U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1964
Volume 15 No. 1

ASHEVILLE: 1964

C O N T E N T S

SURFACE DATA — Page

General Summary of Weather Conditions ---------- 637

Condensed Climatological Data - States ---------- 638

Climatological Data - Stations - English Units ---------- 639

Climatological Data - Stations - Metric Units ---------- 646

Heating Degree Days ---------- 653

Storm Summary ---------- 654

General Summary of River and Flood Conditions ---------- 655

Flood Stage Data ---------- 657

UPPER AIR DATA

Rawinsonde Data ---------- 658

SOLAR RADIATION DATA

Solar Radiation Intensities ---------- 665

Daily Totals and Monthly Averages ---------- 666

Net Radiation ---------- 668

TOTAL OZONE DATA ---------- 668

CHARTS I-XVII ---------- 670

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

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

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 1 JANUARY 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

On New Year's Day, a snowstorm moved northward along the Atlantic coast. The snow clogged the highways of many southern States. Meridian, Miss., measured 15 inches on the ground on the morning of January 1. Sleet and freezing rain slicked the roads from Georgia across the Piedmont of the Carolinas and Virginia. The freezing rain and snow spread northward to Ohio, Pennsylvania, and other northeastern States. Much of Dixie lay buried in deep snow and highways in the Northeast were glazed from the freezing rain and drizzle on the 1st. Providence, R. I., experienced the worst ice storm in recent years and 8.4 inches of snow disrupted the traffic at Erie, Pa.

As this storm raged in the East, sunny skies and mild temperatures prevailed over most of the rest of the Nation. Rains fell in the Far Northwest and, as the storm moved inland, it produced snow over the northern Rocky Mountains. Heavy rains fell along the Washington and Oregon coasts on January 5. A storm centered over Quebec, Canada, on January 4, caused snow flurries in New York and New England. High pressure, mostly clear skies, and only scattered precipitation continued over other parts of the Nation.

On Monday, January 6, a front extended from the Great Lakes to Texas. As the front moved eastward, it produced widespread precipitation over the eastern portion of the Nation. Light snow fell over the Northern Border States from Minnesota to northern New England. Rain fell from the Texas coast eastward to the Atlantic and northeastward to New England. A thunderstorm at Valparaiso, Fla., produced 1.65 inches of rain on January 6. The storm featured a small tornado at the western edge of town.

Snow fell over the Great Basin and parts of the northern Rocky Mountains on January 7. Widespread precipitation occurred over the Great Plains and eastward to the Ohio River Valley and the southern Atlantic coast on the 8th. Numerous southeastern stations received more than an inch of rain on that date. The mild spell came to an abrupt end over the North-Central and Northeast. Cold air flowed southward to the Gulf of Mexico. Freezing rain and sleet caused hazardous driving conditions over New York and New England. Numerous accidents occurred on the slick roads. Snow fell over the Great Lakes region and heavy rains drenched the Gulf States.

On January 9, the storm center moved northeastward from the Lake Huron vicinity and the front lay along the Atlantic coast. Arctic air poured into the northern and central Great Plains. Temperatures dropped far below zero over the northern Plains. International Falls, Minn., registered 22° below zero on the 10th, 23° below zero on the 11th, and 35° below zero on the 12th.

A severe blizzard swept across New York, Pennsylvania, New Jersey, and New England on January 13. Snow depths ranged from about 9 inches in the New York City area to over 20 inches over parts of eastern Pennsylvania. Scranton, Pa., received more than 21 inches of snow from the storm setting a new record for Scranton. A new record was set at Williamsport, Pa., when 24 inches fell on the 12th and 13th. The total for the month, 33.5 inches, also established a new record for Williamsport. Allentown, Pa., received 13.4 inches. The snow blocked the highways and many schools in the vicinity closed. The storm caused one of the worst traffic tieups in recent years.

Storms at midmonth affected other parts of the Nation. Hail fell in parts of San Diego, Calif., on January 14. On the 15th, 2 inches of snow fell at Abilene, Tex., and 2-day totals for January 15 and 16, at Dallas and Ft. Worth, were 7.4 inches and 12.1 inches, respectively. The storm at Ft. Worth set a new 24-hour snowfall record. The storm spread eastward and sleet and freezing rain occurred from Texas and Oklahoma across the northern and central sections of the Gulf States and heavy rains pelted the Gulf coast.

Winds at Williston, N. Dak., reached 70 m.p.h. during a blizzard on the 17th. A storm centered in British Columbia on January 17 produced generous rains along the Washington and Oregon coasts and snow over the Mountains of the Pacific States and the Rocky Mountains by the 18th.

Stormy weather continued in California for several days from the 16th to 25th. During that time, 59.5 inches of snow fell at Blue Canyon and 32.5 inches at Mt. Shasta. Norden, Calif., received 132 inches of snow in the worst storm in the Sierra in recent years. Moderate to heavy rains in the Eureka area caused a sharp rise in the rivers.

On January 20, the wind at Red Bluff reached 63 m.p.h. in gusts. Hail up to 1-1/4 inches in diameter fell a few miles east of the airport. On the same date, strong winds at Sacramento damaged roofs, trees, and power lines. A tornado occurred north of Fresno on the 21st. Hail pelted the Oakland and San Francisco area on the 21st. Burbank received 2.10 inches of rain from January 20 to 22. Flagstaff, Ariz., received 10.3 inches of snow from January 21 to 23.

Unseasonably mild weather prevailed over the middle portion of the Nation at the beginning of the fourth week of January. Wichita, Kan., registered 73°, Kansas City, Mo., 69°, and St. Louis, 70° on the 22d. Arctic air soon pushed southward and by the 24th, precipitation was general over the eastern half of the Country. The low pressure area intensified over southern Wisconsin and snow fell over the northern Great Plains and eastward. Thunderstorms and a few tornadoes occurred in parts of the southland. A tornado at Harpersville, Ala., about 25 miles southeast of Birmingham, killed several persons and caused considerable property damage. Squalls and gale force winds continued in the Great Lakes region and generous rains, with snow in the mountainous areas, fell in the Pacific Northwest.

Another frigid spell struck the northern Great Plains near the end of the fourth week of January. Bismarck, N. Dak., registered 29° below zero on the 27th. In contrast, Miami Beach, Fla., registered 86° on the 28th. On the last day of the month, a storm center moved from near Lake Charles, La., to northeastern Georgia. Rains oc-

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1964

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. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (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.							%
COLORADO																																
ALAMOSA	7536	768.5		35	- 8	13.2	- 4.2	53	2	-33	14+	0	31			0.26	0.00	0.11	7	0	5.4	3						21	6	4	2.8	
COLORADO SPRINGS	6173	806.7	1016.4	43	17	30.3	1.7	59	28+	- 2	13	0	31	7	41	T	- 0.29	T	0	0	T	T	10.9	3	32*	31	19	16	8	7	3.6	
DENVER	5283	834.1	1015.3	46	16	30.6	2.1	65	20	- 5	12	0	31	10	47	0.26	- 0.29	0.10	5	0	2.6	1	10.4	18	35	NW	25+	15	9	7	4.2	78
GRAND JUNCTION	4849	861.6	1023.3	37	14	25.5	- 0.5	54	21	- 3	14	0	31	11	59	0.47	- 0.17	0.26	6	0	4.8	1	4.8	13	26	SE	18	12	8	11	5.3	69
PUEBLO	4639	854.0	1016.5	49	17	33.2	3.2	65	28+	- 3	13+	0	28	11	46	0.04	- 0.27	0.04	1	0	0.5	1	12.0	27	72	W	17	16	9	6	3.6	91
CONNECTICUT																																
BRIDGEPORT	7	1014.9	1015.9	39	25	31.6	1.4	50	25	7	15	0	24	23	71	2.85	- 0.84	0.82	10	0	10.4	10	16.0	27	67*	34	21	13	7	11	5.2	
HARTFORD	169	1008.3	1014.5	37	18	27.1	1.1	52	25	- 6	15	0	29	19	72	5.54	1.96	2.10	10	0	13.8	11	8.8	36	50	NW	21	10	10	11	6.0	59
NEW HAVEN	6	1014.8		39	23	31.1	1.5	50	25	7	15	0	26			3.83	- 0.13	1.04	10	0	11.8	10	9.9		40	W	10	13	8	10	5.2	65
DELAWARE																																
WILMINGTON	78	1013.3	1016.5	42	24	33.2	- 0.2	62	25	1	15	0	26	23	69	4.13	0.73	1.26	9	0	6.7	6	10.2	29	38*	30	21	16	5	10	4.6	
DIST. OF COLUMBIA																																
WASHINGTON U	72			47	29	38.0	1.5	65	3	13	16+	0	15			4.23		1.06	9													
WASH NATL AP	14	1012.1	1016.8	46	26	36.3	- 0.6	65	25	7	15	0	23	24	64	3.98	0.95	1.14	9	0	8.9	9	9.5	20	42	NW	21	17	3	11	4.5	66
FLORIDA																																
APALACHICOLA U	13	1018.6		57	44	50.5	- 4.6	69	20+	24	14	0	4			8.25	5.11	2.06	16	2	T	0	7.8	E*	33	N	12	6	4	21	7.3	54
DAYTONA BEACH	31	1019.0	1020.9	66	47	56.7	- 2.5	82	9	27	14	0	3	49	79	5.29	3.33	2.04	12	1	0.0	0	9.4	36	35*	31	12	5	8	18	7.2	
FORT MYERS	13	1019.5		73	53	63.2	- 0.3	85	8	32	15	0	1			2.88	1.36	1.34	7	1	0.0	0	10.5		28*	28	13	3	9	19	7.5	
JACKSONVILLE	24	1019.2	1020.6	63	43	53.0	- 2.9	76	24	22	15	0	4	44	76	7.29	4.84	2.48	15	0	0.0	0	8.6	18	39	S	31	5	7	19	7.1	63
KEY WEST	5	1018.3	1019.5	74	64	68.9	- 0.7	82	28+	47	15	0	0	61	78	0.06	- 1.47	0.06	1	0	0.0	0	12.2	6	29	NW	13+	7	9	15	6.4	61
LAKELAND U	214			68	50	58.7	- 3.0	84	8	27	14	0	2			5.71	3.66	3.77	9	2	0.0	0	7.9					4	8	19	7.3	38
MIAMI BEACH	9			72	63	67.7	- 1.4	86	28	38	15+	0	0			1.59	- 0.09	1.56	2	0	0.0	0	14.0	SE				2	13	16	7.0	43
MIAMI	7	1018.4	1019.8	74	61	67.4	0.5	85	28	36	15	0	0	60	78	0.45	- 1.58	0.42	3	0	0.0	0	8.8	12	28*	24	17	0	14	17	7.8	
ORLANDO	106	1015.8	1020.6	68	49	58.5	- 1.9	83	9+	27	14	0	1	49	76	6.18	4.18	3.35	12	1	0.0	0	9.9	4	23*	33	20+	4	7	20	7.6	
PENSACOLA	13			57	41	49.1	- 4.4	70	9	20	14	0	6			11.83	7.61	3.69	16	4	T	T	8.1	35	34	E	6					25
TALLAHASSEE	58	1018.3	1021.1	60	39	49.5	- 4.4	70	7	16	15	0	8	41	77	9.27	5.85	2.56	15	3	0.0	0	9.0	18	32*	32	20	5	5	21	7.5	
TAMPA	19	1019.2	1020.8	69	48	58.6	- 2.6	81	8	27	15	0	3	50	76	5.08	2.95	3.09	10	2	0.0	0	12.0	6	31*	34	12	3	8	20	7.6	42
WEST PALM BEACH	15	1019.5	1020.7	73	58	65.5	- 1.4	83	9	35	14	0	0	57	76	0.98	- 1.50	0.47	7	0	0.0	0	10.1	15	28*	27	13	1	7	23	8.5	
GEORGIA																																
ATHENS	803	990.1	1019.8	52	32	41.8	- 2.8	72	23	14	15	0	15	31	70	7.41	2.52	2.78	14	1	T	2	8.4	24	23*	30	20	9	5	17	6.3	
ATLANTA	1005	977.1	1020.3	50	31	40.8	- 4.0	68	23	14	15	0	15	30	70	6.01	1.57	2.82	14	0	0.8	1	7.9	25	42	W	20	9	5	17	6.4	52
AUGUSTA	143	1013.2	1020.2	56	33	44.5	- 3.1	72	23+	14	15	0	15	35	74	7.08	4.09	2.29	13	0	T	T	7.8	24	32*	29	20	8	3	20	6.7	
COLUMBUS	385	1005.9		55	33	44.1	- 3.7	70	23	13	15	0	16			7.01	2.95	1.70	16	1	T	T	8.6	6	31*	28	20	5	5	21	7.5	
MACON	356	1006.6	1020.6	55	35	45.0	- 4.2	68	23	16	15	0	11	34	72	8.30	4.93	3.26	16	4	T	T	7.7	30	33	NW	20	6	4	21	7.1	42
ROME	637	996.6		51	26	38.4	- 3.7	71	23	7	15	0	24			5.95	0.44	3.18	11	2	1.6	5						9	9	13	5.9	
SAVANNAH	48	1017.9	1020.5	59	37	48.2	- 3.5	71	7+	18	15	0	12	39	74	6.29	3.51	1.97	15	2	T	0	10.9	25	34	NW	20	8	3	20	7.1	45
THOMASVILLE U	283			59	41	49.8	- 3.9	68	24	20	14	0	5			9.05	5.47	1.98	14	3	T	0										
HAWAII																																
HILO	31	1015.8	1017.9	80	64	72.1	1.3	83	30	60	20	0	0	63	78	14.65	2.83	4.61	25	0	0.0	0	8.5	25	28*	5	18	4	11	16	6.9	44
HONOLULU	7	1017.2	1017.6	81	69	75.1	2.6	83	30+	64	24	0	0	62	66	2.18	- 1.58	0.55	10	1	0.0	0	10.9	6	30	NE	16	10	14	7	5.1	73
KAHULUI	44	1013.6	1016.7	82	67	74.2	2.1	86	29	60	23+	0	0	64	72	1.11	- 2.03	0.49	13	1	0.0	0	13.2	7	30	NE	12	15	13	3	3.8	75
LIHUE	115	1012.9	1018.6	79	68	73.7	3.0	82	31+	64	31+	0	0	65	76	7.37	1.86	4.30	22	2	0.0	0	12.9	5	29	NE	16+	6	15	10	6.1	53
IDAHO																																
BOISE	2838	922.9	1022.2	34	18	26.0	- 3.1	47	20	1	13	0	30	23	87	2.46	1.14	0.73	17	1	21.4	6	7.5	13	30	SE	16	4	7	20	7.8	49
IDAHO FALLS 42NW R	4790			23	- 6	8.5	- 4.9	38	20	-25	15	0	31			0.44	- 0.11	0.15	7				5.0		37A	SSW	21					
IDAHO FALLS 46W R	4933	849.3		25	- 2	11.5	- 3.9	42	2	-23	15	0	31			0.47	- 0.26	0.21	5	0	5.6	9	4.7		32A	SSW	21					
LEWISTON	1413	964.3		43	30	36.8	6.1	58	1	22	8+	0	22			0.49	- 0.61	0.14	6	0	5.1	3						2	4	25	8.6	
POCATELLO	4444	864.3	1023.6	29	9	19.2	- 3.1	43	1	-19	13	0	30	14	80	0.76	- 0.45	0.24	16	0	11.5	14	11.7	24	42	S	21	0	11	20	8.1	33
ILLINOIS																																
CAIRO U	314	1004.7		48	29	38.6	1.2	64	24+	12	14	0	22			1.38	- 3.08	0.67	7	1	3.7	3	9.5	S*	33	SW	19	14	7	10	4.7	70
CHICAGO O HARE	658	988.7	1014.2	37	19	27.7	0.0	60	24	-13	1	0	27	20	72	0.72	- 1.10	0.33	10	1	1.6	1	13.5	24	39*	6	12	11	5	15	5.8	
CHICAGO MIDWAY	610	991.2	1014.8	38	21	29.5	3.5	61	24	3	1	0	25	21	70	1.08	- 0.78	0.57	8	2	2.5	1	13.1	21	37	NE	12	8	8	15	6.2	53

