U.S. DEPARTMENT OF COMMERCE
MAURICE H. STANS, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1969
Volume 20 No. 1

Asheville 1969

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 20 No. 1 JANUARY 1969

GENERAL SUMMARY OF WEATHER CONDITIONS

HIGHLIGHTS:

1. Record or near-record snow in the Pacific Northwest closed roads and crushed many buildings.
2. Heavy rains in California caused flooding and damaging mudslides.
3. Heavy snow from the northern Great Plains to the Northeast closed roads; glaze south of the snow area made travel hazardous.
4. Bitter cold continued in Montana where January temperatures over large areas averaged 5° below zero--22° below normal.

TEMPERATURE.--January temperatures averaged above normal over the Great Basin, the central and southern Rocky Mountains, and the southern Great Plains. Some of those areas averaged 6° to 8° warmer than normal. Northern New England and southern Florida averaged slightly warmer than normal. Most of the eastern half of the United States averaged 2° to 7° cooler than normal. The intensely cold area extended from eastern Washington across northern Idaho and Montana to North Dakota. Most of this area averaged at least 10° colder than normal.

Cold weather persisted over a large area from the Pacific Northwest to the northern Great Plains throughout almost the entire month. The cold was especially intense in northern Montana where temperatures at Great Falls remained continuously below zero for almost 2 weeks and at Havre which endured below-zero weather for 380 consecutive hours. Northern and eastern Montana experienced the coldest January in almost 2 decades. The temperature at Havre plunged to 52° below zero on the morning of the 24th and could climb to only -29° in the warmest part of the afternoon. Havre's minimum of -52° on the 24th was the coldest temperature at that station in more than half a century. Billings registered subzero temperatures every morning from the 19th to the 30th--the longest period with daily subzero minimums in 75 years.

An especially cold arctic air outbreak spread over most of Washington on the 27th, accompanied by northerly and northeasterly winds. Temperatures fell rapidly for several days. At numerous locations the minimums on the 27th were the maximums on the 28th. The coldest temperatures in the area occurred mostly on the 30th. Minimums in western Washington ranged downward to -25° on the 31st at Stevens Pass and in eastern Washington to -48° at Mazama on the 30th. The Great Basin remained warm until the last few days of the month. Cool weather predominated over most of the East during the first half of the month, but warmer weather prevailed in the last half. Florida warmed sufficiently in the last 2 weeks of January to average near normal in the north and slightly above normal in the south.

January 1969 was the coldest January in the recorded history of weather in southeast Alaska. All except the extreme southern end of the Panhandle set new alltime records for the coldest January on record. It was not a matter of extreme cold, but one of prolonged cold. Sitka with 84 years of record was 2° colder than the previous January record of 18.4°F. Because of the cold, all precipitation was in the form of snow, and extra heavy amounts did occur. However, water equivalents fell far below normal. Normal sources of water were cut off because water and sewer pipes became frozen. Water was distributed by tank trucks or in barrels. Fire hazards increased because of no water. No damage reports have been issued, but contending with the problem was costly.

PRECIPITATION.--Daily rains continued along the Washington-Oregon coast with recordbreaking snow accumulations in the Cascades. The runoff from melting snow and heavy rains sent several rivers in western Washington near or above flood stage early in the month. Mudslides damaged residences, highways, railroads, and other property. In Oregon, the heavy snows and freezing rain made travel hazardous--in some ares impossible. Heavy snow from the Pacific coast to the Blue Mountains on the weekend of January 11 and 12 closed roads and schools on the 13th. Buildings were crushed by the weight of the snow and snow-laden trees fell across powerlines knocking them down. Heavy precipitation continued in the Far West in the latter half of January. Heavy snow fell in Washington and Oregon. Snowslides blocked highways and halted traffic. Hundreds of buildings in Oregon collapsed under the weight of the snow, destroying or extensively damaging the buildings and their contents. Thousands of persons were without telephone or power service for several days while lines were being repaired. In California, heavy rains in the last half of January caused considerable loss of life besides millions of dollars property damage. At least 20 persons were drowned and 16 were buried in mudslides. Mudslides closed highways and railroads, and rising streams forced thousands of persons from their homes.

A variety of severe weather occurred over the northern Great Plains in January. Record or near-record snowfall occurred in parts of Montana. Icy roads and blizzards closed some schools for a day or so early in the second week and many schools in the last week of the month. In South Dakota, the snow, often accompanied by strong winds, and the freezing rain hampered traffic. Many schools remained closed for a day or so and social activities were postponed. Blizzards, deep drifts, and icy highways closed many roads and schools in Minnesota, Michigan, and Indiana near the end of the first week of January.

Frequent snow squalls occurred in the Northeast early in January. New York's Snowbelt received 25 to 50 inches from January 1 to 11. The snowfall ranged up to 75 inches at Mallory. Strong winds--gusting to 82 m.p.h. at Blue Hill Observatory, Milton, Mass.,--drifted the snow badly in much of the Northeast. Highways became clogged and many motorists became stranded. The strong winds in Massachusetts damaged trees and signs, broke windows, and blew down powerlines disrupting power and communications. A prolonged period of freezing rain iced almost the entire area from New York, Pennsylvania, and Virginia northeastward to Maine. Traffic slowed, walking became difficult, and hundreds of persons injured themselves in falls.

Generous rains began in the Deep South and spread northward on the 20th and 21st. Widespread thunderstorms, including a tornado, killed 32 persons and

injured 241 others besides causing extensive property damage in Mississippi on the 23d.

Numerous locations in the West and the northern and central Great Plains received record or near-record precipitation in January; however, only light sprinkles or snow flurries occurred on the eastern slopes of the Rockies and along the western edge of the Great Plains. Columbus, Ga., received only 1.22 inches during the month, the 2d lowest January amount in their 23-year record.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JANUARY 1969

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	3 Stations	78	31+	Scottsboro	3	6	Birmingham WBAP	7.78	Dothan FAA AP	0.54
Alaska	Adak	50	7	Chalkyitsik	-69	9+	Little Port Walter	11.79	2 Stations	.00
Arizona	2 Stations	85	8+	Fort Valley	-20	29	Tonto Creek Fish Htchy	8.42	Many Farms School	T
Arkansas	Little Rock WBAP	81	8	3 Stations	2	4+	Athens	12.34	Crossett 7S	1.29
California	Avila Beach	91	3	Bridgeport	-27	31	Mt Baldy Notch	53.70	Death Valley	.30
Colorado	Walsh	78	14	Taylor Park	-37	31	Wolf Creek Pass 1E	7.05	Penrose 3NNW	.00
Connecticut	Westbrook	53	31	Falls Village	-10	5	Norfolk 2SW	2.27	Colchester 1E	1.01
Delaware	Selbyville	60	31	2 Stations	6	6	Selbyville	3.95	Middletown 1WSW	1.50
Florida	Loxahatchee	88	23	Fountain 3SSE	13	6	Miami WBAP	6.66	Nittaw 1S	.11
Georgia	Bainbridge	80	31+	Blairsville Exp Sta	-1	5	Toccoa	D 7.42	Cairo 2NNW	.25
Hawaii	Keaau 92	90	3	Haleakala Summit 338.4	21	17	Honomanu Gulch 341	35.40	Puu Mali 113	1.25
Idaho	Grand View 2W	61	20	Stanley 1NNE	-28	24	Deadwood Dam	12.21	Twin Falls 3SE	.39
Illinois	Cairo WB City	62	23	Stockton	-16	1	Cairo WB City	9.91	Minonk	.77
Indiana	2 Stations	62	30+	Wabash 2SW	-23	2	Elliston	9.39	Kentland	2.13
Iowa	do	47	16	Cherokee	-29	4	Keokuk Lock and Dam 19	3.54	Norwich Exp Farm	.44
Kansas	do	73	14	Mankato	-16	1	Girard	3.15	9 Stations	.00
Kentucky	Pikeville	72	30+	4 Stations	-12	5+	Hickman 1E	12.00	Pikeville	1.42
Louisiana	Saint Bernard	81	30+	Hineston 4NNE	13	5	Grand Coteau	5.56	Winnsboro	.48
Maine	Woodland	55	24	Middle Dam	-22	28	Vanceboro No 2	5.41	Moosehead	2.13
Maryland	Leonardtown 3NW	65	9	Sines Deep Creek 2	-8	5	Snow Hill 4N	3.73	Westernport UPRC	.81
Massachusetts	2 Stations	52	31	Birch Hill Dam	-17	5	Ipswich	4.06	Bedford	.96
Michigan	5 Stations	53	30+	Beechwood 7WNW	-22	1	Benton Harbor Airport	6.10	Entrican 1W	.86
Minnesota	2 Stations	38	17+	Baudette 21SSE	-43	26	Grand Portage RS	5.66	Albert Lea	1.11
Mississippi	Liberty 1W	80	31	3 Stations	8	5	Bay Saint Louis	7.54	Goshen Springs 2NNE	.54
Missouri	3 Stations	69	22	5 Stations	-11	31+	Dexter	12.62	Maryville 2E	.48
Montana	Bozeman Mont St Univ	58	13	Hinsdale 23N	-55	25	East Glacier	9.35	Boyes	.15
Nebraska	Harrisburg 10NW	62	21	Wakefield	-27	4	Plattsmouth	2.99	2 Stations	.13
Nevada	Hawthorne Babbitt	75	7	Midas 4SE	-18	9	Mt Rose-Christmas Tree	15.64	Montello	.31
New Hampshire	Grafton	52	22	First Conn Lake	-27	1	Mount Washington	8.60	Marlow	D .90
New Jersey	Atlantic City WBAP	55	31	High Point Park	-5	29	Cape May 1NW	3.81	Paterson	.55
New Mexico	Bitter Lakes WL Ref	85	8	Gavilan	-21	30	Chama	5.06	36 Stations	.00
New York	Fredonia	59	23	Old Forge	-20	28	Griffiss AFB	7.56	Plattsburgh	.51
North Carolina	3 Stations	78	31+	Grandfather Mountain	-7	1	Lake Toxaway 2SW	7.57	Pinehurst SRN-Pines	1.19
North Dakota	Hettinger	46	5	Lostwood 12N	-45	1	Selfridge	5.41	Golden Valley 10S	.21
Ohio	3 Stations	64	30+	Toledo Sewage	-16	5	Fernbank Cincinnati	5.05	Canfield 1S	1.29
Oklahoma	Boswell 5NNW	87	8	Hulah Dam	-2	1	Broken Bow 1N	7.89	2 Stations	.00
Oregon	2 Stations	65	6	Seneca	-25	25+	Illahe 1N	22.45	Prineville 4NW	1.10
Pennsylvania	Farrell Sharon	66	23	2 Stations	-12	5	Johnstown	5.37	Covington 2WSW	.25
Puerto Rico	2 Stations	91	16+	do	54	19+	Rio Blanco Upper	15.94	Caonillas Villalba	.00
Rhode Island	Newport	50	31	Greenville	3	28	Greenville	2.43	Block Island WBAP	.88
South Carolina	2 Stations	78	31	2 Stations	5	6	Salem	6.64	Charleston WBAP	1.19
South Dakota	3 Stations	57	22+	Camp Crook	-35	25	Canistota 2N	1.82	Longvalley	T
Tennessee	Kingston Springs 2NNE	78	10	Mountain City No 2	-10	5	Union City	9.37	Sevierville 1SE	1.21
Texas	2 Stations	95	22+	Perryton 5NNE	-1	1	Boxelder	7.21	40 Stations	.00
Utah	Wah Wah Ranch	74	7	3 Stations	-20	31+	Silver Lake Brighton	12.39	Fish Springs Refuge	.02
Vermont	Enosburg Falls	49	23	2 Stations	-20	29+	Mount Mansfield	D 4.78	Gilman	.85
Virginia	Grundy 3NW	72	30	Burkes Garden	-12	5	Luray 5E	5.13	Dale Enterprise	1.08
Washington	Quilcene 2SW	59	4	Mazama	-32	23	Stampede Pass WB	30.42	Moses Lake 3E	.37
West Virginia	Williamson	72	30	2 Stations	-12	5	Alpena 1NW	4.37	Moorefield 2SSE	.91
Wisconsin	Kenosha	47	23	Jump River 5E	-33	4	Gurney	4.21	Milwaukee N Side	D .99
Wyoming	Yoder	64	7	Recluse 14NNW	-35	24	Moran 5WNW	6.17	4 Stations	T

+ And also on an earlier date or dates.

NOTE: Dates in the above table 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).

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

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
ALABAMA																																
BIRMINGHAM	620	998.3	1021.4	52	34	42.6	- 3.9	67	30	11	5	0	17	31	68	7.78	2.75	3.95	12	1	T	0	1.7	8	23	S	8	3	5	23	8.2	39
HUNTSVILLE	624	998.0	1021.6	47	31	39.3	- 3.6	65	30	10	5	0	18	31	75	7.38	2.16	2.95	11	1	T	0	2.6	8	25	15	23	4	6	21	7.9	
MOBILE	211	1011.9	1019.9	61	42	51.5	- 1.5	76	9	20	5	0	10	41	71	2.79	- 1.85	1.33	8	1	0.0	0	3.5	8	25	18	8	4	8	19	7.8	
MONTGOMERY	183	1013.9	1021.2	58	37	47.5	- 0.6	76	31	19	5	0	15	36	71	1.85	- 2.21	1.34	9	0	0.0	0	1.4	5	24	S	8	4	6	21	8.0	44
ALASKA																																
ANCHORAGE	114	1011.5	1016.7	12	- 3	4.6	- 7.5	25	30	-16	5	0	31	- 5	63	0.28	- 0.52	0.16	4	0	6.5	18	3.1	36	33	1	9	11	7	13	5.3	54
ANNETTE	110	1006.4	1010.6	27	15	21.2	-13.2	45	3	5	28+	0	30	11	66	3.39	- 7.97	1.38	13	0	23.2	14	5.9	4	37	14	3	13	4	14	5.4	
BARROW	31	1023.7	1024.3	- 6	-19	-12.7	3.5	26	24	-43	9+	0	31	-17	80	0.12	- 0.06	0.06	6	0	1.8	10	5.2	11	32	11	23	V	V	V		
BARTER ISLAND	39	1023.7	1025.7	-10	-23	-16.4	0.4	21	25	-44	8+	0	31	-25	65	0.02	- 0.38	0.02	1	0	0.4	6	3.6	22	43	27	5	X	X	X		
BETHEL	125	1012.9	1018.8	14	4	9.1	5.5	35	26+	-22	3+	0	31	5	82	0.41	- 0.71	0.16	8	0	13.5	13	3.1	10	32	22	28+	6	2	23	7.7	
BETTLES	644	1000.3	1028.4	-17	-31	-23.6		15	25	-62	2	0	31			0.13		0.04	6	0	1.6	24	3.2	36	15	2	7	11	7	13	5.4	
BIG DELTA	1268	973.9	1028.3	-17	-29	-22.6		6	25	-52	12+	0	31	-28	75	0.36		0.18	6	0	3.0	5	6.8	12	28	11	29	15	4	12	4.7	
COLD BAY	96	1014.2	1018.2	36	28	31.8	4.0	49	22	8	3	0	16	27	83	3.75	1.43	0.54	21	0	10.1	4	5.3	18	48	17	28+	2	4	25	8.5	
FAIRBANKS	436	1007.8	1027.0	-19	-34	-26.7	-15.6	13	23	-61	2	0	31			0.55	- 0.34	0.27	5	0	10.8	25	0.7	3	9	3	3	6	13	12	6.6	
FAREWELL	1499			2	-19	- 8.7		32	27	-46	2	0	31			1.06		0.52	6		7.6	7										
GULKANA	1572	960.4	1026.0	-13	-29	-20.5		5	31	-47	17	0	31	-29	65	0.12		0.04	5	0	2.4		3.0	2	36	4	8	17	3	11	4.3	
HOMER	67			21	6	13.2		37	29	- 8	12+	0	31			0.39		0.16	5	0	6.7	6						14	2	15	5.5	
ILIAMNA	186			10	- 2	3.8		32	29	-30	2	0	31			0.99		0.35	6		17.2	30						12	4	15	5.6	
JUNEAU	12	1014.2	1015.0	15	- 2	6.8	-18.3	35	3	-14	18	0	31	- 3	64	0.94	- 3.06	0.21	7	0	28.2	20	8.2	9	29	12	30+	13	6	12	4.8	61
KING SALMON	49	1015.9	1017.8	14	0	6.9	- 6.5	35	27	-24	3+	0	31	- 1	68	0.65	- 0.42	0.31	5	0	6.1	5	1.9	36	31	17	27	9	5	17	6.3	
KOTZEBUE	10	1020.7	1021.1	6	- 3	1.6	7.3	31	24+	-32	2	0	31	- 7	66	0.22	- 0.17	0.05	12	0	4.9	10	18.4	11	44	11	29+	6	2	23	7.7	
MC GRATH	344	1010.2	1024.1	- 5	-20	-12.6	- 3.6	28	22	-55	2	0	31	-20	69	0.32	- 0.94	0.13	8	0	10.1	17	0.6	10	14	5	3	10	3	18	6.5	
NENANA	356			-20	-35	-27.4		15	25	-66	2	0	31			0.47		0.24	6	0	7.1				21	30	8	15	4	12	4.9	
NOME	13	1016.9	1017.7	17	6	11.6	7.2	34	23	-25	2	0	31	8	83	0.55	- 0.47	0.08	18	0	5.5	11	11.5	10	40	15	26	2	4	25	8.7	17
ST. PAUL ISLAND	22	1011.9	1012.8	35	28	31.7	6.3	40	25	13	2	0	24	29	87	2.25	0.44	0.35	27	0	11.7	4	9.3	20	63	20	25	3	2	26	8.6	
SHEMYA	122	996.3	1000.0	35	28	31.9	0.6	44	8	18	18	0	23	27	80	4.63	2.13	1.08	24	0	15.5	5	17.2	21	69	20	8	0	9	22	8.5	
SUMMIT	2401	926.9	1024.2	- 2	-13	- 7.7		18	27	-27	12+	0	31	-16	68	0.56		0.27	7	0	6.6	11	14.5	3	38	6	3	13	7	11	5.2	
TALKEETNA	345	1004.1	1018.1	10	-11	- 0.9		22	30	-27	2	0	31	-11	63	0.44		0.22	5	0	8.3	15	3.5	1	22	5	8	13	6	12	4.9	
TANANA	232			-19	-31	-25.1		12	25	-63	2+	0	31			0.46		0.26	9		8.0	23			21	11	29	13	2	16	5.5	
UNALAKLEET	15	1019.6	1020.1	10	- 2	4.2		34	23	-42	3	0	31			0.15		0.05	8	0	4.1	21	19.5	8	41	9	29+	5	4	22	7.6	
YAKUTAT	28	1010.5	1011.6	18	- 5	6.8	-20.5	34	3	-20	13	0	31	- 2	68	3.56	- 7.30	1.34	9	0	39.9	57	4.3	9	29	14	30	13	7	11	5.1	
ARIZONA																																
FLAGSTAFF	7006	784.6	1016.2	41	22	31.8	4.5	61	6	-10	30	0	27	20	64	4.63	2.80	1.30	13	0	12.0	6	5.9	21	21	21	29+	5	7	19	7.2	
PHOENIX	1117	975.6	1014.9	66	44	54.9	5.2	75	26	27	31	0	2	41	66	1.37	0.64	0.89	7	1	0.0	0	2.5	12	24Y	NW	29	10	4	17	6.1	68
TUCSON	2584	925.8	1014.4	68	43	55.5	5.7	82	8	27	31+	0	2	35	53	0.74	- 0.08	0.63	6	0	0.0	0	3.2	15	26	E	4+	10	9	12	5.4	82
WINSLOW	4895	850.0	1016.9	51	28	39.4	8.4	64	12	5	30	0	21	26	64	0.12	- 0.31	0.11	3	0	T	T	4.7	20	39	20	21	6	10	15	6.4	
YUMA	194	1007.5	1014.9	70	49	59.6	6.2	80	7	33	30	0	0	39	53	0.68	0.29	0.51	4	0	0.0	0	1.4	3	30	SE	21	14	4	13	5.3	69
ARKANSAS																																
FORT SMITH	447	1002.4	1019.3	51	31	40.7	0.9	78	22	14	4+	0	19	28	67	2.84	0.18	1.55	7	1	0.0	0	3.5	7	29	NW	8	2	7	22	8.3	39
LITTLE ROCK	257	1009.8	1019.8	53	34	43.5	2.9	81	8	16	4	0	15	32	66	8.06	2.84	5.18	11	4	T	T	1.6	9	40	W	23+	3	5	23	8.1	37
CALIFORNIA																																
BAKERSFIELD	475	999.3	1017.1	54	43	48.9	1.5	73	20	31	30+	0	2	42	78	2.12	0.95	0.54	13	0	0.0	0	0.7	8	24	2	26	1	3	27	9.2	
BISHOP	4108	871.0		53	24	38.5	1.7	71	6+	2	30	0	26			8.93	7.94	2.75	11		23.2	23						7	7	17	6.7	
BLUE CANYON	5280			40	30	34.9	- 2.2	65	5+	10	29+	0	21			32.41	20.71	4.82	20		73.8	46			46	18	26	3	3	25	8.5	
EUREKA U	43			50	38	44.0	- 3.4	59	3	29	23	0	2			13.92	7.22	3.18	22		0.2	T			35	SW	26	5	2	24	8.1	34
FRESNO	328	1004.7	1016.8	50	40	44.8	- 1.3	64	20	31	31+	0	5	39	81	8.56	6.53	2.59	14	2	T	0	2.5	13	25	SE	21	1	3	27	9.2	14
LONG BEACH	34	1014.6	1016.0	65	49	57.3	4.2	87	3	34	30	0	0	46	71	11.24	9.25	3.04	12	0	0.0	0	2.2	20	28	18	21	4	7	20	7.5	
LOS ANGELES	97	1011.9	1015.5	63	51	56.9	2.5	82	5	39	30	0	0	47	73	9.60	6.94	3.96	12	2	0.0	0	1.6	20	35Y	S	21	4	10	17	7.3	
LOS ANGELES U	270			65	52	58.3	2.5	83	5	39	29	0	0			14.94	11.87	4.35	12		0.0	0			31	SW	21	5	6	20	7.0	65
MT SHASTA R	3544			38	23	30.8	- 2.5	47	20	6	29	0	27			9.78	3.42	2.39	20		53.9	32										
OAKLAND	6	1015.2	1015.5	53	43	48.2	0.2	61	20+	35	10	0	0	43	82	6.90	3.07	1.55	17	3	0.0	0	2.8	17	32	21	26	4	8	19	7.7	
RED BLUFF	342	1002.0	1014.9	49	36	42.5	- 3.0	59	20	24	29	0	8	36	81	7.02	2.73	1.76	15	1	T	T	3.8	18	57	SE	26	1	8	22	8.3	29
SACRAMENTO	17	1014.9	1015.8	50	38	44.0	- 1.2	61	25	28	10	0	6	39	86	8.50	5.32	1.74	16	2	0.0	0	4.3	18	32	W	26	3	4	24	8.4	34
SANDBERG R	4517	860.5		48	35	41.5	1.6	71	6	17	29	0	10			7.43	4.88	2.36	11		0.3	T			64	20	20	4	6	21	7.6	
SAN DIEGO	13	1014.9	1015.9	64	52	58.1	3.1	86	4	38	30	0	0	48	72	4.78	2.77	2.10	13	0	0.0	0	2.0	20	30	S	21	8	5	18	6.6	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	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
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CALIFORNIA																																
SAN FRANCISCO	8	1014.9	1015.6	53	41	47.1	- 1.5	63	19	33	29+	0	0	41	81	8.92	4.91	2.06	17	1	0.0	0	2.8	18	49	S	25	2	10	19	7.9	
SAN FRANCISCO U	52			53	44	48.6	- 2.1	61	20+	38	29	0	0			7.74	3.19	1.83	17		0.0	0			34	SW	26+					42
SANTA MARIA	236			62	44	53.2	3.0	76	4	31	29	0	1			7.09	4.25	1.94	14		0.0	0						3	8	20	7.6	
STOCKTON	22	1015.6	1016.5	49	39	43.8	- 0.9	63	25	27	10	0	6	40	86	6.24	3.69	1.29	16	0	0.0	0	4.7	16	32	27	26	2	7	22	8.5	
COLORADO																																
ALAMOSA	7536	767.4		42	6	24.0	6.6	54	14	- 9	1	0	31			0.16	- 0.10	0.09	5		3.5	1						8	13	10	5.6	
COLORADO SPRINGS	6145	804.9	1013.1	47	20	33.4	4.8	64	7	0	24+	0	29	15	53	0.11	- 0.18	0.09	3	0	5.7	3	2.4	5	38	33	31	7	5	19	7.0	
DENVER	5283	829.7	1010.4	50	20	35.0	6.5	69	7	- 5	24	0	31	18	60	0.17	- 0.38	0.09	4	0	2.8	2	2.0	20	46	SW	8	7	6	18	6.7	64
GRAND JUNCTION	4855	850.0	1017.5	38	19	28.5	2.5	51	26+	2	9	0	27	22	77	1.03	0.39	0.41	11	2	3.4	3	1.5	9	29	W	21	5	7	19	7.6	49
PUEBLO	4684	850.7	1012.1	51	22	36.5	6.5	69	7	5	24	0	29	19	54	0.04	- 0.27	0.03	3	0	1.1	1	1.8	29	34	NE	8	7	10	14	6.3	67
CONNECTICUT																																
BRIDGEPORT	7	1019.0	1019.6	37	25	30.6	0.4	52	31	8	28	0	26	19	64	1.21	- 2.48	0.70	9	0	0.5	T	7.9	33	42	30	1	12	6	13	5.7	
HARTFORD	169	1012.2	1018.9	32	16	24.0	- 2.0	43	22	- 1	5	0	30	13	63	1.19	- 2.39	0.62	10	0	3.4	5	5.7	31	37	NW	1	10	6	15	6.2	61
NEW HAVEN	6	1019.0		36	22	28.7	- 0.9	50	31	5	28	0	28			1.36	- 2.60	0.67	9		1.7	1			36	W	1	12	4	15	5.8	63
DELAWARE																																
WILMINGTON	74	1018.0	1021.0	38	24	30.8	- 2.6	48	31+	12	6+	0	23	18	61	1.68	- 1.72	0.50	11	0	2.9	3	5.7	29	39	27	1	10	5	16	6.2	
DIST. OF COLUMBIA																																
WASH NATL AP	10	1019.6	1021.9	41	27	34.2	- 2.7	60	9	13	5	0	20	20	58	1.69	- 1.34	0.89	10	0	0.2	T	5.1	32	31	NW	1	11	5	15	6.1	54
FLORIDA																																
APALACHICOLA U	13			59	46	52.3	- 2.8	72	24	29	6	0	3			0.84	- 2.30	0.35	5	2	0.0	0			27	SE	19	6	6	19	7.1	54
DAYTONA BEACH	31	1019.3	1020.5	67	49	58.0	- 1.2	78	24+	35	2	0	0	48	72	1.53	- 0.43	0.63	10	0	0.0	0	3.3	36	26	35	12+	3	13	15	7.1	
FORT MYERS	15	1019.0	1019.1	73	53	62.8	- 0.7	80	24	41	7	0	0	55	79	1.44	- 0.08	0.40	5	0	0.0	0	4.6	6	23	22	4	9	11	11	5.4	
JACKSONVILLE	20	1020.0	1021.0	64	44	54.2	- 1.7	80	24	32	2	0	1	43	70	0.84	- 1.61	0.46	6	1	0.0	0	2.9	1	33	N	12	4	13	14	6.9	49
KEY WEST	4	1016.9	1017.6	74	67	70.2	0.6	78	25+	60	8	0	0	63	79	3.85	2.32	2.14	9	4	0.0	0	8.7	6	29	SE	17	8	10	13	6.0	60
LAKELAND U	214			69	50	59.7	- 2.0	81	24	39	2	0	0			3.35	1.30	2.59	9		0.0	0						9	15	7	5.5	67
MIAMI	7	1017.6	1018.0	74	61	67.6	0.7	79	25+	50	8	0	0	58	72	6.66	4.63	1.43	9	2	0.0	0	4.8	7	25	11	20	6	10	15	6.6	
ORLANDO	108	1015.9	1020.3	70	49	59.8	- 0.6	81	24	38	2	0	0	50	76	2.22	0.22	1.65	5	0	0.0	0	4.6	5	23	11	29	4	13	14	6.9	
PENSACOLA	112	1015.9	1020.0	60	43	51.2	- 2.3	73	31	24	5	0	7	41	69	1.82	- 2.40	0.91	8		0.0	0	4.1	7	33	N	4	2	6	23	8.3	48
TALLAHASSEE	55	1018.6	1021.0	64	39	51.8	- 2.1	78	31+	18	6	0	12	39	68	0.40	- 3.02	0.23	5	1	0.0	0	1.7	5	18	16	18+	5	6	20	7.4	
TAMPA	19	1019.3	1019.5	69	48	58.5	- 2.7	78	28	36	7	0	0	49	73	1.78	- 0.35	1.35	5	0	0.0	0	4.2	6	18	33	6+	6	10	15	6.5	65
WEST PALM BEACH	15	1018.0	1018.7	73	57	65.1	- 1.8	81	20	43	8	0	0	55	70	3.59	1.11	1.65	10	0	0.0	0	4.1	6	32	35	1	4	10	17	7.2	
GEORGIA																																
ATHENS	802	991.9	1021.7	51	32	41.6	- 3.0	68	30	14	6	0	16	27	62	4.95	0.06	3.86	13	3	T	0	1.4	34	21	7	20	3	9	19	7.6	
ATLANTA	1010	983.7	1021.6	50	31	40.2	- 4.5	70	30	10	5	0	19	28	68	2.85	- 1.59	1.65	12	1	T	0	1.8	3	28	NW	1	3	6	22	8.1	46
AUGUSTA	136	1016.3	1021.7	56	32	43.9	- 3.7	73	18	11	6	0	17	30	64	1.98	- 1.01	1.90	6	0	T	0	0.7	33	23	30	7	3	9	19	7.6	
COLUMBUS	385	1007.1		55	36	45.4	- 2.4	70	30+	14	6	0	15	32	64	1.22	- 2.84	0.88	9	0	0.0	0	2.2	4	18	8	27	2	5	24	8.5	
MACON	354	1008.5	1021.8	56	33	44.5	- 4.7	77	24	11	6	0	15	29	59	1.85	- 1.52	1.55	8	1	0.0	0	1.3	1	18	NW	24+	2	7	22	8.1	41
ROME	637			49	29	38.6	- 3.5	68	30	6	5	0	19			4.71	- 0.80	2.14	15		0.1	T										
SAVANNAH	46	1020.0	1021.6	59	36	47.4	- 4.3	77	31	21	15	0	13	34	66	1.77	- 1.01	1.32	6	2	0.0	0	2.3	2	25	W	7	4	10	17	7.4	63
HAWAII																																
HILO	27	1009.5	1010.8	79	63	71.4	0.6	87	8	54	23	0	0	61	73	19.66	7.84	9.03	11	0	0.0	0	1.7	26	24	NW	19	4	13	14	6.9	35
HONOLULU	7	1010.5	1010.9	77	61	69.1	- 3.4	82	31	52	20	0	0	60	77	8.20	4.44	4.53	11	1	0.0	0	3.3	35	28	NE	30+	9	11	11	5.8	61
KAHULUI	48	1008.5	1010.8	78	60	68.8	- 3.3	83	2	48	20	0	0	61	77	7.75	4.61	2.14	15	0	0.0	0	0.6	6	29	E	31	11	10	10	5.5	63
LIHUE	103	1006.4	1011.7	73	59	65.8	- 5.1	78	2+	50	22	0	0	58	78	4.97	- 0.54	1.58	14	2	0.0	0	2.4	33	25	E	29	10	10	11	5.5	50
IDAHO																																
BOISE	2838	910.6	1012.3	41	27	34.3	5.2	55	13	5	29	0	21	26	73	3.50	2.18	0.97	21	0	14.4	6	4.7	13	41	SW	26	3	2	26	8.5	26
LEWISTON	1413			30	18	23.6	- 7.1	45	4	- 2	25	0	29			2.98	1.88	1.02	20		22.9	9						1	2	28	9.3	
POCATELLO	4454	858.1	1013.9	38	21	29.1	6.8	51	13+	0	24+	0	24	20	70	1.80	0.59	0.41	17	0	7.7	4	9.6	20	41	S	20	1	4	26	8.9	35

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
ILLINOIS																																
CAIRO U	314			43	29	35.7	- 1.7	62	23	8	4	0	26			9.91	5.45	4.73	16		10.5	9			35	S	23	5	6	20	7.5	33
CHICAGO O HARE	658	994.6	1020.3	28	14	21.1	- 3.1	52	23	- 8	4	0	26	14	75	1.62	- 0.20	0.33	11	0	3.7	7	4.2	23	38	25	24	5	5	21	7.4	
CHICAGO MIDWAY	607	996.6	1020.3	29	15	21.7	- 4.3	53	23	-10	1	0	26	12	69	2.16	0.30	0.53	12	1	6.8	7	5.4	22	30	SE	28	6	4	21	7.4	30
MOLINE	582	998.0	1020.6	25	11	17.9	- 4.7	43	23	-10	4+	0	30	12	76	3.28	1.67	1.05	12	0	6.2	4	3.0	25	40	W	8	7	1	23	7.5	35
PEORIA	652	995.6	1020.9	28	13	20.3	- 5.4	47	29+	- 8	4	0	29	14	76	2.43	0.55	0.60	14	2	4.6	4	2.6	23	32	W	9+	6	4	21	7.5	34
ROCKFORD	724	991.5	1019.9	25	11	17.9	- 4.1	43	23	-10	4+	0	27	13	78	1.86	- 0.12	0.69	11	0	4.6	8	3.6	23	27	25	25+	6	3	22	7.7	
SPRINGFIELD	588	997.6	1020.7	31	16	23.4	- 5.0	50	29+	- 5	4	0	27	17	78	2.50	0.61	0.51	13	1	5.0	3	2.2	22	35	NW	6	6	7	18	7.3	35
INDIANA																																
EVANSVILLE	381	1007.1	1021.6	39	24	31.5	- 2.7	59	30+	5	5+	0	23	22	68	7.98	4.00	2.72	11	3	4.5	3	0.9	15	28	S	5	6	5	20	7.4	37
FORT WAYNE	791	989.5	1020.8	31	16	23.3	- 3.7	53	30+	- 4	1	0	26	17	79	4.57	1.90	1.75	11	1	3.8	3	5.7	23	38	W	6	5	3	23	8.0	38
INDIANAPOLIS	792	990.9	1021.2	34	18	25.7	- 3.4	56	30+	- 2	10+	0	25	18	75	6.19	3.14	1.72	10	2	9.3	6	3.1	21	30	SW	30	6	3	22	7.3	24
SOUTH BEND	773	990.5	1019.9	29	15	22.3	- 3.3	52	23	- 8	4	0	27	18	85	3.61	1.41	0.82	16	2	24.1	17	4.9	21	28	24	24	2	2	27	8.8	
IOWA																																
BURLINGTON	692			27	12	19.8	- 4.6	44	23	-11	4	0	30	14	76	3.21	1.57		13	1	5.6		1.4	28	32	32	6	5	5	21	7.6	
DES MOINES	938	984.1	1020.9	23	9	16.2	- 3.7	39	16	-12	4	0	31	11	80	1.01	- 0.29	0.29	13	0	6.8	5	2.1	34	36	NW	8	5	3	23	7.8	35
DUBUQUE	1056	978.7		21	7	14.0	- 5.2	39	23	-17	4	0	30			2.56	0.73	0.79	12		9.4	11						6	2	23	7.7	
SIOUX CITY	1095	978.3	1020.6	21	4	12.5	- 6.2	42	5	-19	4	0	30	7	78	1.22	0.44	0.24	12	0	12.1	15	2.8	35	41	NW	5	4	3	24	8.3	31
WATERLOO	868	986.8	1020.5	20	6	12.9	- 5.0	36	16	-15	4	0	30	6	73	1.56	0.41	0.57	12	0	5.2	11	1.7	27	28	28	24+	5	3	23	7.9	
KANSAS																																
CONCORDIA	1470	963.4	1018.8	31	15	22.6	- 4.9	52	15	- 8	4	0	29	18	83	0.71	0.01	0.16	13	2	5.8	4	1.8	6	45	N	8	6	4	21	7.6	34
DODGE CITY	2582	922.5	1015.7	41	22	31.7	0.6	61	14	3	24	0	27	24	79	0.03	- 0.54	0.02	2	0	T	T	2.2	14	45	N	8	3	8	20	8.0	43
GOODLAND	3654	883.8	1014.2	41	17	29.2	1.8	58	15+	- 2	24+	0	30	21	77	0.11	- 0.28	0.05	5	0	1.1	2	3.1	16	39	35	8	5	10	16	6.8	
TOPEKA	876	986.8	1019.9	34	18	25.8	- 3.0	56	22	- 4	31	0	27	17	72	0.84	- 0.18	0.41	9	2	6.2	4	1.8	2	37	NW	8	5	4	22	7.8	33
WICHITA	1321	968.5	1018.1	38	23	30.1	- 1.9	55	15	5	4	0	26	22	74	0.45	- 0.36	0.31	4	0	T	1	2.0	9	40	N	23+	3	6	22	8.3	38
KENTUCKY																																
COVINGTON	869	988.8	1021.8	38	22	30.2	- 1.4	57	30	3	5	0	21	20	67	4.64	1.08	1.65	13	0	1.0	1	3.9	22	29	19	30	6	4	21	7.5	
LEXINGTON	966	985.1	1022.0	40	24	32.1	- 2.4	58	30	2	5	0	19	22	69	4.26	- 0.68	1.24	16	1	1.9	1	3.4	20	24	29	30+	6	4	21	7.5	
LOUISVILLE	477	1003.4	1021.7	41	25	33.1	- 1.9	59	30+	4	4	0	20	21	65	5.31	1.21	1.46	14	1	3.2	3	2.0	23	34	SW	6	5	7	19	7.8	40
LOUISIANA																																
ALEXANDRIA	92	1015.2	1019.6	59	41	50.2	- 0.1	78	29	18	5	0	9			1.19	- 4.13	0.32	7	1	0.0	0	2.1	8	26	36	9+	3	4	24	8.5	
BATON ROUGE	64	1016.6	1019.4	63	44	53.4	0.5	80	28	21	5	0	6	42	70	1.34	- 3.44	0.68	7	1	0.0	0	3.5	10	24	15	29	3	3	25	8.3	
LAKE CHARLES	9	1017.6	1018.6	62	46	54.0	0.3	78	23	23	5	0	5	46	79	1.13	- 3.31	0.39	6	1	T	0	3.8	10	24	16	29	2	5	24	8.1	
NEW ORLEANS	3	1018.6	1019.5	64	45	54.2	- 0.4	79	30+	23	6	0	6	44	72	3.12	- 0.72	2.34	8	0	T	0	3.9	7	27	16	29	4	7	20	7.8	
SHREVEPORT	254	1009.1	1018.7	58	41	49.3	1.8	78	29+	20	5	0	9	38	68	1.14	- 3.66	0.39	6	2	0.0	0	2.8	13	29	20	8	3	6	22	8.3	42
MAINE																																
CARIBOU	624	991.2		24	7	15.3	4.8	40	24	- 9	17+	0	31			3.00	0.89	1.07	11		29.5	39						7	4	20	7.3	
PORTLAND	47	1014.6	1017.0	33	15	24.2	2.4	47	25	- 5	5	0	31	13	62	3.63	- 0.74	1.45	7	0	5.4	14	4.7	29	42	W	2	11	6	14	5.7	53
MARYLAND																																
BALTIMORE	148	1015.9	1021.8	39	24	31.7	- 3.1	56	9	10	5	0	23	18	60	1.38	- 2.05	0.78	9	0	0.1	T	5.1	30	35	W	10+	9	7	15	6.2	52
MASSACHUSETTS																																
BLUE HILL OBS R	629			33	20	26.5	- 0.5	47	25	3	28	0	29			2.27	- 2.22	0.88	8		0.9	2			54	W	1					57
BOSTON	15	1016.9	1018.0	35	23	29.3	- 0.6	49	25	7	28	0	26	16	59	2.26	- 1.68	0.90	7	0	0.9	1	8.2	30	51	W	1	10	7	14	5.7	61
NANTUCKET	43	1017.6	1017.8	39	27	32.8	- 0.2	52	31	14	1	0	24	25	73	1.83	- 2.39	1.32	7	0	0.4	T	6.9	32	47	W	1	3	11	17	7.4	33
WORCESTER	986	979.7	1018.1	30	16	23.2	- 0.8	42	19	0	28	0	30	14	66	1.29	- 2.42	0.53	10	0	1.8	9	6.9	28	43	27	2	11	6	14	5.6	
MICHIGAN																																
ALPENA	689	991.5	1017.9	28	13	20.3	0.6	42	23	- 9	1	0	29	15	76	2.23	0.28	0.53	17	0	25.7	27	2.7	24	24	E	9+	0	6	25	8.8	22
DETROIT	619			31	19	25.1	- 1.8	53	30	- 2	1	0	25	16	68	2.52	0.47	0.71	12	0	7.7		5.6	25	35	29	10					
DETROIT M WAYNE CO	633	994.2	1019.4	31	16	23.1	- 3.1	53	30	- 4	1	0	26	18	79	2.83	0.90	0.96	13	0	6.3	5	5.0	24	33	W	10	2	8	21	7.9	30
FLINT	770	989.5	1018.6	29	16	22.6	- 1.9	50	30	- 3	1	0	25	17	77	1.86	0.16	0.55	15	0	10.2	9	6.1	23	32	27	1	2	9	20	8.0	
GRAND RAPIDS	784	988.5	1018.9	27	15	20.8	- 3.2	45	23	- 4	1	0	27	17	84	2.39	0.48	0.46	21	1	27.7	17	3.6	24	35	SW	24	1	3	27	9.0	28

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
HOUGHTON LAKE	1149	974.3	1018.3	26	11	18.3	- 0.9	43	23	-12	27+	0	29	15	85	1.87	0.38	0.36	19	0	25.8	18	2.9	25	23	27	10+	2	6	23	8.5	
LANSING	841	986.1	1019.1	29	15	21.8	- 2.5	52	30	- 4	1	0	25	17	79	1.91	- 0.05	0.40	17	0	13.2	12	5.7	24	34	SW	24	1	10	20	8.1	33
MARQUETTE U	677			26	16	21.3	1.8	44	23	- 5	1	0	28			2.39	0.50	0.49	22		29.5	31			25	SE	16	0	1	30	9.4	22
MUSKEGON	627	994.6	1018.6	28	18	22.9	- 3.1	45	23	- 3	1	0	27	18	81	3.00	0.90	0.38	21	0	51.4	21	2.3	27	29	24	24	1	1	29	9.5	
SAULT STE MARIE	721	989.5	1017.5	22	9	15.4	- 0.4	38	23	-17	1	0	29	12	82	2.93	0.86	0.78	20	0	32.2	25	1.6	8	32	E	28	2	4	25	8.8	25
MINNESOTA																																
DULUTH	1428	964.4	1019.1	16	- 1	7.5	- 1.2	32	16	-20	1	0	31	2	76	4.70	3.55	1.28	23	0	46.8	42	2.9	31	33	NW	6	4	5	22	7.9	32
INTERNATIONAL FALLS	1179	973.9	1020.1	10	- 8	0.9	- 2.2	30	16	-37	26	0	31	- 4	76	2.79	1.95	0.49	21	0	30.7	35	1.2	34	24	13	27	2	7	22	8.1	
MINNEAPOLIS	834	988.2	1020.4	18	1	9.4	- 3.0	35	22+	-21	1	0	31	2	71	2.05	1.35	0.48	17	0	21.6	24	2.0	27	29	NW	6	6	3	22	7.6	35
ROCHESTER	1297	969.2	1019.7	18	1	9.8	- 3.8	36	22+	-21	1	0	31	3	73	1.25	0.34	0.45	12	0	9.5	19	3.2	26	33	29	8	6	3	22	7.5	
ST CLOUD	1034	979.7	1020.1	15	- 4	5.2	- 4.9	33	16+	-21	1	0	31			2.52	1.80	0.53	18		22.9	30						6	3	22	7.6	
MISSISSIPPI																																
JACKSON	310	1007.8	1020.0	58	38	48.0	0.1	76	30+	11	5	0	14	38	71	0.86	- 4.32	0.19	11	1	0.0	0	2.7	12	28	SW	8	2	5	24	8.4	35
MERIDIAN	290	1009.8	1021.1	57	37	46.7	- 1.4	75	23	15	5	0	15	37	73	2.71	- 1.98	1.60	10	1	0.0	0	0.5	5	21	18	23	3	3	25	8.5	
MISSOURI																																
COLUMBIA	778	990.2	1019.6	36	20	27.7	- 2.6	53	22	- 3	4	0	27	20	75	3.87	2.16	1.09	13	4	6.6	6	0.7	13	32	N	8	8	1	22	7.4	34
KANSAS CITY	742	991.5	1019.8	34	19	26.5	- 5.2	58	22	- 2	4	0	27	20	77	1.31	- 0.10	0.64	10	2	6.0	6	1.6	3	29	NW	8	7	1	23	7.7	43
ST JOSEPH	811			35	18	26.5	- 0.7	54	15	- 6	31+	0	25	17	70	0.89	- 0.31		8	1	4.4		1.5	34	32	29	5	7	2	22	7.4	
ST LOUIS	535	999.7	1020.9	37	21	29.2	- 2.7	56	29	2	4	0	26	22	77	3.61	1.63	1.37	12	2	2.3	2	1.1	21	33	W	6	8	2	21	7.4	36
SPRINGFIELD	1268	972.2	1019.1	43	24	33.4	- 0.2	61	22	1	4	0	24	22	68	3.33	1.37	2.10	11	2	1.4	1	3.7	15	28	SE	14	8	1	22	7.5	39
MONTANA																																
BILLINGS	3567	886.2	1017.0	15	- 3	6.3	-16.9	47	5	-23	24+	0	31	- 4	64	0.99	0.45	0.36	9	0	12.2	9	1.8	32	33	NW	7	1	3	27	8.8	15
GLASGOW	2284	933.3	1021.5	2	-16	- 7.0	-16.8	42	5	-47	25	0	31	-13	71	1.24	0.76	0.37	15	0	24.1	21	2.7	5	32	35	5	2	5	24	8.3	
GREAT FALLS	3662	883.5	1019.5	6	-11	- 2.8	-24.9	46	5	-37	23	0	30	-11	63	2.05	1.44	0.48	16	0	22.6	17	2.7	26	36	SW	31+	1	5	25	8.5	39
HAVRE	2584	922.1	1021.7	- 2	-21	-11.3	-25.2	43	5	-52	24	0	31	-20	59	1.66	1.17	0.44	16	0	25.2	23	1.8	30	29	NW	7	1	5	25	8.8	57
HELENA	3828	874.7	1017.0	18	- 3	7.2	-11.4	50	5+	-35	24+	0	31	- 1	69	2.78	2.31	0.77	22	1	35.6	24	3.5	28	34	W	4	2	4	25	8.6	30
KALISPELL	2965	904.8	1013.8	20	3	11.3	- 8.5	43	5	-17	23	0	30	4	70	2.97	1.60	0.60	23	0	34.2	28	3.0	4	35	4	26+	0	4	27	9.2	
MILES CITY	2629	920.1	1019.4	8	-10	- 0.7	-17.2	42	5	-37	25	0	31			0.70	0.26		14	0	6.9		4.1	36								
MISSOULA	3190	897.4	1013.6	25	10	17.9	- 1.3	42	7	-18	24	0	30	14	82	2.94	2.02	0.73	24	1	27.5	15	1.0	9	42	NW	7	0	1	30	9.6	19
NEBRASKA																																
GRAND ISLAND	1841	949.9	1019.3	25	9	16.9	- 5.7	43	5	-17	4	0	30	13	83	0.91	0.28	0.25	12	0	7.6	16	1.0	33	48	35	8	3	5	23	8.2	
LINCOLN U	1150			27	12	19.6	- 5.5	46	15	-12	4	0	30			0.68	- 0.24	0.22	9		7.8	6			30	NW	5	5	3	23	8.0	30
NORFOLK	1544			23	4	13.4	- 6.0	42	5	-21	4	0	31			1.21	0.43	0.30	8		9.8	17						5	4	22	7.9	
NORTH PLATTE	2775	915.3	1017.8	26	7	16.2	- 7.8	42	5	-16	24	0	31	13	86	0.94	0.51	0.39	8	0	12.4	10	1.5	6	35	NW	8	5	4	22	7.8	30
OMAHA	977	982.7	1020.0	27	11	18.7	- 3.6	46	15	-14	4	0	30	11	72	1.10	0.28	0.23	15	0	8.3	4	2.4	35	39	NW	5	5	1	25	8.1	22
SCOTTSBLUFF	3957	874.7	1015.2	36	11	23.6	- 1.7	56	7	- 8	4	0	29	16	79	0.72	0.43	0.25	8	0	8.5	4	3.1	8	29	34	8	7	7	17	6.7	
VALENTINE	2587			24	1	12.7	- 7.3	43	5	-22	25	0	31			0.33	- 0.07	0.13	8		5.3	7			45	S	19	6	5	20	7.3	44
NEVADA																																
ELKO	5050	839.5	1013.3	39	19	28.8	6.2	52	20	- 6	29	0	25			1.24	0.08	0.32	15	1	10.8	9	4.0	23	35	27	26	4	6	21	7.8	
ELY	6253	803.9	1013.3	42	20	31.2	8.4	61	6	- 3	31	0	28	19	64	1.24	0.46	0.51	11	0	8.3	3	8.4	20	54	SW	26	5	5	21	7.7	60
LAS VEGAS	2162	937.7	1015.1	57	38	47.5	4.4	68	20	24	10	0	7	29	54	1.57	1.04	0.73	9	0	T	T	4.4	23	44	SW	21	10	5	16	6.1	61
RENO	4404	860.8	1012.0	48	26	37.0	6.6	67	7	9	29	0	25	22	60	4.13	2.94	1.43	9	0	10.7	6	3.7	21	59	SW	12	6	7	18	7.3	48
WINNEMUCCA	4301	862.9	1012.6	43	23	33.2	6.0	58	7	-10	29	0	24	23	67	1.30	0.25	0.29	12	0	6.9	2	4.6	21	44	SW	11	4	4	23	7.9	35
NEW HAMPSHIRE																																
CONCORD	342	1005.1	1018.2	33	11	21.9	0.7	51	23	-12	5	0	30	13	68	1.34	- 1.89	0.48	9	0	4.7	11	4.1	30	37	NW	1	10	9	12	5.5	60
MT WASHINGTON OBS	6262			16	0	8.0	1.7	34	25+	-26	1	0	31			8.60	3.16	3.06	21	0	56.8	23			135Y	W	2	5	5	21	7.7	26
NEW JERSEY																																
ATLANTIC CITY	64	1018.0	1020.4	40	21	30.3	- 4.5	55	31	1	28	0	24	22	73	1.68	- 1.88	0.95	9	0	0.5	T	6.5	30	33	30	1	12	5	14	5.9	45
ATLANTIC CITY U	11			39	26	32.4	- 3.6	53	31	16	28+	0	23			2.24	- 1.51	0.86	11						43	WNW	1					
NEWARK	7	1019.3	1020.3	38	25	31.3	- 1.0	48	23	10	28	0	23	19	63	1.47	- 1.86	0.54	9	0	1.1	1	6.4	29	37	27	1	12	4	15	5.8	
TRENTON U	56			37	26	31.3	- 1.8	49	31	11	28	0	23			2.38	- 0.72	1.09	7		2.4	2			35	NW	1	9	8	14	5.8	62

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant direction	Fastest mile: Speed	Fastest mile: Direction	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.							%
NEW MEXICO																																
ALBUQUERQUE	5311	836.4	1016.2	51	25	38.0	3.0	62	27+	11	30	0	25	23	60	0.08	- 0.33	0.05	3	0	T	T	1.8	25	42	NW	23+	8	6	17	6.4	68
CLAYTON	4969			55	23	38.9	5.7	74	7	1	24	0	27			T	- 0.35	T	0		T	T						9	6	16	6.3	
ROSWELL	3617			62	28	45.0	7.1	83	8	13	2	0	22			0.01	- 0.47	0.01	1	0	T	0			36	SW	22					68
NEW YORK																																
ALBANY	275	1008.8	1020.0	30	12	20.9	- 1.8	42	22+	- 9	5	0	30	16	80	2.13	- 0.34	0.76	12	0	6.3	9	5.6	27	42	W	8	4	11	16	7.3	47
BINGHAMTON	1590	958.3	1019.6	28	16	22.1	- 1.7	44	31+	- 2	28	0	30	15	77	2.00	- 0.50	1.02	14	0	10.0	7	5.0	25	33	W	1	2	6	23	8.5	36
BUFFALO	705	992.2	1019.0	31	19	25.0	0.5	53	30	1	28	0	25	18	76	3.85	1.01	1.42	22	2	31.2	16	8.1	25	38	SW	9	1	4	26	8.9	36
J.F. KENNEDY	13	1019.3	1020.1	37	26	31.3	- 0.5	47	31+	11	28	0	22	19	63	1.10	- 2.13	0.43	8	0	0.6	T	7.7	30	35	27	1	10	7	14	5.6	
NEW YORK U	132	1015.9	1019.4	37	26	31.8	- 1.4	48	19+	11	28	0	22	18	59	1.10	- 2.21	0.45	8	0	1.0	1	4.9	31	31	W	1					66
NEW YORK LA GUARDIA	11	1018.6	1020.3	36	26	30.9	- 2.7	48	19+	9	28	0	25	16	56	0.93	- 2.38	0.39	9	0	1.4	1	6.6	32	40	NW	1	11	5	15	5.8	
ROCHESTER	547	998.3	1019.2	32	18	25.2	0.0	51	30+	3	28+	0	28	17	71	2.46	0.06	0.70	15	0	25.6	13	7.5	24	38	SW	1	2	4	25	8.5	43
SYRACUSE	410	1004.1	1019.7	31	18	24.3	0.3	45	24	- 2	28	0	28	18	76	3.37	0.22	1.45	16	2	24.5	15	3.7	25	38	W	1	3	5	23	8.0	24
NORTH CAROLINA																																
ASHEVILLE	2140	942.8	1021.0	46	27	36.7	- 0.9	66	31	9	5	0	21	25	70	2.64	- 1.53	1.40	11	0	0.1	T	3.8	34	38	34	7	5	9	17	6.9	49
CAPE HATTERAS R	7	1020.7	1021.0	49	36	42.5	- 4.1	70	19	27	8+	0	15	34	75	3.22	- 0.68	2.00	9	1	0.2	T	7.4	34	32	WNW	1	8	9	14	6.5	51
CHARLOTTE	736	993.6	1022.0	47	29	38.1	- 4.6	68	31	12	6	0	21	24	62	1.93	- 1.60	1.13	8	0	T	T	1.6	1	28	NE	20	5	7	19	7.3	57
GREENSBORO	897	989.2	1022.0	46	27	36.4	- 3.3	67	31	9	5	0	22	22	61	2.01	- 1.39	1.25	8	0	0.3	T	2.7	32	29	W	7	5	7	19	7.3	45
RALEIGH	434	1005.4	1021.8	47	27	37.4	- 4.2	71	31	9	6	0	20	24	62	1.55	- 1.67	1.10	5	0	T	T	3.2	33	23	29	7+	8	6	17	6.8	48
WILMINGTON	28	1020.3	1021.7	54	33	43.2	- 4.7	73	31	21	6	0	19	30	66	2.80	- 0.05	1.68	7	1	0.5	T	3.5	34	31	NW	7	10	6	15	6.3	61
NORTH DAKOTA																																
BISMARCK	1647	957.7	1021.8	10	-11	- 0.8	-10.7	40	5	-27	30	0	31	- 9	64	1.29	0.85	0.40	11	0	16.0	14	3.8	33	36	N	5	6	5	20	7.4	52
FARGO	896	986.5	1021.8	8	-11	- 1.6	- 8.9	32	15	-27	25+	0	31	- 7	72	1.27	0.74	0.28	14	0	14.5	17	3.8	34	36	NW	8	7	4	20	7.2	27
WILLISTON	1899	948.2	1021.9	6	-14	- 4.2	-12.5	38	5	-37	25	0	31	- 9	77	1.03	0.48	0.26	14	0	10.7	15	3.3	35	33	NW	5	4	9	18	7.2	47
OHIO																																
AKRON	1208	974.6	1020.6	35	20	27.5	- 0.8	61	23	0	1	0	23	20	72	2.57	- 0.29	0.88	17	0	4.8	3	5.8	22	25	28	1	1	8	22	8.4	
CINCINNATI OBS	761			37	22	29.3	- 4.4	57	30	2	4	0	22			4.70	1.03	1.56	12		0.5	T			23	W	6					46
CLEVELAND	777	990.5	1020.8	32	19	25.4	- 3.0	59	23	0	1	0	23	16	67	2.84	0.17	0.83	17	0	5.8	4	8.1	22	35	SW	6	1	5	25	8.7	34
COLUMBUS	812	990.5	1021.9	35	19	27.0	- 2.9	61	23	2	8	0	23	18	70	3.40	0.24	1.16	12	1	2.5	1	4.2	22	34	W	1	2	9	20	8.1	32
DAYTON	1002	983.4	1021.1	35	19	26.7	- 2.9	56	30	0	10+	0	24	18	72	3.75	0.57	1.37	11	1	2.5	2	3.9	21	35	S	6	5	3	23	7.7	43
MANSFIELD	1295			34	19	26.2	- 1.1	59	23	0	5+	0	23	20	79	2.41	- 0.81	0.81	11	0	4.0	4	7.5	23	28	22	18	2	5	24	8.4	
TOLEDO	669	994.6	1020.9	30	13	21.6	- 4.7	56	23	- 9	5	0	26	17	81	3.70	1.37	0.89	19	0	9.2	5	5.3	24	29	SW	1	3	7	21	7.9	41
YOUNGSTOWN	1178	976.3	1020.7	31	18	24.7	- 2.6	58	23	0	1	0	24	19	77	2.56	- 0.60	0.85	18	0	8.6	4	5.7	23	29	26	9	2	7	22	8.3	
OKLAHOMA																																
OKLAHOMA CITY	1285	969.9	1017.4	48	29	38.8	1.8	71	27	11	24	0	21	28	71	0.20	- 1.11	0.13	4	0	T	T	1.9	12	37	N	8	4	6	21	7.8	48
TULSA	650	993.6	1018.6	46	28	36.9	0.7	70	22	6	4	0	23	25	68	1.63	- 0.08	0.99	6	0	T	T	1.4	13	28	N	8	4	5	22	8.0	33
OREGON																																
ASTORIA	8	1009.1	1009.9	40	29	34.3	- 6.4	54	4	11	28	0	19	31	85	12.02	0.31	1.60	27	1	26.3	18	2.4	15	29	20	14+	3	1	27	8.6	
BURNS U	4151	865.9	1011.5	35	17	25.9	1.1	53	5	-10	24	0	30	21	81	3.17	1.55	1.02	19		27.3	11	3.3	24				2	1	28	8.8	
EUGENE	359	998.3	1012.1	42	32	36.9	- 2.2	63	4	1	28	0	15	34	89	12.67	6.34	2.46	23	0	47.1	34	4.9	18	28	17	9	0	4	27	9.2	
MEACHAM	4050	867.6	1011.4	29	17	22.6	- 3.4	46	6	- 4	23+	0	28			5.51	1.31	1.09	26		37.4	26	1.6	20	25	25	30	1	3	27	9.0	
MEDFORD	1298	965.1	1013.7	41	31	35.7	0.3	54	5	17	29	0	20	32	87	6.16	3.02	1.21	23	0	13.7	4	1.3	21	28	15	29	0	7	24	8.9	
PENDLETON	1482	958.0	1013.6	28	16	22.0	-10.2	52	6	- 8	23	0	28	17	83	2.88	1.46	0.53	27	0	27.4	15	2.6	23	36	25	31	0	5	26	9.1	
PORTLAND	21	1010.5	1011.6	36	27	31.9	- 6.5	53	6	16	29	0	18	27	85	7.60	2.23	1.28	22	0	18.3	30	7.1	15	32	E	24	0	4	27	9.1	28
SALEM	196	1004.1	1011.5	38	28	33.0	- 5.5	58	4	8	28	0	25	31	91	8.61	1.91	1.67	21	0	21.9	12	5.9	19	29	19	31	2	3	26	8.8	
SEXTON SUMMIT R	3836	876.7	1011.9	34	25	29.4	- 4.7	52	5	14	23	0	25			13.10	7.51	3.26	26		106.7	86			60	16	10	2	5	24	8.5	
PACIFIC AREA																																
JOHNSTON	7	1011.2	1011.8	80	71	75.5	- 1.6	83	12+	65	24	0	0	61	61	1.25	- 2.64	0.89	11	0	0.0	0	12.7	4	30	E	24	5	9	17	6.9	52
KOROR R	94	1006.1	1009.8	86	75	80.7	0.4	89	24	72	15+	0	0	73	81	6.14	- 5.59	1.88	17	0	0.0	0	9.5	6	32	NE	5	0	10	21	8.3	68
KWAJALEIN	8	1007.1	1007.8	86	76	80.8	0.7	89	2	71	18	0	0	73	77	6.11	2.50	3.66	16	1	0.0	0	18.0	6	55	22	18	0	2	29	9.5	
MAJURO	10	1007.1	1007.6	84	76	80.1	- 0.1	87	1	72	30	0	0	73	78	8.22	1.24	2.23	19	0	0.0	0	11.6	5	29	NE	23	0	4	27	9.2	41
PAGO PAGO	12	1005.4	1005.7	88	76	81.7		92	3	71	24	9	0	76	86	17.95		4.93	26	5	0.0	0	2.6	6	48	NW	13	0	8	23	8.5	
PONAPE R	123	1002.4	1007.9	86	74	80.2	- 0.3	89	20+	71	19	0	0	73	77	6.39	- 4.68	2.06	18	0	0.0	0	9.3	6	19	NE	5	0	3	28	9.3	42

