 8	28	0	31	7	46	0.15	-0.79	0.15	1	0	0.5	T	9.4	S	32	N	20	13	9	9	4.8	89
LAS VEGAS	2162	955.6	1022.6	58	32	45.1	0.9	66	18+	24	2	0	17	18	39	0.22	-0.22	0.22	1	0	0.0	0	6.6	WSW	23*	SSW	27+	16	8	7	4.1	84
RENO	4404	866.6	1024.4	52	15	33.4	2.2	61	7	3	5	0	30	18	59	0.80	-0.24	0.51	4	0	2.6	1	3.0	SW	30	S	31	11	8	12	5.4	76
WINNEMUCCA	4299	873.7	1026.1	51	11	31.0	3.2	60	17	- 4	28	0	31	16	55	0.04	-0.92	0.02	3	0	T	0	5.4	NE	31	W	31	11	3	17	5.5	66
NEW HAMPSHIRE																																
CONCORD	339	1005.2	1015.5	28	1	14.5	- 5.6	50	14	-27	24	0	31	13	60	1.07	-1.84	0.49	5	0	11.4	14	6.1	NW	30	NW	2	13	7	11	5.3	69
MT WASHINGTON OBS	6262	791.1		5	-10	- 2.3	- 7.7	26	17	-34	25	0	31		75	3.00	-2.10	0.90	14	0	23.9	4	43.1	NW	131Y	NW	25	5	7	19	7.4	66
NEW JERSEY																																
ATLANTIC CITY	30	1016.0	1018.7	36	18	26.9	- 7.7	58	7	- 8	22+	0	27	24	68	4.06	0.58	1.89	9	0	15.9	10	12.9	W	36	ENE	19	8	14	9	5.4	62
ATLANTIC CITY U	8			36	22	28.8	- 7.0	52	7	8	28+	0	27			3.04	-0.74	1.35	9				14.0		44	NW	20					
NEWARK	58	1016.5	1017.9	34	19	26.6	- 4.9	56	7	4	25+	0	28	24	59	3.34	-0.26	1.46	8	0	22.2	15	10.0	WSW	37*	NNE	20	13	7	11	5.2	
TRENTON U	56	1010.4		33	20	26.4	- 6.2	55	7	5	25	0	28			2.80	-0.36	1.17	9	0	16.1	10	9.6	W	36	N	20	13	9	9	4.9	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	852.7	1023.6	46	21	33.9	0.2	54	18	15	4	0	31	16	52	0.23	-0.05	0.22	2	0	0.6	T	5.8	N	37	SE	24	17	4	10	4.1	82
CLAYTON	4969	848.0	1021.0	50	19	34.5	1.6	65	30+	5	28	0	31			0.04	-0.23	0.04	1	0	0.7	1						17	4	10	4.3	
RATON	6379	807.3	1023.4	43	10	26.7	0.5	56	9	0	3	0	31			0.18	-0.24	0.15	3	0	2.5	2						16	6	9	4.1	
ROSWELL	3612	897.4	1022.4	52	17	34.3	- 5.3	69	22	4	29	0	31	20	63	0.68	0.26	0.46	2	0	5.4	3	6.1		28	N	24	12	8	11	5.0	
SILVER CITY	5453	836.8	1020.0	53	46	39.9		61	16	21	8+	0	28			0.75		0.40	6	0	1.3	1						14	6	11	4.8	
NEW YORK																																
ALBANY	277	1013.5	1017.2	26	5	15.3	- 7.2	45	14+	-17	22	0	31	15	72	1.47	-0.80	0.85	7	1	17.2	15	8.8	WNW	39	NW	25	9	8	14	6.1	69
BINGHAMTON	1590	954.8	1016.5	23	10	16.8	- 4.9	44	7	- 5	25+	0	31	14	66	1.40	-0.98	0.88	15	0	21.1	15	10.3	SSW	28	NW	9+	2	14	15	7.4	51
BUFFALO	693	988.9		24	13	18.5	- 7.0	44	13	- 6	25	0	31			1.41	-1.37	0.31	15	0	23.5	14	10.7		36	SW	7	0	11	20	8.2	49
NEW YORK	19	1015.7	1017.6	34	22	27.9	- 5.1	56	7	6	25	0	27	25	61	3.20	0.01	1.17	8	0	15.5	13	15.5	WNW	47	N	20+	10	11	10	5.5	
NEW YORK U	132			34	22	27.7	- 5.0	55	7	5	25	0	27			1.88	-1.69	0.78	9	0	16.7	13	10.5	NW	33	NE	19	14	8	9	4.9	64
ROCHESTER	543	998.4	1018.6	27	12	19.4	- 5.3	50	7	- 5	25	0	31	19	78	1.10	-1.26	0.36	15	0	23.6	9	13.7	WSW	50	W	17	3	9	19	7.5	64
SCHENECTADY	217			26	6	16.2	- 5.3	44	14	-15	22	0	31			1.00	-1.42	0.68	6		13.5	15						18	9	4	3.7	
SYRACUSE	424	994.8	1018.1	26	11	18.8	- 6.7	46	7	- 4	24	0	30	18	70	2.30	-0.49	1.16	16	0	37.3	22	10.9	WSW	34	W	8	2	12	17	7.4	42
NORTH CAROLINA																																
ASHEVILLE U	2203	938.6		44	23	33.5	- 5.9	63	12	3	22	0	26			1.45	-1.53	1.17	6	0	0.8	T	9.2		35	NW	20	15	6	10	4.7	66
CAPE HATTERAS R	7	1018.4	1019.2	51	34	42.1	- 5.9	67	1	23	31+	0	14	39	71	3.93	-0.17	1.94	5	0	T	T	12.7	WSW	42	NNE	24	11	10	10	5.1	73
CHARLOTTE	725	991.1	1020.3	49	27	38.2	- 4.1	63	24	8	22	0	25	32	60	2.21	-1.47	1.46	5	0	1.2	1	6.7	SW	26	SW	23+	15	6	10	4.6	72
GREENSBORO	891	986.5	1020.7	46	23	34.7	- 4.3	60	7	8	22	0	28	30	64	2.35	-1.02	1.12	6	0	0.7	1	8.1	SW	27	NW	19	15	8	8	4.3	76
RALEIGH	433	1005.8	1020.2	48	25	36.5	- 4.9	61	12	7	22	0	26	32	60	2.88	-0.46	1.58	7	0	2.3	1	7.9	SSW	29*	NNW	24+	17	5	9	4.3	75
WILMINGTON	30	1017.0	1020.0	53	31	41.9	- 5.9	67	1	18	22	0	17	38	70	2.12	-1.00	1.15	4	0	T	T	8.9	SW	35	SW	1	12	10	9	4.8	73
WINSTON SALEM	967	983.5	1020.1	46	26	35.8	- 3.5	60	7	8	22	0	26	30	52	2.23	-1.46	0.90	6	0	0.8	1	9.5	NW	40*	NW	20	15	7	9	4.2	
NORTH DAKOTA																																
BISMARCK	1650	958.3	1023.2	29	8	18.4	9.2	54	16	-24	24	0	31	7	64	0.05	-0.31	0.03	3	0	0.6	2	10.2	WNW	40	NW	6	1	14	16	7.4	64
DEVILS LAKE U	1471	965.5		17	- 3	7.1	2.3	42	16	-33	24	0	31		79	0.35	-0.05	0.21	6	0	6.0	12	7.8	NW	24	N	23	5	10	16	6.6	69
FARGO	900	987.1	1023.9	17	- 4	6.8	- 0.3	39	16+	-27	24	0	31	0	73	0.09	-0.51	0.07	3	0	1.6	5	15.1	N	57	NE	23	2	15	14	6.8	56
WILLISTON U	1877	951.2	1022.4	28	11	19.2	9.2	48	16	-16	24	0	30	11	71	0.09	-0.40	0.05	5	0	0.9	2	6.3	W#	25	NW	6	6	7	18	6.9	60
OHIO																																
AKRON	1210	980.5	1020.4	29	14	21.5	- 5.9	48	13	-10	25	0	29	20	76	0.71	-2.03	0.22	12	0	17.3	8	11.0	SW				4	12	15	7.1	
CINCINNATI OBS	761			36	21	28.1	- 5.0	55	13	- 3	25	0	27			1.80	-1.64	1.22	9	0	7.0	6	6.6		23	NW	24					59
CINCINNATI	869	988.4	1021.8	36	20	27.8	- 4.0	57	13	- 3	28+	0	26	25	71	1.87	-1.53	1.31	10	0	6.9	6	8.5	SW	23*	NNW	24	8	8	15	6.5	
CLEVELAND	787	991.2	1019.9	28	15	21.6	- 6.9	50	13	- 7	25	0	29	20	72	0.36	-2.02	0.10	11	0	6.0	3	12.0	SW	32	SW	7	3	10	18	7.7	46
COLUMBUS	815	990.0	1021.5	31	15	23.5	- 6.2	51	14+	-13	25	0	28	22	71	0.65	-2.29	0.18	9	0	7.6	6	7.7	SSW	32	NW	24	8	8	15	6.5	55
COLUMBUS U	724			32	17	24.6	- 6.5	51	13	- 6	28	0	27			0.95	-1.86	0.28	10		9.3	8										
DAYTON	1002	983.4	1021.5	31	16	23.5	- 6.2	52	13	- 8	25	0	28	22	74	1.13	-1.83	0.45	13	0	8.5	4	10.7	SSW	34	NW	24	7	10	14	6.5	57
MANSFIELD	1296			28	14	21.0		49	13	-10	25	0	31			0.65		0.16	11	0	7.9	4						7	8	16	7.0	
SANDUSKY U	603	996.6		30	17	23.3	- 5.5	54	13	- 7	25	0	29			0.19	-2.10	0.11	5	0	3.3	3	9.8		35	SW	17	10	5	16	6.2	51
TOLEDO	676	994.1	1020.7	30	14	22.4	- 4.0	53	13	-11	25	0	30	20	70	0.27	-1.98	0.06	11	0	3.4	1	10.2	SW	26	NW	24+	3	12	16	7.3	60
YOUNGSTOWN	1178	975.1	1019.7	28	15	21.3	- 6.2	50	13	-10	25	0	29	19	71	0.82	-2.50	0.35	13	0	14.3	7	11.0	WSW	27*	NW	24	5	6	20	7.6	
OKLAHOMA																																
OKLAHOMA CITY	1280	979.0	1024.6	48	24	36.3	- 0.8	65	17	8	21	0	27	23	63	0.15	-1.35	0.10	2	0	1.9	2	11.6	SSW	47	N	18	16	6	9	4.2	78
TULSA	672	998.6	1024.3	47	22	34.3	- 3.1	61	13+	5	21	0	29	23	69	0.66	-1.32	0.66	2	0	T	T	10.0	SSE	36	NW	19	15	7	9	4.3	66
OREGON																																
ASTORIA	8	1017.3	1017.9	54	41	47.3	7.2	65	20	27	3	0	3	41	79	9.03	-1.63	1.73	20	0	0.0	0	11.5	ESE	37*	SSW	30	7	3	21	7.5	
BURNS U	4140	878.1	1025.5	42	19	30.1	6.2	53	17	5	4	0	31	23	77	0.69	-0.78	0.37	5	0	1.5	2						7	7	17	6.9	
EUGENE	361	1006.4	1020.4	51	36	43.6	5.4	60	31+	24	22	0	14			5.25	-0.16	1.68	16	0	0.0	0	7.8		58*	SSW	7	3	8	20	7.8	
MEACHAM	4050			38	27	32.2	7.3	47	14	15	2	0	26			1.91	-2.33	0.48	11	0	5.3	14						6	4	21	7.4	
MEDFORD	1312	973.2	1022.1	50	30	40.3	3.1	71	20	15	3	0	20	34	82	1.12	-1.39	0.78	11	0	0.0	T	3.9	SE	35*	SE	7	3	8	20	7.7	
PENDLETON	1492	968.8	1023.9	43	31	37.1	6.5	62	14	21	4+	0	18	31	79	0.47	-1.01	0.21	7	0	T	T	6.8	SSW	35*	SW	7	2	2	27	9.1	
PORTLAND	21	1014.6	1020.2	50	37	43.6	6.2	59	30	23	3	0	9	36	75	4.50	-0.09	1.08	17	0	0.0	0	12.7	E	52	SW	7	8	5	18	7.0	37
ROSEBURG	505	1001.4	1020.3	52	36	43.5	4.0	63	31	23	4	0	10			2.22	-2.38	1.18	14	0	0.0	0	3.4	NE#	28	SW	7	1	6	24	8.5	30
SALEM	195	1012.9	1020.3	51	35	43.0	4.6	61	20	22	27	0	15	37	81	4.79	-0.93	1.14	18	0	0.0	0	8.0	S	38*	SSW	7	7	5	19	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	885.5	1019.6	49	37	43.0	7.2	62	20	27	1	0	4			4.84	0.82	2.86	15	0	1.0	1	16.6	S				9	6	16	6.2	
PACIFIC AREA																																
CANTON ISLAND	8	1007.5	1007.9	89	79	84.1	1.1	91	15+	75	16	14	0	73	73	1.34	0.26	0.34	8	0	0.0	0	15.8	ENE	30*	E	9	0	0	31	9.9	
ENIWETOK	13	1009.5	1010.2	86	78	81.7		88	3	75	9+	0	0	73	74	1.19		0.39	11	0	0.0	0	17.8									
JOHNSTON	7	1012.2	1012.8	82	73	77.2		83	29+	68	14	0	0	67	72	0.64		0.49	9	0	0.0	0	12.0		31	NE	1	16	13	2	3.8	64
KWAJALEIN	8	1008.1	1009.0	86	77	81.5		88	7+	72	2	0	0	74	77	3.29		1.30	17	0	0.0	0	18.6	ENE	32*	ENE	9	2	4	25	8.4	
KOROR R	94	1005.1	1008.9	85	75	80.4	0.2	89	31+	71	21	0	0	76	89	15.79	3.76	4.06	26	2	0.0	0	7.8	NE	29	NW	19	0	0	31	9.9	44
MAJURO	10	1008.5	1008.8	85	77	81.3		88	11	72	28	0	0	75	80	21.97		9.57	22	0	0.0	0	13.2	E	30	E	8	0	5	26	9.0	
TAGUAC GUAM R	361			83	74	78.5	0.8	85	31+	69	22	0	0			7.66	4.47	1.23	27	0	0.0	0	8.8	NE#	26	NE	8					34
PONAPE R	123	1003.1	1008.4	86	75	80.5	- 0.7	88	23+	70	30	0	0	75	85	16.60	4.86	4.00	25	1	0.0	0	5.8	NE	23	E	10	0	1	30	9.7	38
TRUK MOEN ISLAND	8	1008.1	1008.4	86	78	81.7	0.8	87	23+	73	19	0	0	75	81	9.12	1.53	3.01	18	1	0.0	0	6.7	NE	22	SE	30	0	3	28	9.4	52
WAKE ISLAND	11	1013.5	1013.9	84	74	78.7	1.2	85	23+	71	1	0	0	69	72	0.83	-0.43	0.38	9	0	0.0	0	14.2	ENE	31*	ENE	10+	11	12	8	5.1	
YAP R	55	1006.4	1008.4	85	76	80.6	- 0.2	87	31+	74	10	0	0	76	85	11.65	4.82	2.56	27	0	0.0	0	9.8	NE	32	SW	18	0	2	29	9.6	8
PENNSYLVANIA																																
ALLENTOWN	376	1003.7	1018.7	30	12	21.1	- 7.4	50	7	-12	22	0	31	20	71	3.32	0.11	1.50	8	0	22.1	15	10.9	WSW	46*	NW	1	10	12	9	5.5	
ERIE	732	991.6	1019.0	28	17	22.8	- 4.4	49	13	0	28	0	27	21	74	1.13	-1.21	0.35	15	0	23.7	8	13.2	SW	32*	SW	7	2	7	22	8.3	
HARRISBURG	335	1004.6	1019.2	33	17	25.1	- 6.0	54	7	- 3	22	0	31	22	63	3.46	0.84	1.46	9	0	34.0	20	7.5	W	33	NW	24	9	10	12	6.0	61
PHILADELPHIA	7	1013.5	1018.3	33	17	25.0	- 8.2	53	7	- 4	21	0	29	23	68	3.16	-0.21	1.10	7	0	19.7	12	10.0	WNW	35	N	20	8	12	11	5.9	60
PHILADELPHIA U	35			36	24	29.8	- 5.1	57	7	7	25	0	26																			
PITTSBURGH	1151	988.8	1020.4	29	15	22.2	- 6.8	51	13	-10	25	0	29	20	72	1.95	-0.82	0.59	17	0	22.7	10	10.8	WSW	38*	NNW	24	3	10	18	7.5	54
PITTSBURGH U	749			33	21	26.9	- 6.1	54	13	0	25	0	25			2.04	-0.79	0.69	17		16.8											
READING U	266	1006.0		34	19	26.5	- 5.7	55	7	0	22	0	29			2.82	-0.33	1.03	7	0	24.3	13	10.3		49	E	1	7	12	12	6.0	62
SCRANTON	940	982.4	1018.5	26	11	18.9	- 8.0	48	7	-10	22	0	31	17	65	1.82	-0.44	0.93	8	0	19.0	13	9.2	SW	26	NW	8	8	11	12	6.2	64
WILLIAMSPORT	527	999.3		30	11	20.6	- 7.9	50	7	-13	22	0	31			2.35	-0.24	1.12	8		20.5	11						8	10	13	6.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.5		32	21	26.6	- 5.3	50	1	7	22	0	29			2.35	-1.32	1.05	9	0	9.0	5						13	8	10	5.1	
PROVIDENCE	55	1009.3	1015.8	32	15	23.7	- 5.0	56	14	- 6	22	0	29	21	60	3.52	-0.23	1.89	8	0	17.4	14	12.1	NNW	38*	N	20	14	9	8	4.7	70
SOUTH CAROLINA																																
CHARLESTON	41	1018.7	1020.6	57	32	44.3	- 6.0	70	12	18	22	0	20	39	68	1.77	-0.71	0.68	7	1	T	T	9.8	WSW	46	W	19	11	7	13	5.5	73
CHARLESTON U	9			55	38	46.5	- 4.9	67	7	22	22	0	8			1.96	-0.52	0.83	9		T	T	9.9		42	SW	19					
COLUMBIA	217	1007.6	1021.0	54	29	41.3	- 5.7	68	12	14	22	0	23	36	65	2.93	-0.21	1.44	5	0	1.4	1	6.5	SW	27	W	21+	12	8	11	4.9	68
FLORENCE	146	1013.9	1020.0	53	30	41.7	- 4.6	69	24	14	22	0	22	36	60	1.24	-1.61	0.75	6	0	0.8	1	8.2	SW	23*	SW	24+	12	9	10	4.8	
GREENVILLE	1018	981.8	1020.4	51	28	39.6	- 3.7	64	24	8	22	0	22	33	55	2.39	-2.07	1.50	7	0	1.1	1	8.3	WSW	30	W	23	16	5	10	4.3	73
SPARTANBURG	801	989.3	1020.1	50	28	38.9	- 4.5	63	12	10	22	0	24	33	58	2.44	-2.07	1.61	6	0	1.1	1	6.5	SW	25*	NW	19	17	5	9	4.2	
SOUTH DAKOTA																																
HURON	1282	973.6	1024.4	21	- 2	9.3	- 4.2	40	6	-27	24	0	31	6	83	0.19	-0.38	0.16	4	0	3.1	7	11.0	SSE	35	SE	8	5	11	15	6.8	76
RAPID CITY	3165	904.2	1022.6	39	16	27.3	6.2	60	31+	- 8	27+	0	31	15	63	0.10	-0.38	0.18	1	0	1.0	2	10.8	NNW	47	N	25	6	8	17	6.7	69
SIOUX FALLS	1420	968.8	1023.5	26	3	14.2	0.0	45	12	-23	24	0	31	4	65	0.25	-0.47	0.25	1	0	3.4	6	8.0	NW	32*	NNW	20+	8	9	14	6.3	
TENNESSEE																																
BRISTOL	1519	964.8	1021.2	42	22	31.6	- 7.0	61	13	- 2	22	0	26	28	70	2.27	-1.23	0.74	9	0	4.3	2	7.5	SW	23*	W	24+	11	5	15	5.6	
CHATTANOOGA	670	994.0	1022.7	46	24	34.8	- 6.8	60	12	7	22	0	26	31	70	1.13	-4.10	0.47	5	0	0.2	T	7.1	NNE	33	NW	19	10	7	14	5.9	55
KNOXVILLE	950	1019.5	1022.4	44	24	34.2	- 6.3	61	12	5	22	0	24	30	66	2.55	-1.99	0.91	10	1	5.4	2	8.4	WSW	31	NW	19	11	5	15	5.7	50
MEMPHIS	263	1008.6	1023.9	47	25	36.1	- 5.5	66	18+	11	28	0	26	32	67	0.84	-4.71	0.48	6	1	T	T	9.3	SSW	32	NW	20+	8	8	15	6.0	59
MEMPHIS U	271			46	30	38.0	- 3.9	66	18	11	21	0	18			0.71	-4.67	0.47	5		T	1										
NASHVILLE	577	1002.2	1022.8	44	23	33.2	- 6.7	61	12	- 1	28	0	25	30	69	1.44	-3.49	0.46	9	1	3.0	2	7.4	NNW	33	NW	19	10	9	12	5.5	55
OAK RIDGE	905	987.8		43	23	33.3	- 5.7	55	13+	3	22	0	25			1.86	-4.20	0.61	7	1	3.5	1	3.5		29*		19	13	5	13	5.1	
TEXAS																																
ABILENE	1759	960.4	1023.4	52	29	40.6	- 2.7	73	18	11	29	0	20	29	68	3.99	3.11	2.18	8	0	3.9	3	8.6	S	36	N	19	9	7	15	5.9	63
AMARILLO	3590	892.7	1022.3	50	20	34.6	- 0.7	67	16	6	28	0	31	16	50	0.12	-0.52	0.12	1	0	10.8	2	12.3	SW	38	N	18	16	6	9	4.2	85
AUSTIN	615	1001.0	1023.7	56	36	46.0	- 3.9	74	17	25	28	0	9	37	75	1.27	-1.36	0.93	8	0	T	T	9.2	N	35	N	24	7	7	17	6.7	51
BROWNSVILLE	16	1020.0	1022.7	64	47	55.5	- 5.0	78	24	34	28	0	0	49	82	1.95	0.52	0.93	12	1	0.0	0	10.0	NNW	37	NW	19	6	4	21	7.6	33

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
CORPUS CHRISTI	43	1022.4	1023.4	60	43	51.6	- 5.3	77	24	29	28	0	4	44	77	2.38	0.99	0.98	6	2	T	T	10.4	NNE	34	N	19	6	3	22	7.5	40
DALLAS	481	1005.1	1024.6	52	32	42.0	- 3.7	74	18	16	29	0	16	31	69	3.39	0.92	2.03	10	0	3.2	3	9.4	S	36	NW	19	12	5	14	5.5	61
DEL RIO U	957			57	38	47.6	- 4.3	77	24	30	25	0	2			1.56	0.73	0.90	7	1	T	T										
EL PASO	3920	890.6	1022.1	54	28	41.0	- 2.4	63	31	21	13	0	26	25	57	0.41	-0.01	0.40	3	0	T	T	8.3	N	30	W	27	13	2	16	5.4	71
FORT WORTH	544	1003.1	1024.6	52	30	40.9	- 4.4	74	17	11	29	0	20	32	74	3.29	0.87	2.36	11	0	3.5	4	11.3	S	38*	NNW	18	11	6	14	5.7	
GALVESTON U	7			55	44	49.2	- 5.3	66	7	31	29+	0	5			4.02	-0.07	2.38	10		T	0	12.0		32	NE	25					50
GALVESTON	5	1021.3	1023.6	55	43	49.0	- 5.3	66	18+	30	29	0	5	40	74	5.34	1.00	2.77	11	1	T	T	10.3	N				7	7	17	7.0	
HOUSTON U	41	1018.0		58	42	49.6	- 4.2	73	17	28	29	0	5			3.50	-0.48	1.71	11	1	T	0	8.8	NW	49	NW	19	9	4	18	6.8	51
HOUSTON	50	1021.0	1024.1	59	40	49.5	- 3.8	76	18	28	29	0	7	41	76	4.44	0.28	2.56	11	1	0.0	0	8.4	N				6	5	20	7.3	
LAPEDO	500	1007.8	1023.5	62	43	52.1	- 5.5	80	24	31	28	0	1	40	69	2.04	1.02	1.49	10	1	0.0	0	7.1	NW	36*	NE	24	6	4	21	7.5	
LUBBOCK	3243	908.2	1023.6	51	20	35.6	- 3.2	68	18+	7	29	0	31	21	61	0.56	-0.11	0.39	4	0	3.9	3	12.4	N	47*	N	18	13	9	9	4.5	
MIDLAND	2854	920.8	1022.1	53	27	40.2	- 4.0	68	17	15	29	0	25	27	66	1.33	0.71	0.66	6	0	2.0	2	9.0	S	35*	N	18	10	4	17	6.1	
PORT ARTHUR	16	1021.7	1023.0	57	38	47.3	- 5.6	74	17	25	30+	0	12	39	78	9.57	4.45	4.92	11	2	0.0	0	9.7	ENE	38	NW	19	6	9	16	6.7	45
SAN ANGELO	1903	954.3	1023.5	55	30	42.2	- 5.1	72	23+	18	25	0	19	32	70	3.65	2.66	2.49	7	1	1.2	1	10.9	SW	43*	NNE	24	11	7	13	5.8	
SAN ANTONIO	792	997.6	1023.5	59	37	47.9	- 2.7	77	24	28	30+	0	10	37	71	0.68	-1.13	0.42	6	0	T	T	9.3	N	35	N	25+	8	6	17	6.5	40
VICTORIA	110	1018.3	1023.4	59	41	49.7	- 5.5	76	17	29	30+	0	6	41	73	1.99	-0.73	0.62	3	0	T	0	11.0	N	45Y	N	19	6	4	21	7.3	
WACO	500	1002.7	1024.4	53	33	43.3	- 4.0	75	17	17	29	0	15	35	76	5.83	3.45	2.24	9	1	2.0	2	13.5	N	46*	NW	19	9	9	14	6.2	
WICHITA FALLS	994	985.8	1024.0	51	27	39.3	- 1.3	70	17	11	29	0	23	28	70	0.34	-0.97	0.15	5	0	1.1	1	9.7	S	40*	NNW	18	10	9	12	5.3	
UTAH																																
MILFORD	5028	849.3	1027.4	45	8	26.6	2.8	61	17	-14	28	0	31			0.42	-0.15	0.42	2	0	3.2	3						17	7	7	4.0	
SALT LAKE CITY	4220	874.0	1027.4	42	16	28.7	2.2	56	31	6	28	0	31	18	68	0.09	-1.11	0.09	1	0	0.1	T	6.0	SSE	22	N	31	13	8	10	4.8	75
WENDOVER	4237	878.1	1028.1	36	13	24.4		44	31+	3	28	0	31			T		T	0	0	0.0	0						16	7	6	5.8	
VERMONT																																
BURLINGTON	331	1001.2	1016.9	19	-10	9.2	- 8.7	43	7	-15	22	0	31	8	64	0.93	-0.96	0.81	6	0	15.9	17	7.6	SSW	31	NW	18	6	6	19	6.9	57
VIRGINIA																																
LYNCHBURG	947	984.5		42	23	32.4	- 5.3	58	11+	7	22	0	25			1.06	-2.37	0.30	7	0	8.8	4	8.4		34	W	24	16	6	9	4.4	71
NORFOLK	26	1018.6	1019.9	44	27	35.0	- 6.5	61	7+	12	27	0	23	31	71	3.52	0.35	2.08	8	1	3.1	2	10.7	SW	40	NW	20	14	9	8	4.5	75
RICHMOND	162	1013.7	1020.3	45	22	33.5	- 4.8	61	14	- 1	28	0	26	28	60	2.57	-1.07	0.84	8	0	7.2	3	7.2	SW	29	NW	20	15	4	12	4.8	65
ROANOKE	1174	976.0	1020.0	42	24	33.2	- 4.7	60	11	4	22	0	22	28	55	1.61	-1.78	0.54	8	0	10.0	4	12.9	WNW				15	7	9	4.5	
WASHINGTON U	72			39	24	31.5	- 5.0	54	6	9	25	0	25			2.73	-0.68	0.85	6													
WASH NATL AP	14	1015.0	1019.6	37	23	29.8	- 6.4	53	6	5	29	0	27	26	63	3.12	-0.12	1.14	6	0	13.6	9	9.1	NW	38	NW	24	10	11	10	5.5	66
WASHINGTON																																
OLYMPIA	190	1011.5	1018.8	49	35	41.8	4.8	58	19	18	27	0	14	38	87	8.69	2.00	1.73	18	0	0.0	0	7.8	SW	30*	SW	7	4	4	23	8.1	
SEATTLE TACOMA	386	1004.7	1019.1	50	38	43.6	6.4	60	19	25	3+	0	7	37	78	7.71	2.98	1.59	13	0	0.0	0	10.3	S	35*	S	7	6	4	21	7.5	
SEATTLE	14	1019.7	1018.6											38	80								7.7	SSE								
SEATTLE U	14			51	42	46.5	5.8	61	19	29	3	0	3			6.76	2.27	1.00	19		0.0	0			52	SW	7					37
SPOKANE	2357	953.3	1024.0	36	25	30.3	5.4	49	14	6	3	0	23	26	83	1.61	-0.11	0.70	7	0	7.8	8	7.8	NE	28	SW	15	5	5	21	7.7	34
STAMPEDE PASS R	3958	880.8	1022.5	32	23	27.8	4.1	41	15+	9	3	0	30			10.93	-2.12	2.75	20	0	64.5	77						5	3	23	7.9	
TATOOSH ISLAND	101	1012.9	1015.9	50	43	46.5	4.5	57	19	38	3+	0	0	40	78	14.99	4.80	3.17	19	2	T	0	26.0	E	77	E	18	8	1	22	7.3	56
WALLA WALLA U	949	986.8	1023.7	45	33	38.7	6.7	65	11	19	4	0	18			0.98	-0.70	0.36	6	0	0.5	T	4.3	SW	34	NW	7	0	3	28	9.5	10
YAKIMA	1061	984.1	1024.5	40	25	32.7	5.8	58	31+	15	27+	0	28	28	85	0.55	-0.41	0.16	7	0	1.7	1	5.8	WNW	37*	SSW	15	4	5	22	7.8	
WEST INDIES																																
SUAN JUAN P.R. U	47			81	72	76.4	1.5	84	21	69	31+	0	0			3.37	-1.32	0.56	20		0.0	0										
SAN JUAN P.R.	15	1014.3	1017.4	83	69	76.0	1.8	86	30	64	20	0	0	71	80	3.51	-2.26	0.67	20	0	0.0	0	10.9	ENE	25	ENE	5	20	7	4	4.8	66
SWAN ISLAND	33	1006.2		83	75	79.1	1.2	85	30+	71	30+	0	0			1.51	-2.23	0.57	11	0	0.0	0						8	19	4	5.0	
WEST VIRGINIA																																
CHARLESTON	950	984.4	1021.5	35	20	27.5	- 8.9	56	13	- 6	25	0	25	25	70	3.79	-0.20	1.91	12	0	15.1	6	7.0	WSW	27*	NW	24	4	10	17	7.3	
HUNTINGTON U	567			38	22	29.8	- 8.2	60	13	1	28+	0	25			3.52	-0.09	1.85	8	0	7.7	4										
PARKERSBURG U	615			36	20	28.2	- 6.2	59	13	- 1	25	0	24			1.95	-1.22	0.74	9	0	9.5	6	6.3		22	W	8	8	7	16	6.4	47
WISCONSIN																																
GREEN BAY	689	996.6	1020.5	24	8	15.8	- 0.3	50	13	-13	25+	0	31	9	73	0.31	-0.98	0.12	6	0	5.0	2	12.0	SW	37	NW	7	8	7	16	6.6	45

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
WISCONSIN																																
LA CROSSE	652	995.9	1022.4	25	8	16.4	0.7	46	13	-13	24	0	31	8	70	0.27	-0.95	0.11	7	0	5.1	2	9.4	S	28*	N	20+	9	7	15	6.4	
MADISON	857	983.7	1021.2	27	7	16.9	- 2.2	53	13	-12	25	0	31	8	67	0.19	-1.12	0.09	7	0	2.1	1	9.4	NW	27	NW	7	8	7	16	6.7	76
MILWAUKEE	672	994.9	1021.4	28	11	19.4	- 2.5	55	13	- 8	25+	0	31	11	69	0.31	-1.27	0.10	8	0	3.9	1	11.7	WSW	34	NW	7	7	10	14	6.1	66
WYOMING																																
CASPER	5319	839.5	1022.6	39	19	28.7	6.4	53	31	- 5	27	0	29	12	54	0.04	-0.65	0.04	1	0	1.6	1	16.9	SW	37*	SW	29	8	8	15	6.1	
CHEYENNE	6131	812.7	1022.4	41	17	29.0	3.5	57	31+	-20	27	0	30	5	41	0.06	-0.50	0.06	2	0	1.2	1	16.6	WNW	51	NW	14	15	8	8	4.4	76
LANDER	5563	838.1	1025.8	34	10	22.1	5.3	49	30	-13	27	0	31	9	59	0.13	-0.37	0.08	2	0	2.5	4	4.2	SE#	17	W	30	12	8	11	5.4	85
SHERIDAN	3942	887.6	1023.6	39	15	27.0	6.9	54	30	- 7	27	0	31	17	69	0.12	-0.63	0.11	2	0	2.8	4	6.5	S	37	NW	19	9	7	15	6.4	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

V Sun below horizon January 1 to January 24 inclusive.