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	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.							%
ILLINOIS																																
MOLINE	582	992.2	1015.1	38	19	28.4	5.8	58	22	- 2	1	0	26	21	74	1.59	- 0.02	0.66	8	2	5.3	3	11.3	25	36	W	25	9	13	9	5.3	65
PEORIA	652	993.4	1016.4	39	19	28.7	3.0	58	22	- 3	1	0	27	21	74	1.02	- 0.86	0.37	9	1	4.8	5	10.5	18	35	NE	12	11	5	15	6.0	60
ROCKFORD	728	985.7	1013.7	36	17	26.7	4.7	55	22	- 8	1	0	28	20	74	0.97	- 1.01	0.48	7	2	2.0	4	11.5	29	32*	28	25	11	7	13	5.6	
SPRINGFIELD	588	992.2	1016.1	42	20	30.7	2.3	62	22	- 7	14	0	26	22	70	1.64	- 0.25	0.81	6	2	10.8	11	13.8	19	36	SW	25+	11	5	15	5.8	63
INDIANA																																
EVANSVILLE	381	1001.5	1017.9	47	22	34.7	0.5	70	22	- 6	14	0	25	23	65	2.19	- 1.79	0.73	7	2	4.8	4	7.8	18	34	SW	19	12	8	11	5.3	58
FORT WAYNE	791	983.2	1015.6	37	22	29.3	2.3	58	22	- 4	14	0	25	22	75	2.48	- 0.19	1.05	7	1	8.0	7	12.3	23	42	SW	25	7	10	14	6.4	61
INDIANAPOLIS	793	985.4	1016.4	40	22	30.7	1.6	64	22	- 5	14	0	27	21	70	2.04	- 1.01	0.74	8	2	9.2	8	11.5	23	40	S	19	8	10	13	6.1	60
SOUTH BEND	768	985.4	1014.4	37	22	29.3	3.7	56	22	- 8	1	0	26	21	72	1.57	- 0.63	0.37	12	2	10.0	7	13.6	23	32*	25	25	6	8	17	6.8	
IOWA																																
BURLINGTON	694	990.6	1015.9	40	20	30.1	5.7	61	22	3	28+	0	28	20	70	1.29	- 0.35	0.52	7	1	4.7	4	13.1	22	38	NW	20	10	11	10	5.5	67
DES MOINES	948	983.0	1015.3	37	18	27.8	7.0	55	21	- 7	13	0	30	18	70	0.51	- 0.79	0.31	6	0	6.4	4	12.0	18	31	NE	12	13	6	12	5.0	61
DUBUQUE	1065	988.2		33	16	24.7	5.5	51	22	- 6	10	0	30			0.31	- 1.52	0.21	4	1	2.9	4			45*	27	25	9	10	12	5.6	
SIOUX CITY	1095	972.4	1015.2	38	15	26.0	7.3	59	2	-19	13	0	31	16	70	0.34	- 0.44	0.26	4	0	3.6	3	10.2	32	32	NW	8+	15	6	10	4.5	76
WATERLOO	868	980.6	1013.8	35	14	24.4	6.5	52	22	-11	10	0	31	17	74	0.34	- 0.81	0.23	5	0	3.8	3	11.5	31	28*	6	11	10	11	10	5.4	
KANSAS																																
CONCORDIA	1470	964.1	1015.4	46	19	32.8	5.3	65	20	- 9	13	0	29	17	56	0.07	- 0.63	0.06	3	0	1.6	1	13.9	18	38	NW	8	19	3	9	3.8	76
DODGE CITY	2594	925.8	1016.2	50	21	35.5	4.4	70	21	- 6	13	0	30	15	49	0.04	- 0.53	0.04	1	0	0.4	T	13.7	35	40	N	8	17	5	9	4.0	82
GOODLAND	3645	885.4	1015.8	48	16	32.3	4.9	69	21	- 7	12	0	30	13	53	T	- 0.39	T	0	0	T	T	14.3	25	44*	33	24+	17	11	3	3.2	
TOPEKA	877	979.2	1016.0	48	20	34.2	5.4	69	22	- 5	13	0	30	20	60	0.54	- 0.48	0.36	5	0	2.3	2	12.5	18	38	N	12	14	7	10	4.3	69
WICHITA	1321	966.0	1016.1	50	23	36.8	4.8	73	22	- 1	13	0	29	19	56	0.71	- 0.10	0.69	3	0	0.2	T	13.2	18	49	S	10	16	8	7	4.0	78
KENTUCKY																																
COVINGTON	869	984.5	1016.6	42	22	32.1	0.5	63	22	-15	14	0	25	22	68	2.88	- 0.68	0.83	9	1	15.3	7	10.7	21	30*	25	25+	10	8	13	5.7	
LEXINGTON	979	981.2	1017.9	45	25	35.0	0.5	66	23+	- 2	14	0	23	23	66	2.83	- 2.11	0.76	8	1	10.8	6	10.1	20	28*	25	25	14	6	11	5.0	
LOUISVILLE	474	997.9	1017.5	47	25	35.9	0.9	68	22	- 1	14	0	22	23	62	2.45	- 1.65	0.72	8	2	15.1	7	9.0	18	31	W	26	11	6	14	5.7	62
LOUISIANA																																
ALEXANDRIA	92	1015.9	1020.7	58	34	45.7	0.0	73	19	11	14	0	17	36	73	6.41	1.09	1.88	13	2	T	0	6.2	20	23*	30	12	8	6	17	6.5	
BATON ROUGE	64	1017.3	1020.5	60	39	49.7	- 3.2	73	24	20	14	0	9	39	71	6.18	1.40	2.10	14	1	0.0	0	8.3	11	23*	5	16+	7	6	18	7.1	
LAKE CHARLES	14	1019.0	1020.4	58	40	49.0	- 4.7	72	22+	20	14	0	7	41	77	5.49	1.05	1.64	12	2	T	0	9.4	18	25*	7	16	6	4	21	7.2	
NEW ORLEANS	3	1018.1	1020.5	60	40	50.0	- 4.6	74	23	21	1	0	9	44	81	9.60	5.76	3.98	15	3	0.0	2	7.4	6	20*	15	24+	5	6	20	7.5	
NEW ORLEANS AUDUBON	6	1013.1		60	43	51.1	0.0	73	24+	26	14+	0	6			10.15	5.86	3.61	15	3			5.1	E#	16	NE	16+	5	8	18	7.2	39
SHREVEPORT	252	1010.7	1020.3	57	36	46.5	- 1.0	76	19	15	14	0	10	32	62	2.57	- 2.23	0.88	9	1	1.4	1	11.8	18	28*	30	24+	12	7	12	5.3	63
MAINE																																
CARIBOU	624	987.5	1011.8	23	4	13.4	2.9	39	25	-17	18+	0	31	9	76	2.64	0.53	0.72	13	0	20.2	16	11.0	27				5	10	16	6.9	
PORTLAND	61	1009.3	1013.4	35	14	24.4	2.6	46	25+	-12	1	0	31	16	71	4.74	0.37	1.35	11	0	17.4	13	10.1	26	35	N	14	10	12	9	5.5	67
MARYLAND																																
BALTIMORE	146	1012.1	1016.8	43	24	33.8	- 1.0	58	25	- 2	15	0	25	20	59	5.27	1.84	1.47	9	0	10.3	7	9.5	28	45	W	10	17	5	9	4.1	68
BALTIMORE U	14			45	30	37.6	0.3	63	3	12	14	0	17			5.24	1.81	1.65	9													
MASSACHUSETTS																																
BLUE HILL OBS R	629	988.3		37	22	29.5	2.5	52	25	6	15+	0	27			5.31	0.82	1.73	10		20.1	13	17.9	NW#	61	SSE	25					60
BOSTON	15	1009.0	1013.9	39	25	31.7	1.8	55	25	10	15+	0	23	21	67	4.56	0.62	1.68	10	1	14.4	9	13.6	32	42	NE	13	14	6	11	5.1	63
NANTUCKET	43	1012.8	1014.0	40	27	33.4	0.4	48	25+	16	15+	0	23	26	75	5.32	1.10	1.70	12	0	21.3	19	16.1	29	49	NW	28	11	5	15	5.7	56
PITTSFIELD	1170			34	13	23.4	1.6	51	25	-11	1	0	29			3.49	0.52	1.20	14		36.2	17										
WORCESTER	986	976.0	1013.2	35	20	27.2	3.2	51	25+	3	14+	0	29	17	66	5.42	1.71	2.32	10	0	14.9	15	13.1	27	42*	29	10	13	8	10	5.3	
MICHIGAN																																
ALPENA	689	989.3		32	12	21.9	2.2	44	21	-12	13+	0	31			1.28	- 0.67	0.49	11	0	9.1	9	8.4	SW	31	E	24	3	6	22	7.6	51
DETROIT	619	987.0	1014.6	37	24	30.4	3.5	53	25	6	1	0	25	21	70	2.26	0.21	0.92	11	1	6.7	6	13.0	22	42	SW	25	6	6	19	7.4	39
DETROIT M WAYNE CO	633	990.0	1015.0	35	21	28.1	1.6	54	25	- 2	1	0	29	20	71	2.20	0.27	0.90	11	1	5.3	5	9.5	23				5	7	19	7.2	
DETROIT WILLOW RUN	711*	985.3	1014.5	36	21	28.5	1.9	53	25	- 2	1	0	28	23	79	1.68	- 0.26	0.93	9	1	3.7	5	12.8	21	40*	24	25	5	7	19	7.5	
FLINT	766	986.0	1014.7	35	20	27.7	5.6	52	25	- 9	1	0	28	19	70	1.44	- 0.26	0.36	10	1	5.2	5	12.3	23	31*	23	25	4	7	20	7.5	
GRAND RAPIDS	689	987.1	1013.6	35	20	27.5	3.1	52	24+	-15	1	0	28	23	81	1.36	- 0.55	0.57	9	1	18.6	8	12.5	18	38	SW	25	5	7	19	7.5	42