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: Resultant speed	Wind: Resultant 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
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
TAGUAC GUAM R	361			82	72	76.9	- 1.3	85	1	62	13	0	0			2.79	- 1.84	0.55	24		0.0	0			25	SE	22	1	15	15	7.5	52
TRUK MOEN ISLAND	5	1007.8	1008.1	86	76	80.7	0.0	91	21	72	18	1	0	73	76	1.22	- 7.18	0.30	19	0	0.0	0			25	NE	6	0	5	26	9.0	75
WAKE	11	1013.2	1013.6	82	72	77.0	- 0.4	84	20+	69	12+	0	0	64	68	1.15	0.01	0.46	11	0	0.0	0	12.5	7	30	NE	12+	8	19	4	5.4	72
YAP R	44	1007.8	1009.6	86	74	80.1	- 0.4	88	27	71	3	0	0	72	79	4.10	- 3.77	1.42	17	0	0.0	0	10.3	7	24	NE	5	1	18	12	7.2	54
PENNSYLVANIA																																
ALLENTOWN	387	1006.1	1020.8	35	21	28.0	- 1.0	48	31	7	28+	0	27	15	61	1.47	- 1.70	0.61	9	0	1.4	1	5.1	30	37	28	1	8	8	15	6.2	
ERIE	731	992.2	1020.1	34	20	27.0	- 0.3	59	23	3	1	0	25	19	72	2.95	0.28	0.84	20	0	26.1	10	8.6	22	30	26	1	2	2	27	8.8	
HARRISBURG	338	1008.5	1021.6	37	23	29.9	- 1.4	50	22	8	1	0	24	16	59	1.06	- 1.70	0.42	12	0	1.2	1	4.5	29	36	NW	1	9	7	15	6.4	52
PHILADELPHIA	5	1019.6	1020.7	36	23	29.8	- 2.5	48	31	11	1	0	23	17	61	1.57	- 1.75	0.59	9	0	1.9	2	4.9	32	32	NW	1	10	7	14	6.2	56
PITTSBURGH	1137	975.3	1020.9	34	19	26.7	- 2.2	58	23	3	5	0	24	16	66	2.02	- 0.95	0.44	20	0	6.5	2	4.8	25	31	27	24	1	9	21	8.3	32
READING U	266			37	25	31.2	- 1.5	50	22	11	1	0	23			1.02	- 2.05	0.39	10		1.7	2			43	W	1	10	8	13	5.7	51
SCRANTON	930	985.4	1020.9	33	19	26.0	- 1.7	50	22	3	28	0	27	15	67	0.64	- 1.65	0.46	7	0	2.7	2	3.9	26	28	W	1	2	11	18	7.7	44
WILLIAMSPORT	524	1001.4	1021.3	35	19	27.3	- 1.5	48	22	3	28+	0	28	18	72	1.24	- 1.43	0.57	9	0	0.8	1	5.1	28	26	16	6+	4	11	16	7.2	
RHODE ISLAND																																
BLOCK ISLAND	110			36	25	30.7	- 1.4	48	31	9	28	0	23			0.88	- 2.96	0.24	8		T	T						6	13	12	6.3	
PROVIDENCE	51	1016.3	1018.6	36	21	28.8	- 0.4	49	25	6	28	0	30	18	64	2.23	- 1.58	1.16	9	0	0.5	1	6.7	31	40	30	1	12	5	14	5.5	59
SOUTH CAROLINA																																
CHARLESTON	40	1020.3	1021.8	56	33	44.6	- 5.2	73	31+	20	15	0	16	32	66	1.19	- 1.35	0.80	6	2	0.0	0	3.1	36	46Y	W	7	4	11	16	7.0	47
CHARLESTON U	9			54	40	47.1	- 4.4	74	31	26	5	0	7			1.44	- 0.96	0.52	7		0.0	0			34	NW	7					
COLUMBIA	213	1013.9	1022.1	55	31	42.7	- 4.2	73	31	11	6	0	18	29	64	2.64	- 0.38	2.49	3	0	T	0	1.5	36	23	27	7	5	7	19	7.2	57
GNVLE-SPARTANBURG	957	986.5	1022.1	49	30	39.5	- 4.2	68	31	12	5	0	21	23	59	3.94	- 0.34	2.61	11	0	T	T	2.1	36	30	NE	20	4	9	18	7.4	45
SOUTH DAKOTA																																
ABERDEEN	1296	970.9	1021.0	15	- 6	4.4	- 6.4	40	5	-25	1	0	31	- 2	71	1.11	0.45	0.30	12	0	13.7	10	3.6	35	32	32	8	5	6	20	7.3	
HURON	1282	970.9	1020.5	18	- 2	7.8	- 4.7	40	5	-23	4	0	30	1	72	0.65	0.17	0.11	14	0	13.2	17	1.4	31	40	NW	5	3	6	22	8.0	37
RAPID CITY	3162	900.8	1016.9	26	6	16.0	- 6.0	54	7	-14	25+	0	31	5	65	0.11	- 0.25	0.04	6	0	1.2	2	3.9	1	50	NW	8	6	2	23	7.7	37
SIOUX FALLS	1418	965.8	1020.1	19	- 1	8.8	- 6.4	39	5	-24	4	0	31	2	71	1.71	1.09	0.44	13	0	19.6	33	1.2	32	35	35	5	3	6	22	7.9	
TENNESSEE																																
BRISTOL	1507	966.5	1022.3	44	24	34.3	- 4.0	69	30	- 6	5	0	20	24	68	2.72	- 0.97	0.56	16	0	5.9	5	0.9	28	21	28	24+	4	11	16	7.2	
CHATTANOOGA	665	996.6	1022.1	47	30	38.3	- 3.4	65	30	9	5	0	19	28	70	6.84	1.23	2.36	15	1	7.3	7	1.4	36	24	NW	7	5	7	19	7.3	38
KNOXVILLE	980	985.4	1021.4	45	28	36.5	- 4.9	69	30	7	5	0	19	25	67	4.11	- 0.77	1.50	13	1	0.5	T	1.4	35	30	SW	30	5	5	21	7.4	45
MEMPHIS	258	1010.2	1020.6	49	33	41.2	- 0.3	70	23+	15	5	0	15	29	62	3.14	- 2.93	0.81	13	1	T	T	2.2	12	41	SW	8	3	8	20	7.7	44
NASHVILLE	590	999.0	1021.5	46	28	37.2	- 2.7	65	23	5	5	0	19	26	68	4.96	- 0.53	1.25	17	1	5.2	4	1.4	18	29	S	29	4	5	22	7.8	37
OAK RIDGE R	905			43	28	35.7	- 4.2	64	30	5	5	0	19			4.30	- 1.64	1.58	15		2.8	1			29Y		24	5	5	21	7.5	
TEXAS																																
ABILENE	1762	953.6	1016.0	60	36	48.0	3.4	88	8	17	1	0	10	31	58	0.81	- 0.07	0.81	2	2	0.0	0	3.2	20	35	N	8	6	6	19	7.4	58
AMARILLO	3604	887.9	1012.8	56	27	41.4	4.7	73	27+	8	24	0	24	23	55	0.02	- 0.63	0.02	1	0	0.2	T	5.2	21	47	W	22	7	6	18	6.5	51
AUSTIN	597	995.3	1017.6	64	44	53.6	3.2	84	22	22	5	0	7	40	67	0.40	- 1.95	0.19	6	0	0.0	0	1.4	13	35	N	9	5	8	18	7.3	43
BROWNSVILLE	19	1015.6	1016.3	73	55	64.2	2.8	86	21	33	5	0	0	55	77	0.51	- 0.84	0.41	7	0	0.0	0	2.8	14	35	S	8	5	4	22	7.9	30
CORPUS CHRISTI	41	1015.6	1017.1	68	50	59.1	1.7	87	22	28	5	0	2	50	78	0.35	- 1.28	0.31	3	0	0.0	0	4.6	10	34	NE	24	5	7	19	7.4	36
DALLAS	481	1000.0	1017.6	59	39	49.2	3.3	88	8	20	1	0	9	33	59	2.13	- 0.19	1.90	5	2	0.0	0	3.4	13	36	W	22	5	5	21	7.7	48
DEL RIO	1026	980.0	1016.5	66	44	54.5	3.2	85	22	27	5	0	4	38	62	1.04	0.15	0.87	4	1	0.0	0	3.0	10	23	31	22	6	5	20	7.2	
EL PASO	3918	880.8	1014.1	62	35	48.6	5.7	74	8	20	5	0	12	28	48	0.05	- 0.41	0.05	2	0	0.0	0	3.5	26	49	W	22	9	7	15	5.9	80
FORT WORTH	537	997.0	1017.8	60	38	49.0	3.5	88	8	17	1	0	10	35	65	1.26	- 0.78	0.90	5	3	0.0	0	2.4	16	41	31	22	4	6	21	8.0	
GALVESTON U	7			60	50	55.4	0.5	77	23	34	5	0	0			1.59	- 1.87	0.72	5		0.0	0			30	NE	4					40
HOUSTON	50	1015.9	1018.2	65	48	56.7	3.1	80	28+	27	5	0	3	47	74	2.74	- 1.04	1.57	5	1	0.0	0	2.8	11	30	23	8	2	5	24	8.1	40
LUBBOCK	3254	901.8	1014.3	60	30	44.9	5.7	82	8	12	24	0	16	25	52	T	- 0.68	T	0	0	0.0	0	4.5	23	43	27	22	8	6	17	7.0	
MIDLAND	2851	915.3	1014.6	62	33	47.6	3.6	81	8	18	24	0	15	26	49	0.02	- 0.78	0.01	2	0	0.0	0	4.2	22	37	26	8	8	5	18	6.9	
PORT ARTHUR	16	1018.0	1018.7	63	46	54.6	1.0	77	28+	21	5	0	4	47	81	1.19	- 3.04	0.45	6	0	0.0	0	3.9	9	41	SE	29	2	6	23	8.2	29
SAN ANGELO	1903	948.5	1015.7	66	38	52.1	5.2	90	8	20	1	1	9	32	53	0.02	- 0.95	0.02	1	0	0.0	0	4.1	22	35	28	22	7	8	16	6.7	
SAN ANTONIO	788	988.8	1017.4	62	43	52.5	0.5	80	22	19	5	0	9	41	70	1.76	0.02	1.10	7	2	0.0	0	1.5	5	34	N	30	6	6	19	7.4	44
VICTORIA	104	1013.5	1017.5	67	47	57.0	1.6	80	23+	24	5	0	6	48	77	0.43	- 1.91	0.21	6	0	0.0	0	2.8	11	41Y	SW	8	4	8	19	7.5	
WACO	501	999.3	1017.8	61	41	51.1	3.1	83	22	23	5	0	8	39	68	0.45	- 1.82	0.23	4	0	T	0	2.9	16	29	35	3	5	7	19	7.5	
WICHITA FALLS	994	979.3	1016.6	57	31	43.9	1.1	87	8	15	4+	0	16	31	68	0.57	- 0.55	0.43	3	2	T	0	2.1	11	41	1	8	4	4	23	8.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
UTAH																																
MILFORD	5028	842.9		43	23	33.0	8.4	53	7	1	31+	0	22			1.63	1.06	0.50	11		5.0	3						4	8	19	7.4	
SALT LAKE CITY	4220	867.9	1014.6	40	24	32.2	5.0	58	26	5	29	0	24	23	69	1.69	0.34	0.57	12	2	13.7	8	4.9	18	42	S	26	4	4	23	8.0	32
WENDOVER	4237	866.9	1014.9	39	21	30.3	3.3	64	7	9	10	0	28			0.38	0.06	0.16	8		2.7	2										
VERMONT																																
BURLINGTON	332	1005.4	1018.5	26	7	16.5	0.3	43	23	-12	28+	0	30	7	63	2.43	0.48	1.25	14	0	15.8	25	1.4	21	33	NW	2	4	10	17	7.6	60
VIRGINIA																																
LYNCHBURG	916			41	23	32.2	- 5.4	63	30	1	5	0	23			2.30	- 0.99	1.48	10		1.0	1			28	W	1	10	3	18	6.6	44
NORFOLK	22	1020.3	1021.2	46	32	38.5	- 2.7	69	18	18	6	0	19	27	65	2.26	- 1.07	1.21	6	0	T	0	4.6	33	37	N	20	12	2	17	6.2	61
RICHMOND	164	1015.9	1022.0	43	25	33.9	- 4.8	63	30+	8	6	0	21	22	65	2.04	- 1.42	1.37	7	0	T	0	2.9	33	28	NW	1	9	4	18	6.6	47
ROANOKE	1149	978.3	1021.8	41	24	32.3	- 5.8	66	30	5	5	0	23	17	58	1.86	- 1.26	1.31	11	0	0.1	T	4.3	31	39	29	1	8	5	18	6.8	
WALLOPS ISLAND	9			41	27	34.0		57	31	16	6+	0	22			1.82		0.91	6		T	T			49Y	NE	21					
WASHINGTON																																
OLYMPIA	195	1002.7	1010.1	36	26	30.9	- 7.2	51	5+	4	23	0	24	28	84	9.45	1.60	0.96	27	0	58.7	24	3.9	20	25	20	10	0	0	31	9.7	
QUILLAYUTE	179	1001.0	1008.3	36	27	31.4	- 7.2	51	4	7	23	0	23	29	89	13.82	- 1.45	3.23	23	2	40.1	18	2.1	7	25	W	31	1	4	26	8.6	18
SEATTLE TACOMA	400	993.2	1010.0	37	29	33.1	- 5.2	55	4	15	28	0	18	27	79	5.71	- 0.02	0.94	26	1	45.4	21	3.1	16	29	SW	31	0	2	29	9.5	24
SPOKANE	2356	925.2	1011.6	23	9	16.3	- 9.0	37	6+	-19	23	0	30	12	79	4.08	1.64	0.88	24	0	48.7	42	3.1	17	36	SW	31	1	4	26	8.9	12
STAMPEDE PASS R	3958	868.3		20	11	15.6	- 7.9	45	4	- 7	1	0	30			30.42	18.39	3.66	31		98.9	71						0	2	29	9.7	
WALLA WALLA U	949			30	19	24.3	- 8.9	52	6	0	29+	0	24			4.17	2.28	1.07	25		31.3	16			25	S	10	0	2	29	9.6	8
YAKIMA	1052	973.6	1013.6	26	10	18.2	- 9.3	42	7	-10	30	0	31	14	80	1.52	0.33	0.56	16	0	20.2	18	2.3	28	23	31	7	1	8	22	8.5	
WEST INDIES																																
SAN JUAN P.R.	13	1012.9	1015.3	82	69	75.4	1.0	87	12	65	21	0	0	67	76	7.49	2.79	5.08	17	0	0.0	0	6.1	7	29	E	19	10	16	5	5.6	62
SWAN ISLAND	28			83	74	78.2	- 0.1	85	5	68	18	0	0			10.08	6.64	7.63	19	0	0.0	0						5	18	8	5.9	
WEST VIRGINIA																																
BECKLEY	2504	929.9	1022.3	38	20	28.6	- 5.0	63	30	- 3	5	0	23	19	71	1.91	- 2.35	0.85	14	0	4.0	3	3.5	22	29	20	24	6	7	18	7.1	
CHARLESTON	939	986.5	1021.8	43	23	32.7	- 3.9	68	29	1	5	0	21	21	65	1.50	- 2.82	0.51	13	0	2.0	2	2.7	23	25	25	1	3	10	18	7.5	
ELKINS	1970	947.9		38	18	27.8	- 4.7	62	24	- 4	5	0	25			3.01	- 0.61	1.28	15		3.1	2			28	29	24	2	7	22	8.2	
HUNTINGTON	827	991.2	1022.3	41	23	31.7	- 4.9	65	30	1	5	0	21	22	70	2.34	- 1.31	0.88	14	0	2.1	2	2.6	22	25	27	30	2	10	19	7.6	
PARKERSBURG U	615			38	22	30.2	- 4.4	63	23	3	5	0	23			2.44	- 0.90	1.03	13		2.0	2			33	W	1					32
WISCONSIN																																
GREEN BAY	682	991.9	1019.0	22	6	14.0	- 2.8	40	23	-16	1	0	31	8	76	2.60	1.45	0.96	12	0	11.8	20	4.0	25	26	SW	9	8	6	17	6.6	41
LA CROSSE	651	994.2	1020.2	21	4	12.3	- 4.2	37	22+	-18	4	0	31	6	73	1.95	0.76		14	0	17.0		1.9	27								
MADISON	858	986.5	1019.5	22	8	14.8	- 2.7	38	23	-14	12	0	30	10	78	2.26	0.86	0.74	15	0	9.7	11	2.9	25	26	SW	24+	7	4	20	7.2	37
MILWAUKEE	672	992.9	1019.4	25	12	18.6	- 2.0	44	23	-11	1	0	30	12	75	1.83	0.00	0.75	10	0	11.1	10	5.1	25	34	SE	8	8	3	20	7.1	42
WYOMING																																
CASPER	5338	830.0	1011.2	39	16	27.1	3.7	53	20	- 9	23	0	26	15	62	0.08	- 0.48	0.03	5	0	2.0	1	13.1	22	48	21	21	7	4	20	7.3	
CHEYENNE	6126	804.9	1011.4	43	19	31.4	6.0	58	14+	- 3	23	0	29	11	43	0.23	- 0.29	0.13	7	0	3.0	1	7.7	27	63	W	8	7	9	15	6.7	47
LANDER	5563	820.9	1011.1	37	14	25.3	6.0	54	6	0	4	0	29	12	60	0.12	- 0.34	0.06	3	0	2.0	6	2.8	23	57	SW	7	5	9	17	7.1	59
SHERIDAN	3964	873.0	1017.1	22	- 1	10.3	-11.0	53	7	-17	28	0	31	2	70	1.11	0.47	0.76	7	0	15.0	11	3.3	31	54	NW	26	4	7	20	7.8	54

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

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
+ 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.

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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	189	998.3	1021.4	11.1	1.1	5.9	- 2.2	19.4	30	-11.7	5	0	17	- 0.6	68	198	70	100	12	1	T	0	0.8	8	10.3	S	8	3	5	23	8.2	39
HUNTSVILLE	190	998.0	1021.6	8.3	- 0.6	4.1	- 2.0	18.3	30	-12.2	5	0	18	- 0.6	75	187	55	75	11	1	T	0	1.2	8	11.2	15	23	4	6	21	7.9	
MOBILE	64	1011.9	1019.9	16.1	5.6	10.8	- 0.8	24.4	9	- 6.7	5	0	10	5.0	71	71	- 47	34	8	1	.0	0	1.6	8	11.2	18	8	4	8	19	7.8	
MONTGOMERY	56	1013.9	1021.2	14.4	2.8	8.6	- 0.3	24.4	31	- 7.2	5	0	15	2.2	71	47	- 56	34	9	0	0	0	0.6	5	10.7	S	8	4	6	21	8.0	44
ALASKA												B																				
ANCHORAGE	35	1011.5	1016.7	-11.1	-19.4	-15.2	- 4.2	- 3.9	30	-26.7	5	0	31	-20.6	63	7	- 13	4	4	0	165	457	1.4	36	14.8	1	9	11	7	13	5.3	54
ANNETTE	34	1006.4	1010.6	- 2.8	- 9.4	- 6.0	- 7.3	7.2	3	-15.0	28+	0	30	-11.7	66	86	-202	35	13	0	589	356	2.6	4	16.5	14	3	13	4	14	5.4	
BARROW	9	1023.7	1024.3	-21.1	-28.3	-24.8	1.9	- 3.3	24	-41.7	9+	0	31	-27.2	80	3	- 2	2	6	0	46	254	2.3	11	14.3	11	23	V	V	V		
BARTER ISLAND	12	1023.7	1025.7	-23.3	-30.6	-26.9	0.2	- 6.1	25	-42.2	8+	0	31	-31.7	65	1	- 10	1	1	0	10	152	1.6	22	19.2	27	5	X	X	X		
BETHEL	38	1012.9	1018.8	-10.0	-15.6	-12.7	3.1	1.7	26+	-30.0	3+	0	31	-15.0	82	10	- 18	4	8	0	343	330	1.4	10	14.3	22	28+	6	2	23	7.7	
BETTLES	196	1000.3	1028.4	-27.2	-35.0	-30.9		- 9.4	25	-52.2	2	0	31			3		1	6	0	41	610	1.4	36	6.7	2	7	11	7	13	5.4	
BIG DELTA	386	973.9	1028.3	-27.2	-33.9	-30.3		-14.4	25	-46.7	12+	0	31	-33.3	75	9		5	6	0	76	127	3.0	12	12.5	11	29	15	4	12	4.7	
COLD BAY	29	1014.2	1018.2	2.2	- 2.2	- 0.1	2.2	9.4	22	-13.3	3	0	16	- 2.8	83	95	36	14	21	0	257	102	2.4	18	21.5	17	28+	2	4	25	8.5	
FAIRBANKS	133	1007.8	1027.0	-28.3	-36.7	-32.6	- 8.7	-10.6	23	-51.7	2	0	31			14	- 9	7	5	0	274	635	0.3	3	4.0	3	3	6	13	12	6.6	
FAREWELL	457			-16.7	-29.3	-22.6		0.0	27	-43.3	2	0	31			27		13	6		193	178										
GULKANA	479	960.4	1026.0	-25.0	-33.9	-29.2		-15.0	31	-43.9	17	0	31	-33.9	65	3		1	5	0	61		1.3	2	16.1	4	8	17	3	11	4.3	
HOMER	20			- 6.1	-14.4	-10.4		2.8	29	-22.2	12+	0	31			10		4	5	0	170	152						14	2	15	5.5	
ILIAMNA	57			-12.2	-18.9	-15.7		0.0	29	-34.4	2	0	31			25		9	6		437	762						12	4	15	5.6	
JUNEAU	4	1014.2	1015.0	- 9.4	-18.9	-14.0	-10.2	1.7	3	-25.6	18	0	31	-19.4	64	24	- 78	5	7	0	716	508	3.7	9	13.0	12	30+	13	6	12	4.8	61
KING SALMON	15	1015.9	1017.8	-10.0	-17.8	-13.9	- 3.6	1.7	27	-31.1	3+	0	31	-18.3	68	17	- 11	8	5	0	155	127	0.8	36	13.9	17	27	9	5	17	6.3	
KOTZEBUE	3	1020.7	1021.1	-14.4	-19.4	-16.9	4.1	- 0.6	24+	-35.6	2	0	31	-21.7	66	6	- 4	1	12	0	124	254	8.2	11	19.7	11	29+	6	2	23	7.7	
MC GRATH	105	1010.2	1024.1	-20.6	-28.9	-24.8	- 2.0	- 2.2	22	-48.3	2	0	31	-28.9	69	8	- 24	3	8	0	257	432	0.3	10	6.3	5	3	10	3	18	6.5	
NENANA	109			-28.9	-37.2	-33.0		- 9.4	25	-54.4	2	0	31			12		6	6	0	180				9.4	30	8	15	4	12	4.9	
NOME	4	1016.9	1017.7	- 8.3	-14.4	-11.3	4.0	1.1	23	-31.7	2	0	31	-13.3	83	14	- 12	2	18	0	140	279	5.1	10	17.9	15	26	2	4	25	8.7	17
ST. PAUL ISLAND	7	1011.9	1012.8	1.7	- 2.2	- 0.2	3.5	4.4	25	-10.6	2	0	24	- 1.7	87	57	11	9	27	0	297	102	4.2	20	28.2	20	25	3	2	26	8.6	
SHEMYA	37	996.3	1000.0	1.7	- 2.2	- 0.1	0.3	6.7	8	- 7.8	18	0	23	- 2.8	80	118	54	27	24	0	394	127	7.7	21	30.8	20	8	0	9	22	8.5	
SUMMIT	732	926.9	1024.2	-18.9	-25.0	-22.1		- 7.8	27	-32.8	12+	0	31	-26.7	68	14		7	7	0	168	279	6.5	3	17.0	6	3	13	7	11	5.2	
TALKEETNA	105	1004.1	1018.1	-12.2	-23.9	-18.3		- 5.6	30	-32.8	2	0	31	-23.9	63	11		6	5	0	211	381	1.6	1	9.8	5	8	13	6	12	4.9	
TANANA	71			-28.3	-35.0	-31.7		-11.1	25	-52.8	2+	0	31			12		7	9		203	584			9.4	11	29	13	2	16	5.5	
UNALAKLEET	5	1019.6	1020.1	-12.2	-18.9	-15.4		1.1	23	-41.1	3	0	31			4		1	8	0	104	533	8.7	8	18.3	9	29+	5	4	22	7.6	
YAKUTAT	9	1010.5	1011.6	- 7.8	-20.6	-14.0	-11.4	1.1	3	-28.9	13	0	31	-18.9	68	90	-185	34	9	0	1013	1448	1.9	9	13.0	14	30	13	7	11	5.1	
ARIZONA																																
FLAGSTAFF	2135	784.6	1016.2	5.0	- 5.6	- 0.1	2.5	16.1	6	-23.3	30	0	27	- 6.7	64	118	71	33	13	0	305	152	2.6	21	9.4	21	29+	5	7	19	7.2	
PHOENIX	340	975.6	1014.9	18.9	6.7	12.7	2.9	23.9	26	- 2.8	31	0	2	5.0	66	35	16	23	7	1	0	0	1.1	12	10.7Y	NW	29	10	4	17	6.1	68
TUCSON	788	925.8	1014.4	20.0	6.1	13.1	3.2	27.8	8	- 2.8	31+	0	2	1.7	53	19	- 2	16	6	0	0	0	1.4	15	11.6	E	4+	10	9	12	5.4	82
WINSLOW	1492	850.0	1016.9	10.6	- 2.2	4.1	4.7	17.8	12	-15.0	30	0	21	- 3.3	64	3	- 8	3	3	0	T	T	2.1	20	17.4	20	21	6	10	15	6.4	
YUMA	59	1007.5	1014.9	21.1	9.4	15.3	3.4	26.7	7	0.6	30	0	0	3.9	53	17	7	13	4	0	0	0	0.6	3	13.4	SE	21	14	4	13	5.3	69
ARKANSAS																																
FORT SMITH	136	1002.4	1019.3	10.6	- 0.6	4.8	0.5	25.6	22	-10.0	4+	0	19	- 2.2	67	72	5	39	7	1	0	0	1.6	7	13.0	NW	8	2	7	22	8.3	39
LITTLE ROCK	78	1009.8	1019.8	11.7	1.1	6.4	1.6	27.2	8	- 8.9	4	0	15	0.0	66	205	72	132	11	4	T	T	0.7	9	17.9	W	23+	3	5	23	8.1	37
CALIFORNIA																																
BAKERSFIELD	145	999.3	1017.1	12.2	6.1	9.4	0.8	22.8	20	- 0.6	30+	0	2	5.6	78	54	24	14	13	0	0	0	0.3	8	10.7	2	26	1	3	27	9.2	
BISHOP	1252	871.0		11.7	- 4.4	3.6	0.9	21.7	6+	-16.7	30	0	26			227	202	70	11		589	584						7	7	17	6.7	
BLUE CANYON	1609			4.4	- 1.1	1.6	- 1.2	18.3	5+	-12.2	29+	0	21			823	526	122	20		1875	1168			20.6	18	26	3	3	25	8.5	
EUREKA U	13			10.0	3.3	6.7	- 1.9	15.0	3	- 1.7	23	0	2			354	183	81	22		5	T			15.6	SW	26	5	2	24	8.1	34
FRESNO	100	1004.7	1016.8	10.0	4.4	7.1	- 0.7	17.8	20	- 0.6	31+	0	5	3.9	81	217	166	66	14	2	T	0	1.1	13	11.2	SE	21	1	3	27	9.2	14
LONG BEACH	10	1014.6	1016.0	18.3	9.4	14.1	2.3	30.6	3	1.1	30	0	0	7.8	71	285	235	77	12	0	0	0	1.0	20	12.5	18	21	4	7	20	7.5	
LOS ANGELES	30	1011.9	1015.5	17.2	10.6	13.8	1.4	27.8	5	3.9	30	0	0	8.3	73	244	176	101	12	2	0	0	0.7	20	15.6Y	S	21	4	10	17	7.3	
LOS ANGELES U	82			18.3	11.1	14.6	1.4	28.3	5	3.9	29	0	0			379	301	110	12		0	0			13.9	SW	21	5	6	20	7.0	65
MT SHASTA R	1080			3.3	- 5.0	- 0.7	- 1.4	8.3	20	-14.4	29	0	27			248	87	61	20		1369	813										
OAKLAND	2	1015.2	1015.5	11.7	6.1	9.0	0.1	16.1	20+	1.7	10	0	0	6.1	82	175	78	39	17	3	0	0	1.3	17	14.3	21	26	4	8	19	7.7	
RED BLUFF	104	1002.0	1014.9	9.4	2.2	5.8	- 1.7	15.0	20	- 4.4	29	0	8	2.2	81	178	69	45	15	1	T	T	1.7	18	25.5	SE	26	1	8	22	8.3	29
SACRAMENTO	5	1014.9	1015.8	10.0	3.3	6.7	- 0.7	16.1	25	- 2.2	10	0	6	3.9	86	216	135	44	16	2	0	0	1.9	18	14.3	W	26	3	4	24	8.4	34
SANDBERG R	1377	860.5		8.9	1.7	5.3	0.9	21.7	6	- 8.3	29	0	10			189	124	60	11		8	T			28.6	20	20	4	6	21	7.6	
SAN DIEGO	4	1014.9	1015.9	17.8	11.1	14.5	1.7	30.0	4	3.3	30	0	0	8.9	72	121	70	53	13	0	0	0	0.9	20	13.4	S	21	8	5	18	6.6	57
SAN FRANCISCO	2	1014.9	1015.6	11.7	5.0	8.4	- 0.8	17.2	19	0.6	29+	0	0	5.0	81	227	125	52	17	1	0	0	1.3	18	21.9	S	25	2	10	19	7.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
CALIFORNIA																																
SAN FRANCISCO U	16			11.7	6.7	9.2	- 1.2	16.1	20+	3.3	29	0	0			197	81	46	17		0	0			15.2	SW	26+					42
SANTA MARIA	72			16.7	6.7	11.8	1.7	24.4	4	- 0.6	29	0	1			180	108	49	14		0	0						3	8	20	7.6	
STOCKTON	7	1015.6	1016.5	9.4	3.9	6.6	- 0.5	17.2	25	- 2.8	10	0	6	4.4	86	158	94	33	16	0	0	0	2.1	16	14.3	27	26	2	7	22	8.5	
COLORADO																																
ALAMOSA	2297	767.4		5.6	-14.4	- 4.4	3.7	12.2	14	-22.8	1	0	31			4	- 3	2	5		89	25						8	13	10	5.6	
COLORADO SPRINGS	1873	804.9	1013.1	8.3	- 6.7	0.8	2.7	17.8	7	-17.8	24+	0	29	- 9.4	53	3	- 5	2	3	0	145	76	1.1	5	17.0	33	31	7	5	19	7.0	
DENVER	1610	829.7	1010.4	10.0	- 6.7	1.7	3.6	20.6	7	-20.6	24	0	31	- 7.8	60	4	- 10	2	4	0	71	51	0.9	20	20.6	SW	8	7	6	18	6.7	64
GRAND JUNCTION	1480	850.0	1017.5	3.3	- 7.2	- 1.9	1.4	10.6	26+	-16.7	9	0	27	- 5.6	77	26	10	10	11	2	86	76	0.7	9	13.0	W	21	5	7	19	7.6	49
PUEBLO	1428	850.7	1012.1	10.6	- 5.6	2.5	3.6	20.6	7	-15.0	24	0	29	- 7.2	54	1	- 7	1	3	0	28	25	0.8	29	15.2	NE	8	7	10	14	6.3	67
CONNECTICUT																																
BRIDGEPORT	2	1019.0	1019.6	2.8	- 3.9	- 0.8	0.2	11.1	31	-13.3	28	0	26	- 7.2	64	31	- 63	18	9	0	13	T	3.5	33	18.8	30	1	12	6	13	5.7	
HARTFORD	52	1012.2	1018.9	0.0	- 8.9	- 4.4	- 1.1	6.1	22	-18.3	5	0	30	-10.6	63	30	- 61	16	10	0	86	127	2.5	31	16.5	NW	1	10	6	15	6.2	61
NEW HAVEN	2	1019.0		2.2	- 5.6	- 1.8	- 0.5	10.0	31	-15.0	28	0	28			35	- 66	17	9		43	25			16.1	W	1	12	4	15	5.8	63
DELAWARE																																
WILMINGTON	23	1018.0	1021.0	3.3	- 4.4	- 0.7	- 1.4	8.9	31+	-11.1	6+	0	23	- 7.8	61	43	- 44	13	11	0	74	76	2.5	29	17.4	27	1	10	5	16	6.2	
DIST.OF COLUMBIA																																
WASH NATL AP	3	1019.6	1021.9	5.0	- 2.8	1.2	- 1.5	15.6	9	-10.6	5	0	20	- 6.7	58	43	- 34	23	10	0	5	T	2.3	32	13.9	NW	1	11	5	15	6.1	54
FLORIDA																																
APALACHICOLA U	4			15.0	7.8	11.3	- 1.6	22.2	24	- 1.7	6	0	3			21	- 58	9	5	2	0	0			12.1	SE	19	6	6	19	7.1	54
DAYTONA BEACH	9	1019.3	1020.5	19.4	9.4	14.4	- 0.7	25.6	24+	1.7	2	0	0	8.9	72	39	- 11	16	10	0	0	0	1.5	36	11.6	35	12+	3	13	15	7.1	
FORT MYERS	5	1019.0	1019.1	22.8	11.7	17.1	- 0.4	26.7	24	5.0	7	0	0	12.8	79	37	- 2	10	5	0	0	0	2.1	6	10.3	22	4	9	11	11	5.4	
JACKSONVILLE	6	1020.0	1021.0	17.8	6.7	12.3	- 0.9	26.7	24	0.0	2	0	1	6.1	70	21	- 41	12	6	1	0	0	1.3	1	14.8	N	12	4	13	14	6.9	49
KEY WEST	1	1016.9	1017.6	23.3	19.4	21.2	0.3	25.6	25+	15.6	8	0	0	17.2	79	98	59	54	9	4	0	0	3.9	6	13.0	SE	17	8	10	13	6.0	60
LAKELAND U	65			20.6	10.0	15.4	- 1.1	27.2	24	3.9	2	0	0			85	33	66	9		0	0						9	15	7	5.5	67
MIAMI	2	1017.6	1018.0	23.3	16.1	19.8	0.4	26.1	25+	10.0	8	0	0	14.4	72	169	118	36	9	2	0	0	2.1	7	11.2	11	20	6	10	15	6.6	
ORLANDO	33	1015.9	1020.3	21.1	9.4	15.4	- 0.3	27.2	24	3.3	2	0	0	10.0	76	56	6	42	5	0	0	0	2.1	5	10.3	11	29	4	13	14	6.9	
PENSACOLA	34	1015.9	1020.0	15.6	6.1	10.7	- 1.3	22.8	31	- 4.4	5	0	7	5.0	69	46	- 61	23	8		0	0	1.8	7	14.8	N	4	2	6	23	8.3	48
TALLAHASSEE	17	1018.6	1021.0	17.8	3.9	11.0	- 1.2	25.6	31+	- 7.8	6	0	12	3.9	68	10	- 77	6	5	1	0	0	0.8	5	8.0	16	18+	5	6	20	7.4	
TAMPA	6	1019.3	1019.5	20.6	8.9	14.7	- 1.5	25.6	28	2.2	7	0	0	9.4	73	45	- 9	34	5	0	0	0	1.9	6	8.0	33	6+	6	10	15	6.5	65
WEST PALM BEACH	5	1018.0	1018.7	22.8	13.9	18.4	- 1.0	27.2	20	6.1	8	0	0	12.8	70	91	28	42	10	0	0	0	1.8	6	14.3	35	1	4	10	17	7.2	
GEORGIA																																
ATHENS	244	991.9	1021.7	10.6	0.0	5.3	- 1.7	20.0	30	-10.0	6	0	16	- 2.8	62	126	2	98	13	3	T	0	0.6	34	9.4	7	20	3	9	19	7.6	
ATLANTA	308	983.7	1021.6	10.0	- 0.6	4.6	- 2.5	21.1	30	-12.2	5	0	19	- 2.2	68	72	- 40	42	12	1	T	0	0.8	3	12.5	NW	1	3	6	22	8.1	46
AUGUSTA	41	1016.3	1021.7	13.3	0.0	6.6	- 2.1	22.8	18	-11.7	6	0	17	- 1.1	64	50	- 26	48	6	0	T	0	0.3	33	10.3	30	7	3	9	19	7.6	
COLUMBUS	117	1007.1		12.8	2.2	7.4	- 1.3	21.1	30+	-10.0	6	0	15	0.0	64	31	- 72	22	9	0	0	0	1.0	4	8.0	8	27	2	5	24	8.5	
MACON	108	1008.5	1021.8	13.3	0.6	6.9	- 2.6	25.0	24	-11.7	6	0	15	- 1.7	59	47	- 39	39	8	1	0	0	0.6	1	8.0	NW	24+	2	7	22	8.1	41
ROME	194			9.4	- 1.7	3.7	- 1.9	20.0	30	-14.4	5	0	19			120	- 20	54	15		T	T										
SAVANNAH	14	1020.0	1021.6	15.0	2.2	8.6	- 2.4	25.0	31	- 6.1	15	0	13	1.1	66	45	- 26	34	6	2	0	0	1.0	2	11.2	W	7	4	10	17	7.4	63
HAWAII																																
HILO	8	1009.5	1010.8	26.1	17.2	21.9	0.3	30.6	8	12.2	23	0	0	16.1	73	499	199	229	11	0	0	0	0.8	26	10.7	NW	19	4	13	14	6.9	35
HONOLULU	2	1010.5	1010.9	25.0	16.1	20.6	- 1.9	27.8	31	11.1	20	0	0	15.6	77	208	113	115	11	1	0	0	1.5	35	12.5	NE	30+	9	11	11	5.8	61
KAHULUI	15	1008.5	1010.8	25.6	15.6	20.4	- 1.8	28.3	2	8.9	20	0	0	16.1	77	197	117	54	15	0	0	0	0.3	6	13.0	E	31	11	10	10	5.5	63
LIHUE	31	1006.4	1011.7	22.8	15.0	18.8	- 2.8	25.6	2+	10.0	22	0	0	14.4	78	126	- 14	40	14	2	0	0	1.1	33	11.2	E	29	10	10	11	5.5	50
IDAHO																																
BOISE	865	910.6	1012.3	5.0	- 2.8	1.3	2.9	12.8	13	-15.0	29	0	21	- 3.3	73	89	55	25	21	0	366	152	2.1	13	18.3	SW	26	3	2	26	8.5	26
LEWISTON	431			- 1.1	- 7.8	- 4.7	- 3.9	7.2	4	-18.9	25	0	29			76	48	26	20		582	229						1	2	28	9.3	
POCATELLO	1358	858.1	1013.9	3.3	- 6.1	- 1.6	3.8	10.6	13+	-17.8	24+	0	24	- 6.7	70	46	15	10	17	0	196	102	4.3	20	18.3	S	20	1	4	26	8.9	35
ILLINOIS																																
CAIRO U	96			6.1	- 1.7	2.1	- 0.9	16.7	23	-13.3	4	0	26			252	138	120	16		267	9			15.6	S	23	1	56	20	7.5	33
CHICAGO O HARE	201	994.6	1020.3	- 2.2	-10.0	- 6.1	- 1.7	11.1	23	-22.2	4	0	26	-10.0	75	41	- 5	8	11	0	94	178	1.9	23	17.0	25	24	5	5	21	7.4	
CHICAGO MIDWAY	185	996.6	1020.3	- 1.7	- 9.4	- 5.7	- 2.4	11.7	23	-23.3	1	0	26	-11.1	69	55	8	13	12	1	173	178	2.4	22	13.4	SE	28	6	4	21	7.4	30