X Sun below horizon January 1 to January 16 inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	997.1	1023.4	10.0	- 2.2	3.9	-3.4	18.9	18	-10.6	22	0	22	1.7	73	38	- 89	17	7	0	T	T	3.4	NNW	14.8	NW	19	10	5	16	6.3	50
HUNTSVILLE	184	999.2	1023.3	8.3	- 3.3	2.4		17.2	12	-12.2	22	0	26	0.0	70	45		16	6	1	T	T	2.8	NW	10.7*	WNW	21+	7	9	15	6.5	
MOBILE	64	1020.8	1023.1	12.8	2.2	7.4	-4.1	22.2	18	- 6.1	22	0	13	5.0	72	156	28	62	9	0	T	0	4.9	N	13.4*	NW	19	9	6	16	6.2	
MONTGOMERY	59	1014.7	1023.2	10.6	- 0.6	4.8	-4.8	18.9	12	- 9.4	22	0	20	2.2	72	55	- 61	17	9	0	T	0	3.8	NW	13.9	NW	19	10	5	16	6.2	50
ALASKA																																
ANCHORAGE	27	998.0	1003.1	- 2.8	- 9.4	- 6.2	4.4	10.0	19	-21.1	9	0	29	- 8.9	80	38	19	30	7	0	43	76	2.9	NNE	11.2*	SSE	20	9	2	20	6.8	36
ANNETTE	34	1005.1	1009.2	7.2	0.6	3.9	2.5	16.1	19	- 5.0	27	0	11	0.6	80	246	7	42	19	0	112	76	4.7	ESE	16.5*	SE	11	7	6	18	7.0	
BARROW	7	1021.7	1022.1	-21.7	-26.7	-23.9	2.3	- 1.1	22	-35.6	18	0	31	-29.4	62	7	3	5	5	0	64	330	6.0	E	15.6*	SE	19	2V	0V	5V		
BARTER ISLAND	12	1021.0	1022.7	-21.1	-26.7	-23.9	2.5	- 3.3	22	-35.0	18+	0	31	-29.4	60	2	- 8	1	4	0	23	203	5.3	ENE	13.0*	E	19	5X	2X	8X		
BETHEL	38	997.3	998.6	- 8.3	-15.0	-11.6	2.4	3.3	24+	-28.9	11	0	30	-15.6	73	2	- 21	1	7	0	15	356	6.9	NE	17.0*	NE	11	5	4	22	7.6	
COLD BAY	27	987.5	990.7	2.2	- 3.3	- 0.6	1.1	6.1	27	-13.9	14	0	21	- 2.8	83	49	- 15	11	20	0	282	76	8.6	SE	26.8*	ESE	19+	2	8	21	8.1	
CORDOVA	12	1001.4	1003.5	4.4	- 3.9	0.3	4.2	14.4	21	-17.9	9	0	22	- 2.8	83	193	14	54	20	0	411	203	2.7	ESE	17.9*	ESE	20	8	2	21	7.1	
FAIRBANKS	133	991.9	1009.9	-13.3	-24.4	-18.9	4.3	8.3	21	-36.7	8	0	31	-23.3	66	6	- 19	4	4	0	188	381	2.0	NNE	8.0*	SE	20	13	8	10	5.1	
JUNEAU	5	1007.8	1008.6	1.7	- 3.3	- 0.8	2.4	7.8	27	- 8.3	23	0	27	- 3.3	86	96	- 18	23	15	0	480	178	3.5	ESE	15.6*	ESE	1	5	4	22	7.7	37
KING SALMON	13	993.9	996.0	- 1.7	-10.0	- 5.9	4.0	7.2	28+	-21.1	16	0	27	- 8.3	80	21	- 6	12	9	0	109	102	4.5	N	20.6*	E	18	6	9	16	6.9	
KOTZEBUE	3	1010.2	1010.8	-10.6	-17.2	-14.1	7.3	3.9	20	-31.1	10	0	31	-17.8	73	7	- 5	2	9	0	81	381	5.5	E	16.5*	ESE	20	6	5	20	7.5	
MC GRATH	102	992.9	1006.1	-13.9	-23.9	-18.7	3.9	7.8	20	-38.3	9	0	31	-23.3	69	3	- 26	1	4	0	102	457	1.4	NW	10.7*	ENE	20	11	11	9	4.7	
NOME	4	1004.1	1004.6	- 6.7	-12.8	- 9.6	5.1	3.3	25+	-25.6	14	0	30	-13.3	75	23	- 8	7	14	0	269	610	5.6	ENE	17.4*	NE	10	2	4	25	8.4	20
ST. PAUL ISLAND	7	990.5	991.5	- 0.6	- 4.4	- 2.6	0.5	3.9	20+	-12.8	11	0	25	- 4.4	88	84	38	26	22	0	765	635						0	2	29	9.4	
SHEMYA	37	986.1	990.0	1.1	- 1.7	- 0.6		3.3	30+	- 4.4	12	0	27	- 2.2	87	37		6	22	0	493	178	9.3	NE	28.6*	SSE	5	0	7	24	8.7	
YAKUTAT	9	1004.4	1005.4	3.9	- 3.9	- 0.2	2.9	9.4	20	-15.0	8	0	26	- 2.8	85	192	-103	65	19	0	1034	381	2.9	ENE	13.0*	E	30	7	4	20	7.3	
ARIZONA																																
FLAGSTAFF	2131			7.8	-10.0	- 1.0	2.7	13.3	12+	-18.9	29	0	31			29	- 14	29	2	0	284	254						15	6	10	4.3	
PHOENIX	338	979.0	1019.3	20.6	4.4	12.3	2.5	25.6	16	- 0.6	7+	0	3	- 1.7	45	6	- 9	5	5	0	0	0	1.9	E	7.2*	WSW	27	14	6	11	4.6	84
PRESCOTT	1528	850.3	1022.3	13.3	- 4.4	4.5	2.7	18.3	18	-10.0	3	0	27	- 8.3	46	15	- 13	15	2	1	T	0	2.0	SSW	12.5	SW	27	16	6	9	4.1	79
TUCSON	788	928.9	1018.2	17.8	5.0	11.4	1.6	23.3	16	0.0	7	0	1	- .6	50	24	8	20	4	0	0	0	4.0	ESE	14.8	SE	9+	15	2	14	5.1	71
WINSLOW	1487	857.1	1026.8	6.1	- 8.3	- 1.3	-1.7	15.0	25	-15.6	3	0	29	- 6.7	72	T	- 9	T	0	0	T	T	3.0	SW	11.6*	WSW	27	16	5	10	4.4	
YUMA	61	1014.2	1019.5	22.8	7.8	15.4	2.4	28.3	16	2.8	1	0	0	- 3.9	32	6	- 2	5	3	0	0	0	3.8	N	9.4	N	19+	18	3	10	3.7	80
ARKANSAS																																
FORT SMITH	137	1007.5	1024.6	8.9	- 4.4	2.1	-2.4	17.2	18	-12.8	21	0	28	- 3.9	69	11	- 62	8	5	0	10	T	3.2	NE	13.0	NW	20	12	4	15	5.5	64
LITTLE ROCK	78	1010.8	1024.5	8.9	- 4.4	2.2	-3.3	20.0	18	-11.7	25	0	27	- 3.3	70	19	-111	12	7	0	T	25	3.6	WSW	13.9	W	20	12	6	13	5.7	50
TEXARKANA	110		1023.8	11.1	- 0.6	5.2	-2.6	21.7	18	- 8.9	21	0	20	- 0.6	69	37	- 93	29	8	0	48	51	2.5	NE								
CALIFORNIA																																
BAKERSFIELD	151	1004.7	1023.3	12.2	1.1	6.5	-1.8	22.2	23	- 3.9	1	0	15	2.8	82	10	- 16	8	2	0	0	0	1.7	E	7.6*	N	26	6	4	21	7.3	
BISHOP	1252	879.1	1022.7	15.6	- 6.1	4.7	1.4	21.7	18+	-10.6	3	0	29			4	- 24	4	1	0	0	0						18	7	6	3.7	
BLUE CANYON	1609	841.9	1019.6	11.7	3.3	7.5	5.2	20.6	18	- 2.2	28	0	5			97	-136	50	7	0	135	51	3.0	ENE	13.9	SSE	7	10	6	15	5.9	
BURBANK	213	992.6	1019.1	22.8	7.2	15.2	3.7	28.9	18+	3.3	3+	0	0	- 0.6	41	42	- 18	39	2	0	0	0	2.1	NNW	9.4*	N	15	18	4	9	3.8	
EUREKA U	13	1018.0	1020.3	14.4	6.1	10.3	1.8	20.6	22	1.1	2+	0	0			115	- 42	66	13	0	0	0	2.2	E#	16.1	SE	7	9	5	17	6.8	55
FRESNO	101	1010.2	1022.7	10.0	1.1	5.8	-1.3	20.6	22	- 5.6	7	0	14	2.8	87	39	- 1	31	4	0	0	0	2.1	ESE	8.9	SW	26	3	5	23	8.1	35
LONG BEACH	10	1018.3	1019.6	22.2	6.7	14.4		29.4	16	1.1	3	0	0	2.2	51	33		30	2	0	0	0	2.3	WNW	9.4*	WSW	31	14	10	7	4.3	
LOS ANGELES	30	1015.2	1019.2	21.1	8.9	14.9	3.2	28.3	16	4.4	7	0	0	2.2	48	32	- 19	31	2	1	0	0	2.5	W	6.3*	SE	26	17	4	10	4.2	
LOS ANGELES U	95			22.8	10.6	16.7	3.9	28.9	18	5.0	2	0	0	3.3	48	33	- 28	26	2	0	0	0	2.9	N#	7.6	E	26+	19	5	7	3.6	79
MT SHASTA R	1080	896.4	1022.7	10.6	- 2.2	4.2	3.8	18.3	20	- 8.3	4+	0	26			69	- 46	42	8	0	15	25						11	4	16	5.9	
OAKLAND	1	1021.3	1021.8	13.3	3.9	8.4	0.0	17.8	31	- 2.2	5	0	9	4.4	79	67	- 17	43	7	0	0	0	2.9	ENE	9.8*	SSE	31	7	9	15	6.4	
POINT ARGUELLO	112	1005.4	1018.9	18.9	4.4	11.7		26.7	11	- 1.1	5	0	1			28		26	5	0	0	0	2.9		11.2*	SSE	26	18	7	6	3.9	
RED BLUFF	104	1009.5	1022.5	11.1	2.8	6.9	-0.3	18.9	10	- 3.3	4+	0	11	3.3	83	67	- 28	20	11	0	0	0	3.7	N	17.9	SE	31	4	9	18	7.3	44
SACRAMENTO	5	1021.7	1022.9	8.3	2.8	5.8	-1.1	16.1	31+	- 3.3	2	0	10	4.4	94	88	21	39	6	0	0	0	1.8	SE	8.9	SE	31	0	4	27	9.2	18
SANDBERG R	1377	865.9	1020.0	11.1	5.0	8.0	3.7	16.7	17	1.1	28+	0	0			31	- 27	31	2	0	0	0	6.8	ENE	17.0*	E	19	18	7	6	3.3	
SAN DIEGO	6	1014.9	1018.3	21.7	10.0	15.9	3.2	27.8	17	6.1	3+	0	0	3.9	51	31	- 12	28	3	0	0	0	1.8	N	9.8	SE	26	16	5	10	4.2	75
SAN FRANCISCO	2	1021.0	1021.8	12.2	5.0	8.7	-0.1	18.3	31	0.0	4+	0	2	6.1	84	67	- 21	46	7	0	0	0	2.5	ESE	9.8	SSE	30	5	10	16	6.8	
SAN FRANCISCO U	16			12.2	6.7	9.5	-0.6	17.8	10	1.7	6+	0	0			71	- 31	45	8	0	0	0	2.7	N#	9.4	SE	31					68
SANTA MARIA	73	1011.2	1020.2	21.1	3.3	12.3	2.1	28.3	19+	- 1.7	5+	0	7	2.8	60	23	- 46	21	3	0	0	0	2.4	WNW	11.6*	ESE	25	18	6	7	3.6	
COLORADO																																
ALAMOSA	2297	773.5	1030.3	0.6	-21.7	-10.6	-2.2	5.6	31+	-30.6	4	0	31			2	- 4	2	2	0	53	51						18	9	4	3.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station ∅	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
COLORADO SPRINGS	1882	812.7	1025.5	7.8	-10.0	- 1.1	0.7	16.7	8	-17.8	27	0	31	-14.4	44	4	- 2	3	3	0	76	51	4.2	N	13.4*	NNW	18	16	10	5	3.7	
DENVER	1613	840.2	1023.8	6.7	- 7.2	- 0.2	1.7	17.8	23	-19.4	27	0	30	-10.0	54	2	- 11	1	3	0	25	25	3.9	SSW	10.7	NW	1	17	7	7	3.8	85
GRAND JUNCTION	1478	865.9	1028.6	6.1	- 9.4	- 1.4	3.0	9.4	25+	-14.4	4	0	31	-12.8	45	T	- 15	T	0	0	T	T	3.5	ESE	10.7	NE	27+	19	7	5	3.1	95
PUEBLO	1414	860.1	1024.8	8.9	-10.0	- 0.6	0.8	19.4	23	-17.8	28	0	31	- 9.4	59	1	- 9	1	2	0	46	51	2.6	W	25.0	N	18	18	5	8	3.7	86
CONNECTICUT																																
BRIDGEPORT	2	1016.7	1017.7	0.0	- 8.3	- 4.2	-2.6	9.4	7	-18.3	22	0	29	- 5.6	66	60	- 27	25	7	0	457	305	5.2	NW	17.4	NNE	20	11	11	9	5.2	
HARTFORD	52	1010.1	1016.4	- 2.2	-15.0	- 8.4	-5.6	7.8	7	-32.2	22	0	31	- 8.9	66	65	- 15	27	8	0	777	635	3.8	N	15.6	NW	4	10	10	11	5.5	76
NEW HAVEN	2	1016.6		0.0	- 9.4	- 4.6	-3.0	9.4	7	-21.7	22	0	30			57	- 42	25	8	0	508	356	3.9		14.8	NW	20	14	7	10	5.2	72
DELAWARE																																
WILMINGTON	24	1015.0	1018.3	1.7	- 8.3	- 3.6	-4.3	12.8	7	-19.4	22	0	29	- 5.0	68	72	- 18	27	7	0	419	279	4.5	WNW	14.3	NW	24	7	13	11	5.8	
FLORIDA																																
APALACHICOLA U	4	1020.0		14.4	5.6	9.9	-3.0	18.3	26+	- 3.3	22	0	3			112	20	46	11	1	0	0	3.8		13.0	NW	19	9	9	13	6.1	71
DAYTONA BEACH	9	1019.4	1021.3	17.8	6.7	12.2	-3.1	25.6	26	- 2.8	22	0	5	9.4	74	50	- 4	30	7	1	0	0	4.2	NW	10.3*	N	25+	7	9	15	6.3	
FORT MYERS	5	1019.8		22.2	10.6	16.4	-1.7	26.7	8+	1.1	22	0	0		75	84	45	51	5	2	0	0	3.7		10.7*	SSW	29	11	7	13	5.6	
JACKSONVILLE	7	1020.4	1021.8	15.6	5.0	10.3	-3.0	21.1	24+	- 4.4	22	0	5	7.2	71	73	5	33	10	0	T	0	4.4	NW	14.8	E	13+	10	7	14	5.8	58
KEY WEST	2	1018.4	1019.7	22.2	16.7	19.4	-2.1	28.3	1	11.1	23	0	0	16.7	78	32	- 7	12	6	0	0	0	5.1	NE	14.8	N	20	7	15	9	6.1	68
LAKELAND U	65			18.9	8.9	13.8	-2.9	26.7	26	- 1.1	22	0	1			43	- 12	23	8	1	0	0	3.6					12	8	11	5.4	66
MIAMI BEACH	3			23.3	16.1	19.6	-1.6	26.7	15+	5.6	22	0	0			64	12	28	9		0	0			11.2	E	10+	13	6	12	5.2	64
MIAMI	2	1018.5	1019.8	22.8	13.9	18.3	-1.9	27.8	1	3.9	22	0	0	15.0	72	130	78	56	7	2	0	0	3.9	NNW	11.2	WNW	29	9	8	14	6.0	
ORLANDO	32	1016.4	1021.3	19.4	8.3	13.8	-2.8	28.3	26	- 1.7	22	0	1	10.6	72	44	- 8	29	6	0	0	0	3.8	NNE	9.4*	NW	21	9	11	11	6.0	
PENSACOLA U	4			13.3	4.4	8.9	-3.3	18.3	12	- 3.9	22	0	6			81	- 35	26	10	0	0	0	4.9		11.2	NW	19					48
TALLAHASSEE	20	1019.0	1021.9	14.4	3.3	8.8	-3.2	20.6	12	- 7.8	22	0	10	6.1	73	72	- 32	24	9	1	0	0	3.0	NNW	11.2*	NW	19	10	5	16	5.9	
TAMPA	6	1019.9	1021.5	19.4	8.9	14.3	-2.1	26.1	11	- 0.6	22	0	1	11.1	71	37	- 14	16	8	1	0	0	5.1	NNE	13.0*	NNW	21+	8	7	16	6.2	63
WEST PALM BEACH	5	1018.9	1020.2	22.8	12.2	17.6	-1.9	26.7	26+	2.2	22	0	0	14.4	73	81	18	56	6	0	0	0	5.0	NNW	12.1*	E	11	7	8	16	6.1	
GEORGIA																																
ATHENS	243	991.4	1021.3	10.6	- 2.2	4.1	-3.0	19.4	12	-11.7	22	0	21	1.7	65	57	- 70	19	7	0	25	25	4.2	W	12.5*	WNW	19	12	9	10	4.7	
ATLANTA	297	979.4	1022.3	8.9	- 1.7	3.6	-3.4	18.3	12	-12.2	22	0	23	0.6	60	44	- 74	24	7	0	3	25	6.1	WNW	20.6*	WNW	19	11	9	11	5.2	60
AUGUSTA	44	1014.1	1021.2	12.2	- 1.7	5.2	-3.3	21.1	12	-12.2	22	0	22	2.2	66	69	- 19	38	6	0	5	25	2.9	WSW	11.2*	WNW	19	13	6	12	5.2	
COLUMBUS	117	1008.0		11.7	- 1.1	5.3	-3.3	20.0	18+	-11.1	22	0	21			59	- 57	20	10	0	T	0	4.0		13.0*	W	1	10	6	15	6.0	
MACON	109	1007.9	1021.9	12.2	0.0	5.9	-3.8	22.2	12	- 9.4	22	0	18	2.8	64	69	- 33	27	9	0	15	T	3.9	NW	14.3	W	19	11	6	14	5.6	69
ROME	194	998.3		8.9	- 4.4	2.1	-3.8	17.8	12	-15.0	22	0	27			56	- 85	19	6	1	28	25						11	8	12	5.6	
SAVANNAH	15	1019.0	1021.9	13.9	1.7	7.6	-3.3	20.6	12+	- 8.3	22	0	15	5.0	71	55	- 8	27	8	1	T	0	4.2	WNW	13.9	NW	19	11	8	12	5.4	58
THOMASVILLE U	86			13.9	3.3	8.6	-3.8	21.1	12	- 6.7	22	0	10			97	- 5	31	11	0	0	0										
HAWAII																																
HILO	9	1012.9	1014.2	27.2	17.2	22.1	0.7	30.0	17+	12.8	24	0	0	16.7	76	59	-299	21	12	0	0	0	4.1	SW	13.4*	S	1	6	19	6	5.5	55
HONOLULU	2	1013.5	1014.0	27.2	18.9	23.1	0.8	29.4	14	15.0	1	0	0	16.7	70	106	- 12	63	8	0	0	0	4.5	NE	17.9	SW	17	19	7	5	3.8	72
LIHUE	35	1008.5	1013.5	26.1	17.8	21.8	0.7	28.3	29+	13.3	18	0	0	16.7	77	32	-126	10	15	1	0	0	4.5	NE	13.9	SE	25	13	13	5	4.3	57
IDAHO																																
BOISE	866	928.2	1027.6	6.1	- 5.0	0.5	3.1	12.8	15	-11.1	5+	0	28	- 3.9	77	11	- 23	7	5	0	T	T	2.3	SE	8.9	SE	29	9	4	18	6.4	68
IDAHO FALLS 42NW R	1460			1.1	-17.8	- 8.2	2.7	8.3	30	-28.9	27	0	31			T	- 13	T	0				1.3	NNE	10.7A	S	31					
IDAHO FALLS 46W R	1504	854.7	1030.1	2.2	-16.1	- 6.9	2.1	8.3	30	-24.4	27	0	31			T	- 17	T	0	0	T	T	1.4	NNE	8.5A	SW	31					
LEWISTON	431	971.6	1024.7	5.6	- 1.1	2.1	2.7	12.2	14	- 9.4	4+	0	28			21	- 5	7	9	0	74	76						2	4	25	8.7	
POCATELLO	1355	869.6	1029.3	3.3	-10.6	- 3.6	2.0	12.2	17	-22.2	3	0	28	- 8.3	73	6	- 25	2	6	0	48	51	3.4	S	12.1	S	30+	8	5	18	6.7	76
ILLINOIS																																
CAIRO U	96	1009.8		5.0	- 3.9	0.6	-2.4	16.7	13	-15.0	21	0	24			38	- 75	29	6	1	81	76	3.9	SW#	12.5	N	19	12	10	9	4.8	68
CHICAGO O HARE	200	994.9	1021.0	- 1.7	-11.7	- 6.5		11.1	13	-22.2	25	0	31	-10.6	75	7		3	4	0	76	51	4.9	WSW	13.4*	NNW	24	6	9	16	6.5	
CHICAGO MIDWAY	186	997.3	1021.3	- 1.1	- 8.3	- 4.8	-0.9	10.6	13	-18.9	25	0	28	- 9.4	71	7	- 40	3	7	0	160	102	5.2	NW	15.2	W	7	7	8	16	6.4	48
MOLINE	180	998.6	1022.1	- 1.1	-11.1	- 6.1	-1.2	14.4	13	-22.8	27+	0	30	-10.6	70	8	- 30	4	6	0	86	51	3.9	WSW	13.9	NW	24+	7	9	15	6.3	60
PEORIA	199	998.6	1023.0	- 1.1	-10.6	- 5.9	-2.1	9.4	17	-22.2	25	0	30	-10.0	76	8	- 42	3	6	0	89	51	4.3	S	13.0	NW	24+	13	4	14	5.6	66
ROCKFORD	222	992.9	1021.6	- 2.2	-11.7	- 6.9	-2.3	12.2	13	-21.7	25	0	31	-11.1	75	5	- 45	3	3	0	48	51	4.2	WNW	10.3*	WSW	23	5	12	14	6.3	
SPRINGFIELD	179	998.6	1023.3	1.1	- 9.4	- 4.2	-1.6	11.7	13	-20.6	25	0	28	- 9.4	70	9	- 43	2	6	0	86	25	5.5	SW	15.6	N	24	13	6	12	5.2	65

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	117	1006.4	1022.9	3.9	- 7.2	- 1.4	-2.9	15.6	13	-25.0	28	0	25	- 6.1	72	25	- 75	13	7	0	112	76	4.5	SW	14.3	NW	24	12	6	13	5.5	66
FORT WAYNE	244	987.8	1021.1	- 1.1	-10.0	- 5.6	-2.4	9.4	13	-22.8	25	0	31	- 9.4	76	10	- 54	3	10	0	114	51	5.7	WSW	18.8	NW	8	5	12	14	6.7	49
INDIANAPOLIS	242	990.5	1021.8	0.6	- 9.4	- 4.7	-2.9	13.3	13	-23.3	28	0	31	- 8.9	73	31	- 49	23	7	0	91	76	3.7	WSW	13.4	NW	24	10	9	12	5.7	57
SOUTH BEND	234	990.9	1020.3	- 1.1	-10.0	- 5.7	-1.6	10.0	13	-26.7	25	0	31	- 8.9	76	24	- 27	9	14	0	526	254	5.0	SW	11.6*	NW	24+	2	8	21	7.9	
IOWA																																
BURLINGTON	212	996.3	1023.3	0.6	-11.1	- 5.2	-0.8	13.3	13	-23.3	27	0	31	-10.0	70	13	- 31	4	5	0	135	51	5.1	NW	15.6	NW	7	11	6	14	5.6	74
DES MOINES	289	991.2	1024.3	0.6	-11.7	- 5.6	-0.1	13.3	12	-24.4	27	0	31	-10.6	71	8	- 23	4	8	0	140	76	5.5	NW	18.3	NW	20	9	11	11	5.9	75
DUBUQUE	325	995.6	1022.1	- 3.3	-12.8	- 8.1	-1.1	8.9	13	-23.3	27+	0	31	-12.2	71	8	- 27	3	4	0	91	127						6	8	17	6.6	
SIOUX CITY	334	980.4	1024.2	- 1.7	-13.9	- 7.7	-0.5	8.9	31	-26.7	24	0	31	-12.2	71	8	- 11	7	4	0	102	102	4.8	NW	15.6	NW	19	8	9	14	6.0	79
WATERLOO	265	988.8	1022.7	- 3.3	-14.4	- 8.9	-1.5	10.0	12	-26.1	24	0	31	-12.8	74	8	- 22	3	7	0	132	51	3.3	NW	12.1*	NNW	20	4	13	14	6.3	
KANSAS																																
CONCORDIA U	419	972.6		5.6	- 8.3	- 1.2	0.9	18.9	31	-19.4	27+	0	29		61	2	- 13	2	1	0	20	25	2.9	W#	15.2	N	20	20	5	6	3.1	88
DODGE CITY	791	932.6	1023.8	8.9	- 7.2	0.7	1.6	19.4	23	-15.6	25	0	31	- 8.3	58	T	- 12	T	0	0	T	T	6.8	WSW	22.4	N	18	17	8	6	3.8	88
GOODLAND	1111	891.6	1023.2	7.2	- 8.9	- 0.9	2.6	18.3	31+	-20.0	27	0	31	- 8.9	63	T	- 8	0	1	0	8	51	5.4	WSW	16.5*	N	18	17	4	10	4.0	
TOPEKA	267	986.8	1024.4	6.1	- 9.4	- 1.8	0.1	16.7	31	-20.0	27	0	31	- 8.3	65	2	- 25	2	2	0	23	25	4.9	SSW	18.8	N	24+	18	3	10	3.8	82
WICHITA	403	972.6	1023.9	6.7	- 7.2	- 0.3	-0.3	15.0	17	-15.6	21	0	31	- 6.1	72	1	- 26	1	1	0	8	T	5.3	N	19.2	N	18	16	6	9	4.1	77
KENTUCKY																																
LEXINGTON	298	984.8	1022.2	2.2	- 6.7	- 2.3	-3.4	14.4	13	-22.2	28	0	24	- 3.3	77	43	- 71	23	8	0	157	102	3.8	SSW				10	7	14	5.8	
LOUISVILLE	144	1002.0	1022.3	3.3	- 6.7	- 1.8	-3.4	13.9	12	-22.2	28	0	25	- 3.3	74	40	- 64	23	7	0	97	76	3.5	WSW	11.2	NW	24+	10	10	11	5.5	64
LOUISIANA																																
ALEXANDRIA	28	1019.0	1023.8	12.2	- 0.6	5.8		22.2	18	- 7.8	30	0	20	1.7	78	221		136	10	1	T	T	3.0	NE				8	9	14	6.1	
BATON ROUGE	20	1020.3	1023.5	12.2	1.1	6.8	-4.5	22.2	18	- 6.1	29	0	14	2.2	75	132	- 7	54	9	0	0	0	4.3	NE				6	7	18	6.9	
LAKE CHARLES	4	1021.7	1023.2	12.8	3.3	8.2	-3.3	22.8	17	- 3.9	29	0	12	3.9	78	112	- 11	48	11	2	T	T	2.8	NNE	9.4*	NNE	19	6	7	18	7.1	
NEW ORLEANS U	3			13.3	6.1	9.6	-3.7	22.2	18	- 1.1	29	0	3		73	192	71	68	11	2	0	0	3.2		8.5	N	19+	8	9	14	6.5	43
NEW ORLEANS	1	1020.7	1023.0	13.9	3.3	8.6	-4.2	22.2	18	- 5.6	22	0	7	5.0	83	176	57	63	10	1	T	0	4.2	NNE	10.7*	ENE	7	6	8	17	6.7	
SHREVEPORT	77	1014.6	1024.3	12.2	0.6	6.3	-2.4	23.3	17	- 6.1	29+	0	16	1.1	74	96	- 24	43	10	1	20	25	4.5	NNE				11	7	13	5.8	58
MAINE																																
CARIBOU	190	988.3	1013.2	-10.6	-21.1	-15.7	-2.7	1.7	14	-33.9	24	0	31	-16.1	63	27	- 29	11	15	0	803	660	5.1	WNW	14.3*	NW	14	7	12	12	5.9	
PORTLAND	19	1010.2	1014.5	- 2.8	-15.6	- 9.3	-3.0	8.3	14	-27.2	22	0	31	- 9.4	67	37	- 75	21	6	0	401	203	4.3	WSW	15.6	N	20	11	8	12	5.7	65
MARYLAND																																
BALTIMORE	45	1014.4	1019.4	2.8	- 7.8	- 2.4	-3.7	14.4	7	-18.3	29+	0	28	- 4.4	60	74	- 19	22	7	0	363	203	4.5	WNW	16.5	NW	1	11	12	8	4.9	61
BALTIMORE U	4			3.3	- 3.9	- 0.4	-3.0	14.4	7	-13.3	25	0	24			80	- 13	31	7													
FREDERICK	90			1.1	- 9.4	- 4.4	-4.8	11.1	7	-22.2	22	0	31			53	- 21	19	5	0	457	203										
MASSACHUSETTS																																
BLUE HILL OBS R	192	989.5		- 1.1	-10.0	- 5.7		10.6	14	-19.4	25	0	29		62	92	- 12	29	7		536	432	7.8	W	21.5	NE	20					67
BOSTON	5	1009.7	1014.7	0.0	- 7.8	- 3.9	-2.3	13.3	14	-15.6	25	0	29	- 5.6	58	74	- 15	31	8	0	475	330	6.8	W	18.3	NNE	20	11	9	11	5.3	73
NANTUCKET	13	1014.1		1.1	- 6.1	- 2.4	-2.5	9.4	7	-13.9	25	0	28			103	5	42	12	0	556	432	6.3	WNW	21.5	NW	20	12	8	11	5.6	61
PITTSFIELD	357			- 3.3	-15.6	- 9.4	-3.4	9.4	14	-27.2	23	0	31			32	- 46	11	9		518	432										
WORCESTER	301	975.8	1013.1	- 2.8	-11.7	- 7.4	-2.9	10.0	14	-21.1	25	0	30	- 9.4	59	77	- 8	31	6	0	823	711	5.1	WSW	17.4*	NNE	20+	12	9	10	5.3	
MICHIGAN																																
ALPENA	210	991.5		- 4.4	-16.7	-10.6	-4.5	10.6	13	-27.8	20	0	31	-13.9	70	4	- 50	1	6	0	130	178	3.2	SW#	12.5	NW	7	2	14	15	7.4	45
DETROIT	189	991.9	1020.0	- 1.1	- 8.3	- 4.9	-1.7	11.7	13	-18.3	25	0	29	-10.0	70	6	- 47	2	8	0	84	51	5.4	W	15.6	NW	7	3	12	16	7.5	42
DETROIT M WAYNE CO	192	994.2	1019.6	- 1.1	-10.0	- 5.7		11.1	13	-20.6	25	0	31	-10.0	72	7		4	6	0	94	51	5.1	SW				4	9	18	7.0	
DETROIT WILLOW RUN	220	989.8	1019.5	- 1.1	- 9.4	- 5.3	-1.6	11.7	13	-20.0	25	0	31	- 9.4	71	6	- 39	3	4	0	119	76	5.5	SW	13.9*	W	7	3	10	18	7.3	
ESCANABA U	181	995.3		- 5.6	-13.3	- 9.3	-1.2	5.6	17	-23.9	23	0	31		70	6	- 33	3	7	0	74	51	4.3		17.0	NW	7	6	6	19	7.2	38
FLINT	233	990.5	1019.8	- 2.2	-11.7	- 7.1	-2.2	11.1	13	-22.8	25	0	31	-10.6	76	8	- 32	2	11	0	160	76	4.2	SW	11.2*	W	27	3	8	20	7.7	
GRAND RAPIDS	208	993.2	1020.0	- 2.2	-10.0	- 6.2	-1.4	10.0	13	-25.6	25	0	31	- 9.4	77	34	- 14	7	18	0	762	279	4.3	SSW	13.0	W	7	4	4	23	8.1	38
LANSING	260	986.1	1019.7	- 2.2	-11.1	- 6.7	-2.2	12.2	13	-23.3	25	0	31	-10.6	75	11	- 36	3	10	0	142	102	5.5	SW	21.9	W	7	3	6	22	7.7	45
MARQUETTE U	206	990.2		- 5.0	-12.8	- 8.9	-1.5	7.2	13	-21.1	23	0	31		70	25	- 30	7	12	0	472	279	3.7	W#	14.8	NW	7	1	7	23	8.2	45
MUSKEGON	191	995.6	1019.9	- 2.2	- 8.9	- 5.6	-1.6	5.6	13	-19.4	25	0	31	- 8.3	79	35	- 15	5	16	0	676	279	4.9	W	15.6*	W	7	2	5	24	8.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MICHIGAN																																
SAULT STE MARIE	220	993.9	1018.1	- 7.2	-16.7	-11.8	-1.7	4.4	13	-27.8	24	0	31	-15.6	75	13	- 42	3	16	0	211	432	3.6	E	14.3*	WNW	17	5	4	22	7.5	45
MINNESOTA																																
DULUTH	429	977.0	1020.8	- 7.2	-19.4	-13.4	-0.2	4.4	10+	-33.3	24	0	31	-18.9	64	4	- 28	2	6	0	71	279	5.9	WNW	18.3	NW	17	10	5	16	6.1	63
INTERNATIONAL FALLS	359	977.3	1021.8	-10.6	-23.3	-16.8	-0.7	5.0	16	-37.2	24	0	31	-21.7	67	12	- 11	8	7	0	122	330	3.6	W	11.2*	WNW	17	8	9	14	5.9	
MINNEAPOLIS	253	986.8	1022.7	- 5.0	-16.7	-11.1	-1.4	7.8	16	-29.4	24	0	31	-15.6	70	7	- 13	4	4	0	117	51	4.2	WSW	15.6	NNW	23	7	12	12	6.0	72
ROCHESTER	395	971.6	1022.0	- 4.4	-13.9	- 9.4	0.4	6.7	12	-28.9	24	0	31	-13.3	74	2	- 22	1	4	0	43	25	5.1	NNW				4	13	14	6.5	
ST CLOUD	315	982.1	1022.7	- 5.6	-18.3	-11.7	0.2	8.3	16	-31.1	24	0	31	-16.1	69	2	- 17	1	3	0	69	51						8	14	9	5.7	
MISSISSIPPI																																
JACKSON	93	1011.4	1023.9	10.6	- 1.1	4.8	-4.3	22.2	18	- 7.2	29+	0	20	2.8	72	78	- 51	25	9	0	T	0	2.3	NNW	16.1	N	19	11	4	16	6.1	47
MERIDIAN	89	1009.5	1023.8	11.1	- 1.7	4.7	-3.9	22.8	18	-10.6	22	0	22	2.2	77	65	- 64	18	9	0	T	T	3.2	NE	11.6*	NW	21	9	9	13	5.9	
VICKSBURG U	71	1014.2		10.0	1.1	5.6	-3.9	21.1	18	- 7.2	29	0	15			109	- 29	37	10	1	T	T	3.6		15.2	NW	19	9	8	14	6.0	54
MISSOURI																																
COLUMBIA	237	992.6	1022.8	4.4	- 7.2	- 1.4	-0.2	15.0	12	-20.0	27	0	27	- 7.8	68	6	- 40	3	7	0	69	25	4.9	NW	14.3	NW	20	15	5	11	4.5	67
KANSAS CITY	226	987.5	1023.9	6.1	- 6.1	- 0.2	0.9	16.7	31	-20.6	27	0	26	- 9.4	55	1	- 35	1	2	0	18	25	4.0	SW	13.4	NW	20	16	6	9	4.3	79
ST JOSEPH	247	987.5		4.4	- 9.4	- 2.6	0.2	15.0	31	-22.2	27	0	31			2	- 27	2	3	0	25	25	5.3	S	16.5*	NNW	20	17	4	10	4.2	
ST LOUIS	171	1001.7	1023.5	3.9	- 7.8	- 2.1	-2.2	14.4	6	-21.1	25	0	26	- 7.8	69	10	- 39	4	6	0	135	102	3.8	WSW	11.6	NW	20+	13	5	13	5.0	60
ST LOUIS RFC	142			4.4	- 5.0	- 0.1	-0.8	15.6	12+	-18.3	21	0	19			14	- 44	5	6		152	76										
SPRINGFIELD	386	974.3	1023.8	6.7	- 7.2	- 0.4	-0.8	16.1	31	-17.2	28+	0	30	- 7.8	63	2	- 57	2	2	0	20	25	5.3	SSE	18.8	NW	20	12	10	9	4.7	75
MONTANA																																
BILLINGS	1087	894.0	1021.6	5.6	- 5.6	0.1	5.2	16.1	23	-16.7	29+	0	23	-10.0	52	4	- 10	2	2	0	43	25	6.2	WSW	14.8	W	6	5	10	16	6.9	71
GLASGOW	694	944.8	1022.5	- 2.2	-12.2	- 7.3	4.6	7.8	16+	-25.6	26	0	31	-10.6	80	2	- 8	2	4	0	38	51						5	11	15	7.0	
GREAT FALLS	1117	891.0	1020.9	5.6	- 4.4	0.4	5.6	12.8	16	-16.7	30+	0	22	-10.6	49	6	- 8	5	4	0	74	51	6.5	SW	21.0	SW	15	5	8	18	7.4	61
HAVRE U	758	929.6	1021.7	2.8	- 7.8	- 2.5	6.3	12.2	15	-25.0	26	0	27			5	- 7	5	2	0	51	51	4.6	SW#	15.2	SW	5	7	9	15	6.3	53
HELENA	1187	877.4	1024.9	3.9	- 8.9	- 2.6	5.4	13.9	15	-21.1	27	0	30	-10.6	64	3	- 10	2	3	0	46	25	3.1	W	15.2	S	6	8	5	18	6.9	65
KALISPELL	904			0.0	- 8.9	- 4.5	2.0	8.3	16	-23.9	2	0	29			19	- 14	7	7	0	140	178						3	7	21	8.0	
MILES CITY	801	935.3	1023.3	1.1	- 9.4	- 4.2	4.6	13.3	16	-22.8	27	0	30	- 8.9	72	2	- 10	1	4	0	36	25	4.0	NW	14.3*	NW	19	4	9	18	7.1	
MISSOULA	975	908.2	1027.8	- 1.1	-10.6	- 5.8	1.2	8.9	16	-25.6	4	0	30	- 7.2	89	13	- 7	9	6	0	201	254	1.9	WNW	9.8	NW	8	2	4	25	8.6	24
NEBRASKA																																
GRAND ISLAND	561	954.3	1023.5	5.0	-11.7	- 3.3	1.7	17.2	31	-23.9	24	0	31	-11.1	62	T	- 15	T	0	0	T	T	5.3	WSW				14	8	9	4.3	
LINCOLN U	351			3.9	-10.6	- 3.3	0.6	16.7	12	-24.4	27	0	31			6	- 15	4	2	0	51	25	4.0	NW#	15.2	NE	18	15	8	8	4.3	82
NORFOLK	471	964.8	1023.3	0.6	-13.3	- 6.5	0.6	11.7	31	-26.7	24	0	31	-11.7	65	5	- 15	5	1	0	69	102						11	11	9	5.0	
NORTH PLATTE	847	919.7	1023.0	6.1	-11.7	- 3.0	1.4	17.2	31	-22.8	27	0	31	-10.6	61	T	- 10	T	0	0	T	51	4.7	NNW	20.6	N	18	14	9	8	4.9	86
OMAHA	298	981.7	1024.0	2.2	-10.6	- 4.1	0.9	15.0	12	-24.4	24	0	31	-10.0	67	6	- 16	4	3	0	119	76	4.7	NNW	21.0	N	20	10	13	8	5.0	77
OMAHA N OMAHA APT	403	972.9		0.6	-11.7	- 5.4	0.9	14.4	12	-26.7	27	0	30			5	- 17	3	2	0	112	76						9	13	9	5.1	
SCOTTSBLUFF	1204	882.2	1023.7	5.6	-10.6	- 2.6	2.2	15.0	31	-21.1	27	0	31	- 9.4	63	T	- 8	T	0	0	3	25	5.2	NW	17.4*	NNW	20	11	6	14	5.5	
VALENTINE	789	927.9		2.8	-11.7	- 4.4	2.3	15.6	31	-25.6	24	0	31		73	T	- 14	T	0	0	8	25	4.2	WW	15.6	SW	8	10	9	12	5.5	85
NEVADA																																
ELKO	1547	850.3	1027.0	6.7	-12.2	- 2.7	2.9	12.2	30	-19.4	28	0	31	-10.0	61	1	- 26	1	2	0	8	T	1.8	ENE	7.6*	NNW	9	12	9	10	5.0	
ELY	1907	813.1	1025.8	7.8	-13.3	- 2.8	2.2	15.6	17+	-22.2	28	0	31	-13.9	46	4	- 20	4	1	0	13	T	4.2	S	14.3	N	20	13	9	9	4.8	69
LAS VEGAS	659	955.6	1022.6	14.4	0.0	7.3	0.5	18.9	18+	- 4.4	2	0	17	- 7.8	39	6	- 6	6	1	0	0	0	3.0	WSW	10.3*	SSW	27+	16	8	7	4.1	84
RENO	1342	866.6	1024.4	11.1	- 9.4	0.8	1.2	16.1	7	-16.1	5	0	30	- 7.8	59	20	- 6	13	4	0	66	25	1.3	SW	13.4	S	31	11	8	12	5.4	76
WINNEMUCCA	1310	873.7	1026.1	10.6	-11.7	- 0.6	1.8	15.6	17	-20.0	28	0	31	- 8.9	55	1	- 23	1	3	0	T	0	2.4	NE	13.9	W	31	11	3	17	5.5	66
NEW HAMPSHIRE																																
CONCORD	103	1005.2	1015.5	- 2.2	-17.2	- 9.7	-3.1	10.0	14	-32.8	24	0	31	-10.6	60	27	- 47	12	5	0	290	356	2.7	NW	13.4	NW	2	13	7	11	5.3	69
MT WASHINGTON OBS	1909	791.1		-15.0	-23.3	-19.1	-4.3	- 3.3	17	-36.7	25	0	31		75	76	- 53	23	14	0	607	102	19.3	NW	58.6Y	NW	25	5	7	19	7.4	68
NEW JERSEY																																
ATLANTIC CITY	9	1016.0	1018.7	2.2	- 7.8	- 2.8	-4.3	14.4	7	- 2.2	22+	0	27	- 4.4	68	103	15	48	9	0	404	254	5.8	W	16.1	ENE	19	8	14	9	5.4	62
ATLANTIC CITY U	2			2.2	- 5.6	- 1.8	-3.9	11.1	7	-13.3	28+	0	27			77	- 19	34	9				6.3		19.7	NW	20					
NEWARK	18	1016.5	1017.9	1.1	- 7.2	- 3.0	-2.7	13.3	7	-15.6	25+	0	28	- 4.4	59	85	- 7	37	8	0	564	381	4.5	WSW	16.5*	NNE	20	13	7	11	5.2	
TRENTON U	17	1010.4		0.6	- 6.7	- 3.1	-3.4	12.8	7	-15.0	25	0	28			71	- 9	30	9	0	409	254	4.3	W	16.1	N	20	13	9	9	4.9	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
H	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW MEXICO																																
ALBUQUERQUE	1618	852.7	1023.6	7.8	- 6.1	1.1	0.1	12.2	18	- 9.4	4	0	31	- 8.9	52	6	- 1	6	2	0	15	T	2.6	N	16.5	SE	24	17	4	10	4.1	82
CLAYTON	1515	848.0	1021.0	10.0	- 7.2	1.4	0.9	18.3	30+	-15.0	28	0	31			1	- 6	1	1	0	18	25						17	4	10	4.3	
RATON	1944	807.3	1023.4	6.1	-12.2	- 2.9	0.3	13.3	9	-17.8	3	0	31			5	- 6	4	3	0	64	51						16	6	9	4.1	
ROSWELL	1101	897.4	1022.4	11.1	- 8.3	1.3	-2.9	20.6	22	-15.6	29	0	31	- 6.7	63	17	7	12	2	0	137	76	2.7		12.5	N	24	12	8	11	5.0	
SILVER CITY	1662	836.8	1020.0	11.7	7.8	4.4		16.1	16	- 6.1	8+	0	28			19		10	6	0	33	25						14	6	11	4.8	
NEW YORK																																
ALBANY	84	1013.5	1017.2	- 3.3	-15.0	- 9.3	-4.0	7.2	14+	-27.2	22	0	31	- 9.4	72	37	- 20	22	7	1	437	381	3.9	WNW	17.4	NW	25	9	8	14	6.1	69
BINGHAMTON	485	954.8	1016.5	- 5.0	-12.2	- 8.4	-2.7	6.7	7	-20.6	25+	0	31	-10.0	66	36	- 25	22	15	0	536	381	4.6	SSW	12.5	NW	9+	2	14	15	7.4	51
BUFFALO	211	988.9		- 4.4	-10.6	- 7.5	-3.9	6.7	13	-21.1	25	0	31			36	- 35	8	15	0	597	356	4.8		16.1	SW	7	0	11	20	8.2	49
NEW YORK	6	1015.7	1017.6	1.1	- 5.6	- 2.3	-2.8	13.3	7	-14.4	25	0	27	- 3.9	61	81	0	30	8	0	394	330	6.9	WNW	21.0	N	20+	10	11	10	5.5	
NEW YORK U	40			1.1	- 5.6	- 2.4	-2.8	12.8	7	-15.0	25	0	27			48	- 43	20	9	0	424	330	4.7	NW	14.8	NE	19	14	8	9	4.9	64
ROCHESTER	166	998.4	1018.6	- 2.8	-11.1	- 7.0	-2.9	10.0	7	-20.6	25	0	31	- 7.2	78	28	- 32	9	15	0	599	229	6.1	WSW	22.4	W	17	3	9	19	7.5	64
SCHENECTADY	66			- 3.3	-14.4	- 8.8	-2.9	6.7	14	-26.1	22	0	31			25	- 36	17	6		343	381						18	9	4	3.7	
SYRACUSE	129	994.8	1018.1	- 3.3	-11.7	- 7.3	-3.7	7.8	7	-20.0	24	0	30	- 7.8	70	58	- 12	29	16	0	947	559	4.9	WSW	15.2	W	8	2	12	17	7.4	42
NORTH CAROLINA																																
ASHEVILLE U	671	938.6		6.7	- 5.0	0.8	-3.3	17.2	12	-16.1	22	0	26			37	- 39	30	6	0	20	T	4.1		15.6	NW	20	15	6	10	4.7	66
CAPE HATTERAS R	2	1018.4	1019.2	10.6	1.1	5.6	-3.3	19.4	1	- 5.0	31+	0	14	3.9	71	100	- 4	49	5	0	T	T	5.7	WSW	18.8	NNE	24	11	10	10	5.1	73
CHARLOTTE	221	991.1	1020.3	9.4	- 2.8	3.4	-2.3	17.2	24	-13.3	22	0	25	0.0	60	56	- 37	37	5	0	30	25	3.0	SW	11.6	SW	23+	15	6	10	4.6	72
GREENSBORO	272	986.5	1020.7	7.8	- 5.0	1.5	-2.4	15.6	7	-13.3	22	0	28	- 1.1	64	60	- 26	28	6	0	18	25	3.6	SW	12.1	NW	19	15	8	8	4.3	76
RALEIGH	132	1005.8	1020.2	8.9	- 3.9	2.5	-2.7	16.1	12	-13.9	22	0	26	0.0	60	73	- 12	40	7	0	58	25	3.5	SSW	13.0*	NNW	24+	17	5	9	4.3	75
WILMINGTON	9	1017.0	1020.0	11.7	- 0.6	5.5	-3.3	19.4	1	- 7.8	22	0	17	3.3	70	54	- 25	29	4	0	T	0	4.0	SW	15.6	SW	1	12	10	9	4.8	73
WINSTON SALEM	295	983.5	1020.1	7.8	- 3.3	2.1	-1.9	15.6	7	-13.3	22	0	26	- 1.1	52	57	- 37	23	6	0	20	25	4.2	NW	17.9*	NW	20	15	7	9	4.2	
NORTH DAKOTA																																
BISMARCK	503	958.3	1023.2	- 1.7	-13.3	- 7.6	5.1	12.2	16	-31.1	24	0	31	-13.9	64	1	- 8	1	3	0	15	51	4.6	WNW	17.9	NW	6	1	14	16	7.4	64
DEVILS LAKE U	448	965.5		- 8.3	-19.4	-13.8	1.3	5.6	16	-36.1	24	0	31		79	9	- 1	5	6	0	152	305	3.5	N#	10.7	N	23	5	10	16	6.6	69
FARGO	274	987.1	1023.9	- 8.3	-20.0	-14.0	-0.2	3.9	16+	-32.8	24	0	31	-17.8	73	2	- 13	2	3	0	41	127	6.8	N	25.5	NE	23	2	15	14	6.8	58
WILLISTON U	572	951.2	1022.4	- 2.2	-11.7	- 7.1	5.1	8.9	16	-26.7	24	0	30	-11.7	71	2	- 10	1	5	0	23	51	2.8	W#	11.2	NW	6	6	7	18	6.9	60
OHIO																																
AKRON	369	980.5	1020.4	- 1.7	-10.0	- 5.8	-3.3	8.9	13	-23.3	25	0	29	- 6.7	76	18	- 52	6	12	0	439	203	4.9	SW				4	12	15	7.1	
CINCINNATI OBS	232			2.2	- 6.1	- 2.2	-2.8	12.8	13	-19.4	25	0	27			46	- 42	31	9	0	178	152	3.0		10.3	NW	24					59
CINCINNATI	265	988.4	1021.8	2.2	- 6.7	- 2.3	-2.2	13.9	13	-19.4	28+	0	26	- 3.9	71	47	- 39	33	10	0	175	152	3.8	SW	10.3*	NNW	24	8	8	15	6.5	
CLEVELAND	240	991.2	1019.9	- 2.2	- 9.4	- 5.8	-3.8	10.0	13	-21.7	25	0	29	- 6.7	72	9	- 51	3	11	0	152	76	5.4	SW	14.3	SW	7	3	10	18	7.7	48
COLUMBUS	248	990.0	1021.5	- 0.6	- 9.4	- 4.7	-3.4	10.6	14+	-25.0	25	0	28	- 5.6	71	17	- 58	5	9	0	193	152	3.4	SSW	14.3	NW	24	8	8	15	6.5	55
COLUMBUS U	221			0.0	- 8.3	- 4.1	-3.6	10.6	13	-21.1	28	0	27			24	- 47	7	10		236	203										
DAYTON	305	983.4	1021.5	- 0.6	- 8.9	- 4.7	-3.4	11.1	13	-22.2	25	0	28	- 5.6	74	29	- 46	11	13	0	216	102	4.8	SSW	15.2	NW	24	7	10	14	6.5	57
MANSFIELD	395			- 2.2	-10.0	- 6.1		9.4	13	-23.3	25	0	31			17		4	11	0	201	102						7	8	16	7.0	
SANDUSKY U	184	996.6		- 1.1	- 8.3	- 4.8	-3.1	12.2	13	-21.7	25	0	29			5	- 53	3	5	0	84	76	4.4		15.6	SW	17	10	5	16	6.2	51
TOLEDO	206	994.1	1020.7	- 1.1	-10.0	- 5.3	-2.2	11.7	13	-23.9	25	0	30	- 6.7	70	7	- 50	2	11	0	86	25	4.6	SW	11.6	NW	24+	3	12	16	7.3	60
YOUNGSTOWN	359	975.1	1019.7	- 2.2	- 9.4	- 5.9	-3.4	10.0	13	-23.3	25	0	29	- 7.2	71	21	- 64	9	13	0	363	178	4.9	WSW	12.1*	NW	24	5	6	20	7.6	
OKLAHOMA																																
OKLAHOMA CITY	390	979.0	1024.6	8.9	- 4.4	2.4	-0.4	18.3	17	-13.3	21	0	27	- 5.0	63	4	- 34	3	2	0	48	51	5.2	SSW	21.0	N	18	16	6	9	4.2	78
TULSA	205	998.6	1024.3	8.3	- 5.6	1.3	-1.7	16.1	13+	-15.0	21	0	29	- 5.0	69	17	- 34	17	2	0	T	T	4.5	SSE	16.1	NW	19	15	7	9	4.3	68
OREGON																																
ASTORIA	2	1017.3	1017.9	12.2	5.0	8.5	4.0	18.3	20	- 2.8	3	0	3	5.0	79	229	- 41	44	20	0	0	0	5.1	ESE	16.5*	SSW	30	7	3	21	7.5	
BURNS U	1262	878.1	1025.5	5.6	- 7.2	- 1.1	3.4	11.7	17	-15.0	4	0	31	- 5.0	77	18	- 20	9	5	0	38	51						7	7	17	6.9	
EUGENE	110	1006.4	1020.4	10.6	2.2	6.4	3.0	15.6	31+	- 4.4	22	0	14			133	- 4	43	16	0	0	0	3.5		25.9*	SSW	7	3	8	20	7.8	
MEACHAM	1234			3.3	- 2.8	0.1	4.1	8.3	14	- 9.4	2	0	26			49	- 59	12	11	0	135	356						6	4	21	7.4	
MEDFORD	400	973.2	1022.1	10.0	- 1.1	4.6	1.7	21.7	20	- 9.4	3	0	20	1.1	82	28	- 35	20	11	0	0	T	1.7	SE	15.6*	SE	7	3	8	20	7.7	
PENDLETON	455	968.8	1023.9	6.1	- 0.6	2.8	3.6	16.7	14	- 6.1	4+	0	18	- 0.6	79	12	- 26	5	7	0	T	T	3.0	SSW	15.6*	WSW	7	2	2	27	9.1	
PORTLAND	6	1014.6	1020.2	10.0	2.8	6.4	3.4	15.0	30	- 5.0	3	0	9	2.2	75	114	- 2	27	17	0	0	0	5.7	E	23.2	SW	7	8	5	18	7.0	37
ROSEBURG	154	1001.4	1020.3	11.1	2.2	6.4	2.2	17.2	31	- 5.0	4	0	10			56	- 60	30	14	0	0	0	1.5	NE#	12.5	SW	7	1	6	24	8.5	30
SALEM	59	1012.9	1020.3	10.6	1.7	6.1	2.6	16.1	20	- 5.6	27	0	15	2.8	81	122	- 24	29	18	0	0	0	3.6	S	17.0*	SSW	7	7	5	19	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
OREGON																																
SEXTON SUMMIT R	1169	885.5	1019.6	9.4	2.8	6.1	4.0	16.7	20	- 2.8	1	0	4			123	21	73	15	0	25	25	7.4	S				9	6	16	6.2	
PACIFIC AREA																																
CANTON ISLAND	2	1007.5	1007.9	31.7	26.1	28.9	0.6	32.8	15+	23.9	16	14	0	22.8	73	401	96	103	26	2	0	0	3.5	NE	13.0	NW	19	0	0	31	9.9	44
ENIWETOK	4	1009.5	1010.2	30.0	25.6	27.6		31.1	3	23.9	9+	0	0	22.8	74	558		243	22	0	0	0	5.9	E	13.4	E	8	0	5	26	9.0	
JOHNSTON	2	1012.2	1012.8	27.8	22.8	25.1		28.3	29+	20.0	14	0	0	19.4	72	195	114	31	27	0	0	0	3.9	NE*	11.6	NE	8					34
KWAJALEIN	2	1008.1	1009.0	30.0	25.0	27.5		31.1	7+	22.2	2	0	0	23.3	77	232	39	76	18	1	0	0	3.0	NE	9.8	SE	30	0	3	28	9.4	52
KOROR R	29	1005.1	1008.9	29.4	23.9	26.9	0.1	31.7	31+	21.7	21	0	0	24.4	89	422	123	102	25	1	0	0	2.6	NE	10.3	E	10	0	1	30	9.7	38
MAJURO	3	1008.5	1008.8	29.4	25.0	27.4		31.1	11	22.2	28	0	0	23.9	80	21	- 11	10	9	0	0	0	6.3	ENE	13.9*	ENE	10+	11	12	8	5.1	
TAGUAC GUAM R	110			28.3	23.3	25.8	0.4	29.4	31+	20.6	22	0	0			34	7	9	8	0	0	0	7.1	ENE	13.4*	E	9	0	0	31	9.9	
PONAPE R	37	1003.1	1008.4	30.0	23.9	26.9	-0.4	31.1	23+	21.1	30	0	0	23.9	85	296	122	65	27	0	0	0	4.4	NE	14.3	SW	18	0	2	29	9.6	08
TRUK MOEN ISLAND	2	1008.1	1008.4	30.0	25.6	27.6	0.4	30.6	23+	22.8	19	0	0	23.9	81	30		10	11	0	0	0	8.0									
WAKE ISLAND	3	1013.5	1013.9	28.9	23.3	25.9	0.7	29.4	23+	21.7	1	0	0	20.6	72	16		12	9	0	0	0	5.4		13.9	NE	1	16	13	2	3.8	64
YAP R	17	1006.4	1008.4	29.4	24.4	27.0	-0.1	30.6	31+	23.3	10	0	0	24.4	85	84		33	17	0	0	0	8.3	ENE	14.3*	ENE	9	2	4	25	8.4	
PENNSYLVANIA																																
ALLENTOWN	115	1003.7	1018.7	- 1.1	-11.1	- 6.1	-4.1	10.0	7	-24.4	22	0	31	- 6.7	71	84	3	38	8	0	561	381	4.9	WSW	20.6*	WNW	1	10	12	9	5.5	
ERIE	223	991.6	1019.0	- 2.2	- 8.3	- 5.1	-2.4	9.4	13	-17.8	28	0	27	- 6.1	74	29	- 31	9	15	0	602	203	5.9	SW	14.3*	WSW	7	2	7	22	8.3	
HARRISBURG	102	1004.6	1019.2	0.6	- 8.3	- 3.8	-3.3	12.2	7	-19.4	22	0	31	- 5.6	63	88	21	37	9	0	864	508	3.4	W	14.8	NW	24	9	10	12	6.0	61
PHILADELPHIA	2	1013.5	1018.3	0.6	- 8.3	- 3.9	-4.6	11.7	7	-20.0	21	0	29	- 5.0	68	80	- 5	28	7	0	500	305	4.5	WNW	15.6	N	20	8	12	11	5.9	68
PHILADELPHIA U	11			2.2	- 4.4	- 1.2	-2.8	13.9	7	-13.9	25	0	26																			
PITTSBURGH	351	988.8	1020.4	- 1.7	- 9.4	- 5.4	-3.8	10.6	13	-23.3	25	0	29	- 6.7	72	50	- 21	15	17	0	577	254	4.8	WSW	17.0*	NNW	24	3	10	18	7.5	54
PITTSBURGH U	228			0.6	- 6.1	- 2.8	-3.4	12.2	13	-17.8	25	0	25			52	- 20	18	17		427												
READING U	81	1006.0		1.1	- 7.2	- 3.1	-3.2	12.8	7	-17.8	22	0	29			72	- 8	26	7	0	617	330	4.6		21.9	E	1	7	12	12	6.0	62
SCRANTON	287	982.4	1018.5	- 3.3	-11.7	- 7.3	-4.4	8.9	7	-23.3	22	0	31	- 8.3	65	46	- 11	24	8	0	483	330	4.1	SW	11.6	NW	8	8	11	12	6.2	64
WILLIAMSPORT	161	999.3		- 1.1	-11.7	- 6.3	-4.4	10.0	7	-25.0	22	0	31			60	- 6	28	8		521	279						8	10	13	6.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.5		0.0	- 6.1	- 3.0	-2.9	10.0	1	-13.9	22	0	29			60	- 34	27	9	0	229	127						13	8	10	5.1	
PROVIDENCE	17	1009.3	1015.8	0.0	- 9.4	- 4.6	-2.8	13.3	14	-21.1	22	0	29	- 6.1	60	89	- 6	48	8	0	442	356	5.4	NNW	17.0*	N	20	14	9	8	4.7	70
SOUTH CAROLINA																																
CHARLESTON	12	1018.7	1020.6	13.9	0.0	6.8	-3.3	21.1	12	- 7.8	22	0	20	3.9	68	45	- 18	17	7	1	T	T	4.4	WSW	20.6	W	19	11	7	13	5.5	73
CHARLESTON U	3			12.8	3.3	8.1	-2.7	19.4	7	- 5.6	22	0	8			50	- 13	21	9		T	T	4.4		18.8	SW	19					
COLUMBIA	66	1007.6	1021.0	12.2	- 1.7	5.2	-3.2	20.0	12	-10.0	22	0	23	2.2	65	74	- 5	37	5	0	36	25	2.9	SW	12.1	W	21+	12	8	11	4.9	68
FLORENCE	45	1013.9	1020.0	11.7	- 1.1	5.4	-2.6	20.6	24	-10.0	22	0	22	2.2	60	31	- 41	19	6	0	20	25	3.7	SW	10.3*	SW	24+	12	9	10	4.8	
GREENVILLE	310	981.8	1020.4	10.6	- 2.2	4.2	-2.1	17.8	24	-13.3	22	0	22	0.6	55	61	- 53	38	7	0	28	25	3.7	WSW	13.4	W	23	16	5	10	4.3	73
SPARTANBURG	244	989.3	1020.1	10.0	- 2.2	3.8	-2.5	17.2	12	-12.2	22	0	24	0.6	58	62	- 53	41	6	0	28	25	2.9	SW	11.2*	NW	19	17	5	9	4.2	
SOUTH DAKOTA																																
HURON	391	973.6	1024.4	- 6.1	-18.9	-12.6	-2.3	4.4	6	-32.8	24	0	31	-14.4	83	5	- 10	4	4	0	79	178	4.9	SSE	15.6	SE	8	5	11	15	6.8	76
RAPID CITY	965	904.2	1022.6	3.9	- 8.9	- 2.6	3.4	15.6	31+	-22.2	27+	0	31	- 9.4	63	3	- 10	5	1	0	25	51	4.8	NNW	21.0	N	25	6	8	17	6.7	69
SIOUX FALLS	433	968.8	1023.5	- 3.3	-16.1	- 9.9	0.0	7.2	12	-30.6	24	0	31	-15.6	65	6	- 12	6	1	0	86	152	3.6	NW	14.3*	NNW	20+	8	9	14	6.3	
TENNESSEE																																
BRISTOL	463	964.8	1021.2	5.6	- 5.6	- 0.2	-3.9	16.1	13	-18.9	22	0	26	- 2.2	70	58	- 31	19	9	0	109	51	3.4	SW	10.3*	W	24+	11	5	15	5.6	
CHATTANOOGA	204	994.0	1022.7	7.8	- 4.4	1.6	-3.8	15.6	12	-13.9	22	0	26	- 0.6	70	29	-104	12	5	0	5	T	3.2	NNE	14.8	NW	19	10	7	14	5.9	55
KNOXVILLE	290	1019.5	1022.4	6.7	- 4.4	1.2	-3.5	16.1	12	-15.0	22	0	24	- 1.1	66	65	- 51	23	10	1	137	51	3.8	WSW	13.9	NW	19	11	5	15	5.7	50
MEMPHIS	80	1008.6	1023.9	8.3	- 3.9	2.3	-3.1	18.9	18+	-11.7	28	0	26	0.0	67	21	-120	12	6	1	T	T	4.2	SSW	14.3	NW	20+	8	8	15	6.0	59
MEMPHIS U	83			7.8	- 1.1	3.3	-2.2	18.9	18	- 1.7	21	0	18			18	-119	12	5		T	25										
NASHVILLE	176	1002.2	1022.8	6.7	- 5.0	0.7	-3.7	16.1	12	-18.3	28	0	25	- 1.1	69	37	- 89	12	9	1	76	51	3.3	NNW	14.8	NW	19	10	9	12	5.5	55
OAK RIDGE	276	987.8		6.1	- 5.0	0.7	-3.2	12.8	13+	-16.1	22	0	25			47	-107	15	7	1	89	25	1.6		13.0*		19	13	5	13	5.1	
TEXAS																																
ABILENE	536	960.4	1023.4	11.1	- 1.7	4.8	-1.5	22.8	18	-11.7	29	0	20	- 1.7	68	101	79	55	8	0	99	76	3.8	S	16.1	N	19	9	7	15	5.9	63
AMARILLO	1094	892.7	1022.3	10.0	- 6.7	1.4	-0.4	19.4	16	-14.4	28	0	31	- 8.9	50	3	- 13	3	1	0	274	51	5.5	SW	17.0	N	18	16	6	9	4.2	85
AUSTIN	187	1001.0	1023.7	13.3	2.2	7.8	-2.2	23.3	17	- 3.9	28	0	9	2.8	75	32	- 35	24	8	0	T	T	4.1	N	15.6	N	24	7	7	17	6.7	51
BROWNSVILLE	5	1020.0	1022.7	17.8	8.3	13.1	-2.8	25.6	24	1.1	28	0	0	9.4	82	50	13	24	12	1	0	0	4.5	NNW	16.5	NW	19	6	4	21	7.6	33