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1964

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. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	980.2	1013.8	36	21	28.2	3.9	54	22	-13	1	0	28	22	77	1.31	- 0.65	0.51	11	0	6.4	5	9.9	23	42	SW	25	4	7	20	7.4	37
MARQUETTE U	677	983.2		32	19	25.3	5.8	44	2	5	26	0	31			1.31	- 0.58	0.79	14	0	11.6	17	8.9	W#	35	SW	1	4	4	23	7.9	48
MUSKEGON	627	989.7	1013.5	36	22	29.0	3.0	56	24	- 9	1	0	27	24	80	1.96	- 0.14	0.97	13	2	15.3	24	14.5	29	35*	25	25	3	4	24	8.2	
SAULT STE MARIE	721	988.0	1011.4	28	13	20.5	4.7	38	3	-16	12	0	31	18	86	2.77	0.70	0.84	22	1	38.1	25	12.0	12	35*	29	26+	3	3	25	8.5	32
MINNESOTA																																
DULUTH	1426	969.3	1012.2	26	8	16.9	8.2	42	1	-14	28	0	31	11	74	1.10	- 0.05	0.63	6	0	10.8	13	12.6	30	56	NE	23	5	12	14	6.6	47
INTERNATIONAL FALLS	1179	968.6	1011.7	21	1	11.0	7.9	39	1	-35	12	0	31	5	76	0.74	- 0.10	0.22	9	0	6.8	15	11.7	27	30*	21	20+	2	10	19	7.7	
MINNEAPOLIS	822	978.9	1013.9	29	11	20.0	7.6	42	20+	-12	13	0	31	13	71	0.47	- 0.23	0.27	5	0	5.0	3	10.3	29	38	SW	17	12	9	10	5.0	60
ROCHESTER	1297	975.4	1013.8	31	12	21.3	7.7	46	22	- 7	28+	0	31	16	77	0.37	- 0.54	0.15	6	0	5.9	2	15.3	29	35*	29	25+	11	9	11	5.5	
ST CLOUD	1034	973.7		27	7	16.9	6.8	42	17	-15	27+	0	31			0.18	- 0.54	0.10	4	0	1.9	3						8	12	11	5.5	
MISSISSIPPI																																
JACKSON	305	1007.7	1020.1	56	35	45.3		71	19	15	15	0	13	34	66	5.21		1.57	13	2	1.5	2	9.2	14	28*	20	19	7	5	19	6.6	
MERIDIAN	292	1006.8	1021.0	55	31	43.3	- 4.8	71	24	10	15	0	18	35	76	4.78	0.09	1.40	12	3	1.0	15	6.7	18	29*	22	24	7	4	20	5.8	
VICKSBURG U	234	1010.4		56	38	46.9	- 2.1	73	19	18	13	0	10			5.52	0.39	2.12	12	1	T	T	9.3		26	NW	20+	8	8	15	6.7	44
MISSOURI																																
COLUMBIA	778	986.2	1015.3	47	25	36.0	5.7	70	22+	4	14	0	24	22	62	0.75	- 0.96	0.61	4	0	1.9	2	12.2	18	41	W	9	11	7	13	5.2	65
KANSAS CITY	742	979.5	1015.3	47	27	37.2	5.5	69	22	2	13	0	20	22	57	1.20	- 0.21	0.62	4	0	7.5	7	9.7	20	28	NE	12	15	6	10	4.6	71
ST JOSEPH	809	979.8		44	19	31.6	4.4	65	22	- 6	13	0	30			0.29	- 0.91	0.22	4	0	2.9	3	9.6	22	29*	1	12+	18	5	8	4.1	
ST LOUIS	535	995.4	1016.7	46	24	34.7	2.8	70	22	- 1	14	0	25	20	58	1.70	- 0.28	0.53	8	2	8.1	8	10.6	18	35	NW	24	12	8	11	5.2	69
ST LOUIS RFC	465			47	29	37.5	4.0	68	22+	10	14	0	18			1.89	- 0.27	0.92	7		7.6	8										
SPRINGFIELD	1265	968.1	1016.8	51	23	37.0	3.4	72	23+	0	14	0	25	21	58	0.53	- 1.43	0.30	8	1	2.6	2	11.6	16	35	S	19	14	7	10	4.5	75
MONTANA																																
BILLINGS	3567	886.9	1013.9	37	21	29.1	5.9	49	20+	2	12	0	30	14	57	0.11	- 0.43	0.07	6	0	1.8	1	14.1	25	36	NW	21	6	10	15	6.8	65
GLASGOW	2277	936.3		31	11	20.9	11.1	48	1	-13	24	0	31			0.21	- 0.27	0.11	5	0	2.1	1						2	12	17	7.4	
GREAT FALLS	3662	883.2	1014.3	38	20	28.7	6.6	61	1	-17	22	0	27	14	57	0.65	0.04	0.52	7	0	8.5	7	17.6	23	44	SW	16	7	4	20	7.1	45
HAVRE	2582	921.6		33	11	22.3	8.4	58	1	-13	23+	0	30			0.34	- 0.15	0.12	9	0	4.2	2	9.7	SW#	47	SW	16	4	11	16	7.1	50
HELENA	3893	873.0	1017.0	32	12	22.0	3.4	49	1	- 7	22	0	31	13	67	0.31	- 0.16	0.11	6	0	6.2	6	8.6	29	35	W	2	7	4	20	7.4	46
KALISPELL	2965	908.8		34	16	24.6	4.8	43	1	- 8	8	0	31			1.24	- 0.13	0.74	17	0	20.6	17	5.8					0	3	28	9.2	
MILES CITY				35	14	24.6	8.1	57	1	-11	24	0	31			0.72	0.28	0.41	6	0	11.2	8	10.2	27	35*	32	21+					
MISSOULA	3190	900.3	1018.4	31	13	21.9	2.7	48	1	- 2	12	0	31	18	82	0.70	- 0.22	0.16	14	0	12.2	9	5.7	32	27	W	20	1	2	28	9.2	27
NEBRASKA																																
GRAND ISLAND	1841	947.2	1015.7	44	15	29.2	6.6	71	2	-20	13	0	30	15	61	0.07	- 0.56	0.07	1	0	0.8	1	11.8	24	30*	36	11+	17	7	7	4.1	
LINCOLN U	1150			43	21	31.6	6.5	68	2	- 9	13	0	29			0.21	- 0.71	0.17	3	0	2.5	2	10.2	SW#	35	S	28	16	7	8	4.3	72
NORFOLK	1544	957.4		39	12	25.6	6.2	62	2	-23	13	0	31			0.22	- 0.56	0.16	3	0	2.9	2						18	5	8	3.9	
NORTH PLATTE	2779	912.9	1015.2	45	12	28.1	4.1	65	21+	- 9	13	0	31	11	55	T	- 0.43	T	0	0	T	T	9.9	34	40	NW	24	15	11	5	3.8	88
OMAHA	978	974.0	1015.2	40	17	28.6	6.3	64	2	-13	13	0	29	16	62	0.54	- 0.28	0.38	4	0	4.9	4	9.4	16	32	NW	24	16	6	9	4.4	73
OMAHA N OMAHA AP	1323	965.3		38	18	28.0	6.7	63	2	-15	13	0	30			0.30	- 0.61	0.22	4	0	4.7	4						16	5	10	4.5	
SCOTTSBLUFF	3950	876.0	1016.0	42	15	28.7	3.4	61	21+	-10	13	0	30	13	56	0.04	- 0.25	0.03	2	0	0.8	1	14.0	30	41*	32	24	14	4	13	5.1	
VALENTINE	2587	921.0		40	12	26.2	6.2	62	20	-18	12	0	31			0.14	- 0.26	0.14	1		2.4	2	10.6	W#	40	NW	17	11	8	12	5.2	74
NEVADA																																
ELKO	5075	846.6	1024.4	33	5	18.8	- 3.8	47	1	-15	13	0	31	14	79	1.27	0.11	0.37	15	0	22.4	11	6.6	24	35*	19	21+	2	10	19	7.5	
ELY	6257	808.8	1022.7	36	3	19.3	- 3.5	61	1	-17	24+	0	31	10	72	1.41	0.63	0.84	8	0	19.3	7	8.9	19	49	SW	21	6	11	14	6.7	65
LAS VEGAS	2162	954.1	1021.8	55	30	42.0	- 1.1	66	2	20	9	0	23	13	33	0.05	- 0.48	0.04	2	0	T	T	8.0	27	39*	34	2	17	8	6	3.7	90
RENO	4404	864.5	1022.0	45	20	32.5	2.1	68	1	8	23	0	27	21	65	0.68	- 0.51	0.46	3	0	4.7	3	6.8	18	51	SW	20	7	8	16	6.9	67
WINNEMUCCA	4299	870.1		40	17	28.6	1.4	58	1	- 1	13	0	30			1.22	0.17	0.23	13	0	15.8	5	8.0	18	45	SW	17	2	11	18	7.6	26
NEW HAMPSHIRE																																
CONCORD	339	1002.8	1013.9	34	11	22.9	1.7	49	25	-16	1	0	30	15	72	3.64	0.41	1.66	10	0	24.3	17	8.0	32	29*	34	22	8	12	11	5.9	54
MT WASHINGTON OBS	6262	792.6		16	- 1	7.9	1.6	34	23	-23	12+	0	31			9.21	3.77	1.79	21	0	43.2	8	49.8	NW	131Y	W	5	2	9	20	8.1	22
NEW JERSEY																																
ATLANTIC CITY	58	1014.3	1016.5	45	26	35.3	0.5	64	3	3	15	0	22	25	68	6.35	2.79	1.86	9	0	15.1	8	13.6	29	36*	8	13	16	5	10	4.7	70
ATLANTIC CITY U	10			44	29	36.6	0.6	55	3	11	15	0	19			5.84	2.09	1.90	8				19.0		55*	29	21					
NEWARK	11	1014.5	1015.8	41	28	34.3	1.0	55	25	8	15	0	20	21	62	5.12	1.79	1.48	12	1	13.5	13	12.3	27	52*	30	21	13	9	9	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (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 JERSEY																																
TRENTON U	56	1008.0		42	28	34.9	1.8	59	25	8	14	0	18			3.47	0.37	1.01	9	2	9.6	9	10.7	NW#	42	NW	21+	13	9	9	4.8	68
NEW MEXICO																																
ALBUQUERQUE	5310	848.8	1020.3	43	17	30.0	- 5.0	57	21+	0	14	0	31	8	45	0.07	- 0.34	0.05	3	0	0.5	T	7.5	36	35	NW	19	21	7	3	2.6	84
CLAYTON	4969	842.7		50	19	34.5	1.3	68	2	- 6	13	0	28			T	- 0.35	T	0	0	T	T						21	4	6	3.2	
RATON	6379	802.4		45	9	27.1	- 1.9	62	2	-13	13	0	30			T	- 0.36	T	0	0	T	T						19	7	5	3.1	
ROSWELL	3619	893.7		56	14	34.7	- 3.2	73	21	- 9	13	0	29			0.80	0.32	0.74	2	0	1.1	1	7.9	27	43	W	19	20	6	5	3.0	85
SILVER CITY	5373	835.9		51	19	35.0	- 4.5	63	26	4	13	0	30			0.12	- 0.51	0.07	2	0	0.6	1						21	6	4	2.5	
NEW YORK																																
ALBANY	277	1012.0	1015.6	34	14	23.9	1.2	50	25	-15	15	0	29	17	72	3.35	0.88	0.98	13	0	27.3	16	8.8	17	42	W	10	5	13	13	6.5	55
BINGHAMTON	1590	958.5	1014.1	31	17	24.0	0.2	46	25	- 6	15	0	30	19	81	3.00	0.50	0.78	17	0	32.6	21	10.3	15	40	NW	21	6	6	19	7.4	40
BUFFALO	705	985.7	1014.3	35	23	29.3	4.8	54	23	7	29	0	26	21	71	2.12	- 0.72	0.89	20	0	13.7	16	13.8	25	41	W	26	3	7	21	7.8	46
NEW YORK U	132	1003.9		42	30	35.7	2.5	55	25	9	14	0	16			4.62	1.31	1.31	9	0	13.3	13	10.8	SW#	43	NE	13	16	7	8	4.3	67
NEW YORK LA GUARDIA	19	1013.6	1015.5	40	29	34.4	0.8	50	6	10	14	0	18	21	59	4.22	0.91	1.05	12	1	10.2	10	14.0	27	59	NE	13	12	9	10	5.1	
ROCHESTER	543	995.3	1015.2	36	21	28.3	3.1	54	25+	- 6	1	0	27	20	69	1.99	- 0.41	0.78	12	0	20.2	19	13.7	26	37	W	25+	3	9	19	7.5	43
SCHENECTADY	217			34	16	24.9	1.3	48	25	- 8	16+	0	29			2.83	0.26	0.90	11	0	19.2	16						19	3	9	4.4	
SYRACUSE	417	992.0	1014.8	34	17	25.9	1.9	55	25	- 6	12	0	28	18	72	2.18	- 0.97	0.44	18	0	18.8	14	11.0	25	52	S	25	4	10	17	7.4	56
NORTH CAROLINA																																
ASHEVILLE U	2203	937.7		49	27	38.1	- 1.6	69	23	5	15	0	21			2.83	- 0.34	1.29	9	0	1.7	5	8.8	NW#	37	NW	20+	15	7	9	4.6	65
CAPE HATTERAS R	7	1017.4	1018.0	55	39	46.8	0.2	67	24	19	15	0	6	38	73	6.27	2.37	2.05	13	0	0.0	0	12.7	25	40	ENE	12	12	5	14	5.6	66
CHARLOTTE	735	990.1	1018.9	53	30	41.5	- 1.2	70	23+	12	15	0	19	26	59	5.68	2.15	1.71	12	0	0.6	1	7.9	23	31	W	20	13	3	15	5.6	55
GREENSBORO	891	985.9	1018.8	49	27	38.1	- 1.6	68	23	7	15	0	22	26	66	4.48	1.08	1.68	10	1	1.5	2	8.8	22	34	NE	1	14	3	14	5.2	58
RALEIGH	433	1004.2	1018.3	53	30	41.2	- 0.4	69	22	9	15	0	18	28	64	3.66	0.44	1.03	10	0	0.4	1	8.6	22	40*	22	20	13	4	14	5.4	55
WILMINGTON	30	1016.7	1019.5	58	36	46.7	- 1.2	70	24+	20	15	0	11	35	69	7.08	4.23	1.85	15	0	T	T	9.5	25	50	W	20	10	6	15	5.7	60
WINSTON SALEM	967	982.4	1018.5	48	29	38.7	- 2.0	68	23	14	15	0	17	25	62	5.06	1.38	1.83	11	0	2.8	3	8.9	24	31*	27	20	13	5	13	5.1	
NORTH DAKOTA																																
BISMARCK	1647	951.4	1014.5	29	3	15.9	6.0	53	20	-38	12	0	29	7	67	0.40	- 0.04	0.28	5	0	4.7	3	9.0	29	49	NW	17	10	10	11	5.7	66
FARGO	900	977.7	1013.6	26	5	15.6	8.3	46	2	-22	12	0	30	7	68	0.54	0.01	0.34	5	0	8.4	6	11.3	18	41	W	17	8	9	14	6.2	63
WILLISTON	1899	943.0		29	4	16.2	7.9	44	1	-30	27	0	31			0.45	- 0.10	0.21	4	0	5.0	3	9.2	SW	70	NW	17	7	11	13	5.9	59
OHIO																																
AKRON	1209	976.9	1016.1	37	21	28.8	0.5	56	25+	- 5	14	0	28	19	69	2.19	- 0.67	0.81	10	0	17.6	10	12.3	23	29*	31	20	6	13	12	6.3	
CINCINNATI OBS	761			44	26	34.9	1.2	64	23+	5	14	0	23			2.95	- 0.72	0.79	10	2	15.4	9	8.3	S#	29	SW	25					58
CINCINNATI U	553	993.8		46	28	36.7	0.0	67	23	6	14	0	20			2.62	- 1.00	0.86	10		15.2											
CLEVELAND	777	986.4	1015.2	37	23	29.8	2.2	57	24	5	29	0	27	21	71	1.45	- 1.22	0.46	11	0	16.9	8	12.3	18	38	W	26+	7	5	19	7.2	50
COLUMBUS	812	986.3	1017.1	39	21	30.1	0.2	58	25+	-14	14	0	27	22	73	1.82	- 1.34	0.50	10	0	12.3	7	10.3	18	37	SW	25	9	8	14	5.9	55
COLUMBUS U	724			40	25	32.9	1.2	60	23	2	14	0	24			2.11	- 0.79	0.81	9	0	13.8	6										
DAYTON	997	982.8	1016.4	40	23	31.5	1.9	60	22	- 2	14	0	26	23	72	1.60	- 1.58	0.48	9	1	19.4	10	14.0	20	34	S	25+	10	8	13	6.0	69
MANSFIELD	1296			36	21	28.9	1.6	55	24	- 5	14	0	28			1.45	- 1.77	0.27	12	0	17.0	10						7	7	17	6.6	
TOLEDO	676	988.9	1015.1	36	21	28.5	2.2	55	25+	- 8	14	0	26	21	72	1.87	- 0.46	0.72	10	1	8.6	4	11.9	23	36	SW	26	9	6	16	6.6	56
YOUNGSTOWN	1178	971.9	1015.9	35	21	27.9	0.6	53	25+	- 6	14	0	28	19	72	2.03	- 1.13	0.72	12	1	20.5	12	12.4	23	30*	25	10	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	972.6	1017.2	53	28	40.1	3.1	74	22	6	13	0	20	20	51	0.83	- 0.48	0.69	3	0	T	T	14.5	18	40	NW	12+	16	10	5	3.6	80
TULSA	676	991.9	1017.4	55	27	40.9	4.7	76	22	3	13	0	25	22	54	0.63	- 1.08	0.57	5	0	1.1	1	12.1	18	34	S	2	17	6	8	3.7	77
OREGON																																
ASTORIA	8	1014.4	1015.1	49	38	43.7	3.0	53	31+	32	21+	0	2	40	86	18.50	6.79	4.32	31	1	T	0	11.2	12	43*	24	16	0	3	28	9.2	
BURNS U	4151	873.2		36	16	25.6	0.8	44	1	3	23	0	31			2.09	0.47	0.95	14	0	20.6	9						3	8	20	8.0	
EUGENE	361	1005.0		49	36	42.4	3.3	61	26	29	3	0	10			14.83	8.50	3.78	22	0	T	0	9.4		36*	20	19	1	2	28	9.0	
MEACHAM	4050			31	22	26.9	0.9	42	1	16	12	0	30			7.13	2.93	1.51	26	0	55.4	29						0	2	29	9.4	
MEDFORD	1298	972.7	1021.6	42	29	35.2	- 0.2	60	19	22	13	0	27	33	96	5.60	2.46	1.87	17	0	0.6	T	3.5	36	23*	22	19	1	2	28	9.0	
PENDLETON	1482	962.5	1017.0	47	33	40.3	8.1	63	1	24	13+	0	12	30	70	1.07	- 0.35	0.42	11	0	T	T	11.0	20	37*	24	19	2	7	22	7.9	
PORTLAND	21	1011.5	1017.2	47	35	40.9	2.5	53	29+	28	28	0	7	37	86	9.51	4.14	1.79	27	0	T	0	11.0	12	49	S	17	0	3	28	9.2	18
PORTLAND U	30			49	40	44.3	4.1	59	1	35	28+	0	0			13.63	7.29	2.16	24		T	0										
ROSEBURG	505	1000.8		49	34	41.6	1.3	60	26	28	23	0	11			10.98	5.47	3.17	21	0	0.8	1	4.0	S#	26	S	17	0	4	27	9.1	24