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
ILLINOIS																																
MOLINE	177	998.0	1020.6	- 3.9	-11.7	- 7.8	- 2.6	6.1	23	-23.3	4+	0	30	-11.1	76	83	42	27	12	0	157	102	1.3	25	17.9	W	8	7	1	23	7.5	35
PEORIA	199	995.6	1020.9	- 2.2	-10.6	- 6.5	- 3.0	8.3	29+	-22.2	4	0	29	-10.0	76	62	14	15	14	2	117	102	1.2	23	14.3	W	9+	6	4	21	7.5	34
ROCKFORD	221	991.5	1019.9	- 3.9	-11.7	- 7.8	- 2.3	6.1	23	-23.3	4+	0	27	-10.6	78	47	- 3	18	11	0	117	203	1.6	23	12.1	25	25+	6	3	22	7.7	
SPRINGFIELD	179	997.6	1020.7	- 0.6	- 8.9	- 4.8	- 2.8	10.0	29+	-20.6	4	0	27	- 8.3	78	64	15	13	13	1	127	76	1.0	22	15.6	NW	6	6	7	18	7.3	35
INDIANA																																
EVANSVILLE	116	1007.1	1021.6	3.9	- 4.4	- 0.3	- 1.5	15.0	30+	-15.0	5+	0	23	- 5.6	68	203	102	69	11	3	114	76	0.4	15	12.5	S	5	6	5	20	7.4	37
FORT WAYNE	241	989.5	1020.8	- 0.6	- 8.9	- 4.8	- 2.1	11.7	30+	-20.0	1	0	26	- 8.3	79	116	48	44	11	1	97	76	2.5	23	17.0	W	6	5	3	23	8.0	38
INDIANAPOLIS	241	990.9	1021.2	1.1	- 7.8	- 3.5	- 1.9	13.3	30+	-18.9	10+	0	25	- 7.8	75	157	80	44	10	2	236	152	1.4	21	13.4	SW	30	6	3	22	7.3	24
SOUTH BEND	236	990.5	1019.9	- 1.7	- 9.4	- 5.4	- 1.8	11.1	23	-22.2	4	0	27	- 7.8	85	92	36	21	16	2	612	432	2.2	21	12.5	24	24	2	2	27	8.8	
IOWA																																
BURLINGTON	211			- 2.8	-11.1	- 6.8	- 2.6	6.7	23	-23.9	4	0	30	-10.0	76	82	40		13	1	142		0.6	28	14.3	32	6	5	5	21	7.6	
DES MOINES	286	984.1	1020.9	- 5.0	-12.8	- 8.8	- 2.1	3.9	16	-24.4	4	0	31	-11.7	80	26	- 7	7	13	0	173	127	0.9	34	16.1	NW	8	5	3	23	7.8	35
DUBUQUE	322	978.7		- 6.1	-13.9	-10.0	- 2.9	3.9	23	-27.2	4	0	30			65	19	20	12		239	279						6	2	23	7.7	
SIOUX CITY	334	978.3	1020.6	- 6.1	-15.6	-10.8	- 3.4	5.6	5	-28.3	4	0	30	-13.9	78	31	11	6	12	0	307	381	1.3	35	18.3	NW	5	4	3	24	8.3	31
WATERLOO	265	986.8	1020.5	- 6.7	-14.4	-10.6	- 2.8	2.2	16	-26.1	4	0	30	-14.4	73	40	10	14	12	0	132	279	0.8	27	12.5	28	24+	5	3	23	7.9	
KANSAS																																
CONCORDIA	448	963.4	1018.8	- 0.6	- 9.4	- 5.2	- 2.7	11.1	15	-22.2	4	0	29	- 7.8	83	18	T	4	13	2	147	102	0.8	6	20.1	N	8	6	4	21	7.6	34
DODGE CITY	787	922.5	1015.7	5.0	- 5.6	- 0.2	0.3	16.1	14	-16.1	24	0	27	- 4.4	79	1	- 14	1	2	0	T	T	1.0	14	20.1	N	8	3	8	20	8.0	43
GOODLAND	1114	883.8	1014.2	5.0	- 8.3	- 1.6	1.0	14.4	15+	-18.9	24+	0	30	- 6.1	77	3	- 7	1	5	0	28	51	1.4	16	17.4	35	8	5	10	16	6.9	
TOPEKA	267	986.8	1019.9	1.1	- 7.8	- 3.4	- 1.7	13.3	22	-20.0	31	0	27	- 8.3	72	21	- 5	10	9	2	157	102	0.8	2	16.5	NW	8	5	4	22	7.8	33
WICHITA	403	968.5	1018.1	3.3	- 5.0	- 1.1	- 1.1	12.8	15	-15.0	4	0	26	- 5.6	74	11	- 9	8	4	0	T	25	0.9	9	17.9	N	23+	3	6	22	8.3	38
KENTUCKY																																
COVINGTON	265	988.8	1021.8	3.3	- 5.6	- 1.0	- 0.8	13.9	30	-16.1	5	0	21	- 6.7	67	118	27	42	13	0	25	25	1.7	22	13.0	19	30	6	4	21	7.5	
LEXINGTON	294	985.1	1022.0	4.4	- 4.4	0.1	- 1.3	14.4	30	-16.7	5	0	19	- 5.6	69	108	- 17	31	16	1	48	25	1.5	20	10.7	29	30+	6	4	21	7.5	
LOUISVILLE	145	1003.4	1021.7	5.0	- 3.9	0.6	- 1.1	15.0	30+	-15.6	4	0	20	- 6.1	65	135	31	37	14	1	81	76	0.9	23	15.2	SW	6	5	7	19	7.8	40
LOUISIANA																																
ALEXANDRIA	28	1015.2	1019.6	15.0	5.0	10.1	- 0.1	25.6	29	- 7.8	5	0	9			30	-105	8	7	1	0	0	0.9	8	11.6	36	9+	3	4	24	8.5	
BATON ROUGE	20	1016.6	1019.4	17.2	6.7	11.9	0.3	26.7	28	- 6.1	5	0	6	5.6	70	34	- 87	17	7	1	0	0	1.6	10	10.7	15	29	3	3	25	8.3	
LAKE CHARLES	3	1017.6	1018.6	16.7	7.8	12.2	0.2	25.6	23	- 5.0	5	0	5	7.8	79	29	- 84	10	6	1	T	0	1.7	10	10.7	16	29	2	5	24	8.1	
NEW ORLEANS	1	1018.6	1019.5	17.8	7.2	12.3	- 0.2	26.1	30+	- 5.0	6	0	6	6.7	72	79	- 18	59	8	0	T	0	1.7	7	12.1	16	29	4	7	20	7.8	
SHREVEPORT	77	1009.1	1018.7	14.4	5.0	9.6	1.0	25.6	29+	- 6.7	5	0	9	3.3	68	29	- 93	10	6	2	0	0	1.3	13	13.0	20	8	3	6	22	8.3	42
MAINE																																
CARIBOU	190	991.2		- 4.4	-13.9	- 9.3	2.7	4.4	24	-22.8	17+	0	31			76	23	27	11		749	991						7	4	20	7.3	
PORTLAND	14	1014.6	1017.0	0.6	- 9.4	- 4.3	1.3	8.3	25	-20.6	5	0	31	-10.6	62	92	- 19	37	7	0	137	356	2.1	29	18.8	W	2	11	6	14	5.7	53
MARYLAND																																
BALTIMORE	45	1015.9	1021.8	3.9	- 4.4	- 0.2	- 1.7	13.3	9	-12.2	5	0	23	- 7.8	60	35	- 52	20	9	0	T	T	2.3	30	15.6	W	10+	9	7	15	6.2	52
MASSACHUSETTS																																
BLUE HILL OBS R	192			0.6	- 6.7	- 3.1	- 0.3	8.3	25	-16.1	28	0	29			58	- 56	22	8		23	51			24.1	W	1					57
BOSTON	5	1016.9	1018.0	1.7	- 5.0	- 1.5	- 0.3	9.4	25	-13.9	28	0	26	- 8.9	59	57	- 43	23	7	0	23	25	3.7	30	22.8	W	1	10	7	14	5.7	61
NANTUCKET	13	1017.6	1017.8	3.9	- 2.8	0.4	- 0.1	11.1	31	-10.0	1	0	24	- 3.9	73	46	- 61	34	7	0	10	T	3.1	32	21.0	W	1	3	11	17	7.4	33
WORCESTER	301	979.7	1018.1	- 1.1	- 8.9	- 4.9	- 0.4	5.6	19	-17.8	28	0	30	-10.0	66	33	- 61	13	10	0	46	229	3.1	28	19.2	27	2	11	6	14	5.6	
MICHIGAN																																
ALPENA	210	991.5	1017.9	- 2.2	-10.6	- 6.5	0.3	5.6	23	-22.8	1	0	29	- 9.4	76	57	7	13	17	0	653	686	1.2	24	10.7	E	9+	0	6	25	8.8	22
DETROIT	189			- 0.6	- 7.2	- 3.8	- 1.0	11.7	30	-18.9	1	0	25	- 8.9	68	64	12	18	12	0	196		2.5	25	15.6	29	10					
DETROIT M WAYNE CO	193	994.2	1019.4	- 0.6	- 8.9	- 4.9	- 1.7	11.7	30	-20.0	1	0	26	- 7.8	79	72	23	24	13	0	160	127	2.2	24	14.8	W	10	2	8	21	7.9	30
FLINT	235	989.5	1018.6	- 1.7	- 8.9	- 5.2	- 1.1	10.0	30	-19.4	1	0	25	- 8.3	77	47	4	14	15	0	259	229	2.7	23	14.3	27	1	2	9	20	8.0	
GRAND RAPIDS	239	988.5	1018.9	- 2.8	- 9.4	- 6.2	- 1.8	7.2	23	-20.0	1	0	27	- 8.3	84	61	12	12	21	1	704	432	1.6	24	15.6	SW	24	1	3	27	9.0	28
HOUGHTON LAKE	350	974.3	1018.3	- 3.3	-11.7	- 7.6	- 0.5	6.1	23	-24.4	27+	0	29	- 9.4	85	47	10	9	19	0	655	457	1.3	25	10.3	27	10+	2	6	23	8.5	
LANSING	256	986.1	1019.1	- 1.7	- 9.4	- 5.7	- 1.4	11.1	30	-20.0	1	0	25	- 8.3	79	49	- 1	10	17	0	335	305	2.5	24	15.2	SW	24	1	10	20	8.1	33
MARQUETTE U	206			- 3.3	- 8.9	- 5.9	1.0	6.7	23	-20.6	1	0	28			61	13	12	22		749	787			11.2	SE	16	0	1	30	9.4	22
MUSKEGON	191	994.6	1018.6	- 2.2	- 7.8	- 5.1	- 1.7	7.2	23	-19.4	1	0	27	- 7.8	81	76	23	10	21	0	1306	533	1.0	27	13.0	24	24	1	1	29	9.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
MICHIGAN																																
SAULT STE MARIE	220	989.5	1017.5	- 5.6	-12.8	- 9.2	- 0.2	3.3	23	-27.2	1	0	29	-11.1	82	74	22	20	20	0	818	635	0.7	8	14.3	E	28	2	4	25	8.8	25
MINNESOTA																																
DULUTH	435	964.4	1019.1	- 8.9	-18.3	-13.6	- 0.7	0.0	16	-28.9	1	0	31	-16.7	76	119	90	33	23	0	1189	1067	1.3	31	14.8	NW	6	4	5	22	7.9	32
INTERNATIONAL FALLS	359	973.9	1020.1	-12.2	-22.2	-17.3	- 1.2	- 1.1	16	-38.3	26	0	31	-20.0	76	71	50	12	21	0	780	889	0.5	34	10.7	13	27	2	7	22	8.1	
MINNEAPOLIS	254	988.2	1020.4	- 7.8	-17.2	-12.6	- 1.7	1.7	22+	-29.4	1	0	31	-16.7	71	52	34	12	17	0	549	610	0.9	27	13.0	NW	6	6	3	22	7.6	35
ROCHESTER	395	969.2	1019.7	- 7.8	-17.2	-12.3	- 2.1	2.2	22+	-29.4	1	0	31	-16.1	73	32	9	11	12	0	241	483	1.4	26	14.8	29	8	6	3	22	7.5	
ST CLOUD	315	979.7	1020.1	- 9.4	-20.0	-14.9	- 2.7	0.6	16+	-29.4	1	0	31			64	46	13	18		582	762						6	3	22	7.6	
MISSISSIPPI																																
JACKSON	94	1007.8	1020.0	14.4	3.3	8.9	0.1	24.4	30+	-11.7	5	0	14	3.3	71	22	-110	5	11	1	0	0	1.2	12	12.5	SW	8	2	5	24	8.4	35
MERIDIAN	88	1009.8	1021.1	13.9	2.8	8.2	- 0.8	23.9	23	- 9.4	5	0	15	2.8	73	69	- 50	41	10	1	0	0	0.2	5	9.4	18	23	3	3	25	8.5	
MISSOURI																																
COLUMBIA	237	990.2	1019.6	2.2	- 6.7	- 2.4	- 1.4	11.7	22	-19.4	4	0	27	- 6.7	75	98	55	28	13	4	168	152	0.3	13	14.3	N	8	8	1	22	7.4	34
KANSAS CITY	226	991.5	1019.8	1.1	- 7.2	- 3.1	- 2.9	14.4	22	-18.9	4	0	27	- 6.7	77	33	- 3	16	10	2	152	152	0.7	3	13.0	NW	8	7	1	23	7.7	43
ST JOSEPH	247			1.7	- 7.8	- 3.1	- 0.4	12.2	15	-21.1	31+	0	25	- 8.3	70	23	- 8		8	1	112		0.7	34	14.3	29	5	7	2	22	7.4	
ST LOUIS	163	999.7	1020.9	2.8	- 6.1	- 1.6	- 1.5	13.3	29	-16.7	4	0	26	- 5.6	77	92	41	35	12	2	53	51	0.5	21	14.8	W	6	8	2	21	7.4	36
SPRINGFIELD	386	972.2	1019.1	6.1	- 4.4	0.8	- 0.1	16.1	22	-17.2	4	0	24	- 5.6	68	85	35	53	11	2	36	25	1.7	15	12.5	SE	14	8	1	22	7.5	39
MONTANA																																
BILLINGS	1087	886.2	1017.0	- 9.4	-19.4	-14.3	- 9.4	8.3	5	-30.6	24+	0	31	-20.0	64	25	11	9	9	0	310	229	0.8	32	14.8	NW	7	1	3	27	8.8	15
GLASGOW	696	933.3	1021.5	-16.7	-26.7	-21.7	- 9.3	5.6	5	-43.9	25	0	31	-25.0	71	31	19	9	15	0	612	533	1.2	5	14.3	35	5	2	5	24	8.3	
GREAT FALLS	1116	883.5	1019.5	-14.4	-23.9	-19.3	-13.8	7.8	5	-38.3	23	0	30	-23.9	63	52	37	12	16	0	574	432	1.2	26	16.1	SW	31+	1	5	25	8.5	39
HAVRE	788	922.1	1021.7	-18.9	-29.4	-24.1	-14.0	6.1	5	-46.7	24	0	31	-28.9	59	42	30	11	16	0	640	584	0.8	30	13.0	NW	7	1	5	25	8.8	57
HELENA	1167	874.7	1017.0	- 7.8	-19.4	-13.8	- 6.3	10.0	5+	-37.2	24+	0	31	-18.3	69	71	59	20	22	1	904	610	1.6	28	15.2	W	4	2	4	25	8.6	30
KALISPELL	904	904.8	1013.8	- 6.7	-16.1	-11.5	- 4.7	6.1	5	-27.2	23	0	30	-15.6	70	75	41	15	23	0	869	711	1.3	4	15.6	4	26+	0	4	27	9.2	
MILES CITY	801	920.1	1019.4	-13.3	-23.3	-18.2	- 9.6	5.6	5	-38.3	25	0	31			18	7		14	0	175		1.8	36								
MISSOULA	972	897.4	1013.6	- 3.9	-12.2	- 7.8	- 0.7	5.6	7	-27.8	24	0	30	-10.0	82	75	51	19	24	1	699	381	0.4	9	18.8	NW	7	0	1	30	9.6	19
NEBRASKA																																
GRAND ISLAND	561	949.9	1019.3	- 3.9	-12.8	- 8.4	- 3.2	6.1	5	-27.2	4	0	30	-10.6	83	23	7	6	12	0	193	406	0.4	33	21.5	35	8	3	5	23	8.2	
LINCOLN U	351			- 2.8	-11.1	- 6.9	- 3.1	7.8	15	-24.4	4	0	30			17	- 6	6	9		198	152			13.4	NW	5	5	3	23	8.0	30
NORFOLK	471			- 5.0	-15.6	-10.3	- 3.3	5.6	5	-29.4	4	0	31			31	11	8	8		249	432						5	4	22	7.9	
NORTH PLATTE	846	915.3	1017.8	- 3.3	-13.9	- 8.8	- 4.3	5.6	5	-26.7	24	0	31	-10.6	86	24	13	10	8	0	315	254	0.7	6	15.6	NW	8	5	4	22	7.8	30
OMAHA	298	982.7	1020.0	- 2.8	-11.7	- 7.4	- 2.0	7.8	15	-25.6	4	0	30	-11.7	72	28	7	6	15	0	211	102	1.1	35	17.4	NW	5	5	1	25	8.1	22
SCOTTSBLUFF	1206	874.7	1015.2	2.2	-11.7	- 4.7	- 0.9	13.3	7	-22.2	4	0	29	- 8.9	79	18	11	6	8	0	216	102	1.4	8	13.0	34	8	7	7	17	6.7	
VALENTINE	789			- 4.4	-17.2	-10.7	- 4.1	6.1	5	-30.0	25	0	31			8	- 2	3	8		135	178			20.1	S	19	6	5	20	7.3	44
NEVADA																																
ELKO	1539	839.5	1013.3	3.9	- 7.2	- 1.8	3.4	11.1	20	-21.1	29	0	25			31	2	8	15	1	274	229	1.8	23	15.6	27	26	4	6	21	7.8	
ELY	1906	803.9	1013.3	5.6	- 6.7	- 0.4	4.7	16.1	6	-19.4	31	0	28	- 7.2	64	31	12	13	11	0	211	76	3.8	20	24.1	SW	26	5	5	21	7.7	60
LAS VEGAS	659	937.7	1015.1	13.9	3.3	8.6	2.4	20.0	20	- 4.4	10	0	7	- 1.7	54	40	26	19	9	0	T	T	2.0	23	19.7	SW	21	10	5	16	6.1	61
RENO	1342	860.8	1012.0	8.9	- 3.3	2.8	3.7	19.4	7	-12.8	29	0	25	- 5.6	60	105	75	36	9	0	272	152	1.7	21	26.4	SW	12	6	7	18	7.3	48
WINNEMUCCA	1311	862.9	1012.6	6.1	- 5.0	0.7	3.3	14.4	7	-23.3	29	0	24	- 5.0	67	33	6	7	12	0	175	51	2.1	21	19.7	SW	11	4	4	23	7.9	35
NEW HAMPSHIRE																																
CONCORD	104	1005.1	1018.2	0.6	-11.7	- 5.6	0.4	10.6	23	-24.4	5	0	30	-10.6	68	34	- 48	12	9	0	119	279	1.8	30	16.5	NW	1	10	9	12	5.5	60
MT WASHINGTON OBS	1909			- 8.9	-17.8	-13.3	0.9	1.1	25+	-32.2	1	0	31			218	80	78	21	0	1443	584			60.4Y	W	2	5	5	21	7.7	26
NEW JERSEY																																
ATLANTIC CITY	20	1018.0	1020.4	4.4	- 6.1	- 0.9	- 2.5	12.8	31	-17.2	28	0	24	- 5.6	73	43	- 48	24	9	0	13	T	2.9	30	14.8	30	1	12	5	14	5.9	45
ATLANTIC CITY U	3			3.9	- 3.3	0.2	- 2.0	11.7	31	- 8.9	28+	0	23			57	- 38	22	11		0				19.2	WNW	1					
NEWARK	2	1019.3	1020.3	3.3	- 3.9	- 0.4	- 0.6	8.9	23	-12.2	28	0	23	- 7.2	63	37	- 47	14	9	0	28	25	2.9	29	16.5	27	1	12	4	15	5.8	
TRENTON U	17			2.8	- 3.3	- 0.4	- 1.0	9.4	31	-11.7	28	0	23			60	- 18	28	7		61	51			15.6	NW	1	9	8	14	5.8	62
NEW MEXICO																																
ALBUQUERQUE	1619	836.4	1016.2	10.6	- 3.9	3.3	1.7	16.7	27+	-11.7	30	0	25	- 5.0	60	2	- 8	1	3	0	T	T	0.8	25	18.8	NW	23+	8	6	17	6.4	68
CLAYTON	1515			12.8	- 5.0	3.8	3.2	23.3	7	-17.2	24	0	27			T	- 9	T	0		T	T						9	6	16	6.3	
ROSWELL	1102			16.7	- 2.2	7.2	3.9	28.3	8	-10.6	2	0	22			T	- 12	T	1	0	T	0			16.1	SW	22					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: Resultant speed	Wind: Resultant 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.							%
NEW YORK																																
ALBANY	84	1008.8	1020.0	- 1.1	-11.1	- 6.2	- 1.0	5.6	22+	-22.8	5	0	30	- 8.9	80	54	- 9	19	12	0	160	229	2.5	27	18.8	W	8	4	11	16	7.3	47
BINGHAMTON	485	958.3	1019.6	- 2.2	- 8.9	- 5.5	- 0.9	6.7	31+	-18.9	28	0	30	- 9.4	77	51	- 13	26	14	0	254	178	2.2	25	14.8	W	1	2	6	23	8.5	36
BUFFALO	215	992.2	1019.0	- 0.6	- 7.2	- 3.9	0.3	11.7	30	-17.2	28	0	25	- 7.8	76	98	26	36	22	2	792	406	3.6	25	17.0	SW	9	1	4	26	8.9	36
J.F. KENNEDY	4	1019.3	1020.1	2.8	- 3.3	- 0.4	- 0.3	8.3	31+	-11.7	28	0	22	- 7.2	63	28	- 54	11	8	0	15	T	3.4	30	15.6	27	1	10	7	14	5.6	
NEW YORK U	40	1015.9	1019.4	2.8	- 3.3	- 0.1	- 0.8	8.9	19+	-11.7	28	0	22	- 7.8	59	28	- 56	11	8	0	25	25	2.2	31	13.9	W	1					66
NEW YORK LA GUARDIA	3	1018.6	1020.3	2.2	- 3.3	- 0.6	- 1.5	8.9	19+	-12.8	28	0	25	- 8.9	56	24	- 60	10	9	0	36	25	3.0	32	17.9	NW	1	11	5	15	5.8	
ROCHESTER	167	998.3	1019.2	0.0	- 7.8	- 3.8	0.0	10.6	30+	-16.1	28+	0	28	- 8.3	71	62	2	18	15	0	650	330	3.4	24	17.0	SW	1	2	4	25	8.5	43
SYRACUSE	125	1004.1	1019.7	- 0.6	- 7.8	- 4.3	0.2	7.2	24	-18.9	28	0	28	- 7.8	76	86	6	37	16	2	622	381	1.7	25	17.0	W	1	3	5	23	8.0	24
NORTH CAROLINA																																
ASHEVILLE	652	942.8	1021.0	7.8	- 2.8	2.6	- 0.5	18.9	31	-12.8	5	0	21	- 3.9	70	67	- 39	36	11	0	T	T	1.7	34	17.0	34	7	5	9	17	6.9	49
CAPE HATTERAS R	2	1020.7	1021.0	9.4	2.2	5.8	- 2.3	21.1	19	- 2.8	8+	0	15	1.1	75	82	- 17	51	9	1	5	T	3.3	34	14.3	WNW	1	8	9	14	6.5	51
CHARLOTTE	224	993.6	1022.0	8.3	- 1.7	3.4	- 2.6	20.0	31	-11.1	6	0	21	- 4.4	62	49	- 41	29	8	0	T	T	0.7	1	12.5	NE	20	5	7	19	7.3	57
GREENSBORO	273	989.2	1022.0	7.8	- 2.8	2.4	- 1.8	19.4	31	-12.8	5	0	22	- 5.6	61	51	- 35	32	8	0	8	T	1.2	32	13.0	W	7	5	7	19	7.3	45
RALEIGH	132	1005.4	1021.8	8.3	- 2.8	3.0	- 2.3	21.7	31	-12.8	6	0	20	- 4.4	62	39	- 42	28	5	0	T	T	1.4	33	10.3	29	7+	8	6	17	6.8	48
WILMINGTON	9	1020.3	1021.7	12.2	0.6	6.2	- 2.6	22.8	31	- 6.1	6	0	19	- 1.1	66	71	- 1	43	7	1	13	T	1.6	34	13.9	NW	7	10	6	15	6.3	61
NORTH DAKOTA																																
BISMARCK	502	957.7	1021.8	-12.2	-23.9	-18.2	- 5.9	4.4	5	-32.8	30	0	31	-22.8	64	33	22	10	11	0	406	356	1.7	33	16.1	N	5	6	5	20	7.4	52
FARGO	273	986.5	1021.8	-13.3	-23.9	-18.7	- 4.9	0.0	15	-32.8	25+	0	31	-21.7	72	32	19	7	14	0	368	432	1.7	34	16.1	NW	8	7	4	20	7.2	27
WILLISTON	579	948.2	1021.9	-14.4	-25.6	-20.1	- 6.9	3.3	5	-38.3	25	0	31	-22.8	77	26	12	7	14	0	272	381	1.5	35	14.8	NW	5	4	9	18	7.2	47
OHIO																																
AKRON	368	974.6	1020.6	1.7	- 6.7	- 2.5	- 0.4	16.1	23	-17.8	1	0	23	- 6.7	72	65	- 7	22	17	0	122	76	2.6	22	11.2	28	1	1	8	22	8.4	
CINCINNATI OBS	232			2.8	- 5.6	- 1.5	- 2.4	13.9	30	-16.7	4	0	22			119	26	40	12		13	T			10.3	W	6					46
CLEVELAND	237	990.5	1020.8	0.0	- 7.2	- 3.7	- 1.7	15.0	23	-17.8	1	0	23	- 8.9	67	72	4	21	17	0	147	102	3.6	22	15.6	SW	6	1	5	25	8.7	34
COLUMBUS	247	990.5	1021.9	1.7	- 7.2	- 2.8	- 1.6	16.1	23	-16.7	8	0	23	- 7.8	70	86	6	29	12	1	64	25	1.9	22	15.2	W	1	2	9	20	8.1	32
DAYTON	305	983.4	1021.1	1.7	- 7.2	- 2.9	- 1.6	13.3	30	-17.8	10+	0	24	- 7.8	72	95	14	35	11	1	64	51	1.7	21	15.6	S	6	5	3	23	7.7	43
MANSFIELD	395			1.1	- 7.2	- 3.2	- 0.6	15.0	23	-17.8	5+	0	23	- 6.7	79	61	- 21	21	11	0	102	102	3.4	23	12.5	22	18	2	5	24	8.4	
TOLEDO	204	994.6	1020.9	- 1.1	-10.6	- 5.8	- 2.6	13.3	23	-22.8	5	0	26	- 8.3	81	94	35	23	19	0	234	127	2.4	24	13.0	SW	1	3	7	21	7.9	41
YOUNGSTOWN	359	976.3	1020.7	- 0.6	- 7.8	- 4.1	- 1.4	14.4	23	-17.8	1	0	24	- 7.2	77	65	- 15	22	18	0	218	102	2.5	23	13.0	26	9	2	7	22	8.3	
OKLAHOMA																																
OKLAHOMA CITY	392	969.9	1017.4	8.9	- 1.7	3.8	1.0	21.7	27	-11.7	24	0	21	- 2.2	71	5	- 28	3	4	0	T	T	0.8	12	16.5	N	8	4	6	21	7.8	48
TULSA	198	993.6	1018.6	7.8	- 2.2	2.7	0.4	21.1	22	-14.4	4	0	23	- 3.9	68	41	- 2	25	6	0	T	T	0.6	13	12.5	N	8	4	5	22	8.0	33
OREGON																																
ASTORIA	2	1009.1	1009.9	4.4	- 1.7	1.3	- 3.6	12.2	4	-11.7	28	0	19	- 0.6	85	305	8	41	27	1	668	457	1.1	15	13.0	20	14+	3	1	27	8.6	
BURNS U	1265	865.9	1011.5	1.7	- 8.3	- 3.4	0.6	11.7	5	-23.3	24	0	30	- 6.1	81	81	39	26	19		693	279	1.5	24				2	1	28	8.8	
EUGENE	109	998.3	1012.1	5.6	0.0	2.7	- 1.2	17.2	4	-17.2	28	0	15	1.1	89	322	161	62	23	0	1196	864	2.2	18	12.5	17	9	0	4	27	9.2	
MEACHAM	1234	867.6	1011.4	- 1.7	- 8.3	- 5.2	- 1.9	7.8	6	-20.0	23+	0	28			140	33	28	26		950	660	0.7	20	11.2	25	30	1	3	27	9.0	
MEDFORD	396	965.1	1013.7	5.0	- 0.6	2.1	0.2	12.2	5	- 8.3	29	0	20	0.0	87	156	77	31	23	0	348	102	0.6	21	12.5	15	29	0	7	24	8.9	
PENDLETON	452	958.0	1013.6	- 2.2	- 8.9	- 5.6	- 5.7	11.1	6	-22.2	23	0	28	- 8.3	83	73	37	13	27	0	696	381	1.2	23	16.1	25	31	0	5	26	9.1	
PORTLAND	6	1010.5	1011.6	2.2	- 2.8	- 0.1	- 3.6	11.7	6	- 8.9	29	0	18	- 2.8	85	193	57	33	22	0	465	762	3.2	15	14.3	E	24	0	4	27	9.1	28
SALEM	60	1004.1	1011.5	3.3	- 2.2	0.6	- 3.1	14.4	4	-13.3	28	0	25	- 0.6	91	219	49	42	21	0	556	305	2.6	19	13.0	19	31	2	3	26	8.8	
SEXTON SUMMIT R	1169	876.7	1011.9	1.1	- 3.9	- 1.4	- 2.6	11.1	5	-10.0	23	0	25			333	191	83	26		2710	2184			26.8	16	10	2	5	24	8.5	
PACIFIC AREA																																
JOHNSTON	2	1011.2	1011.8	26.7	21.7	24.2	- 0.9	28.3	12+	18.3	24	0	0	16.1	61	32	- 67	23	11	0	0	0	5.7	4	13.4	E	24	5	9	17	6.9	52
KOROR R	29	1006.1	1009.8	30.0	23.9	27.1	0.2	31.7	24	22.2	15+	0	0	22.8	81	156	-142	48	17	0	0	0	4.2	6	14.3	NE	5	0	10	21	8.3	68
KWAJALEIN	2	1007.1	1007.8	30.0	24.4	27.1	0.4	31.7	2	21.7	18	0	0	22.8	77	155	64	93	16	1	0	0	8.0	6	24.6	22	18	0	2	29	9.5	
MAJURO	3	1007.1	1007.6	28.9	24.4	26.7	- 0.1	30.6	1	22.2	30	0	0	22.8	78	209	31	57	19	0	0	0	5.2	5	13.0	NE	23	0	4	27	9.2	41
PAGO PAGO	4	1005.4	1005.7	31.1	24.4	27.6		33.3	3	21.7	24	9	0	24.4	86	456		125	26	5	0	0	1.2	6	21.5	NW	13	0	8	23	8.5	
PONAPE R	37	1002.4	1007.9	30.0	23.3	26.8	- 0.2	31.7	20+	21.7	19	0	0	22.8	77	162	-119	52	18	0	0	0	4.2	6	8.5	NE	5	0	3	28	9.3	42
TAGUAC GUAM R	110			27.8	22.2	24.9	- 0.7	29.4	1	16.7	13	0	0			71	- 47	14	24		0	0			11.2	SE	22	1	15	15	7.5	52
TRUK MOEN ISLAND	2	1007.8	1008.1	30.0	24.4	27.1	0.0	32.8	21	22.2	18	1	0	22.8	76	31	-182	8	19	0	0	0			11.2	NE	6	0	5	26	9.0	75
WAKE	3	1013.2	1013.6	27.8	22.2	25.0	- 0.2	28.9	20+	20.6	12+	0	0	17.8	68	29	T	12	11	0	0	0	5.6	7	13.4	NE	12+	8	19	4	5.4	72
YAP R	13	1007.8	1009.6	30.0	23.3	26.7	- 0.2	31.1	27	21.7	3	0	0	22.2	79	104	- 96	36	17	0	0	0	4.6	7	10.7	NE	5	1	18	12	7.2	54
PENNSYLVANIA																																
ALLENTOWN	118	1006.1	1020.8	1.7	- 6.1	- 2.2	- 0.6	8.9	31	-13.9	28+	0	27	- 9.4	61	37	- 43	15	9	0	36	25	2.3	30	16.5	28	1	8	8	15	6.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
ERIE	223	992.2	1020.1	1.1	- 6.7	- 2.8	- 0.2	15.0	23	-16.1	1	0	25	- 7.2	72	75	7	21	20	0	663	254	3.8	22	13.4	26	1	2	2	27	8.8	
HARRISBURG	103	1008.5	1021.6	2.8	- 5.0	- 1.2	- 0.8	10.0	22	-13.3	1	0	24	- 8.9	59	27	- 43	11	12	0	30	25	2.0	29	16.1	NW	1	9	7	15	6.4	52
PHILADELPHIA	2	1019.6	1020.7	2.2	- 5.0	- 1.2	- 1.4	8.9	31	-11.7	1	0	23	- 8.3	61	40	- 44	15	9	0	48	51	2.2	32	14.3	NW	1	10	7	14	6.2	56
PITTSBURGH	347	975.3	1020.9	1.1	- 7.2	- 2.9	- 1.2	14.4	23	-16.1	5	0	24	- 8.9	66	51	- 24	11	20	0	165	51	2.1	25	13.9	27	24	1	9	21	8.3	32
READING U	81			2.8	- 3.9	- 0.4	- 0.8	10.0	22	-11.7	1	0	23			26	- 52	10	10		43	51			19.2	W	1	10	8	13	5.7	51
SCRANTON	283	985.4	1020.9	0.6	- 7.2	- 3.3	- 0.9	10.0	22	-16.1	28	0	27	- 9.4	67	16	- 42	12	7	0	69	51	1.7	26	12.5	W	1	2	11	18	7.7	44
WILLIAMSPORT	160	1001.4	1021.3	1.7	- 7.2	- 2.6	- 0.8	8.9	22	-16.1	28+	0	28	- 7.8	72	31	- 36	14	9	0	20	25	2.3	28	11.6	16	6+	4	11	16	7.2	
RHODE ISLAND																																
BLOCK ISLAND	34			2.2	- 3.9	- 0.7	- 0.8	8.9	31	-12.8	28	0	23			22	- 75	6	8		T	T						6	13	12	6.3	
PROVIDENCE	16	1016.3	1018.6	2.2	- 6.1	- 1.8	- 0.2	9.4	25	-14.4	28	0	30	- 7.8	64	57	- 40	29	9	0	13	25	3.0	31	17.9	30	1	12	5	14	5.5	59
SOUTH CAROLINA																																
CHARLESTON	12	1020.3	1021.8	13.3	0.6	7.0	- 2.9	22.8	31+	- 6.7	15	0	16	0.0	66	30	- 34	20	6	2	0	0	1.4	36	20.6Y	W	7	4	11	16	7.0	47
CHARLESTON U	3			12.2	4.4	8.4	- 2.4	23.3	31	- 3.3	5	0	7			37	- 24	13	7		0	0			15.2	NW	7					
COLUMBIA	65	1013.9	1022.1	12.8	- 0.6	5.9	- 2.3	22.8	31	-11.7	6	0	18	- 1.7	64	67	- 10	63	3	0	T	0	0.7	36	10.3	27	7	5	7	19	7.2	57
GNVLE-SPARTANBURG	292	986.5	1022.1	9.4	- 1.1	4.2	- 2.3	20.0	31	-11.1	5	0	21	- 5.0	59	100	- 9	66	11	0	T	T	0.9	36	13.4	NE	20	4	9	18	7.4	45
SOUTH DAKOTA																																
ABERDEEN	395	970.9	1021.0	- 9.4	-21.1	-15.3	- 3.6	4.4	5	-31.7	1	0	31	-18.9	71	28	11	8	12	0	348	254	1.6	35	14.3	32	8	5	6	20	7.3	
HURON	391	970.9	1020.5	- 7.8	-18.9	-13.4	- 2.6	4.4	5	-30.6	4	0	30	-17.2	72	17	4	3	14	0	335	432	0.6	31	17.9	NW	5	3	6	22	8.0	37
RAPID CITY	964	900.8	1016.9	- 3.3	-14.4	- 8.9	- 3.3	12.2	7	-25.6	25+	0	31	-15.0	65	3	- 6	1	6	0	30	51	1.7	1	22.4	NW	8	6	2	23	7.7	37
SIOUX FALLS	432	965.8	1020.1	- 7.2	-18.3	-12.9	- 3.6	3.9	5	-31.1	4	0	31	-16.7	71	43	28	11	13	0	498	838	0.5	32	15.6	35	5	3	6	22	7.9	
TENNESSEE																																
BRISTOL	459	966.5	1022.3	6.7	- 4.4	1.3	- 2.2	20.6	30	-21.1	5	0	20	- 4.4	68	69	- 25	14	16	0	150	127	0.4	28	9.4	28	24+	4	11	16	7.2	
CHATTANOOGA	203	996.6	1022.1	8.3	- 1.1	3.5	- 1.9	18.3	30	-12.8	5	0	19	- 2.2	70	174	31	60	15	1	185	178	0.6	36	10.7	NW	7	5	7	19	7.3	38
KNOXVILLE	299	985.4	1021.4	7.2	- 2.2	2.5	- 2.7	20.6	30	-13.9	5	0	19	- 3.9	67	104	- 20	38	13	1	13	T	0.6	35	13.4	SW	30	5	5	21	7.4	45
MEMPHIS	79	1010.2	1020.6	9.4	0.6	5.1	- 0.2	21.1	23+	- 9.4	5	0	15	- 1.7	62	80	- 74	21	13	1	T	T	1.0	12	18.3	SW	8	3	8	20	7.7	44
NASHVILLE	180	999.0	1021.5	7.8	- 2.2	2.9	- 1.5	18.3	23	-15.0	5	0	19	- 3.3	68	126	- 13	32	17	1	132	102	0.6	18	13.0	S	29	4	5	22	7.8	37
OAK RIDGE R	276			6.1	- 2.2	2.1	- 2.3	17.8	30	-15.0	5	0	19			109	- 42	40	15		71	25			13.0Y		24	5	5	21	7.5	
TEXAS																																
ABILENE	537	953.6	1016.0	15.6	2.2	8.9	1.9	31.1	8	- 8.3	1	0	10	- 0.6	58	21	- 2	21	2	2	0	0	1.4	20	15.6	N	8	6	6	19	7.4	58
AMARILLO	1098	887.9	1012.8	13.3	- 2.8	5.2	2.6	22.8	27+	-13.3	24	0	24	- 5.0	55	1	- 16	1	1	0	5	T	2.3	21	21.0	W	22	7	6	18	6.5	51
AUSTIN	182	995.3	1017.6	17.8	6.7	12.0	1.8	28.9	22	- 5.6	5	0	7	4.4	67	10	- 50	5	6	0	0	0	0.6	13	15.6	N	9	5	8	18	7.3	43
BROWNSVILLE	6	1015.6	1016.3	22.8	12.8	17.9	1.6	30.0	21	0.6	5	0	0	12.8	77	13	- 21	10	7	0	0	0	1.3	14	15.6	S	8	5	4	22	7.9	30
CORPUS CHRISTI	12	1015.6	1017.1	20.0	10.0	15.1	0.9	30.6	22	- 2.2	5	0	2	10.0	78	9	- 33	8	3	0	0	0	2.1	10	15.2	NE	24	5	7	19	7.4	36
DALLAS	147	1000.0	1017.6	15.0	3.9	9.6	1.8	31.1	8	- 6.7	1	0	9	0.6	59	54	- 5	48	5	2	0	0	1.5	13	16.1	W	22	5	5	21	7.7	48
DEL RIO	313	980.0	1016.5	18.9	6.7	12.5	1.8	29.4	22	- 2.8	5	0	4	3.3	62	26	4	22	4	1	0	0	1.3	10	10.3	31	22	6	5	20	7.2	
EL PASO	1194	880.8	1014.1	16.7	1.7	9.2	3.2	23.3	8	- 6.7	5	0	12	- 2.2	48	1	- 10	1	2	0	0	0	1.6	26	21.9	W	22	9	7	15	5.9	80
FORT WORTH	164	997.0	1017.8	15.6	3.3	9.4	1.9	31.1	8	- 8.3	1	0	10	1.7	65	32	- 20	23	5	3	0	0	1.1	16	18.3	31	22	4	6	21	8.0	
GALVESTON U	2			15.6	10.0	13.0	0.3	25.0	23	1.1	5	0	0			40	- 47	18	5		0	0			13.4	NE	4					40
HOUSTON	15	1015.9	1018.2	18.3	8.9	13.7	1.7	26.7	28+	- 2.8	5	0	3	8.3	74	70	- 26	40	5	1	0	0	1.3	11	13.4	23	8	2	5	24	8.1	40
LUBBOCK	992	901.8	1014.3	15.6	- 1.1	7.2	3.2	27.8	8	-11.1	24	0	16	- 3.9	52	T	- 17	T	0	0	0	0	2.0	23	19.2	27	22	8	6	17	7.0	
MIDLAND	869	915.3	1014.6	16.7	0.6	8.7	2.0	27.2	8	- 7.8	24	0	15	- 3.3	49	1	- 20	T	2	0	0	0	1.9	22	16.5	26	8	8	5	18	6.9	
PORT ARTHUR	5	1018.0	1018.7	17.2	7.8	12.6	0.6	25.0	28+	- 6.1	5	0	4	8.3	81	30	- 77	11	6	0	0	0	1.7	9	18.3	SE	29	2	6	23	8.2	29
SAN ANGELO	580	948.5	1015.7	18.9	3.3	11.2	2.9	32.2	8	- 6.7	1	1	9	0.0	53	1	- 24	1	1	0	0	0	1.8	22	15.6	28	22	7	8	16	5.7	
SAN ANTONIO	240	988.8	1017.4	16.7	6.1	11.4	0.3	26.7	22	- 7.2	5	0	9	5.0	70	45	1	28	7	2	0	0	0.7	5	15.2	N	30	6	6	19	7.4	44
VICTORIA	32	1013.5	1017.5	19.4	8.3	13.9	0.9	26.7	23+	- 4.4	5	0	6	8.9	77	11	- 49	5	6	0	0	0	1.3	11	18.3Y	SW	8	4	8	19	7.5	
WACO	153	999.3	1017.8	16.1	5.0	10.6	1.7	28.3	22	- 5.0	5	0	8	3.9	68	11	- 46	6	4	0	T	0	1.3	16	13.0	35	3	5	7	19	7.5	
WICHITA FALLS	303	979.3	1016.6	13.9	- 0.6	6.6	0.6	30.6	8	- 9.4	4+	0	16	- 0.6	68	14	- 14	11	3	2	T	0	0.9	11	18.3	1	8	4	4	23	8.1	
UTAH																																
MILFORD	1533	842.9		6.1	- 5.0	0.6	4.7	11.7	7	-17.2	31+	0	22			41	27	13	11		127	76						4	8	19	7.4	
SALT LAKE CITY	1286	867.9	1014.6	4.4	- 4.4	0.1	2.8	14.4	26	-15.0	29	0	24	- 5.0	69	43	9	14	12	2	348	203	2.2	18	18.8	S	26	4	4	23	8.0	32
WENDOVER	1291	866.9	1014.9	3.9	- 6.1	- 0.9	1.8	17.8	7	-12.8	10	0	28			10	2	4	8		69	51										
VERMONT																																
BURLINGTON	101	1005.4	1018.5	- 3.3	-13.9	- 8.6	0.2	6.1	23	-24.4	28+	0	30	-13.9	63	62	12	32	14	0	401	635	0.6	21	14.8	NW	2	4	10	17	7.6	60

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1969

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: Resultant speed	Wind: Resultant 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.							%
VIRGINIA																																
LYNCHBURG	279			5.0	- 5.0	0.1	- 3.0	17.2	30	-17.2	5	0	23			58	- 25	38	10		25	25			12.5	W	1	10	3	18	6.6	44
NORFOLK	7	1020.3	1021.2	7.8	0.0	3.6	- 1.5	20.6	18	- 7.8	6	0	19	- 2.8	65	57	- 27	31	6	0	T	0	2.1	33	16.5	N	20	12	2	17	6.2	61
RICHMOND	50	1015.9	1022.0	6.1	- 3.9	1.1	- 2.7	17.2	30+	-13.3	6	0	21	- 5.6	65	52	- 36	35	7	0	T	0	1.3	33	12.5	NW	1	9	4	18	6.6	47
ROANOKE	350	978.3	1021.8	5.0	- 4.4	0.2	- 3.2	18.9	30	-15.0	5	0	23	- 8.3	58	47	- 32	33	11	0	T	T	1.9	31	17.4	29	1	8	5	18	6.8	
WALLOPS ISLAND	3			5.0	- 2.8	1.1		13.9	31	- 8.9	6+	0	22			46		23	6		T	T			21.9Y	NE	21					
WASHINGTON																																
OLYMPIA	59	1002.7	1010.1	2.2	- 3.3	- 0.6	- 4.0	10.6	5+	-15.6	23	0	24	- 2.2	84	240	41	24	27	0	1491	610	1.7	20	11.2	20	10	0	0	31	9.7	
QUILLAYUTE	55	1001.0	1008.3	2.2	- 2.8	- 0.3	- 4.0	10.6	4	-13.9	23	0	23	- 1.7	89	351	- 37	82	23	2	1019	457	0.9	7	11.2	W	31	1	4	26	8.6	18
SEATTLE TACOMA	122	993.2	1010.0	2.8	- 1.7	0.6	- 2.9	12.8	4	- 9.4	28	0	18	- 2.8	79	145	- 1	24	26	1	1153	533	1.4	16	13.0	SW	31	0	2	29	9.5	24
SPOKANE	718	925.2	1011.6	- 5.0	-12.8	- 8.7	- 5.0	2.8	6+	-28.3	23	0	30	-11.1	79	104	42	22	24	0	1237	1067	1.4	17	16.1	SW	31	1	4	26	8.9	12
STAMPEDE PASS R	1206	868.3		- 6.7	-11.7	- 9.1	- 4.4	7.2	4	-21.7	1	0	30			773	467	93	31		2512	1803						0	2	29	9.7	
WALLA WALLA U	289			- 1.1	- 7.2	- 4.3	- 4.9	11.1	6	-17.8	29+	0	24			106	58	27	25		795	406			11.2	S	10	0	2	29	9.6	08
YAKIMA	321	973.6	1013.6	- 3.3	-12.2	- 7.7	- 5.2	5.6	7	-23.3	30	0	31	-10.0	80	39	8	14	16	0	513	457	1.0	28	10.3	31	7	1	8	22	8.5	
WEST INDIES																																
SAN JUAN P.R.	4	1012.9	1015.3	27.8	20.6	24.1	0.6	30.6	12	18.3	21	0	0	19.4	76	190	71	129	17	0	0	0	2.7	7	13.0	E	19	10	16	5	5.6	62
SWAN ISLAND	9			28.3	23.3	25.7	- 0.1	29.4	5	20.0	18	0	0			256	169	194	19	0	0	0						5	18	8	5.9	
WEST VIRGINIA																																
BECKLEY	763	929.9	1022.3	3.3	- 6.7	- 1.9	- 2.8	17.2	30	-19.4	5	0	23	- 7.2	71	49	- 60	22	14	0	102	76	1.6	22	13.0	20	24	6	7	18	7.1	
CHARLESTON	286	986.5	1021.8	6.1	- 5.0	0.4	- 2.2	20.0	29	-17.2	5	0	21	- 6.1	65	38	- 72	13	13	0	51	51	1.2	23	11.2	25	1	3	10	18	7.5	
ELKINS	600	947.9		3.3	- 7.8	- 2.3	- 2.6	16.7	24	-20.0	5	0	25			76	- 15	33	15		79	51			12.5	29	24	2	7	22	8.2	
HUNTINGTON	252	991.2	1022.3	5.0	- 5.0	- 0.2	- 2.7	18.3	30	-17.2	5	0	21	- 5.6	70	59	- 33	22	14	0	53	51	1.2	22	11.2	27	30	2	10	19	7.6	
PARKERSBURG U	187			3.3	- 5.6	- 1.0	- 2.4	17.2	23	-16.1	5	0	23			62	- 23	26	13		51	51			14.8	W	1					32
WISCONSIN																																
GREEN BAY	208	991.9	1019.0	- 5.6	-14.4	-10.0	- 1.6	4.4	23	-26.7	1	0	31	-13.3	76	66	37	24	12	0	300	508	1.8	25	11.6	SW	9	8	6	17	6.6	41
LA CROSSE	198	994.2	1020.2	- 6.1	-15.6	-10.9	- 2.3	2.8	22+	-27.8	4	0	31	-14.4	73	50	19		14	0	432		0.8	27								
MADISON	262	986.5	1019.5	- 5.6	-13.3	- 9.6	- 1.5	3.3	23	-25.6	12	0	30	-12.2	78	57	22	19	15	0	246	279	1.3	25	11.6	SW	24+	7	4	20	7.2	37
MILWAUKEE	205	992.9	1019.4	- 3.9	-11.1	- 7.4	- 1.1	6.7	23	-23.9	1	0	30	-11.1	75	46	0	19	10	0	282	254	2.3	25	15.2	SE	8	8	3	20	7.1	42
WYOMING																																
CASPER	1627	830.0	1011.2	3.9	- 8.9	- 2.7	2.1	11.7	20	-22.8	23	0	26	- 9.4	62	2	- 12	1	5	0	51	25	5.9	22	21.5	21	21	7	4	20	7.3	
CHEYENNE	1867	804.9	1011.4	6.1	- 7.2	- 0.3	3.3	14.4	14+	-19.4	23	0	29	-11.7	43	6	- 7	3	7	0	76	25	3.4	27	28.2	W	8	7	9	15	6.7	47
LANDER	1696	820.9	1011.1	2.8	-10.0	- 3.7	3.3	12.2	6	-17.8	4	0	29	-11.1	60	3	- 9	2	3	0	51	152	1.3	23	25.5	SW	7	5	9	17	7.1	59
SHERIDAN	1208	873.0	1017.1	- 5.6	-18.3	-12.1	- 6.1	11.7	7	-27.2	28	0	31	-16.7	70	28	12	19	7	0	381	279	1.5	31	24.1	NW	26	4	7	20	7.8	54

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

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
\+ 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.

Data in this table are obtained by conversion from data in the English Units table.

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

JANUARY 1969

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	687	1993	1609
HUNTSVILLE	788	2191	1922
MOBILE	420	1228	1007
MONTGOMERY	536	1581	1468
ALASKA			
ANCHORAGE	1869	6838	6429
ANNETTE	1354	4260	3930
BARROW	2412	10746	1028
BARTER ISLAND	2526	10852	796
BETHEL	1729	7447	7570
BETTLES	2755	9995	
BIG DELTA	2726	9189	
COLD BAY	1025	5047	5389
FAIRBANKS	2849	9532	8794
FAREWELL	2285	9072	
GULKANA	2659	9634	
HOMER	1601	6324	
ILIAMNA	1893	6967	
JUNEAU	1801	5973	5140
KING SALMON	1800	7238	6552
KOTZEBUE	1967	8493	8846
MC GRATH	2407	9243	8680
NENANA	2869	9714	
NOME	1653	7815	7918
ST. PAUL ISLAND	1022	5685	6006
SHEMYA	1018	5317	5300
SUMMIT	2258	8862	
TALKEETNA	2046	7605	
TANANA	2797	9927	
UNALAKLEET	1883	8039	
YAKUTAT	1802	6412	5124
ARIZONA			
FLAGSTAFF	1021	4150	3982
PHOENIX	306	952	1145
TUCSON	288	936	1133
WINSLOW	784	2897	3024
YUMA	167	637	830
ARKANSAS			
FORT SMITH	745	2209	2074
LITTLE ROCK	665	1904	2073
CALIFORNIA			
BAKERSFIELD	492	1359	1367
BISHOP	812	2593	2537
BLUE CANYON	929	3161	2761
EUREKA U	644	2611	2573
FRESNO	619	1756	1561
LONG BEACH	246	720	871
LOS ANGELES	250	712	906
LOS ANGELES U	219	566	708
MT SHASTA R	1053	3572	3169
OAKLAND	514	1529	1592
RED BLUFF	690	1806	1531
SACRAMENTO	644	1782	1647
SANDBERG R	720	2575	2181
SAN DIEGO	214	633	745
SAN FRANCISCO	547	1756	1638
SAN FRANCISCO U	505	1776	1648
SANTA MARIA	359	1275	1554
STOCKTON	649	1822	1658
COLORADO			
ALAMOSA	1263	5028	5043
COLORADO SPRINGS	969	3603	3607
DENVER	925	3499	3546
GRAND JUNCTION	1125	3675	3451
PUEBLO	879	2927	3201
CONNECTICUT			
BRIDGEPORT	1061	2867	3053
HARTFORD	1262	3654	3516
NEW HAVEN	1118	3092	3202
DELAWARE			
WILMINGTON	1052	2745	2816
DIST.OF COLUMBIA			
WASH NATL AP	949	2431	2474
FLORIDA			
APALACHICOLA U	387	1051	835
DAYTONA BEACH	216	696	534
FORT MYERS	96	328	279
JACKSONVILLE	328	904	798
KEY WEST	1	33	68
LAKELAND U	173	530	416
MIAMI	18	130	139
ORLANDO	168	544	490
PENSACOLA	421	1232	967
TALLAHASSEE	410	1253	961
TAMPA	201	630	433
WEST PALM BEACH	55	250	158
GEORGIA			
ATHENS	717	2060	1806
ATLANTA	761	2121	1824
AUGUSTA	645	1756	1512
COLUMBUS	602	1742	1515
MACON	631	1786	1375
ROME	813	2330	2070
SAVANNAH	539	1454	1167
IDAHO			
BOISE	945	3107	3469
LEWISTON	1274	3597	3278
POCATELLO	1105	4280	4055
ILLINOIS			
CAIRO U	903	2445	2360
CHICAGO O HARE	1355	3681	3748
CHICAGO MIDWAY	1336	3528	3482
MOLINE	1458	4054	3712
PEORIA	1377	3716	3509
ROCKFORD	1453	4010	3920
SPRINGFIELD	1282	3479	3217
INDIANA			
EVANSVILLE	1029	2851	2743
FORT WAYNE	1285	3634	3588
INDIANAPOLIS	1211	3344	3293
SOUTH BEND	1316	3690	3612
IOWA			
BURLINGTON	1395	3837	3577
DES MOINES	1508	4240	3937
DUBUQUE	1578	4462	4262
SIOUX CITY	1625	4398	4028
WATERLOO	1610	4651	4262
KANSAS			
CONCORDIA	1307	3613	3224
DODGE CITY	1028	3116	2940
GOODLAND	1106	3581	3517
TOPEKA	1210	3381	3101
WICHITA	1076	3072	2808
KENTUCKY			
COVINGTON	1072	2965	3053
LEXINGTON	1011	2822	2750
LOUISVILLE	987	2688	2731
LOUISIANA			
ALEXANDRIA	462	1348	1231
BATON ROUGE	369	1180	1025
LAKE CHARLES	352	1026	951
NEW ORLEANS	353	1146	896
SHREVEPORT	495	1458	1373
MAINE			
CARIBOU	1534	5036	5480
PORTLAND	1259	3867	4129
MARYLAND			
BALTIMORE	1028	2664	2738
MASSACHUSETTS			
BLUE HILL OBS R	1189	3534	3464
BOSTON	1099	3082	3059
NANTUCKET	991	2920	2920
WORCESTER	1286	3873	3854
MICHIGAN			
ALPENA	1377	4406	4610
DETROIT	1232	3441	3454
DETROIT M WAYNE CO	1289	3615	3620
FLINT	1309	3957	3806
GRAND RAPIDS	1360	4009	3885
HOUGHTON LAKE	1444	4540	4574
LANSING	1331	4010	3835
MARQUETTE U	1349	4319	4522
MUSKEGON	1296	3838	3619
SAULT STE MARIE	1532	4983	4903
MINNESOTA			
DULUTH	1780	5557	5599
INTERNATIONAL FALLS	1990	6043	6126
MINNEAPOLIS	1723	4763	4846
ROCHESTER	1706	4923	4755
ST CLOUD	1856	5280	5116
MISSISSIPPI			
JACKSON	523	1577	1398
MERIDIAN	560	1685	1481
MISSOURI			
COLUMBIA	1150	3150	2999
KANSAS CITY	1186	3220	2808
ST JOSEPH	1188	3277	3270
ST LOUIS	1106	3063	2900
SPRINGFIELD	975	2979	2718
MONTANA			
BILLINGS	1818	4604	4022
GLASGOW	2236	5838	5237
GREAT FALLS	2104	5394	4321
HAVRE	2370	6090	4998
HELENA	1788	5270	4690
KALISPELL	1658	5419	4785
MILES CITY	2038	5277	4460
MISSOULA	1456	4841	4804
NEBRASKA			
GRAND ISLAND	1483	4137	3815
LINCOLN U	1400	3789	3411
NORFOLK	1596	4460	4038
NORTH PLATTE	1509	4454	3891
OMAHA	1430	3898	3670
SCOTTSBLUFF	1278	4113	3832
VALENTINE	1618	4680	4253
NEVADA			
ELKO	1119	3785	4264
ELY	1039	4243	4328
LAS VEGAS	536	1612	1770
RENO	861	3327	3724
WINNEMUCCA	979	3623	3919
NEW HAMPSHIRE			
CONCORD	1330	4207	4158
MT WASHINGTON OBS	1766	7768	7709
NEW JERSEY			
ATLANTIC CITY	1068	3105	2655
ATLANTIC CITY U	1005	2579	2502
NEWARK	1039	2814	2856
TRENTON U	1036	2786	2810
NEW MEXICO			
ALBUQUERQUE	831	2793	2681
CLAYTON	802	2844	2966
ROSWELL	615	2238	2439
NEW YORK			
ALBANY	1360	3915	3879
BINGHAMTON	1323	4107	4030
BUFFALO	1233	3607	3826
NEW YORK U	1023	2691	2691
J.F. KENNEDY	1038	2790	2810
NEW YORK LA GUARDIA	1051	2773	2638
ROCHESTER	1229	3576	3687
SYRACUSE	1256	3677	3749
NORTH CAROLINA			
ASHEVILLE	873	2640	2670
CAPE HATTERAS R	686	1581	1452
CHARLOTTE	829	2277	1950
GREENSBORO	878	2383	2300
RALEIGH	848	2200	2076
WILMINGTON	670	1694	1432
NORTH DAKOTA			
BISMARCK	2040	5646	5115
FARGO	2066	5680	5323
WILLISTON	2149	5890	5329
OHIO			
AKRON	1156	3292	3420
CINCINNATI OBS	1100	3011	2805
CLEVELAND	1220	3539	3397
COLUMBUS	1173	3285	3278
DAYTON	1181	3314	3232
MANSFIELD	1196	3365	3589
TOLEDO	1340	3770	3669
YOUNGSTOWN	1243	3647	3601
OKLAHOMA			
OKLAHOMA CITY	808	2350	2311
TULSA	863	2431	2378
OREGON			
ASTORIA	944	3186	2854
BURNS U	1205	4205	4000
EUGENE	867	2616	2670
MEACHAM	1309	4772	4294
MEDFORD	900	2664	2917
PENDLETON	1327	3490	3073
PORTLAND	1022	2996	2659
SALEM	987	3079	2662
SEXTON SUMMIT R	1095	3864	3274
PENNSYLVANIA			
ALLENTOWN	1141	3235	3297
ERIE	1169	3337	3464
HARRISBURG	1083	3012	3046
PHILADELPHIA	1084	2916	2950
PITTSBURGH	1181	3529	3397
PITTSBURGH U	1117	3085	3076
READING U	1042	2809	2848
SCRANTON	1204	3536	3607
WILLIAMSPORT	1162	3290	3407
RHODE ISLAND			
BLOCK ISLAND	1060	2931	2917
PROVIDENCE	1117	3233	3277
SOUTH CAROLINA			
CHARLESTON	624	1602	1299
CHARLESTON U	550	1356	1112
COLUMBIA	683	1827	1576
GNVLE-SPARTANBURG	785	2217	1878
SOUTH DAKOTA			
ABERDEEN	1882	5282	4941
HURON	1769	4959	4768
RAPID CITY	1516	4511	4082
SIOUX FALLS	1742	4860	4551
TENNESSEE			
BRISTOL	947	2725	2516
CHATTANOOGA	821	2248	2049
KNOXVILLE	879	2459	2147
MEMPHIS	733	2022	2022
NASHVILLE	855	2388	2193
OAK RIDGE R	902	2533	2312
TEXAS			
ABILENE	520	1548	1693
AMARILLO	726	2339	2467
AUSTIN	368	1115	1112
BROWNSVILLE	141	310	420
CORPUS CHRISTI	237	603	631
DALLAS	484	1380	1508
DEL RIO	324	968	1081
EL PASO	503	1706	1831
FORT WORTH	492	1427	1539
GALVESTON U	296	725	758
HOUSTON	284	785	880
LUBBOCK	614	2110	2249
MIDLAND	535	1716	1711
PORT ARTHUR	331	901	942
SAN ANGELO	399	1341	1489
SAN ANTONIO	394	1118	1026
VICTORIA	281	762	770
WACO	438	1238	1305
WICHITA FALLS	646	1821	1810
UTAH			
MILFORD	983	3660	3802
SALT LAKE CITY	1009	3594	3603
WENDOVER	1069	3648	3511
VERMONT			
BURLINGTON	1496	4661	4592
VIRGINIA			
LYNCHBURG	1009	2727	2485
NORFOLK	814	2025	1980
RICHMOND	957	2385	2344
ROANOKE	1005	2737	2488
WALLOPS ISLAND	955	2442	
WASHINGTON			
OLYMPIA	1048	3455	2982
QUILLAYUTE	1036	3573	3158
SEATTLE TACOMA	983	3089	2882
SPOKANE	1504	4560	3887
STAMPEDE PASS R	1525	5765	5131
WALLA WALLA U	1256	3327	2907
YAKIMA	1447	4116	3636
WEST VIRGINIA			
BECKLEY	1124	3442	3131
CHARLESTON	994	2827	2653
ELKINS	1147	3550	3298
HUNTINGTON	1028	2847	2641
PARKERSBURG U	1070	2888	2777
WISCONSIN			
GREEN BAY	1580	4524	4487
LA CROSSE	1626	4458	4388
MADISON	1548	4445	4446
MILWAUKEE	1434	3986	4239
WYOMING			
CASPER	1164	4456	4139
CHEYENNE	1034	3919	4056
LANDER	1223	4601	4520
SHERIDAN	1692	5092	4317

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

COOLING DEGREE DAYS

(Base 65°F.)

JANUARY 1969

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	0	0	
HUNTSVILLE	0	0	
MOBILE	5	5	
MONTGOMERY	3	3	
ALASKA			
ANCHORAGE	0	0	
ANNETTE	0	0	
BARROW	0	0	
BARTER ISLAND	0	0	
BETHEL	0	0	
BETTLES	0	0	
BIG DELTA	0	0	
COLD BAY	0	0	
FAIRBANKS	0	0	
FAREWELL	0	0	
GULKANA	0	0	
HOMER	0	0	
ILIAMNA	0	0	
JUNEAU	0	0	
KING SALMON	0	0	
KOTZEBUE	0	0	
MC GRATH	0	0	
NENANA	0	0	
NOME	0	0	
ST. PAUL ISLAND	0	0	
SHEMYA	0	0	
SUMMIT	0	0	
TALKEETNA	0	0	
TANANA	0	0	
UNALAKLEET	0	0	
YAKUTAT	0	0	
ARIZONA			
FLAGSTAFF	0	0	
PHOENIX	0	0	
TUCSON	0	0	
WINSLOW	0	0	
YUMA	7	7	
ARKANSAS			
FORT SMITH	1	1	
LITTLE ROCK	4	4	
CALIFORNIA			
BAKERSFIELD	0	0	
BISHOP	0	0	
BLUE CANYON	0	0	
EUREKA U	0	0	
FRESNO	0	0	
LONG BEACH	13	13	
LOS ANGELES	7	7	
LOS ANGELES U	19	19	
MT SHASTA R	0	0	
OAKLAND	0	0	
RED BLUFF	0	0	
SACRAMENTO	0	0	
SANDBERG R	0	0	
SAN DIEGO	5	5	
SAN FRANCISCO	0	0	
SAN FRANCISCO U	0	0	
SANTA MARIA	0	0	
STOCKTON	0	0	
COLORADO			
ALAMOSA	0	0	
COLORADO SPRINGS	0	0	
DENVER	0	0	
GRAND JUNCTION	0	0	
PUEBLO	0	0	
CONNECTICUT			
BRIDGEPORT	0	0	
HARTFORD	0	0	
NEW HAVEN	0	0	
DELAWARE			
WILMINGTON	0	0	
DIST.OF COLUMBIA			
WASH NATL AP	0	0	
FLORIDA			
APALACHICOLA U	1	1	
DAYTONA BEACH	7	7	
FORT MYERS	33	33	
JACKSONVILLE	2	2	
KEY WEST	169	169	
LAKELAND U	10	10	
MIAMI	104	104	
ORLANDO	12	12	
PENSACOLA	2	2	
TALLAHASSEE	7	7	
TAMPA	8	8	
WEST PALM BEACH	64	64	
GEORGIA			
ATHENS	0	0	
ATLANTA	0	0	
AUGUSTA	0	0	
COLUMBUS	0	0	
MACON	0	0	
ROME	0	0	
SAVANNAH	0	0	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
HAWAII			
HILO	207	207	
HONOLULU	133	133	
KAHULUI	137	137	
LIHUE	65	65	
IDAHO			
BOISE	0	0	
LEWISTON	0	0	
POCATELLO	0	0	
ILLINOIS			
CAIRO U	0	0	
CHICAGO O HARE	0	0	
CHICAGO MIDWAY	0	0	
MOLINE	0	0	
PEORIA	0	0	
ROCKFORD	0	0	
SPRINGFIELD	0	0	
INDIANA			
EVANSVILLE	0	0	
FORT WAYNE	0	0	
INDIANAPOLIS	0	0	
SOUTH BEND	0	0	
IOWA			
BURLINGTON	0	0	
DES MOINES	0	0	
DUBUQUE	0	0	
SIOUX CITY	0	0	
WATERLOO	0	0	
KANSAS			
CONCORDIA	0	0	
DODGE CITY	0	0	
GOODLAND	0	0	
TOPEKA	0	0	
WICHITA	0	0	
KENTUCKY			
COVINGTON	0	0	
LEXINGTON	0	0	
LOUISVILLE	0	0	
LOUISIANA			
ALEXANDRIA	9	9	
BATON ROUGE	20	20	
LAKE CHARLES	17	17	
NEW ORLEANS	28	28	
SHREVEPORT	15	15	
MAINE			
CARIBOU	0	0	
PORTLAND	0	0	
MARYLAND			
BALTIMORE	0	0	
MASSACHUSETTS			
BLUE HILL OBS R	0	0	
BOSTON	0	0	
NANTUCKET	0	0	
WORCESTER	0	0	
MICHIGAN			
ALPENA	0	0	
DETROIT	0	0	
DETROIT M WAYNE CO	0	0	
FLINT	0	0	
GRAND RAPIDS	0	0	
HOUGHTON LAKE	0	0	
LANSING	0	0	
MARQUETTE U	0	0	
MUSKEGON	0	0	
SAULT STE MARIE	0	0	
MINNESOTA			
DULUTH	0	0	
INTERNATIONAL FALLS	0	0	
MINNEAPOLIS	0	0	
ROCHESTER	0	0	
ST CLOUD	0	0	
MISSISSIPPI			
JACKSON	3	3	
MERIDIAN	0	0	
MISSOURI			
COLUMBIA	0	0	
KANSAS CITY	0	0	
ST JOSEPH	0	0	
ST LOUIS	0	0	
SPRINGFIELD	0	0	
MONTANA			
BILLINGS	0	0	
GLASGOW	0	0	
GREAT FALLS	0	0	
HAVRE	0	0	
HELENA	0	0	
KALISPELL	0	0	
MILES CITY	0	0	
MISSOULA	0	0	
NEBRASKA			
GRAND ISLAND	0	0	
LINCOLN U	0	0	
NORFOLK	0	0	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
NEBRASKA			
NORTH PLATTE	0	0	
OMAHA	0	0	
SCOTTSBLUFF	0	0	
VALENTINE	0	0	
NEVADA			
ELKO	0	0	
ELY	0	0	
LAS VEGAS	0	0	
RENO	0	0	
WINNEMUCCA	0	0	
NEW HAMPSHIRE			
CONCORD	0	0	
MT WASHINGTON OBS	0	0	
NEW JERSEY			
ATLANTIC CITY	0	0	
ATLANTIC CITY U	0	0	
NEWARK	0	0	
TRENTON U	0	0	
NEW MEXICO			
ALBUQUERQUE	0	0	
CLAYTON	0	0	
ROSWELL	0	0	
NEW YORK			
ALBANY	0	0	
BINGHAMTON	0	0	
BUFFALO	0	0	
J.F. KENNEDY	0	0	
NEW YORK U	0	0	
NEW YORK LA GUARDIA	0	0	
ROCHESTER	0	0	
SYRACUSE	0	0	
NORTH CAROLINA			
ASHEVILLE	0	0	
CAPE HATTERAS R	0	0	
CHARLOTTE	0	0	
GREENSBORO	0	0	
RALEIGH	0	0	
WILMINGTON	0	0	
NORTH DAKOTA			
BISMARCK	0	0	
FARGO	0	0	
WILLISTON	0	0	
OHIO			
AKRON	0	0	
CINCINNATI OBS	0	0	
CLEVELAND	0	0	
COLUMBUS	0	0	
DAYTON	0	0	
MANSFIELD	0	0	
TOLEDO	0	0	
YOUNGSTOWN	0	0	
OKLAHOMA			
OKLAHOMA CITY	0	0	
TULSA	0	0	
OREGON			
ASTORIA	0	0	
BURNS U	0	0	
EUGENE	0	0	
MEACHAM	0	0	
MEDFORD	0	0	
PENDLETON	0	0	
PORTLAND	0	0	
SALEM	0	0	
SEXTON SUMMIT R	0	0	
PACIFIC AREA			
JOHNSTON	333	333	
KOROR R	493	493	
KWAJALEIN	498	498	
MAJURO	475	475	
PAGO PAGO	526	526	
PONAPE R	478	478	
TAGUAC GUAM R	375	375	
TRUK MOEN ISLAND	493	493	
WAKE	379	379	
YAP R	476	476	
PENNSYLVANIA			
ALLENTOWN	0	0	
ERIE	0	0	
HARRISBURG	0	0	
PHILADELPHIA	0	0	
PITTSBURGH	0	0	
PITTSBURGH U	0	0	
READING U	0	0	
SCRANTON	0	0	
WILLIAMSPORT	0	0	
RHODE ISLAND			
BLOCK ISLAND	0	0	
PROVIDENCE	0	0	
SOUTH CAROLINA			
CHARLESTON	0	0	
CHARLESTON U	0	0	
COLUMBIA	0	0	
GNVLE-SPARTANBURG	0	0	

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
SOUTH DAKOTA			
ABERDEEN	0	0	
HURON	0	0	
RAPID CITY	0	0	
SIOUX FALLS	0	0	
TENNESSEE			
BRISTOL	0	0	
CHATTANOOGA	0	0	
KNOXVILLE	0	0	
MEMPHIS	0	0	
NASHVILLE	0	0	
OAK RIDGE R	0	0	
TEXAS			
ABILENE	0	0	
AMARILLO	0	0	
AUSTIN	25	25	
BROWNSVILLE	123	123	
CORPUS CHRISTI	62	62	
DALLAS	2	2	
DEL RIO	6	6	
EL PASO	0	0	
FORT WORTH	3	3	
GALVESTON U	3	3	
HOUSTON	35	35	
LUBBOCK	0	0	
MIDLAND	0	0	
PORT ARTHUR	17	17	
SAN ANGELO	6	6	
SAN ANTONIO	11	11	
VICTORIA	38	38	
WACO	12	12	
WICHITA FALLS	0	0	
UTAH			
MILFORD	0	0	
SALT LAKE CITY	0	0	
WENDOVER	0	0	
VERMONT			
BURLINGTON	0	0	
VIRGINIA			
LYNCHBURG	0	0	
NORFOLK	0	0	
RICHMOND	0	0	
ROANOKE	0	0	
WALLOPS ISLAND	0	0	
WASHINGTON			
OLYMPIA	0	0	
QUILLAYUTE	0	0	
SEATTLE TACOMA	0	0	
SPOKANE	0	0	
STAMPEDE PASS R	0	0	
WALLA WALLA U	0	0	
YAKIMA	0	0	
WEST INDIES			
SAN JUAN P.R.	328	328	
SWAN ISLAND	416	416	
WEST VIRGINIA			
BECKLEY	0	0	
CHARLESTON	0	0	
ELKINS	0	0	
HUNTINGTON	0	0	
PARKERSBURG U	0	0	
WISCONSIN			
GREEN BAY	0	0	
LA CROSSE	0	0	
MADISON	0	0	
MILWAUKEE	0	0	
WYOMING			
CASPER	0	0	
CHEYENNE	0	0	
LANDER	0	0	
SHERIDAN	0	0	

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

STORM SUMMARY

JANUARY 1969

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama						0	0	2	3																				
Alaska *																													
Arizona *																													
Arkansas										0	0	4	0																
California										4	2	4	0													41	8	8	6
Colorado										2	25	6						0	1	3	0								
Connecticut																						0	0	4	0				
Delaware																						0	189	5	0				
Florida										0	0	3	0																
Georgia																										0	0	5	4
Hawaii						0	0	?	4	0	0	5	0													1	0	?	4
Idaho												6							1	6									
Indiana														0	0	4	0					0	?	4	0				
Illinois *																													
Iowa																						0	0	5	0				
Kansas										0	0	4	0									0	0	4	0				
Kentucky	1	1	0	0	3	0	0	?	0	0	0	4	0																
Louisiana *																													
Maine										0	0	4	0					0	0	4	0	0	0	4	0	0	0	3	0
Maryland																						1	705	5	0				
Massachusetts										0	0	5	0	0	0	2	0					0	2	4	0	0	0	4	0
Michigan																										0	0	5	0
Minnesota																		3	1	5	0	0	?	5	0	6	0	0	0
Mississippi	1	1	32	241	6	0	0	3	0																				
Missouri *																													
Montana														0	0	2	0	0	0	4	0					2	?	0	0
Nebraska																						0	0	5	0				
Nevada										0	0	3	0													0	0	3	3
New Hampshire										0	0	4	0					0	0	4	0	0	0	4	0	0	0	4	0
New Jersey																							?	5					
New Mexico										0	0	4	0																
New York																2													
North Carolina																						0	0	5	0				
North Dakota																		2	0	?	0	0	0	?	0				
Ohio																						1	H	?		0	1	?	
Oklahoma										0	4	4	0									0	0	?	0				
Oregon										0	Few	4	1					0	Many	6	5	0	Few	4	1	0	0	4	3
Pacific Area																										0	1	°5	C
Pennsylvania														0	0	2	0					0	58	4	0				
Puerto Rico																										0	0	4	0
Rhode Island																						0	0	4	0				
South Carolina *																													
South Dakota *																													
Tennessee	1	1	0	3	5					0	0	4	0					0	0	4	0					0	0	4	0
Texas *																													
Utah										0	0	4	3					0	0	3	0								
Vermont										0	0	4	0					0	0	4	0	0	0	4	0				
U. S. Virgin Is.																										0	0	4	0
Virginia *																													
Washington												4								5								6	
West Virginia																										0	0	5	0
Wisconsin																		0	0	6	0	0	0	5	0				
Wyoming *																													

H Hundreds
C Crop damage
° Includes crop damage

* 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 Environmental Data Service, ESSA, monthly publication STORM DATA.

† 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 1969

Elmer R. Nelson, Office of Hydrology

The most damaging floods during January occurred in southern California. These floods were generally the most severe since 1938. The flooding on the Salinas River was the most severe since 1952. Major damages occurred on the Chouchilla and Fresno Rivers and along streams running into the valley from the foothill areas. Property damage from flooding and mudslides were estimated at about $170 million. The American Red Cross reported that a total of 47 lives were lost in California during January due to floods, mudslides, and snowstorms.

Lake Michigan.--Heavy snowmelt caused minor flooding on the Red Cedar River at Williamston, Mich., on the 23d and 24th. Near flood conditions occurred at East Lansing, Mich., on the 24th and 25th, and again on the 30th and 31st. Unseasonably warm temperatures in the high 40's on the 21st-24th caused complete melting of most of the snow cover in southern Lower Michigan and heavy runoff. Timely arrival of cold weather early on the 24th with an abrupt 40° temperature drop in 18 hours to near zero during the next few days ended temporarily the threat of further flooding. No damage resulted from the minor flooding.

Heavy snowmelt on the 16-24th over the Grand River Basin in Michigan produced sufficient runoff to raise the Lower Grand River to near flood stage in some localities. Comstock Park, just north of Grand Rapids, Mich., reached but did not exceed flood stage on the 26th. Minor lowland flooding was observed. Minor lowland flooding occurred in Robinson Township of Ottawa County, Mich., through the end of the month. This flooding was due to an icejam that reached the bottom of the channel during the last few days of the month.

ST. LAWRENCE DRAINAGE

Lake Erie.--The St. Marys River at Decatur, Ind., rose above flood stage on the 18th and continued in flood to Feb. 5. The crest on the 31st was 5.4 feet above flood stage. The St. Joseph River at Montpelier, Ohio, was out of its banks from Jan. 19 to Feb. 6. It crested on the 31st, 4.7 feet above flood stage. The Maumee River at Napoleon, Ohio, rose rapidly to 8.9 feet above flood stage on the 29th. This rapid rise was due to an icejam at the eastern end of the city. About 25 families were evacuated. The icejam broke shortly after 5 p.m. on the 29th, and the river receded at the rate of 1.5 feet in 10 minutes. The Maumee River rose above flood stage at Ft. Wayne, Ind., Defiance and Grand Rapids, Ohio, on the 30th. It receded within its banks on Feb. 1-5. The crests ranged from 3.3 feet above flood stage at Grand Rapids, Ohio, to 6.2 feet above flood stage at Fort Wayne, Ind.

Heavy rains during the last 2 days of the month caused flooding of some roads and cellars in southwestern New York. Amherst and Cheektowaga, N. Y., had the heaviest cellar flooding. Minor overflows occurred in the Sunset Bay area of Chautauqua, N. Y., due to ice jamming at the mouth of Cattaraugus Creek. Scattered flooding of highways was reported in parts of Genesee and southern Chautauqua counties. In southwest Batavia in Genesee County, N. Y., Tonawanda Creek overflowed its banks in a small area.

ATLANTIC SLOPE DRAINAGE

The Susquehanna River at Vestal, N. Y., reached a stage of 18 to 19 feet (flood stage 18 feet) on the 31st due to an icejam about 1,000 feet below the gage at a bend in the river. It receded within its banks on Feb. 1. No damage resulted.

Significant ice movement and jamming on the 30th and 31st resulted in some minor low-level flooding on the Susquehanna River in Pennsylvania. This rise was due to rainfall and mild temperatures supplemented by snowmelt. Snow cover remaining within the basin at the end of January was limited to the higher elevations in the headwaters of the West Branch above Renovo, Pa., and in the upper Delaware River basin in the Pocono Mountain area.