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
TEXAS																																
CORPUS CHRISTI	13	1022.4	1023.4	15.6	6.1	10.9	-2.9	25.0	24	- 1.7	28	0	4	6.7	77	60	25	25	6	2	T	T	4.6	NNE	15.2	N	19	6	3	22	7.5	40
DALLAS	147	1005.1	1024.6	11.1	0.0	5.6	-2.1	23.3	18	- 8.9	29	0	16	- 0.6	69	86	23	52	10	0	81	76	4.2	S	16.1	NW	19	12	5	14	5.5	61
DEL RIO U	292			13.9	3.3	8.7	-2.4	25.0	24	- 1.1	25	0	2			40	19	23	7	1	T	T										
EL PASO	1195	890.6	1022.1	12.2	- 2.2	5.0	-1.3	17.2	31	- 6.1	13	0	26	- 3.9	57	10	0	10	3	0	T	T	3.7	N	13.4	W	27	13	2	16	5.4	71
FORT WORTH	166	1003.1	1024.6	11.1	- 1.1	4.9	-2.4	23.3	17	-11.7	29	0	20	0.0	74	84	22	60	11	0	89	102	5.1	S	17.0*	NNW	18	11	6	14	5.7	
GALVESTON U	2			12.8	6.7	9.6	-2.9	18.9	7	- 0.6	29+	0	5			102	- 2	60	10		T	0	5.4		14.3	NE	25					50
GALVESTON	2	1021.3	1023.6	12.8	6.1	9.4	-2.9	18.9	18+	- 1.1	29	0	5	4.4	74	136	25	70	11	1	T	T	4.6	N				7	7	17	7.0	
HOUSTON U	12	1018.0		14.4	5.6	9.8	-2.3	22.8	17	- 2.2	29	0	5			89	- 12	43	11	1	T	0	3.9	N#	21.9	NW	19	9	4	18	6.8	51
HOUSTON	15	1021.0	1024.1	15.0	4.4	9.7	-2.1	24.4	18	- 2.2	29	0	7	5.0	76	113	7	65	11	1	0	0	3.8	N				6	5	20	7.3	
LAREDO	152	1007.8	1023.5	16.7	6.1	11.2	-3.1	26.7	24	- 0.6	28	0	1	4.4	69	52	26	38	10	1	0	0	3.2	NW	16.1*	NE	24	6	4	21	7.3	
LUBBOCK	988	908.2	1023.6	10.6	- 6.7	2.0	-1.8	20.0	18+	-13.9	29	0	31	- 6.1	61	14	- 3	10	4	0	99	76	5.5	N	21.0*	N	18	13	9	9	4.5	
MIDLAND	870	920.8	1022.1	11.7	- 2.8	4.6	-2.2	20.0	17	- 9.4	29	0	25	- 2.8	66	34	18	17	6	0	51	51	4.0	S	15.6*	N	18	10	4	17	6.1	
PORT ARTHUR	5	1021.7	1023.0	13.9	3.3	8.5	-3.1	23.3	17	- 3.9	30+	0	12	3.9	78	243	113	125	11	2	0	0	4.3	ENE	17.0	NW	19	6	9	16	6.7	43
SAN ANGELO	580	954.3	1023.5	12.8	- 1.1	5.7	-2.8	22.2	23+	- 7.8	25	0	19	0.0	70	93	68	63	7	1	30	25	4.9	SW	19.2*	NNE	24	11	7	13	5.8	
SAN ANTONIO	241	997.6	1023.5	15.0	2.8	8.8	-1.5	25.0	24	- 2.2	30+	0	10	2.8	71	17	- 29	8	6	0	T	T	4.2	N	15.6	N	25+	8	6	17	6.5	46
VICTORIA	34	1018.3	1023.4	15.0	5.0	9.8	-3.1	24.4	17	- 1.7	30+	0	6	5.0	73	51	- 19	16	8	0	T	0	4.9	N	20.1Y	N	19	6	4	21	7.3	
WACO	152	1002.7	1024.4	11.7	0.6	6.3	-2.2	23.9	17	- 8.3	29	0	15	1.7	76	148	88	57	8	1	51	51	6.0	N	20.6*	NW	19	9	8	14	6.2	
WICHITA FALLS	303	985.8	1024.0	10.6	- 2.8	4.1	-0.7	21.1	17	-11.7	29	0	23	- 2.2	70	9	- 25	4	5	0	28	25	4.3	S	17.9*	NNW	18	10	9	12	5.3	
UTAH																																
MILFORD	1533	849.3	1027.4	7.2	-13.3	- 3.0	1.6	16.1	17	-25.6	28	0	31			11	- 4	11	2	0	81	76						17	7	7	4.0	
SALT LAKE CITY	1286	874.0	1027.4	5.6	- 8.9	- 1.8	1.2	13.3	31	-14.4	28	0	31	- 7.8	68	2	- 28	2	1	0	3	T	2.7	SSE	9.8	N	31	13	8	10	4.8	73
WENDOVER	1291	878.1	1028.1	2.2	-10.6	- 4.2		6.7	31+	-16.1	28	0	31			T		T	0	0	0	0						16	7	8	3.8	
VERMONT																																
BURLINGTON	101	1001.2	1016.9	- 7.2	-23.3	-12.7	-4.8	6.1	7	-26.1	22	0	31	-13.3	64	24	- 24	21	6	0	404	432	3.4	SSW	13.9	NW	18	6	6	19	6.9	59
VIRGINIA																																
LYNCHBURG	289	984.5		5.6	- 5.0	0.2	-2.9	14.4	11+	-13.9	22	0	25			27	- 60	8	7	0	224	102	3.8		15.2	W	24	16	6	9	4.4	71
NORFOLK	8	1018.6	1019.9	6.7	- 2.8	1.7	-3.6	16.1	7+	-11.1	27	0	23	- 0.6	71	89	9	53	8	1	79	51	4.8	SW	17.9	NW	20	14	9	8	4.5	73
RICHMOND	49	1013.7	1020.3	7.2	- 5.6	0.8	-2.7	16.1	14	-18.3	28	0	26	- 2.2	60	65	- 27	21	8	0	183	76	3.2	SW	13.0	NW	20	15	4	12	4.8	65
ROANOKE	358	976.0	1020.0	5.6	- 4.4	0.7	-2.6	15.6	11	-15.6	22	0	22	- 2.2	55	41	- 45	14	8	0	254	102	5.8	WNW				15	7	9	4.5	
WASHINGTON U	22			3.9	- 4.4	- 0.3	-2.8	12.2	6	-12.8	25	0	25			69	- 17	22	6													
WASH NATL AP	4	1015.0	1019.6	2.8	- 5.0	- 1.2	-3.6	11.7	6	-15.0	29	0	27	- 3.3	63	79	- 3	29	6	0	345	229	4.1	NW	17.0	WNW	24	10	11	10	5.5	66
WASHINGTON																																
OLYMPIA	58	1011.5	1018.8	9.4	1.7	5.4	2.7	14.4	19	- 7.8	27	0	14	3.3	87	221	51	44	18	0	0	0	3.5	SW	13.4*	SW	7	4	4	23	8.1	
SEATTLE TACOMA	118	1004.7	1019.1	10.0	3.3	6.4	3.6	15.6	19	- 3.9	3+	0	7	2.8	78	196	76	40	18	0	0	0	4.6	S	15.6*	S	7	6	4	21	7.5	
SEATTLE	4	1019.7	1018.6											3.3	80								3.4	SSE								
SEATTLE U	4			10.6	5.6	8.1	3.2	16.1	19	- 1.7	3	0	3			172	58	25	19		0	0			23.2	SW	7					37
SPOKANE	718	953.3	1024.0	2.2	- 3.9	- 0.9	3.0	9.4	14	-14.4	3	0	23	- 3.3	83	41	- 3	18	7	0	198	203	3.5	NE	12.5	SW	15	5	5	21	7.7	34
STAMPEDE PASS R	1206	880.8	1022.5	0.0	- 5.0	- 2.3	2.3	5.0	15+	-12.8	3	0	30			278	- 54	70	20	0	1638	1956						5	3	23	7.9	
TATOOSH ISLAND	31	1012.9	1015.9	10.0	6.1	8.1	2.5	13.9	19	3.3	3+	0	0	4.4	78	381	122	81	19	2	T	0	11.6	E	34.4	E	18	8	1	22	7.3	36
WALLA WALLA U	289	986.8	1023.7	7.2	0.6	3.7	3.7	18.3	11	- 7.2	4	0	18			25	- 18	9	6	0	13	T	1.9	S#	15.2	NW	7	0	3	28	9.5	18
YAKIMA	323	984.1	1024.5	4.4	- 3.9	0.4	3.2	14.4	31+	- 9.4	27+	0	28	- 2.2	85	14	- 10	4	7	0	43	25	2.6	WNW	16.5*	SSW	15	4	5	22	7.8	
WEST INDIES																																
SAN JUAN P.R. U	14			27.2	22.2	24.7	0.8	28.9	21	20.6	31+	0	0			86	- 34	14	20		0	0										
SAN JUAN P.R.	5	1014.3	1017.4	28.3	20.6	24.4	1.0	30.0	30	17.8	20	0	0	21.7	80	89	- 57	17	20	0	0	0	4.9	ENE	11.2	ENE	5	20	7	4	4.8	68
SWAN ISLAND	10	1006.2		28.3	23.9	26.2	0.7	29.4	30+	21.7	30+	0	0			38	- 57	14	11	0	0	0						8	19	4	5.0	
WEST VIRGINIA																																
CHARLESTON	290	984.4	1021.5	1.7	- 6.7	- 2.5	-4.9	13.3	13	-21.1	25	0	25	- 3.9	70	96	- 5	49	12	0	384	152	3.1	WSW	12.1*	WNW	24	4	10	17	7.3	
HUNTINGTON U	173			3.3	- 5.6	- 1.2	-4.6	15.6	13	-17.2	28+	0	25			89	- 2	47	8	0	196	102										
PARKERSBURG U	187			2.2	- 6.7	- 2.1	-3.4	15.0	13	-18.3	25	0	24			50	- 31	19	9	0	241	152	2.8		9.8	W	8	8	7	16	6.4	47
WISCONSIN																																
GREEN BAY	210	996.6	1020.5	- 4.4	-13.3	- 9.0	-0.2	10.0	13	-25.0	25+	0	31	-12.8	73	8	- 25	3	6	0	127	51	5.4	SW	16.5	NW	7	8	7	16	6.6	45

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
WISCONSIN																																
LA CROSSE	199	995.9	1022.4	- 3.9	-13.3	- 8.7	0.4	7.8	13	-25.0	24	0	31	-13.3	70	7	- 24	3	7	0	130	51	4.2	S	12.5*	N	20+	9	7	15	6.4	
MADISON	261	983.7	1021.2	- 2.8	-13.9	- 8.4	-1.2	11.7	13	-24.4	25	0	31	-13.3	67	5	- 28	2	7	0	53	25	4.2	NW	12.1	NW	7	8	7	16	6.7	76
MILWAUKEE	205	994.9	1021.4	- 2.2	-11.7	- 7.0	-1.4	12.8	13	-22.2	25+	0	31	-11.7	69	8	- 32	3	8	0	99	25	5.2	WSW	15.2	NW	7	7	10	14	6.1	66
WYOMING																																
CASPER	1621	839.5	1022.6	3.9	- 7.2	- 1.8	3.6	11.7	31	-20.6	27	0	29	-11.1	54	1	- 17	1	1	0	41	25	7.6	SW	16.5*	SW	29	8	8	15	6.1	
CHEYENNE	1869	812.7	1022.4	5.0	- 8.3	- 1.7	1.9	13.9	31+	-28.9	27	0	30	-15.0	41	2	- 13	2	2	0	30	25	7.4	WNW	22.8	NW	14	15	8	8	4.4	76
LANDER	1696	838.1	1025.8	1.1	-12.2	- 5.5	2.9	9.4	30	-25.0	27	0	31	-12.8	59	3	- 9	2	2	0	64	102	1.9	SE#	7.6	W	30	12	8	11	5.4	85
SHERIDAN	1202	887.6	1023.6	3.9	- 9.4	- 2.8	3.8	12.2	30	-21.7	27	0	31	- 8.3	69	3	- 16	3	2	0	71	102	2.9	S	16.5	NW	19	9	7	15	6.4	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

V Sun below horizon January 1 to January 24 inclusive.

X Sun below horizon January 1 to January 16 inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

JANUARY 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	798	1966	1753
Huntsville	885	2225	
Mobile	604	1292	1039
Montgomery	749	1757	1381
ALASKA			
Anchorage	1359	5764	6419
Annette	796	3614	3964
Barrow	2358	11521	10875
Barter Island	2359	10865	
Bethel	1667	7024	7363
Cold Bay	1045	5084	5263
Cordova	999	5043	5430
Fairbanks	2078	8216	8693
Juneau	1062	4735	5169
King Salmon	1347	5945	6505
Kotzebue	1815	8054	8850
McGrath	2068	8204	8663
Nome	1553	7211	7808
St. Paul	1161	5875	5753
Shemya	1048	5273	
Yakutat	1026	4789	5265
ARIZONA			
Flagstaff	1072	3858	4198
Phoenix (U)	245	706	980
Phoenix	326	940	1119
Prescott	766	2458	2641
Tucson	381	1087	1123
Winslow	1088	3243	2904
Yuma	159	487	682
ARKANSAS			
Ft. Smith	902	2209	2048
Little Rock	894	2269	1898
Texarkana	729	1763	1513
CALIFORNIA			
Bakersfield	656	1649	1380
Bishop	751	2402	2515
Blue Canyon	599	2462	2899
Burbank	178	659	976
Eureka (U)	441	2617	2585
Fresno	694	1840	1640
Long Beach	216	781	
Los Angeles (U)	116	467	779
Los Angeles	188	752	1075
Mt. Shasta (R)	782	2887	3324
Oakland	549	1740	1790
Point Arguello (R)	365	2034	
Red Bluff	632	1632	1559
Sacramento (U)	675	1671	1594
Sacramento	695	1670	1714
Sandberg (R)	569	2018	2184
San Diego	136	551	813
San Francisco (U)	486	1913	1709
San Francisco	531	1759	1890
San Jose (U)	470	1297	1348
Santa Maria	330	1625	1566
COLORADO			
Alamosa	1607	5133	5112
Colorado Springs	1075	3553	3513
Denver	1026	3478	3489
Grand Junction	1099	3231	3564
Pueblo	1050	3193	3383
CONNECTICUT			
Bridgeport	1250	3270	3169
Hartford	1487	4033	3458
Middletown	1425	3947	
New Haven	1275	3459	3276
DELAWARE			
Wilmington	1215	3225	2824
DIST. OF COLUMBIA			
Washington (U)	1032	2720	2488
Washington	1081	2837	2523
FLORIDA			
Apalachicola (U)	463	991	827
Daytona Beach	336	694	533
Fort Myers	131	282	250
Jacksonville	39	560	804
Key West	39	72	46
Lakeland (U)	251	532	412
Miami	77	140	118
Miami Beach	46	85	80
Orlando	250	514	410
Pensacola (U)	517	1085	912
Tallahassee	525	1163	991
Tampa	231	487	424
West Palm Beach	99	184	154
GEORGIA			
Athens	792	2061	1738
Atlanta	814	1999	1757
Augusta	722	1843	1356
Columbus	722	1726	1514
Macon	680	1680	1321
Rome	902	2387	1956
Savannah	593	1427	1099
Thomasville (U)	537	1175	945
IDAHO			
Boise	989	3286	3509
Idaho Falls 46W (R)	1404	4778	4991
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	1475	4995	5239
Lewiston	899	3189	3307
Pocatello	1214	3973	4060
ILLINOIS			
Cairo (U)	986	2558	2321
Chicago (Midway)	1284	3493	3595
Chicago (O'Hare)	1377	3755	
Moline	1355	3738	3730
Peoria	1351	3750	3563
Rockford	1403	3987	
Springfield	1248	3372	3359
INDIANA			
Evansville	1097	2969	2654
Ft. Wayne	1332	3734	3582
Indianapolis	1275	3538	3263
South Bend	1333	3693	3694
IOWA			
Burlington	1307	3534	3605
Des Moines	1328	3666	3802
Dubuque	1466	4209	4215
Sioux City	1443	3867	4156
Waterloo	1515	4291	4193
KANSAS			
Concordia (U)	1084	3000	3192
Dodge City	977	2842	3027
Goodland	1064	3297	3676
Topeka	1113	3015	3152
Wichita	1036	2755	2786
KENTUCKY			
Lexington	1144	3018	2892
Louisville	1115	3039	2666
LOUISIANA			
Alexandria	688	1560	
Baton Rouge	633	1352	1039
Lake Charles	562	1153	1009
New Orleans (U)	480	932	770
New Orleans	539	1107	848
Shreveport	661	1581	1398
MAINE			
Caribou	1897	5493	5663
Greenville (U)	1866	5488	
Portland	1532	4411	4220
MARYLAND			
Baltimore (U)	1043	2661	2417
Baltimore	1153	3100	2773
Frederick	1265	3498	2842
MASSACHUSETTS			
Blue Hill Obs. (R)	1336	3721	
Boston	1231	3271	3128
Nantucket	1154	3185	3098
Pittsfield	1540	4474	4291
Worcester	1427	4134	
MICHIGAN			
Alpena	1607	4866	4320
Detroit (City AP)	1291	3581	3536
Detroit (M. Wayne Co.)	1333	3735	
Detroit (Willow Run)	1312	3662	3614
Escanaba (U)	1538	4608	4686
Flint	1412	4109	3964
Grand Rapids	1359	3839	3927
Lansing	1389	4010	
Marquette (U)	1511	4637	4602
Muskegon	1327	3797	3836
S. Ste. Marie	1677	5077	5162
MINNESOTA			
Duluth	1769	5426	5600
Internat. Falls	1963	6082	6145
Minneapolis	1641	4798	4577
Rochester	1544	4632	4716
St. Cloud	1675	4986	5173
MISSISSIPPI			
Jackson	748	1721	1417
Meridian	758	1787	1517
Vicksburg (U)	704	1611	1282
MISSOURI			
Columbia	1095	2909	3064
Kansas City	1026	2787	2960
St. Joseph	1161	3145	3223
St. Louis (RFC)	1020	2679	2686
St. Louis	1132	2951	2822
Springfield	1041	2775	2842
MONTANA			
Billings	1010	3517	4072
Butte	1299	5193	5604
Glasgow	1429	4763	5141
Great Falls	989	3671	4270
Havre (U)	1157	4271	4811
Helena	1158	4293	4818
Kalispell	1269	4752	4720
Miles City	1249	4097	4584
Missoula	1340	4794	4684
NEBRASKA			
Grand Island	1205	3514	3761
Lincoln (U)	1199	3297	3490
Norfolk	1379	3887	4161
North Platte	1182	3705	3852
Omaha	1245	3404	3675
Omaha N. Omaha AP	1322	3664	
Scottsbluff	1155	3897	3925
Valentine	1264	4012	4091
NEVADA			
Elko	1166	4032	4241
Ely	1170	4032	4232
Las Vegas	611	1661	1622
Reno	970	3430	3474
Tonopah	949	3099	3323
Winnemucca	1049	3623	3765
NEW HAMPSHIRE			
Concord	1562	4437	4299
Mt. Washington Obs. (R)	2089	8146	
NEW JERSEY			
Atlantic City	1174	2956	
Atlantic City (U)	1115	2943	2502
Newark	1185	3010	2951
Trenton (U)	1188	3111	2856
NEW MEXICO			
Albuquerque	956	2719	2727
Clayton	939	2991	2986
Raton	1182	3699	3737
Roswell	942	2739	2202
Silver City	774	2334	
NEW YORK			
Albany	1530	4167	3901
Binghamton	1490	4243	4193
Buffalo	1435	3977	3895
New York (U)	1149	2953	2766
New York (LaGuardia)	1132	2812	2724
Rochester	1410	3918	3765
Schenectady	1504	3966	3965
Syracuse	1427	3896	3594
NORTH CAROLINA			
Asheville (U)	971	2650	2427
Cape Hatteras (R)	700	1682	1315
Charlotte	825	2138	1978
Greensboro	935	2552	2319
Raleigh	878	2355	2036
Wilmington	708	1803	1402
Winston-Salem	900	2427	2255
NORTH DAKOTA			
Bismarck	1437	4800	5254
Devils Lake (U)	1791	5529	5769
Fargo	1803	5343	5399
Grand Forks CAA	1847	5603	
Pembina	1939	5650	
Williston (U)	1414	4678	5271
OHIO			
Akron	1341	3778	3464
Cincinnati (U)	1072	2791	2653
Cincinnati	1146	3091	3028
Cincinnati Obs.	1135	3055	2850
Cleveland	1336	3845	3313
Columbus	1282	3462	3233
Columbus (U)	1247	3324	3046
Dayton	1279	3498	3222
Mansfield	1336	3755	
Sandusky (U)	1287	3465	3238
Toledo	1313	3820	3573
Youngstown	1345	3843	3437
OKLAHOMA			
Oklahoma City	885	2242	2282
Tulsa	943	2238	2238
OREGON			
Astoria	541	2656	2733
Burns (U)	1072	3948	4103
Eugene	658	2613	2770
Meacham	1010	4154	4348
Medford	759	2602	2711
Pendleton	860	3053	3161
Portland (U)	577	2198	2418
Portland	654	2509	2673
Roseburg	657	2398	2603
Salem	675	2484	2640
Sexton Summit (R)	676	3043	3278
PENNSYLVANIA			
Allentown	1353	3677	3337
Erie	1302	3597	3499
Harrisburg	1232	3371	3022
Philadelphia (U)	1085	2724	2557
Philadelphia	1232	3296	2777
Pittsburgh (U)	1176	3151	2882
Pittsburgh	1321	3667	3384
Reading (U)	1184	3174	2888
Scranton	1422	4003	3413
Williamsport	1369	3880	3382
RHODE ISLAND			
Block Island	1182	3102	2989
RHODE ISLAND (Cont'd.)			
Providence	1274	3513	3346
SOUTH CAROLINA			
Charleston (U)	563	1314	1103
Charleston	635	1564	1250
Columbia	728	1858	1544
Florence	713	1816	1603
Greenville	781	2038	1873
Spartanburg	801	2128	1881
SOUTH DAKOTA			
Huron	1725	4960	4626
Pierre	1385	4239	
Rapid City	1158	3803	4219
Sioux Falls	1566	4407	4637
TENNESSEE			
Bristol	1031	2786	2506
Chattanooga	928	2448	2105
Knoxville	947	2490	2214
Memphis (U)	829	2104	1858
Memphis	892	2274	1973
Nashville	977	2565	2150
Oak Ridge (U)	976	2608	2503
TEXAS			
Abilene	749	1807	1721
Amarillo	935	2634	2651
Austin	582	1302	1130
Brownsville	302	574	437
Corpus Christi	408	828	695
Dallas	708	1629	1477
Del Rio (U)	530	1183	
El Paso	735	1984	1756
Ft. Worth	740	1696	1512
Galveston (U)	484	939	758
Galveston	486	941	780
Houston (U)	473	1002	843
Houston	473	984	903
Laredo	392	859	576
Lubbock	906	2342	2256
Midland	761	1892	1705
Port Arthur	542	1132	993
San Angelo	701	1634	1410
San Antonio	523	1135	1062
Victoria	466	984	760
Waco	665	1493	1311
Wichita Falls	790	1932	1937
UTAH			
Milford	1184	3548	3828
Salt Lake City	1118	3388	3473
Wendover	1249	3490	
VERMONT			
Burlington	1728	4772	4385
VIRGINIA			
Lynchburg	1005	2741	2471
Norfolk	921	2305	1986
Richmond	971	2627	2360
Roanoke	981	2721	2472
WASHINGTON			
Olympia	708	3107	3122
Seattle (U)	568	2348	2529
Seattle	793	2658	2756
Seattle-Tacoma	657	2798	3025
Spokane	1067	3895	3993
Stampede Pass (R)	1148	5061	5111
Tatoosh Island (R)	571	3019	3193
Walla Walla	840	2975	
Walla Walla (U)	809	2831	2989
Yakima	996	3636	3657
WEST VIRGINIA			
Charleston	1154	2983	2607
Huntington (U)	1083	2859	2434
Parkersburg (U)	1036	2959	2773
WISCONSIN			
Green Bay	1519	4568	4641
La Crosse	1504	4244	4450
Madison	1484	4325	4269
Milwaukee	1407	4181	3999
WYOMING			
Casper	1118	4061	4345
Cheyenne	1109	3896	4137
Lander	1321	4507	4833
Sheridan	1168	4065	4505

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

JANUARY 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama																						0	0	5	5				
Alaska																										0	0	1/4	0
Arizona *																													
Arkansas *																													
California										0	0	5	0																
Colorado *																													
Connecticut																		0	0	6	0								
Delaware N																													
Florida *																													
Georgia	1	1	0	0	2																	0	0	5					
Hawaii *																													
Idaho																										1	3	4	
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana *																													
Maine																		0	0	5	0								
Maryland N																													
Massachusetts																		2	0	5	0	0	0	6	0				
Michigan *																													
Minnesota *																													
Mississippi *																													
Missouri *																													
Montana										0	0	5	0									0	0	4	0				
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0	0	0	4	0				
New Jersey																		1	S	5	0								
New Mexico *																													
New York																				E5-6						3		E6	
North Carolina																		0	U	4	0	3	U	5	0	2/7	U	5	0
North Dakota *																													
Ohio *																													
Oklahoma										0	0	3	0																
Oregon										10	14	6	3																
Pennsylvania																		4	7	5									
Puerto Rico *																													
Rhode Island																		1	1	5	0								
South Carolina										0	0	4	0									0	0	5	4				
South Dakota *																													
Tennessee *																													
Texas																		1	0	0	0					1	0	0	0
Utah *																													
Vermont																		0	0	4	0								
Virginia																		3	31										
U. S. Virgin Is. *																													
Washington										7	1	5																3/5	4
West Virginia																										12			
Wisconsin *																													
Wyoming *																													

N No report received
* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
S Several.
U Unknown.
E Economic consequences.
1/ Flood damage combined with lesser damages from windstorm and slides.
2/ Deaths caused or contributed to by severe cold. An additional six persons (not included) died of carbon monoxide poisoning during the cold spell.
3/ Heavy precipitation.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JANUARY 1961

The most important flooding during January occurred in eastern Texas from the middle Brazos Basin to the east and northeast. It was the wettest January on record at Abilene and the wettest since January 1919 at San Angelo, Tex. Some moderate flooding was reported in streams in the Puget Sound Drainage. Flooding reported elsewhere was minor.

ATLANTIC SLOPE DRAINAGE

Heavy rain on New Year's Eve brought some overflow of small streams in the immediate Philadelphia, Pa., area during the early morning hours of New Year's Day.

Moderate rain over western North Carolina on the 15th along with a few localized thunderstorms that occurred over the upper and central Neuse River Basin during the night of the 15th and 16th caused the Neuse River to rise rapidly at Neuse and Smithfield. Some lowland flooding occurred mainly in the Smithfield and Goldsboro, N. C., areas with no damage reported.

EAST GULF OF MEXICO DRAINAGE

Locally heavy rainfall over the Pearl River below Columbia, Miss., produced three brief periods of moderate flooding from above Bogalusa, La., to the coast during January 1961. Some damage from loss of time and of the use of grazing areas has resulted from the flooding.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. --The average stage of the Mississippi River was 1.4 feet below the long-term mean at Minneapolis, Minn., 0.4 foot above the long-term mean at St. Paul, Minn., and 0.3 foot above at La Crosse, Wis. The Wisconsin River at Portage, Wis., was 0.4 foot above the long-term mean and the Chippewa River at Durand, Wis., was 0.2 foot above the long-term mean.

A comparison of snow depths in the Upper Mississippi Basin on January 31 with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1961	1960	1959	1958	1957	1956	1955
(Minnesota)							
Bemidji	4	8	8	5	11	26	8
Internat. Falls	11	8	20	8	11	22	15
Duluth	9	16	11	11	14	29	17
Alexandria	0	5	0	5	2	16	6
New Ulm	T	1	2	3	T	6	4
Minneapolis	2	2	0	2	2	11	6
Rochester	T	2	3	2	1	10	3
(Wisconsin)							
Park Falls	2	14	12	12	13	21	17
Wausaw	T	4	6	5	7	12	--
Portage	1	2	10	4	4	2	--

There was some floating ice in the Mississippi River at Cairo, Ill., from the 24th to the 28th, then it became gorged until the afternoon of the 30th, when the gorge was broken. At the end of the month there was heavy floating ice from Cape Girardeau, Mo., to Cairo Point and a gorge at Dog Tooth Bend about 25 miles upstream from Cairo.

Ohio Basin. --River levels in the upper Ohio Basin remained near to well below seasonal levels throughout the month with no flood stages being reached on the main rivers or major tributaries. Precipitation was mostly in the form of snow with the total accumulation at the Greater Pittsburgh, Pa., Airport of 22.7 inches, the second highest of record for January. The highest January snow accumulation was in 1925, when 26.2 inches was recorded. The total December and January snow accumulation at the Greater Pittsburgh Airport was 43.5 inches, the second highest of record for the 2 months.

Unusually low temperatures during the last 10 days of January produced considerable shore ice in the lower Ohio Basin with some floating ice from up river. There was no disruption of navigation in the lower Ohio Basin.

Red River Basin. --Minor flooding occurred on the Sulphur River at Naples, Tex., from the 4th to the 18th and on the Cypress at Jefferson, Tex., from the 8th to the 11th. Damage was slight and the loss of the use of grazing land in the lowlands was the greatest loss.

WEST GULF OF MEXICO DRAINAGE

The Calcasieu River in Louisiana and the Sabine River in Texas were above flood stage at several points in the beginning of the month. These streams receded below flood stage at most points before the heavy rains of the 6th and 7th, which caused these streams to rise again to above flood stage. The rainfall during this period averaged around 5 inches, except around 3 inches over the middle Calcasieu. These streams were in flood between the 8th and 23d, except at Bon Wier, Tex., where it was above flood stage the entire month. Additional rains ranging from 1 to 2 inches fell over the two basins but had little effect on river stages. The crests on the Sabine at Milam and Bon Wier, Tex., were the highest since May 1958 and at Deweyville, Tex., since the Weather Bureau began taking readings there in April 1954. The crests on the Calcasieu at Hineston, Kinder, and Old Town Bay, La., were the highest since September 1958, and at Oakdale since November 1957. In the Sabine Basin, near Bon Wier, Tex., oil well drilling operations in the lowlands had to be discontinued. The loss of the use of grazing in the lowlands was one of the biggest losses.

Flooding developed along the Trinity from Dallas to Trinidad, Tex., and in the lower reach at Liberty, Tex., on the 8th from excessive rains, ranging from 2 to 5 inches on the 6th to the 9th. The Little and Navidad Rivers also began overflowing on the same day. Additional rains on the 12th and 13th, ranging from 1 to 3 inches, forced the Brazos out of its banks at East Columbia, Tex., on the 12th and the Neches River at Rockland, Tex., on the 13th. This storm prolonged the flooding on the tributaries but had little effect on the upper Trinity and upper Brazos.

Minor flooding continued on the lower Nueces River from the 1st through the 7th from heavy rains during December.

PACIFIC SLOPE DRAINAGE

Sacramento Basin. --Rains during the last few days of January brought a moderate rise to the upper Sacramento which caused overflow at two weirs in the beginning of February. Unseasonably dry weather occurred over the

basin previous to these rains. In Sacramento, measurable rain did not fall during a 36-consecutive day period beginning in mid-December, for a near record-breaking dry spell.

Columbia Basin. --Local flooding occurred on the lower Weiser River near Weiser, Idaho, during the afternoon and evening of the 31st due to rain, melted snow, and an ice jam. The rainfall on the 29th to the 31st ranged from 1.5 to 2.5 inches and melted from 4 to 5 inches of snow. Minor damage resulted. Thirty to 40 acres were inundated with water and ice cakes in the vicinity of the ice jam. The crest stage at Weiser was 12.83 feet at the time of the ice jam, which was 1.77 feet higher than the previous record stage of 11.06 feet in December 1955.

There were no significant rises over the rest of the Columbia Basin. The temperatures ranged from 3° to 6° above average. There was very little precipitation with the greatest deficiencies occurring in eastern Oregon and southern Idaho, where less than 50 percent of average precipitation occurred during January. As a result of the combined mild temperatures and light precipitation, snow accumulations in the Oregon Cascades below 4,000 feet were acutely deficient.