SALEM	195	1010.7	1018.1	47	36	41.7	3.2	57	26	29	28	0	5	38	85	11.19	4.49	1.80	24	0	T	0	11.7	18	31*	18	19	0	5	26	8.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	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.							%
OREGON																																
SEXTON SUMMIT R	3836	883.9		38	29	33.4	- 0.7	50	1	23	23	0	26			10.31	4.72	2.44	19	0	45.3	31	13.9	S				1	6	24	8.9	
PACIFIC AREA																																
CANTON ISLAND	11	1007.2	1007.4	88	78	82.9	- 0.2	92	4	73	17	11	0	76	80	15.08	12.47	3.70	22	2	0.0	0	10.6	36	29*	22	17	3	2	26	8.9	
ENIWETOK	16	1010.4		85	77	81.0	- 0.2	87	20+	72	23	0	0			2.02	1.00	0.47	18	0	0.0	0	17.9									
TAGUAC GUAM R	361			84	72	78.0	- 0.2	85	31+	64	19+	0	0			1.99	- 2.64	0.44	17	0	0.0	0	9.3	NE*	24	NE	22					69
JOHNSTON	7	1013.8	1014.6	80	74	77.0	- 0.1	82	12	70	30	0	0	69	75	1.03	- 2.86	0.23	10	0	0.0	0	19.1	9	38	E	13+	5	22	4	5.0	66
KOROR R	94	1008.0	1010.5	86	76	80.8	0.5	90	26	73	21	1	0	75	86	7.27	- 4.46	2.10	23	0	0.0	0	9.4	6	22	NE	21	0	0	31	10.0	64
KWAJALEIN		1010.1	1010.3	86	76	80.8	0.7	87	22+	73	14+	0	0	73	79	0.90	- 2.71	0.22	13	0	0.0	0	18.4	6	32*	6	6	5	11	15	7.1	
PONAPE R	123	1004.8	1009.3	87	77	81.8	1.3	89	15	72	11	0	0	73	77	3.59	- 7.48	0.92	19	2	0.0	0	10.1	6	21	NE	28	0	3	28	9.0	60
TRUK MOEN ISLAND	5	1009.0	1009.1	86	78	81.8	1.1	88	24	75	27+	0	0	74	76	2.00	- 6.40	0.88	12	0	0.0	0	8.8	4	22	NE	27	0	10	21	8.4	76
WAKE	11	1015.1	1015.3	83	74	78.1	0.7	85	6+	70	23+	0	0	67	70	0.92	- 0.22	0.36	10	0	0.0	0	11.3	7	28*	6	15+	13	14	4	4.5	
YAP R	53	1009.2	1010.1	85	76	80.5	0.0	87	30+	73	10	0	0			2.37	- 5.50	0.50	0		0.0	0	12.3		32	NE	21	0	1	30	9.7	86
PENNSYLVANIA																																
ALLENTOWN	376	1001.6	1016.3	38	21	29.2	0.2	56	25	2	15	0	28	20	70	4.67	1.50	1.44	9	1	14.5	10	12.5	29	53*	30	21	13	9	9	5.0	
ERIE	732	988.4	1015.3	37	23	30.0	2.7	56	24+	3	14	0	26	23	74	2.35	- 0.32	1.00	18	0	25.8	17	17.5	16	39*	26	10	3	9	19	7.6	
HARRISBURG	335	1002.6	1017.0	40	21	30.2	- 1.1	54	25	- 3	15	0	25	18	61	4.78	2.02	1.46	9	0	19.4	18	9.7	27	37	W	21	13	6	12	5.2	66
PHILADELPHIA	5	1011.7	1016.3	42	24	33.0	1.1	56	25	2	15	0	25	23	68	3.92	0.60	1.39	9	0	7.4	7	11.0	24	39	N	13	14	8	9	4.8	66
PITTSBURGH	1137	984.4	1016.2	39	24	31.4	2.5	58	23	- 6	14	0	24	20	65	2.55	- 0.42	1.14	12	1	20.3	15	12.0	23	44*	26	25	6	4	21	7.2	49
PITTSBURGH U	749			42	26	34.0	0.7	63	23	5	14	0	22			2.45	- 0.37	1.27	11		22.7											52
READING U	266	1003.8		41	26	33.3	0.6	60	25	10	14	0	22			4.78	1.71	1.40	11	0	13.9	13	12.7	W*	48	N	13	15	7	9	4.7	61
SCRANTON	940	980.6	1015.8	36	20	27.9	0.2	53	25	- 9	15	0	26	18	66	3.40	1.11	0.95	11	0	27.9	20	8.7	24	43	SE	25	11	5	15	6.0	51
WILLIAMSPORT	527	997.2	1016.9	37	18	27.9	- 0.9	52	25	-11	15	0	28	19	70	4.95	2.28	1.49	11	0	33.5	24	9.5	27	32*	24	26	12	5	14	5.8	
RHODE ISLAND																																
BLOCK ISLAND	110	1009.2		39	27	32.9	0.8	50	25+	12	14	0	22			3.37	- 0.47	1.18	11	0	5.9	6						13	7	11	5.4	
PROVIDENCE	55	1007.8	1014.1	40	21	30.6	1.4	54	25	0	1	0	28	19	64	5.65	1.84	2.00	12	1	12.5	11	12.2	29	39*	22	25	14	6	11	5.1	60
SOUTH CAROLINA																																
CHARLESTON	41	1018.0	1020.0	60	37	48.5	- 1.3	74	6	18	15	0	10	37	72	6.53	3.99	2.26	16	1	T	0	8.8	27	54Y	W	20	9	4	18	6.6	41
CHARLESTON U	9			57	40	48.5	- 3.0	67	24+	23	14	0	6			6.99	4.59	2.73	17		T	0	10.2		41	W	20					
COLUMBIA	217	1006.9	1020.1	55	33	44.1	- 2.8	71	22	14	15	0	14	32	70	6.34	3.32	1.88	14	1	0.0	0	7.3	23	46*	28	20	10	6	15	6.0	52
FLORENCE	146	1013.4	1019.4	56	34	44.7	- 2.8	70	24	18	15	0	12	32	66	5.77	3.13	1.50	13	0	T	T	8.6	25	33*	30	20	10	6	15	5.9	
GNVLE SPARTANBURG	957	981.4	1019.4	52	31	41.7	- 2.3	70	23	14	15	0	16	26	58	5.44	1.16	2.52	12	0	0.5	1	8.5	25	34	W	20	13	2	16	5.5	63
SOUTH DAKOTA																																
HURON	1282	966.3	1014.8	34	8	20.9	8.4	54	2	-26	12	0	31	11	67	0.14	- 0.34	0.09	4	0	3.8	3	11.6	30	34	NW	3	11	6	14	5.6	61
RAPID CITY	3165	897.5	1014.7	41	16	28.4	6.4	60	21+	-14	12	0	30	14	59	0.35	- 0.01	0.25	5	0	3.5	2	11.6	33	45	W	20	13	6	12	5.2	63
SIOUX FALLS	1420	961.2	1014.6	35	11	23.0	7.8	57	30	-20	13	0	31	15	74	0.34	- 0.28	0.34	2	0	3.5	3	10.7	30	28*	4	11	14	3	14	5.3	
TENNESSEE																																
BRISTOL	1507	962.8	1018.8	47	22	34.1	- 4.2	66	23	- 4	16+	0	28	20	60	3.25	- 0.44	0.84	11	0	8.9	9	5.1	24	35*	29	9	14	4	13	5.2	
CHATTANOOGA	670	991.9	1020.2	52	28	39.9	- 1.8	71	23	10	2	0	16	29	70	5.98	0.37	2.75	10	1	3.4	6	7.9	18	37	W	20+	11	5	15	5.8	54
KNOXVILLE	950	983.3	1019.8	47	26	36.3	- 5.1	65	23	7	15	0	22	26	69	4.71	- 0.17	1.50	11	2	8.5	9	7.8	24	35	W	20	15	4	12	5.2	59
MEMPHIS	263	1004.3	1019.4	52	30	41.1	- 0.4	70	23	14	15+	0	22	31	70	3.73	- 2.35	1.54	9	3	0.5	1	9.3	18	33	NW	24	11	11	9	4.9	73
MEMPHIS U	271			52	34	42.8	0.7	69	23	16	14	0	12			3.34	- 2.47	1.21	9		0.8	1										
NASHVILLE	577	998.4	1018.7	51	27	38.9	- 1.0	68	22	10	14	0	22	28	68	3.70	- 1.79	0.78	10	2	5.0	9	9.2	18	40	W	19	12	7	12	5.0	68
OAK RIDGE	905	985.8		48	25	36.9	- 3.0	64	23	8	15	0	25			4.81	- 1.13	1.26	10	1	0.3	5	5.1		45Y		20	12	7	12	5.2	
TEXAS																																
ABILENE	1759	955.4	1017.9	60	33	46.2	1.6	81	18	12	14+	0	16	22	45	2.36	1.48	2.12	3	1	2.0	2	10.2	20	43	NW	11	18	7	6	3.6	78
AMARILLO	3607	887.5	1016.0	52	23	37.2	0.5	72	21+	0	13	0	27	12	42	T	- 0.65	T	0	0	T	T	15.6	24	42	W	18	24	5	2	2.6	86
AUSTIN	597	996.9	1019.6	62	39	50.3	- 0.1	76	19	17	14	0	11	35	62	2.57	0.22	1.48	5	1	0.6	0	10.3	18	31	NW	24	14	8	9	4.6	70
BROWNSVILLE	16	1016.4	1018.9	69	50	59.6	- 1.8	81	19	32	13	0	1	49	72	0.35	- 1.00	0.21	4	0	0.0	0	12.1	18	33	NW	16	9	2	20	6.9	50
CORPUS CHRISTI	43	1018.3	1019.6	67	47	56.9	- 0.5	79	22+	27	13	0	4	46	73	1.61	- 0.02	1.17	7	1	0.0	0	11.3	36	33	SE	30	8	6	17	6.7	58
DALLAS	481	1000.0	1019.1	57	34	45.4	- 0.5	77	22	11	14	0	14	29	57	3.27	0.95	1.77	4	0	7.4	7	11.9	18	45	SE	30	17	5	9	4.1	77
DEL RIO	1026	983.9		63	35	49.2		79	19	19	14	0	15			0.42		0.37	2	0	0.0	0	10.3					16	6	9	4.1	
EL PASO	3918	887.6	1018.4	53	25	39.3	- 3.6	64	22+	10	10	0	23	9	31	T	- 0.46	T	0	0	0.0	0	8.8	2	54	W	19	22	4	5	2.5	92
FORT WORTH	544	997.7	1019.1	56	31	43.8	- 1.7	76	22	4	14	0	19	29	61	3.53	1.49	1.73	4	0	12.1	8	10.8	18	36*	31	12	16	5	10	4.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			57	47	52.1	- 2.8	67	22+	25	13	0	3			4.13	0.67	1.21	11		0.0	0			36	N	9					35
HOUSTON U	41			61	47	53.9	- 0.7	76	22	24	13	0	3			2.86	- 0.86	1.26	9		0.0	0										
HOUSTON	50	1017.0	1019.7	61	42	51.6	- 2.0	74	22+	21	14	0	6	42	75	2.89	- 0.89	1.27	9	0	0.0	0	11.0	34	32*	33	9	7	5	19	7.2	51
LAREDO	500	1003.4	1019.1	68	44	56.0	- 1.7	85	19	26	13	0	5	36	55	0.36	- 0.77	0.21	5	0	0.0	0	10.3	12	30*	15	30+	14	5	12	5.0	
LUBBOCK	3243	903.4	1017.6	54	23	38.8	- 0.4	71	26	1	13	0	28	17	46	0.45	- 0.23	0.37	2	0	T	T	14.2	26	55*	28	19	21	3	7	3.0	
MIDLAND	2854	916.3	1016.9	59	29	43.6	- 0.4	75	21+	7	13	0	20	16	40	0.40	- 0.40	0.40	2	0	T	0	11.5	24	32*	29	19	20	8	3	2.8	
PORT ARTHUR	16	1018.2	1019.7	60	41	50.4	- 3.2	75	8	19	14	0	6	44	82	4.28	0.05	1.12	12	2	T	0	10.8	18	34	NW	12+	6	5	20	7.4	46
SAN ANGELO	1903	949.8	1018.4	60	30	45.1	- 1.8	78	22+	14	13	0	20	22	47	0.95	- 0.02	0.92	2	0	T	T	9.5	18	32*	29	19	19	7	5	3.2	
SAN ANTONIO	792	994.4	1019.5	63	39	51.0	- 1.0	78	19	15	14	0	8	35	60	3.40	1.66	2.56	6	0	T	0	8.7	34	30	NW	24	14	8	9	4.6	71
VICTORIA	104	1014.9		65	44	54.3	- 1.1	76	22+	21	14	0	4			2.03	- 0.31	1.13	3	1	0.0	0	10.7		44Y		11	6	10	15	6.5	
WACO	500	997.4	1019.1	60	34	46.7	- 1.3	76	22	7	14	0	15	33	64	3.15	0.88	2.05	4	0	5.6	4	15.0	18	38*	31	8	14	7	10	4.5	
WICHITA FALLS	994	979.2	1017.6	58	29	43.6	0.8	78	22	7	13	0	18	23	52	1.35	0.23	1.26	3	0	1.2	1	12.2	18	32*	33	12+	15	11	5	3.5	
UTAH																																
MILFORD	5028	845.7		39	10	24.2	- 0.4	56	1	- 6	13	0	31			0.45	- 0.12	0.25	5	0	6.4	3						8	6	17	6.2	
SALT LAKE CITY	4220	870.7	1025.0	32	12	21.9	- 5.3	45	21	-10	13	0	30	16	77	0.94	- 0.41	0.26	10	0	18.2	7	8.9	16	35	S	21+	6	4	21	7.5	43
WENDOVER	4237	873.3		34	19	26.4	- 0.6	46	20+	7	13	0	30			0.18	- 0.14	0.08	6	0	2.4	1						9	7	15	6.4	
VERMONT																																
BURLINGTON	331	998.9	1014.1	31	13	21.9	5.7	50	25	- 7	15+	0	31	13	66	2.27	0.32	1.15	11	0	7.5	8	10.1	18	29	W	10	2	10	19	7.7	48
VIRGINIA																																
LYNCHBURG	947	991.7		47	27	36.9	- 0.7	65	22	7	15+	0	19			4.82	1.53	1.47	10	0	6.3	4	8.3		34	W	20	15	3	13	4.9	58
NORFOLK	26	1016.1	1017.9	52	33	42.3	1.1	65	25+	20	15+	0	16	30	67	4.56	1.23	1.08	8	1	T	T	13.9	18	45	SW	26	16	2	13	4.5	65
RICHMOND	162	1011.3	1017.7	50	26	38.1	- 0.6	68	25	0	15	0	22	25	63	4.16	0.70	1.09	10	0	5.7	5	9.0	23	29	SW	25	15	3	13	4.7	68
ROANOKE	1174	974.7	1018.0	47	28	37.3	- 0.8	66	23	12	14	0	19	21	56	5.20	2.08	1.56	11	0	15.7	6	10.8	24	53*	30	21	15	5	11	4.6	
WASHINGTON																																
OLYMPIA	190	1007.1	1014.5	45	34	39.8	1.7	52	31+	23	7	0	9	38	92	15.13	7.28	2.94	25	0	2.4	T	9.8	18	44*	22	19+	0	3	28	9.2	
SEATTLE TACOMA	400	1000.1	1014.4	45	35	40.0	1.7	52	16+	29	7	0	7	34	81	9.76	4.03	1.92	24	2	0.5		12.1	20	38*	23	19	0	2	29	9.4	
SEATTLE U	14			47	40	43.4	2.2	54	16	34	20+	0	0			8.16	2.97	1.93	24		1.4	T										23
SPOKANE	2356	945.6	1015.5	34	24	29.3	4.0	43	1	11	8	0	31	26	86	3.15	0.71	0.83	18	0	26.3	11	10.2	21	40	SW	19	3	3	25	8.5	32
STAMPEDE PASS R	3958	874.8		29	24	26.3	2.8	39	1	20	24+	0	31			21.83	9.80	3.02	28	0	163.6	157						0	0	31	9.9	
TATOOSH ISLAND R	101	1008.3	1011.3	47	40	43.5	1.5	52	1	32	20	0	1	39	83	14.22	3.40	1.39	31	3	T	T	20.8	27	72	SW	19	0	2	29	9.5	8
WALLA WALLA U	949			48	35	41.7	8.5	65	1	22	13	0	9			0.97	- 0.92		10	0	T											
YAKIMA	1061	976.5	1016.4	42	25	33.2	5.7	53	1	15	23	0	31	25	77	0.60	- 0.59	0.25	6	0	4.3	1	6.2	29	29*	29	6	4	8	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	5	1015.2	1018.1	84	69	76.6	2.2	89	18	63	31	0	0	68	76	2.02	- 2.68	0.51	17	0	0.0	0	7.4	7	25	E	31	6	20	5	5.6	71
SWAN ISLAND	28	1014.1		83	74	78.5	0.2	85	7	69	14	0	0			3.13	- 0.31	1.28	18	1	0.0	0						11	14	6	4.8	
WEST VIRGINIA																																
BECKLEY	2504	927.1	1018.7	43	24	33.2		65	23	2	15	0	25	20	63	3.44		0.87	13	0	11.1	7	12.8	29	38*	30	20	13	6	12	5.0	
CHARLESTON	939	981.3	1017.6	46	26	35.8	- 0.8	67	23	3	15	0	24	24	65	2.58	- 1.74	0.72	10	0	11.3	9	7.8	23	35*	24	25	14	7	10	4.9	
ELKINS	1970	945.9	1017.2	44	19	31.6	- 0.9	65	23	-12	15	0	29	21	69	3.20	- 0.42	0.88	14	0	13.0	8	9.2	27	37*	25	25	9	10	12	5.7	
HUNTINGTON	827	987.2	1018.2	45	24	34.2	- 2.4	66	23	0	14	0	25	23	67	2.11	- 1.54	0.53	9	0	10.7	8	7.8	18	35*	26	20	15	4	12	5.3	
PARKERSBURG U	615			45	25	35.2	0.6	65	23	6	15+	0	23			2.20	- 1.14	0.61	9	1	12.0	10	8.3		34	W	26					60
WISCONSIN																																
GREEN BAY	682	989.2	1012.7	29	13	20.9	4.1	48	22	- 3	15+	0	31	14	75	1.14	- 0.01	0.89	8	1	2.9	1	11.9	24	36	SW	25	8	8	15	6.3	49
LA CROSSE	652	988.4	1014.0	33	16	24.2	7.7	51	22	- 8	13	0	31	16	71	0.34	- 0.85	0.22	7	0	5.7	4	11.0	18	35*	29	25	12	9	10	5.4	
MADISON	858	976.8	1013.4	34	16	24.9	7.4	53	22	- 2	28+	0	29	16	69	0.93	- 0.47	0.80	8	1	1.4	2	10.8	18	36	W	25	9	7	15	6.1	54
MILWAUKEE	672	987.9	1013.7	34	18	26.1	5.5	53	22	- 2	1	0	28	19	75	1.18	- 0.65	0.56	8	2	3.8	3	12.9	21	36	NW	25	9	9	13	5.7	53
WYOMING																																
CASPER	5319	833.1	1016.2	32	14	23.0	- 0.4	48	1	- 6	12	0	31	12	62	0.75	0.19	0.42	9	0	13.2	7	17.3	22	39*	22	21	7	11	13	6.2	
CHEYENNE	6126	808.4	1015.8	38	15	26.1	0.7	55	21	- 6	13	0	31	6	46	0.03	- 0.49	0.02	2	0	1.0	T	18.8	29	57	W	25	12	11	8	4.5	75
LANDER	5563	831.5	1017.5	32	5	20.4	1.1	52	1	-12	14+	0	30	7	58	0.43	- 0.03	0.23	2	0	8.3	10	7.2	24	49	NE	20+	6	17	8	6.0	66
SHERIDAN	3942	880.3	1015.3	38	15	26.4	5.1	59	1	- 8	13	0	31	16	67	0.35	- 0.29	0.15	7	0	4.9	2	9.6	31	56	SW	21	6	12	13	6.5	65