The Neuse River at Smithfield, N. C., exceeded flood stage on the 23d-25th. The crest on the 24th was 0.6 foot above flood stage. This flooding was due to heavy precipitation on the 19th and 26th.

The Lumber River at Lumberton, N. C., exceeded flood stage for the 4th consecutive month. There were two rises during January. The first rise on the 1st-12th was due to moderate rains during the last few days of December. The second rise, to above flood stage on the 23d and continuing into February, was due to heavy precipitation on the 19-20th. Low swamps and drainage ditches were affected.

The Saluda River at Chappells, S. C. exceeded flood stage on the 20th-23d. The crest on the 21st was 2.7 feet above flood stage. The Broad River at Blair, S. C., was out of its banks on the 21st to the 23d. It crested on the 22d, 3.3 feet above flood stage. This flooding was due to heavy rains (1.5 to over 3 inches) over the upper and central reaches of the basin on the 19-20th. Damage was limited to pastureland with no actual damage occurring.

The Savannah River at Clyo, Ga., rose above flood stage on the 29th and continued in flood with rising stages into February. Very little, if any, damage resulted from the flooding during January.

The Oconee River at Milledgeville, Ga., was out of its banks on the 23d-25th. The crest on the 23d was 4.4 feet above flood stage.

EAST GULF OF MEXICO DRAINAGE

The Cahaba River at Centreville, Ala., exceeded flood stage on the 20th-21st. The crest on the 20th was 4.1 feet above flood stage. The stream rose rapidly due to local rainfall of 4.27 inches on the 19-20th. Damages from the overflow were negligible.

Moderate to occasionally heavy rains on the 18th and 19th caused moderate rises on the Black Warrior River in Alabama. The only crest above flood stage was at Warrior Lock and Dam, Ala., which was 0.4 foot above flood stage on the 23d. No damage was reported.

Heavy rains (3 to 4 inches) over the headwaters of the Pearl River on Dec. 18-22 caused flooding at Jackson, Miss., on Dec. 24 to Jan. 7 and at Bogalusa, La., on Dec. 23 to Jan. 11. Overflow began at Pearl River, La., on Jan. 3 and continued to Jan. 6. Flood heights were not excessive and flooding was confined to the immediate flood plain with only light damage to farms and cattle lands. The highest crest reported was 5.8 feet above flood stage at Jackson, Miss., on Jan. 1. Rainfall of near 1.5 inches on Dec. 27-30 produced secondary crests during January which were lower at Bogalusa and Pearl River than during December.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation during January in the Upper Mississippi Basin ranged from

normal to much above normal. In Minnesota and northwestern Wisconsin, precipitation was 3 times normal in many locations. In the Minneapolis-St. Paul, Minn., area, the January total snowfall of 21.6 inches (liquid water content, 2.05 inches) was the 4th greatest January snowfall of record. The total season snowfall through Jan. 31 was 55.2 inches. This was the greatest snowfall for any season through Jan. 31. Previous record was 51.6 inches during 1966-1967 and the 3d most snowfall was 46.8 inches during the 1916-1917 season. Normal snowfall through Jan. 31 is 20.8 inches.

At Duluth, Minn., the total snowfall during January was 46.8 inches (4.70 inches, liquid water content). This monthly total exceeded the record fall for any month during the winter season. Previous record was 45.5 inches established March 1965. By the end of January the total snowfall at Duluth was 106.3 inches. This is the most snowfall on record for so early in the season.

At Sioux Falls, S. Dak., the total snowfall during January was 19.6 inches (liquid water content, 1.71 inches). The total seasonal snowfall through Jan. 31 was 63.3 inches (liquid water content, 4.75 inches). Normal snowfall through Jan. 31 is 15.9 inches.

The Wapsipinicon River at DeWitt, Iowa, was in light flood on the 24th and 25th. The crest on the 24th was 1.3 feet above flood stage. The Pecatonica River was out of its banks at Martintown, Wis., on the 24-26th and at Freeport, Ill., on the 25th. The crest at Martintown was 2.6 feet above flood stage on the 24th and 0.2 foot above flood stage at Freeport, Ill., on the 25th. The Rock River at Joslin, Ill., was out of its banks on the 25-28th. This flooding was due to 0.5 to 1 inch of rain on frozen ground and some melting of snow cover on the 23d and 24th. There was very little ice movement. Pastures and farmland were principally involved and damage was negligible.

Locally heavy rains toward the end of December produced minor flooding on the Meramec River in Missouri from Dec. 29 through January 1. The flooding was limited to farmland immediately adjacent to the river and no damage was reported.

Light to moderate rains on the 16th, 17th, 22d, and 23d produced minor flooding along the Fox, Illinois, and Sangamon Rivers in Illinois and on the Fox River in Missouri. The Fox River crested 1 foot above flood stage at Wayland, Mo., on the 17th. In Illinois, the Fox River at Dayton went above flood stage on the 24th and continued above flood stage to Feb. 8. The Sangamon River at Riverton, Ill., crested 2.5 feet above flood stage on the 19th with a secondary crest, 5.8 feet above flood stage on the 23d. Crests during February were slightly lower. The Illinois River at LaSalle, Ill., crested 0.9 foot above flood stage on the 24th with a secondary crest 1.3 feet above flood stage on the 31st. The Kankakee River at Momence, Ill., crested 0.6 foot above flood stage on the 22d. It reached bankfull stage again on the 29th. The Spoon River at Seville, Ill., rose 1.5 feet above flood stage on the 26th. It was out of its banks on the 25th and 26th.

General rain and/or snow began falling over Missouri and Illinois on the 26th and continued through the 29th. The rain became quite heavy on the 28th and 29th. Excessive runoff resulted due to the nearly saturated or frozen condition of the soil at the onset of the precipitation. Major flooding resulted on the Meramec and Big Rivers in Missouri. The Meramec River at Steelville and Sullivan, Mo., crested 11 to nearly 12 feet above flood stage on the 30th. At Pacific, Eureka, and Valley Park, Mo., the Meramec rose above flood stage on the 30th and continued in flood to Feb. 3. The Big River at Byrnsville, Mo., went above flood stage on the 30th and continued in flood to Feb. 1. The Bourbeuse River at Union, Mo., rose 4.3 feet above flood stage on Feb. 1. Major flooding developed on the Kaskaskia and Big Muddy Rivers in Illinois during the latter part of January and the first week in February. The Kaskaskia River at Shelbyville and Vandalia, Ill., rose above flood stage on the 29th and continued in flood to Feb. 6 at Vandalia, Ill. The crests on Jan. 31 ranged from 3.2 feet above flood stage at Shelbyville to 7 feet above flood stage at Vandalia. The Big Muddy River at Murphysboro, Ill., continued in flood to Feb. 17. The crest on Feb. 3 was 16 feet above flood stage. Snowmelt contributed to the overall runoff, but was not a major factor in the areas where substantial flooding occurred.

Some flooding occurred along the main stem of the Mississippi River below the mouth of the Fox River in Missouri. The Mississippi River was out of its banks at Gregory Landing, Mo., on the 25-27th. The crest on the 27th was 0.7 foot above flood stage.

Missouri Basin.--Some minor flooding occurred on the Yellowstone River near Reedpoint, Mont., during January. The overflow was due to icejams.

Temperatures were cold in the South Dakota portion of the Missouri Basin, excpet in the extreme western portion, during the first half of the month. Most streams in South Dakota and northern Nebraska remained frozen over except the Missouri River in northeastern Nebraska. Precipitation for January was generally above normal except in western South Dakota and eastern Wyoming.

Snow depths at the end of January ranged from 11 to 26 inches in eastern South Dakota to little or none in western South Dakota and eastern Wyoming. The liquid water content of the snowpack in eastern South Dakota ranged from 2 to 6 inches. In northeastern Nebraska, the snow depths ranged from 6 to 10 inches with a liquid water content of 1.5 to nearly 3 inches. Snow depths in southwestern Nebraska and extreme north-central Kansas were mostly 2 to 4 inches and over northeastern and east-central Kansas, 3 to 6 inches. In the Blue River basin in Kansas, the snow dpeths were generally 6 inches to locally over 12 inches in the Blue River basin.

Frost depths in South Dakota were generally less than 1 foot under the snow to several feet in unprotected areas in northwest Iowa at the end of January.

Minor flooding occurred in the northwestern quadrant of Missouri during the latter half of January. The Grand River at Sumner, Mo., was out of its banks on the 17th-22d. The crest on the 17th was nearly 7 feet above flood stage. The crest on Moniteau Creek at Fayette, Mo., was estimated to range from bankfull stage to 1 foot above flood stage. The Lamine River at Clifton City, Mo., rose 0.2 foot above flood stage on the 30th. The Petite Saline River at Boonville, Mo., was estimated to have risen 2 feet above flood stage on the 30th-31st.

The Osage River at Lakeside, Mo., crested at bankfull stage on Jan. 1. It rose slightly above bankfull stage at Schell City, Mo., on the 19th. Considerable flooding occurred along the Gasconade River with a crest 3.9 feet above flood stage at Hazelgreen, Mo., on the 31st. At Jerome, Mo., the Gasconade River rose above flood stage on the 30th and continued in flood to Feb. 2. The crest on Feb. 1 was 6.5 feet above flood stage.

Icejam flooding occurred on the upper Missouri River in a 12-mile stretch about 40 miles south of Great Falls, Mont., from the 22d through the end of the month.

About 2 feet of flood water covered U. S. Highway 91 and Interstate Highway 15 between Great Falls and Helena, Mont. Highway crews were not able to reopen the route through the end of the month. Three to 4 inches of water flooded the tracks of the Great Northern Railroad but did not cause any excessive delay in train schedules. Large areas of bottomlands were flooded along with some farmlands, but damage to dwellings and property was not extensive. The major contributor to the flooding was the extremely cold temperatures during the latter half of January. Temperatures in the Cascade area were below zero from the 17th through the 31st, with readings 40° to 50° below zero periodically. Minor damage resulted to a foot bridge and a ferry which was swept downstream as the ice broke loose. The only other flooding along the main stem occurred at Rulo, Nebr., on the 18th to the 23d. The crest on the 18th-21st was 0.4 foot above flood stage.

Ohio Basin.--French Creek at Meadville, Pa., exceeded flood stage by 0.7 foot on Jan. 31 to Feb. 1. This overflow was due to rainfall totalling near 2 inches on the 28-30th plus snowmelt.

Average daily temperatures below 32°F. from Dec. 29 through Jan. 16 resulted in heavy ice formations on the Allegheny River in the East Brady, Pa., to Emlenton, Pa., reach and in the vicinity of Oil City, Pa. A warming trend on the 17th, accompanied by light rain on the 17th and 18th, plus snowmelt resulted in sufficient streamflow to move the 20-mile long ice gorge in the East Brady-Emlenton, Pa., reach. With the movement of ice, backwater at Parker, Pa., caused a stage of 2.8 feet above flood stage on the 19th. Minor flooding occurred to cottages in the East Brady, Pa., area as the ice moved out. The ice gorge at Oil City, Pa., moved out on the 18th with no backwater flooding. Flood damages at Parker, Pa., were minor. The main highway through the city was closed for a short period.

The Hocking River at Enterprise, Ohio, exceeded flood stage on the 30th and 31st. The crest on the 31st was 0.5 foot above flood stage. Flood damage was minor.

Paint Creek at Bourneville, Ohio, reached, but did not exceed, flood stage on the 31st. The Scioto River at LaRue, Ohio, reached flood stage on the 19th. It exceeded flood stage again on the 30th at LaRue, Circleville and Picketon, Ohio, and on Feb. 1 at Prospect, Ohio. This flooding was due to moderate to heavy rains on the 29th and 30th. It crested at LaRue, Ohio, on the 31st, 0.9 foot above flood stage. Crests at the other points occurred on Feb. 1-2 and ranged from 1 to 4 feet above flood stage.

Flooding was confined to farmlands presently not in production. Several secondary roads were under water for 24 to 36 hours. A few families living in the flood plain of Big Walnut Creek were evacuated for the night of the 30th and returned to their homes on the afternoon of the 31st.

Prolonged cold weather and snow cover during the first 2 weeks of January set the stage for a major flood in the Wabash Basin in Indiana during the latter part of January and early February. This cold weather caused ice to cover most streams up to 1 foot thick by the middle of the month. Heavy rainfall (up to 5 inches) over the lower Wabash and lower White Rivers resulted in heavy runoff with crests in February the highest in 10 years at Lafayette, Ind., and the highest since March 1913 at Mt. Carmel, Ill. A few homes were surrounded in rural areas near Lafayette, but few, if any, evacuations were necessary. Flooding began along the White, the East Fork, the Muscatatuck Rivers in Indiana and on the Embarrass and Vermillion Rivers in Illinois during the last 3 days of January. On the White River above Noblesville, Ind., homes in one or two small communities were surrounded by water and some damage resulted downstream at Spencer, Ind.; a few families were temporarily evacuated from a low area, subject to flooding. At Elliston, Ind., the Milwaukee Railroad made preparations for emergency routing of trains. Flooding on all of the streams contributed to the overflow of thousands of acres of bottomland. Many county and state roads were temporarily closed. Some culverts were washed out. A few secondary roads were damaged by washouts. Crop damage was at a minimum since most of the corn had been removed from the bottomlands.

Heavy rains on the 17th and 18th caused moderate flooding on the Saline River at Harrisburg, Ill., on the 17th to the 21st. The crest on the 19th was 7.9 feet above flood stage. Heavy rain during the last 5 days of the month caused additional flooding on the Saline River at Harrisburg from the 28th to Feb. 3. The crest on the 31st was 11.2 feet above flood stage. These rains caused near record crests on the lower Wabash and Little Wabash Rivers in southern Indiana and southern Illinois. Precipitation in the Rough and Green River basins in Kentucky was light so consequently only minor flooding occurred along those streams.

The main stem of the Tennessee River rose above flood stage at Paducah, Ky., on the 30th and continued in flood to Feb 18. The crest on Feb. 10 was 10.9 feet above flood stage.

The main stem of the Ohio River rose out of its banks at Fords Ferry, Ky., on the 30th and at Newburgh, Ind., Shawneetown, Ill., and Cairo, Ill., on the 31st. By Feb. 5, flooding was in progress from Newburgh, Ind., to Cairo, Ill., (except at Evansville, Ind.,) a distance of more than 200 miles. The crests on Feb. 2-12 ranged from 1 foot above flood stage at Cypress, Ind., to 11.2 feet above flood stage at Fords Ferry, Ky. Flooding continued until Feb. 19 at Cairo, Ill.

White Basin.--Three- to 4-inch rains on Dec. 21-22 caused flooding on the Cache River at Patterson, Ark., on Dec. 23. Additional 3- to 4-inch rains on Dec. 27-28 caused flooding on the lower Black and White Rivers in Arkansas. Flooding continued along these rivers into January. The White River receded within its banks at Newport and Augusta, Ark., on Jan. 1-5 and on the Black River at Pocahontas and Black Rock, Ark., on Jan 8-12. The Cache River at Patterson, Ark., continued in flood from Dec. 23 through January into February.

Heavy rain on the 18-19th and 22-23d caused additional flooding on the lower White and Black Rivers. These rains were sufficient to keep streams above flood stage into February. Heavy rain on the 29-30th caused extensive flash flooding in the Buffalo, White, and Black River basins during the night of the 29th and the morning of the 30th. The most dramatic rise was 31 feet in a 13-hour period on the Buffalo River at Gilbert, Ark. The White River at Batesville, Ark., rose 14.4 feet in 24 hours. Seven persons were drowned in 5 separate accidents when cars in which they were riding were swept off highways by the flood waters. A great many cows were drowned by the rapidly rising flood waters. Damage to highways and bridges was heavy. Crop damages, although heavy, were mostly to pasturelands.

Arkansas Basin.--The heavy rain on the 29-30th

caused flooding on the Elk, Illinois, and Poteau Rivers in extreme southwestern Missouri and in extreme eastern Oklahoma. The rainfall averaged 2.5 inches in the Illinois Basin and 1.5 inches in the Poteau and Elk River basin. The high antecedent soil moisture was favorable for heavy runoff. The Elk River crested 3.1 feet above flood stage at Tiff City, Mo., on the 30th. The Illinois River crested 8 to 9 feet above flood stage at Tahlequah and Watts, Okla. The Poteau River at Panama, Okla., was out of its banks on the 30th and 31st and crested 2.7 feet above flood stage on the 31st. At Poteau, Okla., the crest was about 4 feet below flood stage. No damages were reported from the lowland flooding.

Flash flooding occurred in the Arkansas Basin during the night of the 29th and the morning of the 30th. Fourche and Rock Creeks in Pulaski County, Ark., rose rapidly during the night of the 29-30th flooding many residences and businesses in southwestern and southern areas of Little Rock. The Mulberry River at Mulberry, Ark., crested 3 feet above flood stage on the 30th. The Petit Jean River crested 3 to 4 feet above flood stage at Booneville and Danville, Ark., on the 30th and 31st. Flooding was still in progress at Danville at the end of the month. The Fourche LaFave River at Houston, Ark., was out of its banks on the 1st-13th. The crest on the 6th was 6.2 feet above flood stage. It rose above flood stage again on the 30th and continued in flood into February.

The Arkansas River at Van Buren, Ark., reported an average monthly stage of 14.0 feet, 6.5 feet above the normal monthly stage of 7.5 feet. This is the second highest January average stage on record. The highest was 15.6 feet in 1932.

Red Basin.--The Sulphur River at Naples, Tex., was above flood stage in the beginning of January. It rose above flood stage on Dec. 25 and receded within its banks on the 2d. The crest was 3.7 feet above flood stage on Dec. 28.

Heavy rains beginning on the 29th over southeastern Oklahoma, northeastern Texas, and southwestern Arkansas resulted in rapid rises with flooding beginning on the Sulphur River at Hagansport, Tex., on the 30th. Some flooding occurred on the same date on the Blue, and Clear Boggy Rivers and on Glover Creek in southeastern Oklahoma. Overflows also began along streams in southwestern Arkansas which continued into February. Damages along the Rolling Fork and Cossatot in De Queen, Ark., were estimated at $305,000.

Extensive flash flooding occurred in the Ouachita, Caddo, and Saline River basins during the night of the 29th and the morning of the 30th. The Saline River at Benton, Ark., rose 19.7 feet in 24 hours to a crest 11 feet above flood stage on the 30th. The Ouachita River crested 14.1 feet above flood stage at Rockport, Ark., on the 30th and 11.5 feet above flood stage at Arkadelphia, Ark., on the 31st. The Caddo River at Glenwood, Ark., rose 7.2 feet above flood stage on the 30th. The Little Missouri River at Boughton, Ark., rose above flood stage, on the 31st. The flooding on the Little Missouri, Saline, and Ouachita Rivers continued into February. Damage to highways and bridges was heavy. Crop damages, though heavy, were mostly to pasturelands.

Lower Mississippi Basin.--The flooding on the St. Francis River in the beginning of the month was due to heavy rain (2.75 inches) on Dec. 26-28. The crest at Fisk, Mo., on Jan. 1 was 2.8 feet above flood stage. The crest reached St. Francis, Ark., on the 4th and was 1.8 feet above flood stage. It receded within its banks at Fisk on the 5th and at St. Francis, Ark., on the 9th. Heavy rainfall (2.65 inches) near the middle of the month caused sharp rises to above flood stage on the 18th. It crested on the 19th 1 foot above flood stage and receded within its banks on the 21st. It rose above flood stage again on the 23d and continued in flood until Feb. 20. Upstream at Fisk, Mo., it rose above flood stage on Jan. 29 and continued in flood to Feb. 16.

Minor flooding occurred on the Big Black River at Bovina, Miss., from Dec. 31 to Jan. 2. The crest on Dec. 31 was 0.3 foot above flood stage. Flood damage was light.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Calcasieu River at Hineston, La., on the 5th. The crest was 0.2 foot above flood stage. This overflow was due to light rains during the first week of January over a stream that was already at a high level.

Minor overflow occurred on the Sabine River at Deweyville, Tex., from Dec. 12 to Jan. 9. The crest was 0.4 foot above flood stage on Dec. 24-25. No damage was reported.

Levels at Lake Houston, Tex., on the San Jacinto River exceeded the spillway elevation from Dec. 1 through January and February. The crests during December and January were 0.8 and 0.25 foot above the spillway, respectively. The highest level occurred on Feb. 23 when it exceeded the spillway elevation by 2.2 feet.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Heavy rains in southern Utah during the last week of January caused some minor flooding, primarily along the Virgin River and its tributaries. Some damage resulted to a few farms in the Bunkerville, Nev., area. Alton, Utah, near the divide between Sevier and Virgin River basins, reported 9.15 inches of rain, over 5 times normal. Heavy rain was also reported in the Bull Valley Mountains south and west of Enterprise, Utah. Shoal Creek, near Enterprise, flooded about 2,000 acres, but the damage was negligible. There was some minor damage to roads.

Locally heavy rain on the 25th and 26th caused a rapid rise on Oak Creek, a tributary of the Verde River in Arizona to a high level but no overflow was reported. Verde River had a peak flow of 47,000 c.f.s. at noon on Jan. 26. The total flow into the Verde Dam System was the highest for any January with 144,401 acre-feet. The previous highest January flow was 138,000 acre-feet in 1952.

GREAT BASIN

Heavy rains during January caused sufficient rise in the Truckee River near Vista, Nev., (east of Reno) to cause some local overflow. Heavy runoff caused local drainage problems at Sparks, Nev. No damage was reported. Precipitation during January was more than 3 times normal at Reno, Nev., and Truckee, Calif. The snowpack at Norden, Nev., (near Donner Summit) was 175 inches on Jan. 31 compared to a 50-year average of 80 inches. The Soil Conservation Service reported the snowpack at Marlette Lake, between Carson City, Nev., and Lake Tahoe, to be the greatest of record.

PACIFIC SLOPE DRAINAGE

The most severe flood since 1938 occurred in southern California due to excessively heavy rain on the 18th through the 26th. The precipitation averaged from

10 to 15 inches in the lowlands and from 30 to 35 inches over mountain areas. The greatest amounts, in excess of 45 inches, occurred at Opid's Camp and at Mt. Baldy, both in the San Gabriel Mountains and at San Marcos Pass in Santa Barbara County. The 1938 storm was a higher intensity shorter duration storm but the January 1969 storm totals are the greatest on record. Channel flows approached those reached in 1938. Near record flows occurred in most channels; a few exceeded previous records. Preliminary peak flows by the Corps of Engineers for selected locations were as follows:

River	Peak Flow (c.f.s.)	Design Flow (c.f.s.)
Ventura	55,000	150,000
Santa Clara	165,000	225,000
Los Angeles	110,000	146,000
San Jacinto	60,000	110,000
Santa Ynez (Lompoc)	100,000	---
Santa Ynez (Cachuma Res.)	80,000(spill)	---

Property damage in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, San Bernardino, and Riverside Counties in southern California was estimated at near $125 million. Only minor flooding occurred in San Diego County where the rain was beneficial in restoring underground water levels. Damage resulted from erosion in canyons, mudslides in foothill communities, and inundation in low flatland areas. Hundreds of homes were damaged or destroyed by mudslides and several bridges were washed out. Forty-seven deaths were directly attributable to the storm. Of these, at least 20 persons were drowned and 19 deaths resulted from mudslides.

The flooding on the Salinas River in California on the 25-27th was the most severe since 1952. This flooding was due to heavy rain over the headwaters during the afternoon of the 24th. Santa Margarita reported 6.55 inches of rain during the 24-hour period ending at 8 a.m. on the 25th. During the same period, Paso Robles reported less than 2 inches, and Salinas about 1 inch. It is estimated that heavy rain occurred on the east side of the Salinas Basin from King City southward and over the San Lorenzo Basin. The antecedent conditions were favorable for heavy runoff as the heavy rain on the 18th and 19th caused a heavy base flow after the stream receded. Considerable flooding occurred at Priest Valley, Calif., on the San Lorenzo, a tributary of the Salinas. Record flow occurred at San Lorenzo and at Bradley, Calif. The Salinas River at Bradley, Calif., crested 3.9 feet above flood stage on the 25th and at Spreckles, Calif., 3.1 feet above flood stage on the 27th.

San Joaquin Basin.--Record precipitation fell over most of the San Joaquin Basin, particularly south of Yosemite Valley. Some stations reported over 600% of January normal, and the entire basin averaged well over 300%. During the period Jan. 18-27, several stations reported between 35 to 40 inches of precipitation. The snowpack in the southern Sierra Nevada reached record depths and in some areas approached that of 1962.

There were two periods of significant flooding in the San Joaquin Basin. The first overflow occurred on the 19th-23d, and the second on the 25-27th. Actual rainfall accumulations varied widely from station to station, but 24-hour amounts between 5 and 9 inches were measured at several places on the 19-20th and again on the 25-26th. In general, there was more precipitation in the first storm, but the runoff from the second was much greater. The two-day interval between the storms left the ground saturated and runoff from the second storm was almost instantaneous.

Major damages occurred on the Chowchilla and Fresno Rivers and along streams running into the valley from the foothill areas. There was also considerable damage caused by ponding on the valley floor from some of the heaviest rainfalls on record. Tributary streams of the Kings River measured their highest flows of record. Sycamore Creek which enters the Kings River above Pine Flat Reservoir crested at 13.0 feet on the 25th compared to 9.8 feet in 1954. This was more than twice the previous record discharge. However, the Kaweah River at Three Rivers crested at 14.0 feet on the 25th compared to 22.2 feet in 1966.

Peak flows moving down the Tuolumne River caused flooding in the city of Modesto, Calif., along the river. The Stanislaus River caused some flooding in and around the city of Ripon, Calif. Farther downstream, one-half mile above its junction with the San Joaquin some 5,000 acres were flooded and remained under water through the end of January. Warning stages were reached or exceeded at all points and danger or flood stages were reached or exceeded at several points. The San Joaquin River at Vernalis, Calif. reached a crest of 34.3 feet on the 27th, the highest stage of record.

Most of the damage resulted to agricultural lands and inundation of homes in small communities and portions of the city of Fresno. Ponding was responsible for much of the communities of Cutler, Orosi, Woodlake, Lindsay, Yettem, and Seville being inundated and more than 500 persons had to flee their homes. Water was from 1 to 2 feet deep in places in these communities. More than $1 million damage has been estimated to ditches in the Fresno Irrigation District. A family of four was marooned for 4 days in heavy snow in the Sierras west of Johnsondale, but suffered only frostbite. One youth was missing and assumed drowned while trying to swim the San Joaquin River north of Fresno, Calif., on the 24th. A small child was killed on the 25th when the truck in which she was riding overturned as it hit a flooded portion of a country road. There were many accidents attributed to the rain but only 4 other lives were lost. Most county and stage roads were either washed out, or blocked by mud- and rockslides. Millions of dollars in road and culvert damage was sustained in the national forests and national parks. The total cost of damage in Fresno, Tulare, and Kern Counties were estimated slightly in excess of $31 million. Preliminary estimates by the Corps of Engineers for the Stanislaus, Tuolumne and the main stem of the San Joaquin River were placed at $ 6 million.

Sacramento Basin.--Precipitation during January over the Sacramento drainage ranged from around 200% to over 400% of the January normal. Snow accumulation by month's end was near 200% of normal at high levels and 250% of normal at the 5,000-foot level in the Sierra. These amounts are near those of the record snow-year of 1952 at a number of points on the same date.

Eight major crests moved down the Sacramento River during January. Warning stages were exceeded at many points and flood or danger levels were exceeded at Butte City and Lisbon and at all weirs. No record high levels were reached on the Sacramento River. Stages on the lower Sacramento approached the danger level of 29 feet at Sacramento, Calif., and necessitated opening 16 gates of the Sacramento Weir on the 21st.

These gates remained open through the end of the month.

All Yolo Bypass islands were flooded by the 21st. Ample warning permitted early evacuation of all people and moving farm equipment from the bypass islands to safety. In the Sacramento Delta, more than 10,000 acres of agricultural land were flooded.

Preliminary damage estimates by the U. S. Corps of Engineers for the Sacramento Basin was placed at $9 million.

Russian Basin.--There were two periods of flooding on the Russian River at Guerneville, Calif. The first occurred on the 12-14th and was due to rainfall averaging about 8 inches. Moderate rainfall amounts occurred in the headwater and the Santa Rosa sectors. The precipitation in the Guerneville-Venada-Healdsburg sector was heavy and accounted for about two-thirds of the average. The flow from this sector crested at Healdsburg before the crest arrived from upstream. As a result, the flooding was moderate and confined mostly to the southern portion of the river. The crest at Guerneville on the 13th was 11 feet above flood stage.

During the second flood on the 20th-22d, the average rainfall and distribution was similar to that during the first flood. However, the rainfall was spread over 4 days instead of 3 days as during the first overflow. Consequently, the crest at Guerneville was about 5 feet lower than in the first flood. Only minor damage resulted from the two floods in the Russian Basin.

Eel Basin.--There were two floods on the Eel River at Fernbridge, Calif., during January. The first overflow occurred on the 12-14th with a crest 5.1 feet above flood stage on the 13th. The second flood occurred on the 20th-22d with a crest of 4.5 feet above flood stage on the 21st. The water spread out over farmlands near the river from Fernbridge, Calif., to the mouth. Mostly pastureland (not cropland) was affected. There was a moderate deposit of silt and debris.

The Van Duzen River near Bridgeville, Calif., crested 4.3 feet above flood stage on the 13th and 2.9 feet above flood stage on the 20th. Residents in a low area were evacuated both times as a precautionary measure. No particular damage was reported except for considerable mud in the lower part of the flats.

A state of disaster was declared for Humbolt County. Most of the loss and difficulty came from storm damage, not flooding. There were many slides and slipouts on State and County roads. The California Division of Highways reports approximately $3 million damage to their highway system and Humbolt County estimated their loss at $1 million. Only $50,000 of this amount is directly attributable to flooding in the Eel River.

Warnings had been given out sufficiently far in advance that stock and machinery worth nearly $4.5 million had been moved to safe ground.

Coquille Basin.--Heavy rain around the middle of January caused the Coquille River to rise above flood stage along the Middle and South Forks. The South Fork Coquille rose 1 foot above flood stage on the 11th and 2.6 feet above flood stage on the 13th and 14th. The main stem of the Coquille River rose to within 0.2 foot of flood stage on the 13th. Damage along the Coquille River was at a minimum.

The heavy snowfall during the last few days of January did appreciable damage, isolating communities and collapsing buildings. The community of Powers, Oreg., on the south fork of the Coquille River was without telephone or electrical power for 3 days. Normal power and communications were not restored for more than a week.

Columbia Basin.--January was one of the coldest and snowiest on record for most of the Columbia Basin. It was also the 6th consecutive month with precipitation above average. Substantial increase in snowpack occurred in the mountains.

Considerable flash flooding occurred on tributaries to the Clearwater River in Idaho, where drainage was poor, due to warming and snowmelt on the 5-7th. Flash flooding also occurred in the upper Snake Basin in the areas of Idaho Falls, Rexburg, Blackfoot, and Barcroft, Idaho, due to warming and snowmelt associated with icejams.

Minor flooding occurred on the Coeur d'Alene River at Kingston, Idaho, on the 7th. A few families were evacuated, but freezing temperatures stopped the snowmelt and damage was very light.

Some of the low elevation Willamette Tributaries experienced moderate rises over the New Year Holiday.

The Pudding River at Aurora, Oreg., rose 1 foot above flood stage on the 2d and receded within its banks on the 4th. Temperatures moderated and freezing levels rose by the 5th. Heavy precipitation on the 6-11th caused a gradual rising along the Willamette River. At Salem, Oreg., the river rose from 60,000 c.f.s. on the 5th to 100,000 c.f.s. on the 12th. The uncontrolled low elevation coast range tributaries exceeded flood stage. Several streams had multiple rises above flood stage. The second rise of Johnson Creek crested 4.2 feet above flood stage on the 7th, inundating some 600 acres.

Considerable flood damage occurred in the Tucannon and Touchet drainages in Washington and in the upper reaches of the Walla Walla River of Oregon. The Umatilla River at Pendleton, Oreg., crested 1.1 feet above flood stage on the 6th. Levees prevented extensive flooding. Flood damage in the lower Snake River drainages was estimated by the Corps of Engineers at $542,000 and in the Willamette Basin tributaries at $307,000. According to news stories, damages in southeastern Washington were nearly as high as in the December 1964 and January 1965 floods.

During the last week in January, snow accumulated over the Columbia Basin and by the 30th the following snow depths were reported: Astoria, Oreg., 18 inches; North Bend, Oreg., 14 inches; Portland, Oreg., 10 inches; Salem, Oreg., 10 inches; Eugene, Oreg., 34 inches; Pendleton, Oreg., 15 inches; and Walla Walla, Wash. 19 inches.

PUDGET SOUND DRAINAGE

The western Cascade Rivers in Washington exceeded flood stage on the 4-7th. Most of the flooding occurred in the Nooksack, Snohomish, and Snoqualmie Valleys. This flooding was due to warm rains averaging around 5 inches in 4 days on top of a heavy low-level snowpack. Lowland temperatures reached the 50's in 2 days. Flooding in the Nooksack was aggravated by an icejam at a bridge near its mouth near Marietta, Wash., which caused overflow into the town.

Flood damage was caused mostly by overflow of farmland, low-lying roads and some residences in the Snohomish and Snoqualmie Valleys. Overflow into the town of Marietta on the Lower Nooksack was due to an icejam. The high water in the Snohomish was similar to the flood of 1967. The flood in the Snoqualmie was the highest since 1959. A number of families were evacuated but no lives were lost. Flood damages were estimated at over $2 million by the Corps of Engineers.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest * Stage	Crest * Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Michigan					
Red Cedar: Williamston, Mich.	7	23	24	7.5	24
Lake Erie					
St. Marys: Decatur, Ind.	15	18	Feb. 5	20.4	31
St. Joseph: Montpelier, Ohio	10	19	Feb. 6	14.7	31
Maumee: Fort Wayne, Ind.	15	30	Feb. 5	21.2	31
Defiance, Ohio	10	30	Feb. 3	14.1	Feb. 1
Napoleon, Ohio	10	28	Feb. 1	18.9	29
Grand Rapids, Ohio	15	30	Feb. 1	18.3	30
ATLANTIC SLOPE DRAINAGE					
Susquehanna: Vestal, N. Y.	18	31	Feb. 1	E18.5	31
Neuse: Smithfield, N. C.	13	23	25	13.6	24
Lumber: Lumberton, N. C.	8	(1 (23	12 1/	8.3 (8.5 (8.8	7 31 Feb.12-13
Saluda: Chappells, S. C.	14	20	23	16.7	21
Broad: Blair, S. C.	14	21	23	17.3	22
Savannah: Clyo, Ga.	11	29	1/	13.3	Feb. 11
Oconee: Milledgeville, Ga.	20	23	25	24.4	23
EAST GULF OF MEXICO DRAINAGE					
Cahaba: Centreville, Ala.	23	20	21	27.1	20
Black Warrior: Warrior Lock and Dam, Ala.	30	22	23	30.4	23
Pearl: Jackson, Miss.	18	Dec. 24	7	(23.5 (23.8	Dec. 30 1
Bogalusa, La.	15	Dec. 23	11	(18.2 (17.4	Dec. 23 2
Pearl River, La.	12	3	6	(13.6 (12.3	Dec. 27 4
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Wapsipinicon: DeWitt, Iowa	10	24	25	11.3	24
Pecatonica: Martintown, Wis.	11	24	26	13.6	24
Freeport, Ill.	13	25	25	13.2	25
Rock: Joslin, Ill.	12	25	28	14.5	27
Kankakee: Momence, Ill.	4	(22 (29	22 29	4.6 4.0	22 29
Fox: Wayland, Mo.	15	17	17	16.2	17
Fox: Dayton, Ill.	12	24	Feb. 8	22.5	26
Mackinaw: Green Valley, Ill.	11	22	22	11.4	22
Spoon: Seville, Ill.	22	25	26	23.5	26
Sangamon: Monticello, Ill.	13	30	30	13.2	30
Riverton, Ill.	13	19 23 29	19 24 Feb. 17	15.5 18.8 (18.7 (18.2	19 23 Feb. 1 Feb. 10
LaMoine: Ripley, Ill.	22	22	22	22.1	22
Illinois: Morris, Ill.	13	30	30	13.1	30
LaSalle, Ill.	20	24 31	25 Feb. 2	20.9 21.3	24 31
Havana, Ill.	14	24	Feb. 17	16.5	Feb. 3
Beardstown, Ill.	14	24	Feb. 20	18.1	Feb. 10
Meredosia, Ill.	10	16	Feb. 25	17.5	Feb. 10
Bourbeuse: Union, Mo.	15	31	Feb. 1	19.3	Feb. 1
Big: Byrnsville, Mo.	16	30	Feb. 1	23.6	31
Meramec: Steelville, Mo.	12	30	31	23.0	30
Sullivan, Mo.	15	30	Feb. 1	26.9	30
Pacific, Mo.	11	Dec. 29 30	1 Feb. 3	17.8 24.4	Dec. 31 Feb. 1
Eureka, Mo.	16	Dec. 30 30	Dec. 31 Feb. 3	17.3 31.4	Dec. 31 Feb. 1
Valley Park, Mo.	16	Dec. 30 30	1 Feb. 3	17.0 29.7	Dec. 31 Feb. 2
Big Muddy: Plumfield, Ill.	20	31	Feb. 7	23.4	Feb. 3
Murphysboro, Ill.	16	24	Feb. 17	32.0	Feb. 3
MISSISSIPPI SYSTEM	Ft.			Ft.	
Kaskaskia: Shelbyville, Ill.	13	29	Feb. 4	16.2	31
Vandalia, Ill.	18	29	Feb. 6	25.0	31
Mississippi: Gregory Landing, Mo.	15	25	27	15.7	27
Missouri Basin					
Grand: Sumner, Mo.	26	17	22	32.8	17
Lamine: Clifton City, Mo.	19	30	30	19.2	30
Moniteau Creek: Fayette, Mo.	16	17	17	E16.5	17
Petite Saline: Boonville, Mo.	16	30	31	E18.0	30-31
Osage: Schell City, Mo.	25	(Dec. 29 (19	Dec. 31 19	27.8 25.1	Dec. 30 19
Lakeside (Baghell Dam), Mo.	60	1	1	60.0	1
Gasconade: Hazelgreen, Mo.	21	31	31	24.9	31
Jerome, Mo.	15	30	Feb. 2	21.5	Feb. 1
Missouri: Rulo, Nebr.	17	18	23	17.4	18-21
Ohio Basin					
French Creek: Meadville, Pa.	13	31	Feb. 1	13.7	Feb. 1
Allegheny: Parker, Pa.	20	18	19	22.8	19
Hocking: Enterprise, Ohio	12	30	31	12.5	31
Paint Creek: Bourneville, Ohio	10	31	31	10.0	31
Scioto: LaRue, Ohio	11	(19 (30	19 31	#11.0 #11.9	19 31
Prospect, Ohio	10	Feb. 1	Feb. 2	11.0	Feb. 1
Circleville, Ohio	14	30	Feb. 3	17.7	Feb. 1
Piketon, Ohio	16	30	Feb. 4	19.7 #19.85	31 Feb. 2
Rough: Dundee, Ky.	25	31	Feb. 1	#26.15	31
Green: Calhoun, Ky.	23	Feb. 1	Feb. 4	23.8	Feb. 3
Vermillion: Danville, Ill.	18	31	31	18.75	31
Sugar Creek: Crawfordsville, Ind.	8	30	31	9.3	30
Embarrass: St. Marie, Ill.	18	30	Feb. 5	22.75	31
Lawrenceville, Ill.	15	31	Feb. 13	21.7	Feb. 2
Eagle Creek: Zionsville, Ind.	7	29	30	9.2	30
Eel: Bowling Green, Ind.	17	30	31	E19.0	30-31
Muscatatuck: Austin, Ind.	T16	29	Feb. 2	23.9	31
East Fork: Columbus, Ind.	10	31	Feb. 1	11.0	31
Seymour, Ind.	14	(19 (30	21 Feb. 3	15.9 17.9	19 30-31
Bedford, Ind.	20	31	Feb. 6	27.35	Feb. 3
White: Anderson, Ind.	10	(19 (30	19 Feb. 1	11.1 11.7	19 31
Noblesville, Ind.	14	30	Feb. 1	#15.2	31
Nora, Ind.	T12	30	Feb. E1	#13.5	31
Ravenswood, Ind.	T 6	30	Feb. 1	8.1	31
Centerton, Ind.	T603	30	Feb. 3	608.1	30
Spencer, Ind.	14	Dec. 29 19	1 Feb. 10	16.3 22.6	Dec. 30 Feb. 1
Elliston, Ind.	18	Dec. 29 19	2 Feb. 7	21.2 28.2	Dec. 31 Feb. 2
Newberry, Ind.	18	30	Feb. 5	#23.85	Feb. 3
Edwardsport, Ind.	15	Dec. 30 19	3 Feb. 14	18.0 19.0 25.0	2 22 Feb. 2-3
Petersburg, Ind.	16	Dec. 31 19	4 Feb. 16	17.5 #24.8	3 Feb. 4-5
Hazleton, Ind.	16	1 20	5 Feb. 16	E17.5 (21.2 (26.8	4 (26 (Feb. 5
Skillet Fork: Wayne City, Ill.	15	24 29	24 Feb. 3	16.1 21.5	24 31
Little Wabash: Wilcox, Ill.	16	19 29	26 Feb. 14	18.8 24.0	20 Feb. 1
Carmi, Ill.	27	30	Feb. 19	34.6	Feb. 5
Wabash: Bluffton, Ind.	10	21 30	21 Feb. 1	10.05 12.6	21 Feb. 1
Wabash, Ind.	12	29	Feb. 1	15.9	29

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Wabash (Cont'd.): Lafayette, Ind.	11	Dec. 29	2	14.3	Dec. 29
		19	Feb. 8	22.85	30
Covington, Ind.	16	2	17	16.6	4-17
		20	Feb. 10	27.0	31
Montezuma, Ind.	14	Dec. 30	1	#15.1	31
		23	Feb. 13	29.05	Feb. 1
Clinton, Ind.	16	24	Feb. E12	28.25	Feb. 1
Terre Haute, Ind.	14	29	Feb. E13	23.5	Feb. 2
Hutsonville, Ill.	T20	30	Feb. 13	26.2	Feb. 2-3
Riverton, Ind.	18	30	Feb. 14	E22.3	Feb. 3
Vincennes, Ind.	16	30	Feb. 16	25.0	Feb. 4
Mt. Carmel, Ill.	17	24	Feb. 18	28.6	Feb. 6
New Harmony, Ind.	15	27	Feb. 18	20.9	Feb. 7
Saline: Harrisburg, Ill.	13	17	21	20.9	19
		28	Feb. 3	24.2	31
South Chickamauga Creek: Chickamauga (nr), Tenn.	20	20	22	12.2	21
Tennessee: Paducah, Ky.	320	30	Feb. 18	330.9	Feb. 10
Ohio: Dam 47, Newburgh, Ind.	38	31	Feb. 7	39.6	Feb. 2
Dam 48, Cypress, Ind.	38	Feb. 2	Feb. 8	39.0	Feb. 3
Mt. Vernon, Ind.	35	Feb. 1	Feb. 12	38.1	Feb. 7
Dam 49, Uniontown, Ky.	37	Feb. 2	Feb. 14	42.1	Feb. 8
Shawneetown, Ill.	33	31	Feb. 16	42.2	Feb. 9
Dam 50, Fords Ferry, Ky.	34	30	Feb. 17	45.2	Feb. 8
Dam 51, Golconda, Ill.	40	Feb. 5	Feb. 14	42.8	Feb. 9
Paducah, Ky.	39	Feb. 4	Feb. 16	41.9	Feb. 10
Dam 52, Brookport, Ill.	37	Feb. 2	Feb. 18	43.7	Feb. 8
Dam 53, Grand Chain, Ill.	42	Feb. 1	Feb. 18	48.9	Feb. 11
Cairo, Ill.	40	31	Feb. 19	47.3	Feb. 12
White Basin					
Kings: Berryville, Ark.	6	30	1/	21.45	30
Buffalo: Gilbert, Ark.	30	30	30	38.0	30
Black: Poplar Bluff, Ark.	16	30	Feb. 1	U	U
Corning, Ark.	9	19	1/		
Pocahontas, Ark.	17	Dec. 29	8	19.9	3
		29	Feb. 14	24.3	Feb. 3
Black Rock, Ark.	14	Dec. 27	12	23.2	Dec. 29
		18	Feb. 20	27.7	31
				26.6	Feb. 3
Little Red: Judsonia, Ark.	30	30	Feb. 1	36.1	30
Cache: Patterson, Ark.	7	Dec. 23	1/	11.3	Feb. 1
White: Calico Rock, Ark.	19	30	1/	23.3	30
Batesville, Ark.	23	Dec. 27	Dec. 31	29.4	Dec. 28
		30	Feb. 1	30.9	30
Newport, Ark.	26	Dec. 29	1	27.7	Dec. 30
		31	Feb. 10	30.5	Feb. 1
Augusta, Ark.	32	Dec. 30	5	32.6	2
		31	Feb. 11	34.15	Feb. 3
Georgetown, Ark.	21	Dec. 28	31	23.5	3
		31	1/	26.7	Feb. 4
Des Arc, Ark.	24	Dec. U	16	26.4	5-6
		18	21	24.2	19
		30	1/	30.3	Feb. 5
Clarendon, Ark.	26	Dec. 27	1/	29.0	7-9
				32.0	Feb. 7
St. Charles, Ark.	25	3	1/	26.0	10
				30.1	Feb. 12
Arkansas Basin					
Elk: Tiff City, Mo.	15	30	U	18.1	30
Illinois: Watts, Okla.	13	29	31	21.8	30
Tahlequah, Okla.	11	30	Feb. 1	19.1	31
Poteau: Panama, Okla.	24	30	31	26.7	31
Mulberry: Mulberry, Ark.	11	30	30	14.0	30
Petit Jean: Booneville, Ark.	18	30	30	20.9	30
Danville, Ark.	20	30	1/	23.9	31

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Fourche LaFave: Houston, Ark.	18	1	13	24.2	6
		30	Feb. 6	31.4	Feb. 1
Red Basin					
Blue: Blue, Okla.	21	30	30	22.5	30
Clear Boggy: Caney, Okla.	19	30	30	20.8	30
Clover Creek: Clover, Okla.	16	30	30	20.2	30
Rolling Fork: DeQueen, Ark.	20	30	30	21.9	30
Cossatot: DeQueen, Ark.	16	30	30	21.1	30
Saline: Dierks, Ark.	11	30	30	19.9	30
Silver Ridge, Ark.	16	30	Feb. 2	17.7	30
Little River: Idabel, Okla.	30	30	Feb. 2	32.7	31
Horatio, Ark.	27	31	Feb. 3	32.4	Feb. 1
Sulphur: Hagansport, Tex.	38	30	Feb. 5	46.7	31
Naples, Tex.	22	Dec. 25	2	25.7	Dec. 28
Caddo: Glenwood, Ark.	15	30	30	22.2	30
Little Missouri: Boughton, Ark.	20	31	1/		
Saline: Benton, Ark.	20	30	1/	31.0	30
Ouachita: Rockport (Malvern), Ark.	10	30	1/	24.05	30
Arkadelphia, Ark.	17	30	Feb. 2	28.5	31
Camden, Ark.	26	30	Feb. 13	39.1	Feb. 3
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	Dec. 30	5	22.8	1
		29	Feb. 16	24.8	Feb. 2
St. Francis, Ark.	18	Dec. 28	9	19.75	4
		18	21	19.0	19
		23	Feb. 20	22.8	Feb. 3
Big Black: Bovina, Miss.	28	Dec. 31	2	28.3	31
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	5	5	12.2	5
Sabine: Deweyville, Tex.	14	Dec. 12	9	14.4	Dec. 24-25
San Jacinto: Lake Houston, Tex.	44.5	Dec. 1	1/	45.3	Dec. 3
				44.75	17-19
				46.7	Feb. 23
PACIFIC SLOPE DRAINAGE					
Salinas: Bradley, Calif.	15	25	26	18.9	25
Spreckles, Calif.	23	26	27	26.1	27
Tuolumne: Modesto, Calif.	65	27	27	65.7	27
Stanislaus: Ripon, Calif.	60	21	23	60.5	22
		27	28	60.4	27
San Joaquin: Vernalis, Calif.	34	22	1/	34.3	27
Sacramento: Woodson Bridge (nr)	183	12	14	188.6	13
Vina, Calif.		20	24	186.2	20
				186.5	21
		26	27	184.6	26
Russian: Guerneville, Calif.	29	12	14	40.0	13
		20	22	35.0	21
Van Duzen: Bridgeville, Calif.	15	U	U	19.3	13
				17.9	20
Eel: Fernbridge, Calif.	17	12	14	22.1	13
		20	22	21.5	21
South Fork Coquille: Myrtle Point, Oreg.	35	11	11	36.0	11
		13	14	37.55	13
Columbia Basin					
Umatilla: Pendleton, Oreg.	9	5	7	10.1	6
Luckiamute: Suver, Oreg.	27	11	11	27.1	11
South Yamhill: Whiteson, Oreg.	38	11	12	38.9	11
Pudding: Aurora, Oreg.	20	2	4	21.0	2
		6	17	25.0	8
				24.0	11
Tualatin: Farmington, Oreg.	29	8	17	32.5	11
Johnson Creek: Sycamore, Oreg.	8	5	6	9.8	5
		6	7	12.2	7
Puget Sound Drainage					
Snoqualmie: Carnation, Wash.	54	5	7	#58.6	5
Skykomish: Gold Bar, Wash.	15	5	5	#15.2	5

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
PACIFIC SLOPE DRAINAGE	Ft.			Ft.	
Snohomish: Snohomish, Wash.	25	4	7	#30.6	5
Stillaguamish: Arlington, Wash.	16	4	5	#17.0	4
Nooksack: Deming, Wash.	12	4	5	E12.8	5

* Provisional
\# Highest stage observed
1/ Continued at end of month
E Estimated
T Tentative
U Unknown

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	ALBANY, N. Y. 1009 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	ALBUQUERQUE, N. MEX. 837 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	AMARILLO, TEXAS 888 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	86	-7.7	-11.0	28	3.0	31	1,619	-1.2	-5.1	21	.3	31	1,095	-.1	-6.0	22	2.6
1000	31	157			29	2.8	31	173					31	134				
950	31	556	-7.4	-11.0	28	5.3	31	589					31	554				
900	31	979	-7.3	-12.3	29	6.9	31	1,030					31	992				
850	31	1,423	-7.9	-13.8	29	8.3	31	1,493					31	1,481	4.5	-4.8	25	6.3
800	31	1,893	-9.3	-17.0	29	8.9	31	1,992	3.1	-7.5	28	3.3	31	1,947	5.2	-8.2	26	8.9
750	31	2,381	-10.2	-17.3	28	10.3	31	2,501	.4	-9.0	28	7.0	31	2,466	3.1	-10.6	27	10.2
700	31	2,921	-12.3	-19.4	28	11.5	31	3,054	-2.3	-12.8	28	10.6	31	3,029	.1	-13.8	27	11.4
650	31	3,482	-15.1	-22.6	28	12.5	31	3,635	-5.1	-18.7	28	13.7	31	3,619	-3.2	-17.9	27	13.2
600	31	4,086	-18.5	-26.8	28	14.0	31	4,265	-8.5	-23.4	28	15.8	31	4,249	-7.1	-21.7	28	14.9
550	31	4,728	-22.1	-30.7	27	16.0	31	4,925	-12.4	-26.8	28	19.0	31	4,917	-11.4	-25.4	28	16.1
500	31	5,426	-26.4	-34.9	27	17.8	31	5,658	-17.0	-29.7	28	20.8	31	5,648	-16.4	-30.0	28	18.7
450	31	6,177	-31.7	-39.1	27	18.9	31	6,436	-22.1	-34.3	28	22.6	31	6,425	-22.0	-34.3	28	21.7
400	31	7,004	-37.1	-41.7	27	21.6	31	7,298	-28.2	-40.1	28	23.7	31	7,289	-28.6	-39.0	27	23.8
350	21	7,917	-42.4	-46.5	27	24.5	31	8,242	-35.5	-46.5	28	25.6	31	8,231	-35.9	-45.1	27	24.5
300	31	8,947	-47.9		27	26.3	31	9,296	-43.9	-52.6	28	27.8	31	9,284	-44.1		28	27.7
250	30	10,145	-52.9		28	27.7	31	10,497	-52.8		28	32.7	31	10,482	-53.3		28	31.7
200	30	11,573	-55.3		28	26.2	31	11,912	-59.4		28	35.3	30	11,894	-60.2		28	33.5
175	30	12,426	-55.1		28	25.6	30	12,743	-60.1		28	30.9	30	12,725	-61.3		28	32.8
150	30	13,412	-54.5		28	23.7	30	13,703	-60.8		28	28.7	30	13,680	-61.9		28	30.9
125	30	14,577	-55.7		27	20.3	30	14,833	-62.8		28	26.5	30	14,807	-62.5		28	28.5
100	30	15,990	-57.9		28	18.4	30	16,199	-65.8		28	22.2	29	16,170	-65.2		28	27.5
80	30	17,390	-59.7		28	15.3	28	17,557	-67.8		28	17.4	28	17,518	-66.5		28	22.7
70	30	18,223	-60.8		28	13.5	28	18,389	-68.2		28	15.6	26	18,323	-67.1		27	17.9
60	29	19,185	-61.0		28	11.3	28	19,288	-66.9		28	12.1	24	19,257	-66.8		27	13.7
50	28	20,319	-61.4		28	12.0	28	20,394	-65.3		29	8.2	24	20,362	-65.5		27	9.2
40	27	21,705	-61.2		29	9.2	28	21,757	-64.0		28	8.7	24	21,726	-63.2		28	8.1
30	26	23,493	-60.4		29	9.4	27	23,534	-60.3		28	8.8	24	23,506	-60.2		28	8.3
25	25	24,633	-59.2		28	9.9	27	24,675	-58.6		28	9.8	23	24,649	-58.4		28	10.4
20	21	26,034	-57.7		28	12.2	27	26,086	-55.9		27	14.5	21	26,065	-55.7		27	12.6
15	17	27,869	-53.7		28	16.7	23	27,935	-53.1		27	18.9	18	27,899	-53.5		27	16.7
10	14	30,544	-45.1		27	26.7	6	30,523	-48.6									
7	5	32,924	-41.2															

Standard pressure surface (mb.)	* ANCHORAGE, ALASKA 1012 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	* ANNETTE, ALASKA 1007 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	45	-14.9	-20.9	36	2.4	31	37	-6.3	-12.4	03	3.2
1000	31	134			01	3.8	31	88			02	3.2
950	31	531	-10.5	-17.7	02	5.4	31	484	-8.9	-17.0	06	4.7
900	31	943	-9.7	-18.2	02	4.7	31	905	-11.1	-18.5	05	3.9
850	31	1,384	-10.4	-20.1	36	4.7	31	1,342	-12.9	-19.9	06	3.5
800	31	1,849	-12.2	-21.8	36	5.1	31	1,803	-14.7	-21.6	05	3.3
750	31	2,342	-14.3	-24.6	35	5.8	31	2,286	-16.7	-25.2	04	2.7
700	31	2,861	-17.1	-27.1	35	7.2	31	2,806	-19.1	-28.1	33	2.0
650	31	3,410	-20.1	-29.5	34	8.8	31	3,350	-22.5	-31.1	34	3.6
600	31	4,002	-23.6	-32.8	34	10.2	31	3,937	-26.4	-34.5	34	4.5
550	31	4,629	-27.5	-36.3	34	11.5	31	4,555	-30.9	-38.9	35	6.2
500	31	5,313	-31.7	-39.8	34	13.1	31	5,232	-35.4	-42.3	35	8.8
450	31	6,049	-36.6	-43.7	34	14.8	31	5,955	-40.5	-42.7	34	10.4
400	31	6,859	-41.6	-47.2	34	17.3	31	6,754	-45.3		32	10.9
350	31	7,754	-47.1		34	18.3	31	7,637	-49.0		32	13.8
300	31	8,765	-51.7		33	17.3	31	8,644	-51.3		32	13.4
250	31	9,935	-55.6		32	17.2	31	9,825	-52.0		31	13.1
200	31	11,355	-56.0		32	13.8	31	11,275	-50.6		31	14.1
175	31	12,208	-53.8		31	11.8	31	12,145	-50.4		31	13.6
150	31	13,201	-52.9		31	10.6	31	13,150	-50.6		31	12.9
125	31	14,378	-52.5		31	10.1	31	14,336	-51.5		31	11.9
100	31	15,821	-52.9		31	8.7	31	15,780	-52.6		31	10.9
80	31	17,238	-53.8		30	7.1	30	17,214	-54.0		31	10.0
70	31	18,113	-54.7		30	6.2	30	18,089	-54.8		32	9.2
60	30	19,097	-55.5		30	6.3	30	19,053	-55.7		31	7.7
50	30	20,258	-56.1		30	4.4	30	20,210	-57.0		32	7.5
40	30	21,674	-56.9		30	4.1	30	21,619	-58.3		33	7.4
30	29	23,489	-58.2		33	4.5	30	23,425	-59.6		33	6.4
25	23	24,663	-58.5		33	4.6	30	24,563	-60.5		33	6.3
20	23	26,044	-59.2		34	4.9	29	25,949	-61.1		34	6.8
15	22	27,846	-59.3		35	5.6	26	27,729	-61.6		35	7.6
10	16	30,389	-60.0		35	6.9	18	30,241	-61.5		35	7.8
7							9	32,388	-62.9			

Standard pressure surface (mb.)	ATHENS, GEORGIA 992 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	* BARROW, ALASKA 1024 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	BARTER IS., ALASKA 1025 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	246	1.8	-3.5	02	1.2	31	8	-24.7	-24.8	12	2.3	27	15	-26.6	-29.2	21	1.4
1000	31	180					31	181	-20.4	-22.7	12	4.0	27	189	-22.4	-24.9	25	2.0
950	31	594	4.0	-4.3	26	.5	31	560	-17.0	-20.4	13	3.7	27	573	-18.9	-21.1	25	3.3
900	31	1,035	3.3	-5.1	25	4.6	31	970	-16.6	-20.7	16	2.5	27	973	-18.3	-21.8	27	4.4
850	31	1,498	2.6	-7.3	26	7.5	31	1,399	-17.2	-21.7	17	2.1	27	1,399	-18.8	-23.8	28	4.2
800	31	1,987	1.4	-8.8	27	10.3	31	1,853	-18.6	-24.5	20	2.1	27	1,849	-20.3	-25.8	29	3.4
750	31	2,504	-.6	-11.9	27	12.5	31	2,335	-20.5	-27.3	23	1.8	27	2,324	-22.3	-28.2	31	3.3
700	31	3,055	-2.6	-14.5	27	15.4	31	2,840	-23.2	-30.5	25	2.4	27	2,830	-24.7	-30.7	31	3.4
650	31	3,635	-5.5	-17.0	27	17.8	31	3,381	-25.9	-33.3	26	3.4	27	3,364	-27.6	-34.1	32	4.1
600	31	4,265	-8.8	-20.4	27	21.2	31	3,956	-28.9	-36.5	28	4.8	27	3,938	-30.7	-37.0	32	5.1
550	31	4,929	-12.4	-25.2	27	20.7	31	4,573	-31.9	-39.3	28	6.8	27	4,547	-34.2	-40.2	31	5.7
500	31	5,656	-17.2	-29.2	27	23.3	31	5,243	-35.6	-41.7	28	8.3	27	5,214	-38.1	-41.3	31	6.3
450	31	6,433	-22.6	-33.0	27	23.9	31	5,972	-40.2	-43.4	29	9.9	27	5,930	-42.4	-43.3	31	7.7
400	31	7,291	-28.7	-38.7	27	25.9	31	6,765	-45.2	-46.7	29	11.4	27	6,723	-46.8		31	9.3
350	31	8,233	-36.2	-43.5	27	28.6	31	7,646	-50.4		29	12.7	27	7,600	-50.7		31	11.0
300	31	9,284	-44.6		27	32.7	31	8,642	-54.2		29	14.0	27	8,597	-53.1		31	11.8
250	31	10,482	-52.8		27	35.3	31	9,805	-55.8		28	11.7	26	9,762	-53.5		31	11.7
200	31	11,897	-59.9		27	38.5	31	11,231	-53.9		28	9.2	26	11,199	-52.3		32	9.6
175	31	12,727	-61.4		27	36.2	31	12,090	-52.9		27	8.1	26	12,063	-51.6		31	8.8
150	30	13,681	-61.3		27	33.5	31	13,086	-52.4		28	7.3	26	13,065	-51.2		32	8.8
125	29	14,805	-62.8		27	30.8	31	14,263	-52.6		27	6.4	26	14,249	-51.3		32	7.9
100	29	16,171	-65.1		27	25.9	29	15,698	-52.4		27	6.4	26	15,698	-51.9		32	7.8
80	29	17,524	-66.9		27	18.3	28	17,137	-53.5		26	6.8	26	17,142	-52.7		32	7.6
70	29	18,328	-67.2		27	15.0	28	17,993	-54.3		26	6.1	26	18,003	-53.2		31	8.0
60	29	19,259	-66.7		27	13.6	28	18,979	-55.0		27	6.0	26	18,994	-54.2		31	8.6
50	29	20,366	-64.9		27	10.6	28	20,141	-56.1		27	6.2	26	20,161	-55.4		31	8.1
40	29	21,732	-62.8		28	11.1	25	21,565	-57.0		29	6.3	26	21,580	-56.5		31	7.8
30	29	23,521	-58.9		27	13.5	22	23,385	-58.2		28	5.7	26	23,397	-58.8		32	8.2
25	29	24,670	-56.5		27	16.9	19	24,520	-58.7		29	7.5	22	24,520	-60.2		32	10.5
20	28	26,099	-53.9		27	19.5	18	25,917	-59.5		30	9.5	20	25,905	-61.2		32	10.9
15	24	27,963	-48.9		27	22.4	16	27,730	-60.6		31	12.0	11	27,645	-64.9			
10	23	30,676	-40.8		27	29.0	10	30,319	-59.7									
7	16	33,126	-35.1		26	42.0												