PUGET SOUND DRAINAGE

Sharp rises to above floodstage occurred on the Snoqualmie, Skykomish, Snohomish, and Skagit Rivers in northwestern Washington from the heavy rains on the 14th and 15th. Two to 4 inches fell in some foothill areas in 48 hours. About 6 inches fell in the upper Skagit Basin in 3 days and over 9 inches in the upper Baker Lake area in 24 hours. Moderate flooding occurred on the Snohomish and minor flooding along the lower Skagit. Flood stages were not reached on the Nooksack and Stillaguamish, the other northern streams. Only slight damage to dikes and roads occurred in the lower Skagit Valley.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Neuse: Smithfield, N. C.	13	16	18	16.0	16
Goldsboro, N. C.	14	20	22	14.1	20-21
EAST GULF OF MEXICO DRAINAGE					
Pearl River: Bogalusa, La.	15	9	11	16.3	10
		15	16	15.3	16
		27	30	16.8	28
Pearl River, La.	12	13	14	12.7	13
		19	19	12.0	19
		30	1/	12.6	31
MISSISSIPPI SYSTEM					
Red River Basin					
Sulphur: Naples, Tex.	22	4	18	25.95	13
Cypress: Jefferson, Tex.	18		3	19.5	
		8	11	18.3	Jan. 9
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	Dec. 31	6	13.95	2,3
		8	19	16.55	9
		26	1/	13.72	28
Oakdale, La.	12	9	9	12.2	9
		11	13	14.4	11
Kinder, La.	16		6	18.65	4
		9	16	19.7	12
Old Town Bay, La.	4	1	3	4.3	2
		8	17	6.0	14
Sabine: Quitman, Tex.	16	10	10	16.65	10
Mineola, Tex.	14	9	16	17.0	12
Gladewater, Tex.	26	15	21	28.5	18
Logansport, La.	25		1	29.7	
			14	25.7	14
Sabine: Milam, Tex.	35	9	18	38.6	10
Bon Wier, Tex.	17	Dec. 30	4	18.4	1
		8	23	20.9	12
Deweyville, Tex.	14	Dec. 15	1/	16.5	11
Neches: Rockland, Tex.	22	13	19	23.0	16
Trinity: Dallas, Tex.	30	8	9	30.8	8
Rockwall, Tex.	10	8	8	10.2	8
		16	27	10.9	22
WEST GULF OF MEXICO DRAINAGE (Cont'd.)					
Trinity: (Cont'd.) Rosser, Tex.	26	8	11	28.3	10
Trinidad, Tex.	28	8	14	33.3	13
Long Lake, Tex.	40	11	19	44.7	13
Midway, Tex.	40	13	22	43.2	18
Liberty, Tex.	24	8	31	28.3	17
Little: Cameron, Tex.	30	8	10	32.9	8
Brazos: East Columbia, Tex.	30	12	18	31.3	17
Navidad: Ganado, Tex.	21	8	9	23.8	8
Nueces: Calallen, Tex.	7	1	7	7.6	4
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Weiser: Weiser (nr.), Idaho	8	31	31	12.8	31
PUGET SOUND DRAINAGE					
Snoqualmie: Carnation, Wash.	51	15	17	54.0	16
Skykomish: Gold Bar, Wash.	15	15	15	15.1	15
Snohomish: Snohomish, Wash.	23	15	17	28.2	16
Skagit: Concrete, Wash.	26	15	16	30.6	16
Mt. Vernon, Wash.	21	15	18	22.5	16

* Estimated
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (842 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	-12.4	78	299	2.3	31	1,619	- 3.7	66	20	1.9
1,000--	31	132			293	3.5	31	243				
950----	31	528	- 9.7	65	293	12.0	31	650				
900----	31	944	-10.9	64	301	15.7	31	1,085				
850----	31	1,383	-12.1	64	304	16.7	31	1,544				
800----	31	1,846	-12.9	59	296	19.2	31	2,027	- .9	49	326	6.2
750----	31	2,341	-14.3	58	288	22.7	31	2,540	- 1.4	41	313	10.5
700----	31	2,858	-16.3	55	290	27.2	31	3,091	- 2.9	33	310	14.6
650----	31	3,415	-18.9	52	284	30.5	31	3,670	- 5.5		302	15.2
600----	31	4,006	-22.1	48	280	34.8	31	4,300	- 8.7		297	15.3
550----	31	4,640	-25.8	45	276	39.8	31	4,957	-13.2		297	18.3
500----	31	5,327	-29.8	41	275	42.7	31	5,689	-18.2		300	22.0
450----	31	6,069	-34.4		272	50.9	31	6,455	-24.1		301	21.0
400----	31	6,887	-39.8		272	56.0	31	7,317	-30.8		304	22.3
350----	31	7,790	-45.0		272	56.2	31	8,251	-38.1		298	27.2
300----	31	8,809	-49.6		272	60.4	31	9,295	-45.9		293	33.6
250----	31	9,994	-52.8		271	62.0	31	10,488	-53.5		283	40.8
200----	31	11,431	-52.7		269	62.6	31	11,909	-56.7		279	50.1
175----	31	12,297	-51.6		271	65.1	31	12,755	-57.2		280	48.6
150----	31	13,296	-52.2		271	65.1	31	13,729	-58.3		282	47.2
125----	31	14,471	-54.0		268	58.5	31	14,868	-61.6		281	41.8
100----	30	15,893	-56.8		266	54.8	31	16,239	-65.7		284	34.6
80-----	30	17,305	-56.6		268	49.4	30	17,587	-66.5		285	28.2
70-----	30	18,156	-56.9		266	43.7	30	18,401	-65.5		292	21.8
60-----	30	19,126	-57.9		263	38.3	30	19,336	-64.5		307	13.4
50-----	30	20,275	-57.6		262	32.1	30	20,453	-63.2		324	9.9
40-----	29	21,680	-57.4		268	25.5	28	21,832	-61.7		22	7.0
30-----	27	23,485	-56.8		277	19.0	28	23,620	-59.8		38	7.8
25-----	27	24,642	-56.0		278	17.5	24	24,767	-58.2		36	6.2
20-----	26	26,058	-54.9		287	12.6	19	26,179	-55.6		24	8.5
15-----	20	27,931	-52.3		297	13.2	10	28,022	-52.4			
10-----	6	30,578	-44.2									

Standard pressure surface (mb.)	AMARILLO, TEXAS (896 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANNETTE, ALASKA (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	- 3.9	68	259	5.8	31	30	- 6.5	80	2	3.3	31	37	3.7	80	140	5.2
1,000--	31	214					31	25			5	3.7	31	83			123	5.6
950----	31	623					31	431	- 3.4	68	32	6.6	31	499	3.8	64	148	15.0
900----	31	1,058					31	858	- 3.0	61	104	6.0	31	939	1.3	63	164	17.7
850----	31	1,515	2.0	38	303	8.4	31	1,309	- 5.3	59	115	11.1	31	1,397	- 1.2	62	177	19.4
800----	31	2,004	1.1	32	311	8.0	31	1,783	- 8.2	58	128	16.3	31	1,879	- 3.7	56	187	18.1
750----	31	2,520	- .4		301	11.9	31	2,279	-10.9	53	141	17.3	31	2,383	- 6.3	51	192	18.5
700----	31	3,072	- 2.8		299	13.2	31	2,809	-14.0	52	147	18.5	31	2,923	- 9.4	46	196	17.9
650----	31	3,654	- 5.8		304	17.7	31	3,364	-17.4	53	156	18.8	31	3,488	-13.2	45	205	20.4
600----	31	4,280	- 9.3		298	20.6	31	3,963	-21.0	51	160	18.5	31	4,096	-17.3	43	204	20.0
550----	31	4,941	-13.7		299	22.9	31	4,598	-25.2	48	161	16.1	31	4,737	-21.5	40	213	23.9
500----	31	5,666	-18.9		299	24.1	31	5,287	-30.0	46	166	13.0	31	5,440	-26.5	38	219	27.8
450----	31	6,432	-24.8		298	25.5	31	6,027	-35.3		164	13.6	31	6,188	-31.9		224	29.7
400----	31	7,288	-31.5		298	29.9	31	6,840	-40.9		167	13.4	31	7,016	-38.0		225	32.4
350----	31	8,218	-38.4		295	32.8	31	7,738	-46.3		176	14.6	31	7,923	-44.3		226	33.8
300----	31	9,262	-46.0		287	43.9	31	8,751	-51.3		202	12.0	31	8,941	-51.1		231	39.4
250----	30	10,455	-52.8		286	52.7	31	9,927	-53.7		199	11.7	31	10,113	-55.6		236	36.3
200----	30	11,878	-56.6		282	55.2	31	11,372	-50.3		207	15.7	30	11,542	-53.8		239	29.9
175----	30	12,724	-57.2		281	57.5	30	12,253	-49.0		208	16.7	30	12,403	-52.1		241	28.6
150----	30	13,699	-58.1		280	58.3	30	13,267	-49.0		204	13.8	29	13,403	-51.7		242	26.4
125----	30	14,840	-61.0		282	50.5	30	14,461	-49.9		203	16.1	29	14,583	-52.9		248	22.3
100----	27	16,212	-65.1		281	40.0	30	15,920	-50.3		214	14.2	27	16,010	-54.0		253	18.1
80-----	21	17,574	-66.3		286	29.1	30	17,370	-51.6		210	13.8	27	17,440	-54.6		255	14.4
70-----	20	18,389	-66.1		292	23.1	30	18,238	-51.7		210	13.0	26	18,305	-55.0		258	15.7
60-----	19	19,325	-64.9		295	19.2	30	19,236	-51.6		221	12.4	26	19,285	-55.0		251	11.1
50-----	17	20,443	-63.8		308	15.3	30	20,419	-51.7		224	11.1	26	20,450	-54.9		256	6.6
40-----	16	21,814	-62.1		320	10.9	30	21,866	-51.4		235	9.3	26	21,875	-55.2		307	3.1
30-----	16	23,600	-60.5		357	7.0	28	23,735	-51.0		256	7.2	26	23,711	-55.1		12	5.6
25-----	15	24,737	-59.4		22	7.4	26	24,904	-50.6		280	7.2	23	24,901	-54.0		18	6.4
20-----	15	26,140	-57.3		29	6.8	23	26,337	-50.8		283	8.5	20	26,336	-52.1		45	8.5
15-----	12	27,968	-55.2				20	28,212	-49.3		280	12.4	14	28,228	-51.5			
10-----																		

Standard pressure surface (mb.)	ATHENS, GA. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARROW, ALASKA (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	- 0.0	79	274	4.1	31	8	-24.1	61	106	10.5
1,000--	31	176					31	163	-20.2	63	99	17.9
950----	31	587	2.5	58	292	10.5	31	549	-16.1	62	92	21.4
900----	31	1,026	2.4	48	294	12.8	31	954	-15.1	54	93	20.0
850----	31	1,487	1.3	44	284	17.7	31	1,387	-15.5	47	94	18.1
800----	31	1,974	.1	41	282	19.8	31	1,843	-16.6	44	94	15.9
750----	31	2,486	- 1.5		281	22.9	31	2,326	-18.3	42	93	13.8
700----	31	3,038	- 3.8		276	26.0	31	2,841	-20.6	40	98	11.1
650----	31	3,611	- 6.8		277	29.7	31	3,381	-23.3	39	104	7.6
600----	31	4,241	-10.1		277	37.1	31	3,969	-26.5		104	5.6
550----	31	4,899	-14.3		275	39.6	31	4,587	-30.4		77	.8
500----	31	5,623	-18.9		274	42.4	31	5,265	-34.9		267	3.3
450----	31	6,391	-24.5		271	47.2	31	5,989	-39.7		270	9.1
400----	31	7,247	-30.6		268	58.5	31	6,790	-44.9		268	12.6
350----	31	8,183	-36.9		266	64.5	31	7,673	-50.1		261	16.7
300----	31	9,234	-44.3		267	73.6	31	8,669	-54.6		262	20.2
250----	30	10,436	-51.8		269	76.0	31	9,833	-55.2		259	23.5
200----	30	11,866	-55.7		269	86.1	31	11,268	-51.9		245	22.9
175----	30	12,715	-56.3		269	87.2	31	12,136	-50.7		251	23.3
150----	30	13,692	-58.2		270	84.1	31	13,141	-50.8		247	22.2
125----	30	14,831	-62.0		269	68.6	31	14,328	-51.0		247	28.4
100----	30	16,199	-65.7		269	55.6	31	15,779	-51.5		246	28.6
80-----	29	17,551	-65.8		271	41.0	31	17,226	-52.0		252	29.7
70-----	29	18,366	-65.1		271	35.8	31	18,090	-52.3		255	28.8
60-----	29	19,303	-63.7		271	33.6	31	19,087	-52.4		252	31.5
50-----	28	20,429	-62.1		275	22.2	30	20,271	-52.6		255	32.1
40-----	25	21,811	-61.1		289	9.7	29	21,699	-52.4		258	34.2
30-----	22	23,609	-58.6		280	9.9	28	23,563	-52.6		266	36.9
25-----	21	24,760	-56.8		277	8.2	24	24,765	-51.9		258	39.1
20-----	14	26,178	-56.5				17	26,301	-48.1		250	35.8
15-----	9	28,013	-54.2				6	28,254	-45.6			
10-----												
7------												

Standard pressure surface (mb.)	BARTER IS., ALASKA (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BETHEL, ALASKA (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (960 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	-23.6	64	84	7.8	31	4	-11.7	73	39	11.9	30	505	-10.4	68	280	2.5
1,000--	30	156	-21.1	67	92	16.1	31	-10			50	11.1	30	193				
950----	30	543	-16.8	62	103	22.5	31	393	- 5.6	66	74	16.3	30	589	-11.0	63	295	5.1
900----	30	945	-15.5	56	104	19.4	31	814	- 4.7	65	101	13.6	30	1,007	- 8.2	59	310	18.1
850----	30	1,378	-14.7	51	102	16.3	31	1,263	- 6.0	61	119	13.2	30	1,452	- 7.2	48	313	23.1
800----	30	1,836	-15.8	47	106	11.1	31	1,736	- 8.2	54	131	14.2	30	1,924	- 8.3	45	312	25.3
750----	30	2,317	-17.8	41	106	8.0	31	2,233	-11.0	53	133	15.2	30	2,420	-10.1	42	311	30.5
700----	30	2,833	-20.4	38	93	3.7	31	2,762	-14.2	51	132	14.8	30	2,954	-12.4	42	311	35.6
650----	30	3,376	-23.5		49	.8	31	3,315	-17.5	52	130	16.3	30	3,510	-15.4	43	310	39.2
600----	30	3,959	-26.8		299	4.7	31	3,915	-21.4	53	133	19.0	30	4,118	-18.3	44	302	41.6
550----	30	4,578	-30.8		284	8.4	31	4,548	-25.4	50	130	19.6	30	4,757	-22.0	40	307	48.2
500----	30	5,252	-35.0		286	12.6	31	5,238	-29.9	48	128	18.1	30	5,461	-26.2	40	310	50.1
450----	30	5,976	-39.8		284	18.5	31	5,975	-35.2		128	16.5	30	6,203	-31.0		310	55.8
400----	30	6,776	-44.6		289	21.8	31	6,792	-40.8		131	15.7	30	7,041	-37.1		310	60.6
350----	30	7,659	-49.8		286	27.4	31	7,689	-46.8		136	15.3	30	7,952	-43.7		312	63.0
300----	30	8,657	-54.2		283	33.8	31	8,698	-52.4		140	16.3	30	8,974	-50.3		312	65.9
250----	30	9,825	-54.4		286	27.6	31	9,866	-54.9		153	18.5	30	10,148	-56.4		309	65.7
200----	30	11,265	-51.4		275	26.4	31	11,302	-51.3		167	19.2	29	11,560	-57.9		304	62.2
175----	30	12,135	-50.1		284	24.3	31	12,174	-49.3		170	21.2	29	12,406	-55.9		302	56.5
150----	30	13,142	-49.9		284	27.4	31	13,187	-48.5		176	19.4	26	13,393	-54.5		300	52.3
125----	30	14,332	-50.5		282	28.8	31	14,384	-49.4		177	18.8	25	14,560	-55.1		302	46.6
100----	29	15,777	-51.4		281	30.9	31	15,846	-49.4		180	19.4	24	15,985	-57.1		306	38.7
80-----	29	17,224	-52.0		278	28.8	29	17,309	-50.0		184	18.7	22	17,408	-57.3		309	27.8
70-----	29	18,089	-52.5		282	29.7	29	18,184	-50.1		187	16.9	21	18,256	-57.2		318	22.7
60-----	29	19,083	-52.7		283	30.1	29	19,189	-50.1		187	16.1	21	19,230	-56.9		329	20.2
50-----	28	20,260	-53.1		285	32.1	28	20,384	-50.0		192	12.8	21	20,385	-57.2		337	19.0
40-----	24	21,675	-53.7		289	36.1	26	21,846	-50.4		195	10.7	21	21,797	-57.1		347	16.5
30-----	24	23,520	-54.5		289	37.5	22	23,718	-49.8		207	10.7	20	23,612	-57.3		349	16.7
25-----	23	24,725	-53.6		291	37.5	18	24,895	-49.4		223	6.6	20	24,767	-56.8		13	16.7
20-----	21	26,213	-52.0		287	42.0	14	26,368	-48.1		196	7.8	18	26,195	-55.6		15	16.1
15-----	19	28,106	-51.0		284	40.0	11	28,310	-45.6				12	28,092	-51.7		48	24.9
10-----	14	30,746	-50.0		267	43.9							5	30,770	-48.5			
7------	9	33,130	-47.7															

Standard pressure surface (mb.)	BOISE, IDAHO (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEX. (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	868	- 2.8	84	128	3.5	30	7	9.9	91	327	4.3
1,000--	28	241					30	188	11.7	80	350	6.4
950----	28	654					30	612	11.0	74	30	3.5
900----	28	1,084	.5	64	127	5.6	30	1,068	10.0	69	287	1.7
850----	28	1,544	.9	50	162	6.2	30	1,543	8.2	68	269	4.9
800----	28	2,030	- .4	46	235	5.4	30	2,043	6.5	59	240	10.7
750----	28	2,544	- 2.3	41	270	9.1	30	2,568	5.3	51	242	14.2
700----	28	3,091	- 4.7	38	277	10.5	30	3,134	2.9	47	249	17.7
650----	28	3,669	- 7.8	37	274	12.6	30	3,729	- .5	46	255	22.0
600----	28	4,289	-11.6		276	16.9	30	4,370	- 4.2	45	262	23.7
550----	28	4,946	-15.6		279	20.2	30	5,043	- 8.4	40	259	29.1
500----	28	5,666	-20.3		283	21.6	30	5,785	-13.0	37	258	34.8
450----	28	6,432	-26.0		287	23.7	30	6,575	-18.0	36	261	42.4
400----	28	7,281	-32.5		285	24.9	30	7,454	-24.2	39	259	47.8
350----	28	8,208	-39.7		287	26.6	30	8,413	-31.2		259	53.4
300----	28	9,244	-48.0		288	30.1	30	9,488	-39.4		261	62.0
250----	28	10,423	-56.7		292	31.1	30	10,712	-48.2		259	67.4
200----	28	11,817	-61.7		296	35.2	29	12,154	-56.2		259	71.3
175----	28	12,646	-59.7		296	35.9	29	12,996	-59.4		258	69.6
150----	28	13,617	-57.3		294	35.2	29	13,953	-63.2		258	62.0
125----	28	14,768	-58.7		295	31.1	29	15,065	-67.0		259	54.2
100----	28	16,162	-61.1		298	25.8	29	16,397	-72.2		260	44.5
80-----	28	17,549	-60.7		304	19.2	29	17,700	-74.3		263	35.9
70-----	28	18,382	-60.7		310	15.2	29	18,488	-72.2		267	21.4
60-----	27	19,341	-60.3		322	11.3	29	19,393	-69.9		269	15.7
50-----	27	20,478	-59.9		345	11.3	28	20,485	-66.4		264	11.9
40-----	26	21,880	-59.3		19	12.2	24	21,849	-62.8		265	8.9
30-----	22	23,691	-58.6		45	11.7	23	23,636	-59.7		270	11.1
25-----	21	24,842	-57.3		48	13.8	23	24,779	-58.2		274	10.3
20-----	18	26,250	-56.0		54	17.5	21	26,194	-55.3		280	13.6
15-----	12	28,130	-52.9				15	28,082	-49.6		268	16.9
10-----							8	30,819	-40.8			

Standard pressure surface (mb.)	BUFFALO, N. Y. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BURRWOOD, LA. (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CAPE HATTERAS, N. C. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	- 7.7	76	255	5.4	31	3	9.8	86	31	7.6	30	4	4.0	76	314	6.0
1,000--	30	149					31	178	10.8	73	28	9.1	30	150	4.5	65	313	9.3
950----	30	543	- 9.0	76	254	15.0	31	604	8.6	72	33	3.1	30	563	2.4	62	299	10.9
900----	30	964	-10.1	71	266	17.5	31	1,051	7.5	66	277	4.9	30	1,003	.8	54	274	14.8
850----	30	1,404	-11.4	63	277	18.8	31	1,521	6.6	53	274	9.7	30	1,462	.1	45	265	20.4
800----	30	1,868	-12.9	61	287	22.3	31	2,018	5.4	42	283	16.7	30	1,947	- 1.2	46	266	26.6
750----	30	2,359	-14.5	55	289	26.0	31	2,545	3.5	42	276	21.4	30	2,459	- 3.4	47	267	31.9
700----	30	2,880	-16.8	52	286	28.6	31	3,102	1.1	41	270	26.0	30	3,004	- 5.1	39	267	37.9
650----	30	3,431	-19.7	49	287	31.9	31	3,694	- 1.8		270	30.1	30	3,579	- 7.7	38	267	43.1
600----	30	4,024	-22.7	47	287	37.9	31	4,328	- 5.1		271	35.0	30	4,204	-11.2	36	266	49.0
550----	30	4,656	-26.0	42	287	43.7	31	4,999	- 9.1		268	38.3	30	4,862	-15.1		265	54.6
500----	30	5,344	-29.8	39	286	48.0	31	5,737	-13.9	33	267	45.3	30	5,583	-19.4		265	61.2
450----	30	6,086	-34.4		285	55.8	31	6,526	-19.4		262	51.5	30	6,355	-24.4		263	68.2
400----	30	6,905	-40.0		285	59.7	31	7,395	-25.4	34	262	57.3	30	7,208	-30.4		262	73.8
350----	30	7,807	-45.3		284	68.0	31	8,351	-32.2		261	66.8	30	8,145	-36.8		264	82.6
300----	30	8,825	-49.9		281	72.7	31	9,422	-40.2		263	74.2	30	9,197	-44.1		263	81.2
250----	30	10,007	-53.0		276	75.0	31	10,641	-49.0		265	83.4	30	10,399	-51.8		264	89.4
200----	29	11,445	-53.0		274	70.3	31	12,082	-55.7		266	90.2	30	11,830	-55.5		268	92.5
175----	29	12,309	-52.4		276	70.1	31	12,926	-58.8		264	87.2	30	12,682	-55.1		269	83.9
150----	28	13,297	-53.1		275	62.6	31	13,888	-61.8		266	81.8	30	13,662	-57.3		270	74.4
125----	28	14,469	-54.4		276	57.9	31	15,004	-65.9		267	71.9	30	14,806	-60.5		267	65.7
100----	25	15,898	-55.8		274	51.1	29	16,347	-70.0		265	57.3	30	16,184	-63.7		267	58.7
80-----	18	17,312	-56.8		278	41.4	28	17,664	-71.9		268	40.2	29	17,552	-64.3		268	39.8
70-----	15	18,205	-57.8		281	32.8	27	18,463	-70.2		269	32.1	29	18,374	-63.7		268	36.3
60-----	13	19,175	-58.6		284	24.7	27	19,376	-67.9		270	24.1	26	19,318	-62.9		268	28.4
50-----	11	20,349	-58.5				26	20,477	-65.2		270	17.7	23	20,457	-61.2		268	23.9
40-----	7	21,759	-58.4				22	21,852	-62.3		271	13.6	21	21,848	-60.0		274	17.3
30-----							19	23,630	-59.6		269	10.7	19	23,652	-58.2		276	15.2
25-----							17	24,782	-57.3		270	12.4	19	24,804	-56.8		284	9.1
20-----							15	26,201	-54.8		268	10.7	17	26,231	-54.2		286	7.2
15-----							9	28,089	-48.9				13	28,103	-49.4			
10-----													5	30,798	-42.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	CARIBOU, ME. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	-18.2	66	298	5.1	31	13	3.0	83	296	2.3
1,000--	31	106					31	167	5.4	69	317	4.5
950----	31	491	-16.1	68	313	10.1	31	585	4.9	56	297	7.0
900----	31	898	-15.8	65	321	13.6	31	1,027	4.0	51	277	13.8
850----	31	1,329	-15.5	60	311	14.8	31	1,492	3.2	45	272	18.5
800----	31	1,786	-16.0	59	302	17.3	31	1,983	2.0	41	266	23.5
750----	31	2,271	-17.3	57	298	18.7	31	2,500	- .1	36	267	28.4
700----	31	2,786	-19.5	56	291	20.8	31	3,053	- 2.5	33	270	32.6
650----	31	3,331	-22.0	54	286	22.5	31	3,636	- 5.3		269	36.5
600----	31	3,919	-25.1	53	280	25.5	31	4,263	- 8.9		269	41.4
550----	31	4,545	-28.6	50	274	26.4	31	4,925	-12.9		268	45.9
500----	31	5,225	-32.8	48	269	30.1	31	5,653	-17.6		267	52.5
450----	31	5,956	-38.0		265	31.7	31	6,426	-22.9		265	55.8
400----	31	6,762	-43.4		264	36.5	31	7,289	-29.0		267	60.6
350----	31	7,651	-48.1		260	42.2	31	8,231	-35.9		265	69.9
300----	31	8,661	-51.0		260	47.8	31	9,287	-43.5		262	73.4
250----	30	9,851	-52.3		263	51.9	30	10,496	-51.6		269	80.6
200----	30	11,299	-51.2		264	53.2	28	11,927	-56.7		272	76.0
175----	29	12,156	-51.0		264	51.9	26	12,777	-57.7		272	74.2
150----	29	13,159	-51.4		265	50.7	26	13,748	-59.5		271	70.5
125----	28	14,338	-52.6		263	43.3	24	14,883	-62.7		272	61.2
100----	28	15,776	-54.2		260	40.2	20	16,244	-66.0		270	49.7
80-----	27	17,196	-55.2		264	39.1	17	17,595	-66.4		265	44.5
70-----	27	18,050	-55.3		263	34.2	15	18,412	-65.1		268	35.8
60-----	27	19,032	-55.6		261	30.3	15	19,351	-63.7		269	24.1
50-----	27	20,193	-56.3		265	28.2	13	20,476	-60.7		259	9.9
40-----	25	21,595	-56.0		269	26.6	12	21,870	-59.2			
30-----	24	23,423	-55.6		269	18.3	12	23,683	-57.5		269	7.0
25-----	23	24,581	-55.9		268	21.0	11	24,845	-56.5		255	5.8
20-----	21	25,997	-55.7		266	20.4	11	26,265	-55.2		258	5.8
15-----	14	27,862	-51.9		262	24.3	11	28,113	-51.9		287	4.1

Standard pressure surface (mb.)	COLD BAY, ALASKA (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	27	- 0.2	81	127	8.7	31	238	- 5.4	77	268	2.3	31	297	- 7.2	72	279	3.1
1,000--	30	-86					31	182					31	173				
950----	30	327	- 1.1	73	123	14.4	31	585	- 3.4	58	284	10.7	31	573	- 5.7	67	281	9.5
900----	30	754	- 3.9	73	130	16.3	31	1,015	- 3.2	49	300	14.2	31	999	- 6.2	60	290	15.2
850----	30	1,203	- 6.4	68	134	20.2	31	1,467	- 3.6	42	299	15.9	31	1,445	- 7.0	53	288	17.1
800----	30	1,676	- 8.5	58	127	18.3	31	1,946	- 4.2	38	296	19.8	31	1,917	- 8.5	50	287	20.4
750----	30	2,174	-11.4	53	131	16.7	31	2,453	- 5.5	34	294	23.9	31	2,414	- 9.7	45	285	23.7
700----	30	2,700	-14.4	47	136	16.5	31	2,993	- 7.8	35	294	28.2	31	2,948	-11.2	42	285	29.3
650----	30	3,258	-17.8	48	142	17.1	31	3,565	-10.3	33	293	31.5	31	3,510	-13.7	40	282	35.9
600----	30	3,853	-21.5	46	138	16.3	31	4,181	-13.7	35	292	36.9	31	4,119	-17.0	39	284	41.2
550----	30	4,485	-25.9	44	133	16.3	31	4,832	-17.7	34	292	40.0	31	4,762	-20.8	38	284	45.1
500----	30	5,173	-30.3	40	131	17.9	31	5,545	-22.2		292	41.4	31	5,467	-25.0	38	285	50.3
450----	30	5,911	-32.3		128	16.5	31	6,306	-27.8		290	44.9	31	6,217	-29.7	38	284	55.4
400----	30	6,729	-40.5		129	17.3	31	7,148	-34.2		288	44.1	31	7,056	-35.3		281	58.1
350----	30	7,628	-46.1		128	18.5	30	8,070	-41.0		286	47.4	31	7,974	-42.1		279	62.6
300----	30	8,641	-51.6		135	17.7	30	9,103	-48.2		284	48.4	31	9,002	-48.9		278	65.5
250----	30	9,819	-53.0		145	15.2	30	10,284	-55.3		279	52.7	31	10,182	-55.5		277	66.8
200----	29	11,271	-49.6		165	14.4	30	11,697	-57.8		277	60.4	31	11,603	-55.3		273	70.5
175----	27	12,151	-48.3		162	17.7	29	12,541	-56.0		278	63.1	31	12,458	-54.1		272	67.6
150----	27	13,168	-48.2		166	16.9	29	13,522	-56.1		279	62.0	31	13,447	-54.8		274	61.8
125----	27	14,369	-48.3		174	16.5	29	14,677	-57.9		280	56.7	31	14,607	-56.7		274	56.3
100----	27	15,838	-49.2		178	16.5	28	16,075	-60.5		281	45.5	31	16,014	-59.3		272	48.2
80-----	26	17,303	-49.4		173	15.7	28	17,461	-61.2		283	35.8	29	17,404	-59.6		275	37.3
70-----	26	18,185	-49.6		174	15.5	28	18,296	-60.9		287	30.3	28	18,239	-59.3		280	30.3
60-----	25	19,189	-49.9		175	16.3	25	19,260	-60.4		286	22.9	27	19,206	-59.5		278	27.2
50-----	25	20,382	-49.8		165	14.4	24	20,395	-60.3		296	17.3	26	20,342	-59.7		283	23.9
40-----	25	21,842	-50.1		158	12.8	21	21,791	-59.9		321	14.6	24	21,739	-59.6		294	20.4
30-----	23	23,724	-50.1		151	11.7	20	23,594	-58.7		336	11.1	21	23,535	-58.6		303	17.1
25-----	23	24,917	-49.7		140	12.0	17	24,736	-57.6		341	8.4	18	24,662	-58.5		311	15.5
20-----	22	26,386	-49.1		122	15.0	14	26,164	-55.4		298	8.4	14	26,081	-56.2		325	7.8
15-----	9	28,369	-44.0				8	28,024	-52.4				10	27,954	-54.9			

Standard pressure surface (mb.)	DENVER, COLO. (840 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (930 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	- 5.1	58	222	4.9	31	792	- 5.5	73	286	4.9
1,000--	31	220					31	214				
950----	31	630					31	621				
900----	31	1,061					31	1,050	.3	45	286	7.6
850----	31	1,516					31	1,508	1.0	33	310	10.1
800----	31	2,001	1.8	30	295	5.2	31	1,994	- .0	31	317	12.4
750----	31	2,518	- .8	27	318	9.9	31	2,510	- 2.3	31	314	13.6
700----	31	3,068	- 4.0	27	322	14.2	31	3,055	- 4.7		313	17.1
650----	31	3,645	- 7.8	28	319	18.1	31	3,630	- 7.9		308	18.8
600----	31	4,266	-11.6	27	316	22.9	31	4,252	-11.6		305	21.4
550----	31	4,925	-15.5	26	312	26.0	31	4,911	-15.9		299	24.5
500----	31	5,642	-20.2		311	27.4	31	5,626	-20.4		300	27.0
450----	31	6,405	-25.9		308	29.3	31	6,391	-26.1		298	29.5
400----	31	7,256	-32.6		304	32.1	31	7,239	-32.8		297	31.9
350----	31	8,183	-39.8		304	33.6	31	8,165	-40.0		296	34.2
300----	31	9,218	-48.0		301	34.4	31	9,202	-47.7		296	40.2
250----	31	10,399	-55.9		305	37.7	31	10,386	-54.5		293	49.4
200----	31	11,805	-58.7		297	43.3	30	11,803	-57.7		284	58.9
175----	31	12,644	-58.6		294	46.6	30	12,648	-56.8		285	57.5
150----	31	13,614	-58.6		292	49.4	30	13,626	-57.3		285	56.9
125----	31	14,760	-59.0		293	45.1	30	14,773	-59.7		282	48.8
100----	31	16,152	-61.8		293	35.4	30	16,158	-63.1		284	39.8
80-----	31	17,529	-62.8		298	29.5	29	17,529	-63.2		290	30.1
70-----	31	18,363	-62.3		300	24.1	28	18,359	-63.2		293	23.7
60-----	31	19,306	-61.9		303	19.2	27	19,298	-62.6		298	20.8
50-----	30	20,434	-61.7		313	17.3	26	20,427	-61.6		301	14.0
40-----	29	21,822	-60.4		325	12.4	25	21,812	-60.4		326	11.3
30-----	26	23,614	-59.9		349	11.1	21	23,606	-59.1		5	7.2
25-----	25	24,751	-59.0		350	10.7	17	24,756	-57.8		6	8.9
20-----	22	26,162	-57.6		27	10.5	14	26,152	-56.1		63	10.1
15-----	19	28,003	-55.4		25	11.9	11	28,013	-52.8			
10-----	9	30,644	-50.4									

Standard pressure surface (mb.)	EL PASO, TEX. (887 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (813 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,197	0.3	71	20	4.7	30	1,908	-10.6	57	183	8.9	31	135	-19.7	65	21	2.7
1,000--	31	221					30	285					31	80				
950----	31	637					30	691					31	475	-10.2	53	81	10.3
900----	31	1,080					30	1,117					31	890	- 8.6	55	100	14.6
850----	31	1,542	3.9	53	357	3.3	30	1,567					31	1,334	- 7.6	53	122	13.8
800----	31	2,033	2.4	49	303	4.1	30	2,039	- 2.4	45	192	5.4	31	1,805	- 8.8	51	133	9.9
750----	31	2,555	.5	41	285	7.8	30	2,554	- 1.3	31	234	.8	31	2,297	-11.5	49	149	8.5
700----	31	3,105	- 1.0		280	10.7	30	3,102	- 3.0		290	3.9	31	2,828	-15.1	48	166	9.1
650----	31	3,691	- 3.9		277	11.3	30	3,684	- 5.5		296	6.4	31	3,379	-18.9	45	184	9.3
600----	31	4,321	- 7.9		278	12.6	30	4,311	- 9.1		303	11.9	31	3,976	-22.7	47	197	8.2
550----	31	4,986	-12.0		282	16.1	30	4,972	-13.5		300	13.6	31	4,606	-26.8	47	197	10.5
500----	31	5,715	-17.0		288	16.5	29	5,696	-18.9		301	15.2	31	5,291	-31.1	45	198	6.2
450----	31	6,491	-22.9		287	20.4	29	6,465	-24.7		298	18.7	31	6,029	-36.0		253	4.5
400----	31	7,350	-29.3		279	25.3	29	7,320	-31.4		296	16.9	31	6,841	-41.4		232	10.1
350----	31	8,291	-36.3		275	29.1	29	8,253	-38.6		288	18.7	31	7,736	-47.2		229	9.5
300----	31	9,343	-44.0		274	42.7	29	9,294	-46.9		300	20.0	31	8,743	-52.7		239	11.3
250----	31	10,545	-51.9		266	55.8	29	10,479	-55.4		292	24.1	31	9,915	-54.5		236	16.5
200----	31	11,976	-56.0		264	65.3	29	11,884	-60.1		292	30.7	31	11,354	-51.4		229	16.9
175----	31	12,823	-57.4		267	59.3	28	12,721	-58.1		288	35.0	31	12,225	-50.0		239	16.7
150----	31	13,793	-59.4		268	51.9	28	13,695	-58.2		290	36.1	30	13,219	-49.6		241	16.5
125----	31	14,924	-63.5		272	45.1	28	14,838	-60.3		290	33.6	30	14,414	-49.8		248	16.7
100----	30	16,281	-68.2		275	35.8	28	16,221	-63.4		291	26.8	29	15,863	-50.9		251	15.5
80-----	29	17,615	-69.6		277	28.2	28	17,587	-64.2		293	19.8	28	17,315	-51.5		252	14.4
70-----	28	18,417	-68.7		282	20.8	28	18,408	-63.7		295	13.8	28	18,188	-51.9		246	15.7
60-----	28	19,336	-67.4		290	13.8	28	19,352	-62.8		306	9.9	27	19,184	-51.8		251	15.3
50-----	25	20,438	-65.2		303	8.2	28	20,477	-61.6		339	8.0	26	20,370	-52.0		258	15.7
40-----	25	21,804	-62.8		325	4.5	27	21,864	-60.9		8	6.6	22	21,809	-51.4		257	16.5
30-----	23	23,584	-60.6		316	2.9	25	23,651	-59.8		34	9.3	21	23,679	-51.3		259	18.8
25-----	22	24,721	-59.1		14	2.7	24	24,794	-58.2		46	9.5	17	24,835	-50.1		270	18.7
20-----	17	26,122	-56.8		48	2.9	23	26,203	-56.4		60	13.4	15	26,269	-50.4		281	23.1
15-----	7	27,975	-52.6				17	28,038	-54.3				7	28,269	-46.2			
10-----																		

Standard pressure surface (mb.)	FLINT, MICH. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	- 9.4	83	268	2.9	31	180	1.2	78	323	2.1
1,000--	31	156					31	203			332	2.7
950----	31	555	- 8.8	72	278	8.5	31	621	3.7	58	299	4.9
900----	31	973	- 8.7	63	283	13.2	31	1,059	3.5	48	316	5.6
850----	31	1,415	-10.1	57	283	17.5	31	1,522	2.7	44	298	6.6
800----	31	1,881	-11.2	53	290	19.6	31	2,012	1.7	43	292	8.0
750----	31	2,379	-12.9	47	289	22.5	31	2,532	- .0	37	290	12.6
700----	31	2,899	-15.5	43	289	26.2	31	3,081	- 2.5		288	17.1
650----	31	3,455	-18.5	45	290	29.5	31	3,664	- 5.1		285	19.8
600----	31	4,050	-21.2	44	290	34.8	31	4,291	- 8.9		281	22.2
550----	31	4,687	-24.8	45	288	39.6	31	4,954	-12.9		278	25.8
500----	31	5,376	-28.9	44	287	44.1	31	5,680	-17.8		274	29.7
450----	31	6,119	-33.8	41	285	49.4	31	6,452	-23.4		271	34.4
400----	31	6,941	-39.1		285	56.5	31	7,310	-29.8		273	38.9
350----	31	7,846	-44.6		284	63.5	31	8,248	-36.6		273	46.8
300----	31	8,864	-50.4		280	67.4	31	9,300	-44.1		273	56.0
250----	31	10,042	-54.3		280	66.5	31	10,504	-51.2		270	69.4
200----	31	11,469	-54.6		279	58.7	31	11,938	-55.8		270	77.5
175----	31	12,328	-53.1		277	53.8	31	12,785	-57.2		268	67.8
150----	31	13,321	-53.6		277	52.3	31	13,757	-58.7		269	66.6
125----	31	14,491	-55.0		279	48.6	31	14,893	-62.4		272	58.9
100----	31	15,912	-56.4		279	40.2	31	16,257	-66.8		273	48.8
80-----	31	17,326	-57.2		281	36.7	31	17,598	-68.1		276	36.1
70-----	31	18,172	-57.4		282	31.7	31	18,410	-67.0		278	27.4
60-----	31	19,143	-57.6		286	27.8	31	19,336	-66.1		283	21.6
50-----	31	20,294	-58.0		292	22.3	31	20,446	-63.8		295	14.4
40-----	30	21,706	-57.9		298	17.3	29	21,825	-61.7		301	7.8
30-----	29	23,538	-56.8		315	12.0	28	23,613	-60.1		297	6.4
25-----	26	24,705	-55.6		344	9.3	25	24,756	-58.5		305	5.8
20-----	22	26,121	-54.6		360	10.3	21	26,178	-56.1		305	2.9
15-----	17	28,027	-50.8		26	6.4	20	28,022	-52.4		290	5.6
10-----	7	30,701	-47.4				5	30,671	-45.1			

Standard pressure surface (mb.)	GLASGOW, MONT. (937 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (859 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (890 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	- 9.7	83	321	2.1	30	1,474	- 6.7	56	117	8.0	31	1,123	- 1.2	53	222	9.3
1,000--	31	192					30	271					31	182				
950----	31	591					30	675					31	596				
900----	31	1,014	- 4.1	62	294	12.2	30	1,105					31	1,031				
850----	31	1,465	- 3.9	49	301	21.8	30	1,558	- 4.4	50	119	7.8	31	1,490	.4	45	245	19.2
800----	31	1,943	- 5.1	48	304	25.6	30	2,039	- 3.0	41	128	4.9	31	1,975	- 2.2	48	269	21.0
750----	31	2,447	- 7.3	47	310	28.8	30	2,550	- 3.7	37	268	.6	31	2,484	- 4.7	48	285	24.3
700----	31	2,984	- 9.8	43	312	31.9	30	3,092	- 5.9	33	307	7.4	31	3,027	- 7.2	44	293	28.0
650----	31	3,549	-12.5	39	311	35.2	30	3,669	- 7.9		310	11.9	31	3,597	-10.2	42	299	30.9
600----	31	4,160	-15.8	39	312	37.5	30	4,289	-10.8		313	16.9	31	4,216	-13.7	38	302	31.7
550----	31	4,805	-20.0	38	312	40.2	30	4,948	-14.8		311	22.2	31	4,865	-17.5		303	35.2
500----	31	5,512	-24.9	37	313	42.9	30	5,666	-19.9		309	23.7	31	5,581	-22.6		303	35.6
450----	31	6,261	-30.4	38	314	46.4	30	6,432	-25.6		308	25.3	31	6,339	-28.1	41	302	38.3
400----	31	7,097	-36.2		315	52.3	30	7,282	-32.3		306	26.0	31	7,183	-34.4		304	42.6
350----	31	8,011	-43.0		312	54.2	30	8,210	-39.5		301	28.4	31	8,104	-41.2		306	46.0
300----	31	9,033	-50.5		314	59.7	30	9,247	-47.4		302	30.9	31	9,133	-49.6		307	52.8
250----	31	10,203	-57.2		313	61.6	30	10,430	-55.1		304	34.6	31	10,303	-57.8		305	51.9
200----	31	11,602	-59.4		310	57.1	29	11,834	-59.2		298	41.8	31	11,697	-60.7		303	47.8
175----	31	12,443	-56.9		310	50.1	29	12,673	-58.0		294	42.6	31	12,530	-59.2		300	46.2
150----	31	13,424	-55.7		305	43.3	29	13,646	-57.9		295	42.2	31	13,504	-56.6		300	44.7
125----	31	14,586	-55.9		309	42.2	29	14,791	-60.0		296	42.6	30	14,664	-56.2		306	37.5
100----	31	16,003	-57.4		313	35.0	28	16,176	-63.2		295	33.4	30	16,076	-58.1		307	29.9
80-----	31	17,413	-57.4		315	28.6	28	17,543	-64.1		301	24.3	29	17,487	-58.4		314	23.1
70-----	31	18,262	-57.0		318	25.5	28	18,370	-63.3		308	19.2	29	18,329	-58.2		318	19.8
60-----	31	19,233	-56.8		325	21.8	28	19,311	-62.5		314	14.4	28	19,294	-58.4		324	19.6
50-----	30	20,388	-57.0		329	16.9	27	20,435	-61.5		331	10.9	28	20,441	-57.9		329	18.3
40-----	28	21,794	-57.1		336	16.3	26	21,822	-61.0		4	10.1	27	21,852	-57.6		353	14.8
30-----	28	23,616	-56.7		350	15.9	23	23,613	-59.2		55	10.1	25	23,673	-56.6		12	12.8
25-----	24	24,782	-56.3		9	14.2	22	24,761	-57.7		56	12.2	23	24,829	-56.3		26	14.2
20-----	22	26,200	-55.4		357	11.7	21	26,176	-56.2		73	15.0	18	26,285	-54.4		37	20.6
15-----	14	28,079	-53.0		41	10.1	12	28,020	-53.8		77	20.2	10	28,104	-54.3			
10-----																		

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	-11.3	77	299	5.2	31	273	- 2.7	76	324	2.1
1,000---	31	156					31	172				
950----	31	548	-10.7	64	299	10.5	31	581	- .1	51	311	7.6
900----	31	966	-10.3	56	299	14.4	31	1,014	- .9	49	296	11.5
850----	31	1,406	-10.8	49	293	15.5	31	1,470	- 1.6	45	284	15.9
800----	31	1,871	-12.1	47	296	18.7	31	1,952	- 2.5	38	284	22.3
750----	31	2,365	-13.6	41	297	22.3	31	2,462	- 4.2	37	278	25.8
700----	31	2,885	-16.0	38	294	25.6	31	3,005	- 6.2		274	29.7
650----	31	3,439	-18.5	38	295	30.1	31	3,577	- 8.9		274	35.8
600----	31	4,034	-21.9	41	295	35.2	31	4,198	-12.6		274	40.6
550----	31	4,665	-25.6	43	298	39.4	31	4,855	-16.6		273	46.6
500----	31	5,355	-29.7	43	296	43.7	31	5,567	-21.3		272	49.9
450----	31	6,094	-34.6		292	47.6	31	6,332	-26.4		272	54.0
400----	31	6,912	-39.9		291	53.8	31	7,177	-32.6		272	59.1
350----	31	7,814	-45.5		291	57.9	31	8,104	-39.3		270	64.5
300----	31	8,829	-50.9		292	63.7	31	9,145	-45.9		264	74.0
250----	31	10,005	-54.7		290	62.2	30	10,349	-53.1		265	72.9
200----	31	11,431	-54.4		287	57.7	30	11,776	-55.7		271	72.9
175----	31	12,288	-53.4		289	53.6	30	12,627	-55.5		271	68.2
150----	31	13,281	-53.5		287	48.4	30	13,605	-57.5		270	64.7
125----	31	14,451	-54.6		289	44.1	30	14,749	-60.2		267	57.5
100----	31	15,875	-56.2		290	36.9	30	16,132	-62.8		268	49.4
80-----	31	17,290	-56.8		293	34.4	30	17,500	-64.3		266	38.7
70-----	31	18,140	-56.7		299	30.3	30	18,320	-63.5		266	31.1
60-----	30	19,114	-56.9		302	29.1	29	19,262	-63.2		275	23.5
50-----	29	20,270	-57.4		306	24.1	28	20,394	-61.5		276	15.0
40-----	28	21,678	-58.0		316	18.5	28	21,784	-60.0		275	13.0
30-----	27	23,503	-57.6		333	16.5	26	23,578	-58.6		291	7.2
25-----	26	24,651	-57.0		336	16.3	22	24,729	-57.6		320	5.2
20-----	21	26,065	-56.2		345	12.2	18	26,187	-55.7		31	4.9
15-----	15	27,941	-52.8				13	28,043	-51.5			