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 and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

A Maximum hourly average.

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

Y Peak Gust.

\# Wind direction to 8 compass points only.

\+ 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

Y Sun below horizon January 1-23, inclusive.

X Sun below horizon January 1-17, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	994.5	1020.5	12.2	0.0	6.0	-2.1	20.0	23+	-10.6	15	0	19	0.0	69	137	2	62	11	2	10	203	3.1	15	15.2	W	9	7	7	17	5.6	53
HUNTSVILLE	184	997.7	1020.1	11.1	- 1.1	4.9	-1.1	21.7	22	-10.6	15	0	19	- 1.7	66	135	3	68	9	3	8	279	3.7	14	15.6*	18	20+	9	8	14	6.0	
MOBILE	64	1017.8	1020.1	14.4	4.4	9.6	-2.1	22.8	31	- 6.7	14	0	6	4.4	73	187	69	68	15	6	T	51	4.5	34	13.4*	4	16	5	5	21	7.5	
MONTGOMERY	59	1012.7	1020.8	12.8	1.7	7.3	-1.6	20.6	24	- 9.4	15	0	14	2.2	74	165	62	49	10	2	T	25	2.7	14	14.3	W	24	6	5	20	7.4	45
ALASKA																																
ANCHORAGE	27	992.2	997.3	- 6.1	-13.9	- 9.9	0.9	0.0	4	-26.7	21	0	31	-14.4	80	9	- 11	6	5	0	193	178	1.8	36	7.2*	36	25+	9	2	20	6.9	35
ANNETTE	34	998.5	1002.6	4.4	0.0	2.0	0.7	7.2	2	- 9.4	22	0	16	0.0	86	379	91	82	25	0	417	254	5.4	14	18.3*	17	26	1	6	24	8.8	
BARROW	7	1012.3	1013.0	-26.7	-31.7	-28.9	-0.2	-15.0	4	-45.0	31	0	31	-33.9	65	2	- 3	1	5	0	43	152	0.5	6	13.4*	7	14	V4	V1	V3	4.1	
BARTER ISLAND	12	1010.0	1012.0	-25.0	-31.1	-27.9	-0.8	-17.2	2	-42.8	31	0	31	-32.8	63	2	- 8	1	5	0	20	330	6.0	7	19.7*	10	16	X7	X0	X7		
BETHEL	38	996.2	997.5	-11.1	-18.9	-15.1	0.7	0.6	23+	-32.2	20	0	31	-17.8	80	8	- 20	2	9	0	132	102	4.5	4	12.5*	3	26	3	4	24	8.3	
COLD BAY	29	988.3	992.0	1.1	- 3.3	- 1.1	1.2	6.1	22	-12.2	9	0	25	- 3.3	84	34	- 25	9	18	0	155	152	5.8	15	19.2*	18	29	0	9	22	8.7	
CORDOVA	12	993.9	995.8	1.1	- 6.7	- 2.7	2.2	5.6	25+	-19.4	21	0	27	- 4.4	88	120	- 35	30	16	0	648	178	2.7	11	11.2*	14	4	5	2	24	8.0	
FAIRBANKS	133	987.4	1005.7	-21.7	-31.7	-26.5	-2.6	- 9.4	4	-41.1	21	0	31	-30.6	68	5	- 17	4	7	0	122	254	0.4	2	6.3*	23	5	12	2	17	6.0	
JUNEAU	5	1000.5	1001.5	0.6	- 3.9	- 1.5	2.3	4.4	15+	-16.1	24+	0	22	- 3.3	85	81	- 21	13	23	0	340	152	4.5	9	15.6*	11	3	4	2	25	8.5	24
KING SALMON	13	992.7	994.7	- 4.4	-14.4	- 9.4	0.9	4.4	11	-30.0	20+	0	30	-12.2	78	19	- 9	5	15	0	206	127	4.7	8	17.9*	6	23	5	3	23	7.9	
KOTZEBUE	3	1004.2	1004.7	-17.8	-25.6	-21.6	-0.7	- 9.4	14	-35.6	31+	0	31	-25.0	74	4	- 6	1	6	0	226	432	5.1	11	15.6*	11	23	10	5	16	6.3	
MC GRATH	102	989.7	1003.4	-17.8	-30.0	-25.4	-2.6	-10.6	31	-42.2	21	0	31	-31.7	58	3	- 29	2	3	0	114	279	0.4	35	5.8*	32	4	10	7	14	5.7	
NOME	4	1000.0	1000.8	-12.2	-20.6	-16.2	-0.9	0.5	24	-31.7	8	0	31	-20.0	72	21	- 5	5	17	0	201	305	5.5	5	16.5*	4	10	5	5	21	7.5	20
ST. PAUL ISLAND	7	991.5	992.5	- 1.1	- 5.0	- 3.1	0.6	2.8	22	-12.2	31	0	28	- 4.4	88	127	81	35	17	0	907	457	7.6	36	23.7*	35	30	2	3	26	9.1	
SHEMYA	37	991.6	995.3	0.6	- 2.8	- 1.3	-0.9	4.4	20	- 8.9	14	0	24			41	- 22	0			226	102										
YAKUTAT	9	997.2	998.5	1.1	- 4.4	- 1.6	1.0	4.4	26+	-16.7	21	0	25	- 3.9	85	343	67	58	22	0	1204	229	3.1	9	16.1*	12	4	5	1	25	8.2	
ARIZONA																																
FLAGSTAFF	2131	789.2	1020.7	4.4	-12.2	- 3.7	-1.1	13.3	1	-26.1	24	0	31	-13.3	52	27	- 19	20	4	0	262	229	3.6	3	13.0*	2	12	17	5	9	3.7	
PHOENIX	340	978.8	1019.0	16.1	0.0	8.2	-1.7	21.7	31	- 6.7	11	0	15	- 5.6	42	6	- 13	6	2	0	0	0	2.7	9	16.5Y	FSE	28	22	4	5	2.6	93
PRESCOTT	1528	847.7	1020.3	10.0	- 6.1	1.8	-1.0	20.6	1	-15.0	14	0	30	-12.2	43	8	- 18	6	3	0	25	25	3.6	18	17.9	SW	22	18	9	4	3.1	88
TUCSON	788	927.8	1017.8	16.7	0.6	8.6	-1.3	24.4	26+	- 7.8	12	0	13	-10.0	31	4	- 17	2	3	1	0	0	4.2	12	13.9	E	13	20	6	5	2.7	92
WINSLOW	1487	853.3	1023.1	8.3	- 9.4	- 0.8	-0.2	18.3	2	-18.3	14	0	31	-14.4	41	1	- 10	1	1	0	8	T	3.9	23	16.5*	22	22	18	9	4	2.9	
YUMA	61	1014.1	1019.5	20.0	3.9	11.9	-1.1	26.1	1	- 1.1	10	0	2	- 7.8	31	T	- 10	T	0	0	0	0	3.1	36	18.3	NW	3	20	8	3	2.6	92
ARKANSAS																																
FORT SMITH	137	1001.2	1018.7	13.3	- 3.9	4.8	0.4	22.8	22+	-16.1	14	0	23	- 3.9	59	16	- 52	14	7	1	0	T	3.1	6	16.1	SW	19	18	6	7	3.6	77
LITTLE ROCK	78	1005.8	1019.4	12.8	- 3.3	4.9	0.1	25.6	24	-12.8	14	0	23	- 2.8	62	25	-108	14	4	0	T	T	3.6	25	17.0	W	24	14	7	10	4.5	66
TEXARKANA	110	1005.9	1019.6	13.9	1.1	7.4	0.1	22.8	19	-11.7	14	0	14	0.0	66	21	-102	12	5	1	8	T	4.2	21								
CALIFORNIA																																
BAKERSFIELD	151	1004.6	1022.8	13.9	2.2	8.0	-0.6	20.0	20	- 1.7	6	0	7	2.2	72	7	- 23	3	5	0	0	0	2.5	12	8.0*	17	20+	9	10	12	5.8	
BISHOP	1252	876.5		11.1	- 7.8	1.8	-0.8	19.4	1	-17.8	23	0	31			12	- 13	7	2	0	127	127						11	8	12	5.0	
BLUE CANYON	1609	840.2		6.1	- 1.1	2.3	-0.6	13.9	31+	- 6.7	23	0	23			312	15	71	17	0	1720	1524						6	7	18	7.0	
BURBANK	213	993.3	1019.7	18.9	3.9	11.3	-0.7	28.3	1	1.1	17+	0	0	- 2.2	48	54	- 26	38	4	0	0	0	3.0	36	11.6*	36	6	15	9	7	3.5	
EUREKA U	13	1019.5		11.7	5.0	8.1	-0.4	15.6	25	0.6	11	0	0			283	113	56	18	3	0	0	3.1	SW	14.8	S	19+	2	4	25	8.3	45
FRESNO	99	1010.3	1022.6	11.7	1.7	6.6	-1.3	17.2	20	- 3.9	13	0	10	2.8	80	17	- 35	13	7	0	0	0	2.3	12	13.0	NW	21	3	10	18	7.6	54
LONG BEACH	10	1018.7	1020.3	20.0	6.7	13.4	1.7	27.8	31	3.3	13	0	0	2.8	55	15	- 36	11	3	0	0	0	2.5	28	16.5*	17	21	12	13	6	4.2	
LOS ANGELES	30	1016.1	1020.0	18.3	7.2	12.9	0.5	25.0	31	4.4	15	0	0	1.7	54	38	- 30	19	4	0	0	0	3.8	31	19.7Y	W	22	14	11	6	4.1	
LOS ANGELES U	94			18.3	8.9	13.7	0.5	26.7	1	5.6	23	0	0			36	- 42	21	4	0	0	0	3.0	NE#	16.1	N	14	16	12	3	3.7	85
MT SHASTA R	1080	894.7		4.4	- 3.9	0.4	-0.3	11.1	1	-10.0	22	0	29			144	- 18	85	14	0	914	381						5	8	18	7.5	
OAKLAND	1	1022.1	1022.5	11.7	6.1	9.1	0.2	16.7	3	2.2	13	0	0	5.6	80	99	2	56	13	1	0	0	3.3	16	20.6*	16	20	7	7	17	7.1	
POINT ARGUELLO R	112	1007.1		15.6	3.9	9.8	-0.1	20.0	3	- 1.1	16+	0	4			37	- 23	20	7	0	0	0			10.3*	29	21+	10	11	10	5.0	
RED BLUFF	104	1008.8	1021.9	11.1	2.8	6.7	-0.8	17.2	26	- 2.2	13	0	5	2.2	77	58	- 51	47	10	1	0	0	4.5	15	25.0	SE	20	5	8	18	7.5	43
SACRAMENTO	5	1021.4	1022.8	11.7	2.8	7.3	-0.1	16.7	26	- 2.2	13	0	6	5.0	90	97	17	68	11	0	T	0	3.0	33	14.3	SE	20	5	4	22	7.8	45
SACRAMENTO U	7			12.2	3.3	7.8	-0.2	17.2	26	- 1.1	5	0	1			85	- 6	58	8		0	0										
SANDBERG R	1377			7.2	0.0	3.6	-0.8	21.7	1	- 4.4	23+	0	20			23	- 42				69	51	6.3		17.9*	17	21+					
SAN DIEGO	4	1016.1	1019.5	18.3	7.2	12.9	0.2	24.4	1	3.9	15	0	0	3.9	60	33	- 18	25	7	1	0	0	2.5	7	12.1	S	22	17	9	5	3.8	80
SAN FRANCISCO	2	1021.9	1022.6	13.3	4.4	9.0	-0.2	16.1	26+	0.6	13+	0	0	5.6	78	111	9	68	12	1	0	0	3.6	27	26.4	SSE	20	7	6	18	6.9	
SAN FRANCISCO U	16			13.3	7.8	10.6	0.2	18.9	5	5.6	23+	0	0			86	- 30	49	11	1	0	0	2.9	NW#	14.3	S	20					67
SANTA CATALINA	478	963.1		15.0	9.4	12.1	0.1	26.1	1	6.1	24	0	0			22	- 45	11	5	0	0	0						13	12	6	4.1	
SANTA MARIA	73	1012.9	1021.8	17.2	1.1	9.3	-0.8	22.2	31	- 3.3	13	0	14	2.2	69	31	- 41	19	6	1	0	0	3.8	32	10.7*	2	2	14	12	5	4.0	
STOCKTON	9	1021.4	1022.9	11.1	1.7	6.5	0.0	15.0	26	- 4.4	13	0	12	3.3	83	51	- 14	34	10	0	0	0	3.2	14	17.9*	16	20	3	6	22	8.0	
COLORADO																																
ALAMOSA	2297	768.5		1.7	-22.2	-10.4	-2.3	11.7	2	-36.1	14+	0	31			7	0	3	7	0	127	76						21	5	4	2.8	
COLORADO SPRINGS	1881	806.7	1016.4	6.1	- 8.3	- 0.9	0.9	15.0	28+	-18.9	13	0	31	-13.9	41	T	- 7	T	0	0	T	T	4.5	3	14.3*	31	19	16	8	7	3.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
DENVER	1610	834.1	1015.3	7.8	- 8.9	- 0.8	1.2	18.3	20	-20.6	12	0	31	-12.2	47	7	- 7	3	5	0	66	25	4.5	18	15.6	NW	25+	15	9	7	4.2	78
GRAND JUNCTION	1478	861.6	1023.3	2.8	-10.0	- 3.6	-0.3	12.2	21	-19.4	14	0	31	-11.7	59	12	- 4	7	6	0	122	25	4.5	13	15.6	SE	18	12	8	11	5.3	69
PUEBLO	1414	854.0	1016.5	9.4	- 8.3	0.7	1.8	18.3	28+	-19.4	13+	0	28	-11.7	46	1	- 7	1	1	0	13	25	5.4	27	32.2	W	17	16	9	6	3.6	91
CONNECTICUT																																
BRIDGEPORT	2	1014.9	1015.9	3.9	- 3.9	- 0.2	0.8	10.0	25	-13.9	15	0	24	- 5.0	71	72	- 21	21	10	0	264	254	7.2	27	30.0*	34	21	13	7	11	5.2	
HARTFORD	52	1008.3	1014.5	2.8	- 7.8	- 2.7	0.6	11.1	25	-21.1	15	0	29	- 7.2	72	141	50	53	10	0	351	279	3.6	36	22.4	NW	21	10	10	11	6.0	59
NEW HAVEN	2	1014.8		3.9	- 5.0	- 0.5	0.8	10.0	25	-13.9	15	0	26			97	- 3	26	10	0	300	254	4.4		17.9	W	10	13	8	10	5.2	65
DELAWARE																																
WILMINGTON	24	1013.3	1016.5	5.6	- 4.4	0.7	-0.1	16.7	25	-17.2	15	0	26	- 5.0	69	105	19	32	9	0	170	152	4.5	29	17.0*	30	21	16	5	10	4.6	
DIST. OF COLUMBIA																																
WASHINGTON U	22			8.3	- 1.7	3.3	0.8	18.3	3	-16.1	16+	0	15			107		27	9													
WASH NATL AP	4	1012.1	1016.8	7.8	- 3.3	2.4	-0.3	18.3	25	-13.9	15	0	23	- 4.4	64	101	24	29	9	0	226	229	4.2	20	18.8	NW	21	17	3	11	4.5	66
FLORIDA																																
APALACHICOLA U	4	1018.6		13.9	6.7	10.3	-2.6	20.6	20+	- 4.4	14	0	4			210	130	52	16	2	T	0	3.5	E#	14.8	N	12	6	4	21	7.3	54
DAYTONA BEACH	9	1019.0	1020.9	18.9	8.3	13.7	-1.4	27.8	9	- 2.8	14	0	3	9.4	79	134	85	52	12	1	0	0	4.2	36	15.6*	31	12	5	8	18	7.2	
FORT MYERS	4	1019.5		22.8	11.7	17.3	-0.2	29.4	8	0.0	15	0	1			73	35	34	7	1	0	0	4.7		12.5*	28	13	3	9	19	7.5	
JACKSONVILLE	7	1019.2	1020.6	17.2	6.1	11.7	-1.6	24.4	24	- 5.6	15	0	4	6.7	76	185	123	63	15	0	0	0	3.8	18	17.4	S	31	5	7	19	7.1	63
KEY WEST	2	1018.3	1019.5	23.3	17.8	20.5	-0.4	27.8	28+	8.3	15	0	0	16.1	78	2	- 37	2	1	0	0	0	5.5	6	13.0	NW	13+	7	9	15	6.4	61
LAKELAND U	65			20.0	10.0	14.8	-1.7	28.9	8	- 2.8	14	0	2			145	93	96	9	2	0	0	3.5					4	8	19	7.3	38
MIAMI BEACH	3			22.2	17.2	19.8	-0.8	30.0	28	3.3	15+	0	0			40	- 2	40	2	0	0	0	6.3	SE				2	13	16	7.0	43
MIAMI	2	1018.4	1019.8	23.3	16.1	19.7	0.3	29.4	28	2.2	15	0	0	15.6	78	11	- 40	11	3	0	0	0	3.9	12	12.5*	24	17	0	14	17	7.8	
ORLANDO	32	1015.8	1020.6	20.0	9.4	14.7	-1.1	28.3	9+	- 2.8	14	0	1	9.4	76	157	106	85	12	1	0	0	4.4	4	10.3*	33	20+	4	7	20	7.6	
PENSACOLA	4			13.9	5.0	9.5	-2.4	21.1	9	- 6.7	14	0	6			300	193	94	16	4	T	T	3.6	35	15.2	E	6					25
TALLAHASSEE	18	1018.3	1021.1	15.6	3.9	9.7	-2.4	21.1	7	- 8.9	15	0	8	5.0	77	235	149	65	15	3	0	0	4.0	18	14.3*	32	20	5	5	21	7.5	
TAMPA	6	1019.2	1020.8	15.6	8.9	14.8	-1.4	27.2	8	- 2.8	15	0	3	10.0	76	129	75	78	10	2	0	0	5.4	6	13.9*	34	12	3	8	20	7.6	42
WEST PALM BEACH	5	1019.5	1020.7	22.8	14.4	18.6	-0.8	28.3	9	1.7	14	0	0	13.9	76	25	- 38	12	7	0	0	0	4.5	15	12.5*	27	13	1	7	23	8.5	
GEORGIA																																
ATHENS	245	990.1	1019.8	11.1	0.0	5.4	-1.6	22.2	23	-10.0	15	0	15	- 0.6	70	188	64	71	14	1	T	51	3.8	24	10.3*	30	20	9	5	17	6.3	
ATLANTA	306	977.1	1020.3	10.0	- 0.6	4.9	-2.2	20.0	23	-10.0	15	0	15	- 1.1	70	153	40	72	14	0	20	25	3.1	25	18.8	W	20	9	5	17	6.4	52
AUGUSTA	44	1013.2	1020.2	13.3	0.6	6.9	-1.7	22.2	23+	-10.0	15	0	15	1.7	74	180	104	58	13	0	T	T	3.5	24	14.3*	29	20	8	3	20	6.7	
COLUMBUS	117	1005.9		12.8	0.6	6.7	-2.1	21.1	23	-10.6	15	0	16			178	75	43	16	1	T	T	3.6	6	13.9*	28	20	5	5	21	7.5	
MACON	109	1006.6	1020.6	12.8	1.7	7.2	-2.3	20.0	23	- 8.9	15	0	11	1.1	72	211	125	83	16	4	T	T	3.1	30	14.8	NW	20	6	4	21	7.1	42
ROME	194	996.8		10.6	- 3.3	3.6	-2.1	21.7	23	-13.9	15	0	24			151	11	81	11	2	41	127						9	9	13	5.9	
SAVANNAH	15	1017.9	1020.5	15.0	2.8	9.0	-1.9	21.7	7+	- 7.8	15	0	12	3.9	74	160	89	50	15	2	T	0	4.9	25	15.2	NW	20	8	3	20	7.1	45
THOMASVILLE U	86			15.0	5.0	9.9	-2.2	20.0	24	- 6.7	14	0	5			230	139	50	14	3	T	0										
HAWAII																																
HILO	9	1015.8	1017.9	26.7	17.8	22.3	0.7	28.3	30	15.6	20	0	0	17.2	78	372	72	117	25	0	0	0	3.8	25	12.5*	5	18	4	11	16	6.9	44
HONOLULU	2	1017.2	1017.6	27.2	20.6	23.9	1.4	28.3	30+	17.8	24	0	0	16.7	66	55	- 40	14	10	1	0	0	4.9	6	13.4	NE	16	10	14	7	5.1	73
KAHULUI	13	1013.6	1016.7	26.7	19.4	23.4	1.2	30.0	29	15.6	23+	0	0	17.8	72	28	- 52	12	13	1	0	0	5.9	7	13.4	NE	12	15	13	3	3.8	75
LIHUE	35	1012.9	1018.6	26.1	20.0	23.2	1.7	27.8	31+	17.8	31+	0	0	18.3	76	187	47	109	22	2	0	0	5.8	5	13.0	NE	16+	6	15	10	6.1	53
IDAHO																																
BOISE	865	922.9	1022.2	1.1	- 7.8	- 3.3	-1.7	8.3	20	-17.2	13	0	30	- 5.0	87	62	29	19	17	1	544	152	3.4	13	13.4	SE	16	4	7	20	7.8	49
IDAHO FALLS 42NW R	1460			- 5.0	-21.1	-13.1	-2.7	3.3	20	-31.7	15	0	31			11	- 3	4	7				2.2		16.5A	SSW	21					
IDAHO FALLS 46W R	1504	849.3		- 3.9	-18.9	-11.4	-2.2	5.6	2	-30.6	15	0	31			12	- 7	5	5	0	142	229	1.8		14.3A	SSW	21					
LEWISTON	431	964.3		6.1	- 1.1	2.7	3.4	14.4	1	- 5.6	8+	0	22			12	- 15	4	6	0	130	76						2	4	25	8.6	
POCATELLO	1355	864.3	1023.6	- 1.7	-12.8	- 7.1	-1.7	6.1	1	-28.3	13	0	30	-10.0	80	19	- 11	6	16	0	292	356	4.9	24	18.8	S	21	0	11	20	8.1	33
ILLINOIS																																
CAIRO U	96	1004.7		8.9	- 1.7	3.7	0.7	17.8	24+	-11.1	14	0	22			35	- 78	17	7	1	94	76	4.2	S#	14.8	SW	19	14	7	10	4.7	70
CHICAGO O HARE	201	988.7	1014.2	2.8	- 7.2	- 2.4	0.0	15.6	24	-25.0	1	0	27	- 6.7	72	18	- 28	8	10	1	41	25	6.0	24	17.4*	6	12	11	5	15	5.8	
CHICAGO MIDWAY	186	991.2	1014.8	- 1.1	- 6.1	- 1.4	1.9	16.1	24	-16.1	1	0	25	- 6.1	70	27	- 20	14	8	2	64	25	5.8	21	16.5	NE	12	8	8	15	6.2	53
MOLINE	177	992.2	1015.1	3.3	- 7.2	- 2.0	3.2	14.4	22	-18.9	1	0	26	- 6.1	74	40	- 1	17	8	2	135	76	5.1	25	16.1	W	25	9	13	9	5.3	65
PEORIA	199	993.4	1016.4	3.9	- 7.2	- 1.8	1.7	14.4	22	-19.4	1	0	27	- 6.1	74	26	- 22	9	9	1	122	127	4.7	18	15.6	NE	12	11	5	15	6.0	60
ROCKFORD	222	985.7	1013.7	2.2	- 8.3	- 2.9	2.6	12.8	22	-22.2	1	0	28	- 6.7	74	25	- 26	12	7	2	51	102	4.9	29	14.3*	28	25	11	7	13	5.6	
SPRINGFIELD	179	992.2	1016.1	5.6	- 6.7	- 0.7	1.3	16.7	22	-21.7	14	0	26	- 5.6	70	42	- 6	21	6	2	274	279	5.8	19	16.1	SW	25+	11	5	15	5.8	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	1001.5	1017.9	8.3	- 5.6	1.5	0.3	21.1	22	-21.1	14	0	25	- 5.0	65	56	- 45	19	7	2	102	102	3.5	18	15.2	SW	19	12	8	11	5.3	58
FORT WAYNE	241	983.2	1015.6	2.8	- 5.6	- 1.5	1.3	14.4	22	-20.0	14	0	25	- 5.6	75	63	- 5	27	7	1	203	178	5.5	23	18.8	SW	25	7	10	14	6.4	61
INDIANAPOLIS	242	985.4	1016.4	4.4	- 5.6	- 0.7	0.9	17.8	22	-20.6	14	0	27	- 6.1	70	52	- 26	19	8	2	234	203	5.1	23	17.9	S	19	8	10	13	6.1	60
SOUTH BEND	234	985.4	1014.4	2.8	- 5.6	- 1.5	2.1	13.3	22	-22.2	1	0	26	- 6.1	72	40	- 16	9	12	2	254	178	5.8	23	14.3*	25	25	6	8	17	6.8	
IOWA																																
BURLINGTON	212	990.6	1015.9	4.4	- 6.7	- 1.1	3.2	16.1	22	-16.1	28+	0	28	- 6.7	70	33	- 9	13	7	1	119	102	5.9	22	17.0	NW	20	10	11	10	5.5	67
DES MOINES	289	983.0	1015.3	- 1.1	- 7.8	- 2.3	3.9	12.8	21	-21.7	13	0	30	- 7.8	70	13	- 20	8	6	0	163	102	5.4	18	13.9	NE	12	13	6	12	5.0	61
DUBUQUE	325	988.2		0.6	- 8.9	- 4.1	3.1	10.6	22	-21.1	10	0	30			8	- 39	5	4	1	74	102			20.1*	27	25	9	10	12	5.6	
SIOUX CITY	334	972.4	1015.2	3.3	- 9.4	- 3.3	4.1	15.0	2	-28.3	13	0	31	- 8.9	70	9	- 11	7	4	0	76	76	4.6	32	14.3	NW	8+	15	6	10	4.5	76
WATERLOO	265	980.6	1013.8	1.7	-10.0	- 4.2	3.6	11.1	22	-23.9	10	0	31	- 8.3	74	9	- 21	6	5	0	97	76	5.1	31	12.5*	6	11	10	11	10	5.4	
KANSAS																																
CONCORDIA	448	964.1	1015.4	7.8	- 7.2	0.4	2.9	18.3	20	-22.8	13	0	29	- 8.3	56	2	- 1	2	3	0	41	25	5.8	18	17.0	NW	8	19	3	9	3.8	76
DODGE CITY	791	925.8	1016.2	10.0	- 6.1	1.9	2.4	21.1	21	-21.1	13	0	30	- 9.4	49	1	- 13	1	1	0	10	T	5.8	35	17.9	N	8	17	5	9	4.0	82
GOODLAND	1111	885.4	1015.8	8.9	- 8.9	0.2	2.7	20.6	21	-21.7	12	0	30	-10.6	53	T	- 10	T	0	0	T	T	6.3	25	19.7*	33	24+	17	11	3	3.2	
TOPEKA	267	979.2	1016.0	8.9	- 6.7	1.2	3.0	20.6	22	-20.6	13	0	30	- 6.7	60	14	- 12	9	5	0	51	51	5.6	18	17.0	N	12	14	7	10	4.3	69
WICHITA	403	966.0	1016.1	10.0	- 5.0	2.7	2.7	22.8	22	-18.3	13	0	29	- 7.2	56	18	- 3	18	3	0	5	T	5.9	18	21.9	S	10	16	8	7	4.0	78
KENTUCKY																																
COVINGTON	265	984.5	1016.6	5.6	- 5.6	0.1	0.3	17.2	22	-26.1	14	0	25	- 5.6	68	73	- 17	21	9	1	389	178	4.5	21	13.4*	25	25+	10	8	13	5.7	
LEXINGTON	298	981.2	1017.9	7.2	- 3.9	1.7	0.3	18.9	23+	-18.9	14	0	23	- 5.0	66	72	- 54	19	8	1	254	152	4.5	20	12.5*	25	25	14	6	11	5.0	
LOUISVILLE	144	997.9	1017.5	8.3	- 3.9	2.2	0.5	20.0	22	-18.3	14	0	22	- 5.0	62	62	- 42	18	8	2	384	178	4.0	18	13.9	W	26	11	6	14	5.7	62
LOUISIANA																																
ALEXANDRIA	28	1015.9	1020.7	10.0	1.1	7.6	0.0	22.8	19	-11.7	14	0	17	2.2	73	163	28	48	13	2	T	0	2.8	20	10.3*	30	12	8	6	17	6.5	
BATON ROUGE	20	1017.3	1020.5	15.6	3.9	9.8	-1.8	22.8	24	- 6.7	14	0	9	3.9	71	157	36	53	14	1	0	0	3.7	11	10.3*	5	16+	7	6	18	7.1	
LAKE CHARLES	4	1019.0	1020.4	14.4	4.4	9.4	-2.6	22.2	22+	- 6.7	14	0	7	5.0	77	139	27	42	12	2	T	0	4.2	18	11.2*	7	16	6	4	21	7.2	
NEW ORLEANS	1	1018.1	1020.5	15.6	4.4	10.0	-2.6	23.3	23	- 6.1	1	0	9	6.7	81	244	146	101	15	3	0	51	3.3	6	8.9*	15	24+	5	6	20	7.5	
NEW ORLEANS AUDUBON	2	1013.1		15.6	6.1	10.6	0.0	22.8	24+	- 3.3	14+	0	6			258	149	92	15	3			2.2	E#	7.2	NE	16+	5	8	18	7.2	39
SHREVEPORT	77	1010.7	1020.3	10.0	2.2	8.1	-0.6	24.4	19	- 9.4	14	0	10	0.0	62	65	- 57	22	9	1	25	25	4.9	18	12.5*	30	24+	12	7	12	5.3	63
MAINE																																
CARIBOU	190	987.5	1011.8	- 5.0	-15.6	-10.3	1.6	3.9	25	-27.2	18+	0	31	-12.8	76	67	13	18	13	0	513	406	4.9	27				5	10	16	6.9	
PORTLAND	19	1009.3	1013.4	1.7	-10.0	- 4.2	1.4	7.8	25+	-24.4	1	0	31	- 8.9	71	120	9	34	11	0	442	330	4.5	26	15.6	N	14	10	12	9	5.5	67
MARYLAND																																
BALTIMORE	45	1012.1	1016.8	6.1	- 4.4	1.0	-0.6	14.4	25	-18.9	15	0	25	- 6.7	59	134	47	37	9	0	262	178	4.0	28	20.1	W	10	17	5	9	4.1	68
BALTIMORE U	4			7.2	- 1.1	3.1	0.2	17.2	3	-11.1	14	0	17			133	46	42	9													
MASSACHUSETTS																																
BLUE HILL OBS R	189	988.3		2.8	- 5.6	- 1.4	1.4	11.1	25	-14.4	15+	0	27			135	21	44	10		511	330	7.6	NW#	27.3	SSE	25					60
BOSTON	5	1009.0	1013.9	3.9	- 3.9	- 0.2	1.0	12.8	25	-12.2	15+	0	23	- 6.1	67	116	16	43	10	1	366	229	5.8	32	18.8	NE	13	14	6	11	5.1	63
NANTUCKET	13	1012.8	1014.0	4.4	- 2.8	0.8	0.2	8.9	25+	- 8.9	15+	0	23	- 3.3	75	135	28	43	12	0	533	483	7.2	29	21.9	NW	28	11	5	15	5.7	56
PITTSFIELD	357			1.1	-10.6	- 4.8	0.9	10.6	25	-23.9	1	0	29			89	13	30	14		919	432										
WORCESTER	301	976.0	1013.2	1.7	- 6.7	- 2.7	1.8	10.6	25+	-16.1	14+	0	29	- 8.3	66	138	43	59	10	0	378	381	5.9	27	18.8*	29	10	13	8	10	5.3	
MICHIGAN																																
ALPENA	210	989.3		0.0	-11.1	- 5.6	1.2	6.7	21	-24.4	13+	0	31			33	- 17	12	11	0	231	229	3.8	SW	13.9	E	24	3	6	22	7.6	51
DETROIT	186	987.0	1014.6	2.8	- 4.4	- 0.9	1.9	11.7	25	-14.4	1	0	25	- 6.1	70	57	5	23	11	1	170	152	5.8	22	18.8	SW	25	6	6	19	7.4	39
DETROIT M WAYNE CO	193	990.0	1015.0	1.7	- 6.1	- 2.2	0.9	12.2	25	-18.9	1	0	29	- 6.7	71	56	7	23	11	1	135	127	4.2	23				5	7	19	7.2	
DETROIT WILLOW RUN	217	985.3	1014.5	2.2	- 6.1	- 1.9	1.1	11.7	25	-18.9	1	0	28	- 5.0	79	43	- 7	24	9	1	94	127	5.4	21	17.9*	24	25	5	7	19	7.5	
FLINT	233	986.0	1014.7	1.7	- 6.7	- 2.4	3.1	11.1	25	-22.8	1	0	28	- 7.2	70	37	- 7	9	10	1	132	127	5.4	23	13.9*	23	25	4	7	20	7.5	
GRAND RAPIDS	210	987.1	1013.6	1.7	- 6.7	- 2.5	1.7	11.1	24+	-26.1	1	0	28	- 5.0	81	35	- 14	14	9	1	472	203	5.6	18	17.0	SW	25	5	7	19	7.5	42
LANSING	260	980.2	1013.8	2.2	- 6.1	- 2.1	2.2	12.2	22	-25.0	1	0	28	- 5.6	77	33	- 17	13	11	0	163	127	4.0	23	18.8	SW	25	4	7	20	7.4	37
MARQUETTE U	206	983.2		0.0	- 7.2	- 3.7	3.2	6.7	2	-15.0	26	0	31			33	- 15	20	14	0	295	432	3.6	W#	15.6	SW	1	4	4	23	7.9	48
MUSKEGON	191	989.7	1013.5	2.2	- 5.6	- 1.7	1.7	13.3	24	-22.8	1	0	27	- 4.4	80	50	- 4	25	13	2	389	610	6.5	29	15.6*	25	25	3	4	24	8.2	
SAULT STE MARIE	220	988.0	1011.4	- 2.2	-10.6	- 6.4	2.6	3.3	3	-26.7	12	0	31	- 7.8	86	70	18	21	22	1	965	635	5.4	12	15.6*	29	26+	3	3	25	8.5	32
MINNESOTA																																
DULUTH	435	969.3	1012.2	- 3.3	-13.3	- 8.4	4.6	5.6	1	-25.6	28	0	31	-11.7	74	28	- 1	16	6	0	254	330	5.4	30	25.0	NE	23	5	12	14	6.6	47
INTERNATIONAL FALLS	359	968.6	1011.7	- 6.1	-17.2	-11.7	4.4	3.9	1	-37.2	12	0	31	-15.0	76	19	- 3	6	9	0	152	381	5.2	27	13.4*	21	20+	2	10	19	7.7	
MINNEAPOLIS	251	978.9	1013.9	- 1.7	-11.7	- 6.7	4.2	5.6	20+	-24.4	13	0	31	-10.6	71	12	- 6	7	5	0	127	76	4.5	29	17.0	SW	17	12	9	10	5.0	60