Standard pressure surface (mb.)	BETHEL, ALASKA 1014 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	* BISMARCK, N. DAK. 958 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	39	-13.2	-15.7	08	1.2	31	503	-18.7	-23.9	34	2.0
1000	31	145	-11.7	-16.3	08	2.4	31	178				
950	31	542	-7.5	-13.6	19	2.6	31	560			34	2.0
900	31	964	-8.2	-14.1	22	2.7	31	965	-16.4	-19.5	31	3.1
850	31	1,407	-9.2	-14.9	24	3.8	31	1,398	-12.6	-15.9	29	3.6
800	31	1,876	-10.6	-16.7	26	4.9	31	1,863	-10.8	-15.4	28	5.9
750	31	2,368	-12.4	-19.0	27	5.5	31	2,359	-10.6	-16.5	27	7.7
700	31	2,895	-15.0	-22.5	27	6.2	31	2,889	-12.3	-19.2	28	10.0
650	31	3,451	-17.9	-24.6	27	7.6	31	3,448	-15.4	-21.7	27	12.6
600	31	4,047	-21.5	-27.9	27	8.0	31	4,052	-18.9	-25.0	27	15.1
550	31	4,682	-25.3	-31.5	27	7.4	31	4,690	-23.1	-29.1	27	17.3
500	31	5,370	-29.8	-35.3	26	9.3	31	5,387	-27.8	-34.0	27	19.5
450	31	6,110	-35.0	-38.3	25	11.6	31	6,130	-33.0	-37.2	27	22.2
400	31	6,926	-40.5	-43.8	25	12.9	31	6,954	-39.1	-40.8	27	25.0
350	31	7,825	-46.5		25	13.9	31	7,857	-45.2	-43.1	28	28.7
300	31	8,834	-52.6		26	13.9	31	8,873	-50.8		28	31.2
250	31	9,998	-57.8		25	16.8	31	10,046	-55.5		28	30.7
200	31	11,400	-57.9		25	11.7	31	11,462	-56.0		28	28.1
175	31	12,246	-55.9		24	11.1	31	12,314	-54.5		27	25.3
150	31	13,231	-54.1		25	10.2	31	13,304	-53.7		27	24.8
125	31	14,401	-54.0		25	8.9	31	14,476	-54.3		28	21.9
100	31	15,833	-54.1		25	6.8	31	15,900	-55.5		28	19.1
80	31	17,261	-54.9		25	6.7	31	17,310	-57.5		28	16.1
70	31	18,113	-55.5		25	5.7	30	18,160	-58.8		28	14.4
60	31	19,095	-55.9		24	4.3	30	19,125	-59.7		28	12.0
50	31	20,259	-56.4		24	4.6	30	20,261	-61.2		28	10.7
40	31	21,667	-57.2		24	4.0	29	21,647	-61.9		29	7.9
30	31	23,483	-58.0		25	2.2	27	23,422	-62.8		29	7.3
25	30	24,630	-58.3		28	1.2	23	24,539	-62.5		29	7.4
20	28	26,037	-58.7		01	2.6	18	25,921	-62.4		27	9.0
15	25	27,866	-58.3		35	3.1	12	27,714	-61.4		29	12.3
10	7	30,430	-57.0				6	30,230	-57.9			
7												

Standard pressure surface (mb.)	BOISE, IDAHO 912 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	BOOTHVILLE, LA. 1019 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	* BROWNSVILLE, TEXAS 1015 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	867	.0	-4.1	12	2.6	31	1	11.1	9.1	05	2.3	31	7	15.0	12.1	22	.5
1000	31	119					31	155	12.2	8.5	07	3.1	31	133	15.0	12.3	18	1.5
950	31	536					31	587	10.6	5.0	14	2.4	31	571	14.3	10.1	16	5.6
900	31	970	-.2	-5.8	14	2.3	31	1,036	10.1	-.1	22	2.6	31	1,025	13.0	6.6	17	5.5
850	31	1,428	-.6	-6.8	19	3.2	31	1,510	8.7	-2.9	25	4.1	31	1,505	11.6	2.0	19	5.0
800	31	1,910	-3.5	-8.5	24	6.4	31	2,010	7.1	-5.8	28	5.7	31	2,011	10.3	-4.5	21	3.7
750	31	2,418	-6.6	-10.5	25	9.7	31	2,536	4.9	-9.9	26	7.4	31	2,545	8.2	-9.7	24	3.5
700	31	2,934	-10.1	-14.3	26	12.5	31	3,099	1.9	-15.2	26	8.5	31	3,113	5.1	-11.8	26	5.5
650	31	3,521	-13.6	-18.0	26	16.1	31	3,692	-1.2	-16.9	27	9.0	31	3,711	1.5	-16.2	27	7.7
600	31	4,127	-17.2	-23.0	26	18.5	31	4,327	-5.1	-19.1	27	10.8	31	4,353	-2.9	-19.4	27	9.7
550	31	4,774	-20.7	-26.9	26	20.4	31	4,999	-9.1	-23.8	27	12.5	31	5,029	-7.6	-23.9	28	10.8
500	31	5,474	-25.0	-31.3	26	23.0	31	5,737	-13.7	-27.2	27	15.5	31	5,772	-12.5	-27.5	27	11.8
450	31	6,229	-30.1	-35.0	27	26.4	31	6,524	-19.5	-30.8	26	17.3	31	6,565	-17.8	-33.3	27	14.3
400	31	7,063	-35.7	-38.7	27	29.6	31	7,393	-25.9	-35.0	26	19.6	31	7,441	-23.9	-38.6	27	16.1
350	31	7,980	-42.2	-42.1	27	31.8	31	8,347	-33.0	-41.4	27	23.3	31	8,402	-31.1	-44.6	28	17.9
300	31	9,008	-48.7		27	34.8	31	9,413	-40.9	-49.4	27	26.2	31	9,476	-39.5	-50.6	28	20.3
250	30	10,189	-55.1		27	36.8	31	10,630	-49.9		27	27.8	31	10,699	-48.7		29	21.7
200	30	11,603	-57.3		28	33.8	31	12,058	-59.0		27	31.2	31	12,136	-57.5		28	25.6
175	30	12,450	-56.6		28	31.5	31	12,889	-61.9		27	31.2	31	12,971	-61.4		28	25.4
150	29	13,426	-56.6		27	26.7	31	13,843	-62.1		27	30.4	31	13,921	-63.6		28	24.7
125	28	14,575	-57.0		27	22.7	31	14,963	-65.0		27	26.7	31	15,032	-67.1		28	23.1
100	28	15,981	-58.9		27	18.8	31	16,310	-68.7		27	24.1	28	16,384	-71.1		28	19.4
80	28	17,377	-60.5		27	16.2	30	17,637	-70.5		27	16.6	26	17,674	-73.3		27	14.9
70	27	18,206	-61.1		27	14.3	30	18,429	-70.4		27	13.7	25	18,455	-72.5		27	12.3
60	25	19,162	-61.2		27	11.5	30	19,348	-68.9		27	12.3	25	19,363	-70.5		27	10.2
50	23	20,290	-61.9		27	8.9	27	20,453	-65.9		26	11.2	24	20,457	-66.4		27	10.4
40	22	21,665	-62.4		28	7.9	26	21,820	-62.1		27	12.2	24	21,827	-61.1		27	12.9
30	17	23,445	-62.0		29	5.6	26	23,616	-57.8		27	15.2	24	23,631	-57.8		27	13.9
25	15	24,567	-62.0		28	5.4	26	24,772	-55.7		27	18.0	23	24,789	-56.5		27	15.1
20	12	25,963	-61.1		28	8.9	24	26,200	-53.1		27	19.1	23	26,215	-53.7		27	13.8
15	8	27,710	-58.4				21	28,084	-48.7		27	17.7	22	28,084	-49.1		27	14.0
10							16	30,773	-44.2				19	30,793	-44.1		27	14.5
7							6	33,159	-39.8				16	33,196	-39.9		26	15.4
5													7	35,528	-34.9			

Standard pressure surface (mb.)	BUFFALO, N. Y. 992 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.	CAPE HATTERAS, N. C. 1020 MB No. of observations	Dynamic height	Temperature	Dew Point t	Resultant Wind Direction	Speed M.p.s.
SURFACE	31	218	-5.2	-8.8	25	3.6	31	4	4.7	1.3	34	4.0
1000	31	153					31	165	4.9	-.4	34	4.8
950	31	557	-5.5	-9.2	25	8.1	31	587	4.0	-3.3	31	5.6
900	31	980	-6.8	-10.5	26	10.5	31	1,022	3.2	-5.9	29	5.7
850	31	1,425	-8.4	-12.9	26	10.3	31	1,485	1.7	-8.0	28	8.5
800	31	1,895	-10.1	-14.8	27	10.7	31	1,972	-.1	-11.7	27	11.5
750	31	2,391	-11.7	-17.1	27	11.4	31	2,489	-2.2	-12.8	27	13.6
700	31	2,918	-13.5	-20.8	28	12.2	31	3,033	-4.3	-16.6	27	15.6
650	31	3,476	-16.1	-25.0	28	14.2	31	3,615	-7.0	-19.6	27	17.3
600	31	4,079	-19.2	-28.7	28	15.0	31	4,236	-10.3	-23.2	27	19.4
550	31	4,718	-22.9	-31.9	28	16.9	31	4,898	-14.4	-26.2	27	22.0
500	31	5,415	-27.0	-35.8	28	17.9	31	5,619	-18.7	-30.4	27	24.6
450	31	6,165	-32.0	-39.9	28	19.7	31	6,393	-23.8	-34.4	27	27.6
400	31	6,991	-37.3	-41.9	27	21.4	31	7,248	-29.7	-38.3	27	30.4
350	31	7,902	-43.0	-47.1	27	24.4	31	8,188	-36.0	-44.2	27	32.7
300	31	8,929	-48.6		28	24.0	31	9,242	-43.6		27	34.5
250	31	10,115	-53.4		27	25.8	31	10,447	-51.3		27	37.7
200	31	11,543	-55.6		27	26.1	31	11,872	-58.3		27	39.8
175	30	12,389	-55.1		27	24.4	31	12,710	-59.2		27	35.6
150	30	13,375	-54.6		28	23.0	30	13,673	-59.1		27	34.7
125	30	14,538	-56.2		28	19.2	30	14,813	-60.3		27	32.5
100	29	15,954	-58.0		28	17.1	30	16,197	-62.8		27	27.2
80	29	17,336	-60.4		27	13.4	30	17,566	-64.6		27	21.6
70	27	18,166	-61.6		27	12.2	29	18,379	-64.7		27	18.5
60	26	19,120	-62.2		28	11.4	29	19,371	-64.4		27	15.2
50	26	20,244	-62.8		28	9.3	29	20,438	-63.5		27	11.7
40	26	21,618	-62.8		28	8.3	28	21,816	-61.7		27	10.4
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RAWINSONDE DATA

Average monthly values

JANUARY 1969

Standard pressure surface (mb.)	* CARIBOU, MAINE 992 MB						CHARLESTON, S. C. 1020 MB						CHIHUAHUA, MEXICO 857 MB						* COLD BAY, ALASKA 1015 MB						COLUMBIA, MO. 990 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	191	-10.1	-12.5	30	1.4	31	13	3.2	-.9	35	1.8	31	1,428	4.8	-1.3	27	1.4	29	30	.2	-2.5	17	3.3	31	288	-4.6	-7.7	15	.5
1000	31	124			35	1.3	31	173	6.3	-.8	02	2.3	31	142					29	152	-.3	-2.5	17	3.3	31	159				
950	31	525	-8.7	-11.4	29	2.9	31	595	6.3	-4.3	33	2.0	31	568					29	559	-1.8	-5.2	20	3.6	31	561	-4.8	-8.9	22	2.7
900	31	939	-9.4	-12.9	28	3.8	31	1,040	5.9	-4.6	27	4.7	31	1,016					29	992	-3.2	-8.3	23	4.0	31	990	-2.2	-8.6	25	5.4
850	31	1,381	-10.2	-13.8	29	3.8	31	1,507	4.7	-6.0	26	7.7	31	1,491	6.4	-.9	26	1.7	29	1,443	-4.8	-12.7	24	5.4	31	1,445	-1.6	-10.5	27	7.2
800	31	1,847	-11.1	-15.6	28	4.6	31	2,000	2.8	-7.0	27	10.2	31	1,994	9.3	-4.6	27	3.9	29	1,919	-6.5	-15.4	25	7.3	31	1,928	-2.5	-11.9	28	8.8
750	31	2,345	-12.1	-17.9	28	5.8	31	2,519	.8	-8.8	27	12.1	31	2,519	7.0	-8.0	27	6.1	29	2,420	-8.9	-17.6	25	9.1	31	2,432	-4.4	-13.4	28	10.7
700	31	2,868	-14.3	-20.2	28	6.7	31	3,073	-1.3	-13.4	27	14.3	31	3,091	4.3	-11.0	27	8.5	29	2,983	-11.4	-20.1	26	10.0	31	2,980	-6.8	-16.5	28	13.0
650	31	3,430	-17.1	-23.1	27	6.8	31	3,658	-4.3	-17.0	27	16.3	31	3,687	1.0	-15.5	27	10.0	29	3,515	-14.5	-22.9	26	10.7	31	3,550	-9.4	-19.2	28	15.2
600	31	4,025	-20.1	-27.3	27	6.4	31	4,288	-7.8	-19.5	27	18.4	31	4,329	-3.1	-19.0	27	10.4	29	4,121	-18.3	-26.5	25	11.5	31	4,172	-12.8	-22.2	28	18.2
550	31	4,664	-23.9	-31.4	27	8.5	31	4,936	-11.7	-24.3	27	20.4	31	5,009	-7.6	-22.3	27	11.3	29	4,760	-22.4	-30.6	25	12.0	31	4,828	-16.8	-26.7	28	21.5
500	31	5,355	-28.1	-35.2	27	10.7	31	5,685	-16.1	-28.7	27	22.1	31	5,748	-12.6	-26.1	27	14.1	29	5,459	-26.9	-35.7	24	10.4	31	5,541	-21.2	-30.4	28	23.8
450	31	6,101	-33.4	-39.8	27	11.5	31	6,483	-21.3	-33.7	27	24.6	31	6,536	-18.2	-31.0	27	15.3	29	6,204	-32.1	-40.0	23	12.6	31	6,305	-26.1	-38.9	28	24.8
400	31	6,923	-38.9	-43.8	26	10.6	31	7,330	-27.4	-39.9	27	27.1	31	7,414	-24.6	-34.8	28	17.3	29	7,033	-38.0	-44.2	23	12.4	31	7,156	-32.2	-41.8	28	27.7
350	31	7,828	-44.3		25	12.1	31	8,276	-34.8	-45.6	27	29.6	31	8,371	-31.8	-41.4	28	19.9	29	7,940	-44.6		24	11.5	31	8,084	-38.9	-45.2	28	29.9
300	31	8,848	-50.5		26	14.8	31	9,334	-42.7		27	32.8	31	9,442	-40.1	-47.2	28	23.1	29	8,955	-52.0		24	12.7	31	9,125	-46.3		28	32.2
250	31	10,026	-54.2		26	15.9	31	10,541	-51.5		27	35.4	31	10,662	-49.2		29	27.1	29	10,116	-58.9		23	13.4	31	10,314	-54.0		28	33.1
200	31	11,453	-54.7		27	17.6	31	11,961	-59.6		27	38.6	31	12,096	-57.9		29	26.3	29	11,503	-60.7		24	11.2	31	11,725	-59.4		28	35.7
175	31	12,308	-53.9		26	16.7	31	12,792	-61.4		27	38.1	30	12,927	-61.5		28	25.0	29	12,339	-58.0		25	8.0	31	12,581	-59.0		28	33.1
150	31	13,300	-53.2		26	15.2	31	13,730	-60.9		27	35.2	30	13,881	-62.6		29	25.9	28	13,314	-55.9		24	8.0	31	13,529	-58.2		28	30.8
125	30	14,471	-53.9		26	14.3	31	14,879	-62.8		27	31.2	29	14,992	-65.7		29	24.3	28	14,476	-55.6		25	8.8	31	14,676	-59.5		28	25.6
100	29	15,897	-56.4		27	12.5	31	16,244	-65.4		27	25.9	29	16,235	-69.6		28	18.3	28	15,898	-55.6		24	6.6	27	16,069	-61.1		28	21.0
80	29	17,307	-58.2		27	11.3	31	17,596	-67.1		27	20.2	24	17,881	-72.0		29	15.3	28	17,317	-58.4		24	5.8	26	17,446	-63.6		28	17.6
70	29	18,145	-59.4		28	9.7	31	18,401	-67.4		27	16.7	20	18,448	-71.0		29	14.2	27	18,165	-58.6		24	5.1	24	18,267	-64.0		28	15.3
60	29	19,108	-60.3		28	8.9	31	19,332	-66.6		27	14.1	18	19,367	-68.9		28	11.6	26	19,144	-58.8		24	4.7	24	19,210	-64.7		28	12.3
50	29	20,244	-60.8		28	8.5	31	20,439	-64.9		27	11.9	17	20,468	-66.0		29	11.6	26	20,298	-57.1		24	4.3	22	20,324	-64.7		28	11.3
40	28	21,830	-61.7		28	9.5	31	21,809	-62.1		27	11.2	15	21,830	-62.4		28	13.1	25	21,703	-57.8		23	2.2	21	21,689	-63.4		28	9.7
30	27	23,415	-61.1		28	8.6	29	23,605	-57.8		27	14.9	15	23,627	-58.1		28	14.0	22	23,526	-58.6		20	.4	18	23,478	-61.0		28	8.2
25	27	24,549	-60.5		28	9.8	29	24,763	-55.1		27	16.7	12	24,789	-56.6				21	24,680	-58.6		34	.4	16	24,608	-59.5		28	9.6
20	24	25,948	-60.0		28	10.2	29	26,199	-52.0		27	20.8	9	26,220	-52.6				19	26,101	-58.0		02	2.7	13	26,005	-57.3		28	13.1
15	20	27,744	-58.4		28	15.6	27	28,078	-47.6		27	24.2							18	27,919	-57.2		05	3.6	12	27,828	-54.0		28	18.1
10	19	30,318	-53.1		27	26.0	22	30,786	-40.5		26	26.7							16	30,497	-56.1		01	6.1	6	30,470	-46.9			
7	15	32,649	-46.4		27	38.8	7	33,264	-34.9										12	32,784	-55.2									
5																			8	34,958	-53.1									

Standard pressure surface (mb.)	DAYTON, OHIO 985 MB						DEL RIO, TEXAS 980 MB						DENVER, COLO. 831 MB						DODGE CITY, KANS. 922 MB						EL PASO, TEXAS 881 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	297	-4.9	-7.5	29	2.1	29	314	8.5	3.6	08	1.6	31	1,611	-2.6	-7.9	22	1.9	31	791	-3.3	-5.5	16	.7	31	1,193	5.2	-3.4	27	1.8
1000	31	173					29	143					31	120					31	141					31	145				
950	31	575	-5.5	-8.9	23	5.3	29	568	9.7	2.2	14	3.3	31	534					31	548					31	572				
900	31	1,000	-5.5	-10.7	25	7.4	29	1,019	10.4	-.2	19	4.1	31	974					31	992	-1.2	-6.1	18	2.2	31	1,020				
850	31	1,449	-5.1	-13.3	26	8.8	29	1,495	10.7	-2.4	23	3.2	31	1,431					31	1,440	1.4	-7.2	24	6.9	31	1,491	8.7	-2.7	28	4.2
800	31	1,925	-3.9	-14.4	27	10.2	29	2,000	9.3	-5.3	25	4.3	31	1,916	1.7	-10.5	26	4.8	31	1,930	2.7	-10.1	26	9.1	31	1,992	6.9	-5.0	28	7.2
750	31	2,427	-7.0	-15.3	28	12.0	29	2,526	7.0	-9.6	26	6.5	31	2,433	.0	-13.8	28	6.9	31	2,449	.7	-12.6	27	10.4	31	2,519	4.3	-7.7	27	8.9
700	31	2,966	-9.2	-17.5	28	13.6	29	3,097	3.8	-12.8	27	7.7	31	2,985	-3.5	-16.9	28	8.9	31	3,002	-2.5	-15.5	27	12.6	31	3,079	1.3	-11.8	27	11.2
650	31	3,535	-12.0	-20.4	28	14.1	29	3,690	.1	-16.2	27	9.3	31	3,561	-7.6	-19.9	28	12.1	31	3,581	-6.2	-18.2	27	14.6	31	3,669	-1.7	-16.7	28	12.8
600	31	4,146	-15.2	-23.9	27	16.7	29	4,332	-3.8	-19.6	28	11.7	31	4,184	-11.9	-23.6	29	15.5	31	4,209	-10.0	-22.8	27	17.2	31	4,305	-5.5	-20.4	27	14.4
550	31	4,795	-18.9	-28.5	28	17.9	29	5,007	-8.3	-22.5	27	13.6	31	4,843	-15.8	-27.5	29	17.7	31	4,872	-14.1	-26.1	28	19.9	31	4,975	-9.8	-23.8	27	15.7
500	31	5,502	-23.7	-32.7	27	19.3	29	5,748	-13.5	-25.5	27	15.3	31	5,559	-20.4	-31.9	29	18.9	31	5,594	-18.6	-31.4	28	22.3	31	5,712	-14.5	-28.4	28	17.0
450	31	6,259	-29.0	-37.3	27	22.1	29	6,532	-19.1	-31.2	27	16.6	31	6,325	-26.1	-36.6	28	20.7	31	6,368	-23.9	-36.1	28	26.6	31	6,496	-20.0	-32.6	28	19.6
400	31	7,098	-34.3	-41.3	27	25.4	29	7,408	-25.6	-36.7	27	19.9	31	7,173	-32.2	-40.4	28	24.5	31	7,223	-30.2	-41.3	28	30.8	31	7,367	-26.4	-37.6	27	19.7
350	31	8,020	-40.5	-44.5	27	29.3	29	8,383	-32.5	-42.3	27	21.9	31	8,102	-39.2	-44.4	28	26.4	31	8,160	-37.5	-46.4	28	32.7	31	8,318	-33.7	-43.5	27	23.0
300	31	9,055	-47.3		27	30.8	29	9,431	-40.8	-48.4	28	26.3	31	9,139	-47.5		28	28.2	31	9,206	-45.5		28	36.5	31	9,381	-41.8	-48.8	28	26.5
250	31	10,242	-54.0		27	31.6	29	10,646	-50.1		28	29.6	31	10,323	-54.8		28	32.4	31	10,399	-54.0		28	34.9	31	10,593	-50.9		29	29.4
200	30	11,673	-57.9		27	34.6	29	12,076	-58.6		28	31.8	31	11,731	-59.5		28	35.4	31	11,809	-59.8		28	36.7	31	12,016	-59.4		29	33.1
175	30	12,513	-56.3		27	32.7	29	12,979	-62.0		28	32.2	31	12,586	-59.5		28	34.2	31	12,644	-60.0		28	34.8	31	12,848	-61.5		29	32.1
150	30	13,487	-56.9		27	28.7	29	13,861	-62.6		28	29.9	31	13,531	-59.0		27	30.8	31	13,609	-60.5		28	33.3	31	13,803	-61.9		29	29.3
125	30	14,639	-58.3		27	23.6	29	14,978	-65.5		28	28.6	31	14,673	-59.6		28	26.6	31	14,741	-60.8		28	28.5	31	14,924	-64.6		29	25.4
100	29	16,029	-60.6		27	20.6	29	16,323	-69.1		28	23.3	31	16,063	-60.8		28	20.2	31	16,126	-62.5		28	22.1	31	16,274	-68.4		29	22.2
80	27	17,406	-62.1		28	16.2	27	17,645	-71.9		27	17.3	31	17,442	-63.3		27	15.9	30	17,496	-64.4		28	14.5	31	17,607	-70.2		29	15.7
70	27	18,230	-63.0		28	14.2	27	18,433	-71.0		27	13.1	31	18,263	-63.5		27	12.0	30	18,311	-64.7		28	11.1	31	18,400	-69.9		28	13.7
60	27	19,178	-63.4		28	11.8	27	19,348	-69.5		27	10.8	31	19,209	-64.1		27	9.0	28	19,253	-64.6		28	6.8	31	19,321	-68.3		29	11.5
50	26	20,298	-63.7		28	10.2	27	20,445	-66.2		27	10.5	31	20,325	-63.7		28	8.2	26	20,367	-64.5		28	5.8	30	20,419	-66.7		28	8.9
40	23	21,666	-63.3		28	10.1	27	21,812	-61.8		27	11.5	30	21,693	-63.4		29	6.3	25	21,732	-63.4		28	4.6	30	21,778	-63.6		28	10.5
30	24	23,443	-61.6		28	10.1	27	23,610	-57.8		27	14.1	26	23,464	-62.1		28	6.0	23	23,513	-60.8		29	5.9	30	23,563	-59.7		28	10.8
25	22	24,568	-60.1		28	11.3	27	24,788	-55.1		26	16.1	23	24,600	-60.4		28	8.3	21	24,650	-59.1		26	5.7	30	24,709	-57.3		27	12.5
20	18	25,977	-57.5		27	14.5	26	26,201	-52.9		27	19.4	23	25,999	-58.2		28	11.6	21	26,058	-56.4		27	11.2	29	26,131	-54.6		27	15.1
15	14	27,839	-53.0		27	19.7	23	28,081	-49.0		27	19.5	16	27,842	-54.5		27	17.9	18	27,908	-52.4		27	18.3	27	27,987	-51.7		27	19.3
10	10	30,326	-43.3				17	30,784	-44.4		27	19.0	5	30,444	-49.6				9	30,616	-44.7				27	30,675	-44.1		27	24.5
7																									10	33,092	-38.5			

Standard pressure surface (mb.)	ELY, NEV. 804 MB						EMPALME, MEXICO 1014 MB						* FAIRBANKS, ALASKA 1009 MB						FLINT, MICH. 989 MB						FORT WORTH, TEXAS 996 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,908	-3.5	-8.4	20	4.3	30	12	13.5	8.4	31	1.1	31	135	-33.2	-25.8	05	.3	31	236	-5.5	-8.8	24	3.0	31	180	5.8	.6	21	.5
1000	31	131					30	131	17.3	8.0	33	1.9	31	196	-29.6	-27.8	06	.9	31	150					31	148			04	.9
950	31	565					30	568	18.2	3.2	36	2.2	31	574	-20.9	-23.0	10	3.3	31	592	-6.2	-8.7	25	7.0	31	569	5.9	-.5	21	5.0
900	31	1,002					30	1,030	18.2	.0	31	.9	31	972	-17.7	-22.2	10	3.0	31	974	-7.5	-10.2	25	8.1	31	1,013	7.6	-3.6	23	6.6
850	31	1,445					30	1,514	13.9	-3.8	26	2.0	31	1,400	-17.1	-22.9	08	1.8	31	1,419	-8.3	-13.5	26	8.4	31	1,484	7.7	-4.2	25	7.2
800	31	1,947			22	3.8	30	2,022	11.3	-6.5	26	3.7	31	1,855	-17.6	-24.5	01	2.0	31	1,889	-9.8	-15.7	27	9.6	31	1,983	5.6	-5.8	25	8.0
750	31	2,481	-1.9	-9.5	20	5.3	30	2,559	8.2	-8.3	26	4.5	31	2,337	-19.0	-26.5	35	3.2	31	2,387	-10.6	-19.0	27	10.8	31	2,507	3.7	-9.2	26	9.1
700	31	3,009	-5.1	-12.3	25	8.2	30	3,124	4.9	-12.3	27	6.0	31	2,849	-21.0	-28.3	34	4.4	31	2,916	-12.4	-22.4	27	12.3	31	3,067	.9	-13.0	27	10.3
650	31	3,584	-8.4	-15.6	26	12.3	30	3,721	1.4	-15.5	28	6.7	31	3,392	-23.7	-30.8	33	5.7	31	3,476	-15.0	-25.9	27	13.4	31	3,659	-2.5	-16.7	27	12.5
600	31	4,206	-11.8	-20.5	27	15.8	30	4,363	-2.7	-19.0	28	8.6	31	3,974	-27.0	-33.9	33	7.7	31	4,082	-17.9	-28.8	27	15.4	31	4,290	-6.2	-20.0	27	12.9
550	31	4,880	-15.6	-24.6	27	17.7	30	5,043	-7.1	-21.7	27	10.3	30	4,601	-30.7	-36.7	33	8.9	31	4,719	-21.5	-31.2	28	18.2	31	4,962	-10.5	-23.2	27	15.4
500	31	5,581	-20.3	-29.3	27	20.3	30	5,784	-12.1	-26.5	28	12.1	30	5,274	-34.7	-39.6	33	10.3	31	5,425	-25.9	-35.6	28	20.1	31	5,693	-19.3	-27.2	28	17.8
450	31	6,345	-25.5	-33.2	27	24.0	30	6,579	-17.7	-30.6	28	14.8	30	5,999	-39.1	-42.8	33	12.8	31	6,178	-30.9	-40.5	28	22.0	31	6,473	-21.1	-31.6	28	18.8
400	31	7,200	-31.6	-39.0	27	25.9	30	7,454	-23.8	-35.9	28	17.1	30	6,803	-44.0		33	14.9	31	7,007	-36.5	-43.2	28	24.7	31	7,340	-27.6	-37.6	28	20.2
350	31	8,132	-38.5	-43.2	28	28.4	30	8,413	-30.9	-41.9	28	21.4	30	7,689	-49.0		33	17.8	31	7,920	-42.6	-46.9	28	26.4	31	8,286	-34.8	-43.9	28	23.3
300	30	9,173	-46.4	-48.2	28	29.4	30	9,490	-39.2	-48.4	28	23.3	30	8,691	-53.5		33	18.9	31	8,947	-48.5		27	29.3	31	9,344	-43.1	-47.5	28	25.7
250	30	10,362	-54.4		28	35.6	30	10,713	-48.9		28	25.8	30	9,857	-55.7		32	16.8	31	10,193	-53.4		28	31.7	31	10,567	-52.0		28	30.8
200	29	11,770	-59.8		28	38.8	30	12,147	-58.1		29	29.8	30	11,278	-54.8		32	13.0	31	11,557	-55.9		28	28.9	31	11,966	-59.9		28	34.0
175	29	12,604	-60.1		28	37.9	29	12,979	-61.7		29	28.4	30	12,134	-53.7		32	12.3	31	12,406	-55.8		28	26.7	31	12,793	-62.2		28	33.2
150	27	13,572	-60.0		28	31.1	29	13,930	-63.5		29	27.9	30	13,125	-53.1		32	10.5	31	13,390	-54.9		28	22.6	31	13,746	-62.6		27	30.9
125	24	14,703	-59.8		28	28.0	29	15,039	-67.4		29	24.9	29	14,306	-52.5		32	9.5	31	14,554	-55.6		28	20.7	31	14,867	-63.8		27	28.9
100	23	16,093	-61.3		28	22.4	29	16,371	-71.3		29	19.2	29	15,745	-52.8		31	8.1	31	15,967	-58.3		27	19.1	29	16,222	-66.8		27	23.5
80	23	17,473	-63.1		28	17.2	29	17,683	-73.0		29	14.4	29	17,182	-53.8		31	6.8	31	17,365	-60.3		28	13.8	27	17,560	-69.1		28	17.3
70	23	18,292	-64.0		27	14.7	28	18,467	-71.4		29	12.2	29	18,039	-54.5		32	7.1	31	18,195	-61.2		27	12.5	27	18,358	-69.3		28	13.1
60	23	19,236	-64.0		28	12.0	27	19,382	-70.2		29	9.8	29	19,023	-55.6		31	6.6	30	19,150	-61.4		28	11.3	26	19,281	-68.1		27	10.4
50	23	20,352	-64.1		29	7.5	26	20,477	-67.2		29	8.5	29	20,183	-56.5		32	5.4	29	20,283	-62.4		28	8.9	25	20,378	-66.4		27	9.1
40	23	21,722	-63.1		29	6.3	25	21,835	-63.4		28	8.5	29	21,596	-57.1		31	4.7	29	21,659	-62.8		28	8.4	24	21,757	-63.4		28	10.5
30	23	23,495	-61.9		28	7.1	24	23,628	-58.5		27	13.0	27	23,408	-58.8		33	5.0	26	23,431	-61.6		28	8.7	24	23,520	-59.8		27	12.2
25	21	24,825	-60.7		29	7.8	23	24,781	-56.9		27	14.8	27	24,551	-59.8		33	5.2	26	24,562	-61.1		28	9.6	22	24,669	-57.2		27	15.0
20	20	26,024	-59.2		28	10.1	22	26,209	-53.0		27	17.7	23	25,944	-60.1		34	5.6	25	25,956	-59.4		28	11.2	21	26,088	-54.9		27	18.4
15	13	27,843	-56.6		28	15.5	18	28,074	-49.6		27	20.7	20	27,747	-61.0		36	7.4	21	27,776	-55.9		28	15.4	20	27,944	-51.3		27	22.8
10	9	30,442	-51.8				11	30,776	-44.2										15	30,417	-47.2				17	30,620	-43.4		27	26.2

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1969

Standard pressure surface (mb.)	GLASGOW, MONT. 934 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	696	-22.4	-25.5	03	1.1
1000	31	190				
950	31	568				
900	31	969	-18.8	-21.6	32	1.0
850	31	1,398	-15.2	-19.1	29	4.5
800	31	1,858	-12.9	-17.8	28	6.0
750	31	2,344	-12.2	-16.7	28	9.2
700	31	2,878	-14.1	-17.7	28	11.7
650	31	3,437	-16.9	-20.4	28	13.8
600	31	4,035	-20.5	-24.6	28	15.5
550	31	4,670	-24.6	-29.4	27	17.2
500	31	5,361	-29.5	-33.4	27	19.9
450	31	6,099	-34.8	-36.2	28	22.4
400	31	6,918	-40.3	-39.0	28	25.0
350	31	7,816	-46.2	-42.8	28	28.9
300	31	8,827	-51.3		27	30.9
250	31	10,000	-55.1		27	31.2
200	31	11,422	-55.3		27	25.9
175	31	12,276	-53.7		27	23.7
150	31	13,267	-53.7		27	22.9
125	31	14,439	-53.8		27	20.7
100	31	15,848	-55.2		27	18.6
80	31	17,287	-56.9		27	16.8
70	31	18,129	-57.9		27	14.8
60	30	19,101	-59.3		27	13.3
50	30	20,239	-60.6		28	11.5
40	29	21,621	-61.4		28	9.7
30	26	23,409	-62.4		28	6.7
25	22	24,531	-62.4		29	6.9
20	19	25,913	-62.4		29	8.2
15	10	27,674	-61.8			
10						
7						

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. 850 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	1,472	-4.3	-6.9	12	1.9
1000	31	175				
950	31	585				
900	31	1,018				
850	31	1,472			12	2.4
800	31	1,956	-.6	-7.3	17	3.3
750	31	2,472	-2.3	-9.2	22	5.1
700	31	3,016	-5.4	-12.3	25	9.5
650	31	3,592	-8.6	-16.0	26	11.8
600	31	4,211	-12.0	-19.4	27	14.2
550	31	4,870	-16.1	-23.4	27	17.5
500	31	5,583	-20.6	-29.4	27	19.6
450	31	6,351	-25.6	-34.5	27	21.8
400	31	7,200	-32.0	-39.8	28	24.0
350	31	8,129	-39.2	-42.6	28	26.3
300	31	9,167	-47.2		28	31.6
250	31	10,351	-54.6		28	34.5
200	30	11,763	-58.8		29	32.8
175	30	12,600	-59.2		28	31.8
150	30	13,567	-59.6		29	28.1
125	30	14,711	-59.6		28	25.6
100	30	16,100	-61.8		28	19.9
80	30	17,669	-65.1		27	16.0
70	29	18,281	-65.2		28	14.2
60	29	19,223	-64.2		28	10.1
50	29	20,339	-64.0		28	7.8
40	28	21,707	-64.0		29	6.8
30	23	23,473	-61.8		29	6.8
25	21	24,602	-60.5		28	9.1
20	17	25,985	-58.7		27	13.8
15	15	27,809	-56.7		27	17.4
10	6	30,432	-52.3			
7						

Standard pressure surface (mb.)	* GREAT FALLS, MONT. 863 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	1,118	-19.7	-24.9	23	1.6
1000	30	188				
950	30	578				
900	30	985				
850	30	1,406	-16.2	-21.7	26	3.8
800	30	1,867	-13.2	-17.6	25	7.6
750	30	2,364	-11.2	-15.4	26	11.4
700	30	2,889	-13.3	-17.8	26	13.1
650	30	3,448	-16.5	-21.5	27	15.4
600	30	4,049	-20.0	-25.3	27	17.7
550	30	4,684	-24.3	-29.6	27	20.2
500	30	5,377	-29.4	-34.1	27	21.7
450	30	6,114	-35.0	-37.3	26	24.5
400	30	6,934	-40.3	-40.1	27	29.2
350	30	7,833	-45.9	-42.0	27	32.9
300	30	8,845	-51.3		27	33.8
250	30	10,019	-54.8		27	32.3
200	30	11,439	-55.5		27	27.4
175	30	12,292	-54.5		27	25.1
150	30	13,260	-54.1		27	23.0
125	30	14,450	-53.9		27	20.6
100	30	15,877	-56.1		27	17.6
80	30	17,293	-57.6		26	16.7
70	30	18,133	-58.7		27	15.8
60	30	19,101	-59.3		27	13.0
50	30	20,237	-60.3		26	10.9
40	27	21,624	-61.5		27	8.6
30	24	23,401	-62.5		28	6.7
25	23	24,524	-62.2		28	7.6
20	17	25,907	-62.2		28	9.5
15	13	27,703	-60.2		28	12.2
10	11	30,218	-59.1		27	16.3
7						

Standard pressure surface (mb.)	GREEN BAY, WIS. 992 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	210	-11.6	-14.6	26	2.4
1000	31	147				
950	31	543	-10.0	-11.3	28	3.6
900	31	959	-9.7	-13.4	28	5.0
850	31	1,402	-9.4	-15.2	28	6.1
800	31	1,870	-10.2	-16.3	28	7.2
750	31	2,363	-11.6	-17.4	28	8.8
700	31	2,893	-13.4	-16.9	28	10.8
650	31	3,451	-15.4	-22.7	28	13.1
600	31	4,056	-18.6	-26.9	28	15.3
550	31	4,692	-22.6	-30.8	28	17.0
500	31	5,394	-26.8	-35.4	28	18.8
450	31	6,139	-32.0	-39.9	27	20.3
400	31	6,970	-37.6	-42.9	27	23.1
350	31	7,880	-43.6	-46.6	27	25.7
300	31	8,903	-49.3		27	28.2
250	31	10,085	-54.2		27	29.6
200	31	11,507	-55.9		27	29.6
175	31	12,358	-54.8		28	27.2
150	31	13,345	-54.0		27	23.5
125	31	14,514	-55.1		27	21.0
100	31	15,932	-57.1		28	18.5
80	30	17,334	-59.1		28	15.2
70	31	18,169	-60.1		28	13.5
60	30	19,129	-61.0		28	11.3
50	29	20,259	-61.8		28	9.2
40	29	21,641	-61.9		28	8.1
30	29	23,420	-62.0		29	7.2
25	28	24,548	-61.5		29	8.1
20	23	25,939	-60.1		28	9.8
15	22	27,742	-57.3		27	11.8
10	8	30,354	-50.4			
7						

Standard pressure surface (mb.)	GREENSBORO, N. C. 989 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	273	-1.0	-6.0	32	1.2
1000	31	184				
950	31	593	.2	-6.3	30	3.3
900	31	1,028	-.2	-10.1	29	5.5
850	31	1,486	-.4	-10.4	28	8.1
800	31	1,970	-1.1	-12.4	28	11.3
750	31	2,480	-3.2	-14.4	28	13.0
700	31	3,028	-5.8	-16.7	28	14.1
650	31	3,602	-8.1	-20.2	28	16.7
600	31	4,226	-11.4	-23.2	28	18.2
550	31	4,885	-15.1	-26.1	28	19.8
500	31	5,604	-19.4	-29.4	28	23.1
450	31	6,370	-24.6	-33.9	28	25.5
400	31	7,225	-30.8	-40.7	28	27.8
350	31	8,189	-37.7	-46.7	27	30.0
300	31	9,205	-45.2		27	32.3
250	31	10,400	-52.7		27	35.0
200	31	11,819	-58.9		27	34.0
175	31	12,654	-59.5		27	32.1
150	31	13,619	-59.4		27	27.9
125	31	14,758	-60.6		27	24.1
100	31	16,139	-63.1		27	22.8
80	31	17,507	-64.7		27	16.4
70	31	18,321	-64.7		27	15.0
60	31	19,264	-64.5		27	12.1
50	30	20,378	-63.7		27	10.5
40	29	21,747	-62.3		27	9.4
30	28	23,537	-59.3		28	11.5
25	24	24,685	-56.9		28	13.1
20	27	26,108	-54.0		28	16.6
15	24	27,971	-49.3		28	19.7
10	22	30,681	-39.5		27	30.4
7	10	33,084	-36.5			

Standard pressure surface (mb.)	* GUAM, MARIANA IS. 999 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	111	24.4	20.8	07	5.3
1000	31	105			07	4.9
950	31	552	21.4	18.7	07	11.9
900	31	1,021	18.3	15.6	07	11.8
850	31	1,510	15.7	11.3	07	10.6
800	31	2,024	14.4	2.2	07	9.5
750	31	2,567	12.8	-5.6	07	7.8
700	31	3,145	11.0	-10.5	08	6.9
650	31	3,758	7.8	-14.5	08	7.2
600	31	4,413	3.6	-17.2	07	7.0
550	30	5,112	-.5	-21.3	08	7.5
500	30	5,869	-5.0	-25.4	08	7.1
450	30	6,687	-10.0	-30.5	08	7.4
400	30	7,567	-16.1	-35.3	08	7.0
350	29	8,578	-22.9	-40.7	06	5.1
300	29	9,688	-31.4	-47.0	05	2.5
250	29	10,951	-41.5		10	.3
200	28	12,423	-53.6		19	1.7
175	28	13,268	-60.7		18	3.4
150	28	14,209	-68.2		18	4.1
125	28	15,280	-76.3		15	5.3
100	28	16,539	-83.7		12	6.7
80	28	17,773	-83.8		10	5.8
70	26	18,521	-79.3		10	6.0
60	26	19,413	-72.4		09	8.0
50	26	20,302	-67.0		09	10.0
40	25	21,866	-62.6		09	13.6
30	25	23,667	-56.6		09	9.0
25	25	24,834	-53.1		05	1.2
20	25	26,286	-49.5		27	7.5
15	25	28,112	-46.7		28	13.0
10	23	30,893	-43.1		27	16.2
7	20	33,293	-40.6		25	18.4
5	15	35,597	-38.8		25	16.2
4	5	37,139	-36.3			

Standard pressure surface (mb.)	HILO, HAWAII 1010 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	19.5	15.8	23	1.5
1000	31	93	20.1	15.5	24	1.4
950	31	531	18.0	13.4	36	.7
900	31	997	14.7	11.5	17	.6
850	31	1,479	11.7	7.9	19	2.7
800	31	1,986	9.9	2.1	22	3.2
750	31	2,517	8.6	-5.2	25	4.9
700	31	3,090	6.3	-10.0	26	7.4
650	31	3,692	2.8	-13.7	26	11.0
600	31	4,338	-1.1	-17.1	26	14.2
550	31	5,024	-5.3	-20.7	25	16.2
500	31	5,769	-10.2	-25.0	26	18.4
450	31	6,569	-14.9	-28.0	25	21.8
400	31	7,437	-20.1	-32.3	25	25.0
350	30	8,434	-26.9	-39.8	26	28.5
300	30	9,528	-34.9	-47.2	26	33.7
250	30	10,778	-43.0		26	39.6
200	30	12,250	-53.2		26	42.1
175	30	13,099	-59.2		27	42.4
150	30	14,050	-65.0		27	37.1
125	30	15,145	-70.8		27	29.4
100	29	16,449	-75.5		26	21.0
80	29	17,737	-76.0		26	10.3
70	27	18,512	-72.8		26	6.1
60	27	19,425	-69.4		24	1.4
50	26	20,527	-64.7		28	1.7
40	25	21,904	-61.3		31	1.8
30	25	23,699	-58.6		32	3.6
25	25	24,850	-56.4		30	3.9
20	25	26,276	-53.1		27	6.0
15	20	28,137	-49.3		26	11.2
10	15	30,833	-42.8			
7	9	33,264	-39.4			
5						
4						

Standard pressure surface (mb.)	HUNTINGTON W. VA. 992 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	246	-2.8	-6.2	21	1.0
1000	31	182				
950	31	588	-2.9	-7.3	24	4.7
900	31	1,016	-3.5	-9.2	25	7.7
850	31	1,468	-3.9	-11.6	24	10.3
800	31	1,946	-4.9	-12.0	27	12.9
750	31	2,450	-6.5	-13.8	28	14.7
700	31	2,991	-8.3	-16.1	28	15.1
650	31	3,584	-10.7	-17.6	28	17.1
600	31	4,176	-14.2	-20.5	28	19.0
550	31	4,877	-18.1	-24.6	28	21.9
500	31	5,538	-22.2	-29.3	28	25.0
450	31	6,301	-27.1	-33.5	28	26.5
400	31	7,146	-32.6	-39.1	27	29.7
350	31	8,074	-39.2	-43.8	27	32.1
300	31	9,114	-46.5		28	31.8
250	31	10,305	-53.5		27	34.4
200	30	11,732	-57.6		27	34.3
175	30	12,573	-58.4		27	33.9
150	31	13,541	-57.9		27	28.9
125	30	14,648	-59.3		27	24.5
100	29	16,078	-61.6		27	21.1
80	27	17,456	-62.6		27	15.8
70	27	18,278	-63.2		27	13.5
60	27	19,224	-63.8		27	10.6
50	25	20,346	-62.9		27	9.0
40	25	21,723	-62.0		27	7.7
30	25	23,511	-59.6		28	9.3
25	25	24,657	-57.5		28	11.3
20	21	26,079	-55.1		28	13.5
15	15	27,916	-50.4		27	19.6
10	10	30,616	-43.3			
7						
5						
4						

Standard pressure surface (mb.)	* INTERNATIONAL FALLS, MINN. 974 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	360	-18.4	-21.7	33	.4
1000	31	160				
950	31	544	-16.6	-19.0	34	1.1
900	31	952	-15.0	-17.6	33	1.7
850	31	1,375	-13.9	-16.6	29	2.7
800	31	1,846	-13.5	-17.4	28	4.3
750	31	2,331	-14.2	-18.3	28	5.8
700	31	2,859	-15.8	-20.6	28	7.6
650	31	3,410	-18.4	-23.3	28	9.8
600	31	4,009	-21.6	-27.9	28	10.8
550	31	4,642	-25.6	-31.9	28	12.9
500	31	5,331	-30.0	-36.3	28	15.3
450	31	6,068	-35.0	-39.6	28	17.5
400	31	6,887	-40.4	-42.6	28	19.9
350	31	7,786	-46.2		28	21.9
300	31	8,797	-51.6		28	24.7
250	31	9,969	-55.1		28	23.7
200	31	11,393	-54.7		27	22.9
175	30	12,237	-52.8		28	20.4
150	30	13,232	-52.7		27	19.0
125	30	14,407	-53.4		27	17.7
100	30	15,839	-54.9		28	16.3
80	30	17,260	-56.8		28	13.3
70	29	18,105	-57.7		28	12.3
60	29	19,072	-59.1		27	10.9
50	28	20,211	-60.9		28	8.7
40	28	21,595	-61.8		28	7.9
30	27	23,373	-62.8		28	6.9
25	26	24,493	-62.8		29	8.6
20	25	25,869	-62.2		30	8.2
15	21	27,656	-60.6		28	11.3
10	18	30,205	-56.8		29	16.0
7	9	32,511	-49.6			
5						
4						

Standard pressure surface (mb.)	JACKSON, MISS. 1008 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	100	5.8	2.3	10	1.0
1000	31	164	5.6	.2	10	1.9
950	31	555	5.9	-2.0	17	2.8
900	31	1,029	6.7	-3.8	22	4.9
850	31	1,498	5.6	-4.0	25	6.6
800	31	1,994	4.1	-6.1	27	7.9
750	31	2,520	1.9	-10.5	27	10.1
700	31	3,072	-.4	-13.6	27	12.2
650	31	3,656	-3.4	-17.7	27	13.5
600	31	4,291	-7.2	-19.8	26	15.3
550	31	4,957	-11.3	-24.4	27	16.1
500	31	5,690	-15.9	-27.3	27	18.4
450	31	6,471	-21.4	-31.9	27	20.7
400	31	7,336	-28.0	-37.2	27	22.3
350	31	8,282	-35.1	-43.9	27	25.0
300	31	9,339	-43.2		27	28.5
250	30	10,545	-51.9		27	32.1
200	29	11,966	-60.5		27	35.8
175	29	12,792	-62.6		27	35.8
150	29	13,743	-62.5		27	32.8
125	29	14,866	-64.1		27	29.0
100	29	16,223	-67.1		27	24.4
80	27	17,560	-68.7		27	18.5
70	27	18,358	-69.0		27	15.8
60	25	19,244	-67.8		27	12.3
50	24	20,396	-66.0		27	11.7
40	24	21,749	-63.1		27	11.6
30	22	23,534	-59.5		27	15.0
25	19	24,688	-57.6		27	16.9
20	18	26,104	-55.0		27	20.6
15	13	27,971	-50.7		27	23.8
10	7	30,644	-45.2			
7						
5						
4						

Standard pressure surface (mb.)	JACKSONVILLE, FLA. 1021 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	5	7.5	5.1	36	2.0
1000	31	174	10.0	5.6	02	2.7
950	31	600	10.3	3.6	10	1.3
900	31	1,050	9.0	1.0	24	2.6
850	31	1,523	7.5	-2.9	26	4.4
800	31	2,021	5.9	-6.1	27	6.9
750	31	2,543	3.7	-9.5	27	9.2
700	31	3,105	.6	-12.4	27	10.1
650	31	3,688	-2.6	-15.8	27	11.7
600	31	4,327	-6.0	-19.4	28	14.5
550	31	4,992	-10.1	-21.9	27	16.4
500	31	5,732	-14.7	-25.4	27	19.2
450	31	6,512	-19.9	-30.7	27	21.7
400	31	7,387	-26.2	-37.7	27	24.4
350	31	8,339	-33.4	-43.2	27	26.7
300	31	9,403	-41.4	-49.1	27	30.0
250	31	10,618	-50.3		27	31.6
200	31	12,043	-59.2		27	36.0
175	31	12,874	-61.7		27	36.0
150	31	13,830	-61.6		27	34.0
125	29	14,958	-64.0		27	30.6
100	28	16,316	-68.0		27	25.1
80	27	17,653	-69.9		27	17.9
70	27	18,448	-69.4		27	14.1
60	27	19,369	-68.4		27	11.8
50	27	20,473	-65.0		27	10.7
40	27	21,845	-61.4		27	11.3
30	27	23,848	-56.6		27	16.3
25	27	24,812	-54.1		27	17.4
20	27	26,251	-51.3		28	18.1
15	23	28,140	-47.0		27	18.1
10	18	30,864	-41.7		26	21.1
7						

Standard pressure surface (mb.)	JOHN F. KENNEDY INT. AP NY 1020 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	30	5	-1.7	-8.3	30	3.8
1000	30	163	-2.6	-9.0	31	4.5
950	30	574	-3.9	-9.6	30	4.6
900	30	996	-4.5	-12.8	29	6.1
850	30	1,445	-5.3	-13.1	29	8.3
800	30	1,921	-6.2	-13.1	28	10.5
750	30	2,428	-7.9	-16.0	28	13.1
700	30	2,960	-10.1	-18.9	27	14.8
650	30	3,530	-12.5	-21.7	27	17.5
600	30	4,137	-15.8	-24.9	27	19.5
550	30	4,784	-19.8	-29.4	27	21.0
500	30	5,490	-24.3	-33.6	27	24.3
450	30	6,248	-29.3	-38.6	27	27.9
400	30	7,084	-34.7	-42.3	27	32.6
350	30	8,005	-40.7	-43.7	27	34.2
300	30	9,041	-46.9		27	35.6
250	30	10,234	-52.1		28	32.3
200	31	11,665	-55.6		27	31.3
175	30	12,515	-55.7		28	29.9
150	31	13,498	-55.4		28	26.9
125	30	14,657	-57.0		28	23.7
100	30	16,042	-59.1		27	21.7
80	27	17,457	-61.4		28	16.4
70	28	18,285	-61.5		27	13.1
60	28	19,242	-61.8		27	11.5
50	27	20,373	-61.7		27	9.8
40	27	21,753	-61.2		28	6.1
30	27	23,541	-59.8		28	7.0
25	27	24,686	-58.5		28	9.3
20	27	26,095	-55.5		27	11.6
15	15	27,935	-51.6		27	17.6
10	11	30,609	-44.5			
7						

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA 1012 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	3	23.4	16.6	05	5.4
1000	31	104	22.5	15.7	05	6.1
950	31	546	18.6	13.9	05	7.3
900	31	1,010	14.7	11.9	05	6.7
850	31	1,491	11.6	7.3	05	5.2
800	31	1,998	10.9	-2.3	05	3.3
750	31	2,533	9.7	-9.7	35	1.8
700	31	3,105	7.1	-13.1	29	3.1
650	31	3,704	3.7	-16.3	28	5.7
600	31	4,356	-.2	-21.4	27	8.3
550	31	5,038	-4.5	-24.5	28	11.2
500	31	5,792	-8.9	-27.6	28	14.2
450	31	6,595	-13.8	-32.0	28	18.1
400	31	7,468	-19.1	-36.1	28	21.6
350	31	8,470	-24.9	-41.2	28	25.5
300	31	9,575	-31.8	-47.7	27	29.8
250	31	10,838	-41.0	-54.2	27	33.3
200	31	12,319	-52.2		27	35.1
175	31	13,170	-58.8		27	34.5
150	31	14,172	-65.6		27	31.7
125	31	15,209	-73.0		28	26.0
100	31	16,496	-79.1		28	20.7
80	30	17,760	-79.6		28	9.9
70	28	18,523	-76.7		27	4.0
60	28	19,424	-70.8		09	2.0
50	28	20,519	-65.2		10	4.1
40	28	21,891	-61.4		09	5.9
30	28	23,686	-58.3		07	3.6
25	27	24,840	-55.7		34	.6
20	27	26,271

RAWINSONDE DATA

Average monthly values

JANUARY 1969

Standard pressure surface (mb.)	KOROR, CAROLINE IS. 1007 MB + No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	KOTZEBUE, ALASKA 1022 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	KWAJALEIN, MARSHALL IS. 1009 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	LAKE CHARLES, LA. 1018 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	LANDER, WYO. 821 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	30	27.1	23.4	07	4.5	29	5	-17.0	-21.7	11	8.4	31	4	26.3	22.3	06	8.2	31	5	9.4	7.2	08	1.7	31	1,696	-5.6	-12.2	24	.5
1000	31	95	26.4	22.6	07	5.5	29	165	-15.2	-19.8	12	10.9	31	81	25.7	21.5	06	9.0	31	152	10.2	6.5	11	3.4	31	124				
950	31	541	22.8	18.8	07	10.4	29	558	-12.5	-16.4	13	9.4	31	531	22.2	18.6	06	10.8	31	580	10.1	3.5	18	4.5	31	532				
900	31	1,016	19.8	15.1	07	11.2	29	969	-12.2	-16.2	15	6.2	31	1,000	19.0	16.2	07	9.8	31	1,030	9.6	.4	23	3.8	31	965				
850	31	1,510	17.1	10.5	07	10.0	29	1,405	-12.9	-16.7	17	4.8	31	1,491	16.4	12.2	07	8.1	31	1,503	8.1	-2.9	24	4.4	31	1,422				
800	31	2,024	15.7	4.8	07	8.6	29	1,866	-14.3	-18.1	19	3.8	31	2,006	14.4	7.3	07	5.7	31	2,003	6.6	-6.7	25	6.0	31	1,900	-2.5	-12.3	28	1.8
750	31	2,549	13.4	-.3	08	8.4	29	2,353	-15.7	-21.3	21	4.1	31	2,551	12.9	1.0	07	4.7	31	2,530	4.2	-9.9	25	7.8	31	2,410	-3.7	-14.8	27	5.4
700	31	3,148	10.2	-6.1	08	8.5	29	2,873	-18.1	-24.4	23	5.1	31	3,129	10.4	-4.5	07	4.5	31	3,090	1.7	-14.2	26	9.9	31	2,955	-7.1	-17.5	27	11.4
650	31	3,758	6.8	-11.0	08	8.4	29	3,423	-20.5	-27.1	24	5.9	31	3,742	7.3	-10.0	07	5.3	31	3,685	-1.4	-18.0	26	11.8	31	3,524	-11.0	-20.7	27	16.4
600	31	4,414	3.2	-15.9	09	8.2	29	4,013	-23.8	-30.4	25	6.4	31	4,397	3.7	-14.5	06	6.7	31	4,318	-5.3	-22.2	26	13.2	31	4,140	-14.7	-25.0	27	19.3
550	31	5,109	-.7	-19.2	09	9.9	29	4,639	-27.8	-34.3	27	7.9	31	5,099	.0	-20.0	06	7.7	31	4,994	-9.2	-25.3	27	14.3	31	4,791	-18.3	-30.1	27	22.0
500	31	5,870	-4.9	-23.3	10	11.5	29	5,322	-32.2	-37.4	27	10.2	31	5,855	-4.5	-25.2	06	8.1	31	5,727	-14.5	-28.4	27	16.0	31	5,500	-23.2	-34.1	28	24.5
450	31	6,689	-9.7	-26.2	10	10.8	29	6,056	-37.2	-39.7	24	11.8	31	6,677	-9.3	-29.9	06	7.5	31	6,511	-20.1	-31.5	27	18.2	31	6,258	-28.7	-38.3	27	26.0
400	31	7,591	-15.4	-32.6	10	10.5	28	6,899	-43.1	-45.5	26	13.7	31	7,578	-14.8	-34.3	06	6.5	31	7,381	-26.4	-37.5	27	20.1	31	7,098	-35.1	-40.2	27	27.8
350	31	8,546	-22.1	-38.4	09	8.5	28	7,747	-48.9		27	13.9	31	8,576	-21.5	-39.0	04	5.1	30	8,331	-33.8	-43.8	27	22.2	31	8,015	-42.0	-44.0	27	31.5
300	31	9,700	-30.4	-45.7	10	6.9	28	8,746	-54.4		26	16.6	31	9,694	-30.0	-44.3	03	1.5	30	9,393	-41.9	-49.9	26	24.6	31	9,042	-49.1		28	36.1
250	31	10,968	-40.9		11	6.5	28	9,903	-57.7		26	16.8	30	10,996	-39.9	-51.2	17	2.0	30	10,604	-50.6		26	28.0	31	10,220	-55.9		28	36.7
200	31	12,445	-53.2		12	9.1	28	11,313	-55.8		26	12.8	30	12,449	-52.5	-60.0	17	5.8	29	12,026	-58.6		27	30.5	31	11,630	-58.5		28	33.1
175	31	13,291	-60.3		12	9.3	27	12,163	-53.7		25	11.0	30	13,298	-59.5	-67.0	17	6.4	29	12,859	-61.5		27	30.4	31	12,470	-58.2		27	30.9
150	31	14,235	-67.7		12	9.1	27	13,155	-53.2		26	10.1	30	14,245	-67.6		17	5.0	29	13,811	-62.3		27	32.0	31	13,444	-56.8		27	30.3
125	31	15,310	-75.5		11	11.4	27	14,330	-52.8		25	8.3	30	15,320	-76.0		14	2.8	29	14,933	-63.9		27	27.5	31	14,399	-57.5		27	24.8
100	31	16,578	-81.8		10	10.4	27	15,770	-52.8		25	6.1	26	16,579	-83.4		07	4.6	29	16,286	-68.2		27	24.1	31	16,003	-58.8		26	19.4
80	31	17,826	-81.0		09	7.0	26	17,212	-54.0		24	5.6	17	17,815	-84.5		08	7.0	27	17,614	-70.1		27	18.4	31	17,400	-60.4		26	15.4
70	31	18,588	-75.4		09	6.7	26	18,068	-54.6		24	5.3	15	18,565	-80.1		08	7.2	26	18,409	-70.1		27	15.2	31	18,230	-61.6		27	12.9
60	31	19,491	-71.1		09	8.9	24	19,054	-55.2		23	4.3	15	19,449	-74.2		09	5.9	26	19,327	-69.5		26	11.7	31	19,182	-62.4		27	10.4
50	31	20,582	-66.6		09	18.1	24	20,215	-56.1		24	4.2	15	20,524	-69.6		09	11.7	26	20,423	-66.1		26	11.6	31	20,308	-62.8		27	8.2
40	31	21,985	-59.7		08	24.2	20	21,651	-57.1		23	3.7	14	21,873	-63.8		08	19.3	26	21,789	-62.5		27	12.0	30	21,686	-63.1		28	4.8
30	30	23,788	-52.0		10	7.4	16	23,471	-57.6		29	3.2	14	23,673	-55.4		08	9.8	25	23,585	-58.4		27	15.5	26	23,459	-62.5		29	6.1
25	30	24,976	-49.4		29	4.6	12	24,636	-58.1				14	24,847	-51.7		29	3.6	25	24,738	-56.3		26	18.0	24	24,582	-62.5		29	6.1
20	30	26,445	-47.1		26	14.7	8	26,094	-58.2				13	26,298	-49.5		27	11.1	23	26,159	-53.7		27	20.3	22	25,967	-60.7		28	9.4
15	28	28,364	-44.7		27	16.8	5	27,929	-58.1				13	28,198	-45.6		27	14.2	20	28,030	-49.1		27	21.0	20	27,765	-57.6		28	11.9
10	25	31,099	-41.5		26	14.3							12	30,925	-42.3		26	12.5	18	30,729	-43.3		26	26.4	10	30,336	-51.4			
7	19	33,541	-38.5										10	33,344	-41.9				7	33,200	-36.0									