Standard pressure surface (mb.)	HILO, HAWAII (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	19.0	84	235	6.2	31	360	-19.0	69	271	2.9
1,000---	31	126	21.2	76	227	4.9	31	170				
950----	31	572	18.9	77	136	1.9	31	557	-16.9	68	279	5.8
900----	31	1,033	15.9	79	103	3.1	31	961	-13.8	66	298	13.6
850----	31	1,517	12.7	79	125	2.5	31	1,397	-12.7	60	311	19.4
800----	31	2,026	11.5	61	207	2.1	31	1,859	-13.1	53	312	21.6
750----	30	2,568	9.9	43	214	2.5	31	2,345	-14.9	47	312	24.5
700----	30	3,136	7.5	28	259	3.9	31	2,869	-17.3	45	310	27.2
650----	30	3,740	4.7		265	6.2	31	3,416	-20.3	44	309	31.7
600----	30	4,392	1.1		268	10.7	31	4,011	-23.5	45	309	35.0
550----	30	5,084	- 2.5		274	14.8	31	4,638	-27.0	41	307	39.8
500----	30	5,839	- 7.3		280	19.0	31	5,325	-31.0	38	305	46.0
450----	29	6,649	-12.8		290	20.0	31	6,058	-35.9		307	50.3
400----	29	7,544	-19.2		309	22.9	31	6,875	-41.6		305	56.2
350----	29	8,525	-25.7		303	31.9	31	7,771	-46.8		305	62.2
300----	29	9,625	-33.3		301	36.5	31	8,780	-51.7		307	65.1
250----	28	10,881	-42.6		307	35.4	31	9,956	-54.1		307	63.3
200----	28	12,354	-53.0		304	33.2	31	11,389	-52.9		306	55.0
175----	27	13,204	-58.7		292	34.8	31	12,252	-52.3		307	49.0
150----	27	14,158	-65.0		294	33.2	30	13,253	-52.5		307	44.7
125----	27	15,252	-71.4		293	28.6	30	14,430	-52.9		305	42.6
100----	26	16,550	-77.2		292	17.9	29	15,874	-54.1		306	36.5
80-----	26	17,821	-78.6		295	8.2	29	17,301	-55.3		308	31.1
70-----	25	18,589	-75.8		303	4.3	27	18,141	-55.2		311	31.1
60-----	25	19,492	-70.1		62	1.4	26	19,133	-55.6		317	29.1
50-----	25	20,590	-65.5		86	7.6	26	20,294	-56.0		321	27.6
40-----	25	21,958	-62.8		356	1.4	22	21,698	-56.5		324	24.7
30-----	25	23,741	-60.2		312	4.9	17	23,505	-57.2		327	25.1
25-----	25	24,885	-57.9		307	3.3	12	24,622	-57.8		339	24.1
20-----	24	26,306	-54.5		287	9.7	7	25,916	-58.6			
15-----	16	28,159	-51.9									

Standard pressure surface (mb.)	JACKASS FLATS, NEV. (896 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,100	3.6	33	45	9.1
1,000---	31	202				
950----	31	623				
900----	31	1,068				
850----	31	1,536	7.2		52	8.2
800----	31	2,032	4.4		61	4.1
750----	31	2,553	2.1		306	.6
700----	31	3,110	- .2		298	4.1
650----	31	3,695	- 3.4		288	5.8
600----	31	4,329	- 7.6		302	7.2
550----	31	4,991	-12.5		297	7.2
500----	31	5,721	-18.0		292	9.5
450----	31	6,492	-23.9		296	10.9
400----	31	7,351	-30.6		290	13.8
350----	31	8,286	-37.7		290	16.9
300----	31	9,330	-45.8		290	20.0
250----	31	10,523	-53.7		290	23.1
200----	31	11,937	-57.9		286	32.4
175----	31	12,782	-56.5		281	35.4
150----	31	13,758	-57.5		280	34.0
125----	31	14,901	-60.7		281	34.2
100----	31	16,277	-64.7		284	26.4
80-----	31	17,636	-65.5		287	18.8
70-----	30	18,449	-65.4		297	13.8
60-----	29	19,388	-64.6		316	8.9
50-----	27	20,514	-63.1		346	6.4
40-----	25	21,889	-61.9		31	6.0
30-----	23	23,675	-60.4		43	8.2
25-----	23	24,813	-59.8		45	12.6
20-----	15	26,204	-58.5		55	14.6
15-----	10	28,029	-56.2			

Standard pressure surface (mb.)	JACKSON, MISS. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSONVILLE, FLA. (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	101	1.1	84	352	2.1	30	6	6.3	85	323	3.9
1,000---	31	185	2.7	67	6	2.7	30	176	8.3	67	341	6.2
950----	31	602	3.2	60	310	4.3	30	599	8.0	61	301	6.2
900----	31	1,041	3.4	53	303	7.0	30	1,045	6.4	58	273	9.1
850----	31	1,504	2.8	50	294	11.1	30	1,514	5.7	44	269	15.3
800----	31	1,994	1.8	44	288	13.4	30	2,009	4.3	40	267	19.6
750----	31	2,514	- .1	43	289	15.7	30	2,532	2.5		266	26.0
700----	31	3,063	- 2.6	40	293	18.3	30	3,088	.5		262	29.0
650----	31	3,646	- 5.4	39	286	23.1	30	3,674	- 2.6		264	34.4
600----	31	4,271	- 8.6	38	287	27.2	30	4,311	- 6.2		266	39.2
550----	31	4,938	-12.6		279	31.7	30	4,976	-10.5		264	45.5
500----	31	5,662	-17.4		278	34.4	30	5,715	-15.0		265	52.5
450----	31	6,437	-23.1		275	41.8	30	6,492	-20.5		266	59.1
400----	31	7,295	-29.5		271	42.9	30	7,366	-26.2	38	267	66.8
350----	31	8,237	-35.6		271	42.0	30	8,319	-33.0		267	68.2
300----	31	9,293	-43.0		274	52.8	30	9,387	-40.8		269	74.2
250----	31	10,503	-50.4		271	65.9	30	10,605	-49.6		268	86.1
200----	31	11,938	-56.2		274	73.4	30	12,041	-56.8		271	90.7
175----	31	12,785	-57.4		274	69.9	30	12,885	-58.1		275	85.5
150----	31	13,756	-59.2		277	67.2	30	13,850	-60.7		270	84.1
125----	30	14,892	-62.5		278	62.0	30	14,974	-64.7		274	70.1
100----	30	16,255	-66.6		281	47.4	29	16,323	-68.5		273	60.4
80-----	29	17,595	-67.5		282	37.9	29	17,656	-69.7		272	44.7
70-----	26	18,411	-66.4		280	28.6	27	18,448	-68.9		270	35.2
60-----	26	19,339	-65.2		284	19.2	27	19,380	-66.9		270	27.4
50-----	25	20,456	-63.3		291	12.8	26	20,490	-64.0		271	18.8
40-----	25	21,834	-61.3		295	12.2	24	21,866	-61.3		280	8.4
30-----	23	23,626	-58.9				20	23,673	-58.4		284	6.8
25-----	21	24,765	-57.5				18	24,823	-57.1		276	10.1
20-----	18	26,178	-56.5				12	26,272	-54.3			
15-----	11	28,041	-53.3				6	28,131	-50.7			

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KING SALMON, ALASKA (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	24.3	74	61	9.9	31	15	- 6.8	79	42	6.2
1,000---	31	116	23.4	75	67	11.3	31	-33			45	6.4
950----	31	559	19.9	77	76	13.6	31	375	- 1.9	63	87	12.2
900----	31	1,027	16.8	77	77	11.9	31	802	- 3.0	63	106	14.8
850----	31	1,514	14.6	64	71	9.1	31	1,253	- 5.3	64	119	17.7
800----	31	2,026	12.8	46	75	8.2	31	1,726	- 8.1	62	126	16.9
750----	31	2,563	10.5	35	67	8.7	31	2,227	-10.9	58	127	17.9
700----	31	3,139	9.0		51	8.9	31	2,753	-13.8	54	124	18.1
650----	31	3,747	6.9		36	8.9	31	3,312	-17.1	51	124	17.5
600----	31	4,406	4.0		2	8.0	31	3,910	-20.8	47	123	19.0
550----	31	5,099	- .0		357	5.2	31	4,544	-25.1	46	123	18.8
500----	31	5,866	- 4.9		4	7.4	31	5,234	-29.7	46	122	18.7
450----	31	6,674	-10.6		348	10.5	31	5,976	-35.1		128	20.2
400----	31	7,584	-16.8		328	10.3	31	6,790	-40.8		129	21.0
350----	31	8,574	-23.6		317	11.3	31	7,688	-46.2		132	18.8
300----	31	9,683	-31.7		324	17.3	31	8,708	-50.9		139	22.2
250----	31	10,948	-41.2		315	17.1	31	9,881	-52.7		148	17.3
200----	31	12,428	-52.6		317	18.7	30	11,327	-49.9		164	17.7
175----	31	13,279	-59.0		319	19.4	29	12,200	-48.4		176	17.3
150----	31	14,230	-66.0		316	18.5	27	13,201	-48.6		179	13.8
125----	31	15,317	-73.1		323	20.0	26	14,382	-49.2		176	16.3
100----	31	16,601	-80.3		330	13.6	26	15,845	-49.3		185	15.2
80-----	29	17,850	-82.9		4	7.6	24	17,297	-50.3		196	15.0
70-----	26	18,598	-79.0		41	6.6	18	18,166	-49.2		195	15.2
60-----	26	19,489	-71.6		81	7.2	17	19,158	-49.8		195	12.2
50-----	26	20,583	-65.9		90	9.3	15	20,332	-49.2		196	11.5
40-----	25	21,951	-61.8		88	6.6	15	21,800	-49.8		201	9.3
30-----	23	23,746	-58.8		340	1.9	15	23,683	-49.6		210	7.6
25-----	23	24,902	-54.4		291	8.9	15	24,879	-49.2		218	7.0
20-----	20	26,340	-51.3		289	14.0	14	26,352	-49.3		227	5.8
15-----	15	28,222	-47.8		266	17.3	6	28,345	-46.7			

Standard pressure surface (mb.)	KOTZEBUE, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	-14.3	75	87	8.5
1,000---	31	81			102	14.2
950----	31	475	- 9.9	58	104	17.1
900----	31	893	-10.1	58	115	17.3
850----	31	1,334	-10.6	59	118	15.0
800----	31	1,800	-11.9	58	120	14.0
750----	31	2,289	-14.0	55	121	12.4
700----	31	2,814	-16.4	50	126	13.2
650----	31	3,364	-19.6	49	139	12.0
600----	31	3,959	-23.1	46	152	12.2
550----	31	4,586	-27.2	45	167	12.4
500----	31	5,273	-31.8		180	12.8
450----	31	6,004	-37.3		195	12.2
400----	31	6,816	-42.7		206	14.6
350----	31	7,707	-48.4		223	16.9
300----	31	8,709	-53.3		233	16.1
250----	31	9,877	-54.9		226	16.5
200----	31	11,308	-52.1		215	16.7
175----	31	12,177	-50.3		213	16.3
150----	31	13,184	-49.9		215	19.0
125----	31	14,375	-50.2		216	20.0
100----	30	15,838	-50.2		215	23.1
80-----	29	17,297	-50.6		216	23.3
70-----	25	18,164	-50.9		222	21.4
60-----	28	19,168	-51.2		226	19.4
50-----	28	20,352	-51.3		239	19.4
40-----	28	21,802	-51.0		247	18.1
30-----	25	23,685	-50.5		258	19.4
25-----	23	24,866	-50.7		256	21.6
20-----	21	26,330	-50.5		254	23.3
15-----	14	28,315	-46.7			

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (832 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	5.1	89	8	3.3	31	1,696	- 8.7	63	256	2.1
1,000---	31	186	6.6	72	64	3.3	31	245				
950----	31	606	5.8	65	25	1.9	31	650				
900----	31	1,052	6.3	60	288	4.3	31	1,078				
850----	31	1,521	5.5	55	280	9.5	31	1,526				
800----	31	2,016	3.8	51	277	15.5	31	2,002	- 2.1	41	190	1.0
750----	31	2,542	2.0	43	278	17.3	31	2,514	- 3.0	33	305	4.9
700----	31	3,094	- .2		275	20.0	31	3,058	- 5.7	34	316	10.9
650----	31	3,685	- 2.8		273	24.9	31	3,630	- 8.7	32	313	15.9
600----	31	4,316	- 6.3		272	31.9	31	4,252	-12.3	30	317	22.2
550----	31	4,988	-10.7		272	35.6	31	4,903	-16.2	29	315	26.2
500----	31	5,719	-15.8		270	41.2	31	5,622	-21.3		314	29.7
450----	31	6,503	-20.9		263	50.3	31	6,381	-27.3		314	30.1
400----	31	7,367	-26.8		264	53.6	31	7,228	-33.9		315	32.8
350----	31	8,317	-33.6		265	60.2	31	8,150	-41.1		314	35.9
300----	31	9,382	-41.1		265	73.1	31	9,180	-48.8		308	39.6
250----	30	10,603	-49.3		264	84.3	31	10,357	-56.4		309	44.5
200----	30	12,040	-56.2		265	89.0	31	11,752	-60.5		305	46.8
175----	30	12,885	-58.2		265	85.3	31	12,586	-59.5		303	46.6
150----	30	13,850	-60.6		264	80.4	31	13,556	-57.6		301	45.7
125----	30	14,976	-64.3		264	69.0	31	14,706	-58.6		304	41.4
100----	29	16,328	-68.6		266	56.3	31	16,099	-60.5		306	33.0
80-----	28	17,658	-70.0		269	40.2	31	17,488	-61.3		309	26.2
70-----	25	18,464	-69.5		273	32.8	31	18,325	-61.6		303	19.6
60-----	24	19,384	-67.3		271	25.3	31	19,274	-60.3		321	16.5
50-----	24	20,492	-64.9		276	15.9	30	20,413	-59.9		339	12.4
40-----	24	21,861	-62.4		282	14.8	28	21,808	-59.8		5	12.6
30-----	23	23,651	-60.0		289	12.8	24	23,614	-58.5		33	10.7
25-----	21	24,794	-57.8		278	9.9	20	24,765	-57.2		55	14.4
20-----	18	26,197	-56.5		279	13.0	14	26,183	-55.3		61	20.6
15-----	15	28,021	-53.1		285	18.5	6	28,022	-53.0			

Standard pressure surface (mb.)	LAS VEGAS, NEV. (945 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	2.0	49	233	3.7	31	36	19.5	85	309	1.9
1,000---	31	202					31	125	20.3	81	359	2.1
950----	31	620					31	568	17.6	80	40	2.7
900----	31	1,065	8.6	26	18	5.8	31	1,028	14.6	79	299	.6
850----	31	1,536	6.7	25	17	8.4	31	1,510	11.6	72	247	2.3
800----	31	2,032	4.3	24	22	5.6	31	2,016	10.1	50	252	3.5
750----	31	2,550	2.1		4	2.1	31	2,552	8.6	33	263	6.2
700----	31	3,109	- .1		309	4.1	31	3,120	6.4		270	9.3
650----	31	3,692	- 3.4		290	4.5	31	3,720	3.2		272	13.0
600----	31	4,328	- 7.4		292	6.0	31	4,369	- .4		278	19.2
550----	31	4,992	-12.2		300	7.2	31	5,055	- 4.0		277	24.3
500----	31	5,722	-17.6		292	8.5	31	5,807	- 8.7		280	28.0
450----	31	6,495	-23.7		283	10.3	31	6,610	-14.3		286	33.0
400----	31	7,351	-30.4		287	13.8	31	7,499	-20.3		291	39.8
350----	31	8,286	-37.6		286	18.1	31	8,476	-26.5		288	47.2
300----	31	9,332	-45.6		287	19.4	31	9,572	-34.3		291	49.7
250----	31	10,524	-53.5		283	24.3	30	10,822	-43.5		302	54.4
200----	31	11,942	-57.3		282	34.4	30	12,293	-53.0		303	56.5
175----	31	12,789	-56.0		280	36.7	30	13,143	-58.8		299	55.6
150----	31	13,767	-57.7		280	36.9	30	14,098	-64.9		298	53.6
125----	31	14,910	-61.0		282	33.4	30	15,192	-71.4		297	48.2
100----	31	16,282	-64.8		283	27.4	27	16,489	-77.1		288	33.4
80-----	31	17,638	-65.8		289	19.6	27	17,762	-79.0		284	21.2
70-----	31	18,453	-65.1		294	14.4	25	18,528	-75.9		285	9.7
60-----	31	19,393	-64.1		308	9.1	25	19,430	-70.0		261	3.3
50-----	30	20,516	-62.3		4	5.4	25	20,528	-65.5		180	2.7
40-----	30	21,898	-61.2		45	8.5	25	21,897	-62.7		250	2.7
30-----	29	23,695	-59.5		56	10.7	25	23,679	-60.6		305	4.3
25-----	27	24,837	-58.1		60	11.5	25	24,824	-57.2		316	1.6
20-----	24	26,244	-56.2		65	11.3	25	26,247	-53.9		260	5.2
15-----	7	28,071	-52.3				22	28,107	-50.3		270	18.5

Standard pressure surface (mb.)	LITTLE ROCK, ARK. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	- 2.5	86	307	3.5
1,000---	31	194	1.0	66	296	3.9
950----	31	609	1.5	55	290	6.6
900----	31	1,043	1.1	49	301	7.8
850----	31	1,502	1.0	42	297	10.3
800----	31	1,989	- .1	38	299	14.0
750----	31	2,504	- 1.7	35	290	17.1
700----	31	3,051	- 4.3		288	20.2
650----	31	3,630	- 7.3		289	21.2
600----	31	4,253	-10.6		280	21.0
550----	31	4,898	-14.5		274	24.9
500----	31	5,634	-19.2		275	27.2
450----	31	6,403	-24.8		276	29.7
400----	31	7,256	-31.3		275	31.5
350----	31	8,189	-38.3		273	34.4
300----	31	9,232	-45.7		269	42.0
250----	31	10,427	-52.5		272	52.8
200----	31	11,854	-55.9		274	56.0
175----	31	12,702	-56.9		273	61.4
150----	31	13,675	-58.2		278	53.8
125----	29	14,814	-61.3		280	55.0
100----	28	16,188	-64.7		280	46.4
80-----	28	17,546	-65.1		283	31.9
70-----	27	18,363	-64.7		282	32.1
60-----	27	19,300	-64.0		282	26.0
50-----	26	20,419	-62.8		289	19.0
40-----	24	21,804	-60.6		297	16.7
30-----	23	23,603	-59.4		315	7.6
25-----	21	24,761	-58.2		323	8.0
20-----	18	26,160	-55.7			
15-----	10	28,042	-50.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	McGRATH, ALASKA (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MEDFORD, OREG. (974 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MIAMI, FLA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MIDLAND, TEX. (921 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MONTGOMERY, ALA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	-19.9	69	351	1.2	31	401	1.4	87	151	0.8	31	4	15.3	84	7	2.5	31	871	- 1.6	84	308	2.5	31	61	1.1	78	300	3.3
1,000--	31	51					31	189					31	165	15.9	77	16	3.9	31	214					31	185	3.4	68	330	3.1
950----	31	445	-13.0	57	76	14.4	31	604	4.4	73	152	.6	31	597	14.2	73	53	2.1	31	628					31	602	3.4	62	314	6.6
900----	31	854	- 9.0	58	85	20.2	31	1,047	6.2	58	148	9.3	31	1,057	12.2	64	238	3.3	31	1,062	3.4	60	304	2.5	31	1,041	3.1	53	295	10.1
850----	31	1,300	- 6.3	50	101	15.2	31	1,515	4.9	51	169	10.5	31	1,535	10.8	54	258	8.4	31	1,526	3.0	51	297	3.9	31	1,505	3.1	45	292	14.4
800----	31	1,774	- 7.9	46	113	13.2	31	2,009	3.0	44	207	14.2	31	2,039	8.8	50	260	12.6	31	2,017	2.7	48	282	7.4	31	1,995	1.9	39	285	18.7
750----	31	2,274	-10.7	44	123	11.5	30	2,523	.3	42	222	15.9	31	2,574	6.3	49	264	18.1	31	2,538	1.1	43	284	8.4	31	2,515	- .1	37	282	20.8
700----	31	2,801	-13.6	44	134	8.2	30	3,078	- 2.7	44	234	17.9	31	3,136	3.9	44	263	23.7	31	3,090	- 1.6	40	284	11.7	31	3,065	- 2.3		280	23.9
650----	31	3,359	-17.2	45	143	9.1	30	3,657	- 6.4	44	244	20.4	31	3,731	.8	42	261	29.9	31	3,674	- 4.4		279	15.3	31	3,650	- 5.0		278	28.0
600----	31	3,957	-21.3	46	141	10.1	30	4,284	-10.1	43	242	21.2	31	4,375	- 2.7		262	33.2	30	4,303	- 8.0		282	18.3	31	4,277	- 8.5		277	34.2
550----	31	4,592	-25.4	46	150	9.9	30	4,940	-14.5		248	24.1	31	5,052	- 6.8		260	39.4	30	4,966	-12.3		285	21.8	31	4,943	-12.4		276	37.3
500----	31	5,279	-30.4	45	156	8.9	30	5,666	-19.5		246	23.5	31	5,800	-11.3	33	261	43.9	30	5,696	-17.5		284	24.7	31	5,670	-17.0		274	41.6
450----	31	6,016	-35.6		161	11.7	30	6,426	-25.5		247	24.3	31	6,592	-17.0		262	46.8	30	6,468	-23.2		285	27.8	31	6,449	-22.5		272	47.0
400----	31	6,832	-41.2		153	11.5	30	7,285	-32.2		251	26.0	31	7,475	-23.1		262	53.8	30	7,328	-29.4		281	32.3	31	7,308	-28.7		267	54.2
350----	31	7,727	-47.2		164	8.9	30	8,214	-39.6		257	24.9	31	8,440	-30.0		264	57.3	30	8,269	-36.2		274	41.2	31	8,251	-35.2		266	62.6
300----	30	8,734	-52.5		168	11.9	30	9,250	-47.9		256	27.0	31	9,519	-38.6		264	63.7	30	9,323	-43.5		270	50.1	31	9,306	-42.8		265	71.7
250----	30	9,905	-54.2		183	13.6	30	10,433	-55.8		268	29.3	31	10,745	-48.3		266	69.4	30	10,532	-50.5		267	61.2	30	10,518	-51.0		266	80.2
200----	30	11,347	-51.1		195	15.9	30	11,840	-58.8		272	32.6	31	12,183	-57.5		267	77.3	29	11,974	-55.0		274	72.3	30	11,952	-55.9		267	88.6
175----	30	12,219	-49.3		194	15.9	30	12,681	-57.6		269	32.8	30	13,017	-60.5		266	75.8	27	12,827	-56.8		271	70.3	30	12,798	-57.7		267	88.4
150----	29	13,238	-49.1		201	16.1	30	13,605	-57.7		273	32.3	29	13,972	-63.4		266	74.6	26	13,799	-58.8		273	62.8	30	13,768	-59.6		270	73.6
125----	29	14,433	-49.6		198	16.9	30	14,802	-59.4		270	28.8	28	15,080	-67.6		263	62.8	25	14,934	-62.9		275	57.5	30	14,900	-63.2		270	61.6
100----	29	15,894	-49.9		203	16.7	30	16,191	-61.5		273	22.7	27	16,405	-73.5		266	49.5	22	16,290	-67.3		277	45.9	28	16,266	-67.1		267	55.2
80-----	29	17,349	-51.1		208	15.0	30	17,573	-61.7		275	13.6	27	17,699	-75.9		268	35.4	20	17,627	-68.1		274	34.4	28	17,603	-68.8		269	40.8
70-----	29	18,222	-51.3		210	14.6	30	18,401	-61.1		280	9.1	26	18,480	-72.9		267	25.6	20	18,440	-67.4		276	24.5	28	18,409	-62.3		269	33.6
60-----	28	19,216	-51.4		217	13.4	30	19,359	-60.5		287	5.8	26	19,386	-69.7		265	17.9	19	19,361	-66.0		276	18.3	28	19,336	-66.0		274	31.7
50-----	28	20,401	-50.8		218	14.4	30	20,496	-59.5		337	2.9	25	20,484	-65.7		268	12.0	19	20,472	-63.5		291	9.9	27	20,447	-64.3		273	24.5
40-----	28	21,855	-50.7		234	12.6	28	21,892	-59.6		47	7.8	23	21,849	-63.1		287	5.8	17	21,855	-61.6		320	3.5	25	21,821	-62.3		274	15.5
30-----	28	23,728	-50.6		251	12.0	25	23,696	-58.6		62	10.1	21	23,643	-58.8		255	2.5	17	23,645	-59.5		277	2.5	24	23,605	-59.8		275	11.9
25-----	27	24,918	-50.5		267	12.0	22	24,855	-56.8		67	15.7	19	24,793	-56.6		349	1.4	14	24,788	-58.2		3	2.1	21	24,742	-58.2		273	15.2
20-----	23	26,390	-49.2		278	9.1	20	26,277	-55.4		74	18.3	17	26,219	-53.1		272	2.1	14	26,199	-56.1		50	4.3	19	26,167	-54.8		275	13.8
15-----	12	28,384	-44.9				12	28,127	-52.7		72	17.7	15	28,088	-49.3		272	12.4	10	28,055	-52.2				15	28,009	-52.0		273	14.6
10-----																									5	30,778	-42.9			

Standard pressure surface (mb.)	NANTUCKET, MASS. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NASHVILLE, TENN. (1001 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	N. Y. INT. AP. IDLEWILD (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NOME, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NORFOLK, VA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	- 3.3	72	308	5.8	31	177	- 2.6	80	308	2.7	31	5	- 4.1	66	316	8.2	31	7	- 9.4	71	54	7.6	31	9	- 0.6	80	317	3.7
1,000--	31	117	- 3.3	65	294	9.3					357	.6	31	141	- 4.6	60	307	11.5	31	41			87	9.7	31	161	1.0	63	315	5.4
950----	31	519	- 5.2	63	295	11.9	31	591	- 1.8	62	294	8.5	31	544	- 6.3	58	312	14.8	31	443	- 8.6	59	97	12.8	31	571	- .3	55	301	11.5
900----	31	946	- 6.6	60	282	13.6	31	1,023	- 2.7	56	299	11.9	31	965	- 7.3	54	308	14.6	31	859	- 9.3	59	109	13.8	31	1,004	- 2.2	52	282	14.0
850----	31	1,391	- 8.2	54	278	16.3	31	1,476	- 2.7	48	299	15.0	31	1,409	- 8.9	53	294	16.9	31	1,301	- 9.5	59	115	14.2	31	1,457	- 3.4	48	278	18.7
800----	31	1,861	- 9.8	49	272	22.3	31	1,957	- 2.8	39	294	19.4	31	1,877	-10.1	50	287	18.8	31	1,769	-10.6	52	117	14.4	31	1,936	- 4.3	40	277	24.7
750----	31	2,357	-11.6	46	270	28.0	31	2,467	- 3.9	33	290	22.7	31	2,373	-11.6	46	278	23.1	31	2,264	-12.5	47	119	11.5	31	2,441	- 5.9	38	274	30.7
700----	31	2,884	-13.7	44	268	33.8	31	3,010	- 6.0		289	26.4	31	2,900	-13.5	48	275	30.5	31	2,788	-15.4	46	135	11.5	31	2,982	- 7.8	34	271	36.1
650----	31	3,444	-16.0	42	266	38.9	31	3,582	- 8.9		287	30.5	31	3,459	-16.3	48	274	38.3	31	3,343	-18.7	49	142	12.4	31	3,551	-10.4		269	42.7
600----	31	4,045	-19.0	38	266	48.8	31	4,203	-12.3		288	33.0	31	4,060	-19.2	43	273	42.6	31	3,937	-22.6	52	152	13.2	31	4,168	-13.9		268	48.4
550----	31	4,686	-22.5		265	53.2	31	4,859	-16.1		285	35.4	31	4,700	-23.0	39	273	49.0	31	4,571	-26.5	50	158	13.8	31	4,819	-17.7		268	52.8
500----	31	5,384	-26.5		258	55.8	31	5,575	-20.9		283	36.5	31	5,395	-26.9		272	54.4	31	5,254	-31.0	49	164	14.2	31	5,532	-22.4		268	58.3
450----	31	6,130	-31.7		259	52.3	31	6,339	-26.5		282	42.6	31	6,141	-32.0		272	60.2	31	5,990	-36.0		170	14.8	31	6,292	-27.9		270	61.4
400----	31	6,961	-37.4		259	51.5	31	7,186	-32.7		281	46.0	31	6,969	-37.5		270	64.5	31	6,803	-41.7		182	18.5	31	7,135	-33.3		268	66.5
350----	31	7,872	-43.3		257	53.8	30	8,109	-39.4		281	53.2	31	7,880	-43.1		269	71.3	31	7,695	-48.0		187	19.4	31	8,082	-39.5		267	71.9
300----	31	8,898	-48.8		262	53.8	29	9,144	-46.9		275	55.2	31	8,906	-48.6		270	77.3	31	8,699	-53.5		193	20.4	31	9,102	-46.1		266	79.1
250----	31	10,083	-52.8		263	58.7	28	10,335	-53.4		272	62.2	31	10,092	-52.7		271	77.7	31	9,864	-55.4		192	19.4	31	10,296	-52.9		268	85.5
200----	30	11,512	-52.8		258	56.7	28	11,759	-56.3		271	73.1	31	11,528	-53.5		267	72.9	31	11,294	-52.1		185	19.2	31	11,723	-55.5		268	83.0
175----	30	12,375	-52.1		261	55.8	28	12,608	-56.1		289	72.7	31	12,389	-52.7		268	69.4	31	12,165	-49.9		189	18.3	31	12,577	-54.8		270	71.5
150----	30	13,372	-53.1		264	51.9	27	13,588	-56.9		270	62.4	31	13,383	-53.4		267	66.8	31	13,174	-49.5		191	18.5	31	13,561	-56.3		268	66.1
125----	30	14,542	-55.4		257	46.4	27	14,736	-59.6		269	56.7	31	14,550	-55.9		267	56.2	31	14,367	-49.8		192	19.0	31	14,712	-59.2		268	54.6
100----	30	15,958	-57.6		257	42.0	27	16,118	-63.6		269	47.6	30	15,966	-58.8		266	50.9	31	15,826	-49.9		190	20.2	31	16,100	-62.2		266	47.0
80-----	30	17,363	-58.5		260	33.2	26	17,491	-64.0		273	39.4	30	17,365	-59.0		267	41.0	31	17,285	-50.1		201	19.0	30	17,473	-63.0		265	33.4
70-----	30	18,201	-58.5		259	30.1	26	18,314	-63.5		275	30.9	30	18,205	-59.4		268	35.2	30	18,164	-50.4		204	18.1	30	18,306	-62.3		267	27.8
60-----	30	19,172	-58.6		260	22.9	26	19,260	-62.8		276	25.6	29	19,161	-59.2		268	29.7	30	19,162	-50.5		210	17.3	30	19,249	-61.6		271	21.8
50-----	29	20,321	-59.0		263	16.7	26	20,386	-62.0		278	17.7	29	20,303	-59.2		270	24.5	30	20,352	-50.3		216	17.5	30	20,379	-60.9		268	16.7
40-----	27	21,731	-58.1		256	13.0	24	21,771	-60.8		292	16.3	28	21,697	-58.7		270	19.4	28	21,820	-49.8		226	16.3	30	21,770	-59.6		269	12.4
30-----	24	23,546	-57.2		275	8.7	19	23,582	-58.8		301	9.9	25	23,512	-57.8		266	10.1	27	23,701	-49.8		232	16.7	30	23,574	-58.0		278	9.3
25-----	24	24,702	-56.3		279	6.0	19	24,731	-57.4		297	10.7	25	24,665	-56.5		277	10.9	27	24,894	-49.3		239	16.7	29	24,722	-56.5		274	9.9
20-----	23	26,121	-54.8		75	3.7	16	26,142	-54.8		293	7.2	23	26,077	-54.6		275	6.2	27	26,359	-49.0		251	18.1	25	26,128	-54.6		292	6.8
15-----	17	27,962	-50.8				16	28,002	-50.9		302	10.1	16	27,950	-50.2				24	28,268	-47.6		261	18.7	19	27,954	-51.6		279	19.0
10-----																			11	31,007	-44.5				10	30,649	-45.0			

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (921 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OAKLAND, CALIF. (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OKLAHOMA CITY, OKLA. (977 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OMAHA, NEBR. (973 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PEORIA, ILL. (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	- 9.2	74	320	5.1	31	6	5.3	89	83	2.1	31	392	- 2.1	73	287	1.6	31	403	- 9.5	73	280	2.1	31	201	- 8.9	81	296	2.7
1,000--	31	203					31	177	8.1	73	106	3.1	31	204					31	190					31	178				
950----	31	604					31	603	10.7	53	110	3.5	31	613	.9	57	286	4.3	31	590	- 5.9	58	297	5.2	31	575	- 5.8	63	297	11.5
900----	31	1,026	- 3.7	62	313	10.1	31	1,053	10.4	45	190	3.7	31	1,050	2.1	45	302	8.0	31	1,014	- 4.1	41	299	11.3	31	1,002	- 5.3	50	298	15.2
850----	31	1,481	- 1.0	43	313	16.9	31	1,527	8.6	41	206	5.6	31	1,511	1.5	37	301	9.3	31	1,464	- 4.2	36	296	14.4	31	1,451	- 6.1	44	297	18.8
800----	31	1,964	- 2.0	37	306	22.3	31	2,026	6.0		220	6.6	31	1,998	.6		302	10.3	31	1,941	- 5.1	34	298	18.1	31	1,925	- 7.0	43	295	22.5
750----	31	2,470	- 4.2	36	308	24.7	31	2,545	3.0		230	7.0	31	2,515	- 1.5		296	10.7	31	2,442	- 6.5	31	300	22.5	31	2,423	- 8.6	43	293	27.8
700----	31	3,017	- 6.5	33	306	27.6	31	3,107	- .5		242	6.8	31	3,062	- 3.9		291	14.8	31	2,985	- 8.6	31	299	27.0	31	2,960	-10.8	41	294	31.1
650----	31	3,587	- 9.5	33	305	29.0	31	3,690	- 4.0		247	8.0	31	3,641	- 7.0		290	19.0	31	3,553	-11.2	31	299	28.4	31	3,520	-13.1	41	293	34.0
600----	31	4,207	-13.1	30	306	31.5	31	4,323	- 8.1		247	9.1	31	4,264	-10.6		286	22.9	31	4,167	-14.9	34	300	30.5	31	4,134	-16.1	40	292	40.8
550----	31	4,859	-17.5		305	33.2	31	4,986	-12.9		245	10.5	31	4,924	-14.8		285	24.8	31	4,815	-18.9				31	4,777	-19.8	39	289	45.9
500----	31	5,572	-21.2		304	34.2	31	5,714	-18.2		246	12.2	31	5,644	-19.5		282	29.5	31	5,524	-23.6	35	301	35.2	31	5,487	-24.4	35	287	47.6
450----	31	6,330	-27.8		302	36.8	31	6,483	-24.0	35	249	13.8	31	6,408	-25.3		278	32.6	31	6,279	-28.8	35	298	38.1	31	6,235	-29.8		285	49.9
400----	31	7,174	-34.3		306	39.4	31	7,342	-30.7		258	16.7	31	7,262	-31.6		280	36.7	31	7,120	-35.2	36	297	39.6	31	7,077	-35.7		283	56.7
350----	31	8,095	-41.2		308	42.7	31	8,276	-38.0		268	17.5	31	8,193	-38.6		274	41.6	31	8,037	-42.1		296	42.4	31	7,993	-42.1		281	59.5
300----	31	9,125	-48.7		307	43.7	31	9,320	-46.5		269	20.0	31	9,236	-46.0		274	47.2	31	9,063	-49.9		295	46.2	31	9,020	-49.3		280	63.0
250----	31	10,304	-56.0		305	45.7	31	10,509	-54.4		277	27.2	30	10,432	-52.8		272	54.4	31	10,236	-56.6		294	44.1	31	10,197	-55.8		278	60.0
200----	31	11,708	-59.1		303	45.5	31	11,924	-57.2		276	31.7	30	11,857	-56.4		275	63.9	30	11,645	-58.6		291	47.8	31	11,611	-57.2		278	62.2
175----	31	12,547	-58.0		299	46.8	31	12,770	-56.8		274	35.2	30	12,704	-56.6		273	64.7	30	12,488	-57.0		291	50.3	31	12,459	-55.3		279	62.8
150----	31	13,522	-57.0		297	47.0	31	13,746	-57.6		271	33.8	29	13,683	-57.8		274	62.6	30	13,466	-56.3		292	47.8	31	13,444	-55.3		278	62.6
125----	31	14,674	-58.4		296	42.6	31	14,893	-61.0		274	30.1	28	14,820	-60.9		277	57.7	30	14,621	-57.7		294	44.7	31	14,605	-56.7		278	54.4
100----	31	16,072	-60.3		298	38.1	31	16,269	-64.1		272	25.3	27	16,201	-64.0		278	48.2	29	16,023	-59.6		294	42.4	29	16,013	-58.5		278	47.6
80-----	31	17,460	-61.1		300	30.9	31	17,632	-65.0		273	17.7	26	17,562	-65.2		279	37.7	28	17,421	-60.2		292	33.0	28	17,413	-59.3		281	40.8
70-----	31	18,295	-61.2		306	29.0	31	18,448	-63.8		281	11.3	25	18,379	-64.4		283	29.3	28	18,256	-60.4		301	28.8	28	18,248	-59.4		281	33.2
60-----	31	19,247	-60.9		309	22.7	30	19,393	-62.9		287	5.1	25	19,317	-63.5		287	22.2	28	19,213	-60.0		306	24.7	26	19,223	-58.4		286	25.6
50-----	31	20,383	-60.0		318	17.1	30	20,520	-61.6		41	1.2	22	20,431	-62.2		295	16.5	28	20,352	-59.4		309	23.1	25	20,375	-58.2		294	18.3
40-----	31	21,777	-59.4		332	14.6	27	21,908	-60.7		71	6.8	16	21,820	-60.7		308	16.1	28	21,749	-59.0		321	19.2	23	21,797	-58.1		313	12.2
30-----	31	23,581	-58.5		351	11.1	21	23,716	-59.2		71	14.6	9	23,628	-59.0				21	23,560	-58.5		345	13.2	21	23,613	-57.3		339	8.5
25-----	31	24,729	-57.5		2	9.7	19	24,870	-57.7		80	16.7	5	24,775	-59.4				18	24,722	-57.7		11	12.0	19	24,758	-56.3		11	7.4
20-----	30	26,143	-56.4		30	9.5	13	26,288	-56.1		77	15.7							8	26,115	-55.6				18	26,175	-55.0		40	13.2
15-----	26	27,983	-53.8		42	10.5	8	28,113	-53.7																11	28,014	-53.4			
10-----	10	30,683	-48.0																											

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb)	PITTSBURGH, PA. (977 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	- 7.1	74	261	4.3	31	113	6.7	81	109	4.7	31	20	-12.5	73	312	5.2
1,000--	31	167					31	162	10.2	85	95	4.7	31	116	-10.4	58	306	7.0
950----	31	567	- 7.0	71	266	7.8	31	597	15.0	34	44	3.7	31	511	-10.0	54	313	10.9
900----	31	988	- 8.4	70	272	13.0	31	1,051	12.7	32	76	2.1	31	928	-10.3	54	308	11.1
850----	31	1,430	- 9.4	60	282	16.9	31	1,527	9.7	34	73	.8	31	1,368	-11.6	53	306	12.6
800----	31	1,899	-10.2	54	283	21.6	31	2,028	6.7		18	1.4	31	1,831	-13.1	50	293	16.9
750----	31	2,390	-12.0	51	281	26.4	31	2,555	3.7		337	1.9	31	2,321	-14.8	48	284	20.2
700----	31	2,921	-14.0	52	281	32.1	31	3,112	.7		282	2.9	31	2,842	-17.1	45	276	24.9
650----	31	3,477	-16.4	50	283	35.6	31	3,700	- 3.2		282	3.7	31	3,390	-20.1	46	272	29.3
600----	31	4,081	-18.9	46	284	42.4	31	4,332	- 7.3		274	4.5	31	3,985	-23.0	44	271	34.6
550----	31	4,723	-22.7	46	283	48.4	31	4,999	-12.0		275	6.0	31	4,612	-26.5	39	273	40.8
500----	31	5,419	-27.1	45	283	52.1	31	5,725	-17.3		277	8.0	31	5,302	-30.7		273	43.9
450----	31	6,165	-31.9	45	283	57.3	31	6,499	-23.2		273	11.9	31	6,039	-35.2		269	50.9
400----	31	6,997	-37.1		288	60.4	31	7,358	-29.7		283	12.2	31	6,857	-40.3		269	59.1
350----	31	7,909	-42.9		288	61.0	31	8,295	-37.0		288	15.5	31	7,759	-45.2		264	62.8
300----	31	8,936	-49.1		289	61.8	31	9,342	-45.6		291	20.4	31	8,778	-49.8		263	67.2
250----	31	10,118	-54.1		287	58.9	31	10,533	-53.9		291	25.6	31	9,962	-52.4		262	64.7
200----	31	11,547	-54.5		279	73.3	31	11,953	-56.1		279	32.8	31	11,406	-51.6		261	64.9
175----	31	12,404	-53.6		273	62.0	31	12,802	-56.0		277	36.3	31	12,274	-51.2		261	61.8
150----	31	13,395	-54.7		271	57.1	31	13,779	-57.9		275	35.9	30	13,283	-52.5		259	56.5
125----	31	14,556	-56.8		272	54.0	31	14,918	-62.0		274	32.8	29	14,447	-54.2		263	52.8
100----	31	15,966	-58.5		267	34.2	31	16,284	-66.1		274	26.0	27	15,867	-55.6		262	44.5
80-----	31	17,367	-59.1		265	28.2	30	17,635	-66.8		275	19.0	27	17,290	-56.7		262	34.8
70-----	31	18,206	-59.3		268	25.8	30	18,446	-66.2		280	13.4	26	18,140	-57.6		265	32.8
60-----	31	19,171	-59.3		271	20.2	30	19,378	-65.3		295	8.2	26	19,114	-57.7		269	28.8
50-----	31	20,312	-59.3		283	14.2	30	20,490	-63.9		328	3.3	23	20,266	-58.3		273	21.6
40-----	30	21,708	-58.4		294	8.5	29	21,864	-62.3		69	6.2	22	21,691	-57.8		270	15.5
30-----	27	23,512	-58.1		329	8.0	27	23,648	-60.5		70	11.7	21	23,528	-56.9		276	10.9
25-----	27	24,663	-56.9		21	5.1	27	24,785	-59.3		73	11.5	19	24,687	-56.5		274	6.2
20-----	25	26,082	-54.3		20	9.3	27	26,188	-57.3		71	14.2	18	26,105	-55.9		306	4.5
15-----	21	27,948	-51.4				27	28,018	-54.1		75	12.0	13	27,916	-54.2		311	6.2
10-----	5	30,741	-41.5				25	30,653	-48.5		61	6.6	5	30,463	-50.0			
7------							15	33,016	-44.1		11	6.2						
5------							7	35,167	-42.1									

Standard pressure surface (mb)	RAPID CITY, S. DAK. (907 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	- 5.4	67	335	5.4	31	316	-13.7	76	298	4.3
1,000--	31	194					31	177				
950----	31	597					31	570	-11.7	69	313	9.1
900----	31	1,027	- 3.7	58	331	6.4	31	986	- 9.3	55	310	13.8
850----	31	1,483	- 1.9	46	323	16.1	31	1,427	- 9.3	46	308	17.7
800----	31	1,964	- 3.7	42	321	22.3	31	1,895	-10.1	42	306	21.2
750----	31	2,468	- 5.5	42	318	25.5	31	2,390	-11.7	40	306	27.0
700----	31	3,011	- 8.4	46	315	28.8	31	2,917	-14.2	38	305	29.5
650----	31	3,576	-11.5	42	311	29.7	31	3,473	-17.1	42	304	32.4
600----	31	4,194	-14.6	38	309	32.8	31	4,073	-20.4	42	305	36.5
550----	31	4,844	-18.7	38	309	35.9	31	4,711	-24.2	47	303	39.8
500----	31	5,553	-23.6	41	308	40.4	31	5,403	-28.3	47	301	42.6
450----	31	6,307	-29.3	39	308	41.2	31	6,149	-33.3	49	303	48.4
400----	31	7,147	-35.7		308	45.3	31	6,970	-38.5		305	54.8
350----	31	8,062	-42.5		306	47.4	31	7,876	-44.6		304	58.5
300----	31	9,088	-49.6		305	49.4	31	8,893	-51.3		302	59.1
250----	31	10,262	-56.5		308	54.6	31	10,063	-55.9		303	60.4
200----	31	11,665	-59.5		300	50.1	31	11,480	-56.0		300	54.8
175----	31	12,502	-58.2		298	48.4	31	12,333	-54.0		299	51.7
150----	31	13,477	-56.5		298	47.6	31	13,323	-54.2		301	46.4
125----	31	14,633	-57.0		299	41.4	31	14,490	-55.2		301	41.6
100----	30	16,040	-58.6		304	38.9	30	15,904	-56.4		302	38.9
80-----	30	17,439	-59.3		309	28.5	30	17,320	-56.5		302	33.0
70-----	29	18,272	-59.5		310	24.9	30	18,163	-56.7		305	30.1
60-----	29	19,240	-59.5		314	22.7	30	19,142	-57.0		310	26.4
50-----	28	20,382	-58.6		323	19.2	29	20,293	-57.4		316	23.7
40-----	28	21,784	-58.5		335	15.0	29	21,703	-57.5		326	19.8
30-----	27	23,592	-58.0		359	12.4	27	23,511	-57.3		333	17.5
25-----	25	24,743	-57.5		9	14.4	23	24,680	-57.1		344	19.0
20-----	24	26,153	-55.9		24	17.1	20	26,080	-56.5		345	17.5
15-----	18	27,985	-53.7				17	27,918	-54.2		332	18.7
10-----												
7------												
5------												