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	975.4	1013.8	- 0.6	-11.1	- 5.9	4.3	7.8	22	-21.7	28+	0	31	- 8.9	77	9	- 14	4	6	0	127	51	6.8	29	15.6*	29	25+	11	9	11	5.5	
ST CLOUD	315	973.7		- 2.8	-13.9	- 8.4	3.8	5.6	17	-26.1	27+	0	31			5	- 14	3	4	0	48	76						8	12	11	5.5	
MISSISSIPPI																																
JACKSON	93	1007.7	1020.1	13.3	1.7	7.4		21.7	19	- 9.4	15	0	13	1.1	66	132		40	13	2	38	51	4.1	14	12.5*	20	19	7	5	19	6.6	
MERIDIAN	89	1006.8	1021.0	12.8	- 0.6	6.3	-2.7	21.7	24	-12.2	15	0	18	1.7	76	121	2	36	12	3	25	381	2.7	18	13.0*	22	24	7	4	20	6.8	
VICKSBURG U	71	1010.4		13.3	3.3	8.3	-1.2	22.8	19	- 7.8	13	0	10			140	10	54	12	1	T	T	4.2		11.6	NW	20+	8	8	15	6.7	44
MISSOURI																																
COLUMBIA	237	986.2	1015.3	8.3	- 3.9	2.2	3.2	21.1	22+	-15.6	14	0	24	- 5.6	62	19	- 24	15	4	0	48	51	5.4	18	18.3	W	9	11	7	13	5.2	65
KANSAS CITY	226	979.5	1015.3	8.3	- 2.8	2.9	3.1	20.6	22	-16.7	13	0	20	- 5.6	57	30	- 5	16	4	0	191	178	4.0	20	12.5	NE	12	15	6	10	4.6	71
ST JOSEPH	247	979.8		6.7	- 7.2	- 0.2	2.4	18.3	22	-21.1	13	0	30			7	- 23	6	4	0	74	76	4.0	22	13.0*	1	12+	18	5	8	4.1	
ST LOUIS	163	995.4	1016.7	7.8	- 4.4	1.5	1.6	21.1	22	-18.3	14	0	25	- 6.7	58	43	- 7	13	8	2	206	203	4.5	18	15.6	NW	24	12	8	11	5.2	69
ST LOUIS RFC	142			8.3	- 1.7	3.1	2.2	20.0	22+	-12.2	14	0	18			48	- 7	23	7		178	203										
SPRINGFIELD	386	968.1	1016.8	10.6	- 5.0	2.8	1.9	22.2	23+	-17.8	14	0	25	- 6.1	58	13	- 36	8	8	1	66	51	4.9	16	15.6	S	19	14	7	10	4.5	75
MONTANA																																
BILLINGS	1087	886.9	1013.9	2.8	- 6.1	- 1.6	3.3	9.4	20+	-16.7	12	0	30	-10.0	57	3	- 11	2	6	0	46	25	6.3	25	16.1	NW	21	6	10	15	6.8	65
GLASGOW	694	936.3		- 0.6	-11.7	- 6.2	6.2	8.9	1	-25.0	24	0	31			5	- 7	3	5	0	53	25						2	12	17	7.4	
GREAT FALLS	1116	883.2	1014.3	3.3	- 6.7	- 1.8	3.7	16.1	1	-27.2	22	0	27	-10.0	57	17	1	13	7	0	203	178	7.6	23	19.7	SW	16	7	4	20	7.1	45
HAVRE	787	921.6		0.6	-11.7	- 5.4	4.7	14.4	1	-25.0	23+	0	30			9	- 4	3	9	0	107	51	4.3	SW#	21.0	SW	16	4	11	16	7.1	50
HELENA	1187	873.0	1017.0	0.0	-11.1	- 5.6	1.9	9.4	1	-21.7	22	0	31	-10.6	67	8	- 4	3	6	0	157	152	3.6	29	15.6	W	2	7	4	20	7.4	46
KALISPELL	904	908.8		1.1	- 8.9	- 4.1	2.7	6.1	1	-22.2	8	0	31			31	- 3	19	17	0	508	432	2.2					0	3	28	9.2	
MILES CITY				1.7	-10.0	- 4.1	4.5	13.9	1	-23.9	24	0	31			18	7	10	6	0	284	203	4.5	27	15.6*	32	21+					
MISSOULA	972	900.3	1018.4	- 0.6	-10.6	- 5.6	1.5	8.9	1	-18.9	12	0	31	- 7.8	82	18	- 6	4	14	0	310	229	2.2	32	12.1	W	20	1	2	28	9.2	27
NEBRASKA																																
GRAND ISLAND	561	947.2	1015.7	6.7	9.4	- 1.6	3.7	21.7	2	-28.9	13	0	30	- 9.4	61	2	- 14	2	1	0	0	25	4.9	24	13.4*	36	11+	17	7	7	4.1	
LINCOLN U	351			6.1	- 6.1	- 0.2	3.6	20.0	2	-22.8	13	0	29			5	- 18	4	3	0	64	51	4.6	SW#	15.6	S	28	16	7	8	4.3	72
NORFOLK	471	957.4		- 1.1	-11.1	- 3.6	3.4	16.7	2	-30.6	13	0	31			6	- 14	4	3	0	74	51						18	5	8	3.9	
NORTH PLATTE	847	912.9	1015.2	7.2	-11.1	- 2.2	2.3	18.3	21+	-22.8	13	0	31	-11.7	55	T	- 11	T	0	0	T	T	4.0	34	17.9	NW	24	15	11	5	3.8	88
OMAHA	298	974.0	1015.2	4.4	- 8.3	- 1.9	3.5	17.8	2	-25.0	13	0	29	- 8.9	62	14	- 7	10	4	0	124	102	4.0	16	14.3	NW	24	16	6	9	4.4	73
OMAHA N OMAHA AP	403	965.3		3.3	- 7.8	- 2.2	3.7	17.2	2	-26.1	13	0	30			8	- 15	6	4	0	119	102						16	5	10	4.5	
SCOTTSBLUFF	1204	876.0	1016.0	5.6	- 9.4	- 1.8	1.9	16.1	21+	-23.3	13	0	30	-10.6	56	1	- 6	1	2	0	0	25	6.3	30	18.3*	32	24	14	4	13	5.1	
VALENTINE	789	921.0		4.4	-11.1	- 3.2	3.4	16.7	20	-27.8	12	0	31			4	- 7	4	1		61	51	4.5	W#	17.9	NW	17	11	8	12	5.2	74
NEVADA																																
ELKO	1547	846.6	1024.4	0.6	-15.0	- 7.3	-2.1	8.3	1	-26.1	13	0	31	-10.0	79	32	3	9	15	0	569	279	2.7	24	15.6*	19	21+	2	10	19	7.5	
ELY	1907	808.8	1022.7	2.2	-16.1	- 7.1	-1.9	16.1	1	-27.2	24+	0	31	-17.8	72	36	16	21	8	0	490	178	3.6	19	21.9	SW	21	6	11	14	6.7	65
LAS VEGAS	659	954.1	1021.8	12.8	- 1.1	5.6	-0.6	18.9	2	- 6.7	9	0	23	-10.6	33	1	- 12	1	2	0	T	T	3.6	27	17.4*	34	2	17	8	6	3.7	90
RENO	1342	864.5	1022.0	7.2	- 6.7	0.3	1.2	20.0	1	-13.3	23	0	27	- 6.1	65	17	- 13	12	3	0	119	76	2.7	18	22.8	SW	20	7	8	16	6.9	67
WINNEMUCCA	1310	870.1		4.4	- 8.3	- 1.9	0.8	14.4	1	-18.3	13	0	30			31	4	6	13	0	381	127	3.6	18	20.1	SW	17	2	11	18	7.6	26
NEW HAMPSHIRE																																
CONCORD	103	1002.8	1013.9	1.1	-11.7	- 5.1	0.9	9.4	25	-26.7	1	0	30	- 9.4	72	92		42	10	0	610	432	3.6	32	13.0*	34	22	8	12	11	5.9	54
MT WASHINGTON OBS	1909	792.6		- 8.9	-18.3	-13.4	0.9	1.1	23	-30.6	12+	0	31			234	96	45	21	0	1092	203	21.9	NW	58.6Y	W	5	2	9	20	8.1	22
NEW JERSEY																																
ATLANTIC CITY	18	1014.3	1016.5	7.2	- 3.3	1.8	0.3	17.8	3	-16.1	15	0	22	- 3.9	68	161	71	47	9	0	384	203	5.8	29	16.1*	8	13	16	5	10	4.7	70
ATLANTIC CITY U	3			6.7	- 1.7	2.6	0.3	12.8	3	-11.7	15	0	19			148	53	48	8				8.5		24.6*	29	21					
NEWARK	3	1014.5	1015.8	5.0	- 2.2	1.3	0.6	12.8	25	-13.3	15	0	20	- 6.1	62	130	45	38	12	1	343	330	5.4	27	23.2*	30	21	13	9	9	4.9	
TRENTON U	17	1008.0		5.6	- 2.2	1.6	1.0	15.0	25	-13.3	14	0	18			88	9	26	9	2	229	229	4.5	NW#	18.8	NW	21+	13	9	9	4.8	68
NEW MEXICO																																
ALBUQUERQUE	1618	848.8	1020.3	6.1	- 8.3	- 1.1	-2.8	13.9	21+	-17.8	14	0	31	-13.3	45	2	- 9	1	3	0	13	T	3.1	36	15.6	NW	19	21	7	3	2.6	84
CLAYTON	1515	842.7		10.0	- 7.2	1.4	0.7	20.0	2	-21.1	13	0	28			T	- 9	T	0	0	T	T						21	4	6	3.2	
RATON	1944	802.4		7.2	-12.8	- 2.7	-1.1	16.7	2	-25.0	13	0	30			T	- 9	T	0	0	T	T						19	7	5	3.1	
ROSWELL	1103	893.7		13.3	-10.0	1.5	-1.8	22.8	21	-22.8	13	0	29			20	8	19	2	0	28	25	3.1	27	19.2	W	19	20	6	5	3.0	85
SILVER CITY	1638	835.9		10.6	- 7.2	1.7	-2.5	17.2	26	-15.6	13	0	30			3	- 13	2	2	0	15	25						21	6	4	2.5	
NEW YORK																																
ALBANY	84	1012.0	1015.6	1.1	-10.0	- 4.5	0.7	10.0	25	-26.1	15	0	29	- 8.3	72	85	22	25	13	0	693	406	3.9	17	18.8	W	10	5	13	13	6.5	55
BINGHAMTON	485	958.5	1014.1	- 0.6	- 8.3	- 4.4	0.1	7.8	25	-21.1	15	0	30	-12.8	81	76	13	20	17	0	828	533	4.5	15	17.9	NW	21	6	6	19	7.4	40