Standard pressure surface (mb.)	* LIHUE KAUAI, HAWAII 1008 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	LITTLE ROCK, ARK. 1010 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MCGRATH, ALASKA 1010 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MAJURO, MARSHALL IS. + 1008 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* MEDFORD, OREG. 966 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	36	16.8	13.6	29	1.5	31	79	3.8	-.6	08	.8	29	103	-24.4	-21.7	07	.5	31	3	28.3	23.9	05	5.3	31	401	1.1	-.3	20	1.3
1000	31	101	18.3	13.2	31	1.5	31	158	3.4	-2.8	05	1.7	29	176			07	1.3	31	76	27.2	21.7	05	6.3	31	122				
950	31	532	17.0	11.9	35	2.4	31	575	3.5	-3.5	21	2.5	29	561	-16.0	-18.3	08	3.8	31	520	23.3	17.4	05	10.0	31	541	1.0	-.7	19	1.2
900	31	1,000	13.4	9.6	33	2.2	31	1,014	4.0	-4.6	25	4.8	29	968	-12.0	-16.7	08	3.2	31	999	20.0	14.2	06	8.7	31	971	-.1	-2.4	21	3.8
850	31	1,479	10.2	6.0	31	3.3	31	1,479	3.9	-5.6	27	7.8	29	1,406	-11.4	-18.4	05	2.0	31	1,491	17.5	9.9	06	7.6	31	1,428	-1.4	-4.3	23	7.1
800	31	1,983	8.9	-3.0	29	4.7	31	1,971	2.4	-6.9	27	9.7	29	1,870	-12.1	-20.1	01	2.2	31	2,008	15.5	5.8	07	4.5	31	1,910	-3.9	-6.4	24	10.3
750	31	2,511	7.4	-8.4	28	7.3	31	2,487	.4	-8.5	27	11.2	29	2,360	-13.9	-22.2	35	2.9	31	2,552	13.1	1.0	07	3.4	31	2,418	-6.5	-11.1	25	13.3
700	31	3,082	4.7	-13.1	27	9.1	31	3,042	-2.1	-11.5	27	13.3	29	2,884	-16.3	-23.9	31	4.4	31	3,132	10.7	-4.6	08	3.7	31	2,955	-8.5	-14.9	26	15.7
650	31	3,680	1.2	-16.7	27	10.6	31	3,627	-4.9	-16.0	27	14.1	29	3,436	-19.0	-26.6	32	6.1	31	3,743	7.7	-8.0	08	4.2	31	3,527	-11.0	-18.7	26	17.6
600	31	4,321	-2.7	-20.1	27	13.8	31	4,254	-8.3	-19.0	27	16.6	29	4,032	-22.1	-29.2	31	7.8	31	4,404	4.3	-12.4	07	5.6	31	4,137	-14.9	-22.8	26	20.6
550	31	4,999	-7.0	-23.4	26	15.8	31	4,918	-12.4	-23.7	27	18.7	29	4,662	-25.8	-32.7	31	10.5	31	5,102	.4	-17.4	07	5.9	31	4,787	-18.9	-27.6	26	23.0
500	31	5,743	-11.9	-26.8	26	19.6	31	5,648	-17.0	-27.4	27	21.5	29	5,351	-30.0	-37.0	30	10.6	31	5,866	-3.9	-22.0	06	7.6	31	5,495	-23.5	-32.0	26	25.0
450	30	6,534	-17.4	-31.9	26	23.3	31	6,420	-22.6	-32.3	27	23.0	29	6,091	-34.9	-39.6	27	8.1	31	6,688	-8.9	-26.9	06	7.1	31	6,255	-28.8	-36.4	26	26.9
400	30	7,414	-22.5	-37.3	26	27.7	31	7,284	-28.9	-38.6	28	25.7	29	6,907	-41.0	-44.6	26	11.0	31	7,596	-14.2	-31.2	06	5.6	31	7,092	-34.5	-40.3	26	30.0
350	30	8,383	-28.2	-42.4	26	31.9	31	8,225	-36.0	-44.4	28	28.0	29	7,803	-47.3		27	11.4	31	8,596	-20.7	-37.2	06	3.5	31	8,013	-41.0	-41.4	26	33.3
300	30	9,472	-35.6	-47.4	26	34.8	30	9,284	-43.7		28	30.5	29	8,809	-53.3		28	15.5	31	9,717	-28.9	-43.5	13	2.3	31	9,046	-47.8	-50.2	26	35.2
250	30	10,718	-43.7	-54.0	26	41.1	30	10,484	-52.6		28	34.1	29	9,969	-58.0		28	16.5	31	10,996	-39.1	-52.9	17	3.4	31	10,230	-54.8		27	36.8
200	30	12,189	-52.5		26	47.1	30	11,899	-59.9		27	37.1	29	11,371	-57.9		28	13.0	31	12,486	-51.3		18	4.4	31	11,649	-56.9		27	35.7
175	30	13,042	-57.5		26	47.7	30	12,731	-60.8		27	36.7	29	12,217	-55.2		27	10.4	31	13,339	-58.6		18	5.1	30	12,495	-58.2		27	32.6
150	29	14,002	-62.6		27	42.2	30	13,690	-60.2		27	34.4	29	13,204	-54.3		28	9.9	31	14,291	-66.4		16	3.3	30	13,466	-57.8		27	31.2
125	29	15,111	-68.0		27	36.1	30	14,822	-41.7		27	31.0	29	14,373	-54.0		27	8.7	31	15,372	-74.8		12	3.6	30	14,615	-58.5		27	27.2
100	28	16,435	-73.0		27	28.1	30	16,196	-64.5		27	25.3	29	15,806	-53.8		28	7.3	31	16,643	-82.1		07	5.7	30	16,014	-59.5		27	22.7
80	27	17,739	-73.7		24	16.1	28	17,557	-66.3		27	18.1	29	17,227	-55.0		26	6.6	31	17,882	-83.1		08	7.6	28	17,408	-61.2		27	17.7
70	27	18,523	-71.4		26	9.0	26	18,366	-66.8		27	15.1	29	18,081	-55.6		27	6.2	31	18,635	-77.4		08	7.0	27	18,229	-61.3		27	15.6
60	25	19,439	-68.8		27	5.6	23	19,298	-66.4		27	10.9	29	19,061	-56.2		27	5.0	30	19,534	-72.1		09	8.4	27	19,186	-61.5		27	13.1
50	21	20,545	-64.7		27	4.0	20	20,399	-65.5		27	10.3	29	20,219	-56.5		28	5.2	29	20,623	-67.0		09	15.5	23	20,311	-61.7		27	10.3
40	20	21,916	-61.9		27	4.5	20	21,744	-63.2		28	9.1	23	21,635	-56.8		27	5.0	29	21,992	-59.8		09	21.5	20	21,698	-62.0		27	9.0
30	20	23,708	-58.7		29	6.1	18	23,542	-60.3		27	10.8	21	23,457	-57.5		29	3.3	28	23,823	-52.1		10	9.2	18	23,480	-61.7		28	7.2
25	20	24,859	-56.4		28	8.0	17	24,679	-58.0		27	13.4	19	24,613	-58.1		32	3.5	27	25,012	-49.1		24	1.8	18	24,609	-61.8		28	8.1
20	20	26,282	-54.1		27	10.9	15	26,096	-55.4		27	18.6	18	26,020	-58.0		33	3.8	26	26,487	-46.3		26	11.1	18	25,993	-61.0		28	10.3
15	20	28,148	-49.5		27	12.1	13	27,962	-50.7				9	27,859	-56.3				25	28,409	-44.5		27	15.8	17	27,802	-58.0		28	11.5
10	19	30,840	-43.7		26	18.2	8	30,642	-44.3										23	31,147	-40.4		28	11.7	14	30,375	-54.8		27	20.5
7	17	33,263	-38.5		26	21.6													17	33,594	-37.2		30	5.4	8	32,714	-49.6			
5	13	35,588	-36.3		26	26.8																								
4	5	37,212	-34.3																											

Standard pressure surface (mb.)	MERIDA, MEXICO 1015 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MIAMI, FLA. 1017 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MIDLAND, TEXAS 915 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MONTERREY, MEXICO 969 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	MONTGOMERY, ALA. 1014 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	11	17.9	17.2	08	2.4	31	4	17.3	13.9	03	1.9	31	874	3.0	-3.0	22	1.5	31	423	10.7	5.9	29	1.7	31	61	4.7	1.2	05	1.1
1000	31	139	20.4	18.0	08	4.5	31	150	17.3	13.8	05	3.2	31	149					31	155					31	174	5.5	.0	08	2.6
950	31	583	18.7	14.2	10	5.1	31	587	15.7	11.8	08	4.3	31	567					31	596	13.0	6.5	30	1.2	31	596	6.7	-2.1	16	2.6
900	31	1,046	16.4	10.5	11	3.7	31	1,048	13.2	7.8	09	2.8	31	1,012	6.7	-2.3	23	2.4	31	1,040	13.1	4.1	25	1.4	31	1,039	6.6	-4.6	23	3.9
850	31	1,531	13.8	6.7	14	1.3	31	1,525	10.7	3.7	10	.8	31	1,486	9.9	-5.1	27	6.5	31	1,520	12.1	.1	19	1.9	31	1,507	5.5	-6.7	26	6.4
800	31	2,041	11.6	.6	19	1.8	31	2,029	9.5	-4.1	28	1.5	31	1,988	7.9	-7.3	28	8.2	31	2,028	11.6	-5.9	25	2.3	31	2,002	4.2	-7.8	26	8.6
750	31	2,577	9.3	-4.9	21	2.3	31	2,543	7.2	-7.4	28	3.9	31	2,516	5.5	-10.0	27	10.6	31	2,570	9.2	-8.9	27	5.5	31	2,526	2.2	-9.2	27	10.3
700	31	3,148	7.0	-12.7	24	2.5	31	3,128	4.1	-11.5	28	5.1	31	3,079	2.1	-13.3	27	12.1	31	3,133	5.6	-12.2	28	8.0	31	3,080	-.5	-11.4	27	12.8
650	31	3,750	3.5	-14.9	27	3.3	31	3,725	.9	-14.1	28	7.0	31	3,672	-1.1	-17.0	27	12.3	31	3,732	1.6	-15.7	27	9.5	31	3,667	-3.8	-14.4	27	14.8
600	31	4,399	-.4	-18.1	26	4.6	31	4,368	-2.7	-19.8	27	9.8	31	4,308	-5.0	-20.4	27	12.7	31	4,376	-2.6	-18.5	27	10.6	31	4,297	-7.2	-17.9	27	16.3
550	31	5,082	-4.6	-23.2	25	5.9	31	5,045	-6.8	-23.3	27	11.5	31	4,981	-9.5	-23.9	27	16.0	31	5,055	-7.1	-22.9	27	11.5	31	4,984	-11.3	-22.4	27	17.9
500	31	5,834	-9.6	-27.2	26	7.5	31	5,791	-11.9	-25.9	27	13.4	31	5,716	-14.5	-27.2	27	17.0	31	5,797	-11.9	-27.9	27	13.9	31	5,696	-15.9	-27.5	27	19.7
450	31	6,637	-15.2	-31.8	27	9.8	31	6,586	-17.3	-31.5	27	14.4	31	6,497	-20.3	-30.5	27	18.5	31	6,590	-17.3	-32.0	27	16.6	31	6,479	-21.3	-33.0	27	21.6
400	31	7,321	-21.8	-37.0	27	10.9	31	7,463	-23.8	-36.9	27	15.8	31	7,367	-26.9	-36.8	27	21.0	31	7,449	-23.8	-37.4	27	19.6	31	7,341	-27.7	-38.1	27	24.9
350	31	8,490	-28.8	-42.9	27	12.9	31	8,425	-30.8	-42.9	27	18.2	31	8,315	-34.4	-43.3	27	23.5	31	8,430	-31.3	-43.7	28	22.0	31	8,287	-34.8	-43.3	27	27.7
300	31	9,574	-37.3	-50.5	27	14.6	31	9,501	-39.2	-49.1	27	22.1	31	9,375	-42.5	-50.0	27	25.7	31	9,503	-39.9	-48.9	28	24.8	31	9,346	-42.6		27	31.0
250	31	10,808	-46.7		28	15.3	31	10,726	-48.0		27	25.8	31	10,583	-51.5		27	28.7	31	10,722	-49.3		28	26.7	31	10,553	-51.3		27	34.2
200	31	12,254	-56.3		28	16.6	31	12,165	-57.7		27	30.1	31	12,003	-59.8		28	32.2	31	12,155	-57.8		28	28.0	31	11,973	-59.7		27	36.1
175	27	13,170	-60.9		27	16.5	31	13,001	-60.7		28	30.4	31	12,833	-61.6		29	30.0	30	12,984	-62.3		28	29.3	31	12,803	-61.8		27	35.5
150	27	14,053	-63.8		26	16.4	31	13,936	-62.6		26	28.4	31	13,786	-62.9		29	26.0	30	13,933	-63.8		28	30.3	31	13,758	-61.4		27	33.9
125	27	15,159	-68.1		27	18.3	31	15,072	-66.5		27	27.1	31	14,905	-64.3		29	25.7	29	15,041	-67.2		28	26.9	31	14,885	-63.0		27	30.2
100	27	16,482	-73.3		26	13.7	30	16,407	-70.8		27	22.7	31	16,258	-68.3		29	20.7	28	16,376	-71.8		27	19.2	31	16,246	-66.8		27	25.1
80	27	17,776	-76.4		26	8.5	30	17,722	-72.7		27	16.1	30	17,589	-70.2		28	16.4	28	17,687	-73.0		27	14.1	30	17,590	-68.3		27	19.8
70	25	18,550	-75.0		26	6.7	30	18,507	-71.8		27	13.1	28	18,384	-70.8		28	14.2	28	18,469	-72.9		27	10.8	30	18,392	-67.9		27	15.8
60	24	19,459	-69.7		26	5.6	30	19,420	-69.4		27	11.6	25	19,300	-68.2		28	10.5	26	19,373	-70.5		26	10.2	29	19,323	-67.1		27	12.8
50	24	20,581	-64.3		28	4.2	29	20,517	-64.8		27	12.2	24	20,399	-66.0		27	9.8	26	20,470	-65.2		26	10.5	29	20,428	-64.9		27	10.2
40	24	21,942	-60.0		28	4.1	29	21,895	-59.6		28	11.8	24	21,764	-62.9		27	10.7	26	21,845	-60.6		26	14.0	29	21,798	-62.4		27	9.9
30	24	23,753	-56.0		02	2.0	28	23,715	-55.3		28	12.2	22	23,553	-59.7		27	13.0	26	23,653	-57.7		26	13.7	29	23,594	-58.0		27	14.2
25	23	24,921	-53.1		33	2.2	26	24,886	-53.6		28	11.5	21	24,701	-57.4		27	15.9	25	24,811	-55.9		26	13.6	29	24,750	-55.3		27	17.9
20	23	26,373	-48.7		29	3.6	25	26,331	-50.1		28	10.3	20	26,119	-54.7		26	19.8	25	26,242	-52.3		27	13.7	28	26,184	-52.3		27	19.0
15	23	28,280	-44.8		27	5.9	22	28,236	-45.6		27	11.8	17	27,993	-49.9		27	23.8	23	28,171	-48.0		27	12.8	26	28,063	-47.9		27	21.0
10	14	31,000	-42.5				19	30,957	-41.8		24	16.3	12	30,680	-42.8				9	30,871	-41.7				24	30,779	-40.8		26	24.7
7							8	33,378	-39.0																11	33,189

RAWINSONDE DATA

Average monthly values

JANUARY 1969

Standard pressure surface (mb.)	* NANTUCKET, MASS. 1017 MB						NASHVILLE, TENN. 1000 MB						* NOME, ALASKA 1013 MB						NORTH PLATTE, NEBR. 915 MB						OAKLAND, CALIF. 1015 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	14	-.1	-3.6	32	3.2	31	180	.1	-3.8	12	.4	19	5	-7.4	-9.1	10	6.0	31	847	-10.1	-11.8	04	.3	31	6	6.5	4.4	16	1.5
1000	31	150	-1.2	-5.2	32	3.3	31	179			05	1.3	19	106	-7.9	-10.3	11	7.6	31	158					31	127	7.1	3.6	16	1.1
950	31	555	-2.5	-7.0	29	4.8	31	592	-.5	-6.1	20	3.3	19	505	-7.4	-11.2	14	9.3	31	558					31	546	7.6	1.5	22	1.4
900	31	986	-4.0	-10.0	28	6.1	31	1,023	-.1	-8.1	24	6.1	19	927	-7.1	-10.2	14	8.2	31	975	-8.3	-11.8	26	.8	31	995	6.3	-1.7	25	4.2
850	31	1,437	-5.3	-13.6	27	7.6	31	1,481	.0	-9.2	25	7.5	19	1,373	-8.2	-11.7	17	7.8	31	1,423	-4.1	-9.3	28	4.0	31	1,462	4.8	-6.5	25	6.6
800	31	1,912	-6.7	-15.2	27	8.7	31	1,966	-1.4	-9.7	26	9.9	19	1,843	-10.2	-15.6	19	6.7	31	1,903	-2.8	-9.9	28	7.1	31	1,955	3.1	-10.4	25	7.9
750	31	2,413	-8.4	-18.3	27	12.0	31	2,481	-2.8	-12.0	27	12.3	19	2,335	-12.4	-17.2	19	7.2	31	2,413	-3.3	-11.4	29	9.6	31	2,474	.3	-12.7	25	9.8
700	31	2,948	-10.6	-20.6	27	13.5	31	3,025	-5.0	-13.3	27	14.9	19	2,864	-15.3	-20.8	20	8.5	31	2,958	-6.0	-14.0	28	12.6	31	3,026	-2.6	-15.9	25	11.4
650	31	3,512	-13.2	-22.7	26	15.8	31	3,606	-7.8	-14.6	27	16.8	19	3,418	-18.3	-23.4	20	9.7	31	3,527	-9.5	-17.3	28	14.4	31	3,604	-6.0	-19.5	24	13.3
600	31	4,121	-16.5	-26.4	26	18.5	31	4,224	-11.2	-18.4	28	19.3	19	4,014	-21.9	-28.0	20	10.8	31	4,148	-13.6	-21.2	28	16.4	31	4,233	-9.9	-23.2	24	16.3
550	31	4,768	-20.4	-29.7	26	18.8	31	4,887	-15.1	-22.6	28	22.0	19	4,646	-26.3	-32.1	21	10.3	31	4,800	-17.6	-25.8	28	18.5	31	4,895	-14.2	-27.6	26	17.0
500	31	5,470	-24.9	-33.7	26	20.9	31	5,603	-19.1	-27.5	27	24.1	19	5,333	-31.4	-36.2	21	11.5	31	5,512	-22.4	-30.4	28	20.3	31	5,617	-19.1	-30.9	26	19.4
450	31	6,222	-29.9	-38.1	27	24.2	31	6,375	-24.2	-32.6	27	26.3	19	6,064	-36.6	-40.0	21	11.5	31	6,271	-27.5	-36.2	28	22.4	31	6,390	-24.6	-35.7	26	22.6
400	31	7,057	-35.6	-42.5	27	26.9	31	7,229	-30.3	-39.6	27	27.4	19	6,879	-42.1	-45.0	22	13.1	31	7,116	-33.0	-40.7	28	25.0	31	7,241	-30.5	-38.7	26	25.1
350	31	7,975	-41.6	-45.4	27	29.9	31	8,165	-37.8	-45.9	27	29.1	19	7,771	-47.9		23	15.6	31	8,042	-40.0	-43.2	28	28.3	31	8,177	-37.7	-41.9	27	26.6
300	31	9,007	-47.7		26	31.3	31	9,210	-46.0		27	31.6	19	8,775	-53.9		23	14.2	31	9,077	-48.0		28	31.1	31	9,222	-45.8	-47.5	27	30.2
250	31	10,194	-53.6		27	33.2	30	10,397	-53.9		27	35.0	19	9,931	-58.7		23	15.4	31	10,258	-55.4		28	34.1	31	10,414	-53.8		27	34.0
200	30	11,622	-56.7		27	32.6	30	11,810	-59.7		27	36.1	17	11,317	-57.5		23	11.8	31	11,666	-59.2		28	34.4	30	11,822	-58.8		27	35.9
175	30	12,449	-56.3		27	29.3	30	12,643	-60.1		27	36.1	17	12,186	-54.9		23	10.6	31	12,503	-58.4		28	33.7	29	12,661	-59.4		28	33.3
150	30	13,449	-56.2		27	25.8	30	13,608	-59.3		28	30.7	17	13,154	-53.6		23	8.7	31	13,476	-57.2		28	30.4	29	13,626	-59.5		28	28.7
125	30	14,606	-57.0		27	22.9	30	14,745	-61.1		27	28.4	17	14,325	-53.6		23	9.4	31	14,629	-57.9		28	25.7	29	14,766	-60.5		27	26.8
100	30	16,011	-59.3		27	20.2	29	16,123	-63.9		27	23.0	17	15,759	-53.7		22	7.7	31	16,028	-60.1		28	19.7	29	16,148	-62.7		27	23.7
80	30	17,403	-61.1		27	15.9	29	17,488	-65.1		27	17.9	17	17,193	-54.1		23	7.4	30	17,413	-62.3		28	15.7	29	17,517	-64.7		27	19.6
70	30	18,230	-61.9		27	14.4	26	18,294	-65.2		27	15.2	17	18,049	-54.5		23	6.8	30	18,236	-62.6		28	12.6	26	18,326	-64.9		27	18.0
60	30	19,182	-62.4		28	12.7	26	19,232	-65.3		27	12.8	17	19,034	-54.9		23	5.7	29	19,183	-62.9		28	9.3	25	19,256	-64.9		27	15.1
50	29	20,306	-62.6		28	11.1	26	20,343	-64.6		28	10.4	17	20,199	-55.3		23	5.1	28	20,307	-63.8		28	7.3	24	20,381	-64.2		28	10.9
40	29	21,683	-62.3		28	10.2	24	21,711	-62.5		27	8.8	16	21,616	-56.4		24	4.5	27	21,674	-63.1		29	7.0	24	21,749	-63.6		28	8.0
30	27	23,467	-61.0		28	11.0	23	23,501	-59.2		27	11.6	16	23,439	-56.8		25	4.1	27	23,450	-61.8		28	7.2	22	23,518	-62.7		28	6.2
25	27	24,604	-59.5		28	11.6	22	24,654	-56.7		27	13.2	15	24,587	-57.2		28	3.6	20	24,582	-61.1		28	7.8	20	24,644	-61.2		28	7.0
20	24	26,002	-57.3		28	15.1	21	26,079	-54.3		27	16.0	15	25,997	-57.5		30	3.2	20	25,973	-59.4		27	9.7	19	26,043	-59.1		27	9.5
15	26	27,834	-53.4		27	18.7	20	27,936	-46.8		27	21.6	14	27,826	-57.4		32	3.3	15	27,786	-56.5		28	15.6	16	27,865	-55.6		27	15.8
10	21	30,487	-46.8		27	27.4	16	30,635	-40.6		27	29.0	8	30,445	-55.8				8	30,421	-51.6				12	30,497	-48.5			
7	13	32,931	-37.4																											

Standard pressure surface (mb.)	DHAMA, NEBR. 970 MB						* PAGO PAGO, AMERICAN SAMOA 1006 MB						* PEORIA, ILL. 996 MB						* PITTSBURGH, PA. 977 MB						* PONAPE, CAROLINE IS. 1004 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	403	-10.1	-14.1	05	1.3	31	5	29.2	25.4	06	1.8	31	200	-7.9	-11.1	27	.6	31	359	-4.7	-8.6	24	2.3	31	39	27.6	22.9	06	4.7
1000	31	163					31	55	28.3	23.6	07	2.0	31	163			35	.6	31	173					31	72	27.2	22.1	06	5.5
950	31	560	-10.0	-12.4	02	1.4	31	503	24.3	19.3	04	2.6	31	564	-7.2	-10.5	26	2.8	31	579	-4.9	-8.6	23	4.6	31	518	23.2	18.0	06	8.2
900	31	979	-6.6	-10.3	26	2.2	31	982	21.3	16.3	02	3.6	31	986	-5.5	-11.8	27	5.4	31	1,001	-6.0	-8.7	25	8.1	31	995	20.0	14.4	06	8.7
850	31	1,427	-4.9	-11.2	28	5.9	31	1,477	18.7	12.7	01	4.1	31	1,435	-5.0	-12.5	27	6.7	31	1,448	-7.0	-11.6	26	8.7	31	1,486	17.7	9.2	07	7.4
800	31	1,904	-4.5	-12.8	28	9.0	31	1,996	16.3	8.8	01	4.5	31	1,912	-5.6	-14.3	28	8.1	31	1,920	-8.1	-13.9	27	10.0	31	2,004	15.7	4.5	07	4.3
750	31	2,409	-5.7	-15.2	28	10.9	31	2,534	13.9	5.4	01	4.6	31	2,416	-6.9	-15.7	28	10.7	31	2,424	-9.1	-16.3	28	12.1	31	2,547	13.7	-1.5	08	3.9
700	31	2,931	-7.9	-18.5	28	13.0	31	3,124	10.9	1.0	36	4.0	31	2,953	-9.1	-18.4	28	13.1	31	2,953	-10.8	-19.4	28	13.4	31	3,129	11.0	-6.1	08	4.8
650	31	3,519	-10.9	-20.9	28	16.4	31	3,737	7.6	-3.3	36	4.4	31	3,520	-11.9	-20.9	28	15.8	31	3,520	-13.6	-23.2	28	15.4	31	3,743	7.4	-10.3	08	5.7
600	31	4,135	-14.8	-24.3	28	18.9	31	4,394	3.9	-7.2	35	4.2	31	4,132	-15.4	-23.7	28	18.1	31	4,125	-16.6	-26.7	28	18.0	31	4,398	3.6	-15.7	08	7.7
550	31	4,787	-18.6	-29.1	28	23.1	31	5,095	.0	-11.6	35	3.9	31	4,781	-19.0	-27.6	28	20.0	31	4,774	-20.2	-30.1	28	19.8	31	5,096	.1	-20.0	07	9.3
500	31	5,494	-23.1	-32.6	28	26.1	31	5,857	-4.0	-17.0	35	3.8	31	5,488	-23.3	-32.1	28	22.4	31	5,475	-24.5	-33.7	28	21.0	31	5,858	-4.3	-23.7	07	10.1
450	31	6,251	-28.3	-37.1	28	28.4	31	6,678	-8.7	-22.7	36	3.0	31	6,246	-28.3	-36.0	28	24.1	31	6,231	-29.5	-37.7	28	23.5	31	6,681	-9.1	-27.7	07	9.4
400	31	7,095	-34.3	-42.1	28	34.3	31	7,588	-14.2	-27.8	35	2.0	31	7,086	-34.4	-40.2	28	27.3	31	7,087	-34.8	-41.6	28	27.7	31	7,597	-14.3	-32.6	07	8.4
350	31	8,016	-40.8	-44.1	28	37.7	31	8,589	-20.7	-34.6	03	1.4	31	8,006	-41.0	-44.5	28	29.3	31	7,988	-40.6	-43.5	28	30.1	31	8,586	-21.2	-38.6	07	6.7
300	31	9,049	-48.0		28	36.7	31	9,711	-29.0	-43.3	04	.6	31	9,039	-47.6		28	32.5	31	9,025	-46.5		27	33.2	31	9,705	-29.6	-45.7	08	5.3
250	31	10,231	-55.2		28	35.9	31	10,989	-39.2	-51.6	17	.5	30	10,297	-54.4		27	34.1	31	10,219	-52.3		27	34.5	31	10,978	-39.9	-53.9	11	4.2
200	31	11,642	-58.5		27	38.4	30	12,477	-51.7		22	2.1	30	11,642	-58.2		27	34.9	31	11,649	-56.2		27	34.1	31	12,462	-52.4		13	6.9
175	31	12,483	-57.5		28	36.4	30	13,330	-58.6		20	3.8	30	12,483	-57.6		28	32.1	30	12,494	-56.6		27	31.7	31	13,311	-59.5		12	7.9
150	31	13,458	-56.8		28	32.3	30	14,282	-66.0		19	4.7	30	13,458	-57.1		28	29.8	30	13,472	-56.2		27	29.6	31	14,258	-67.2		12	8.1
125	31	14,612	-57.5		27	27.9	30	15,388	-73.6		16	3.4	30	14,612	-57.9		28	25.6	29	14,623	-57.0		27	25.7	30	15,335	-75.0		10	8.7
100	30	16,016	-59.5		28	19.1	30	16,647	-81.2		10	4.0	30	16,012	-60.2		28	20.2	29	16,028	-59.3		27	21.3	30	16,606	-81.9		08	9.6
80	30	17,405	-61.9		28	17.0	30	17,895	-80.7		09	9.0	30	17,396	-62.4		28	16.3	29	17,422	-60.8		28	17.0	30	17,847	-82.9		09	12.3
70	30	18,231	-62.5		29	14.4	30	18,658	-75.3		09	12.2	30	18,218	-63.0		28	13.8	29	18,250	-62.1		28	13.7	30	18,602	-76.6		09	8.4
60	30	19,179	-63.6		29	10.7	30	19,562	-70.3		09	17.1	28	19,141	-63.7		27	11.7	28	19,201	-63.2		28	11.3	30	19,502	-71.3		09	8.9
50	29	20,297	-63.5		29	7.8	30	20,961	-66.6		09	21.2	28	20,277	-63.9		28	9.8	27	20,327	-62.6		28	10.4	30	20,590	-67.0		09	16.4
40	27	21,676	-63.4		28	6.1	30	22,041	-59.7		09	24.4	27	21,648	-63.4		28	8.6	27	21,703	-62.3		28	9.7	30	21,956	-61.5		09	22.8
30	25	23,447	-62.1		29	6.1	29	23,861	-55.3		09	25.0	25	23,414	-62.2		28	9.0	26	23,481	-60.8		28	10.7	30	23,778	-52.6		09	9.1
25	24	24,576	-61.2		28	8.5	29	25,033	-52.3		09	22.9	24	24,539	-61.1		28	9.8	26	24,620	-59.0		28	12.2	28	24,965	-50.3		26	3.4
20	18	25,986	-59.7		28	11.6	27	26,488	-48.4		09	19.6	24	25,932	-58.8		28	13.2	24	26,023	-57.5		27	13.4	27	26,435	-47.0		26	11.0
15	17	27,807	-56.5		27	15.9	23	26,402	-44.6		09	16.3	22	27,758	-54.9		27	17.3	23	27,847	-53.9		28	18.4	27	28,348	-44.7		27	14.3
10	6	30,445	-49.1				18	31,152	-39.4		09	14.3	16	30,382	-47.6		27	26.1	22	30,496	-46.4		27	23.8	24	31,079	-41.4		27	11.8
7													14	32,793	-38.9		26	37.1	21	32,911	-38.8		27	34.8	15	33,528	-37.7		27	9.8
5													5	35,036	-33.9				5	35,343	-26.5									

Standard pressure surface (mb.)	PORTLAND, MAINE 1015 MB						* QUILLAYUTE, WASH. 1002 MB						RAPID CITY, S. DAK. 901 MB						ST CLOUD, MINN. 980 MB						* ST PAUL IS., ALASKA 1012 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	20	-6.7	-12.5	29	2.5	31	58	-1.1	-2.4	06	1.1	30	966	-11.8	-16.6	03	1.4	31	316	-16.2	-19.9	29	1.1	31	10	-.1	-2.1	20	4.5
1000	31	137			32	2.7	31	71			18	.6	30	163					31	162					31	107			19	3.9
950	31	541	-5.5	-11.0	30	3.1	31	479	-1.7	-4.3	18	3.7	30	561					31	552	-14.1	-16.8	32	1.3	31	516	-2.9	-5.2	21	7.3
900	31	963	-6.3	-12.6	29	3.7	31	909	-3.8	-6.1	21	5.5	30	977			03	.9	31	962	-11.2	-14.0	29	2.9	31	943	-4.8	-9.3	21	8.8
850	31	1,410	-7.4	-13.5	29	4.6	31	1,359	-6.6	-9.4	23	7.0	30	1,417	-7.9	-11.9	28	3.4	31	1,402	-10.5	-15.0	29	4.7	31	1,393	-6.0	-13.0	22	9.7
800	31	1,881	-8.6	-15.9	28	6.4	31	1,830	-9.3	-13.5	24	8.3	30	1,892	-5.3	-11.2	27	7.1	31	1,869	-9.8	-15.4	29	5.7	31	1,866	-8.1	-17.2	22	9.7
750	31	2,378	-10.8	-18.8	28	8.2	31	2,325	-12.4	-17.8	25	8.9	30	2,396	-6.1	-12.5	28	10.4	31	2,366	-10.3	-17.8	29	8.7	31	2,368	-10.6	-20.6	22	9.9
700	31	2,908	-12.9	-20.9	28	10.1	31	2,851	-15.8	-21.2	25	9.8	30	2,937	-8.6	-13.2	28	12.6	31	2,897	-12.6	-20.5	29	11.4	31	2,893	-13.6	-24.5	22	10.4
650	31	3,466	-15.6	-23.1	27	12.2	31	3,404	-19.2	-24.5	26	11.2	30	3,503	-12.3	-18.7	28	14.4	31	3,455	-15.2	-23.7	29	14.0	31	3,453	-16.6	-26.2	22	11.2
600	31	4,071	-18.9	-27.1	27	14.6	31	3,997	-22.9	-28.8	26	13.7	30	4,115	-16.2	-22.3	28	16.1	31	4,042	-18.6	-27.8	29	16.1	31	4,051	-20.4	-29.7	22	10.9
550	31	4,706	-22.6	-31.7	27	16.3	31	4,627	-26.8	-33.7	26	16.5	30	4,761	-20.4	-26.9	28	18.5	31	4,699	-22.7	-31.7	29	17.1	31	4,687	-24.4	-33.7	22	12.1
500	31	5,407	-27.2	-35.4	26	18.1	31	5,313	-30.6	-37.5	26	21.1	30	5,465	-24.8	-31.4	28	20.4	31	5,399	-27.4	-35.6	29	18.9	31	5,379	-29.5	-38.1	22	13.4
450	31	6,150	-32.3	-39.5	26	20.3	31	6,055	-34.8	-40.8	26	24.7	30	6,216	-30.4	-36.0	28	22.4	31	6,145	-32.4	-39.3	29	20.5	30	6,129	-34.0	-41.0	22	13.6
400	31	6,980	-38.0	-43.0	26	22.7	31	6,870	-39.4	-42.5	26	28.4	30	7,051	-36.3	-39.5	28	25.0	31	6,971	-38.1	-42.6	29	23.7	30	6,950	-39.8	-43.4	22	12.6
350	31	7,888	-43.5	-46.0	26	25.0	31	7,773	-44.5	-40.8	26	29.4	30	7,965	-42.9	-42.0	28	27.0	31	7,877	-44.5		28	25.9	30	7,850	-45.9		22	14.2
300	31	8,913	-48.5		27	27.1	31	8,795	-49.1		27	31.4	30	8,989	-49.9		28	30.3	31	8,897	-50.2		28	28.8	30	8,862	-52.2		23	14.0
250	31	10,099	-53.1		28	27.8	31	9,984	-51.9		27	27.9	30	10,163	-56.4		28	30.5	31	10,073	-55.2		28	29.5	30	10,026	-57.7		23	12.5
200	30	11,536	-55.7		28	24.6	31	11,424	-53.4		27	25.7	30	11,570	-57.8		28	29.2	31	11,492	-55.8		28	27.9	30	11,429	-58.0		22	13.0
175	30	12,388	-54.9		27	22.6	31	12,283	-53.5		27	23.8	30	12,415	-56.3		28	27.3	31	12,345	-54.5		28	25.0	29	12,282	-55.3		23	10.9
150	30	13,375	-54.5		27	19.8	31	13,275	-53.7		27	22.0	30	13,396	-55.4		28	25.0	31	13,334	-53.9		28	23.6	29	13,268	-54.0		23	10.0
125	30	14,339	-55.8		27	19.0	31	14,445	-54.3		27	19.5	29	14,557	-56.2		28	21.7	31	14,504	-54.6		28	20.7	29	14,439	-53.9		23	9.3
100	28	15,941	-58.1		27	18.0	30	15,875	-55.6		27	16.4	29	15,969	-57.9		27	17.6	31	15,927	-56.2		28	17.9	29	15,872	-54.3		22	8.5
80	28	17,358	-40.0		28	14.1	28	17,285	-57.0		27	14.1	27	17,372	-59.3		27	16.8	31	17,337	-58.3		28	15.0	29	17,301	-55.0		22	7.2
70	28	18,191	-60.3		27	12.4	28	18,128	-58.2		28	12.1	27	18,206	-60.8		28	13.8	31	18,174	-59.6		28	11.9	29	18,154	-55.2		22	6.6
60	28	19,149	-61.2		28	10.9	27	19,096	-58.5		28	11.6	27	19,161	-62.1		28	10.1	31	19,135	-60.9		28	9.6	28	19,132	-55.6		22	6.1
50	28	20,280	-61.7		28	9.1	27	20,240	-59.4		28	9.8	27	20,288	-62.3		28	7.3	31	20,255	-61.8		28	9.0	28	20,292	-56.2		22	4.9
40	27	21,653	-62.1		28	8.4	26	21,633	-60.6		29	6.8	26	21,665	-62.7		29	6.9	28	21,642	-62.0		29	7.3	28	21,708	-56.8		22	4.0
30	27	23,436	-60.9		28	8.5	24	23,409	-61.2		29	6.0	25	23,435	-62.6		29	6.6	24	23,423	-62.6		30	6.1	28	23,528	-57.4		21	2.1
25	27	24,573	-59.8		28	9.6	23	24,537	-61.7		30	6.8	27	24,564	-62.0		29	7.5	26	24,548	-61.8		30	6.8	29	24,679	-57.6		16	1.6
20	28	25,965	-58.5		28	11.6	20	25,921	-61.7		29	7.5	19	25,946	-60.7		28	8.4	27	25,935	-60.5		29	8.3	28	26,087	-57.4		07	.9
15	21	27,792	-56.0		28	17.6	17	27,711	-61.1		29	7.8	15	27,756	-58.7		27	11.7	15	27,736	-58.3		28	9.4	26	27,908	-57.1		04	3.6
10	20	30,605	-49.4		27	28.4	11	30,281	-57.7		28	13.8	7	30,326	-53.1										21	30,475	-56.8		04	5.7
7	16	32,743	-44.2		27	43.7	5	32,601	-55.2												

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SALEM, OREG. 1065 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	SALT LAKE CITY, UTAH 846 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	SAN DIEGO, CALIF. 1001 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	SAN JUAN, P. R. 1014 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	SAN NICOLAS, CALIF. 995 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	61	-.1	-1.1	20	2.5	31	1,288	-1.2	-6.1	17	2.4	31	174	10.6	8.0	09	.6	27	6	21.7	18.2	07	1.8	29	174	11.8	7.4	28	1.8
1000	31	97			21	4.3	31	147					31	131			08	.7	27	129	22.3	17.8	08	4.1	29	130				
950	31	567	-.1	-1.4	21	6.2	31	563					31	562	12.2	5.3	18	1.9	27	573	19.4	15.2	07	6.1	29	562	12.6	3.2	27	2.8
900	31	940	-1.9	-3.6	24	7.8	31	1,002					31	1,015	10.6	.8	22	2.8	27	1,038	16.1	12.0	08	5.8	29	1,014	11.1	-1.5	27	3.9
850	31	1,393	-4.2	-5.9	24	10.6	31	1,457	.6	-6.2	17	4.7	31	1,490	9.0	-2.5	25	4.2	27	1,522	13.3	7.6	08	4.8	29	1,490	9.1	-4.5	27	5.1
800	31	1,869	-7.0	-9.4	25	12.1	31	1,944	-.2	-8.0	19	7.6	31	1,990	6.7	-5.5	27	5.9	27	2,030	10.7	3.0	07	4.4	29	1,990	6.4	-6.4	28	6.5
750	31	2,348	-9.4	-14.5	25	12.9	31	2,457	-3.3	-10.4	22	7.6	31	2,517	3.9	-9.8	27	8.0	27	2,569	8.6	-4.1	05	3.2	29	2,516	3.5	-11.6	28	7.7
700	31	2,901	-11.9	-20.0	25	16.1	31	3,000	-6.8	-13.7	26	9.5	31	3,077	1.1	-13.6	27	10.1	27	3,135	6.8	-10.0	09	1.4	29	3,073	.7	-14.7	28	9.2
650	31	3,460	-16.8	-23.1	25	19.3	31	3,572	-10.4	-16.3	27	12.8	31	3,648	-2.1	-16.5	27	12.9	27	3,739	4.2	-15.5	32	2.1	29	3,664	-2.5	-18.1	27	11.3
600	31	4,046	-18.2	-25.7	26	21.7	31	4,187	-14.0	-19.4	27	14.9	31	4,302	-5.6	-19.5	27	14.2	27	4,387	1.0	-19.7	29	3.1	29	4,295	-6.4	-20.7	27	13.3
550	31	4,705	-22.3	-29.8	26	23.9	31	4,841	-18.2	-23.0	27	17.3	31	4,975	-9.9	-23.5	27	16.9	27	5,074	-3.3	-23.1	28	4.7	29	4,970	-11.0	-25.5	27	15.9
500	31	5,405	-26.5	-34.7	26	26.5	31	5,548	-22.8	-28.0	27	21.4	31	5,710	-15.1	-27.5	27	18.8	27	5,827	-8.5	-27.6	28	6.3	29	5,695	-16.1	-29.5	27	17.9
450	31	6,153	-31.4	-37.2	26	29.5	31	6,308	-27.8	-32.8	27	24.1	31	6,495	-20.4	-32.4	27	20.8	27	6,630	-13.9	-33.0	27	9.2	29	6,480	-21.0	-31.8	27	20.0
400	31	6,984	-36.7	-41.3	26	33.2	31	7,150	-33.5	-38.7	27	27.4	31	7,362	-26.7	-38.4	27	23.1	27	7,522	-19.4	-37.7	26	11.9	29	7,338	-27.7	-38.2	27	23.1
350	31	7,897	-42.4	-40.2	26	35.9	31	8,074	-40.3	-43.0	27	31.8	31	8,311	-34.0	-43.0	27	26.3	27	8,500	-26.5	-42.8	26	15.7	29	8,283	-35.1	-45.5	27	25.3
300	31	8,923	-48.5		27	36.4	31	9,109	-47.7		28	34.9	31	9,373	-42.0	-48.4	27	27.7	27	9,595	-34.6	-49.1	25	20.5	29	9,340	-43.3	-53.7	27	28.3
250	31	10,109	-53.7		27	33.5	31	10,292	-55.0		28	38.1	31	10,584	-50.6		27	32.2	27	10,842	-44.2		25	24.6	29	10,542	-52.3	-62.5	27	32.7
200	31	11,536	-54.9		27	27.9	31	11,704	-56.2		28	37.8	30	12,017	-58.7		28	37.0	27	12,302	-54.7		25	29.8	29	11,959	-59.9	-69.8	28	32.2
175	31	12,390	-55.4		27	26.3	31	12,544	-58.7		28	35.1	30	12,850	-61.1		28	35.1	27	13,146	-59.8		25	29.6	29	12,790	-61.5		28	30.5
150	31	13,371	-56.2		27	22.7	31	13,514	-58.1		28	29.0	30	13,806	-61.7		28	32.6	24	14,096	-65.0		25	26.8	29	13,745	-62.0		28	25.7
125	31	14,328	-57.1		27	21.7	31	14,460	-59.1		28	27.6	30	14,928	-64.4		27	29.3	25	15,187	-70.5		27	20.6	29	14,867	-64.2		28	23.3
100	31	15,937	-57.6		27	20.0	31	16,053	-60.9		28	23.5	30	16,283	-67.6		27	24.0	25	16,504	-73.7		27	15.2	29	16,222	-67.2		28	19.9
80	31	17,343	-59.5		27	14.6	30	17,431	-62.1		27	18.3	29	17,670	-68.6		27	17.7	24	17,782	-77.9		27	7.6	27	17,573	-68.4		28	17.5
70	31	18,180	-59.3		27	12.5	30	18,257	-62.4		27	14.6	29	18,471	-67.8		28	14.4	24	18,547	-76.4		29	3.4	27	18,374	-68.0		28	11.0
60	30	19,139	-60.1		27	11.5	29	19,206	-63.0		27	10.5	29	19,349	-67.5		28	11.6	24	19,445	-70.8		36	1.1	27	19,302	-67.4		29	9.2
50	29	20,271	-61.0		27	9.2	29	20,326	-63.1		28	7.6	28	20,452	-66.0		29	9.3	24	20,543	-64.5		04	.5	26	20,405	-66.3		29	9.2
40	29	21,657	-61.6		28	6.6	28	21,700	-63.9		28	6.4	28	21,810	-63.9		29	8.2	24	21,922	-60.3		07	1.7	25	21,763	-64.1		29	6.3
30	28	23,461	-62.0		28	5.4	27	23,468	-62.4		29	6.5	25	23,590	-60.5		28	8.2	23	23,730	-56.4		06	4.9	24	23,540	-60.0		28	8.2
25	26	24,569	-61.8		29	6.0	26	24,594	-61.4		29	6.9	22	24,732	-58.2		27	10.4	23	24,897	-52.9		06	6.0	24	24,682	-58.5		28	8.8
20	24	25,957	-61.7		28	7.2	24	25,980	-59.9		29	8.7	21	26,149	-55.6		26	14.1	23	26,391	-48.7		08	3.3	23	26,096	-55.1		27	12.9
15	17	27,756	-59.0		28	8.9	19	27,771	-57.9		27	14.6	18	28,007	-51.5		27	18.1	20	28,257	-45.5		02	.2	23	27,948	-51.5		27	21.0
10							8	30,405	-50.3				13	30,661	-45.6				16	30,962	-43.2				19	30,635	-44.5		27	23.5
7																			6	33,284	-39.6				14	33,049	-39.3		26	34.3
5																									7	35,392	-35.4			

Standard pressure surface (mb.)	* SAULT STE MARIE, MICH. 989 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* SHEMYA, ALASKA 997 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* SHREVEPORT, LA. 1009 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	SPOKANE, WASH. 925 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* SWAN ISLAND, W. I. 1012 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	221	-9.7	-12.4	07	1.3	29	38	.1	-3.3	22	6.7	31	79	6.8	2.9	12	1.8	31	720	-8.8	-11.5	17	.6	31	10	24.8	20.8	07	3.0
1000	31	136					29	17					31	153	8.2	1.1	17	2.5	31	110					31	114	24.0	20.2	07	4.3
950	31	535	-9.2	-11.2	26	.6	29	422	-2.7	-7.0	23	7.8	31	580	7.4	.3	19	5.4	31	506					31	557	20.6	17.9	08	5.8
900	31	950	-9.8	-11.9	26	3.5	29	852	-5.6	-9.3	23	8.8	31	1,022	7.6	-1.1	23	6.4	31	931	-7.5	-9.0	20	2.8	31	1,027	17.3	14.3	09	5.1
850	31	1,391	-10.3	-14.7	26	5.2	29	1,298	-8.2	-13.6	22	9.8	31	1,494	6.7	-2.1	24	7.3	31	1,377	-7.3	-9.1	22	6.7	31	1,514	14.7	10.0	09	4.2
800	31	1,858	-11.2	-16.2	27	6.7	28	1,767	-11.2	-18.3	22	10.2	31	1,991	5.3	-5.3	26	8.3	31	1,848	-8.9	-12.1	24	9.5	31	2,026	12.3	5.4	09	3.2
750	31	2,354	-12.9	-17.9	27	7.4	28	2,253	-14.3	-22.0	21	10.6	31	2,518	3.2	-8.5	26	9.4	31	2,345	-11.5	-15.2	24	11.5	31	2,541	9.8	.8	11	2.4
700	31	2,877	-14.8	-19.8	28	8.8	27	2,776	-18.1	-26.3	21	12.1	31	3,074	.1	-12.7	26	10.8	31	2,873	-14.3	-18.6	25	13.8	31	3,136	6.8	-3.6	12	1.4
650	31	3,436	-17.0	-23.1	28	10.0	27	3,321	-21.8	-29.9	21	14.0	31	3,665	-2.9	-16.2	27	12.8	31	3,476	-17.5	-22.4	25	16.2	31	3,739	4.3	-11.0	14	.9
600	31	4,033	-20.4	-26.2	28	10.7	26	3,904	-26.1	-34.8	21	15.9	31	4,296	-8.6	-20.9	27	14.0	31	4,027	-21.5	-27.0	25	18.5	31	4,390	.6	-16.4	31	1.1
550	31	4,668	-24.3	-31.1	28	11.7	26	4,525	-30.5	-36.4	20	16.1	31	4,998	-10.6	-23.3	27	16.7	31	4,659	-25.3	-31.6	25	21.3	31	5,075	-3.6	-21.2	29	2.4
500	31	5,361	-28.6	-35.7	28	13.3	26	5,201	-34.8	-39.1	20	17.2	31	5,700	-15.3	-27.5	27	18.5	31	5,349	-29.7	-35.9	26	24.2	31	5,829	-8.7	-24.1	28	4.4
450	31	6,104	-33.5	-40.6	28	15.0	26	5,927	-39.4	-39.2	20	18.1	31	6,486	-20.9	-32.7	27	21.7	31	6,091	-34.3	-38.3	26	29.5	31	6,635	-14.4	-28.9	28	6.3
400	31	6,927	-38.9	-43.6	28	17.5	26	6,729	-44.1	-44.0	21	16.3	31	7,349	-27.4	-37.8	28	23.1	31	6,910	-39.1	-40.6	26	32.1	31	7,520	-20.8	-34.4	27	7.8
350	31	7,832	-44.4		28	19.7	26	7,615	-48.4		21	15.1	31	8,297	-34.5	-43.5	28	25.4	31	7,815	-44.8	-41.0	26	34.5	31	8,494	-27.7	-41.0	25	10.9
300	31	8,851	-50.0		28	22.7	26	8,622	-51.1		20	17.1	31	9,356	-42.6	-47.7	28	28.8	31	8,832	-50.2		26	36.7	31	9,582	-36.1	-48.7	25	13.0
250	31	10,031	-54.0		28	24.3	26	9,802	-52.8		21	18.4	31	10,593	-51.6		31	2.2	31	10,012	-54.0		27	37.5	31	10,821	-45.9		25	15.9
200	31	11,457	-55.1		27	21.3	25	11,272	-52.5		21	16.1	31	11,985	-59.3		27	33.2	31	11,443	-54.1		27	31.6	31	12,268	-56.5		25	18.4
175	31	12,312	-53.9		27	20.5	25	12,086	-51.9		21	16.5	30	12,817	-61.6		27	36.0	29	12,290	-52.9		27	28.0	31	13,106	-61.2		25	19.6
150	31	13,304	-53.4		27	18.7	25	13,085	-51.2		21	15.0	30	13,771	-61.4		28	34.6	29	13,285	-53.2		27	23.6	31	14,053	-65.3		26	19.0
125	31	14,477	-53.9		27	16.7	25	14,249	-51.4		21	13.8	30	14,899	-63.1		27	28.3	29	14,455	-54.5		27	21.6	31	15,149	-70.2		26	16.1
100	31	15,904	-56.0		28	15.5	25	15,717	-51.5		20	12.2	30	16,261	-66.6		27	24.3	27	15,873	-55.0		27	18.2	31	16,458	-75.2		25	12.5
80	31	17,315	-58.4		28	13.0	25	17,163	-52.2		21	9.7	29	17,603	-68.5		27	18.1	26	17,288	-56.7		26	15.6	31	17,741	-78.1		26	5.9
70	31	18,192	-59.7		28	11.0	25	18,026	-52.6		20	8.4	27	18,401	-68.4		27	14.5	26	18,129	-57.5		26	13.7	31	18,504	-77.0		27	1.9
60	31	19,114	-60.5		29	10.0	25	19,020	-53.4		20	7.7	25	19,331	-66.5		26	14.0	26	19,100	-58.5		26	13.2	31	19,403	-71.0		09	.8
50	31	20,247	-61.3		29	8.8	25	20,194	-53.4		21	5.8	22	20,435	-65.1		27	12.8	26	20,243	-59.7		27	11.0	31	20,500	-64.7		10	2.1
40	31	21,630	-61.9		29	7.8	25	21,627	-54.4		22	3.2	20	21,806	-62.0		27	9.6	24	21,629	-61.1		27	8.4	30	21,878	-60.1		08	3.5
30	30	23,401	-62.2		29	8.4	25	23,464	-55.6		22	3.1	20	23,597	-59.1		27	14.2	21	23,404	-61.4		28	7.0	30	23,694	-55.6		08	5.4
25	30	24,329	-61.6		29	8.9	25	24,625	-56.0		24	1.6	20	24,746	-56.9		27	16.1	21	24,534	-61.9		28	7.4	29	24,861	-52.9		08	5.7
20	30	25,915	-60.3		28	10.2	25	26,044	-55.8		34	1.3	20	26,170	-53.9		27	21.3	19	25,906	-62.0		29	7.2	29	26,310	-49.5		05	2.9
15	29	27,723	-58.2		28	12.2	23	27,894	-54.6		03	3.4	19	28,039	-50.0		27	22.9	17	27,696	-61.0		28	8.8	28	28,213	-46.1		29	2.5
10	27	30,307	-53.6		27	20.6	22	30,501	-52.9		03	5.8	16	30,718	-43.2		27	26.9	8	30,230	-58.6				25	30,922	-43.8		27	4.4
7	23	32,667	-46.7		27	31.2	18	32,827	-51.3		03	11.4	13	33,180	-37.2		26	27.1							22	33,334	-41.0		26	5.9
5							11	35,149	-46.8																7	35,648	-35.2			

Standard pressure surface (mb.)	TAMPA, FLA. 1018 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	TOPEKA, KANS. 987 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* TRUK, CAROLINE IS. 1009 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* TUCSON, ARIZ. 925 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.	* VANDENBERG AFB, CALIF. 1003 MB No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed M.p.s.
SURFACE	31	8	11.3	9.2	07	2.3	31	268	-5.7	-9.3	02	1.2	31	2	28.2	23.2	04	5.2	31	789	8.5	1.1	14	2.8	30	100	9.0	7.3	16	2.6
1000	31	161	13.0	9.6	08	4.3	31	141					31	84	27.2	21.3	05	6.6	31	137					30	127			11	1.0
950	31	567	13.4	8.1	11	3.4	31	562	-5.8	-10.0	14	.2	31	532	23.1	17.5	06	9.2	31	564					30	556	12.1	4.3	19	2.3
900	31	1,049	11.8	3.8	17	1.0	31	989	-3.1	-8.8	24	2.6	31	1,008	20.0	13.3	06	9.1	31	1,016	12.2	.1	17	3.0	30	1,009	10.5	-.6	24	3.4
850	31	1,525	9.4	-.2	24	1.8	31	1,444	-1.0	-9.1	26	5.2	31	1,500	17.1	9.6	06	7.5	31	1,494	10.4	-2.9	21	3.0	30	1,483	8.5	-4.3	26	5.3
800	31	2,027	7.7	-4.5	27	3.2	31	1,928	-1.6	-10.9	27	7.6	31	2,017	15.1	4.8	07	5.3	31	1,996	7.4	-5.9	23	4.3	30	1,982	5.7	-7.0	26	6.8
750	31	2,557	5.3	-8.3	26	4.2	31	2,440	-3.0	-13.2	27	10.7	31	2,565	13.5	-2.8	07	4.5	31	2,521	4.3	-11.2	25	5.6	30	2,503	3.0	-12.3	26	8.8
700	31	3,119	2.4	-10.1	27	6.1	31	2,986	-5.5	-16.5	27	11.6	31	3,141	11.3	-8.6	07	5.5	31	3,083	1.5	-14.3	26	7.3	30	3,063	-.3	-14.4	26	10.5
650	31	3,712	-.9	-16.0	27	7.8	31	3,559	-8.7	-19.5	27	14.5	31	3,757	8.1	-13.6	08	6.9	31	3,673	-1.8	-18.0	27	9.6	30	3,649	-3.7	-18.0	26	12.3
600	31	4,350	-4.1	-18.9	27	10.6	31	4,181	-12.4	-24.1	27	16.8	31	4,412	4.0	-16.4	08	8.9	31	4,310	-5.3	-20.9	27	12.8	30	4,280	-7.5	-22.4	27	14.3
550	31	5,025	-8.3	-21.7	26	13.2	31	4,838	-16.3	-28.5	27	19.6	31	5,109	-.1	-20.4	08	10.4	31	4,979	-9.3	-23.8	28	15.5	30	4,948	-12.0	-27.2	27	15.9
500	31	5,766	-13.2	-25.8	26	15.7	31	5,543	-20.9	-32.5	27	21.9	31	5,872	-4.7	-24.9	07	11.1	31	5,720	-14.4	-24.6	28	17.1	30	5,675	-16.9	-31.4	27	17.4
450	31	6,556	-18.8	-31.2	27	18.1	31	6,321	-26.4	-36.3	28	22.7	31	6,690	-9.3	-28.8	08	11.3	31	6,505	-19.7	-33.1	28	20.1	30	6,452	-22.4	-34.8	27	19.4
400	31	7,429	-24.9	-35.6	26	19.8	31	7,166	-32.1	-42.7	28	25.6	31	7,597	-14.9	-34.2	08	9.1	31	7,375	-26.4	-37.9	28	22.2	30	7,313	-28.8	-40.4	27	22.5
350	31	8,386	-32.1	-41.6	26	22.4	31	8,096	-38.7	-47.2	27	28.9	31	8,594	-21.4	-39.8	07	7.1	31	8,327	-33.6	-44.0	28	24.8	30	8,254	-36.0	-44.9	27	26.7
300	31	9,455	-40.4	-48.0	27	25.1	31	9,137	-46.6		27	30.6	31	9,713	-29.7	-46.3	08	4.3	31	9,391	-41.5	-48.7	28	28.5	29	9,296	-44.2	-50.2	27	28.5
250	31	10,673	-49.4		27	28.6	31	10,324	-54.9		28	31.9	31	10,986	-40.0	-54.2	12	4.4	31	10,605	-50.4		28	34.7	29	10,496	-52.2		27	32.7
200	31	12,105	-58.6		27	32.2	30	11,726	-59.6		28	32.0	31	12,470	-52.3		13	6.7	30	12,034	-58.6		28	35.6	29	11,914	-59.5		28	31.8
175	31	12,935	-61.8		27	33.5	30	12,561	-59.5		28	32.1	31	13,320	-59.4		14	8.6	30	12,869	-60.6		28	34.2	28	12,746	-61.6		28	30.2
150	31	13,888	-62.6		27	30.4	29	13,527	-58.6		28	27.1	31	14,268	-67.1		12	8.5	30	13,824	-62.0		28	32.2	27	13,704	-60.8		28	27.0
125	31	15,003	-63.4		27	28.5	29	14,670	-59.2		28	22.2	31	15,346	-75.2		10	9.4	30	14,946	-64.5		28	29.8	25	14,842	-63.5		28	23.9
100	31	16,349	-69.7		27	23.9	28	16,056	-61.4		28	18.6	31	16,616	-82.4		09	9.2	30	16,301	-67.0		28	24.1	25	16,206	-65.2		27	20.7
80	31	17,671	-71.2		26	18.5	27	17,434	-63.9		28	15.7	31	17,857	-81.9		09	9.1	30	17,637	-70.0		27	18.0	25	17,559	-67.0		28	16.3
70	31	18,462	-70.5		26	16.6	27	18,252	-64.0		28	12.1	31	18,617	-76.2		09	8.2	28	18,430	-69.5		28	15.2	25	18,363	-67.6		28	13.2
60	29	19,381	-68.7		27	13.4	27	19,195	-64.2		28	9.9	31	19,519	-71.0		09	9.4	26	19,352	-68.9		28	12.9	25	19,290	-67.7		28	11.1
50	29	20,482	-65.0		27	11.4	23	20,311	-64.1		28	8.3	31	20,611	-66.3		09	16.4	25	20,444	-66.0		28	10.4	23	20,394	-66.0		28	10.2
40	27	21,856	-60.4		28	13.0	20	21,681	-62.8		28	7.0	31	21,983	-60.3		09	22.8	24	21,802	-64.4		28	9.5	22	21,750	-65.2		29	7.7
30	26	23,670	-55.5		27	16.4	19	23,472	-61.0		28	7.6	28	23,812	-52.5		10	9.8	22	23,580	-60.0		28	11.4	22	23,516	-62.4		27	9.1
25	26	24,837	-53.8		28	16.0	16	24,619	-60.1		28	9.5	27	24,999	-49.2		25	4.1	22	24,725	-57.7		28	13.3	21	24,650	-60.6		27	10.6
20	24	26,277	-51.0		28	15.8	13	26,010	-58.7		28	13.2	24	26,467	-47.3		27	12.6	21	26,141	-54.8		27	15.9	21	26,048	-57.8		27	14.1
15	19	28,175	-47.0		27	12.9	10	27,825	-55.0				19	28,388	-44.3		27	15.2	16	28,005	-51.3		27	20.9	19	27,877	-54.6		27	16.0
10	17	30,891	-42.9		28	13.2	5	30,531	-43.2				15	31,112	-42.3		27	15.2	13	30,690	-45.3		27	24.2	17	30,513	-49.1		26	25.4
7	6	33,294	-36.4										11	33,534	-37.2			