Standard pressure surface (mb)	ST. PAUL IS., ALASKA (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALEM, OREG. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH (879 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	- 2.3	85	45	10.3	31	61	4.3	86	181	3.7	31	1,288	- 6.5	75	162	2.9
1,000--	31	-65			67	9.5	31	169	5.6	79	187	5.1	31	269				
950----	31	337	- 4.3	82	68	15.5	31	589	6.8	71	196	11.5	31	675				
900----	31	765	- 6.5	79	79	14.2	31	1,034	6.1	60	205	14.6	31	1,103				
850----	31	1,210	- 8.1	70	94	14.0	31	1,501	4.3	58	210	18.5	31	1,556	- .6	51	172	3.9
800----	31	1,679	-10.3	62	94	13.2	31	1,992	1.8	53	218	21.0	31	2,041	- .9	41	191	3.9
750----	31	2,172	-12.7	55	96	12.8	31	2,506	- .5	47	223	19.8	31	2,555	- 2.7	36	265	3.5
700----	31	2,698	-15.5	49	99	11.1	31	3,059	- 3.3	47	228	19.8	31	3,100	- 5.1		300	7.6
650----	31	3,249	-18.4	45	91	12.8	31	3,635	- 6.8	46	235	19.8	31	3,678	- 7.5		307	12.2
600----	31	3,848	-22.0	43	98	11.7	31	4,262	-11.0	45	241	20.4	31	4,301	-11.0		309	16.3
550----	31	4,475	-26.1		104	12.4	31	4,918	-15.5	43	244	21.4	31	4,959	-15.2		302	18.8
500----	31	5,167	-30.7		98	12.0	31	5,638	-20.2	41	247	26.4	31	5,679	-20.1		299	21.4
450----	31	5,901	-35.6		109	12.4	31	6,403	-26.0	40	245	29.9	31	6,446	-25.6		306	23.9
400----	31	6,718	-41.0		111	13.2	31	7,252	-32.6	41	247	31.7	31	7,298	-31.9		304	25.8
350----	31	7,614	-46.7		118	15.0	31	8,179	-40.1		255	28.4	31	8,228	-39.0		303	28.4
300----	31	8,624	-52.2		125	15.9	31	9,212	-48.5		259	29.7	31	9,269	-47.1		304	31.5
250----	31	9,793	-54.8		147	17.3	31	10,390	-56.1		260	32.3	31	10,453	-55.3		300	32.1
200----	31	11,233	-50.8		162	17.1	31	11,795	-58.9		267	31.7	31	11,860	-59.2		295	39.2
175----	30	12,108	-49.4		166	17.9	31	12,636	-57.6		267	34.8	31	12,700	-58.1		293	40.8
150----	30	13,121	-48.6		170	19.6	31	13,612	-56.7		268	31.9	31	13,674	-57.4		291	41.8
125----	29	14,312	-48.2		176	20.0	31	14,764	-58.4		273	28.0	31	14,822	-59.5		292	37.9
100----	29	15,782	-48.6		184	16.7	31	16,161	-59.8		279	20.6	31	16,211	-61.5		294	31.9
80-----	27	17,253	-48.6		181	16.3	31	17,555	-59.9		280	14.4	31	17,591	-62.0		296	23.3
70-----	26	18,140	-48.9		178	17.1	31	18,393	-60.3		288	8.9	31	18,420	-62.2		305	17.7
60-----	26	19,151	-49.2		183	14.8	30	19,357	-59.2		319	7.0	31	19,368	-61.6		319	13.0
50-----	26	20,347	-49.3		181	13.8	30	20,503	-58.1		340	5.6	31	20,501	-60.5		329	12.0
40-----	23	21,812	-48.9		172	14.0	30	21,909	-58.2		5	7.6	29	21,891	-59.8		354	9.9
30-----	21	23,712	-48.9		160	13.0	29	23,721	-57.8		43	9.3	27	23,695	-58.3		28	9.3
25-----	17	24,892	-49.5		165	12.4	29	24,874	-56.6		54	11.9	25	24,843	-56.7		35	10.7
20-----	14	26,345	-48.7		178	14.8	24	26,296	-55.7		56	15.9	22	26,263	-55.7		50	13.0
15-----	8	28,227	-46.2				12	28,186	-52.9				13	28,114	-53.0			
10-----																		

Standard pressure surface (mb)	SAN ANTONIO, TEX. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	4.8	82	354	5.8	31	124	8.7	65	24	2.3
1,000--	31	198					31	152	10.9	56	25	2.1
950----	31	618	6.1	67	6	2.1	31	579	14.9	34	41	1.9
900----	31	1,061	6.3	63	255	6.0	31	1,042	12.9	29	15	2.1
850----	31	1,530	6.1	59	264	8.9	31	1,518	10.0	29	17	2.1
800----	31	2,026	4.8	50	261	10.5	31	2,019	7.1	29	347	1.2
750----	31	2,550	2.9	46	256	12.4	31	2,539	4.1	31		.0
700----	31	3,108	.1	43	268	16.7	31	3,106	.7	31	290	2.5
650----	31	3,696	- 2.3	36	268	20.4	31	3,690	- 3.0		288	3.9
600----	31	4,331	- 5.8	35	270	23.7	32	4,327	- 6.9	32	291	6.6
550----	31	5,003	-10.2		271	27.2	31	4,990	-11.4		290	6.6
500----	31	5,735	-15.4		273	33.4	31	5,726	-16.4		293	9.3
450----	31	6,519	-20.6	34	271	37.1	31	6,496	-22.4		284	11.3
400----	31	7,386	-27.0	38	268	41.2	31	7,365	-29.2	35	284	12.8
350----	30	8,339	-33.9				31	8,305	-36.7		284	20.0
300----	30	9,404	-41.1				31	9,355	-45.0		274	20.0
250----	30	10,623	-48.9				31	10,553	-52.6		272	33.0
200----	29	12,064	-55.7				31	11,982	-55.0		274	36.3
175----	27	12,903	-57.8				31	12,834	-55.9		273	37.9
150----	25	13,864	-60.1				31	13,811	-58.3		270	36.9
125----	23	14,985	-63.6				31	14,947	-62.6		275	33.8
100----	22	16,338	-68.1				30	16,307	-66.7		274	23.9
80-----	22	17,669	-69.4				30	17,649	-67.8		280	19.2
70-----	21	18,473	-68.7				30	18,458	-66.8		286	12.6
60-----	21	19,391	-67.5				30	19,386	-65.8		304	5.6
50-----	21	20,495	-65.1				30	20,495	-64.4		356	4.5
40-----	21	21,863	-62.1				29	21,869	-62.5		63	5.8
30-----	20	23,649	-60.2				27	23,652	-60.3		62	8.0
25-----	20	24,790	-58.7				25	24,789	-58.9		63	8.5
20-----	18	26,188	-57.5				22	26,198	-56.8		67	6.0
15-----	15	28,023	-54.3				14	28,011	-53.7		59	10.5
10-----	8	30,623	-50.4									

Standard pressure surface (mb)	SAN JUAN, P. R. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MONICA, CALIF. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAULT STE. MARIE, MICH. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	22.1	89	127	4.1	31	38	12.4	52	28	6.2	31	221	-13.9	68	67	2.1
1,000--	31	147	23.2	80	106	10.9	31	157	15.7	38	32	5.2	31	141				
950----	31	593	20.3	79	87	15.7	31	592	14.8	33	58	2.1	31	532	-12.5	67	260	2.7
900----	31	1,059	17.1	77	88	17.1	31	1,048	12.8		59	1.4	31	945	-12.6	61	275	10.1
850----	31	1,545	13.9	74	90	15.0	31	1,525	9.9		30	1.2	31	1,380	-13.3	60	289	15.7
800----	31	2,056	11.9	60	88	13.6	31	2,026	7.1		15	1.2	31	1,841	-14.6	56	292	18.3
750----	31	2,594	10.2	39	95	13.4	31	2,552	3.8		350	1.6	31	2,325	-16.4	55	291	21.6
700----	31	3,166	7.6	33	87	11.7	31	3,111	.3	32	303	3.3	31	2,845	-18.7	52	291	24.3
650----	31	3,768	4.8		77	11.7	31	3,700	- 3.4		293	4.3	31	3,390	-21.8	52	288	25.3
600----	31	4,422	1.8		76	7.2	30	4,330	- 7.5		285	6.0	31	3,980	-25.2	48	290	27.8
550----	31	5,108	- 2.4		60	5.6	30	4,997	-12.1		272	6.4	31	4,604	-28.7	43	290	31.9
500----	31	5,867	- 7.3		16	3.5	30	5,725	-17.3		272	8.7	31	5,284	-32.9	46	289	35.9
450----	30	6,671	-12.9		345	4.9	30	6,500	-23.0		281	11.9	31	6,014	-37.6		287	42.4
400----	30	7,565	-20.0		314	8.0	30	7,360	-29.6		272	13.4	31	6,823	-42.9		287	46.4
350----	30	8,541	-27.3		297	12.0	30	8,299	-37.0		278	14.8	31	7,713	-48.0		285	51.5
300----	30	9,632	-35.6		289	22.5	30	9,346	-45.4		279	18.3	30	8,732	-51.7		286	60.4
250----	29	10,877	-44.7		290	36.5	30	10,540	-53.5		282	25.8	30	9,909	-53.8		288	58.1
200----	29	12,335	-55.0		278	44.5	30	11,965	-55.2		279	34.6	30	11,344	-52.8		287	53.2
175----	29	13,179	-60.0		271	45.5	30	12,817	-55.6		275	32.8	30	12,208	-52.2		286	47.2
150----	29	14,128	-65.6		278	42.0	30	13,794	-58.1		271	33.0	30	13,206	-52.2		287	47.0
125----	29	15,221	-71.4		289	29.7	30	14,933	-61.9		274	31.1	30	14,384	-53.3		286	39.8
100----	28	16,520	-78.4		295	18.1	30	16,297	-66.2		273	24.5	22	15,838	-53.7		287	39.1
80-----	28	17,780	-80.8		307	8.4	30	17,644	-67.3		279	15.9	18	17,270	-54.3		288	32.4
70-----	28	18,549	-77.7		17	4.3	30	18,455	-66.6		285	11.5	16	18,121	-53.8		293	29.7
60-----	26	19,432	-70.4		79	7.6	30	19,387	-65.4		304	4.7	16	19,114	-54.2		294	25.1
50-----	26	20,529	-65.4		90	6.2	30	20,499	-64.1		2	3.9	16	20,280	-55.0		301	21.2
40-----	24	21,897	-61.9		67	7.8	28	21,876	-62.3		62	6.0	13	21,712	-56.6		305	19.8
30-----	24	23,691	-58.6		9	2.3	27	23,661	-60.3		59	8.9	12	23,548	-56.4		313	17.5
25-----	24	24,844	-55.4		305	5.1	26	24,804	-58.9		61	9.1	11	24,747	-55.5		317	13.4
20-----	22	26,284	-49.8		290	8.7	24	26,212	-56.8		70	9.1	9	26,154	-55.3			
15-----	18	28,187	-46.5		254	16.1	19	28,043	-53.9		68	11.7						
10-----	13	30,927	-42.2															

Standard pressure surface (mb)	SEATTLE, WASH. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHEMYA, ALASKA (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	125	5.4	78	134	3.9	30	37	- 0.5	86	155	2.7
1,000--	31	160			140	4.7	30	-82				
950----	31	580	6.7	63	176	11.1	30	326	- 2.6	82	142	7.6
900----	31	1,024	4.8	63	193	15.7	30	753	- 5.8	81	158	6.0
850----	31	1,489	2.6	64	208	18.5	30	1,199	- 8.5	74	164	7.0
800----	31	1,977	.0	58	218	21.4	30	1,668	-11.3	67	159	4.9
750----	31	2,488	- 2.8	50	227	20.4	30	2,156	-14.3	60	164	5.6
700----	31	3,036	- 5.2	49	236	20.0	30	2,681	-17.7	57	153	7.8
650----	31	3,609	- 8.5	47	241	22.3	30	3,223	-21.3	55	149	8.2
600----	31	4,231	-12.4	51	247	22.7	30	3,818	-25.3	52	136	11.9
550----	31	4,886	-16.7	54	250	22.9	30	4,437	-29.8	50	136	12.8
500----	31	5,600	-21.6	53	255	24.9	30	5,117	-34.4	51	139	15.7
450----	31	6,361	-27.3	49	253	29.0	30	5,844	-39.4		135	20.2
400----	31	7,205	-34.1	45	256	31.7	30	6,645	-44.9		136	20.0
350----	31	8,126	-41.2		257	36.3	30	7,527	-49.7		144	21.0
300----	31	9,157	-49.0		264	36.9	29	8,530	-53.5		149	18.7
250----	31	10,333	-56.7		268	40.8	29	9,702	-53.1		188	14.2
200----	31	11,737	-58.7		267	36.7	29	11,149	-50.4		210	14.8
175----	30	12,582	-56.8		267	32.3	29	12,023	-49.3		223	15.2
150----	29	13,566	-55.9		273	30.3	29	13,035	-48.5		223	16.5
125----	28	14,729	-57.6		279	28.4	29	14,237	-48.2		216	16.1
100----	26	16,137	-58.3		282	23.3	29	15,707	-47.9		230	17.1
80-----	26	17,539	-58.9		292	15.5	28	17,183	-48.0		210	16.5
70-----	26	18,377	-59.2		296	12.2	26	18,063	-48.0		216	18.1
60-----	26	19,343	-58.4		305	10.9	26	19,076	-48.5		207	15.7
50-----	25	20,489	-57.5		329	9.3	26	20,275	-49.1		214	16.1
40-----	24	21,908	-57.1		3	7.8	26	21,738	-49.0		191	14.2
30-----	20	23,740	-57.0		34	9.7	25	23,633	-48.6		179	12.4
25-----	18	24,896	-56.5		43	13.6	19	24,855	-48.1		145	12.6
20-----	13	26,320	-55.3		34	14.2	13	26,368	-47.7		138	14.8
15-----							7	28,326	-47.3			
10-----												

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (937 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	2.9	85	342	2.3	31	722	- 1.9	86	158	2.9
1,000	31	197	3.9	69	329	1.2	31	203				
950	31	614	3.3	60	328	3.3	31	615				
900	31	1,053	3.1	56	323	4.9	31	1,045	- .3	75	193	7.8
850	31	1,518	2.6	53	300	8.0	31	1,504	.4	62	225	13.8
800	31	2,008	1.6	51	285	11.5	31	1,989	- .7	55	237	16.1
750	31	2,526	- .6	47	286	13.6	31	2,502	- 2.9	52	247	18.5
700	31	3,077	- 2.7	39	283	16.3	31	3,047	- 5.7	49	255	19.4
650	31	3,657	- 5.3		278	19.8	31	3,620	- 9.2	49	264	20.0
600	31	4,287	- 8.6		276	24.7	31	4,241	-12.6	47	276	24.5
550	31	4,950	-12.9		273	28.4	31	4,894	-16.8	48	282	25.1
500	31	5,677	-17.8		270	32.6	31	5,609	-21.6	48	286	27.6
450	31	6,450	-23.5		271	37.1	31	6,369	-27.0	47	284	30.3
400	31	7,309	-30.0		270	44.3	31	7,216	-33.3	43	280	34.2
350	31	8,247	-36.5		267	53.8	31	8,139	-40.7		281	37.3
300	31	9,299	-43.9		267	62.4	31	9,170	-49.1		282	41.4
250	31	10,503	-50.7		267	71.3	31	10,346	-56.6		287	42.6
200	31	11,938	-55.5		267	77.3	31	11,747	-59.7		285	42.4
175	31	12,785	-57.7		267	76.0	31	12,588	-56.8		287	37.9
150	31	13,755	-59.5		266	70.7	31	13,568	-55.5		294	32.8
125	31	14,887	-63.1		269	61.6	31	14,726	-57.0		292	31.7
100	31	16,248	-67.0		270	51.9	31	16,136	-58.0		297	27.4
80	31	17,591	-68.0		272	41.6	31	17,540	-58.5		300	21.6
70	31	18,404	-67.5		274	31.1	31	18,381	-58.0		307	16.5
60	31	19,324	-66.6		274	24.3	31	19,351	-57.6		322	13.8
50	31	20,432	-64.5		282	17.9	31	20,503	-57.5		330	12.6
40	31	21,803	-62.2		291	11.7	29	21,908	-57.2		350	11.9
30	28	23,593	-60.0		285	9.7	21	23,734	-55.7		31	11.7
25	26	24,730	-58.7		289	8.0	18	24,917	-54.2		40	11.5
20	19	26,136	-56.9		290	10.3	17	26,348	-53.9		51	13.4
15	14	27,973	-53.0		284	11.5	10	28,175	-52.6			
10	5	30,597	-45.7									
7												
5												

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	25.0	76	52	8.7	31	8	10.5	83	36	3.5
1,000	31	138	24.1	76	55	12.6	31	176	11.9	75	24	3.7
950	31	585	20.7	80	62	15.3	31	604	11.0	72	289	3.1
900	31	1,052	17.7	77	70	15.5	31	1,057	9.5	61	267	8.7
850	31	1,540	14.9	71	81	11.9	30	1,530	8.3	41	273	12.2
800	31	2,051	12.7	62	85	9.9	30	2,030	6.8	40	271	17.3
750	31	2,591	10.3	55	90	8.9	30	2,562	5.0	39	266	21.4
700	31	3,164	7.8	43	86	7.6	30	3,121	2.5		265	25.6
650	31	3,766	5.2		100	6.4	30	3,713	- .9		267	29.5
600	31	4,422	2.2		121	4.9	30	4,352	- 4.4	33	267	34.0
550	30	5,112	- 1.6		156	4.5	30	5,027	- 8.3		265	37.3
500	30	5,873	- 6.4		206	5.4	30	5,769	-13.0		265	40.8
450	30	6,683	-12.0		234	7.8	30	6,557	-18.3		267	48.6
400	30	7,579	-18.7		245	9.9	30	7,437	-24.0		266	54.8
350	30	8,560	-26.2		260	15.9	30	8,398	-31.1		265	61.0
300	30	9,657	-34.3		261	22.9	30	9,472	-39.5		265	66.5
250	30	10,907	-43.9		257	29.5	30	10,696	-48.6		265	73.1
200	29	12,374	-53.8		251	37.9	30	12,133	-56.7		265	81.6
175	29	13,222	-58.4		249	41.2	29	12,977	-59.2		266	76.0
150	29	14,182	-63.0		250	42.7	28	13,936	-61.9		265	71.5
125	28	15,285	-69.3		251	35.8	25	15,051	-66.2		266	62.6
100	28	16,594	-76.6		260	25.1	25	16,387	-71.0		265	55.4
80	28	17,862	-80.2		272	9.3	25	17,703	-72.1		267	41.4
70	28	18,617	-78.6		342	1.4	24	18,502	-71.2		267	35.8
60	28	19,507	-73.0		84	3.9	24	19,411	-68.3		263	28.4
50	28	20,593	-66.1		103	6.2	22	20,511	-65.1		267	20.8
40	26	21,959	-61.6		87	7.8	21	21,881	-61.4		276	16.9
30	26	23,751	-59.0		78	7.0	20	23,674	-58.3		264	11.1
25	25	24,899	-57.1		97	2.7	19	24,827	-55.7		262	15.7
20	23	26,317	-53.7		298	9.5	15	26,261	-51.9		270	14.2
15	22	28,181	-49.4		279	15.2	9	28,172	-47.7			
10	16	30,874	-44.9		257	36.5						
7	6	33,195	-43.3									
5	6	35,468	-41.6									

Standard pressure surface (mb.)	TATOOSH IS., WASH. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TOPEKA, KANS. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	7.9	78	130	12.4	31	269	- 7.1	80	316	2.7
1,000	31	133	8.2	68	132	11.7	31	199				
950	31	555	7.3	62	174	14.8	31	602	- 3.2	60	298	7.4
900	31	1,000	5.0	63	187	16.7	31	1,029	- 2.2	46	307	10.5
850	31	1,464	2.8	60	195	17.9	31	1,483	- 2.1	36	304	13.8
800	31	1,954	.7	53	203	15.9	31	1,964	- 3.1	35	300	16.7
750	31	2,465	- 2.0	47	214	17.7	31	2,469	- 4.5	32	297	19.0
700	31	3,015	- 4.9		219	19.6	31	3,015	- 6.9	30	299	22.5
650	31	3,587	- 8.1	44	228	22.3	31	3,586	- 9.8	30	300	26.0
600	31	4,213	-11.9		233	26.8	31	4,205	-13.2		296	29.7
550	31	4,865	-16.2	41	242	29.7	31	4,859	-17.5		292	31.3
500	31	5,584	-21.3	43	237	31.3	31	5,570	-22.2		293	32.4
450	31	6,339	-27.0	40	241	34.0	31	6,330	-27.8		293	35.6
400	31	7,193	-33.7	40	244	36.5	31	7,173	-34.2		295	37.7
350	31	8,115	-41.1		250	39.8	31	8,094	-41.2		292	40.2
300	31	9,146	-49.0		253	41.2	31	9,124	-48.8		291	45.9
250	31	10,322	-56.8		254	42.6	31	10,303	-55.7		285	50.1
200	31	11,728	-58.3		255	38.5	30	11,715	-57.6		282	59.7
175	30	12,577	-55.4		259	33.2	30	12,561	-56.5		282	58.3
150	29	13,565	-54.7		264	29.9	29	13,545	-56.9		282	56.3
125	26	14,741	-56.1		264	25.5	28	14,693	-58.7		284	50.1
100	24	16,151	-58.3		273	18.7	26	16,084	-60.8		286	40.0
80	22	17,563	-57.7		290	10.9	26	17,467	-61.8		290	31.3
70	21	18,399	-57.6		302	8.5	26	18,295	-61.3		293	25.3
60	21	19,373	-57.2		309	6.4	26	19,253	-60.8		299	18.7
50	21	20,528	-56.8		312	6.0	26	20,390	-60.0		306	15.0
40	20	21,937	-57.2		14	7.0	23	21,787	-59.5		323	12.8
30	18	23,774	-56.0		35	8.0	20	23,594	-58.2		341	8.2
25	17	24,926	-55.5		53	9.9	18	24,747	-57.4		355	7.6
20	14	26,363	-54.9		56	17.5	18	26,163	-55.5		19	6.6
15	7	28,249	-51.3				12	28,000	-53.4			
10												
7												
5												

Standard pressure surface (mb.)	TUCSON, ARIZ. (928 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WASHINGTON, D. C. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	781	6.9	65	124	6.6	31	84	- 6.6	76	329	3.3
1,000	31	169					31	153	- 3.9	59	311	5.2
950	31	591					31	560	- 3.8	56	298	12.8
900	31	1,042	11.0	45	121	12.0	31	985	- 5.7	60	290	15.0
850	31	1,517	9.1	41	117	7.0	31	1,432	- 7.2	59	290	18.8
800	31	2,017	6.5	40	124	2.7	31	1,904	- 8.3	55	290	24.1
750	31	2,539	4.0	35	172	.6	31	2,403	- 9.3	50	286	27.2
700	31	3,102	1.1	34	314	2.3	31	2,937	-11.0	45	282	32.4
650	31	3,688	- 2.5		284	4.5	31	3,501	-13.5	43	277	38.1
600	31	4,325	- 6.5		308	4.5	31	4,109	-17.0	43	275	41.6
550	31	4,989	-10.9		303	6.2	31	4,753	-20.8	43	273	46.0
500	31	5,725	-16.0		280	9.5	31	5,456	-25.3	42	273	49.5
450	31	6,499	-21.9		283	13.4	31	6,208	-30.1		277	55.2
400	31	7,367	-28.6		280	17.9	31	7,045	-35.2		274	63.7
350	31	8,309	-35.7		270	23.5	31	7,963	-41.2		273	68.4
300	31	9,363	-43.7		268	30.7	31	8,995	-47.9		272	71.9
250	31	10,565	-51.9		265	42.0	31	10,183	-52.8		267	81.0
200	31	11,996	-55.4		264	53.0	31	11,614	-54.9		266	74.2
175	31	12,847	-56.1		268	49.0	30	12,472	-53.2		267	74.6
150	31	13,822	-58.3		271	45.1	30	13,463	-54.6		267	65.7
125	31	14,959	-62.3		274	39.8	28	14,623	-57.3		265	62.6
100	31	16,322	-67.0		272	34.0	29	16,022	-60.6		264	54.4
80	31	17,662	-68.4		277	24.1	28	17,409	-61.0		265	45.1
70	31	18,469	-67.3		282	17.5	28	18,247	-60.6		266	38.5
60	31	19,395	-66.7		293	11.3	27	19,204	-60.0		264	28.8
50	31	20,505	-64.1		310	5.8	25	20,350	-59.7		267	22.3
40	26	21,875	-62.1		360	4.5	23	21,762	-58.6		271	16.5
30	24	23,666	-59.8		59	7.2	21	23,575	-56.9		267	8.5
25	21	24,817	-58.2		52	6.0	19	24,737	-56.5		296	4.7
20	18	26,225	-56.1		43	5.1	10	26,175	-53.4			
15	10	28,089	-51.8				7	28,071	-49.2			
10							5	30,827	-40.1			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (876 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	- 7.0	72	123	2.5	30	12	- 0.9	87	84	4.5
1,000	31	258					30	54			98	7.4
950	31	664					30	470	2.3	62	119	13.0
900	31	1,095					30	905	- .4	63	128	13.6
850	31	1,547	2.2	46	130	2.3	30	1,361	- 3.5	63	136	15.7
800	31	2,037	2.0	36	218	4.7	30	1,838	- 6.0	56	152	16.9
750	31	2,551	- .2	33	251	7.2	30	2,340	- 9.1	52	160	15.2
700	31	3,105	- 3.2	35	263	9.3	30	2,873	-12.6	49	166	15.9
650	31	3,684	- 6.1		263	12.2	30	3,429	-16.3	46	169	17.7
600	31	4,311	- 9.7	33	278	13.4	30	4,033	-20.3	45	180	20.0
550	31	4,972	-14.1	36	279	16.3	30	4,667	-24.4	43	194	20.0
500	31	5,694	-19.1	39	279	18.3	30	5,362	-29.1	45	200	21.4
450	31	6,461	-25.0	40	280	18.7	30	6,098	-34.5		201	23.9
400	31	7,313	-31.5	37	278	21.2	30	6,922	-40.5		205	26.0
350	31	8,244	-38.7		273	20.6	30	7,822	-46.0		213	26.6
300	31	9,282	-47.5		276	22.2	30	8,836	-51.2		218	29.1
250	31	10,462	-55.8		279	27.0	30	10,018	-52.4		218	29.5
200	31	11,864	-60.0		284	32.3	30	11,465	-51.1		227	23.7
175	31	12,701	-57.9		284	35.6	30	12,335	-50.0		227	22.5
150	31	13,674	-57.6		289	35.8	30	13,344	-49.7		232	22.7
125	31	14,818	-59.8		285	32.4	30	14,536	-50.4		235	21.2
100	30	16,198	-62.4		290	25.3	30	15,987	-51.6		234	15.3
80	30	17,573	-62.7		300	16.9	30	17,436	-52.1		238	14.4
70	30	18,402	-62.4		296	11.9	30	18,300	-52.2		239	12.2
60	30	19,349	-61.4		322	7.2	30	19,300	-52.1		243	11.5
50	29	20,480	-60.9		1	5.4	29	20,482	-52.0		240	9.7
40	29	21,870	-60.0		32	8.0	26	21,924	-52.1		256	7.4
30	27	23,666	-59.0		55	10.9	26	23,787	-52.1		295	4.1
25	25	24,817	-57.7		45	11.5	25	24,972	-51.3		320	4.1
20	22	26,238	-56.2		60	15.3	24	26,452	-49.3		341	7.4
15	13	28,084	-53.0		81	23.5	20	28,387	-47.1		13	10.3
10												
7												
5												

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C. have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. See note following Table 22 in the January 1950 issue of Climatological Data, National Summary.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Jan.									
1	1.03	1.15	1.28	1.41	1.41	1.43	1.30	1.20	1.08
2	----	----	1.19	1.41	1.41	1.36	1.08	.94	.78
3	1.04	1.13	1.28	1.38	1.43	1.39	1.18	1.00	.87
4	.99	1.10	1.22	1.33	1.41	1.36	1.21	1.12	1.01
5	1.04	1.16	1.29	1.38	1.42	1.40	----	----	----
6	1.05	1.15	1.27	1.41	1.41	1.37	1.25	1.15	1.03
7	----	(1.13)	(1.24)	----	----	----	----	(.98)	----
8	1.05	1.16	1.27	(1.43)	----	(1.33)	1.27	1.16	1.06
9	1.12	1.22	1.32	1.43	1.41	1.40	1.28	1.14	1.01
10	.98	1.11	1.21	1.37	1.41	1.39	1.21	1.05	.96
11	1.01	1.13	1.26	1.41	1.41	1.32	1.21	1.11	1.03
12	1.07	1.17	1.28	1.41	1.35	1.41	1.26	1.13	1.03
13	.99	1.11	1.22	1.36	1.42	1.39	1.23	1.12	1.03
14	.99	1.07	1.22	1.33	1.36	1.31	1.17	1.02	.94
15	1.01	1.11	1.22	1.36	1.40	1.35	1.15	.99	.87
16	1.01	1.11	----	1.38	1.37	1.34	1.18	1.07	.96
17	1.08	1.17	1.28	1.41	1.41	1.38	----	----	----
18	----	----	----	1.39	----	----	----	----	----
21	1.03	1.15	1.23	1.39	1.43	1.39	1.21	1.06	.96
22	1.04	1.15	1.27	1.45	1.46	1.42	1.29	1.17	1.04
25	----	----	----	1.23	1.32	1.28	1.10	.95	.83
29	1.02	1.13	1.25	(1.35)	(1.38)	(1.17)	1.19	(1.01)	(.95)
30	----	----	----	----	(.99)	(1.18)	----	----	----
31	----	----	----	1.41	----	----	----	----	----
Averages	1.03	1.14	1.25	1.38	1.40	1.37	1.21	1.08	0.97

OMAHA, NEBR.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan.									
2	----	----	----	----	S 1.21	----	----	----	----
3	----	----	----	----	----	----	S 1.10	†	†
4	S 0.91	S 1.00	S 1.12	----	S 1.27	----	S 1.19	†	†
5	S .80	S .91	----	----	----	----	----	----	----
6	----	----	S 1.01	----	----	----	----	----	----
7	S .88	S .98	S 1.09	----	----	----	----	----	----
8	S .84	S .96	S 1.12	----	S 1.20	----	M 1.04	†	†
11	----	H .99	H 1.10	----	----	----	----	----	----
19	----	----	----	----	----	----	S 1.05	S 0.94	S 0.86
21	----	----	----	----	S 1.25	----	----	----	----
23	----	----	----	----	----	----	S 1.04	S .89	S .81
24	----	----	----	----	M 1.31	----	----	----	----
27	S .86	S 1.00	S 1.17	----	1.36	----	†	S .94	S .70
29	----	----	----	----	----	----	†	----	----
30	----	----	----	----	----	----	†	.67	----
31	H .65	H .77	H .91	----	H 1.21	----	----	----	----
Averages	0.82	0.94	1.09	----	1.26	----	1.08	0.96	0.79

MADISON, WIS.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Jan.									
5	----	----	M 0.99	----	M 1.18	----	----	----	----
21	S 0.91	S 1.07	S 1.22	----	S 1.39	----	S 1.30	S 1.23	----
22	S 1.04	S 1.15	S 1.30	----	----	----	----	----	----
24	S 1.03	S 1.15	S 1.26	----	1.37	----	1.30	1.15	1.10
27	S 1.02	S 1.11	S 1.23	----	1.37	----	1.29	----	----
Averages	1.00	1.12	1.22	----	1.33	----	1.30	1.19	1.10

GUAM, M. I.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observations during January

MAUNA LOA OBS., HAWAII

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Jan.									
1	----	1.29	1.39	----	----	----	----	----	----
3	----	----	1.46	1.58	1.67	1.56	1.45	1.36	1.28
4	1.33	1.41	1.50	1.60	1.67	1.52	----	----	----
5	1.32	1.40	1.49	1.60	1.64	----	----	1.29	1.20
6	1.31	1.40	1.49	1.59	1.67	1.52	1.42	1.34	1.23
7	1.30	1.40	1.49	1.60	1.66	----	----	1.30	----
8	1.34	1.40	1.49	1.59	1.65	----	----	----	----
9	1.31	1.39	1.49	1.60	1.66	1.52	----	1.28	1.19
10	1.34	1.42	1.51	1.61	1.67	1.55	1.44	1.34	1.27
11	1.35	1.43	1.52	1.62	1.70	1.60	1.50	1.42	1.35
12	1.35	1.42	1.51	1.62	1.70	1.53	1.41	1.33	1.26
13	1.31	1.39	1.49	1.61	1.68	# 1.59	# 1.50	1.41	# 1.33
14	1.35	1.43	1.52	1.62	1.66	----	----	----	----
15	1.35	1.43	1.52	1.62	1.66	1.58	1.50	1.41	1.33
16	1.34	1.41	1.50	1.61	1.69	1.57	1.48	1.36	1.33
17	1.29	1.36	----	1.55	1.63	1.52	1.39	1.29	1.21
18	1.20	1.28	1.38	1.49	1.58	1.48	1.35	1.25	1.17
20	----	----	1.40	1.51	1.61	1.51	1.39	1.29	1.21
21	1.27	1.36	1.44	1.56	1.63	----	----	----	----
22	1.27	1.36	1.46	1.57	1.63	----	1.45	1.37	1.30
23	1.29	1.37	1.45	1.57	1.64	----	1.41	1.30	1.24
24	1.24	1.32	1.41	1.54	1.62	1.51	1.41	1.33	1.24
25	1.32	1.40	1.48	1.60	1.70	1.59	1.47	1.40	1.29
26	1.28	1.34	1.44	1.54	----	----	----	----	----
27	1.26	1.35	1.44	1.56	1.67	1.55	1.43	1.35	1.28
28	1.24	1.32	1.42	1.53	1.65	1.54	1.44	1.32	1.25
29	1.30	1.38	1.47	1.57	1.67	1.57	1.46	1.37	1.28
30	1.30	1.39	1.47	1.58	1.67	1.55	1.43	1.34	1.26
31	----	----	----	1.53	----	----	----	----	----
Averages	1.30	1.38	1.47	1.58	1.66	# 1.55	# 1.44	1.34	# 1.26

TUCSON, ARIZ.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Jan.									
2	1.01	1.11	1.21	1.38	1.43	1.35	----	1.11	1.01
3	.89	----	----	----	----	----	----	----	----
5	.94	----	----	1.32	----	----	----	----	----
6	.88	----	----	----	----	1.32	----	1.01	.90
7	----	----	----	----	1.45	----	----	1.11	----
8	----	----	1.28	1.42	1.45	1.40	1.24	1.14	1.05
9	----	----	----	1.40	----	----	----	----	----
10	.95	----	----	----	1.41	1.32	1.19	----	.94
11	----	1.16	1.28	----	1.45	1.37	1.22	----	1.02
12	----	1.19	1.30	1.44	1.49	1.39	----	----	----
13	.87	1.01	1.16	----	----	1.35	----	----	.93
14	.94	1.06	----	----	----	----	----	1.17	1.07
15	1.01	1.11	1.23	1.37	1.42	1.35	----	1.05	.94
16	1.03	1.12	----	----	----	----	1.24	1.09	----
28	.90	----	----	----	----	----	----	----	----
29	.98	1.08	1.21	----	1.49	1.41	1.26	1.14	----
Averages	0.95	1.10	1.24	1.39	1.45	1.36	1.23	1.10	0.98

BLUE HILL OBS., MASS.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Jan.									
21	1.11	1.21	1.33	----	1.45	----	1.29	1.16	1.06
22	.83	.94	1.18	----	----	----	.96	.85	.67
25	1.03	1.17	1.27	----	1.42	----	1.32	1.21	1.08
27	----	----	----	----	1.39	----	----	----	----
28	.78	.90	1.06	----	1.22	----	1.04	.93	.78
29	.88	.99	1.11	----	1.28	----	1.01	.89	.77
30	1.06	1.16	1.24	1.41	1.42	1.41	1.24	1.13	1.04
31	----	.83	1.06	1.30	1.33	1.31	1.06	.94	.79
Averages	0.95	1.03	1.18	1.36	1.36	1.36	1.13	1.02	0.88

* Values corresponding to true solar noon.
† Wind Mast shadow
\# Interpolated values
( ) Clouds present
H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.
Jan. 1	336	63	2	329	122	300	---	8	99	---	198	4	218	238	305	50	294	15	168	65	256	286	92	353	276	13	244	304	103	177	143	280	78	287	31	355	---	274	260
Jan. 2	333	169	26	297	170	283	---	10	176	---	211	208	130	525	221	152	248	122	52	26	111	(304)	104	356	276	2	228	363	51	259	116	252	131	277	40	364	---	285	261
Jan. 3	335	166	4	338	91	304	---	11	191	---	199	179	31	642	131	126	289	154	269	58	93	308	154	356	280	2	298	357	(73)	219	169	286	142	165	242	320	---	352	262
Jan. 4	334	228	11	332	48	315	---	14	190	---	213	171	74	640	349	101	334	77	272	109	81	300	107	289	271	4	275	304	(68)	384	162	278	125	289	215	364	---	---	262
Jan. 5	344	219	36	130	31	207	---	10	149	---	170	214	57	583	335	172	311	188	260	58	55	309	162	245	273	3	280	304	(61)	176	100	288	56	282	215	374	155	51	256
Jan. 6	342	213	86	283	16	290	---	13	136	---	---	103	100	627	349	174	329	195	266	44	67	313	199	87	276	2	260	47	128	294	129	258	80	281	242	374	158	65	219
Jan. 7	309	171	1	301	101	161	---	15	56	---	---	170	78	---	296	139	307	112	265	57	174	271	47	373	234	3	261	27	204	360	149	285	80	264	195	345	139	18	252
Average	333	176	24	287	83	266	---	12	142	---	199	150	98	543	284	131	302	123	222	59	120	(299)	124	294	269	4	264	243	(98)	267	138	275	99	264	169	357	---	174	253
Jan. 8	342	239	15	57	37	141	---	25	63	---	97	167	96	---	212	64	130	95	244	32	133	310	96	374	242	17	244	355	222	22	104	261	102	211	152	381	66	65	245
Jan. 9	348	225	18	341	76	304	---	21	149	---	46	194	237	---	370	137	350	133	241	118	228	308	145	348	261	---	228	377	205	378	157	278	80	315	190	346	172	382	266
Jan. 10	344	196	11	354	47	257	---	40	---	---	175	213	355	---	371	199	327	162	242	97	205	278	254	369	265	11	269	307	148	372	163	285	35	296	260	369	203	328	256
Jan. 11	347	260	31	233	17	---	---	13	93	---	195	187	42	584	371	74	187	148	268	38	77	319	139	378	282	5	308	66	238	251	124	284	47	293	237	379	201	187	262
Jan. 12	333	220	0	177	64	---	---	41	169	---	199	216	337	626	350	203	302	155	267	82	212	323	194	378	285	8	297	70	47	221	134	294	58	297	234	384	218	97	248
Jan. 13	356	146	21	69	28	---	---	16	46	---	146	193	383	630	291	145	138	165	114	16	58	310	176	381	286	15	178	294	32	88	193	293	154	271	209	381	193	71	253
Jan. 14	352	81	19	165	44	---	---	18	103	---	125	117	385	637	45	77	206	95	100	77	90	320	63	383	280	22	197	131	37	223	171	290	108	34	79	378	121	---	239
Average	349	195	16	200	45	---	---	25	104	---	140	184	262	619	287	128	234	136	211	66	143	310	152	373	272	13	246	229	133	222	150	284	84	245	195	374	168	188	253
Jan. 15	351	66	65	342	23	---	---	54	184	---	179	30	390	620	275	241	201	26	55	41	70	---	112	387	289	7	271	374	56	285	106	273	90	60	21	382	126	374	220
Jan. 16	356	217	67	351	80	---	---	48	141	---	181	36	365	648	---	156	182	67	53	80	52	272	234	384	276	26	236	374	59	403	86	266	86	71	50	388	68	373	211
Jan. 17	362	230	95	363	84	---	---	18	201	---	165	232	367	595	329	173	341	66	266	131	123	319	56	339	200	10	225	370	62	403	111	302	149	315	151	397	183	361	266
Jan. 18	332	54	64	375	210	---	---	20	219	---	248	244	371	628	355	183	343	60	221	200	123	231	112	215	305	21	218	314	79	408	205	299	132	293	196	407	228	356	113
Jan. 19	295	268	120	145	217	---	---	32	159	---	232	188	---	639	122	228	90	65	195	170	131	351	204	373	---	12	305	390	167	311	201	319	164	26	177	382	108	---	305
Jan. 20	---	203	88	405	214	---	---	19	213	55	239	52	---	665	381	90	371	100	130	207	160	344	220	323	302	6	306	374	158	449	216	322	178	305	161	275	109	311	297
Jan. 21	379	270	130	408	180	---	---	30	---	274	270	269	---	600	278	155	321	131	338	206	154	347	193	192	316	15	324	409	169	404	208	329	142	158	299	321	284	413	298
Average	346	187	90	341	144	---	---	31	186	---	216	150	373	628	290	175	264	74	180	148	116	311	161	316	281	14	269	372	107	380	162	301	134	175	151	365	158	365	244
Jan. 22	385	137	137	406	211	---	---	26	204	247	246	229	191	673	413	---	375	148	166	215	274	319	248	353	321	16	309	288	257	448	80	328	193	357	213	340	266	132	284
Jan. 23	334	244	27	135	42	---	---	12	227	202	192	194	203	(557)	221	217	249	215	326	94	64	338	173	204	196	18	272	342	268	399	227	291	191	293	318	326	213	282	288
Jan. 24	113	294	43	158	215	---	0	24	170	171	130	159	220	644	387	206	329	137	308	(163)	267	253	242	53	109	10	183	41	118	78	227	217	190	240	310	409	146	59	229
Jan. 25	335	173	145	52	224	---	0	16	185	287	111	270	---	620	305	223	143	172	282	---	79	104	266	117	265	13	172	109	180	74	101	253	47	320	312	322	---	47	148
Jan. 26	255	267	144	247	236	59	1	34	244	209	205	207	85	670	50	240	40	39	297	195	141	326	140	233	70	35	117	327	85	122	243	145	234	173	210	149	---	100	189
Jan. 27	82	317	113	112	159	283	1	60	(238)	249	271	239	46	611	368	221	37	124	356	158	253	335	223	179	336	44	354	89	257	86	190	284	203	---	292	418	280	66	357
Jan. 28	126	280	165	196	33	292	3	79	---	273	264	253	91	672	369	241	216	99	332	202	230	---	161	333	378	26	351	317	153	263	190	361	109	336	333	433	263	88	353
Average	233	245	111	186	180	---	1	36	(211)	234	203	221	139	(635)	302	225	198	133	295	(171)	187	279	208	210	239	23	251	216	188	210	180	268	167	287	284	343	234	111	264
Jan. 29	403	310	138	352	67	350	13	111	---	277	62	270	---	668	(267)	217	228	102	290	87	50	---	275	413	195	36	336	436	44	95	201	336	91	375	335	356	253	321	193
Jan. 30	355	150	24	430	65	372	4	74	215	286	150	285	409	675	409	253	385	185	303	57	197	208	182	355	338	52	335	417	276	458	164	242	200	363	258	432	228	(431)	301
Jan. 31	204	283	37	401	137	352	8	---	265	279	51	258	275	688	405	247	391	83	324	203	90	311	101	395	234	49	357	305	137	417	137	371	87	361	302	175	203	396	251
Feb. 1	378	91	5	360	18	237	6	76	118	308	242	306	266	653	391	228	261	225	224	49	185	325	263	388	286	31	(314)	365	161	401	139	348	225	291	197	397	208	278	306
Feb. 2	413	154	47	242	157	307	5	110	288	317	27	305	105	698	41	236	86	181	81	79	65	381	261	422	132	21	214	419	60	250	132	313	197	190	142	190	304	146	204
Feb. 3	342	314	83	115	83	97	7	125	265	154	158	136	421	677	14	292	49	10	355	89	225	256	133	336	267	16	99	401	114	58	221	226	221	45	119	448	43	377	146
Feb. 4	288	266	23	419	33	390	18	67	270	35	333	25	---	700	433	180	268	101	307	87	358	96	301	401	342	29	297	332	231	471	237	337	233	386	312	458	37	402	262
Average	340	224	51	331	80	301	9	94	237	237	146	226	295	680	(280)	236	238	127	269	93	167	263	217	387	256	33	(279)	382	146	307	176	310	179	287	238	351	182	(336)	238