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BUFFALO	215	985.7	1014.3	1.7	- 5.0	- 1.5	2.7	12.2	23	-13.9	29	0	26	- 6.1	71	54	- 18	23	20	0	348	406	5.8	25	18.3	W	26	3	7	21	7.8	46
NEW YORK U	40	1003.9		5.6	- 1.1	2.1	1.4	12.8	25	-12.8	14	0	16			117	33	33	9	0	338	330	4.5	SW#	19.2	NE	13	16	7	8	4.3	67
NEW YORK LA GUARDIA	6	1013.6	1015.5	4.4	- 1.7	1.3	0.4	10.0	6	-12.2	14	0	18	- 6.1	59	107	23	27	12	1	259	254	6.3	27	26.4	NE	13	12	9	10	5.1	
ROCHESTER	166	995.3	1015.2	2.2	- 6.1	- 2.1	1.7	12.2	25+	-21.1	1	0	27	- 6.7	69	51	- 10	20	12	0	513	483	5.8	26	16.5	W	25+	3	9	19	7.5	43
SCHENECTADY	66			1.1	- 8.9	- 3.9	0.7	8.9	25	-22.2	16+	0	29			72	7	23	11	0	488	406						19	3	9	4.4	
SYRACUSE	127	992.0	1014.8	1.1	- 8.3	- 3.4	1.1	12.8	25	-21.1	12	0	28	- 7.8	72	55	- 25	11	18	0	457	356	4.9	25	23.2	S	25	4	10	17	7.4	56
NORTH CAROLINA																																
ASHEVILLE U	671	937.7		4.4	- 2.8	3.4	-0.9	20.6	23	-15.0	15	0	21			72	- 9	33	9	0	25	127	3.6	NW#	13.4	NW	20+	15	7	9	4.6	65
CAPE HATTERAS R	2	1017.4	1018.0	12.8	3.9	8.2	0.1	19.4	24	- 7.2	15	0	6	3.3	73	159	60	52	13	0	0	0	5.4	25	17.9	ENE	12	12	5	14	5.6	66
CHARLOTTE	224	990.1	1018.9	11.7	- 1.1	5.3	-0.7	21.1	23+	-11.1	15	0	19	- 3.3	59	144	55	43	12	0	0	25	3.1	23	13.9	W	20	13	3	15	5.6	55
GREENSBORO	272	985.9	1018.8	9.4	- 2.8	3.4	-0.9	20.0	23	-13.9	15	0	22	- 3.3	66	114	27	43	10	1	38	51	3.6	22	15.2	NE	1	14	3	14	5.2	58
RALEIGH	132	1004.2	1018.3	11.7	- 1.1	5.1	-0.2	20.6	22	-12.8	15	0	18	- 2.2	64	93	11	26	10	0	0	25	3.6	22	17.9*	22	20	13	4	14	5.4	55
WILMINGTON	9	1016.7	1019.5	14.4	2.2	8.2	-0.7	21.1	24+	- 6.7	15	0	11	1.7	69	180	107	47	15	0	T	T	4.2	25	22.4	W	20	10	6	15	5.7	60
WINSTON SALEM	295	982.4	1018.5	8.9	- 1.7	3.7	-1.1	20.0	23	-10.0	15	0	17	- 3.9	62	129	35	46	11	0	51	76	3.6	24	13.9*	27	20	13	5	13	5.1	
NORTH DAKOTA																																
BISMARCK	502	951.4	1014.5	- 1.7	-16.1	- 8.9	3.3	11.7	20	-38.9	12	0	29	-13.9	67	10	- 1	7	5	0	119	76	4.0	29	21.9	NW	17	10	10	11	5.7	66
FARGO	274	977.7	1013.6	- 6.7	-15.0	- 9.1	4.6	7.8	2	-30.0	12	0	30	-13.9	68	14		9	5	0	213	152	4.9	18	18.3	W	17	8	9	14	6.2	63
WILLISTON	579	943.0		- 1.7	-15.6	- 8.8	4.4	6.7	1	-34.4	27	0	31			11	- 3	5	4	0	127	76	4.0	SW	31.3	NW	17	7	11	13	5.9	59
OHIO																																
AKRON	369	976.9	1016.1	- 1.1	- 6.1	- 1.8	0.3	13.3	25+	-20.6	14	0	28	- 7.2	69	56	- 17	21	10	0	432	254	5.4	23	13.0*	31	20	6	13	12	6.3	
CINCINNATI OBS	232			6.7	- 3.3	1.6	0.7	17.8	23+	-15.0	14	0	23			75	- 18	20	10	2	391	229	3.6	S#	13.0	SW	25					58
CINCINNATI U	169	993.8		7.8	- 2.2	2.6	0.0	19.4	23	-14.4	14	0	20			67	- 25	22	10		386											
CLEVELAND	237	986.4	1015.2	2.8	- 5.0	- 1.2	1.2	13.9	24	-15.0	29	0	27	- 6.1	71	37	- 31	12	11	0	406	203	5.4	18	17.0	W	26+	7	5	19	7.2	50
COLUMBUS	247	986.3	1017.1	3.9	- 6.1	- 1.1	0.1	14.4	25+	-25.6	14	0	27	- 5.6	73	46	- 34	13	10	0	305	178	4.5	18	16.5	SW	25	9	8	14	5.9	55
COLUMBUS U	221			4.4	- 3.9	0.5	0.7	15.6	23	-16.7	14	0	24			54	- 20	21	9	0	330	152										
DAYTON	304	982.8	1016.4	4.4	- 5.0	- 0.3	1.1	15.6	22	-18.9	14	0	26	- 5.0	72	41	- 40	12	9	1	493	254	6.3	20	15.2	S	25+	10	8	13	6.0	69
MANSFIELD	395			2.2	- 6.1	- 1.7	0.9	12.8	24	-20.6	14	0	28			37	- 45	7	12	0	432	254						7	7	17	6.6	
TOLEDO	206	988.9	1015.1	2.2	- 6.1	- 1.9	1.2	12.8	25+	-22.2	14	0	26	- 6.1	72	47	- 12	18	10	1	218	102	4.9	23	16.1	SW	26	9	6	16	6.6	56
YOUNGSTOWN	359	971.9	1015.9	1.7	- 6.1	- 2.3	0.3	11.7	25+	-21.1	14	0	28	- 7.2	72	52	- 29	18	12	1	521	305	5.5	23	13.4*	25	10	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	390	972.6	1017.2	11.7	- 2.2	4.5	1.7	23.3	22	-14.4	13	0	20	- 6.7	51	21	- 12	18	3	0	T	T	6.3	18	17.9	NW	12+	16	10	5	3.6	80
TULSA	206	991.9	1017.4	12.8	- 2.8	4.9	2.6	24.4	22	-16.1	13	0	25	- 5.6	54	16	- 27	14	5	0	28	25	5.4	18	15.2	S	2	17	6	8	3.7	77
OREGON																																
ASTORIA	2	1014.4	1015.1	9.4	3.3	6.5	1.7	11.7	31+	0.0	21+	0	2	4.4	86	470	172	110	31	1	T	0	5.0	12	19.2*	24	16	0	3	28	9.2	
BURNS U	1265	873.2		- 1.1	- 8.9	- 3.6	0.4	6.7	1	-16.1	23	0	31			53	12	24	14	0	523	229						3	8	20	8.0	
EUGENE	110	1005.0		9.4	2.2	5.8	1.8	16.1	26	- 1.7	3	0	10			377	216	96	22	0	T	0	4.2		16.1*	20	19	1	2	28	9.0	
MEACHAM	1234			- 0.6	- 5.6	- 2.8	0.5	5.6	1	- 8.9	12	0	30			181	74	38	26	0	1407	737						0	2	29	9.4	
MEDFORD	396	972.7	1021.6	5.6	- 1.7	1.8	-0.1	15.6	19	- 5.6	13	0	27	0.6	96	142	62	47	17	0	0	T	1.3	36	8.9*	22	19	1	2	28	9.0	
PENDLETON	452	962.5	1017.0	8.3	0.6	4.6	4.5	17.2	1	- 4.4	13+	0	12	- 1.1	70	27	- 9	11	11	0	T	T	4.9	20	16.5*	24	19	2	7	22	7.9	
PORTLAND	6	1011.5	1017.2	8.3	1.7	4.9	1.4	11.7	29+	- 2.2	28	0	7	2.8	86	242	105	45	27	0	T	0	4.9	12	21.9	S	17	0	3	28	9.2	18
PORTLAND U	9			4.4	4.4	6.8	2.3	15.0	1	1.7	28+	0	0			346	185	55	24		T	0										
ROSEBURG	154	1000.8		4.4	1.1	5.3	0.7	15.6	26	- 2.2	23	0	11			279	139	81	21	0	20	25	1.8	S#	11.6	S	17	0	4	27	9.1	24
SALEM	59	1010.7	1018.1	8.3	2.2	5.4	1.8	13.9	26	- 1.7	28	0	5	3.3	85	284	114	46	24	0	T	0	5.2	18	13.9*	18	19	0	5	26	8.8	
SEXTON SUMMIT R	1169	883.9		3.3	- 1.7	0.8	-0.4	10.0	1	- 5.0	23	0	26			262	120	62	19	0	1143	787	5.8	S				1	6	24	8.9	
PACIFIC AREA																																
CANTON ISLAND	3	1007.2	1007.4	31.1	25.6	28.3	-0.1	33.3	4	22.2	23	4	0	24.4	80	383	317	94	22	2	0	0	4.7	36	13.0*	22	17	3	2	26	8.9	
ENIWETOK	5	1010.4		29.4	25.0	27.2	-0.1	30.6	20+	22.2	23	0	0			51	25	12	18	0	0	0	7.6									
TAGUAC GUAM R	110			28.9	22.2	25.6	-0.1	29.4	31+	17.8	19+	0	0			51	- 67	11	17	0	0	0	4.2	NE#	10.7	NE	22					69
JOHNSTON	2	1013.8	1014.6	26.7	23.3	25.0	-0.1	27.8	12	21.1	30	0	0	20.6	75	26	- 73	6	10	0	0	0	8.5	9	17.0	E	13+	5	22	4	5.0	66
KOROR R	29	1008.0	1010.5	30.0	24.4	27.1	0.3	32.2	26	22.8	21	1	0	23.9	86	185	-113	53	23	0	0	0	4.2	6	9.8	NE	21	0	0	31	10.0	64
KWAJALEIN		1010.1	1010.3	26.7	21.1	27.1	0.4	30.6	22+	22.8	14+	0	0	22.8	79	23	- 69	6	13	0	0	0	8.2	6	14.3*	6	6	5	11	15	7.1	
PONAPE R	37	1004.8	1009.3	30.6	25.0	27.7	0.7	31.7	15	22.2	11	0	0	22.8	77	91	-190	23	19	2	0	0	4.5	6	9.4	NE	28	0	3	28	9.0	60
TRUK MOEN ISLAND	2	1009.0	1009.1	30.0	25.6	27.7	0.6	31.1	24	23.9	27+	0	0	23.3	76	51	-163	22	12	0	0	0	3.9	4	9.8	NE	27	0	10	21	8.4	76
WAKE	3	1015.1	1015.3	28.3	23.3	25.6	0.4	29.4	6+	21.1	23+	0	0	19.4	70	23	- 6	9	10	0	0	0	5.1	7	12.5*	6	15+	13	14	4	4.5	
YAP R	16	1009.2	1010.1	29.4	24.4	26.9	0.0	30.6	30+	22.8	10	0	0			60	-140	13	0		0	0	5.5		1.3	NE	21	0	1	30	9.7	86