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	VICTORIA, TEXAS 1013 MB						* WAKE IS., PACIFIC AREA 1014 MB						* WALLOPS IS., VA. NASA 1020 MB						WASHINGTON DULLES INT. AP 1012 MB						WINNEMUCCA, NEV. 864 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.
SURFACE	31	33	10.5	7.6	04	1.3	31	5	24.3	19.7	07	5.5	31	3	-.7	-4.8	34	2.9	31	65	-3.9	-8.3	31	2.4	31	1,312	-1.2	-6.2	20	2.1
1000	31	143	11.3	7.5	09	1.7	31	129	23.3	17.7	07	6.6	31	163	.3	-5.4	33	4.0	31	177	-3.3	-9.3	31	3.3	31	132				
950	31	572	11.6	6.1	17	3.8	31	570	19.2	15.5	07	7.8	31	575	-.3	-7.7	31	5.7	31	587	-4.0	-10.4	30	5.7	31	549				
900	31	1,026	10.9	3.9	21	5.0	31	1,038	15.5	12.6	08	7.8	31	1,007	-1.1	-9.8	29	6.8	31	1,010	-3.9	-11.2	28	7.4	31	987				
850	31	1,502	9.3	.3	27	4.9	31	1,521	12.9	6.6	07	7.0	31	1,462	-2.0	-10.7	29	8.2	31	1,461	-4.5	-13.9	29	9.7	31	1,443	.7	-6.5	20	4.0
800	31	2,004	7.7	-4.3	24	5.0	31	2,029	11.6	-1.4	07	5.9	31	1,944	-3.4	-13.0	28	10.5	31	1,938	-5.1	-15.2	28	11.3	31	1,932	-.6	-9.1	22	8.5
750	31	2,531	5.7	-9.8	26	6.3	31	2,568	10.7	-6.1	08	4.2	31	2,452	-5.4	-15.7	28	12.2	31	2,448	-6.7	-17.4	28	11.9	31	2,446	-3.9	-10.9	24	10.6
700	31	3,097	3.2	-13.6	27	7.5	31	3,141	8.6	-12.8	02	3.8	31	2,993	-7.7	-18.6	28	14.2	31	2,982	-8.9	-19.8	28	13.9	31	2,988	-6.9	-15.2	25	13.9
650	31	3,690	-.3	-17.0	27	9.5	31	3,747	5.7	-16.1	34	4.1	31	3,564	-10.6	-20.6	27	16.2	31	3,556	-11.8	-22.0	28	15.3	31	3,562	-10.1	-17.7	26	17.3
600	31	4,330	-4.4	-20.5	27	10.8	31	4,401	2.3	-19.8	33	6.6	31	4,179	-14.0	-24.5	27	17.6	31	4,162	-15.3	-26.0	28	17.7	31	4,176	-13.7	-22.1	26	19.8
550	31	5,006	-9.0	-23.1	28	12.2	31	5,095	-1.8	-23.5	33	8.2	31	4,831	-17.8	-28.4	27	20.4	31	4,815	-19.1	-29.3	27	18.8	31	4,830	-17.6	-26.5	27	22.4
500	31	5,742	-13.8	-27.6	28	14.7	31	5,851	-6.5	-27.4	31	10.7	31	5,543	-22.1	-32.1	27	23.8	31	5,519	-23.4	-33.5	27	20.9	31	5,541	-22.0	-30.2	27	25.0
450	31	6,529	-19.5	-32.6	28	16.5	31	6,663	-11.8	-31.7	31	13.0	31	6,306	-27.3	-36.6	27	25.3	31	6,284	-28.3	-37.5	27	24.2	31	6,300	-27.1	-34.6	27	25.6
400	31	7,401	-25.8	-38.8	28	18.7	31	7,558	-17.8	-35.9	31	15.5	31	7,149	-32.8	-40.0	27	26.3	31	7,119	-33.7	-40.2	27	28.3	31	7,146	-33.4	-40.2	27	28.0
350	31	8,335	-32.9	-44.1	28	21.1	31	8,544	-24.1	-41.1	30	17.4	31	8,077	-39.1	-44.7	27	27.8	31	8,043	-40.1	-44.4	27	30.6	31	8,071	-40.1	-42.4	27	31.9
300	31	9,422	-41.2	-48.6	28	24.1	31	9,651	-31.8	-47.6	29	18.6	31	9,119	-45.9		27	31.4	31	9,081	-46.7		27	33.3	31	9,106	-47.5	-50.5	27	33.8
250	31	10,638	-49.9		29	28.2	31	10,914	-41.5	-54.2	29	20.3	31	10,316	-52.2		28	27.8	31	10,273	-53.0		27	34.5	31	10,290	-54.8		27	33.3
200	31	12,088	-58.5		28	30.0	31	12,390	-52.7		28	21.8	31	11,740	-57.5		28	31.6	30	11,703	-57.1		27	34.0	31	11,700	-56.5		28	34.0
175	31	12,901	-61.6		28	30.2	31	13,239	-59.3		28	21.8	31	12,583	-57.4		28	30.5	30	12,547	-57.5		27	31.7	31	12,539	-58.5		28	32.4
150	31	13,853	-63.3		27	28.3	31	14,188	-66.3		28	20.8	31	13,537	-57.8		27	27.3	30	13,521	-56.9		27	27.5	31	13,508	-58.2		28	29.6
125	31	14,968	-65.9		28	27.2	30	15,274	-73.2		28	17.9	31	14,703	-59.1		28	24.7	29	14,676	-58.3		27	23.9	31	14,654	-59.3		28	24.4
100	29	16,314	-69.2		27	21.1	30	16,555	-80.6		28	12.3	30	16,096	-61.4		28	20.7	29	16,072	-60.9		27	20.1	31	16,045	-60.9		28	22.3
80	29	17,637	-71.8		28	15.3	28	17,811	-80.5		29	5.4	30	17,472	-63.2		27	17.0	29	17,453	-62.3		27	16.0	30	17,434	-62.3		29	16.4
70	28	18,427	-71.3		27	12.8	27	18,569	-77.7		33	1.4	30	18,291	-63.6		28	14.8	29	18,275	-63.5		27	14.5	29	18,256	-63.0		27	12.2
60	28	19,340	-70.2		27	11.0	27	19,464	-71.5		08	2.5	30	19,237	-63.5		28	12.4	28	19,272	-63.2		27	12.7	29	19,204	-63.4		27	12.2
50	28	20,433	-66.9		27	11.5	26	20,559	-64.9		08	3.0	30	20,356	-62.9		28	11.3	28	20,345	-62.6		27	9.3	28	20,324	-63.3		27	7.7
40	28	21,796	-62.4		27	13.3	24	21,934	-60.9		07	3.0	30	21,732	-61.8		27	10.1	27	21,722	-62.3		27	9.8	27	21,696	-63.3		27	7.9
30	28	23,593	-58.0		27	15.2	24	23,735	-58.3		05	2.4	30	23,521	-59.7		28	10.7	24	23,505	-60.4		28	9.7	23	23,471	-62.3		28	7.5
25	28	24,746	-56.2		27	18.0	24	24,888	-56.3		02	2.1	30	24,664	-58.1		28	12.8	22	24,642	-58.7		27	11.8	21	24,596	-61.5		28	7.0
20	28	26,172	-53.8		27	18.5	24	26,317	-52.5		30	3.7	29	26,078	-55.3		28	17.0	17	26,052	-56.2		28	15.5	21	25,983	-60.2			
15	25	28,033	-50.7		27	19.0	24	28,196	-48.4		28	9.7	24	27,938	-51.5		28	21.4	15	27,891	-52.0		27	18.0	15	27,794	-57.3			
10	1†	30,707	-43.3		27	19.5	23	30,892	-44.2		27	17.2	21	30,602	-44.7		27	29.6	10	30,338	-45.0				7	30,445	-50.9			
7	7	33,104	-61.2				16	33,297	-35.2		27	20.3	10	33,046	-37.0															
5							9	35,650	-36.3																					

Standard pressure surface (mb.)	WINSLOW, ARIZ. 850 MB						YAKUTAT, ALASKA 1011 MB						+ YAP, CAROLINE IS. 1009 MB						YUCCA FLAT, NEV. 879 MB						YUMA, ARIZ. 998 MB					
	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.	No. of observations	Dynamic height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind M.p.s.
SURFACE	31	1,497	.1	-4.0	20	2.3	31	12	-15.2	-19.7	09	2.5	31	14	27.3	22.8	06	5.0	31	1,198	-.1	-4.7	22	1.5	21	131	10.4	3.0	33	.5
1000	31	169					31	92	-7.3	-13.7	09	3.1	31	93	26.3	20.8	06	6.7	31	150					21	118				
950	31	585					31	492	-7.2	-14.2	09	4.0	31	542	22.5	17.0	06	11.8	31	563					21	542	13.3	1.2	30	1.4
900	31	1,025					31	912	-9.4	-16.1	09	1.7	31	1,013	19.4	13.0	07	11.8	31	1,009					21	1,002	11.6	-.6	27	2.8
850	31	1,489			16	1.2	31	1,352	-11.9	-18.3	09	1.5	31	1,503	16.8	8.8	07	10.7	31	1,469	4.3	-4.8	23	2.1	21	1,479	9.8	-4.2	27	4.8
800	31	1,980	3.6	-5.0	23	6.3	31	1,814	-14.2	-21.1	15	.9	31	2,019	15.3	.4	08	9.2	31	1,962	2.5	-7.0	21	4.7	21	1,980	7.3	-8.1	27	6.0
750	31	2,502	1.5	-8.2	25	9.6	31	2,305	-16.0	-24.3	25	.4	31	2,561	13.8	-5.4	07	8.2	31	2,480	.3	-9.7	23	5.9	21	2,502	4.6	-13.7	27	8.0
700	31	3,056	-1.1	-11.6	26	10.9	31	2,820	-18.5	-26.7	32	1.4	31	3,142	10.9	-9.1	08	7.6	31	3,033	-2.1	-14.6	26	7.4	21	3,067	1.4	-17.2	28	9.4
650	31	3,640	-4.1	-15.2	27	12.1	31	3,368	-21.9	-30.2	31	3.5	31	3,733	7.6	-13.4	08	8.8	31	3,610	-5.2	-18.8	27	9.6	21	3,652	-1.9	-19.2	27	11.6
600	31	4,271	-7.9	-20.4	27	15.4	31	3,954	-25.7	-33.9	33	4.4	31	4,411	3.7	-17.5	09	9.0	31	4,243	-9.2	-22.5	27	13.9	21	4,293	-5.8	-18.5	27	14.2
550	31	4,937	-12.1	-24.3	28	17.5	31	4,579	-29.7	-37.5	32	5.3	31	5,110	-.5	-20.8	09	9.8	31	4,903	-13.2	-23.7	27	17.8	21	4,962	-10.2	-22.3	27	16.9
500	31	5,665	-17.0	-27.5	27	19.2	31	5,254	-34.3	-40.6	32	6.7	31	5,868	-4.9	-25.4	09	11.1	31	5,630	-18.0	-30.6	27	21.0	21	5,697	-15.4	-27.3	27	18.0
450	31	6,442	-22.6	-32.7	28	22.0	31	5,984	-39.3	-43.0	32	8.8	31	6,686	-9.9	-29.3	09	10.9	31	6,403	-23.6	-35.4	28	22.7	21	6,474	-21.5	-32.6	28	19.4
400	31	7,302	-28.9	-38.4	28	24.8	31	6,783	-44.2	-45.5	31	10.7	31	7,590	-15.4	-33.7	10	10.1	31	7,260	-29.8	-40.6	28	24.5	20	7,353	-27.6	-37.9	28	22.7
350	31	8,244	-35.9	-43.6	28	28.2	31	7,670	-48.2		33	13.9	31	8,585	-22.1	-39.4	09	9.1	31	8,198	-36.9	-44.0	28	26.4	20	8,300	-34.9	-43.2	28	26.5
300	31	9,298	-43.7	-47.8	28	30.5	31	8,679	-50.9		33	16.9	31	9,700	-30.5	-46.3	09	6.7	31	9,247	-44.5	-48.4	28	31.3	20	9,357	-43.3		28	29.7
250	31	10,501	-52.3		28	36.7	31	9,860	-52.6		33	18.9	31	10,989	-40.6	-54.7	11	5.4	31	10,446	-52.7		28	33.3	20	10,562	-51.6		28	32.9
200	31	11,917	-59.8		28	35.5	31	11,299	-52.2		33	15.9	31	12,448	-53.0		12	5.9	31	11,863	-59.1		28	35.8	15	12,012	-58.8		28	37.9
175	31	12,748	-61.3		28	34.6	30	12,143	-51.2		33	14.1	31	13,295	-60.1		13	7.1	31	12,697	-60.2		28	34.0	12	12,836	-58.2			
150	30	13,708	-61.6		28	30.3	30	13,166	-51.0		33	12.3	31	14,240	-67.6		13	8.1	31	13,659	-60.0		28	31.4	9	13,836	-61.8			
125	30	14,835	-63.4		28	24.8	30	14,351	-51.0		32	11.6	31	15,316	-75.1		11	9.3	31	14,793	-62.0		28	29.0						
100	30	16,187	-66.2		28	22.0	30	15,802	-51.5		32	10.6	31	16,587	-81.6		10	10.1	31	16,169	-63.3		28	26.2						
80	29	17,542	-68.1		28	17.5	30	17,244	-52.7		32	7.8	31	17,832	-82.2		10	7.5	31	17,535	-64.9		27	19.3						
70	29	18,343	-68.5		28	15.7	30	18,105	-53.4		32	7.9	31	18,587	-77.3		09	7.7	29	18,343	-65.7		27	14.8						
60	28	19,270	-67.6		29	11.9	30	19,094	-54.5		32	6.7	31	19,485	-71.4		09	8.8	27	19,277	-65.5		28	13.2						
50	28	20,371	-66.6		29	9.6	29	20,257	-55.6		33	6.4	31	20,577	-66.2		09	14.6	25	20,387	-64.9		28	11.1						
40	25	21,734	-64.8		28	8.6	29	21,675	-56.7		33	6.4	31	21,946	-61.4		09	22.1	27	21,755	-63.0		29	8.0						
30	22	23,515	-61.4		28	8.0	29	23,490	-58.2		33	4.7	31	23,761	-55.5		10	13.9	18	23,533	-61.5		28	7.9						
25	22	24,651	-59.5		27	9.3	28	24,633	-59.2		34	5.1	27	24,935	-51.5		17	1.5	16	24,672	-60.1		28	7.7						
20	22	26,056	-56.8		27	12.3	27	26,077	-60.2		36	5.1	24	26,399	-47.5		26	9.4	9	26,089	-58.1									
15	19	27,904	-52.6		27	18.6	27	27,827	-60.5		01	5.3	23	28,307	-45.3		27	15.9												
10	6	30,562	-47.3				16	30,347	-61.5		36	9.5	23	31,035	-41.8		26	18.5												
7													19	33,474	-38.1		26	14.4												
5													10	35,769	-36.5															

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. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

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. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

\+ Observations for these stations are scheduled at 0000 G.C.T.

† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the surface and higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1969

ALBUQUERQUE, NEW MEX.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		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-----	----	----	----	1.43	1.45	1.42	1.17	1.05	0.93
2-----	1.06	1.18	1.28	----	----	----	----	----	----
3-----	----	----	----	----	----	----	1.24	1.09	1.00
4-----	----	----	----	1.39	1.41	1.38	----	1.09	1.01
7-----	----	----	----	----	----	----	----	1.17	1.08
17----	.98	1.07	1.21	1.35	----	----	----	----	----
18----	1.03	1.15	1.26	1.41	1.46	1.37	----	1.01	.94
21----	.96	1.08	1.19	1.37	----	----	----	----	----
27----	.90	1.01	1.12	----	1.40	1.35	1.20	1.07	.96
29----	.96	1.06	1.19	1.38	1.41	1.33	1.19	1.07	.95
30----	1.06	1.20	1.27	1.41	1.49	1.47	1.36	1.22	1.01
31----	1.01	1.11	1.24	1.36	1.46	1.37	1.16	.99	.84
Averages	1.00	1.11	1.22	1.39	1.44	1.38	1.22	1.08	0.97

OMAHA, NEBR.

	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan.									
4-----	HS0.95	HS1.07	HS1.30	----	HS1.25	----	----	----	----
9-----	HS .93	HS1.07	HS1.17	----	1.25	----	HS1.15	HS1.03	HS0.95
24----	HM .90	HM .99	HM1.13	----	HM1.27	----	HS1.06	HS .80	HS .66
25----	HM .84	HM .95	HM1.19	----	HM1.24	----	HS .98	HS .70	HS .58
Averages	0.91	1.02	1.20	----	1.25	----	1.06	0.84	0.73

BLUE HILL OBS., MASS.

	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Jan.									
27----	----	0.84	0.98	----	1.21	----	1.01	0.84	0.75
28----	0.79	.89	1.08	----	1.23	----	1.06	.88	.62
	Instrument out of service January 1 to January 22								
Averages	0.79	0.87	1.03	----	1.22	----	1.04	0.86	0.69

HS Slight haze
HM Moderate haze

* Values corresponding to true solar noon

TUCSON, ARIZ.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		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.									
1-----	1.04	1.15	1.27	1.42	1.47	1.43	1.29	1.16	1.04
2-----	1.01	1.11	1.24	1.41	1.41	1.40	1.23	1.13	1.03
3-----	.94	1.03	1.12	1.25	1.33	1.29	1.18	1.02	.90
4-----	----	----	----	1.37	----	1.37	1.20	1.08	.95
5-----	1.01	----	----	----	----	----	----	1.08	.97
6-----	.93	1.05	1.23	1.39	1.42	1.34	1.19	1.06	1.00
7-----	1.03	1.12	1.25	1.40	1.43	1.38	1.21	1.08	.95
8-----	1.05	1.16	1.24	1.38	1.43	1.36	1.25	1.13	----
11----	----	----	1.10	1.30	1.39	1.31	1.12	----	----
12----	----	----	1.22	----	----	1.36	----	----	----
15----	----	----	----	----	----	----	1.21	1.08	.98
16----	----	----	----	----	----	1.32	1.15	1.02	.91
18----	----	----	----	1.27	1.39	----	----	----	----
19----	----	----	----	----	1.35	----	1.14	1.08	----
20----	----	----	1.18	----	----	1.32	1.19	1.08	.97
22----	.90	1.01	1.15	1.29	----	1.36	1.22	1.12	1.01
23----	----	----	----	----	----	----	----	1.03	.92
24----	----	----	----	----	----	----	----	1.04	.95
26----	----	----	----	1.40	----	----	----	1.10	1.00
27----	.95	1.01	1.16	1.29	1.41	----	----	----	----
29----	.89	.99	1.12	1.29	----	1.36	1.20	1.05	.93
30----	1.00	1.13	1.22	1.37	1.48	1.37	1.18	1.08	.97
31----	.94	1.05	1.20	1.33	1.42	1.27	1.04	.93	.80
Averages	0.97	1.07	1.19	1.34	1.41	1.35	1.19	1.07	0.96

MADISON, WIS.

	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
	No observations for January 1969								

GUAM, M. I.

	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	Recorder inoperative November 23, 1968 to present No observations due to cloudiness								

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 TOTALS

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

JANUARY 1969

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	Avg.
ALBUQUERQUE N.M.	302	289	253	295	274	285	261	177	150	271	257	301	260	194	169	270	282	327	151	191	310	306	356	177	132	246	345	170	371	386	378	262
AMES IOWA	199	105	214	217	69	163	112	76	223	210	177	138	169	113	19	153	42*	93	101	49	59	24	46	225	259	126	40	86	42	199	225	128*
ANNETTE ALASKA	54	18	9	68	16	28	30	13	34	77	44	74	86	89	49	94	56	101	102	108	109	42	40	116	123	125	127	78	134	42	49	69
APALACHICOLA FLORIDA	362	224	87	201	152	376	313	304	187	365	138	369	387	370	358	329	305	205	91	117	226	174	134	264	223	267	328	321	346	347	383	266
ARGONNE NAT. LAB.	239	160	242	269	113	118	215	53	218	263	262	207	165	153	67	46	40	110	128	207	71	41	45	165	194	148	274	31	33	42	324	150
ASTORIA OREGON	66	95	10	16	21	---	83	48	55	36	110	76	66	44	71	41	96	192	72	110	224	222	99	131	75	49	116	220	60	86	112	90
ATLANTA GEORGIA	301	113	95	246	259	164	293	230	46	226	255	285	239	280	187	215	94	87	26	45	66	55	40	279	289	283	41	27	67	289	97	168
BETHEL ALASKA	15	31	21	19	37	2	5	19	10	30	23	17	26	27	8	13	15	15	13	---	12	18	28	24	19	45	20	36	39	26	27	21
BISMARCK N.DAK.	160	180	191	95	78	140	79	---	196	167	137	96	121	71	104	198	103	220	82	152	163	141	168	236	249	147	244	263	129	269	270	162
BLUE HILL MASS.	87	210	127	210	211	174	67	189	43	209	213	217	160	163	166	208	79	39	164	222	231	224	159	35	173	168	248	251	58	25	223	160
BOISE IDAHO	46	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	153	31	77	23	231	238	235	---	---	---	147	238	176	82	---
BROWNSVILLE TEXAS	119	66	124	121	391	387	391	301	77	260	152	172	149	161	347	393	167	348	316	164	383	410	239	132	110	130	235	212	264	233	130	228
BURLINGTON VERMONT	101	184	178	148	121	88	58	157	53	111	107	133	74	89	184	211	28	30	71	225	218	215	194	86	86	198	234	258	82	25	72	130
CAPE HATTERAS N.C.	313	303	157	37	133	253	260	251	284	319	302	318	324	321	323	334	275	167	199	27	141	77	106	233	37	358	301	324	250	305	200	233
CARIBOU MAINE	59	116	185	183	147	170	52	116	117	135	207	113	84	114	165	227	74	58	116	232	197	137	243*	134	63	94	235	251	236	105	87	144*
CHARLESTON S.C.	338	261	179	39	166	237	319	308	274	341	246	341	331	338	330	337	271	162	114	55	329	121	296	246	260	377	54	171	159	202	284	242
CLEVELAND OHIO	184	142	96	187	165	42	52	112	188	163	148	184	98	79	127	102	39	18	79	182	162	178	196	51	145	193	285	45	49	25	63	122
COLUMBIA MISSOURI	254	242	274	276	118	65	132	90	282	246	263	94	215	161	45	52	35	54	193	134	43	56	46	321	325	80	98	54	42	84	206	148
DAVIS CALIFORNIA	138	106	98	54	65	49	55	270	148	148	61	49	25	284	278	212	286	29	74	52	186	176	120	61	108	250	182	282	265	179	324	149
DODGE CITY KANSAS	267	255	153	253	215	267	78	197	270	164	259	235	251	216	176	256	49	236	56	139	69	225	180	336	241	308	86	89	151	259	337	202
E. LANSING MICHIGAN	145	161	176	171	172	83	161	70	139	195	219	159	69	142	194	61	60	32	187	298	66	57	80	74	176	155	278	38	37	29	225	132
EL CENTRO CALIF. NPF	316	314	304	308	288	307	312	239	146	274	272	242	65	199	199	199	199	272	272	299	294	325	291	158	158	366	366	279	383	387	378	271
EL PASO TEXAS	204	353	252	356	360	352	356	362	300	86	345	359	230	245	212	283	301	372	208	359	356	372	368	355	329	386	372	283	354	268	423	315
ELY NEVADA	227	197	274	239	268	288	259	302	256	279	136	137	102	167	334	167	327	248	88	173	98	273	305	123	101	82	337	200	315	239	320	221
EPPLEY NEWPORT R.I.	160	189	---	205	207	183	94	192	23	207	206	216	180	149	214	167	70	27	110	212	194	165	61	33	155	198	---	---	45	35	252	148
FAIRBANKS ALASKA	5	3	3	6	6	4	5	8	10	10	9	9	10	10	16	21	20	33	20	9	6	7	8	54	14	36	11	51	---	---	---	14
FORT WORTH TEXAS	228	137*	147	330	337	307	310	338	331	---	---	296	148	123	26	155	276	125	86	163	340	318	323	340	361	166	292	204	65	170	74	225*
FRESNO CALIFORNIA	48	43	58	74	49	54	62	33	67	87	84	124	26	80	187	63	215	39	19	76	122	165	118	60	123	203	225	131	295	123	115	102
GAINESVILLE FLORIDA	360	233	113	51	102	300	326	347	255	256	132	352	360	346	300	380	183	267	93	210	209	177	244	197	85	359	280	285	268	346	352	251
GLASGOW MONTANA	119	148	173	119	48	92	84	146	159	142	144	173	130	133	103	156	166	189	123	127	129	163	155	253	230	168	198	206	185	194	250	155
GRAND JUNCTION COLO.	287	182	309	193	211	270	270	228	283	308	117	200	164	56	138	200	276	297	63	93	71	147	347	174	107	171	192	259	183	353	357	210
GREAT FALLS MONTANA	148	113	83	37	33	17	---	163	128	143	81	156	104	124	167	187	138	145	137	126	136	125	246	223	154	123	248	174	263	237	172	144
GREENSBORO N.C.	285	230	176	166	270	132	281	208	75	292	300	307	293	298	286	247	159	121	56	27	69	72	81	69	245	280	131	59	53	163	233	183
INDIANAPOLIS INDIANA	251	180	237	251	111	64	240	43	269	288	259	194	---	---	163	53	15	40	82	---	55	124	50	---	---	---	---	---	---	---	118	---
ITHACA NEW YORK	148	87	82	162	217	47	107	165	30	175	88	50	72	103	100	232	30	17	76	218	248	214	94	34	222	159	172	281	12	17	45	120
LAKELAND FLORIDA	329	348	---	---	95	---	---	340	---	---	191	---	373	375	370	370	---	---	---	---	---	---	361	351	79	390	348	---	---	---	---	---
LANDER WYOMING	223	201	263	207	205	168	234	235	230	232	168	195	181	188	227	197	243	232	199	248	183	137	227	246	178	167	249	153	251	273	291	214
LARAMIE WYOMING	174	73	219	106	135	151	138	190	232	223	143	156	191	161	204	162	179	231	214	243	145	175	224	158	131	237	194	216	285	261	283	188
LAS VEGAS NEVADA	159	242	293	292	292	306	295	211	229	286	168	191	84	---	---	266	307	191	192	335	214	270	337	39	69	303	369	352	383	372	376	256
LEXINGTON KENTUCKY	---	230	117	240	219	28	234	62	246	266	252	174	228	278	217	170	37	20	88	52	56	150	81	95	305	206	84	14	48	35	85	144
LITTLE ROCK ARKANSAS	347	171	182	355	343	251	307	318	295	194	364	192	344	292	284	58	57	76	378	216	49	---	193	---	247	63	46	135	75	123	52	207
LOS ANGELES CALIF.	311	272	276	296	295	280	189	117	142	223	226	200	56	104	259	169	257	124	60	69	260	299	230	46	46	155	367	210	378	360	372	214
LOS ANGELES CALIF. U	302	266	279	338	227	264	242	80	207	206	236	276	168	95	193	191	187	124	34	55	158	288	199	37	71	61	380	186	379	360	388	209
MADISON WISCONSIN	229	107	240	246	122	120	216	49	242	257	264	186	229	138	68	79	149	186	190	168	113	30	28	149	288	198	244	46	44	92	281	161
MANHATTAN KANSAS	224	56	248	232	56	38	80	86	247	172	185	161	184	24	22	25	26	55	56	10	31	23	86	281	254	66	24	91	81	266	155	114
MATANUSKA ALASKA	24	28	13	39	34	25	13	18	29	33	32	32	35	49	40	50	49	33	47	37	28	34	31	60	90	50	73	58	28	36	62	39
MEDFORD OREGON	22	55	92	34	153	147	12	184	162	103	48	34	208	106	103	106	230	77	57	36	32	139	207	167	134	94	191	164	90	233	78	113
MIAMI FLORIDA	280	345	301	162	74	277	451	421	379	69	296	260	189	371	353	389	225	426	311	266	459	309	397	456	303	422	311	410	312	386	340	321
MIDLAND TEXAS	181	323	84	318	314	280	327	301	302	109	284	303	290	238	176	292	312	267	67	340	349	329	322	248	335	349	273	126	107	222	263	259
NASHVILLE TENNESSEE	264	216	33	276	213	72	276	113	245	267	288	277	200	256	249	164	46	41	32	34	55	47	117	210	276	147	70	41	37	25	99	151
NEW YORK N.Y. U	203	128	102	212	205	139	86	220	38	178	205	224	219	236	235	216	66	27	96	203	168	155	38	26	205	223	272	231	6	4	274	156
NORTH OMAHA NEBRASKA	230	158	252	249	67	109	76	125	254	179	180	186	145	48	36	95	86	88	142	60	55	30	115	298	292	137	51	185	106	197	180	142
OAK RIDGE TENNESSEE	292	259	62	310	265	50	300	54	247	285	306	272	294	303	249	217	77	43	54	74	75	148	68	264	301	243	62	60	62	130	176	181
OKLAHOMA CITY OKLA.	306	291	159	307	277	283	208	246	240	77	314	261	273	97	122	134	61	55	73	151	59	265	315	317	305	316	241	81	49	270	222	206
PAGE ARIZONA	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	73	344	378	357	357	350	360	---

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

SOLAR RADIATION TOTALS

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

JANUARY 1969

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	Avg.
PALMER AAES ALASKA	22	25	12	30	36	22	12	15	27	31	30	31	32	36	51	43	53	30	58	34	24	31	34	69	87	47	69	51	22	30	22	36
PHOENIX ARIZONA	317	316	300	317	294	314	314	270	109	255	248	281	143	51	144	293	233	315	202	292	154	342	341	119	98	345	338	164	367	394	373	259
PORTLAND MAINE	74	208	190	213	220	151	42	124	87	182	217	197	108	142	181	243	48	35	165	240	219	224	234	51	170	66	250	267	86	24	194	157
PROSSER WASHINGTON	113	120	73	83	91	98	67	176	47	30	---	57	189	226	149	92	133	---	---	113	115	156	191	176	127	---	159	208	146	257	235	134
RAPID CITY S.DAK.	185	89	152	88	94	81	103	212	232	---	92	189	157	129	80	141	213	231	163	183	169	121	164	264	248	223	134	188	171	290	280	169
RENO NEVADA	182	122	187	192	202	231	188	143	149	181	94	137	86	224	257	213	266	86	36	120	103	278	158	181	58	260	271	166	265	296	296	181
RICHLAND 25 NW WASH.	91	121	67	60	83	61	70	101	81	43	90	59	92	197	136	115	188	114	115	113	115	170	155	172	98	173	151	218	142	256	277	127
RIVERSIDE CALIFORNIA	330	311	311	296	309	321	302	69	122	228	275	219	69	134	257	264	186	189	104	156	216	136	270	80	35	149	372	184	400	383	408	229
RUSTON LOUISIANA	274	55	27	302	285	256	249	233	166	181	300	133	274	286	254	80	71	71	77	142	66	144	237	318	304	80	83	81	133	57	35	170
SAINT CLOUD MINN.	177	199	208	219	80	159	122	100	221	215	219	99	151	89	26	158	95	128	131	50	134	42	84	178	309	217	77	141	94	248	160	146
SALT LAKE CITY	151	182	218	149	144	233	208	264	258	245	58	116	33	---	268	93	253	295	45	79	65	146	156	155	41	163	231	233	222	217	329	175
SAN ANTONIO TEXAS	72	51	70	304	370	340	347	352	363	305	341	340	110	48	52	304	66	145	91	54	352	322	339	353	338	87	74	70	112	---	46	207
SANTA MARIA CALIF.	263	245	278	285	288	297	247	261	132	282	148	130	40	100	302	145	266	28	57	222	95	132	108	61	168	226	252	167	362	243	362	200
SAULT STE MARIE MICH	127	94	108	84	100	66	155	89	106	125	98	179	119	182	95	17	89	89	144	80	45	51	41	21	181	186	204	61	110	54	105	103
SEATTLE TACOMA WASH.	64	92	21	19	10	14	89	25	31	20	36*	98	45	97	93	48	73	114	72	112	154	143	120	142	71	116	91	160	90	144	155	83*
SPOKANE WASHINGTON	95	96	69	57	66	65	72	142	80	74	59	83	68	149	99	104	194	117	108	105	107	194	158	177	111	131	141	148	159	184	128	114
STATE COLLEGE PENN.	142	240	104	167	224	94	151	239	80	151	189	165	152	152	262	220	35	33	118	210	89	200	61	26	218	176	303	226	27	43	93	148
STERLING VIRGINIA	230	246	76	249	246	91	230	226	189	261	134	256	232	256	261	256	137	50	78	59	36	109	63	42	249	270	260	128	43	55	169	167
SWAN ISLAND W.I.	385	355	413	384	435	343	194	291	446	463	354	367	258	391	330	415	277	280	382	344	254	467	458	395	410	481	487	463	480	384	400	380
TAMPA FLORIDA	304	311	280	63	85	237	311	327	282	79	144	349	350	348	336	333	271	313	74	217	303	275	361	261	73	350	302	351	356	364	366	270
TUCSON ARIZONA	346	342	331	338	323	338	342	347	208	215	328	330	183	49	200	271	223	347	310	318	188	357	324	232	136	339	355	116	326	416	414	287
WAKE ISLAND PACIFIC	424	448	363	439	410	428	435	444	459	444	388	401	379	415	456	269	394	442	447	439	366	441	443	340	463	486	449	491	388	272	493	418
BARROW ALASKA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	---	---	---	---	---

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values with an asterisk are interpolated.

The solar radiation data in this table form the basis for the analyses in Charts VII. A. and B. of this publication. The analyses include adjustments required to bring station records to approximately the same level of calibration.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

JANUARY 1969

Date.	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	Avg.
Langleys. . .	-76	-61	-54	-59	-92	-37	-34	-88	-113	-108	-116	-108	-76	-62	-61	-58	-37	-68	-39	-36	-23	-23	-33	-52	-53	-46	-45	-49	-22	-27	-32	-58

The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the ESSA, Weather Bureau.

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (<3900 Å) at Ames, Iowa

Date.	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	Avg.
Langleys. . .	9.47	6.71	9.57	9.87	4.63	8.48	6.90	4.73	9.77	9.67	4.63	7.50	7.69	6.21	1.48	7.20	3.35	6.11	6.51	3.75	3.84	1.48	2.96	9.47	10.46	7.50	2.76	5.43	2.76	10.65	10.85	6.52

These data are from an U - V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. It is at the same location (Agronomy Building, Iowa State University, Ames) as the published total solar radiation instrumentation. This instrument has not been checked by the ESSA, Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

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	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

DESCRIPTION OF CHARTS

CHART I., A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1931-60) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1931-60) FOR MONTH. Chart I-A is reproduced from Environmental Data Service Publication "Climatic Maps of the United States". Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin", a publication of Environmental Data Service.

CHART II. TOTAL PRECIPITATION. -CHART II is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

CHART III. PRECENTAGE OF NORMAL PRECIPITATION. -Chart III is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin".

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 selected 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 selected cooperative stations as of 7:00 a.m. Eastern Standard Time on 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.

Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

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 and selected cooperative stations which record this element. The analyses include adjustments required to bring station records to approximately the same level of calibration. Adjusted numbers are in parentheses.

CHART VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960, and corrected to the International Pyrheliometer Scale of 1956.

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.

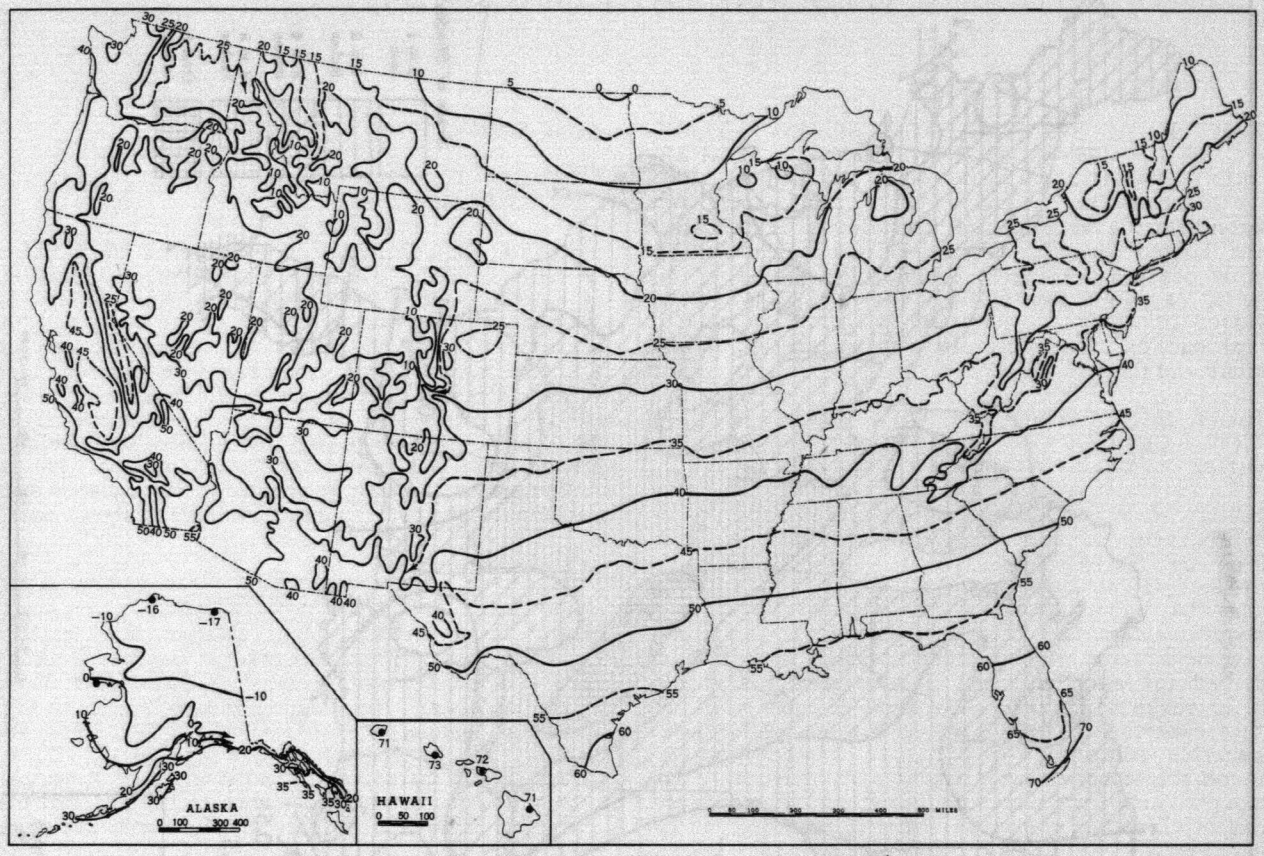
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND RESULTANT SURFACE WIND. -The average monthly sea level pressures are obtained from eight daily 3-hourly observations reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds are in miles per hour and are indicated by the length of arrow shafts. Constancy ratios (resultant surface wind divided by average surface wind for month) are shown to two decimal places. 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.

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 meters per second; flag represents 25 m.p.s., full feather 5 m.p.s., and half feather 2 1/2 m.p.s. 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 meters per second. 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 for surface elements are presented in the CDNS Annual Issue each year.

Chart 1. A. Normal Daily Average Temperature (°F. 1931-60), January



B. Temperature Departure from 30 - Year Mean (°F 1931-60), January 1969.

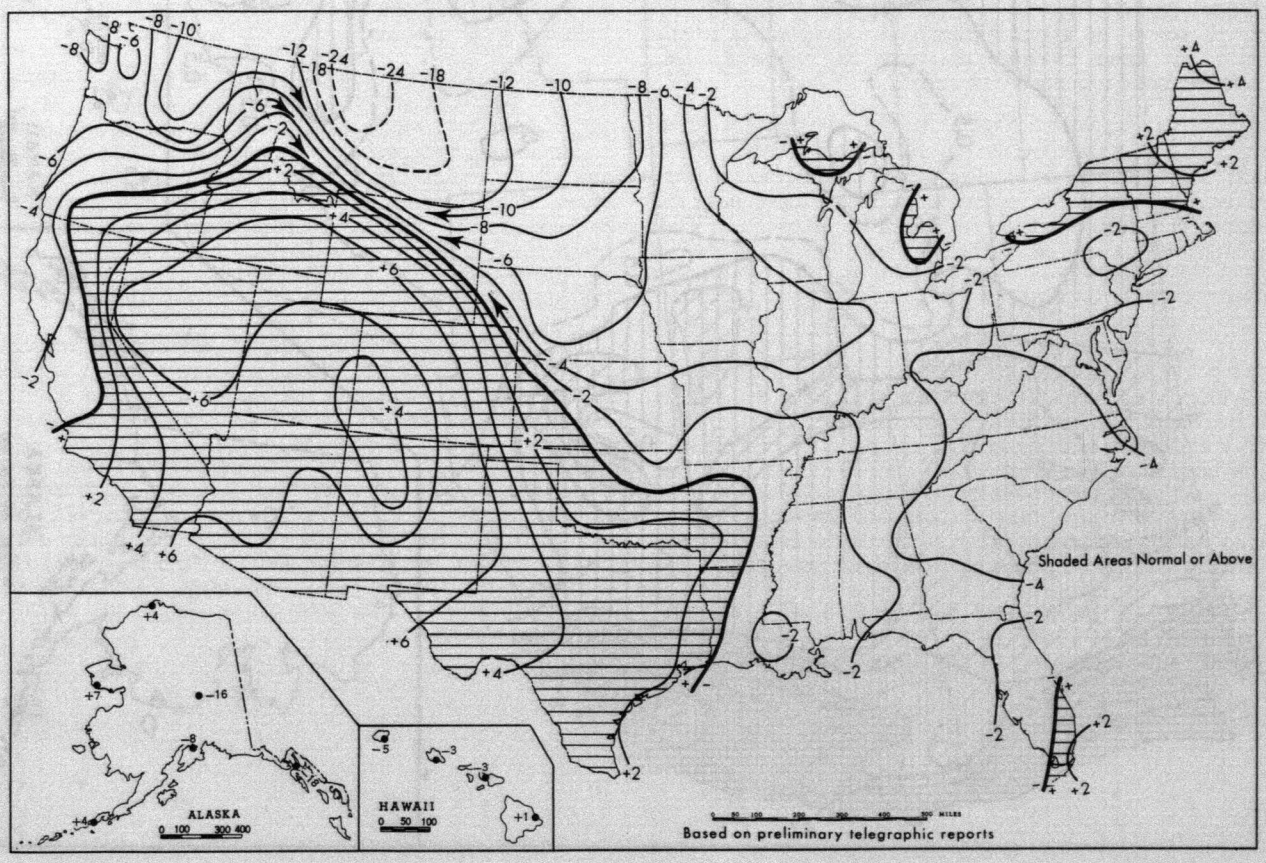


Chart II. Total Precipitation (Inches), January 1969.

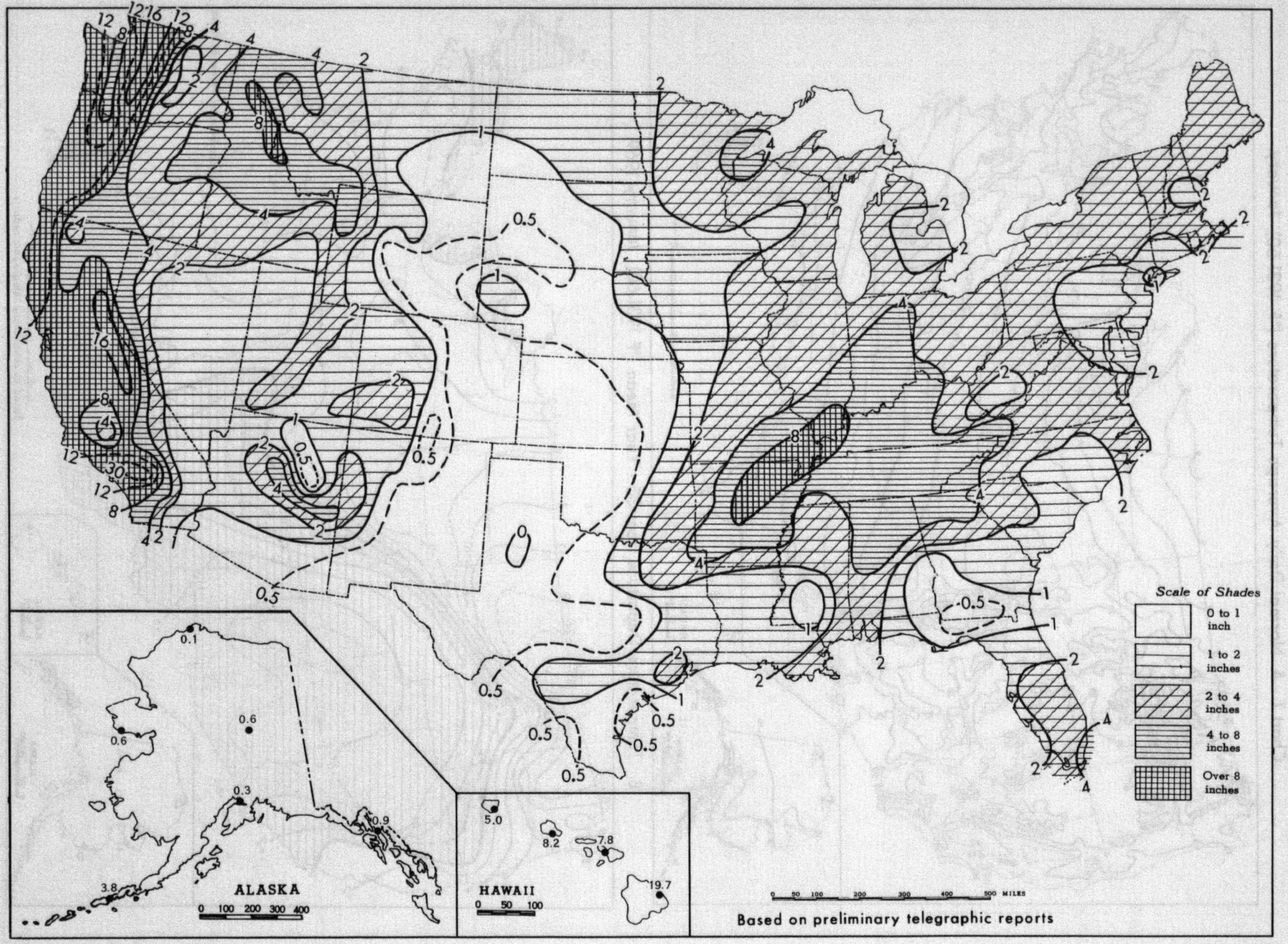


Chart III. Percentage of Normal Precipitation, January 1969.

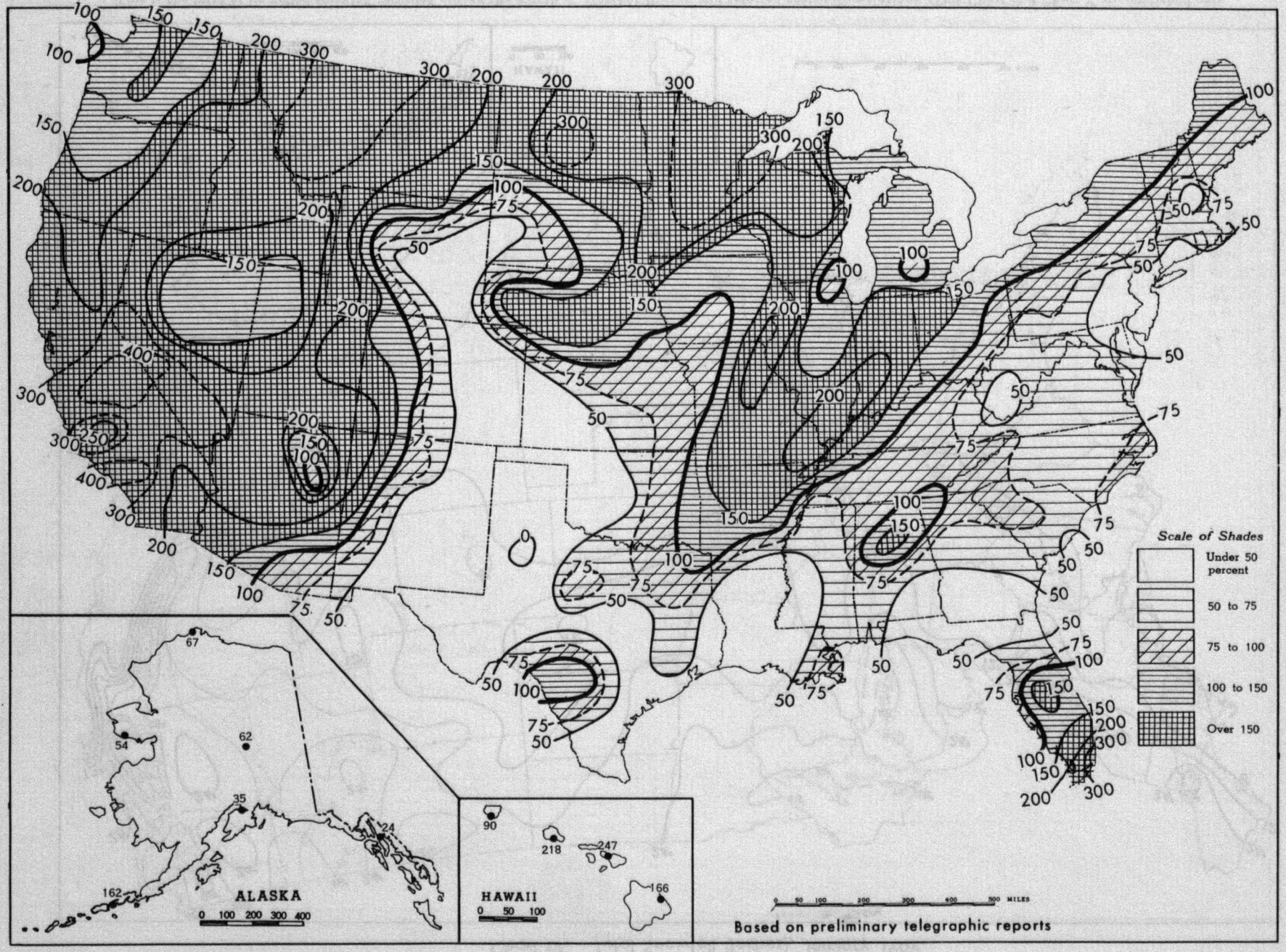
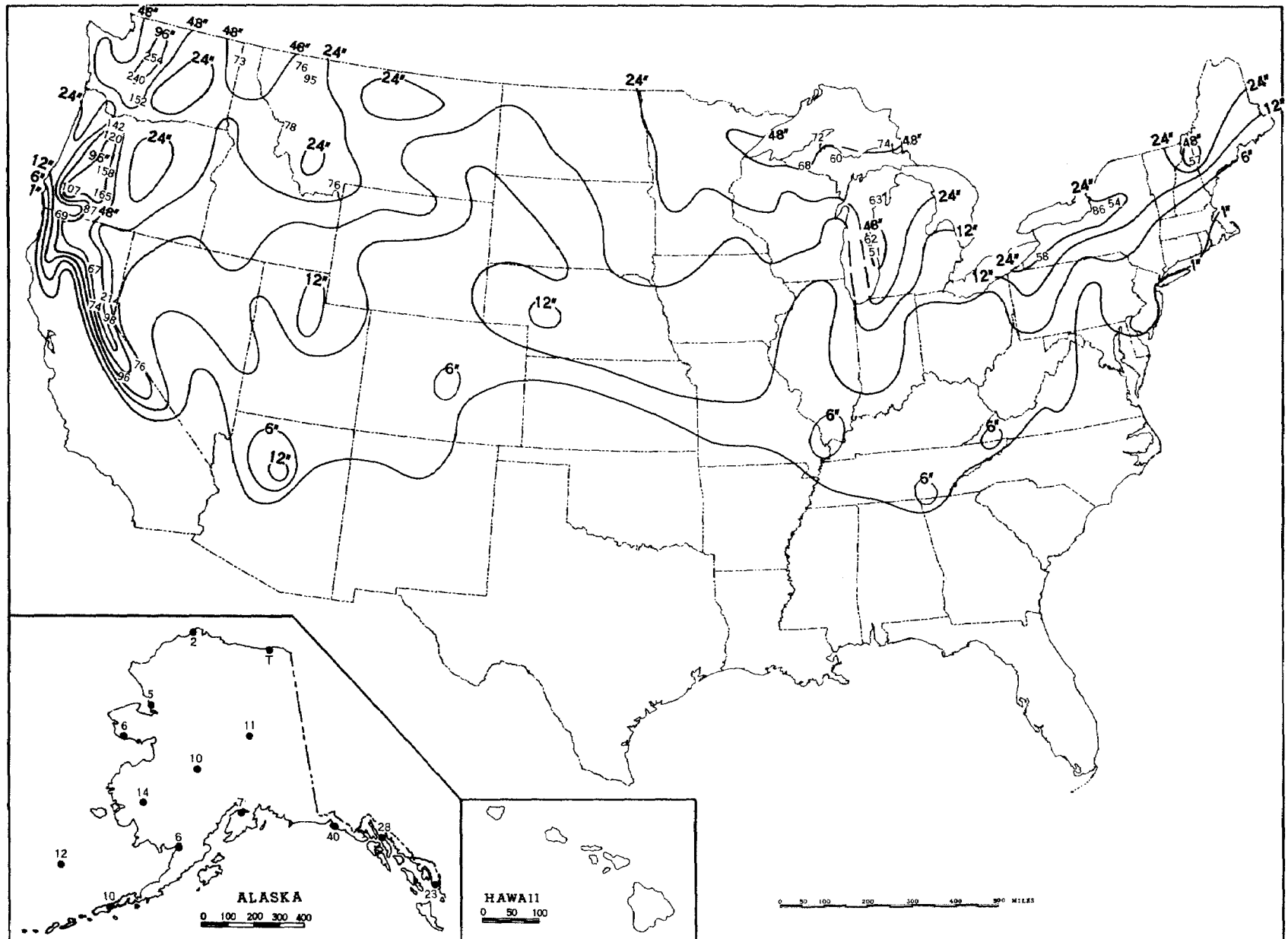
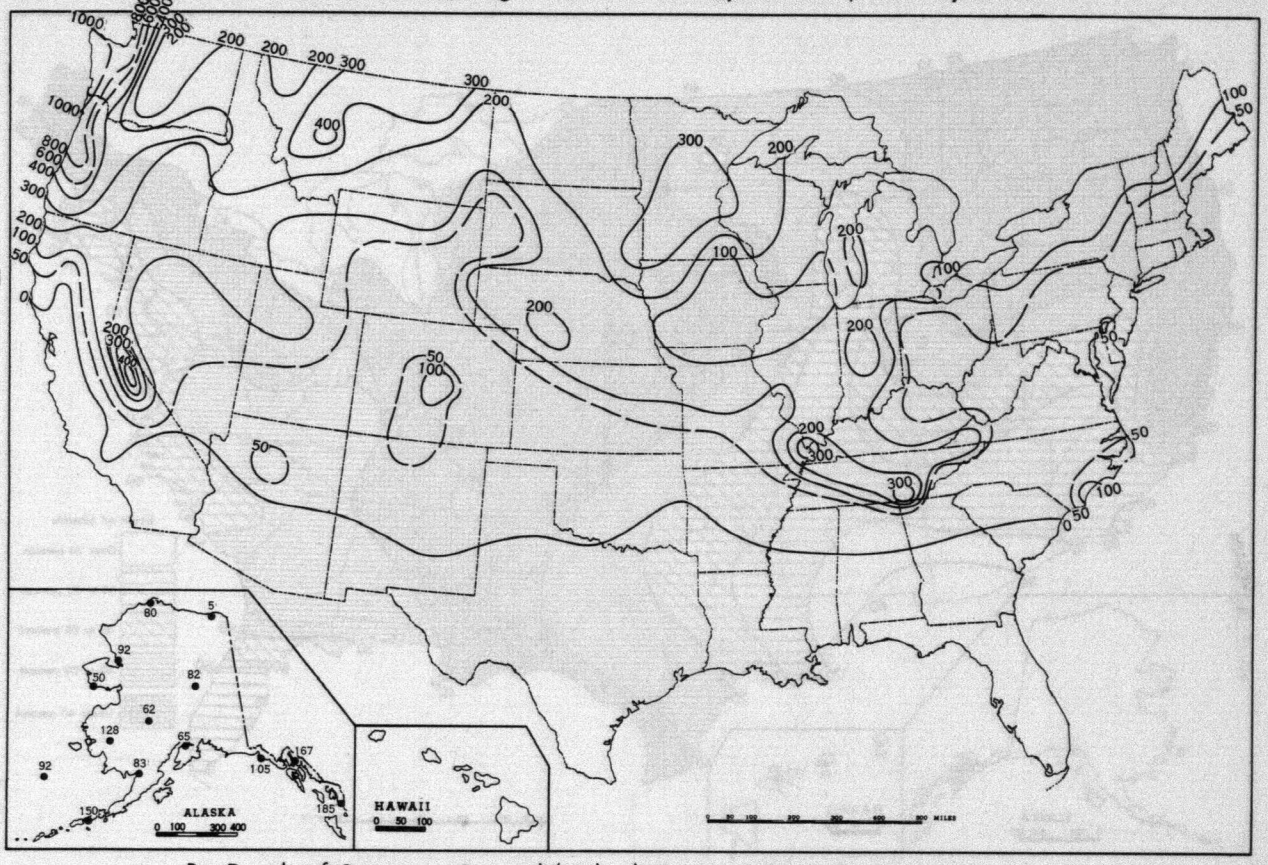


Chart IV. Total Snowfall (Inches), January 1969.