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1961

1961	Laramie, Wyo.	Las Vegas, Nev.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa, Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oklahoma City, Okla.	Oak Ridge, Tenn.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S.Ste. Marie, Mich.	Sayville, N. Y.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs & Test Dev Ctr)
Jan. 1	264	307	62	96	242	276	56	24	11	345	128	278	310	---	21	16	49	249	130	288	313	23	205	306	138	227	178	304	184	10	57	251	44	83	211	---	333	143
Jan. 2	238	276	54	349	249	301	164	224	11	268	166	205	355	28	220	157	250	343	283	313	307	210	206	328	134	231	291	312	133	180	166	208	40	137	271	---	357	222
Jan. 3	252	313	179	325	302	318	177	241	18	517	197	397	207	247	193	148	236	337	118	316	310	151	212	342	181	247	234	299	130	162	119	262	---	171	268	---	353	186
Jan. 4	256	274	322	335	294	289	243	236	10	512	160	372	193	298	185	152	248	340	276	299	262	211	210	239	---	233	114	314	117	167	60	317	84	201	257	370	240	---
Jan. 5	259	310	304	300	309	317	255	241	15	500	89	222	176	264	232	160	245	318	248	278	275	224	187	304	---	252	55	330	103	180	19	158	---	186	256	277	348	252
Jan. 6	237	315	301	201	306	319	232	243	39	519	106	376	75	289	194	127	248	259	270	320	322	133	186	346	---	249	54	331	76	164	45	61	78	219	223	292	351	194
Jan. 7	254	297	291	57	302	314	74	242	8	522	165	368	45	107	213	188	247	146	149	315	327	275	192	337	---	215	186	287	60	175	106	31	110	233	106	288	373	216
Average	251	299	216	238	286	305	172	207	16	455	144	317	195	205	180	135	218	285	210	304	302	175	200	315	---	236	159	311	115	148	82	184	71	176	227	306	336	202
Jan. 8	207	300	205	380	317	337	255	256	50	500	58	220	363	238	179	130	247	344	193	295	332	117	179	359	---	226	186	325	184	110	48	201	81	145	290	117	375	209
Jan. 9	221	306	315	---	303	305	222	247	56	521	95	80	364	307	210	227	227	346	300	284	310	162	180	326	---	166	374	328	87	198	88	336	52	246	283	155	334	279
Jan. 10	253	315	319	394	305	305	193	218	20	528	122	175	227	310	238	183	203	319	279	322	322	181	209	345	(180)	245	365	331	131	208	25	295	47	222	257	391	365	278
Jan. 11	259	321	318	351	314	319	205	246	16	538	118	87	56	---	229	196	250	323	253	322	342	145	195	353	167	245	134	328	168	194	31	154	137	218	272	370	379	---
Jan. 12	265	---	316	270	310	324	156	253	12	522	135	31	349	273	220	219	230	195	280	326	339	203	172	340	166	245	220	331	86	210	95	96	63	229	196	179	384	---
Jan. 13	241	328	251	295	280	311	216	210	16	538	45	262	359	117	208	178	199	263	197	325	336	159	112	349	177	226	365	(335)	---	191	33	155	85	217	241	209	378	245
Jan. 14	142	323	90	57	321	328	51	153	40	433	128	389	367	38	138	96	85	135	50	324	334	132	94	348	121	104	378	332	197	111	55	222	73	185	2	383	377	98
Average	227	316	259	291	307	318	185	226	30	511	100	178	298	214	203	175	206	275	222	314	331	157	163	346	(162)	208	289	(330)	142	175	54	208	77	209	220	258	370	222
Jan. 15	243	327	50	257	324	331	74	210	57	537	50	425	359	7	64	42	65	353	49	321	336	208	183	352	114	252	373	342	198	21	27	326	80	66	281	327	382	17
Jan. 16	194	334	54	88	321	336	138	261	59	544	52	422	355	18	58	97	248	360	79	328	346	59	161	355	131	237	372	348	94	53	97	342	122	123	315	411	385	114
Jan. 17	229	341	96	408	303	344	237	246	15	537	83	316	---	158	262	207	240	341	116	340	300	247	159	362	185	164	329	350	79	220	44	332	175	165	278	423	276	278
Jan. 18	142	349	217	298	313	318	130	219	26	517	81	448	---	259	262	230	31	238	284	346	290	248	159	354	84	277	219	342	117	230	186	284	161	194	116	421	188	116
Jan. 19	286	305	(63)	351	230	267	238	272	26	524	213	418	---	16	180	61	217	380	29	345	234	204	186	350	214	268	404	344	175	113	190	352	179	57	---	387	233	38
Jan. 20	284	270	211	371	175	167	145	260	10	524	246	372	---	272	101	139	221	362	239	328	177	52	254	219	213	275	---	(247)	208	131	188	352	192	283	---	435	288	343
Jan. 21	263	305	291	391	273	302	291	287	0	474	251	432	260	314	279	252	288	379	252	350	71	252	255	295	180	271	373	232	169	238	188	375	220	209	---	315	151	214
Average	234	319	(140)	309	277	295	179	251	27	522	139	405	---	149	172	147	187	345	150	337	251	181	193	327	160	249	345	(315)	148	144	131	338	161	157	247	388	272	160
Jan. 22	288	334	332	384	167	203	---	141	9	500	204	464	373	349	244	245	195	361	345	349	298	252	232	218	243	268	109	319	240	220	87	106	40	227	---	462	336	351
Jan. 23	281	226	350	355	321	332	284	283	26	550	171	400	354	326	156	27	280	345	244	211	153	217	256	264	220	189	323	217	201	119	50	333	29	237	---	430	92	292
Jan. 24	254	349	350	157	257	288	305	272	20	541	69	435	45	199	125	156	302	126	236	264	133	237	262	336	244	113	278	315	241	103	130	24	70	213	134	373	59	249
Jan. 25	122	---	402	318	79	82	240	81	10	566	98	439	269	335	295	284	123	112	290	340	334	277	235	205	130	212	52	115	163	270	171	83	222	291	80	233	378	355
Jan. 26	166	122	130	81	122	64	202	303	52	450	198	378	62	87	195	90	294	376	53	86	171	162	286	72	235	159	131	196	186	155	221	109	227	97	354	291	248	66
Jan. 27	333	185	278	284	355	351	325	313	49	563	259	169	80	---	246	144	326	179	197	107	247	256	293	304	215	302	158	345	245	193	220	178	224	179	140	265	168	150
Jan. 28	329	383	437	195	337	360	293	313	89	553	222	442	291	326	279	248	295	335	334	336	341	249	239	388	250	296	379	344	195	233	40	137	72	300	353	200	264	370
Average	253	267	326	253	234	240	275	244	37	532	174	390	210	270	220	171	259	262	243	242	239	236	257	255	220	220	204	264	210	185	131	139	126	221	212	322	221	262
Jan. 29	332	360	404	414	221	240	323	318	100	567	101	195	399	320	285	252	319	393	349	357	380	289	247	263	239	194	369	140	219	256	42	372	71	235	373	73	420	361
Jan. 30	304	371	342	392	354	309	127	239	68	567	87	324	317	312	294	223	285	321	327	331	231	275	287	374	115	239	412	357	236	278	62	393	77	241	258	471	195	361
Jan. 31	314	328	394	259	267	248	202	307	47	512	260	443	253	326	266	176	295	245	348	348	265	280	274	264	246	258	221	98	217	203	126	318	117	161	201	449	336	297
Feb. 1	244	296	262	105	300	---	287	271	54	534	185	429	386	154	292	232	117	90	261	377	373	315	187	284	148	309	226	344	273	270	36	193	101	287	161	423	427	59
Feb. 2	246	246	107	53	177	167	167	77	19	313	150	276	419	22	326	290	206	378	153	365	375	316	247	201	166	191	430	285	304	299	223	211	201	330	---	130	431	381
Feb. 3	162	394	111	406	381	358	223	284	58	428	103	336	381	128	151	38	315	354	49	276	383	290	97	367	286	144	436	384	238	99	57	356	107	63	308	52	440	51
Feb. 4	181	403	(144)	389	383	375	343	76	26	569	175	158	324	---	50	42	197	252	346	374	406	29	136	417	249	338	170	390	285	---	78	357	35	190	300	477	447	312
Average	252	343	(252)	288	298	283	239	224	53	499	152	309	354	210	238	179	248	290	262	347	345	256	211	310	207	239	323	286	254	234	89	314	101	215	267	297	385	260

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

JANUARY 1961

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	---	416	327	345	---	---	---	---	324	372	---	300	---	---	361	347	364	397	382	414	411	441	379	---	---	397	313	317	357	321	331
Caribou, Maine	---	---	---	---	385	---	328	---	---	386	---	423	395	335	311	---	368	374	396	---	---	497	493	455	407	405	429	401	383	426	468
Fort Worth, Texas	280	275	297	276	282	---	---	260	271	277	---	---	258	---	316	309	296	272	285	276	294	278	262	---	---	234	---	---	285	268	---
Green Bay, Wis.	---	346	358	327	331	319	---	340	---	353	---	342	295	---	---	---	365	---	---	---	458	---	450	437	---	---	342	301	337	---	---
Mauna Loa, Hawaii	267	---	246	248	249	255	251	251	238	234	227	233	230	225	228	232	225	226	221	218	220	227	227	225	220	222	226	223	232	234	231
Sterling, Va.	---	---	---	---	---	349	324	396	318	315	333	345	332	---	---	---	353	380	---	---	---	---	417	341	318	---	---	---	330	346	355

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations; therefore, average values based upon zenith cloud observations are denoted with an asterisk. A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1921) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations. In Chart III the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1921-50) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL.

CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. - Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a. m. Eastern Standard Time of the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.$^{-2}$) for all Weather Bureau stations which record this element. Supplementary data for which limits of accuracy are wider than for those data shown are drawn upon in making the analysis. Chart VII-B shows the percentages of the mean based on the period 1953-57.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a. m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

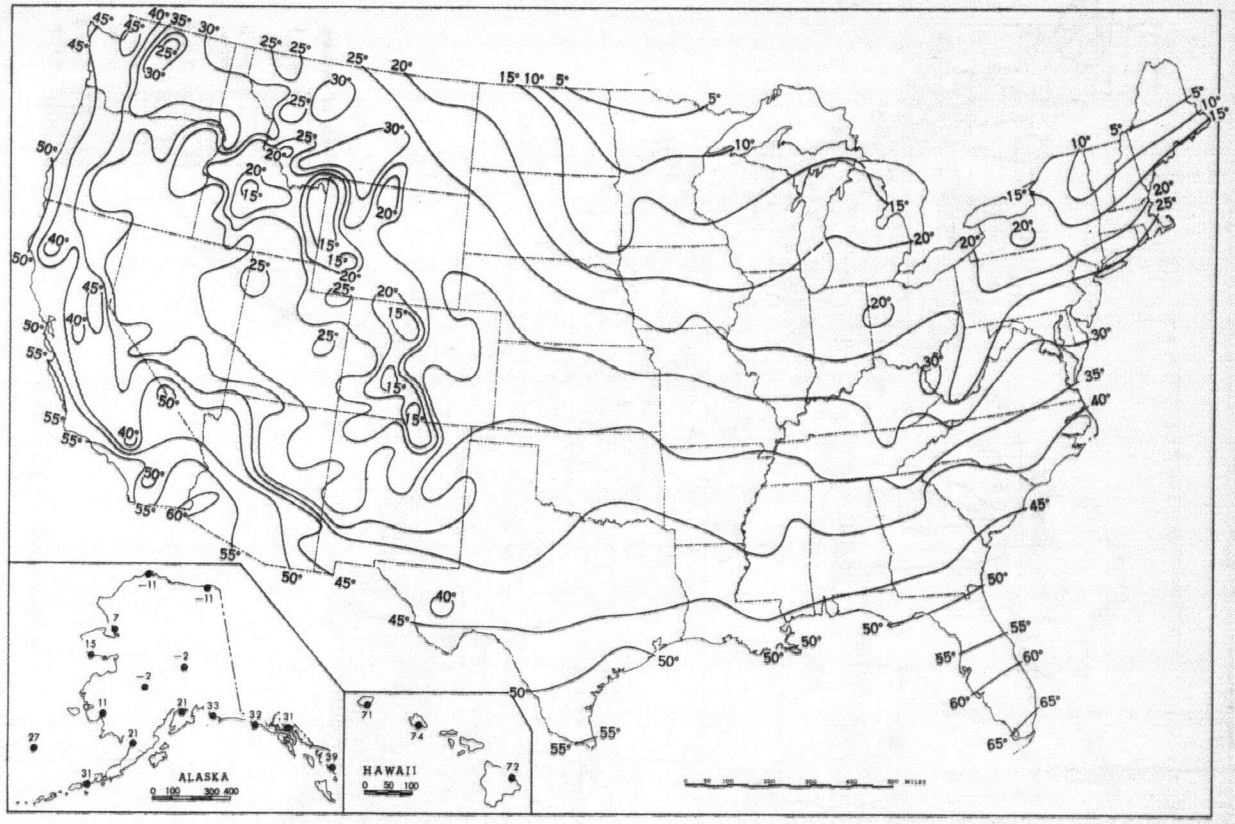
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau stations. Windroses are based on the hourly wind directions (to 16 points of the compass) reported by Weather Bureau stations, each circle or arc indicating 5 percent of the time. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record, and, for each 10° intersection in a diamond grid over the oceans, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

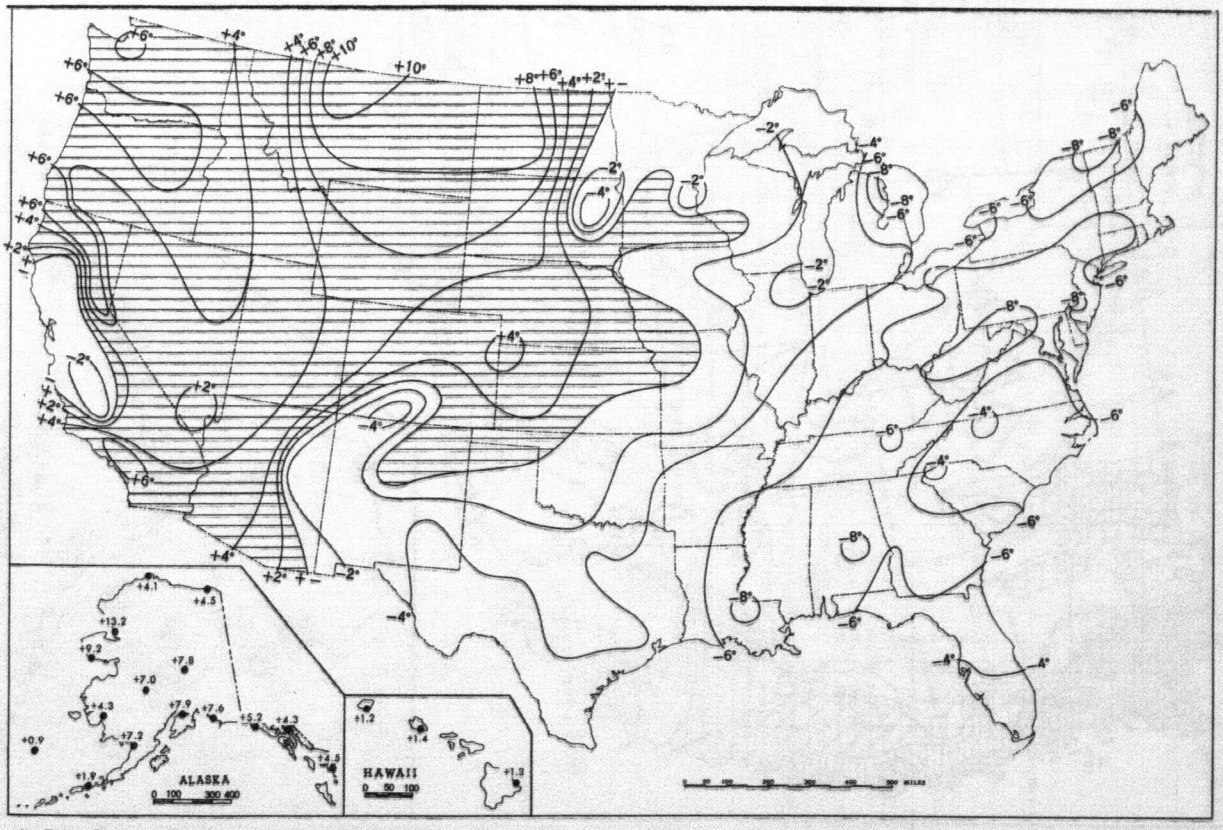
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, January 1961.



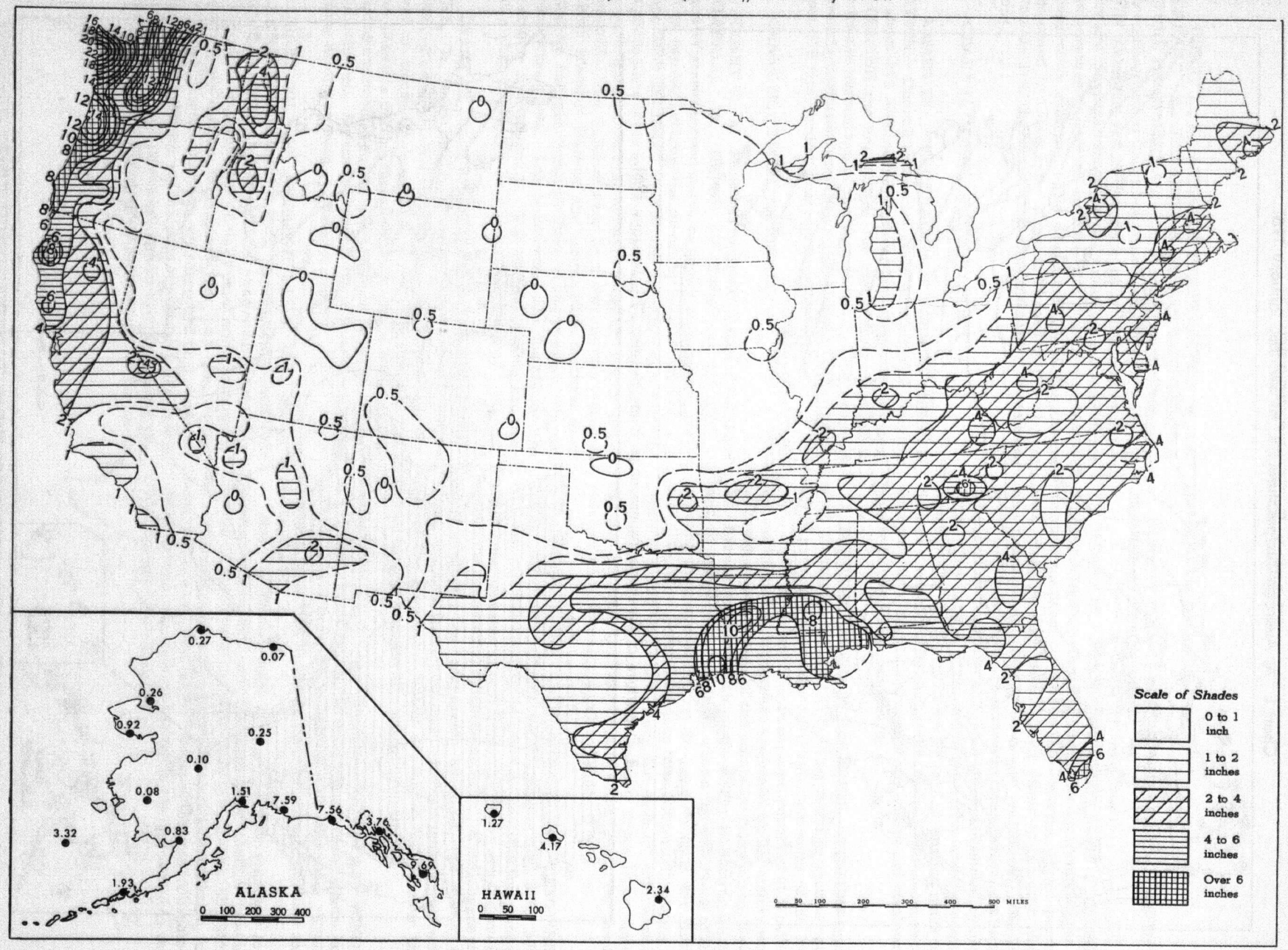
B. Departure of Average Temperature from Normal (°F.), January 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

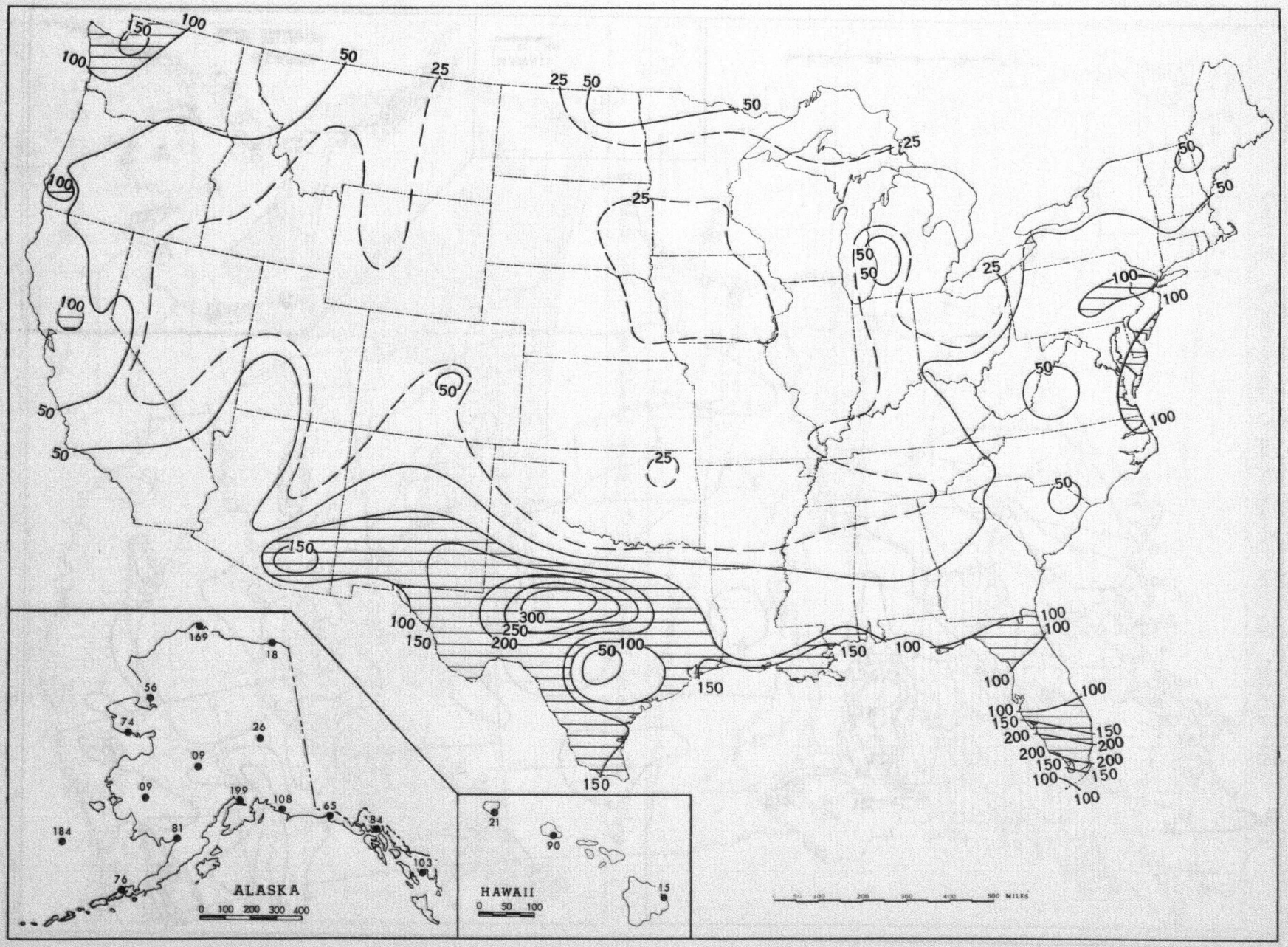
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), January 1961.



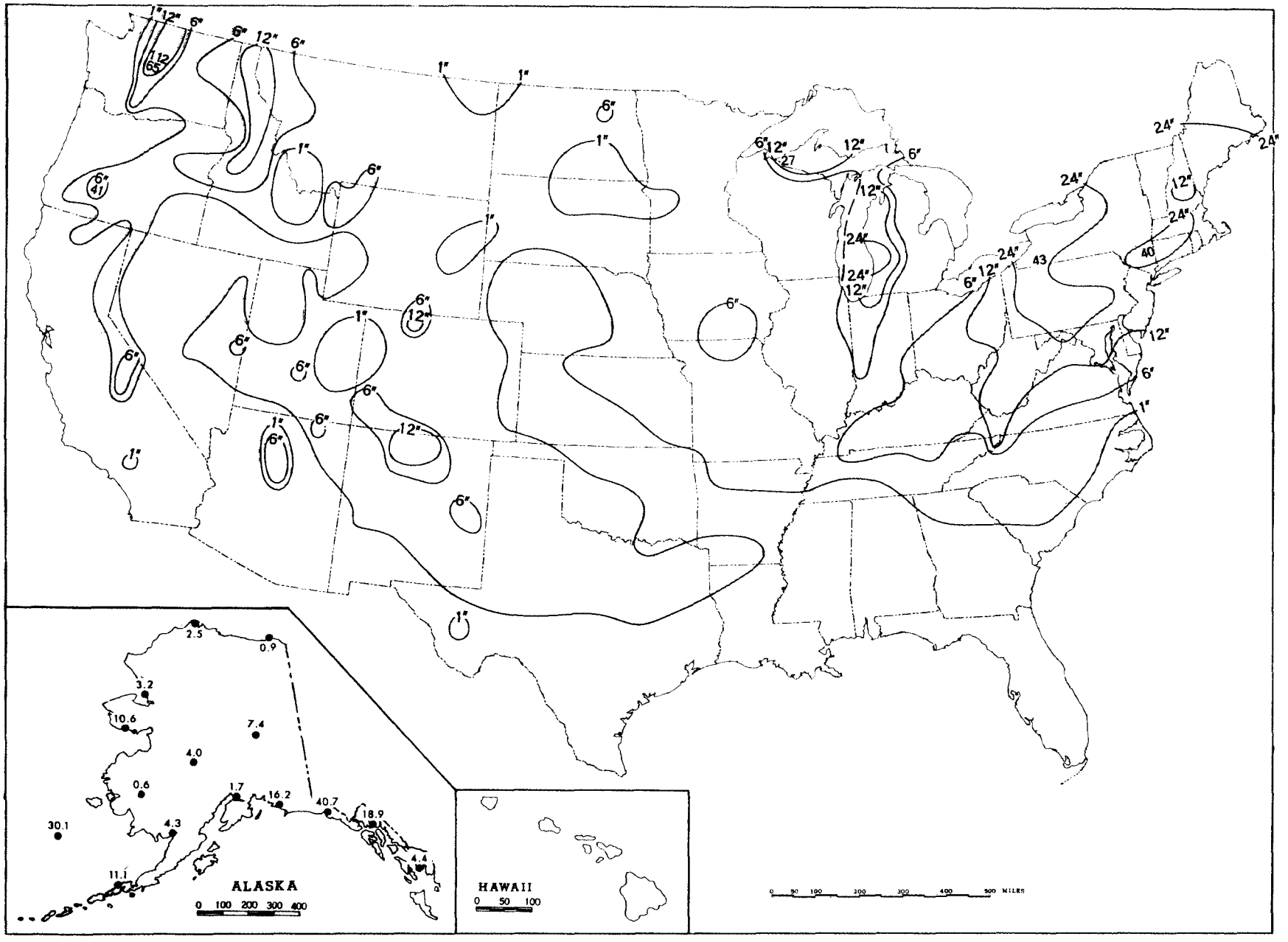
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, January 1961.



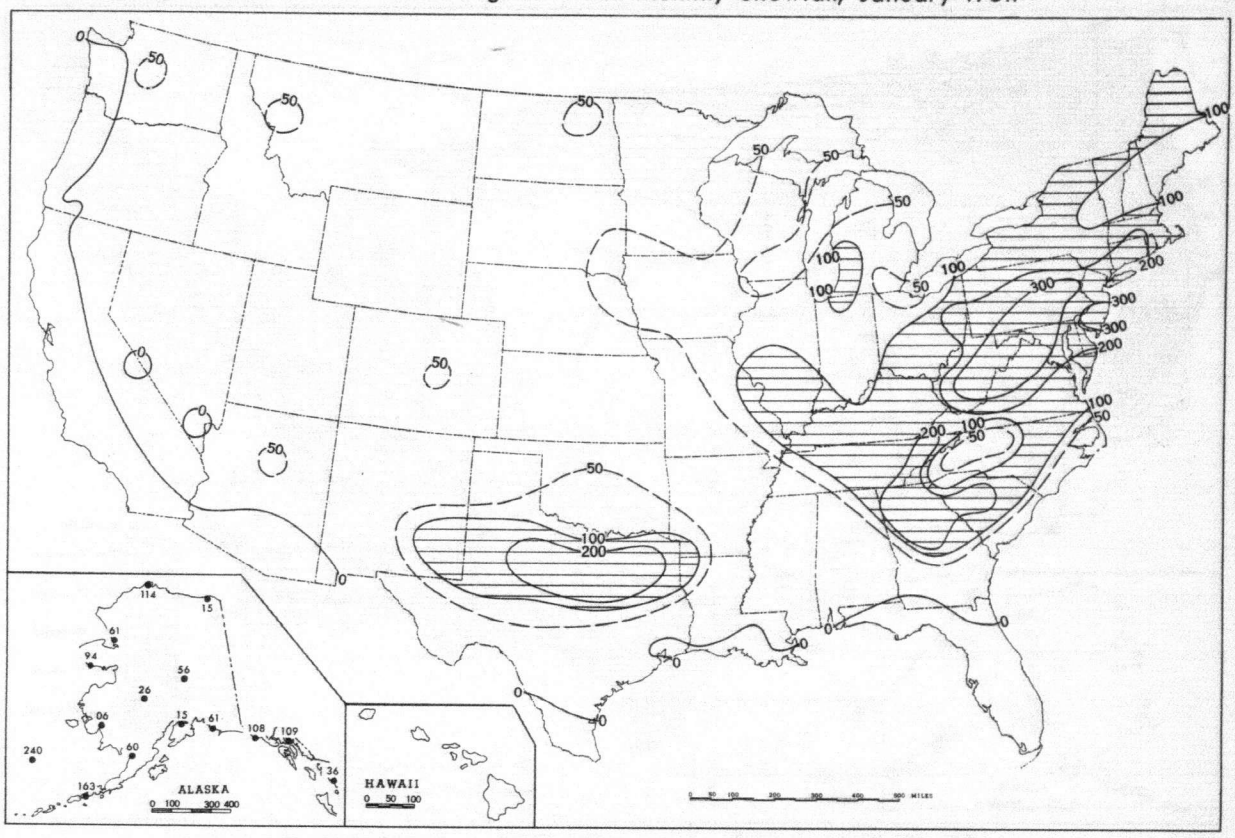
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), January 1961.

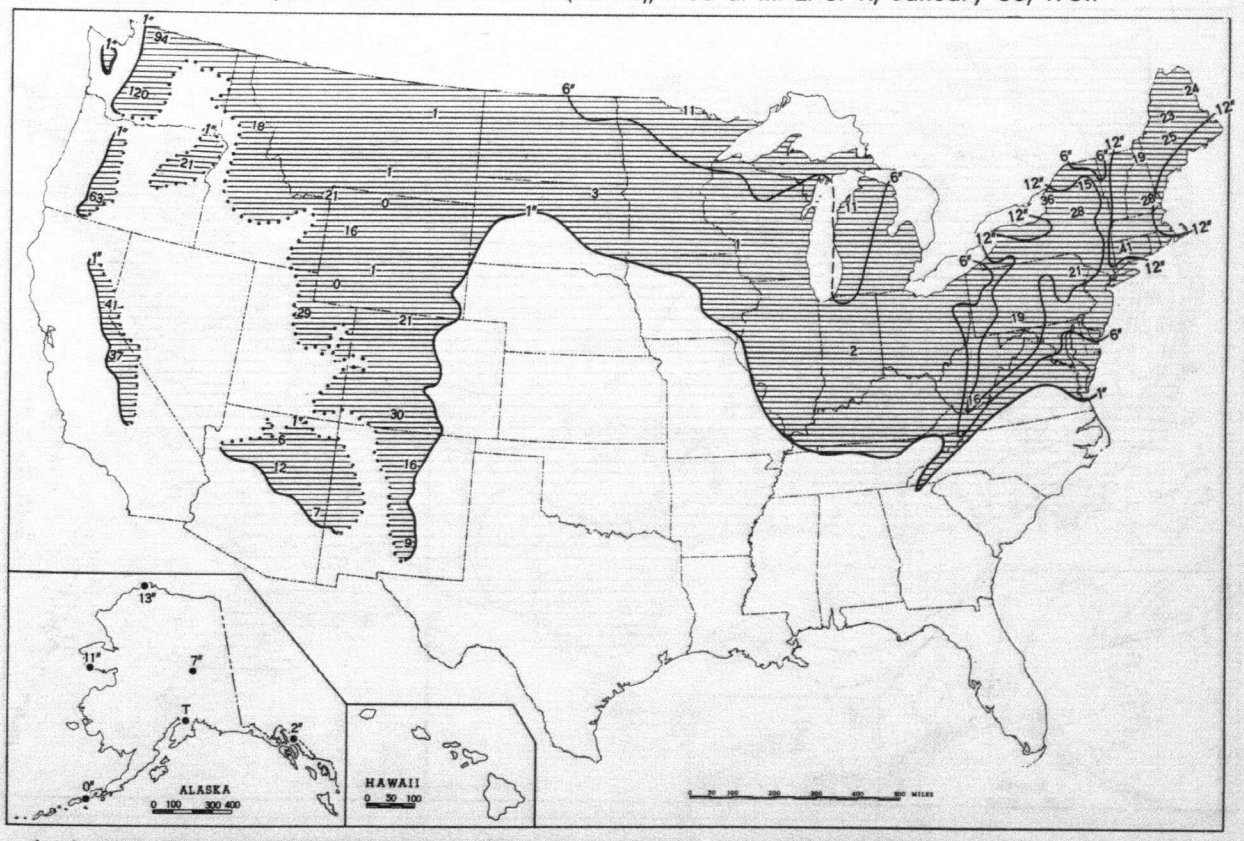


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, January 1961.

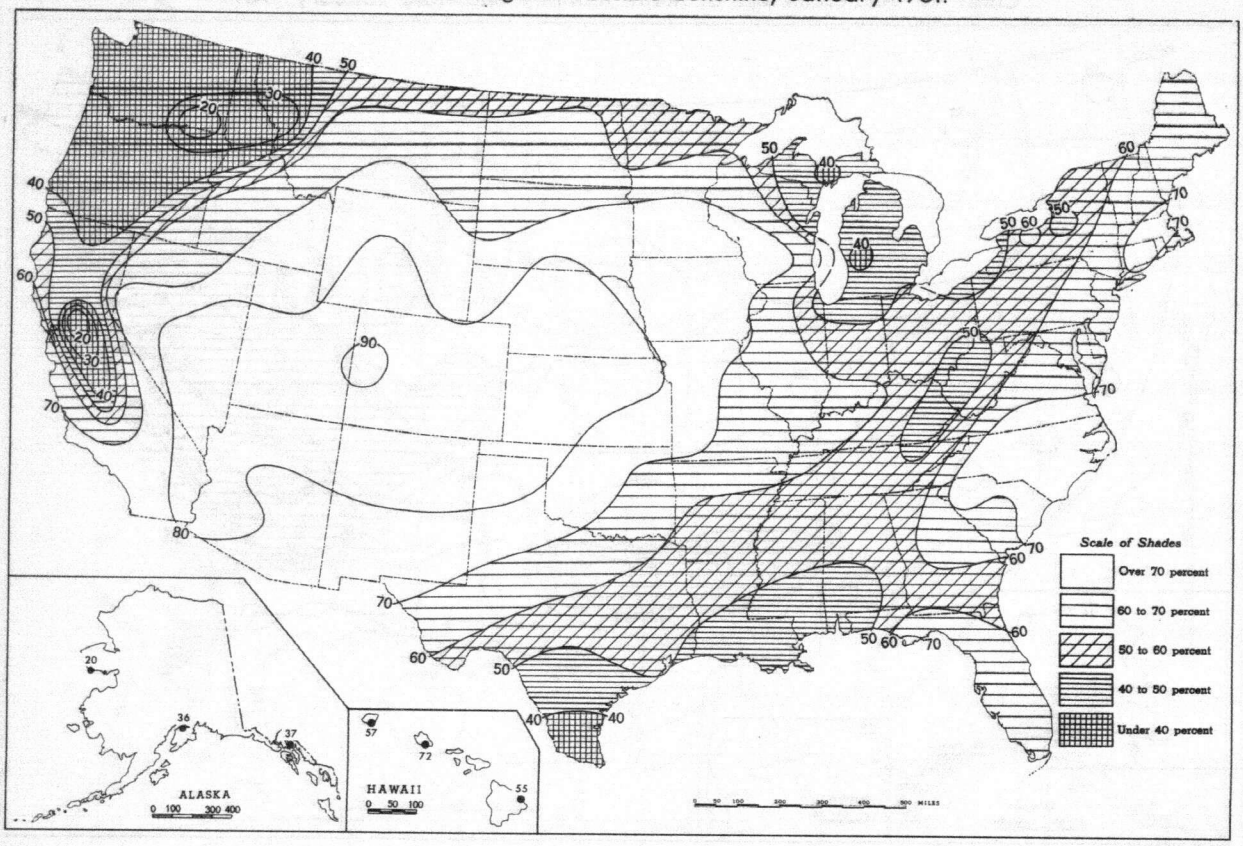


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., January 30, 1961.

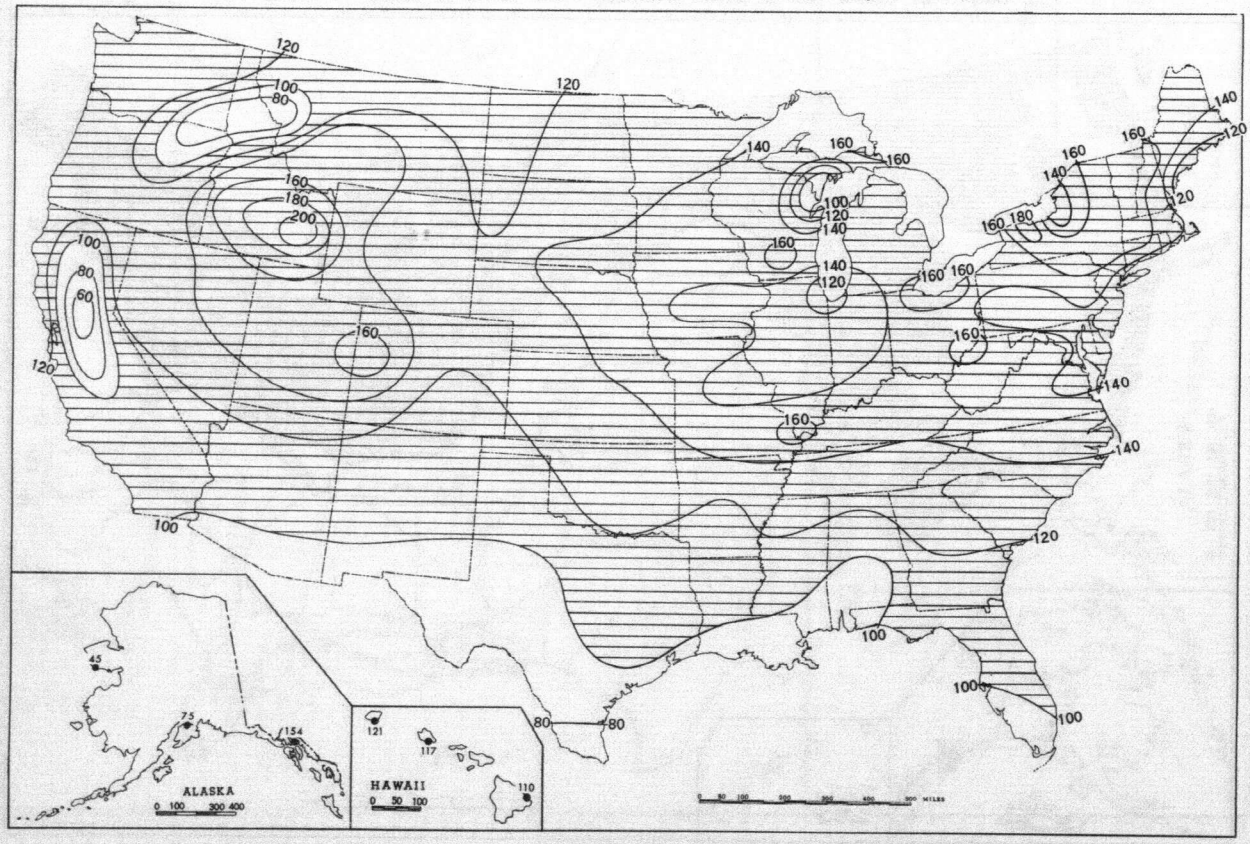


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1961.

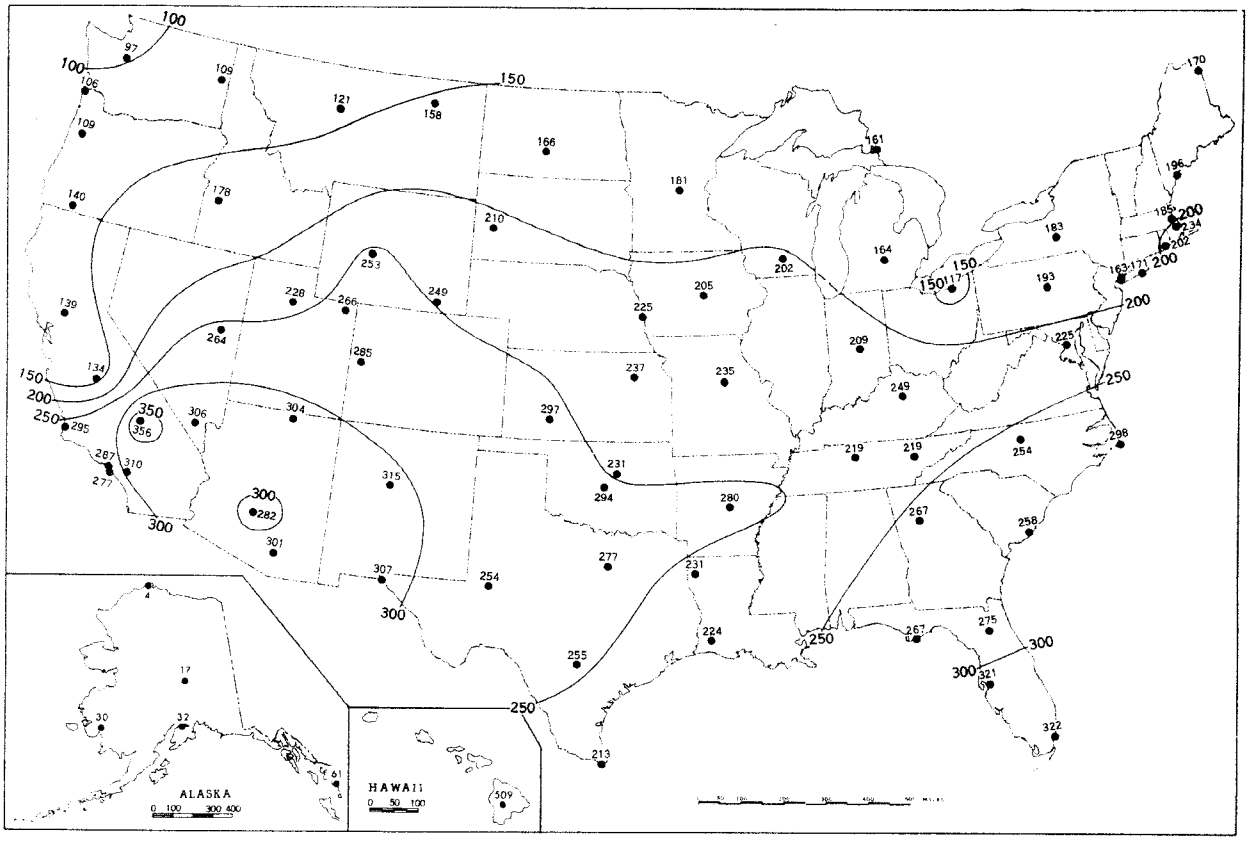


B. Percentage of Mean Monthly Sunshine, January 1961.

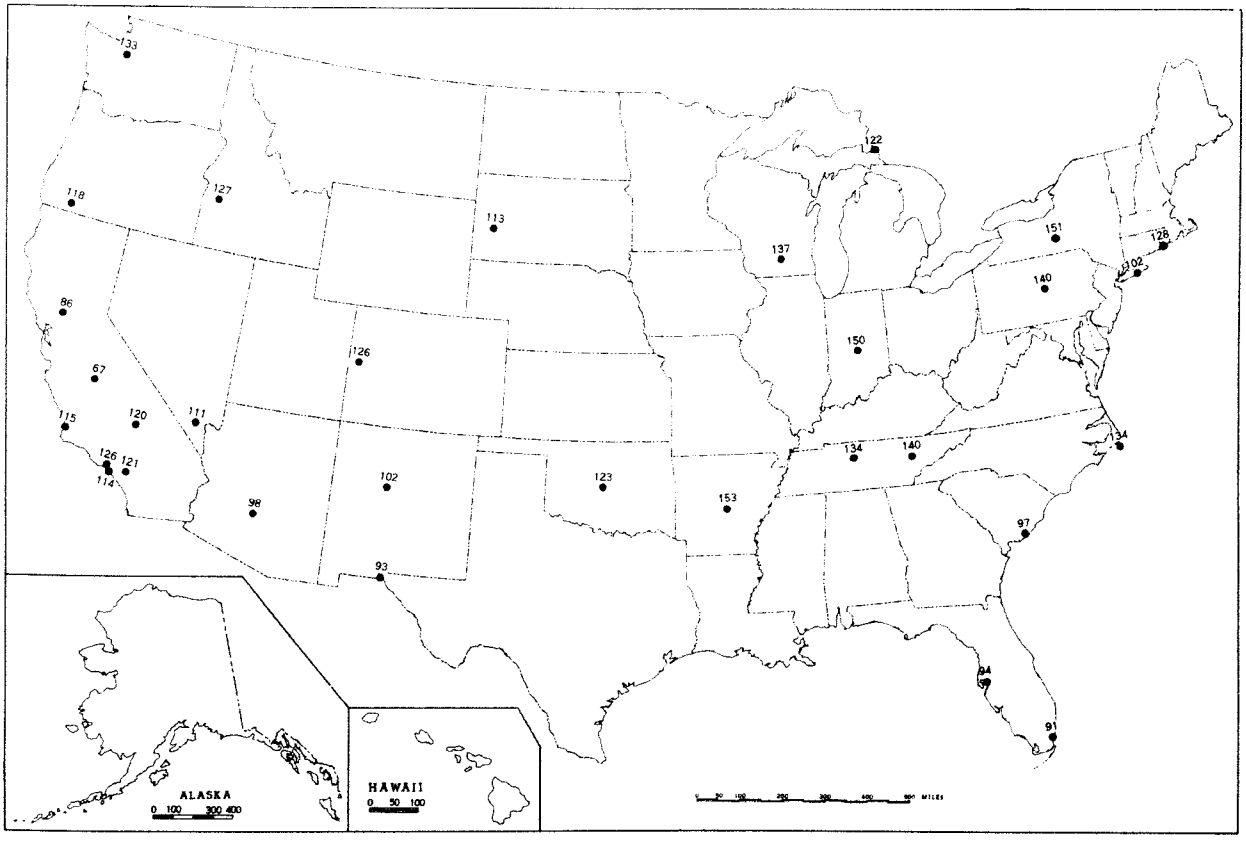


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1961.



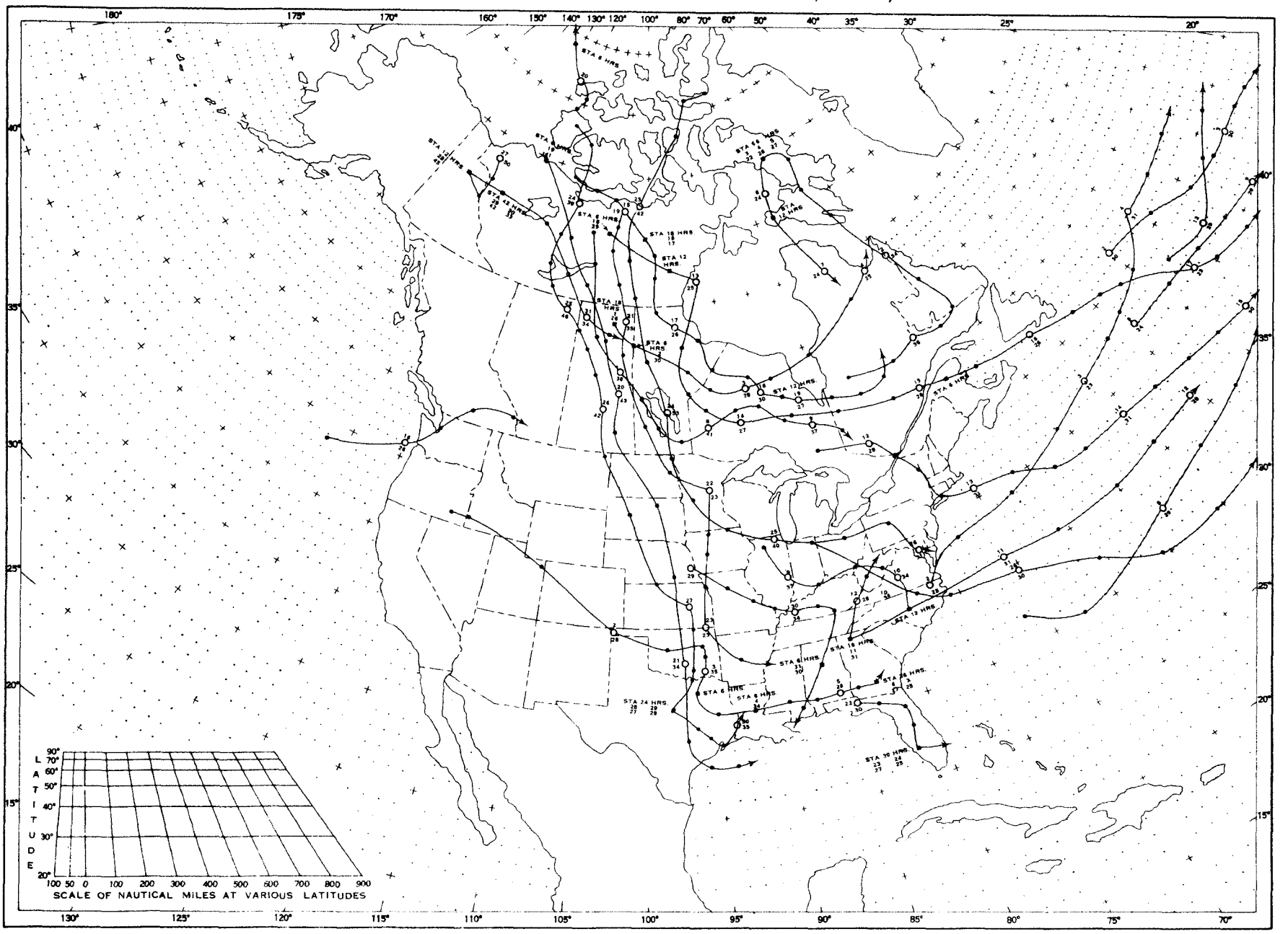
B. Percentage of Mean Daily Solar Radiation, January 1961.



A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

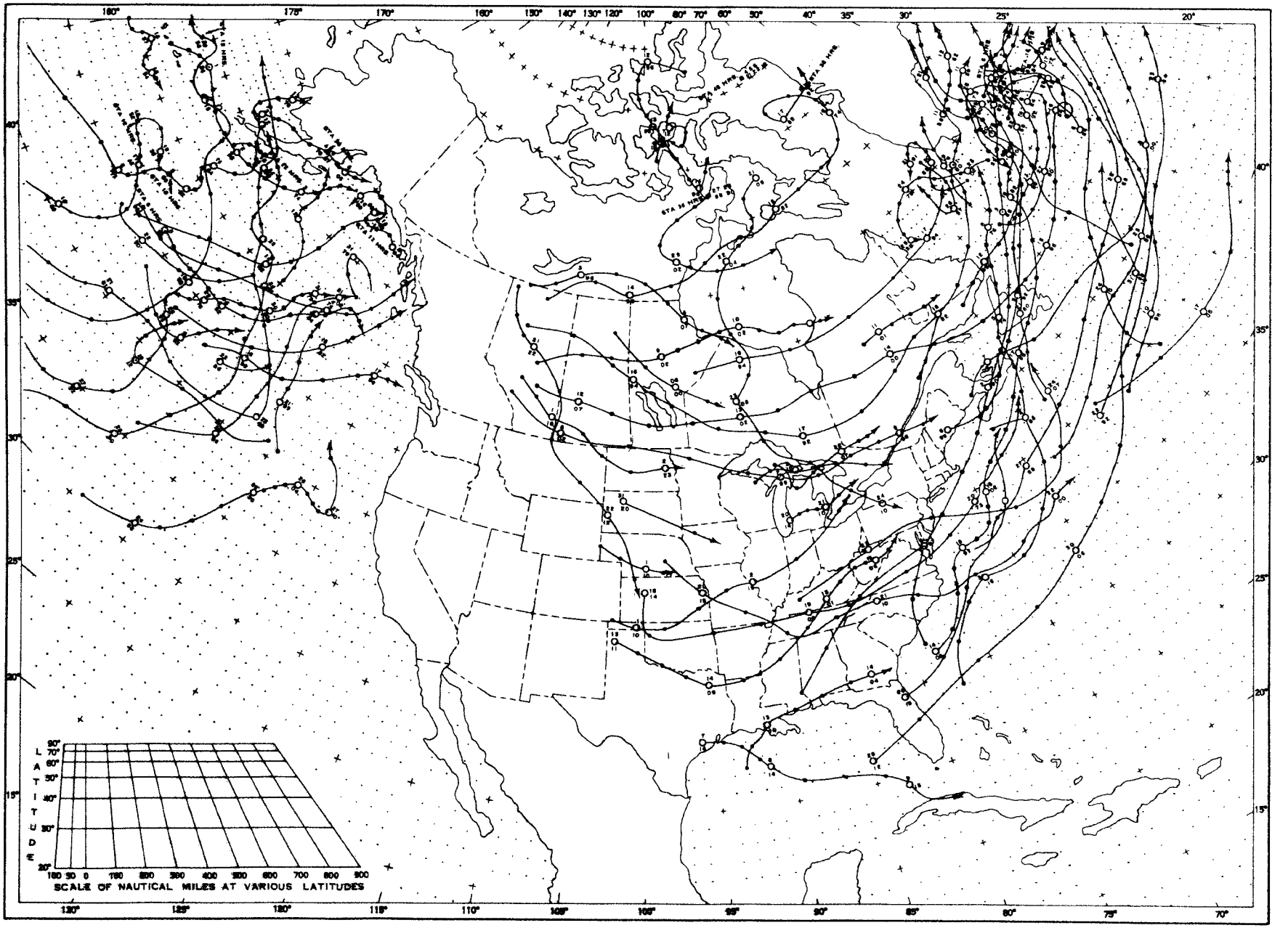
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, January 1961.



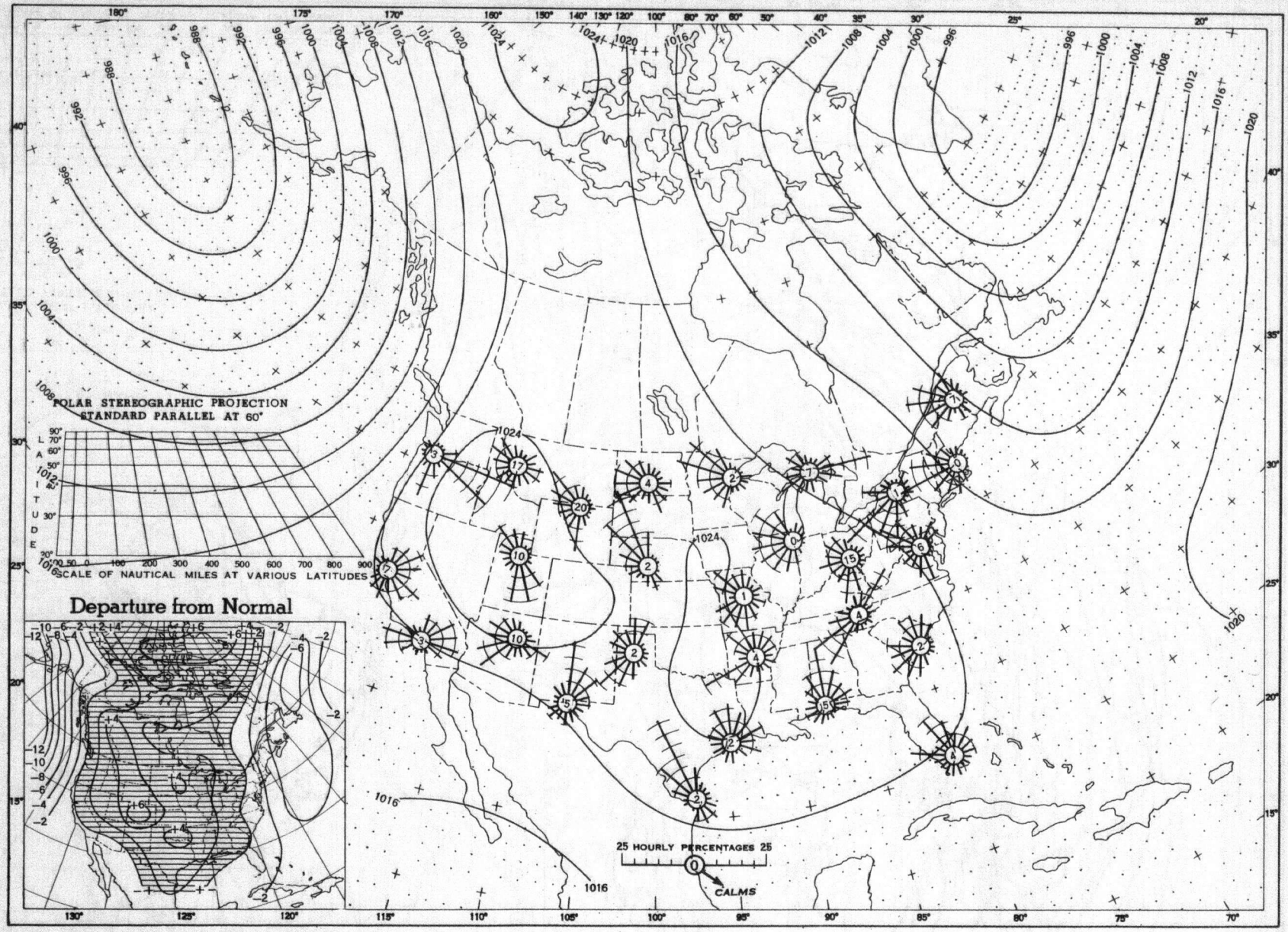
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, January 1961.



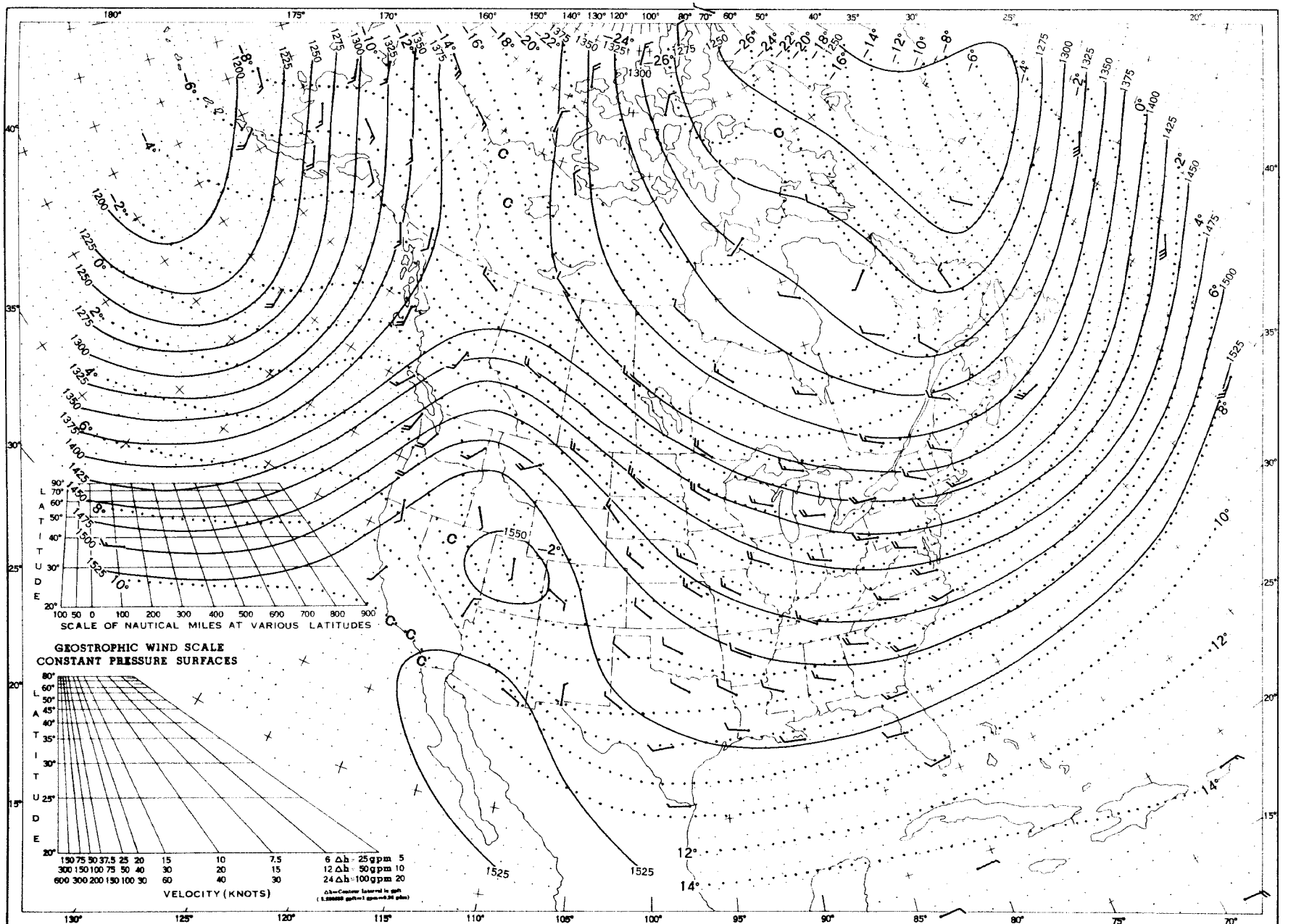
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, January 1961. Inset: Departure of Average Pressure (mb.) from Normal, January 1961.



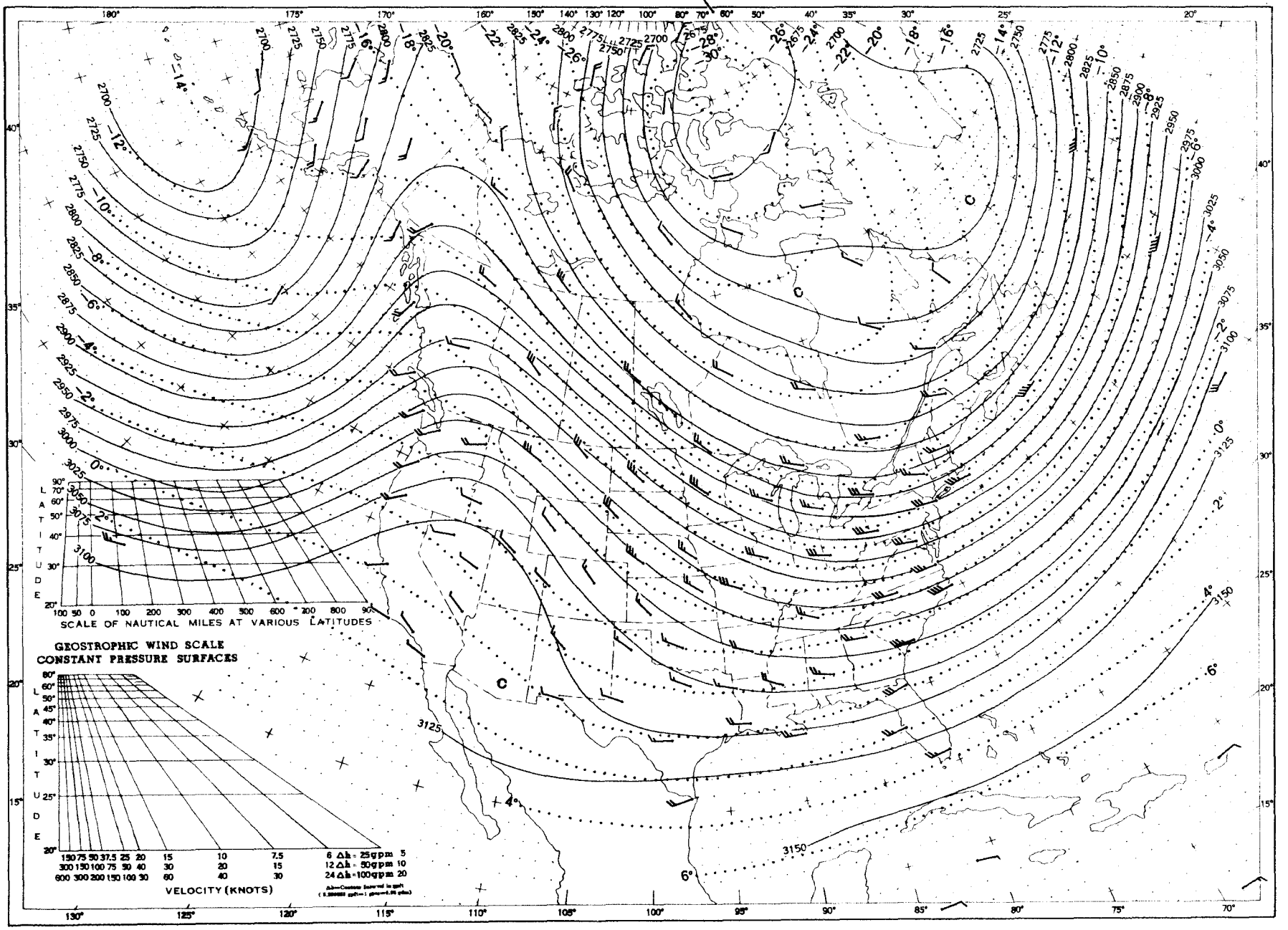
Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



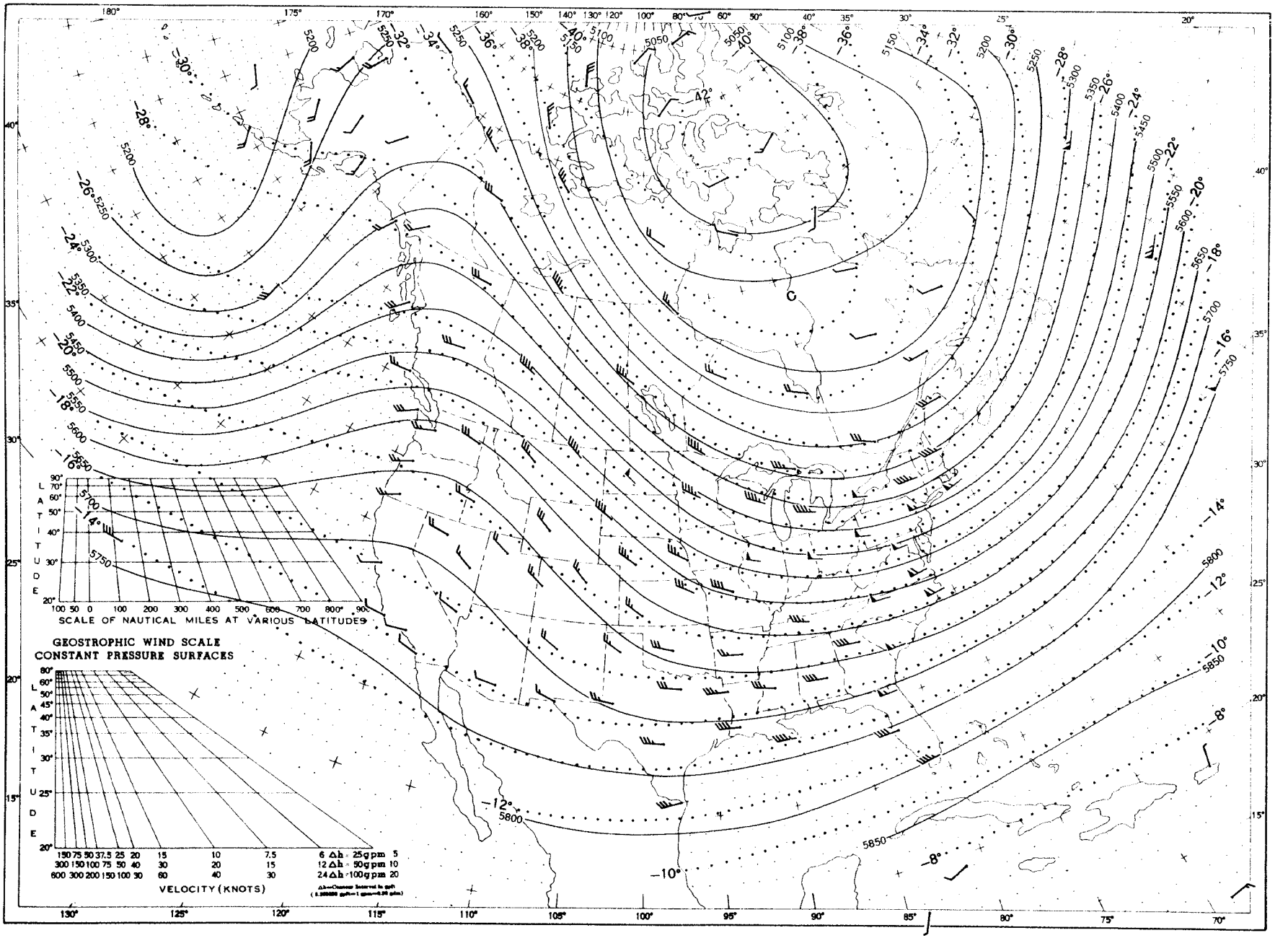
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



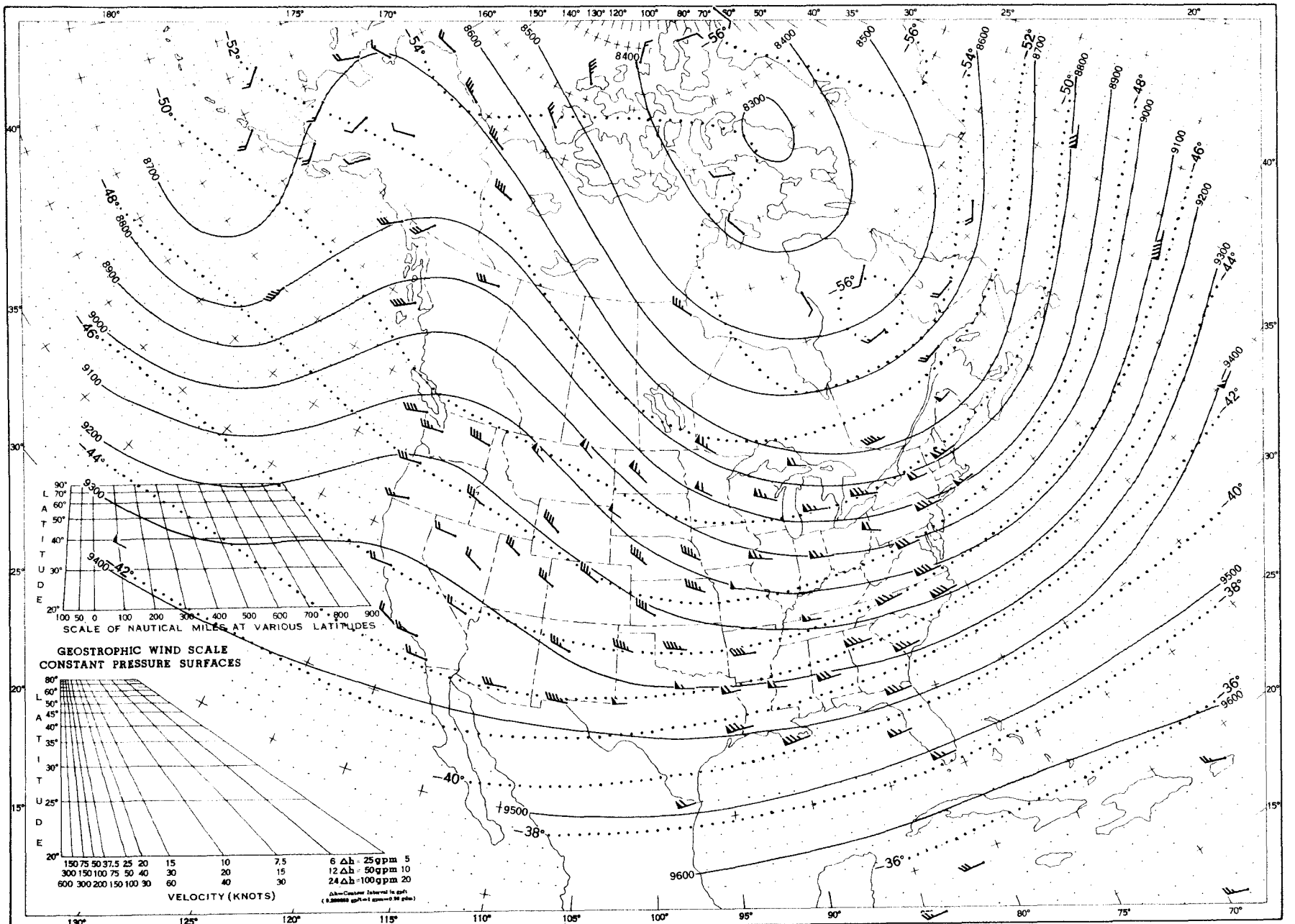
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



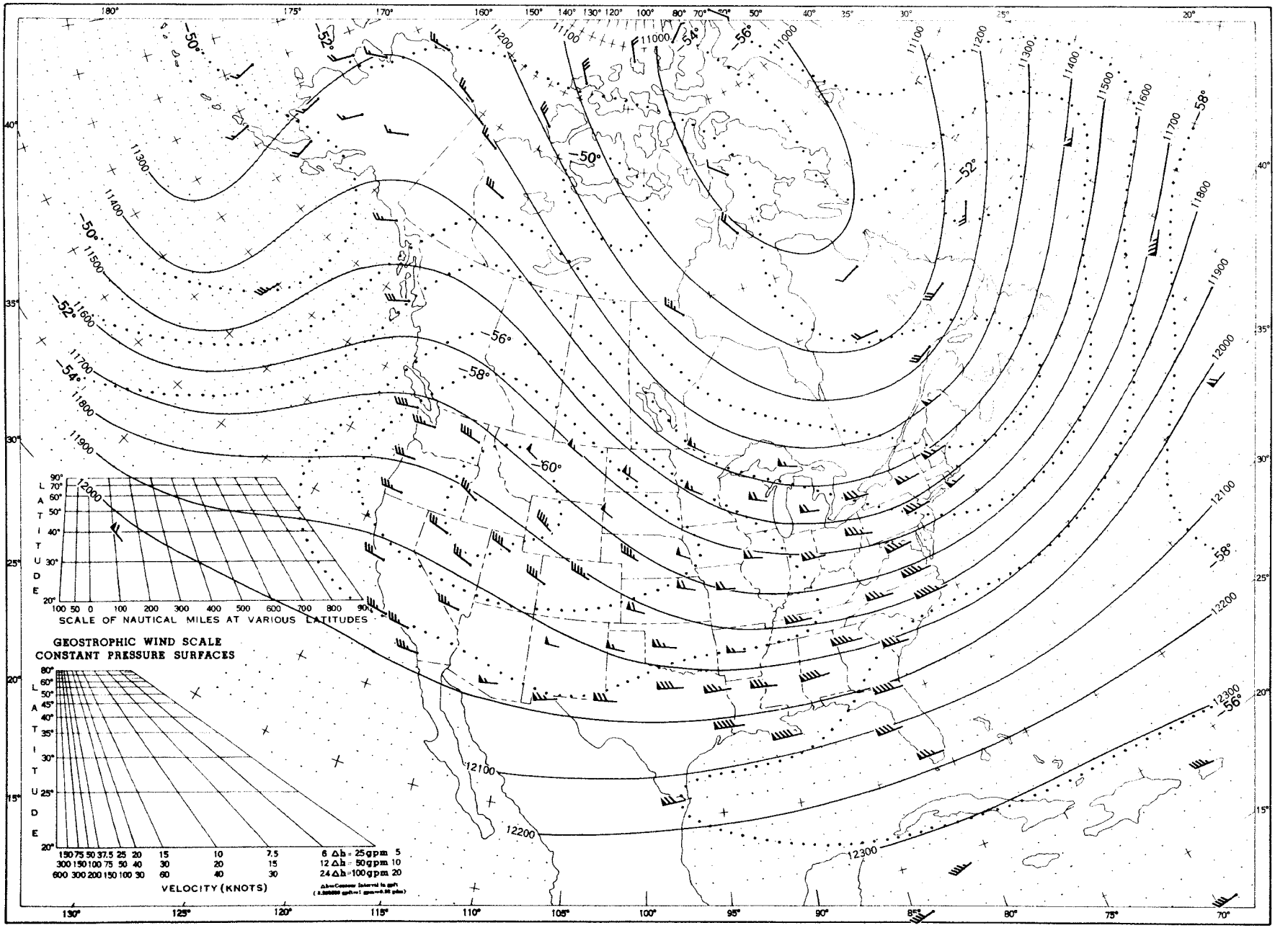
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



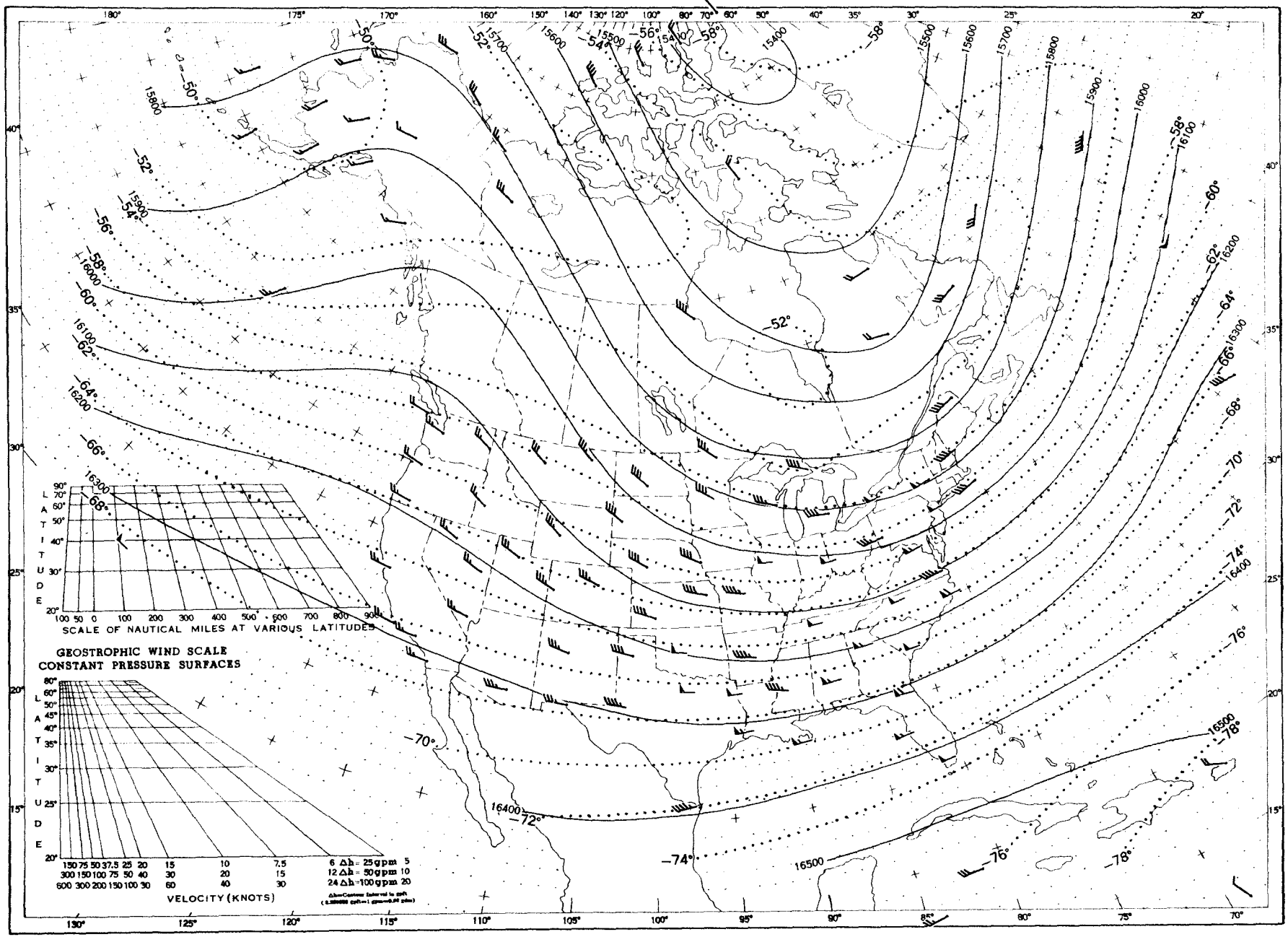
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



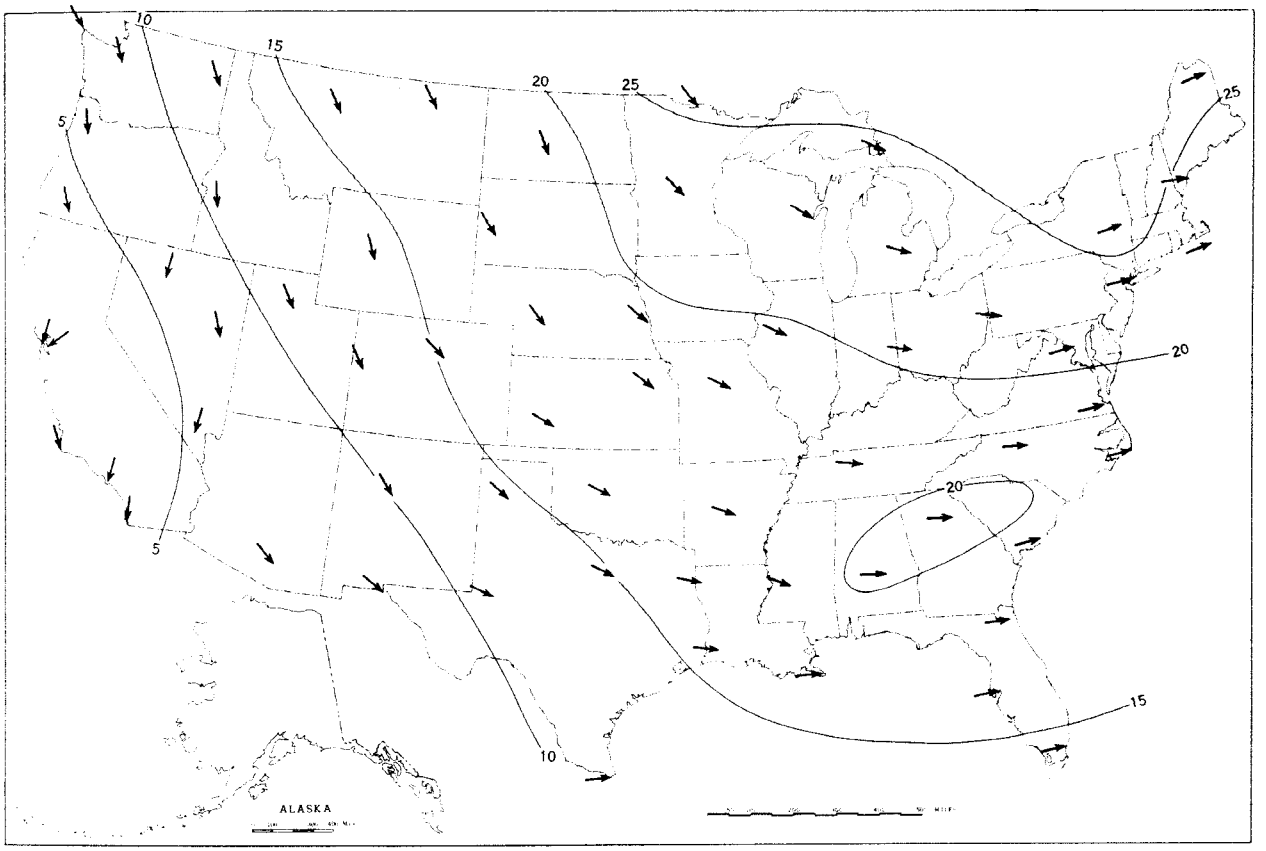
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.

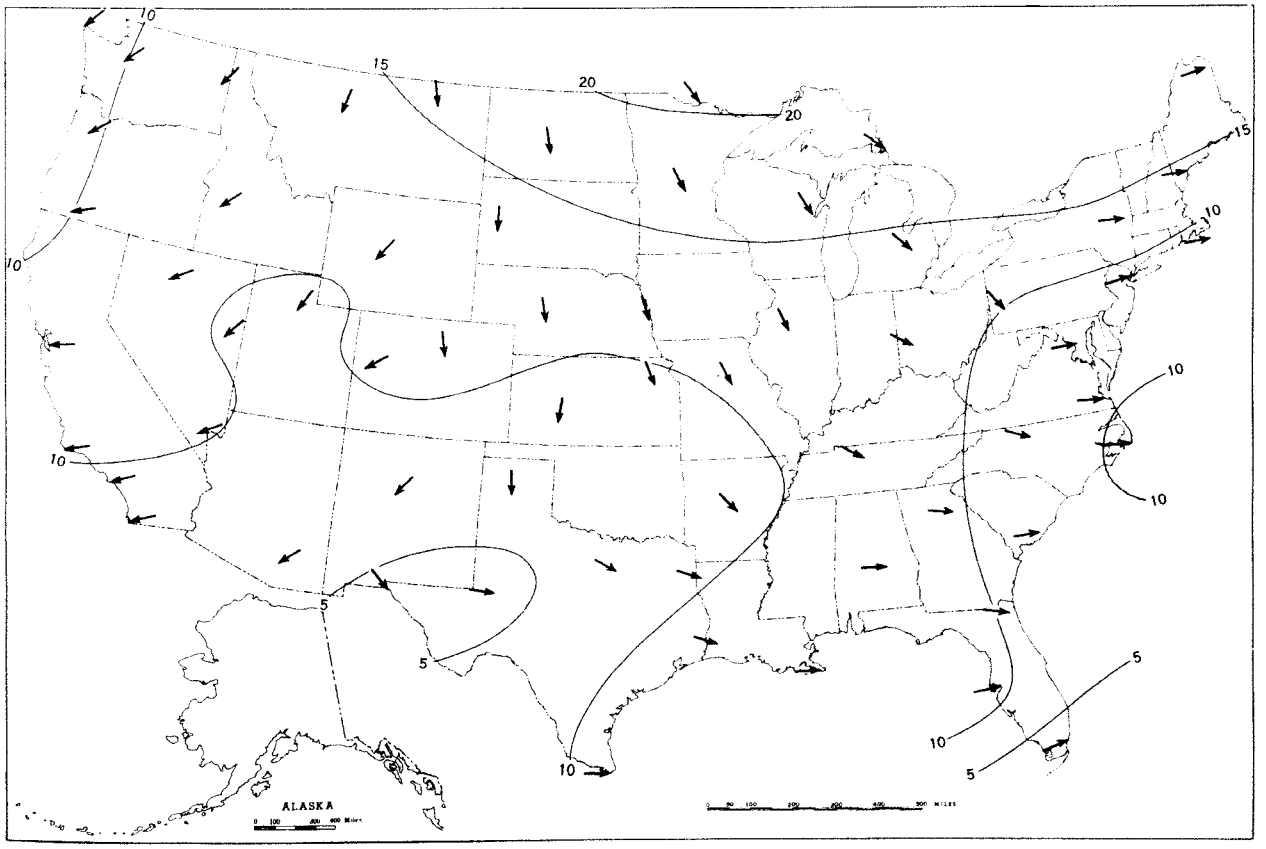


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 3/29/61 - 1850