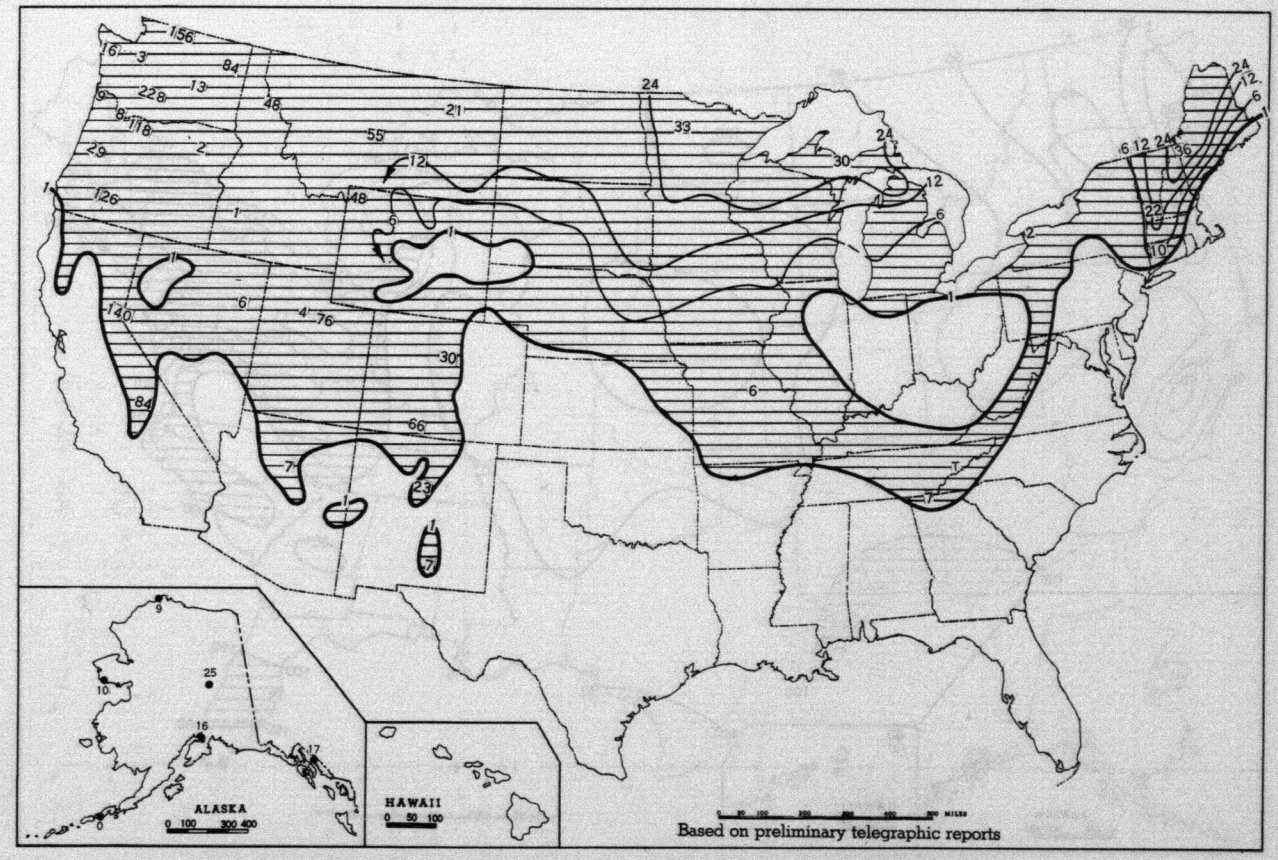


This is the total of unmelted snowfall recorded during the month at Weather Bureau and selected cooperative stations. This Chart and Chart V are published only for the months of November through April, although of course there is some snow at higher elevations, particularly in the far West, earlier and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

Chart V. A. Percentage of Mean Monthly Snowfall, January 1969.

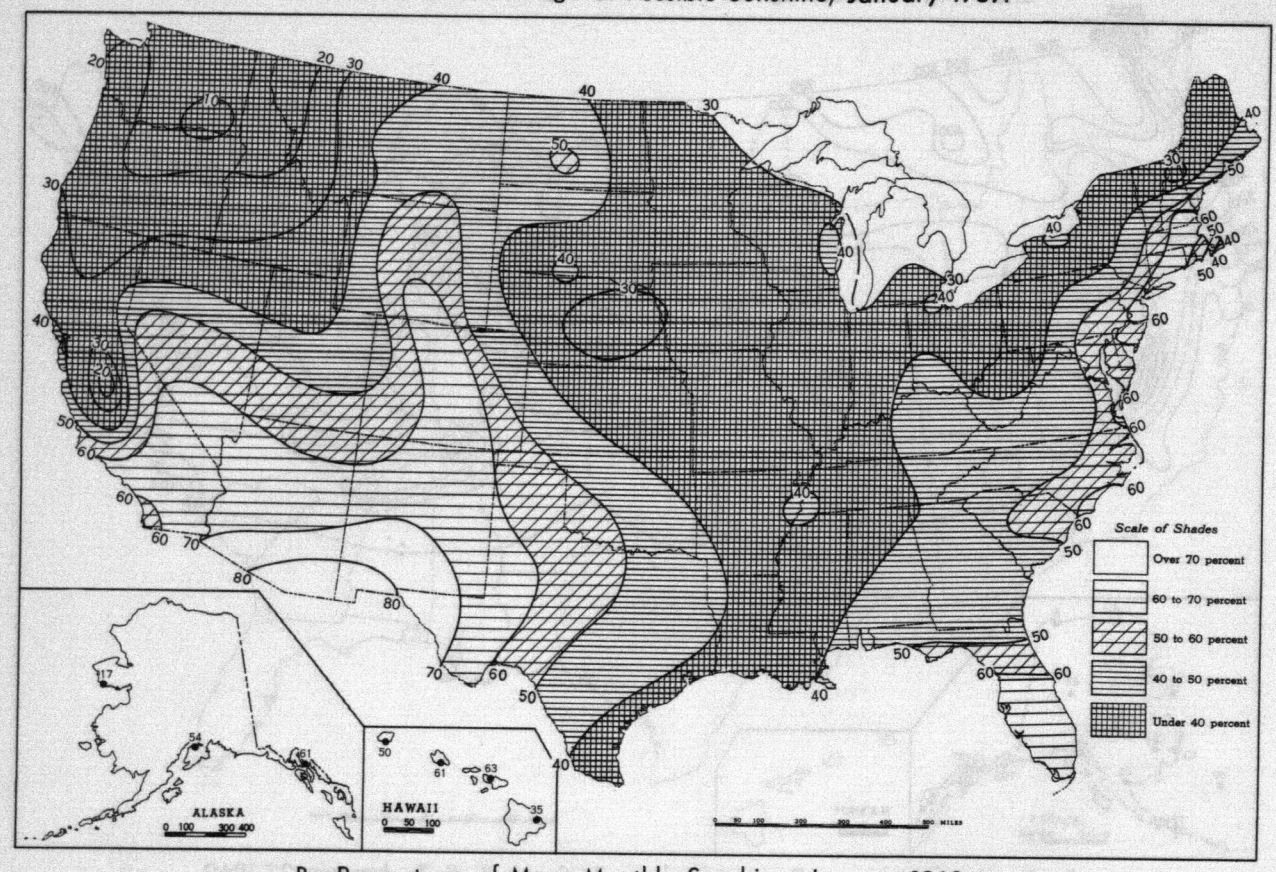


B. Depth of Snow on Ground (Inches), 7:00 a.m. E. S. T., January 27, 1969.

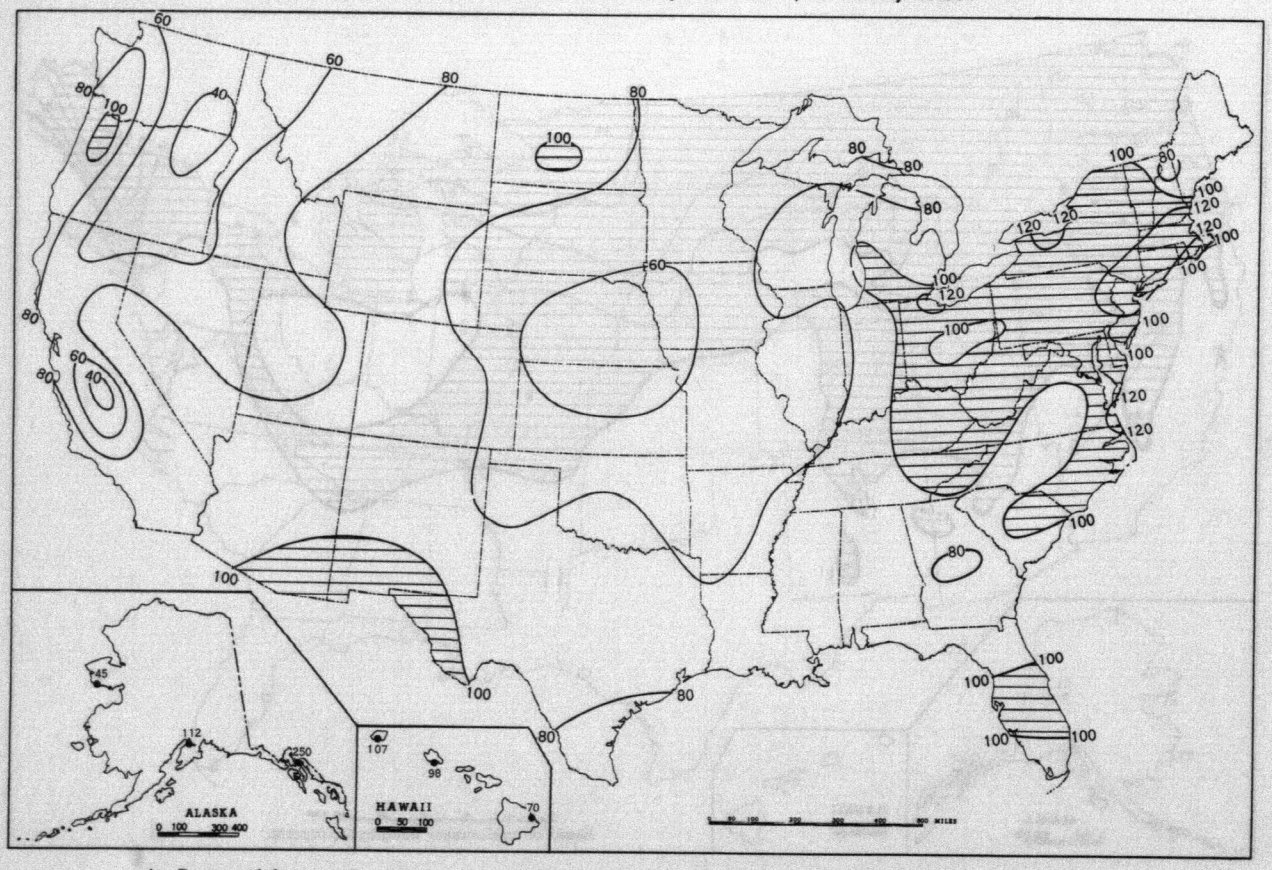


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and selected cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1969.

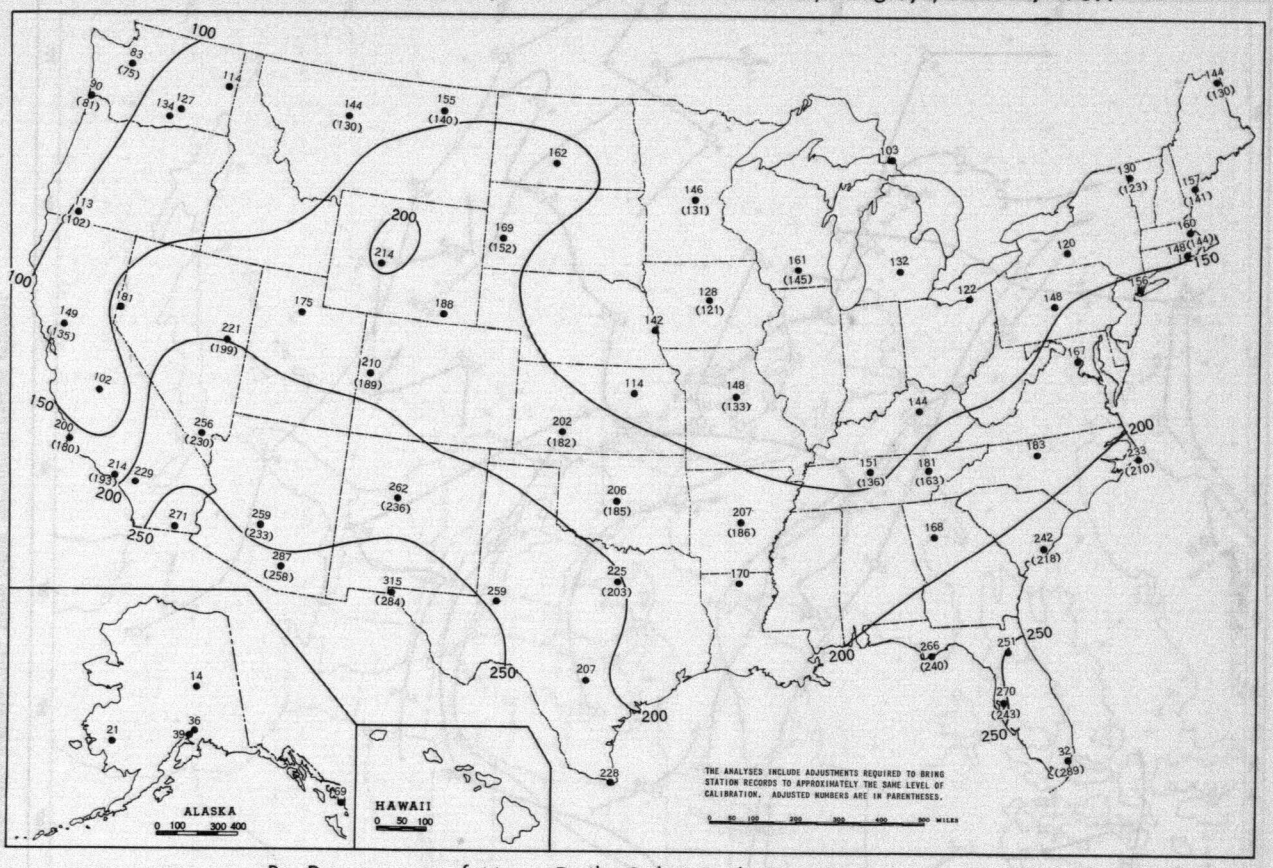


B. Percentage of Mean Monthly Sunshine, January 1969.

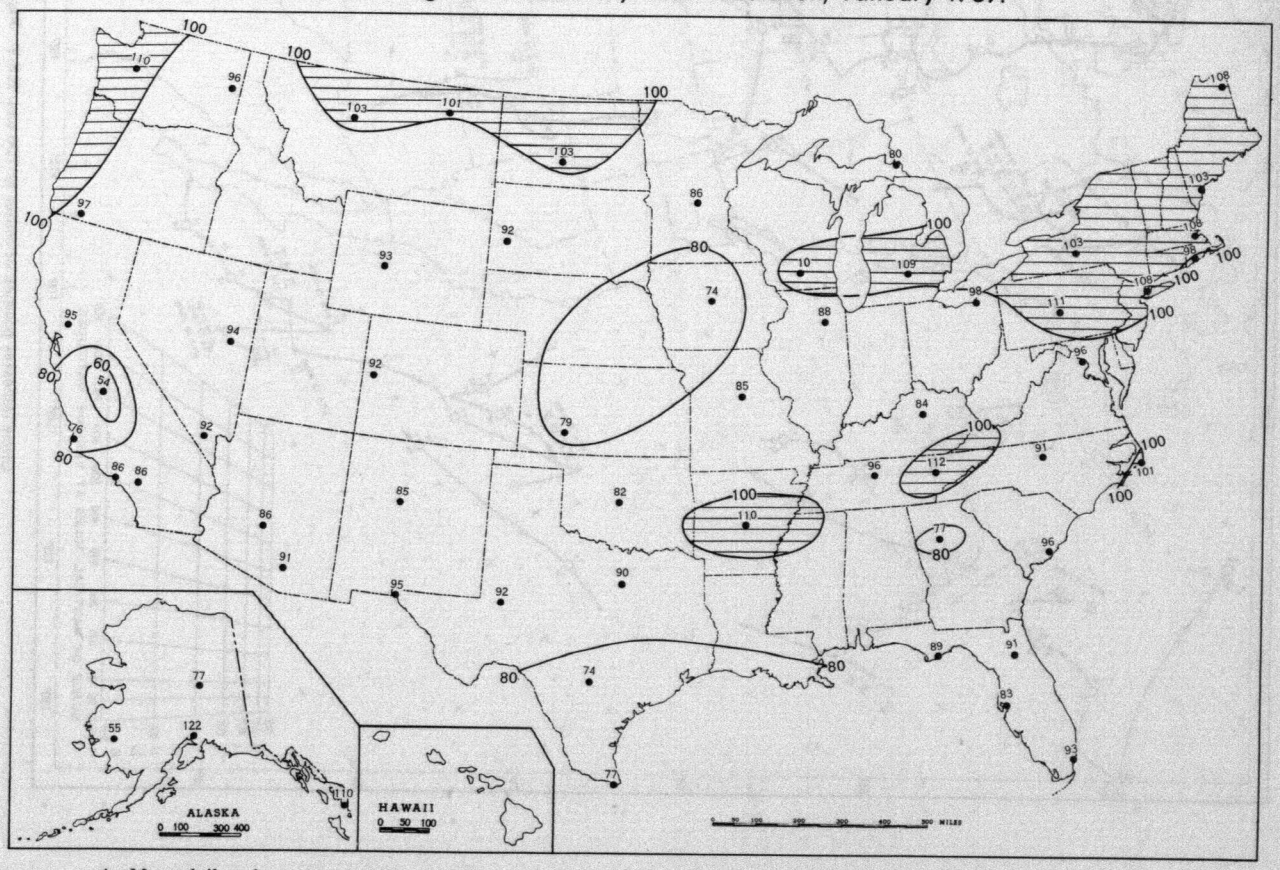


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1969.

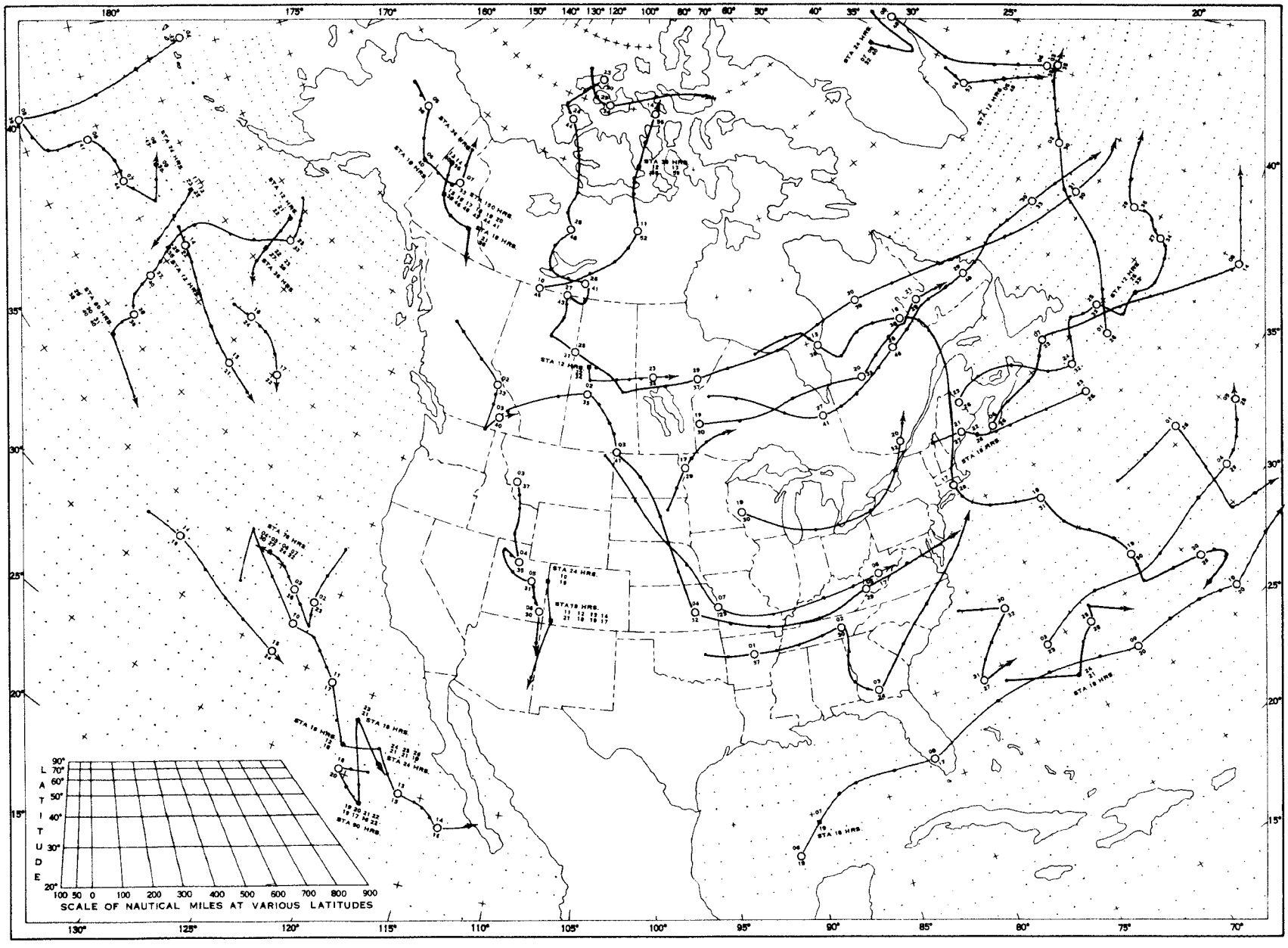


B. Percentage of Mean Daily Solar Radiation, January 1969.



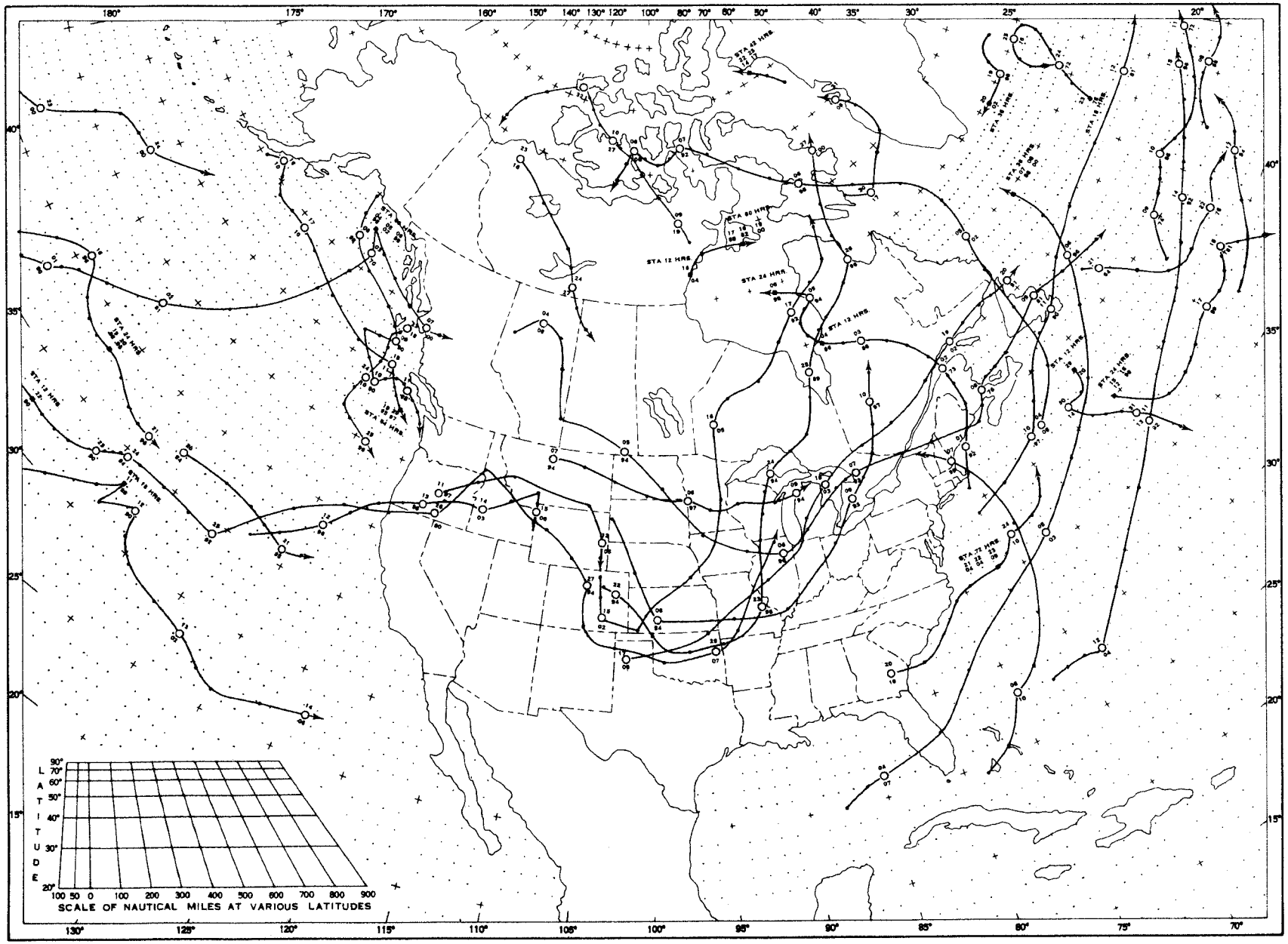
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, January 1969.



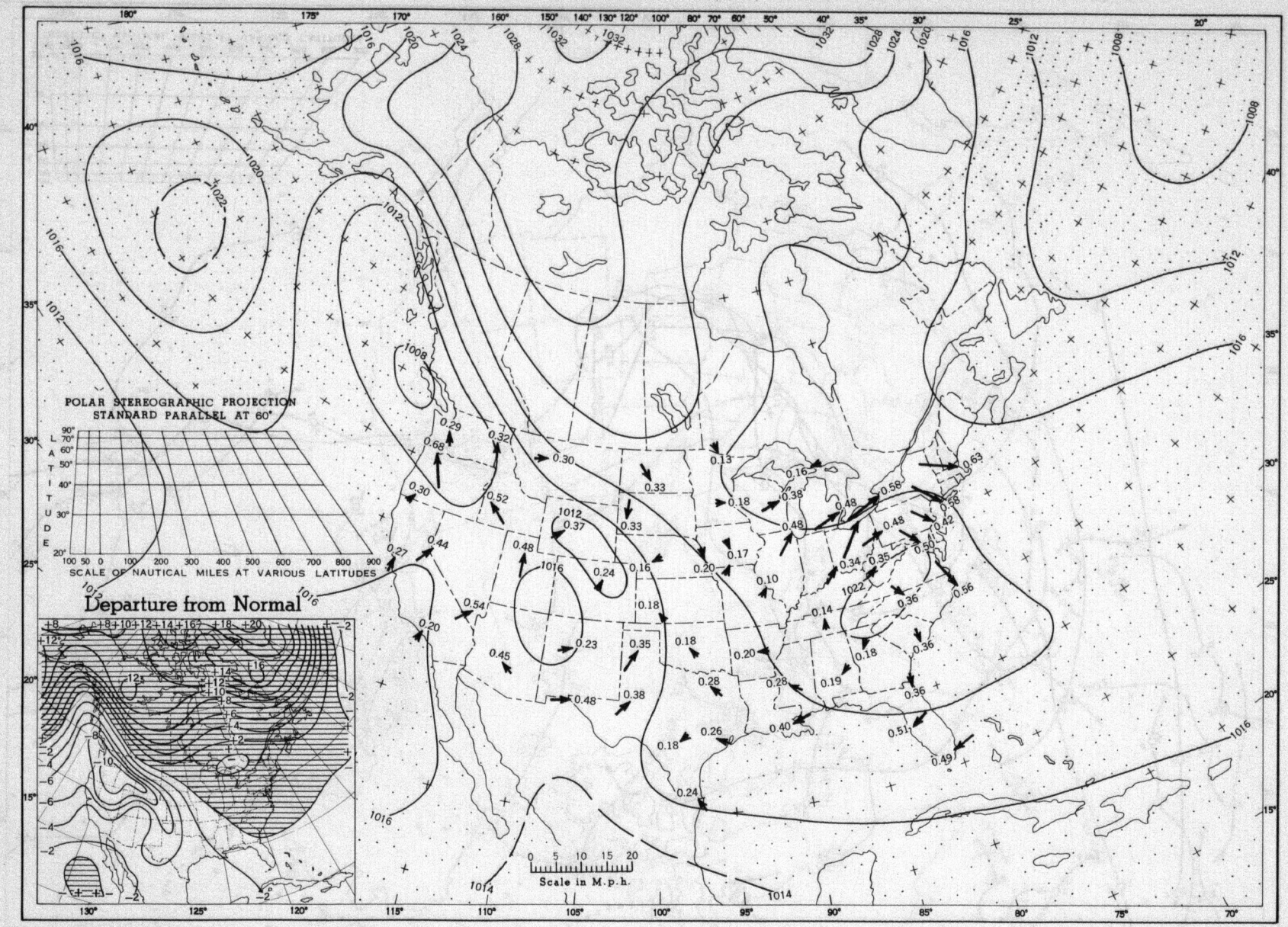
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. 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 1969.



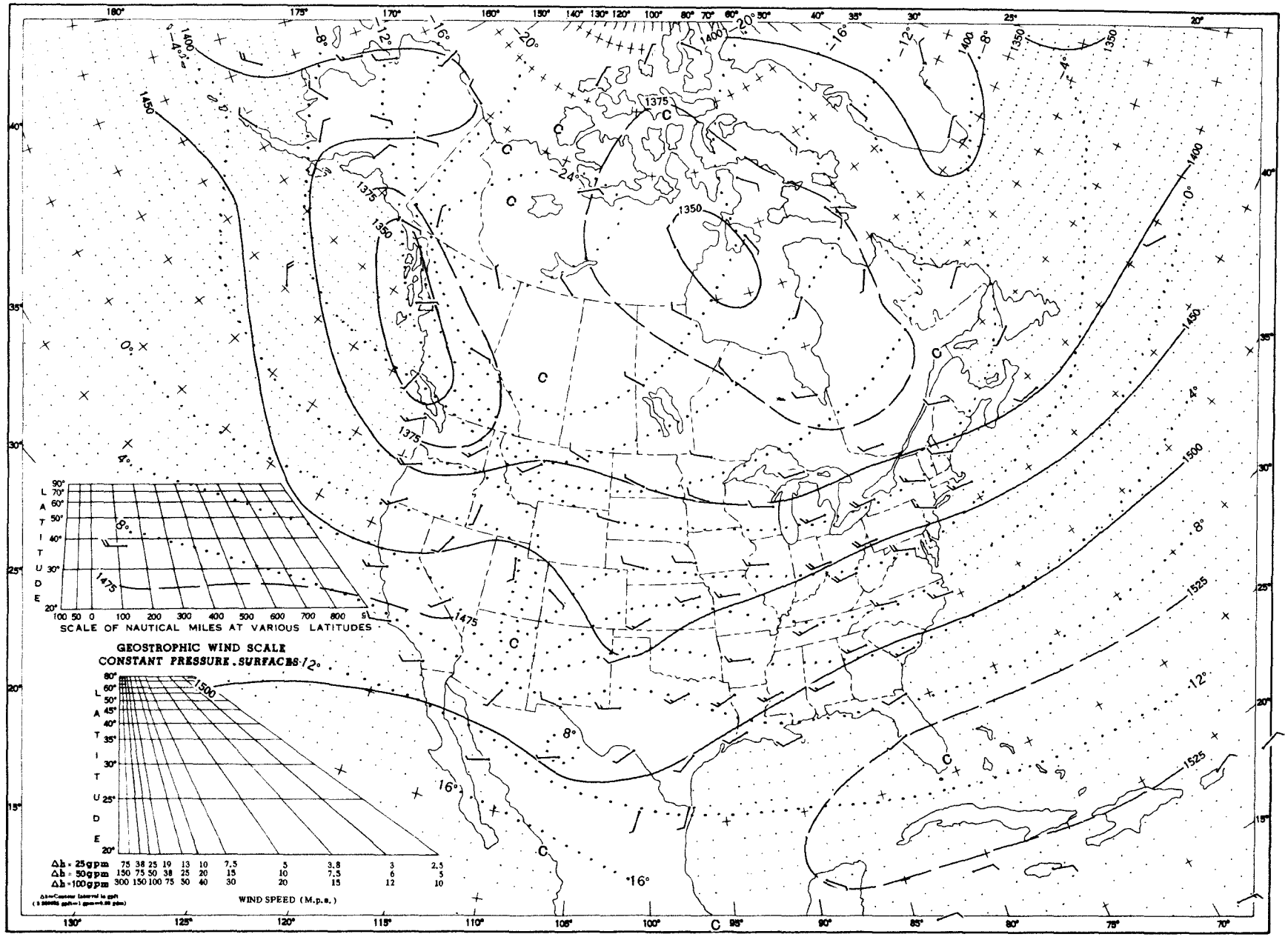
Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position.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

Chart X. Average Sea Level Pressure (mb) and Resultant Surface Wind, January 1969. Inset: Departure of Average Pressure (mb) from Normal, January 1969.



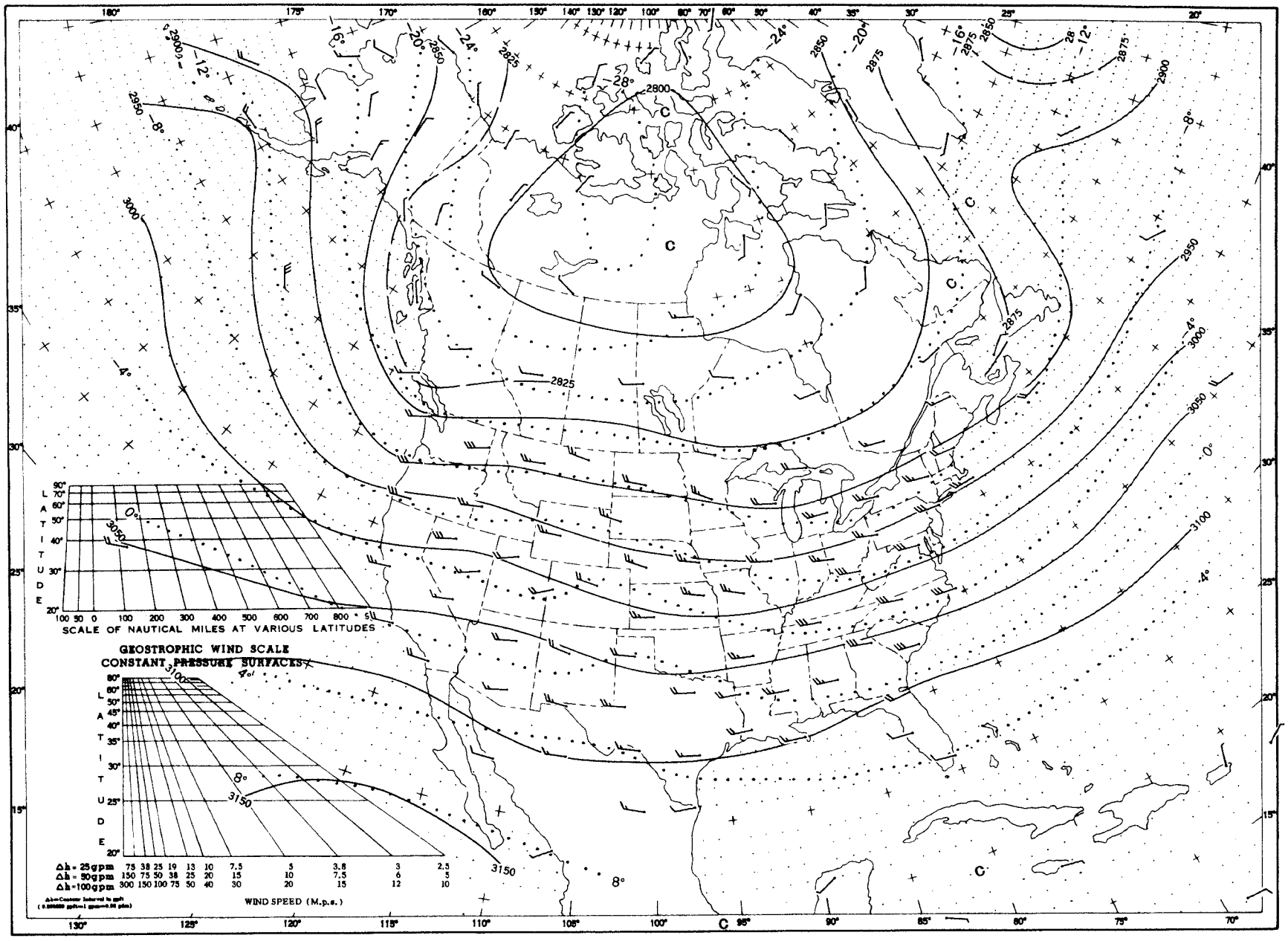
10 Average sea level pressures are obtained from eight daily 3-hourly observations. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed÷average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



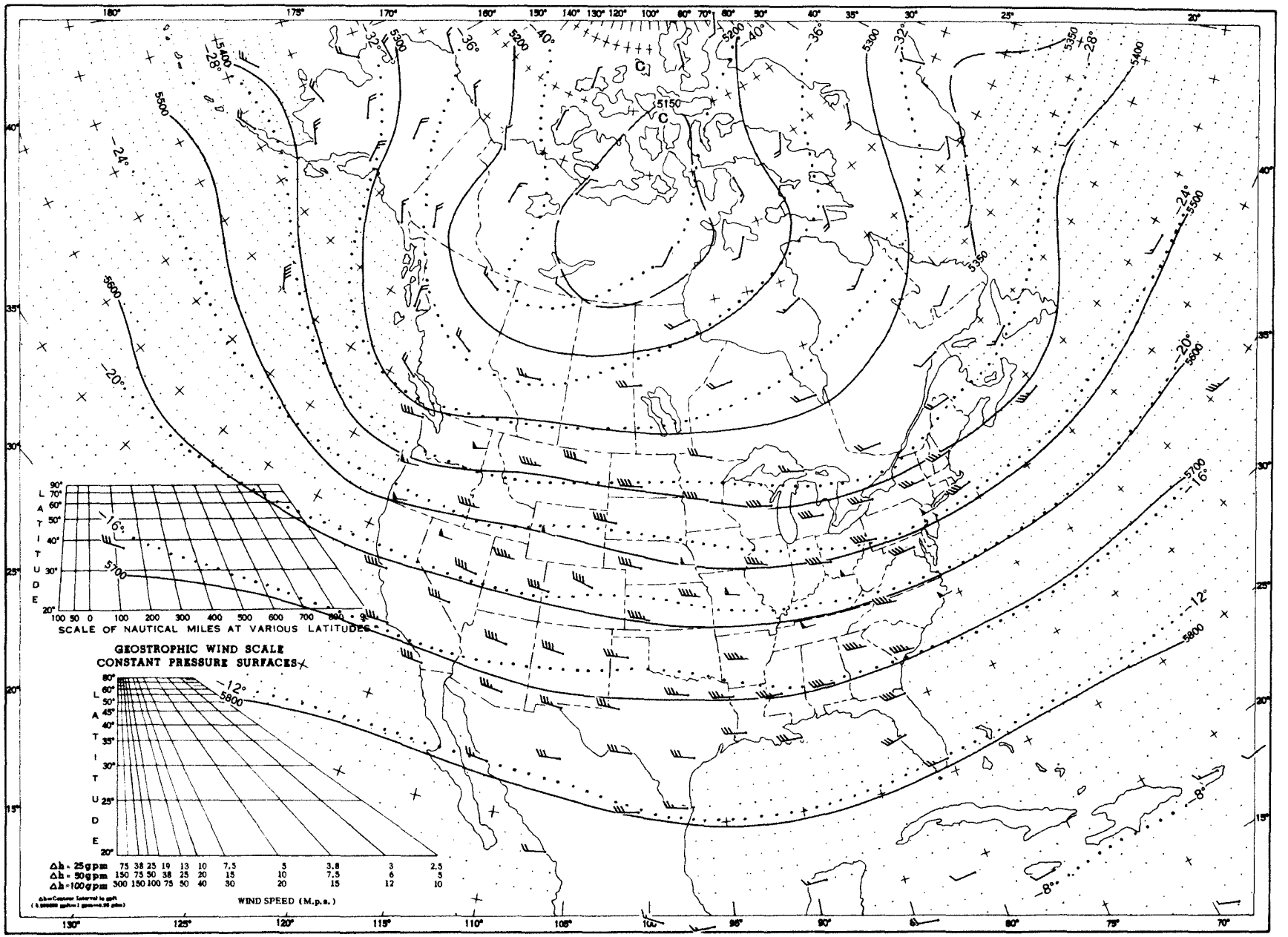
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



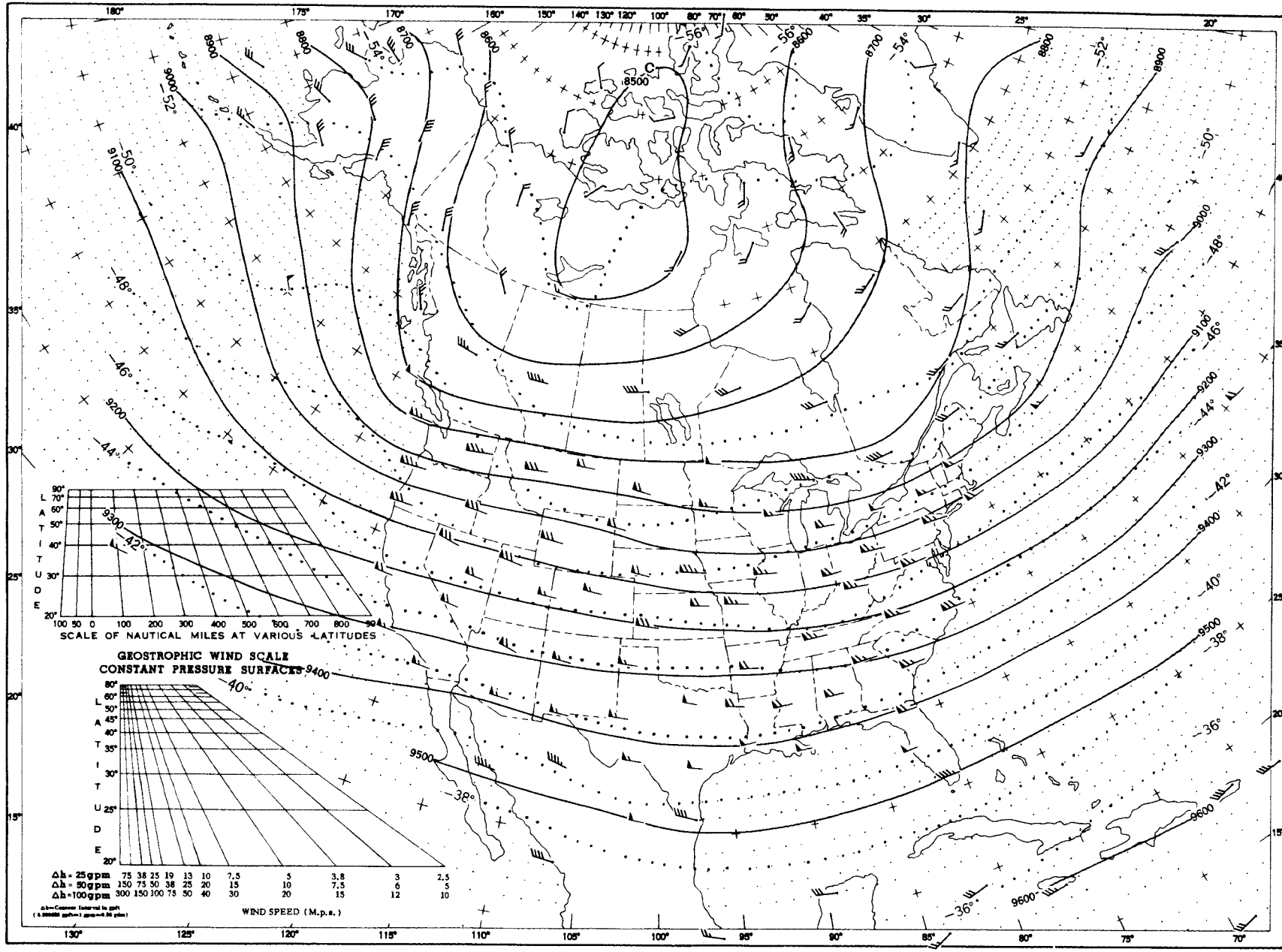
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



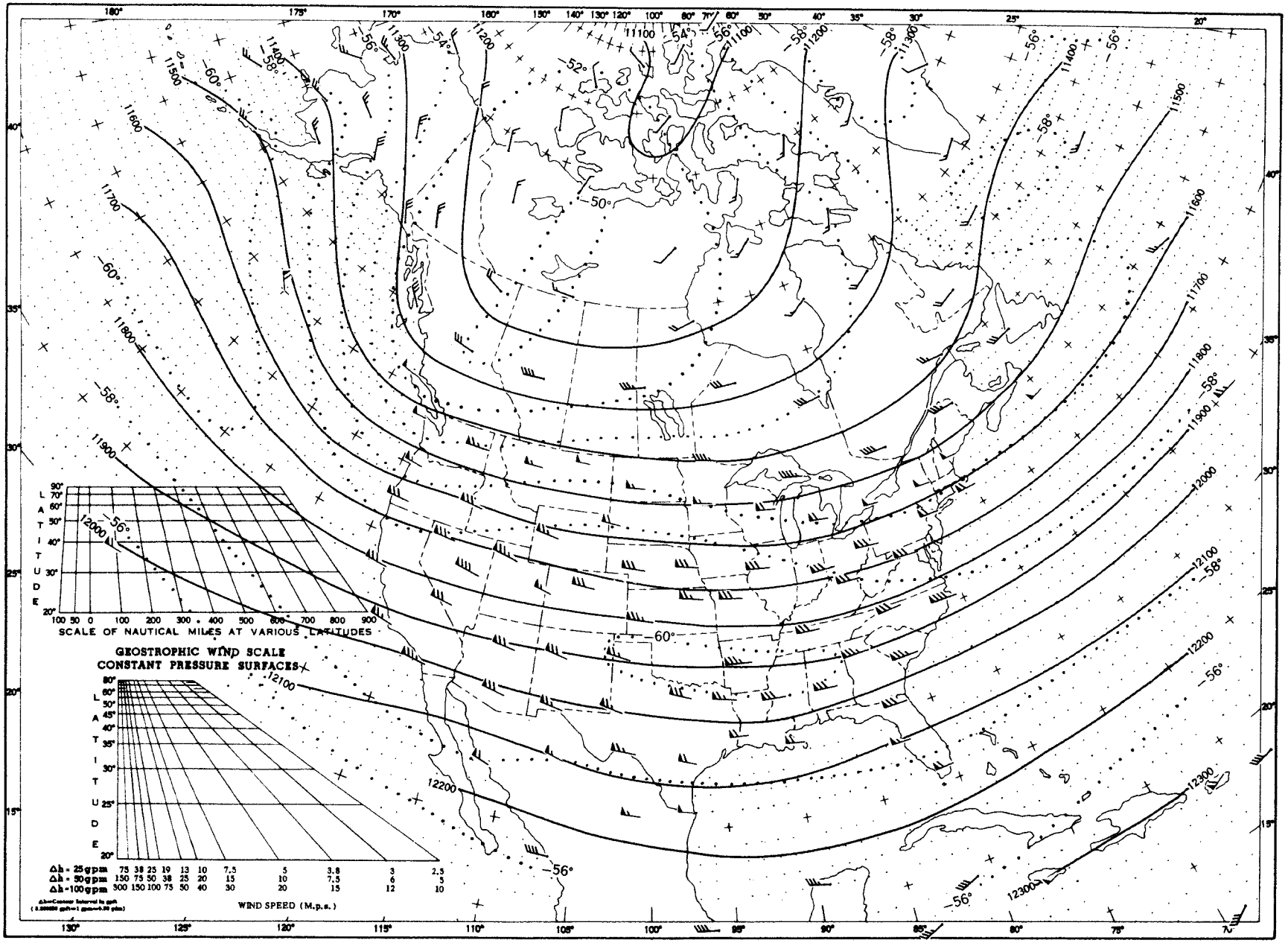
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XIV. 300-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



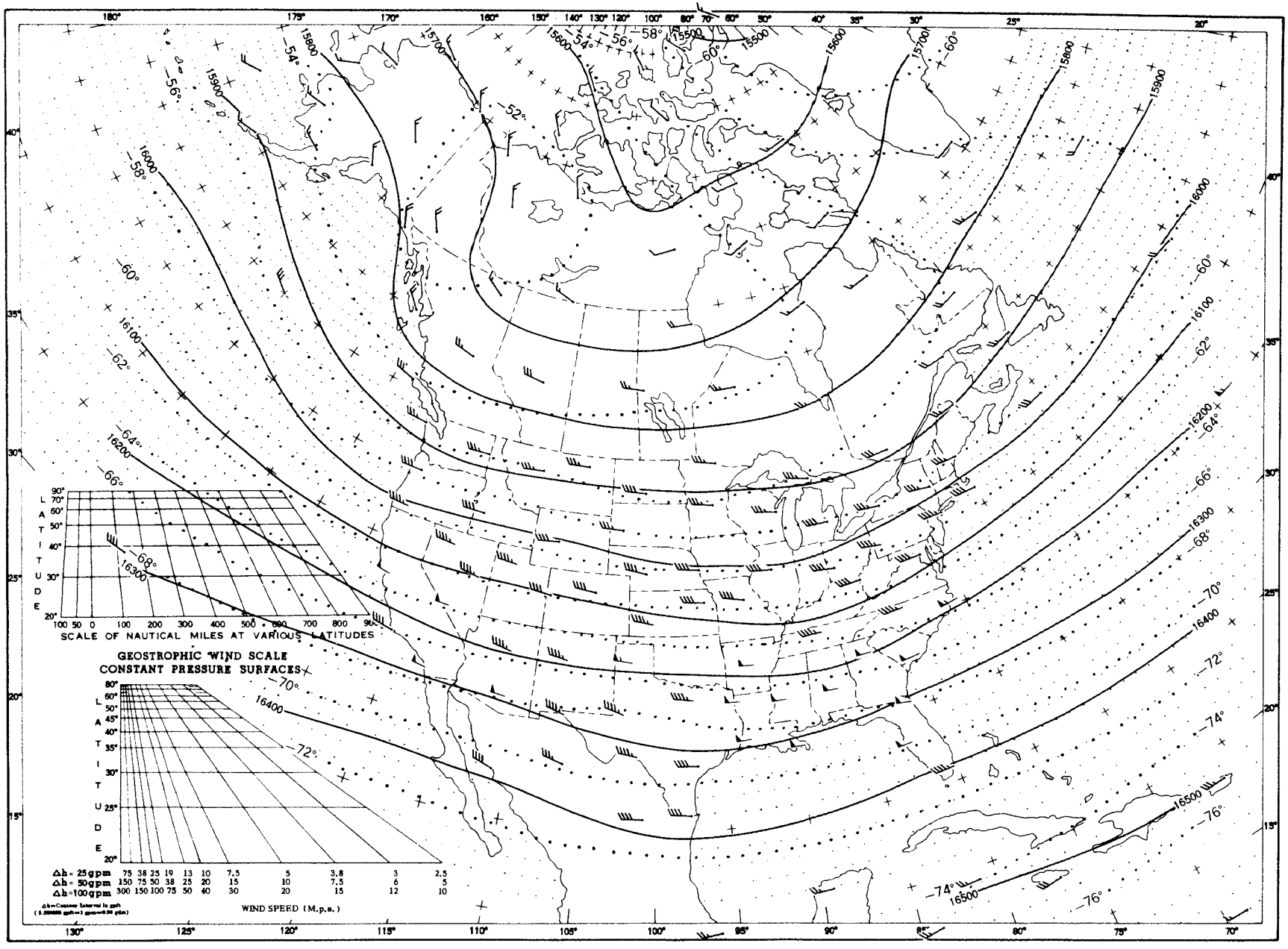
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XV. 200-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.



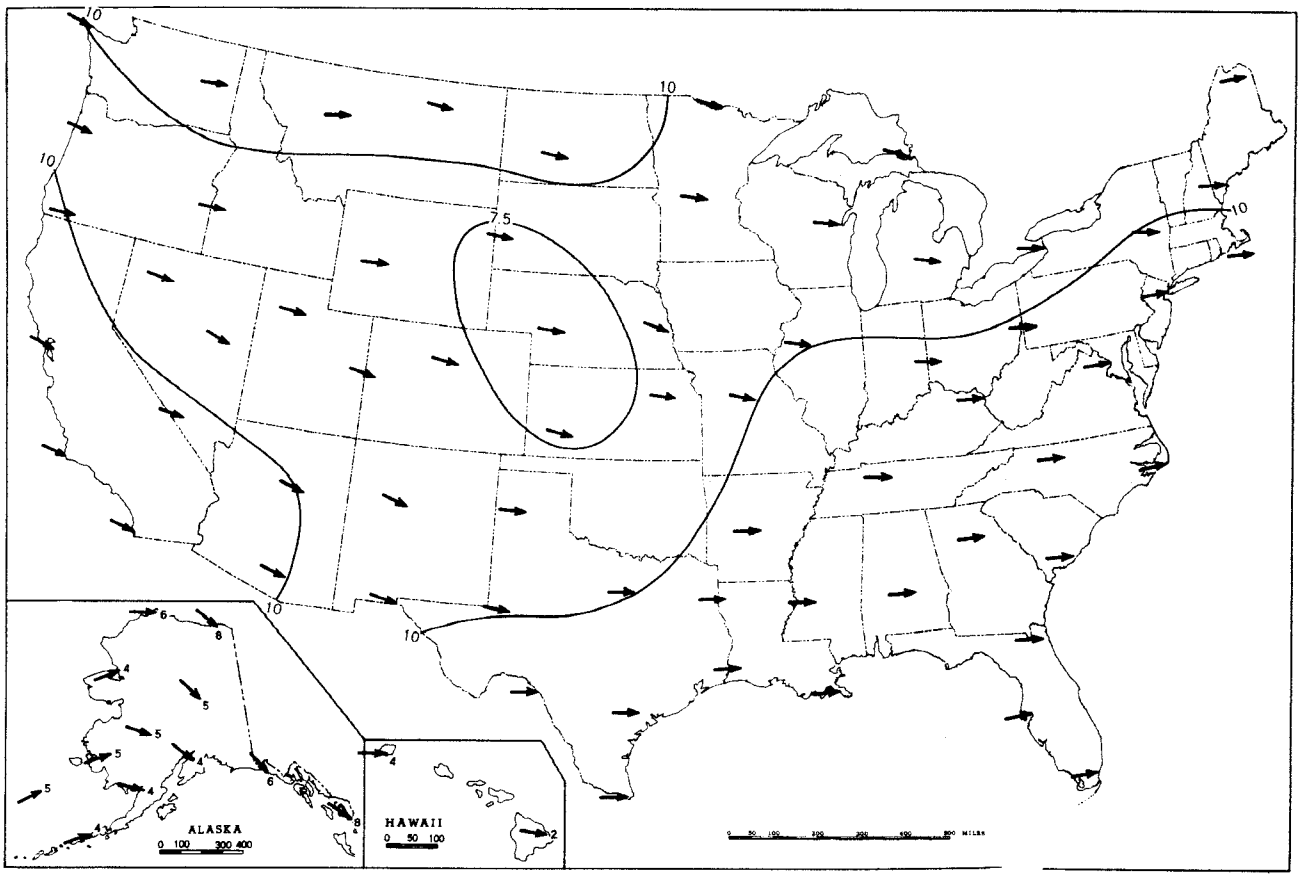
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1969. Average Height and Temperature, and Resultant Winds.

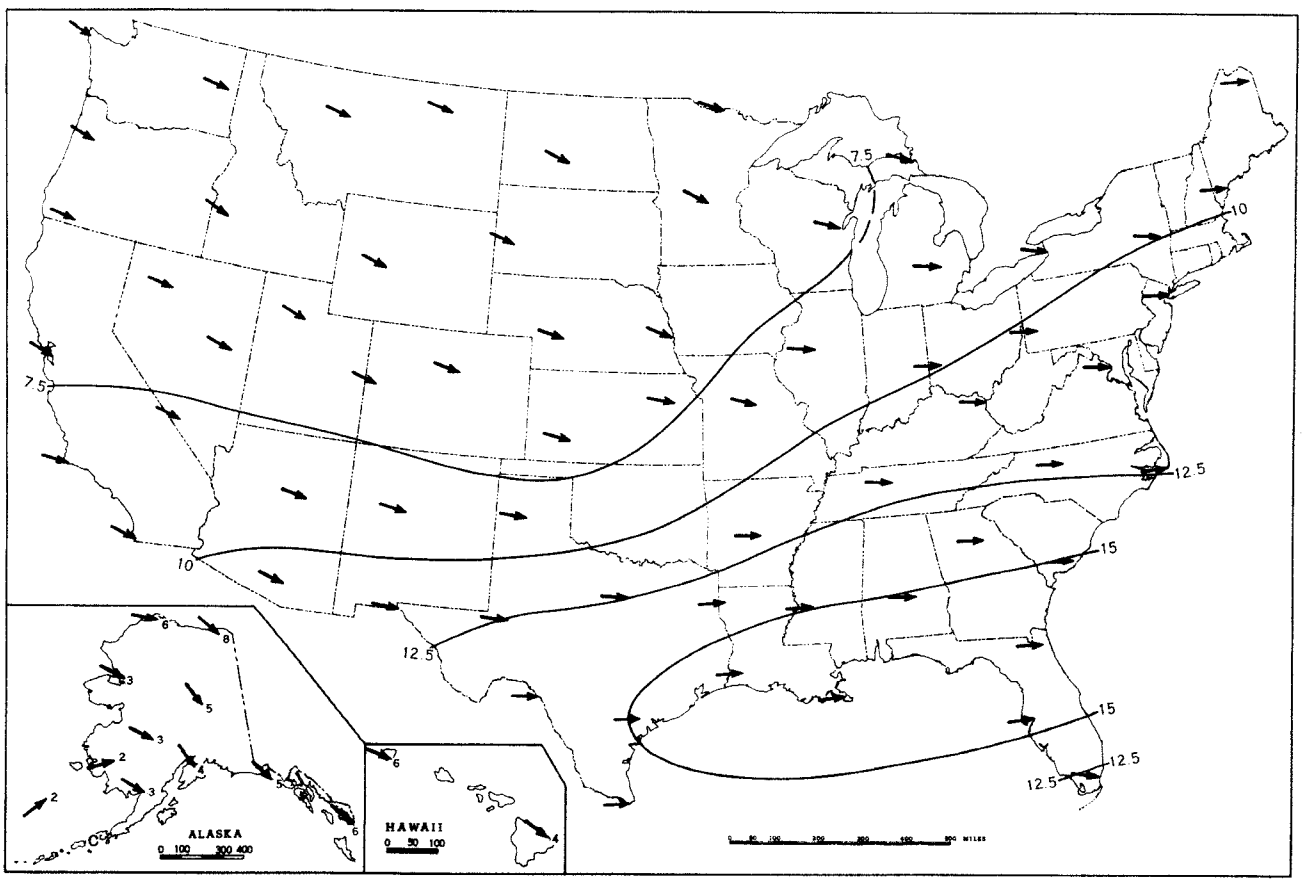


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in meters per second; flag represents 25 mps, full feather 5 mps, and half feather 2.5 mps. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1969. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1969. Resultant Winds.



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

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