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
ALLENTOWN	115	1001.6	1016.3	3.3	- 6.1	- 1.6	0.1	13.3	25	-16.7	15	0	28	- 6.7	70	119	38	37	9	1	368	254	5.4	29	23.7*	30	21	13	9	9	5.0	
ERIE	223	988.4	1015.3	2.8	- 5.0	- 1.1	1.5	13.3	24+	-16.1	14	0	26	- 5.0	74	60	- 8	25	18	0	655	432	7.6	16	17.4*	26	10	3	9	19	7.6	
HARRISBURG	102	1002.6	1017.0	4.4	- 6.1	- 1.0	-0.6	12.2	25	-19.4	15	0	25	- 7.8	61	121	51	37	9	0	493	457	4.0	27	16.5	W	21	13	6	12	5.2	66
PHILADELPHIA	2	1011.7	1016.3	5.6	- 4.4	0.6	0.6	13.3	25	-16.7	15	0	25	- 5.0	68	100	15	35	9	0	188	178	4.9	24	17.4	N	13	14	8	9	4.8	66
PITTSBURGH	347	984.4	1016.2	- 1.1	- 4.4	- 0.3	1.4	14.4	23	-21.1	14	0	24	- 6.7	65	65	- 11	29	12	1	516	381	5.4	23	19.7*	26	25	6	4	21	7.2	49
PITTSBURGH U	226			4.4	- 3.3	1.1	0.4	17.2	23	-15.0	14	0	22			62	- 9	32	11		559											52
READING U	81	1003.8		4.4	- 3.3	0.7	0.3	15.6	25	-12.2	14	0	22			121	43	36	11	0	353	330	5.4	W#	21.5	N	13	15	7	9	4.7	61
SCRANTON	287	980.6	1015.8	2.2	- 6.7	- 2.3	0.1	11.7	25	-22.8	15	0	26	- 7.8	66	86	28	24	11	0	686	508	3.6	24	19.2	SE	25	11	5	15	6.0	51
WILLIAMSPORT	161	997.2	1016.9	2.8	- 7.8	- 2.3	-0.5	11.1	25	-23.9	15	0	28	- 7.2	70	126	58	38	11	0	838	610	4.2	27	14.3*	24	26	12	5	14	5.8	
RHODE ISLAND																																
BLOCK ISLAND	34	1009.2		3.9	- 2.8	0.5	0.4	10.0	25+	-11.1	14	0	22			86	- 12	30	11	0	150	152						13	7	11	5.4	
PROVIDENCE	17	1007.8	1014.1	4.4	- 6.1	- 0.8	0.8	12.2	25	-17.8	1	0	28	- 7.2	64	144	47	51	12	1	318	279	5.4	29	17.4*	22	25	14	6	11	5.1	60
SOUTH CAROLINA																																
CHARLESTON	12	1018.0	1020.0	15.6	2.8	9.2	-0.7	23.3	6	- 7.8	15	0	10	2.8	72	166	101	57	16	1	T	0	3.9	27	24.1Y	W	20	9	4	18	6.6	41
CHARLESTON U	3			13.9	4.4	9.2	-1.7	19.4	24+	- 5.0	14	0	6			178	117	69	17		T	0	4.6		18.3	W	20					
COLUMBIA	66	1006.9	1020.1	12.8	0.6	6.7	-1.6	21.7	22	-10.0	15	0	14	0.0	70	161	84	48	14	1	0	0	3.1	23	20.6*	28	20	10	6	15	6.0	52
FLORENCE	45	1013.4	1019.4	13.3	1.1	7.1	-1.6	21.1	24	- 7.8	15	0	12	0.0	66	147	80	38	13	0	T	T	3.6	25	14.8*	30	20	10	6	15	5.9	
GNVLE SPARTANBURG	292	981.4	1019.4	10.0	- 0.6	5.4	-1.3	21.1	23	-10.0	15	0	16	- 3.3	58	138	29	64	12	0	13	25	3.6	25	15.2	W	20	13	2	16	5.5	63
SOUTH DAKOTA																																
HURON	391	966.3	1014.8	1.1	-13.3	- 6.2	4.7	12.2	2	-32.2	12	0	31	-11.7	67	4	- 9	2	4	0	76	76	5.2	30	15.2	NW	3	11	6	14	5.6	61
RAPID CITY	965	897.5	1014.7	5.0	- 8.9	- 2.0	3.6	15.6	21+	-25.6	12	0	30	-10.0	59	9		6	5	0	89	51	4.9	33	20.1	W	20	13	6	12	5.2	63
SIOUX FALLS	433	961.2	1014.6	1.7	-11.7	- 5.0	4.3	13.9	30	-28.9	13	0	31	- 9.4	74	9	- 7	9	2	0	89	76	4.5	30	12.5*	4	11	14	3	14	5.3	
TENNESSEE																																
BRISTOL	459	962.8	1018.8	8.3	- 5.6	1.2	-2.3	18.9	23	-20.0	16+	0	28	- 6.7	60	83	- 11	21	11	0	226	229	2.2	24	15.6*	29	9	14	4	13	5.2	
CHATTANOOGA	204	991.9	1020.2	11.1	- 2.2	4.4	-1.0	21.7	23	-12.2	2	0	16	- 1.7	70	152	9	70	10	1	86	152	3.1	18	16.5	W	20+	11	5	15	5.8	54
KNOXVILLE	290	983.3	1019.8	8.3	- 3.3	2.4	-2.8	18.3	23	-13.9	15	0	22	- 3.3	69	120	- 4	38	11	2	216	229	3.1	24	15.6	W	20	15	4	12	5.2	59
MEMPHIS	80	1004.3	1019.4	11.1	- 1.1	5.1	-0.2	21.1	23	-10.0	15+	0	22	- 0.6	70	95	- 60	39	9	3	0	25	4.0	18	14.8	NW	24	11	11	9	4.9	73
MEMPHIS U	83			11.1	1.1	6.0	0.4	20.6	23	- 8.9	14	0	12			85	- 63	31	9		0	25										
NASHVILLE	176	998.4	1018.7	10.6	- 2.8	3.8	-0.6	20.0	22	-12.2	14	0	22	- 2.2	68	94	- 45	20	10	2	127	229	4.1	18	17.9	W	19	12	7	12	5.0	68
OAK RIDGE	276	985.8		8.9	- 3.9	2.7	-1.7	17.8	23	-13.3	15	0	25			122	- 29	32	10	1	8	127	2.2		20.1Y		20	12	7	12	5.2	
TEXAS																																
ABILENE	536	955.4	1017.9	15.6	0.6	7.9	0.9	27.2	18	-11.1	14+	0	16	- 5.6	45	60	38	54	3	1	51	51	4.5	20	19.2	NW	11	18	7	6	3.6	78
AMARILLO	1097	887.5	1016.0	11.1	- 5.0	2.9	0.3	22.2	21+	-17.8	13	0	27	-11.1	42	T	- 17	T	0	0	T	T	6.7	24	18.8	W	18	24	5	2	2.6	86
AUSTIN	182	996.9	1019.6	16.7	3.9	10.2	-0.1	24.4	19	- 8.3	14	0	11	1.7	62	65	6	38	5	1	15	0	4.6	18	13.9	NW	24	14	8	9	4.6	70
BROWNSVILLE	5	1016.4	1018.9	20.6	10.0	15.3	-1.0	27.2	19	0.0	13	0	1	9.4	72	9	- 25	5	4	0	0	0	5.4	18	14.8	NW	16	9	2	20	6.9	50
CORPUS CHRISTI	13	1018.3	1019.6	19.4	8.3	13.8	-0.3	26.1	22+	- 2.8	13	0	4	7.8	73	41	- 1	30	7	1	0	0	5.1	36	14.8	SE	30	8	6	17	6.7	58
DALLAS	147	1000.0	1019.1	13.9	1.1	7.4	-0.3	25.0	22	-11.7	14	0	14	- 1.7	57	83	24	45	4	0	188	178	4.9	18	20.1	SE	30	17	5	9	4.1	77
DEL RIO	313	983.9		17.2	1.7	9.6		26.1	19	- 7.2	14	0	15			11		9	2	0	0	0	4.6					16	6	9	4.1	
EL PASO	1194	887.6	1018.4	11.7	- 3.9	4.1	-2.0	17.8	22+	-12.2	10	0	23	-12.8	31	T	- 12	T.	0	0	0	0	3.9	2	24.1	W	19	22	4	5	2.5	92
FORT WORTH	166	997.7	1019.1	13.3	- 0.6	6.6	-0.9	24.4	22	-15.6	14	0	19	- 1.7	61	90	38	44	4	0	305	203	4.5	18	16.1*	31	12	16	5	10	4.3	
GALVESTON U	2			13.9	8.3	11.2	-1.6	19.4	22+	- 3.9	13	0	3			105	17	31	11	0	0	0		NNW	16.1*	N	19	16	5	10	4.3	35
HOUSTON U	12			16.1	8.3	12.2	-0.4	24.4	22	- 4.4	13	0	3			73	- 22	32	9		0	0										
HOUSTON	15	1017.0	1019.7	16.1	5.6	10.9	-1.1	23.3	22+	- 6.1	14	0	6	5.6	75	73	- 23	32	9	0	0	0	4.9	34	14.3*	33	9	7	5	19	7.2	51
LAREDO	152	1003.4	1019.1	15.6	6.7	13.3	-0.9	29.4	19	- 3.3	13	0	5	2.2	55	9	- 20	5	5	0	0	0	4.5	12	13.4*	15	30+	14	5	12	5.0	
LUBBOCK	988	903.4	1017.6	12.2	- 5.0	3.8	-0.2	21.7	26	-17.2	13	0	28	- 8.3	46	11	- 6	9	2	0	T	T	6.3	26	24.6*	28	19	21	3	7	3.0	
MIDLAND	870	916.3	1016.9	15.0	- 1.7	6.4	-0.2	23.9	21+	-13.9	13	0	20	- 8.9	40	10	- 10	10	2	0	T	0	5.1	24	14.3*	29	19	20	8	3	2.8	
PORT ARTHUR	5	1018.2	1019.7	15.6	5.0	10.2	-1.8	23.9	8	- 7.2	14	0	6	6.7	82	109	1	28	12	2	T	0	4.8	18	15.2	NW	12+	6	5	20	7.4	46
SAN ANGELO	580	949.8	1018.4	15.6	- 1.1	7.3	-1.0	25.6	22+	-10.0	13	0	20	- 5.6	47	24	- 1	23	2	0	T	T	4.0	18	14.3*	29	19	19	7	5	3.2	
SAN ANTONIO	241	994.4	1019.5	17.2	3.9	10.6	-0.6	25.6	19	- 9.4	14	0	8	1.7	60	86	42	65	6	0	T	0	3.9	34	13.4	NW	24	14	8	9	4.6	71
VICTORIA	32	1014.9		18.3	6.7	12.4	-0.6	24.4	22+	- 6.1	14	0	4			52	- 8	29	3	1	0	0	4.8		19.7Y		11	6	10	15	6.5	
WACO	152	997.4	1019.1	15.6	1.1	8.2	-0.7	24.4	22	-13.9	14	0	15	0.6	64	80	22	52	4	0	142	102	6.7	18	17.0*	31	8	14	7	10	4.5	
WICHITA FALLS	303	979.2	1017.6	14.4	- 1.7	6.4	0.4	25.6	22	-13.9	13	0	18	- 5.0	52	34	6	32	3	0	30	25	5.4	18	14.3*	33	12+	15	11	5	3.5	
UTAH																																
MILFORD	1533	845.7		3.9	-12.2	- 4.3	-0.2	13.3	1	-21.1	13	0	31			11	- 3	6	5	0	163	76						8	6	17	6.2	
SALT LAKE CITY	1286	870.7	1025.0	0.0	-11.1	- 5.6	-2.9	7.2	21	-23.3	13	0	30	- 8.9	77	24	- 10	7	10	0	462	178	3.6	16	15.6	S	21+	6	4	21	7.5	43
WENDOVER	1291	873.3		- 1.1	- 7.2	- 3.1	-0.3	7.8	20+	-13.9	13	0	30			5	- 4	2	6	0	61	25						9	7	15	6.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	998.9	1014.1	- 1.1	-10.6	- 5.6	3.2	10.0	25	-21.7	15+	0	31	-10.6	66	58	8	29	11	0	191	203	4.5	18	13.0	W	10	2	10	19	7.7	48
VIRGINIA																																
LYNCHBURG	289	991.7		8.3	- 2.8	2.7	-0.4	18.3	22	-13.9	15+	0	19			122	39	37	10	0	160	102	3.7		15.2	W	20	15	3	13	4.9	58
NORFOLK	8	1016.1	1017.9	11.1	0.6	5.7	0.6	18.3	25+	- 6.7	15+	0	16	- 1.1	67	116	31	27	8	1	T	T	5.8	18	20.1	SW	26	16	2	13	4.5	65
RICHMOND	49	1011.3	1017.7	10.0	- 3.3	3.4	-0.3	20.0	25	-17.8	15	0	22	- 3.9	63	106	18	28	10	0	127	127	4.0	23	13.0	SW	25	15	3	13	4.7	68
ROANOKE	358	974.7	1018.0	8.3	- 2.2	2.9	-0.4	18.9	23	-11.1	14	0	19	- 6.1	56	132	53	40	11	0	399	152	4.5	24	23.7*	30	21	15	5	11	4.6	
WASHINGTON																																
OLYMPIA	58	1007.1	1014.5	7.2	1.1	4.3	0.9	11.1	31+	- 5.0	7	0	9	3.3	92	384	185	75	25	0	61	T	4.4	18	19.7*	22	19+	0	3	28	9.2	
SEATTLE TACOMA	122	1000.1	1014.4	7.2	1.7	4.4	0.9	11.1	16+	- 1.7	7	0	7	1.1	81	248	102	49	24	2	13		5.4	20	17.0*	23	19	0	2	29	9.4	
SEATTLE U	4			8.3	4.4	6.3	1.2	12.2	16	1.1	20+	0	0			207	75	49	24		36	T										23
SPOKANE	718	945.6	1015.5	1.1	- 4.4	- 1.5	2.2	6.1	1	-11.7	8	0	31	- 3.3	86	80		21	18	0	668	279	4.5	21	17.9	SW	19	3	3	25	8.5	32
STAMPEDE PASS R	1206	874.8		- 1.7	- 4.4	- 3.2	1.6	3.9	1	- 6.7	24+	0	31			554	249	77	28	0	4155	3988						0	0	31	9.9	
TATOOSH ISLAND R	31	1008.3	1011.3	8.3	4.4	6.4	0.8	11.1	1	0.0	20	0	1	3.9	83	361	86	35	31	3	T	T	8.9	27	32.2	SW	19	0	2	29	9.5	08
WALLA WALLA U	289			8.9	1.7	5.4	4.7	18.3	1	- 5.6	13	0	9			25	- 23		10	0	T											
YAKIMA	323	976.5	1016.4	5.6	- 3.9	0.7	3.2	11.7	1	- 9.4	23	0	31	- 3.9	77	15	- 15	6	6	0	109	25	2.8	29	13.0*	29	6	4	8	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	2	1015.2	1018.1	28.9	20.6	24.8	1.2	31.7	18	17.2	31	0	0	20.0	76	51	- 68	13	17	0	0	0	3.3	7	11.2	E	31	6	20	5	5.6	71
SWAN ISLAND	9	1014.1		28.3	23.3	25.8	0.1	29.4	7	20.6	14	0	0			80	- 8	33	18	1	0	0						11	14	6	4.8	
WEST VIRGINIA																																
BECKLEY	763	927.1	1018.7	6.1	- 4.4	0.7		18.3	23	-16.7	15	0	25	- 6.7	63	87		22	13	0	279	178	5.4	29	17.0*	30	20	13	6	12	5.0	
CHARLESTON	286	981.3	1017.6	7.8	- 3.3	2.1	-0.4	19.4	23	-16.1	15	0	24	- 4.4	65	66	- 44	18	10	0	287	229	3.5	23	15.6*	24	25	14	7	10	4.9	
ELKINS	600	945.9	1017.2	6.7	- 7.2	- 0.2	-0.5	18.3	23	-24.4	15	0	29	- 6.1	69	81	- 11	22	14	0	330	203	4.1	27	16.5*	25	25	9	10	12	5.7	
HUNTINGTON	252	987.2	1018.2	7.2	- 4.4	1.2	-1.3	18.9	23	-17.8	14	0	25	- 5.0	67	54	- 39	13	9	0	254	203	3.1	18	15.6*	26	20	15	4	12	5.3	
PARKERSBURG U	187			7.2	- 3.9	1.8	0.3	18.3	23	-14.4	15+	0	23			56	- 29	15	9	1	305	254	3.7		15.2	W	26					60
WISCONSIN																																
GREEN BAY	208	989.2	1012.7	- 1.7	-10.6	- 6.2	2.3	8.9	22	-19.4	15+	0	31	-10.0	75	29		23	8	1	51	25	4.9	24	16.1	SW	25	8	8	15	6.3	49
LA CROSSE	199	988.4	1014.0	0.6	- 8.9	- 4.3	4.3	10.6	22	-22.2	13	0	31	- 8.9	71	9	- 22	6	7	0	145	102	4.9	18	15.6*	29	25	12	9	10	5.4	
MADISON	262	976.8	1013.4	1.1	- 8.9	- 3.9	4.1	11.7	22	-18.9	28+	0	29	- 8.9	69	24	- 12	20	8	1	36	51	4.5	18	16.1	W	25	9	7	15	6.1	54
MILWAUKEE	205	987.9	1013.7	1.1	- 7.8	- 3.3	3.1	11.7	22	-18.9	1	0	28	- 7.2	75	30	- 17	14	8	2	97	76	5.4	21	16.1	NW	25	9	9	13	5.7	53
WYOMING																																
CASPER	1621	833.1	1016.2	0.0	-10.0	- 5.0	-0.2	8.9	1	-21.1	12	0	31	-16.7	62	19	5	11	9	0	335	178	7.6	22	17.4*	22	21	7	11	13	6.2	
CHEYENNE	1867	808.4	1015.8	3.3	- 9.4	- 3.3	0.4	12.8	21	-21.1	13	0	31	-14.4	46	1	- 12	1	2	0	25	T	8.4	29	25.5	W	25	12	11	8	4.5	75
LANDER	1696	831.5	1017.5	0.0	-12.8	- 6.4	0.6	11.1	1	-24.4	14+	0	30	-13.9	58	11	- 1	6	2	0	211	254	3.2	24	21.9	NE	20+	6	17	8	6.0	66
SHERIDAN	1202	880.3	1015.3	3.3	- 9.4	- 3.1	2.8	15.0	1	-22.2	13	0	31	- 8.9	67	9	- 7	4	7	0	124	51		SE	2.5	SW	21	6	12	13	6.5	65

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 and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

A Maximum hourly average.

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

Y Peak Gust.

\# Wind direction to 8 compass points only.

\+ 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.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	680	1938	1753
Huntsville	744	2136	1922
Mobile	486	1305	1068
Montgomery	609	1654	1468
ALASKA			
Anchorage	1573	6076	6469
Annette	905	3521	3975
Barrow	2647	11347	11028
Barter Island	2584	10874	10796
Bethel	1859	7793	7570
Cold Bay	1081	5379	5402
Cordova	1168	5160	5597
Fairbanks	2509	8841	8794
Juneau	1098	4716	5140
King Salmon	1548	6556	6552
Kotzebue	2232	9190	8846
McGrath	3446	10152	8680
Nome	1931	8201	7918
St. Paul Is.	1189	6009	6000
Shemya	1087	5212	5300
Yakutat	1106	4850	5124
ARIZONA			
Flagstaff	1225	3784	3887
Phoenix (U)	462	885	
Phoenix	558	1094	1050
Prescott	913	2370	2513
Tucson	533	1093	1183
Winslow	1061	2795	2960
Yuma	349	634	611
ARKANSAS			
Ft. Smith	751	2111	2074
Little Rock	742	2095	2073
Texarkana	602	1662	1610
CALIFORNIA			
Bakersfield	568	1634	1367
Bishop	915	2390	2555
Blue Canyon	889	2806	2791
Burbank	385	847	893
Eureka (U)	564	2263	2573
Fresno	651	1858	1620
Long Beach	266	668	940
Los Angeles (U)	250	499	708
Los Angeles	297	625	1013
Mt. Shasta (R)	990	3191	3169
Oakland	511	1649	1592
Point Arguello (R)	470	1752	1920
Red Bluff	640	1809	1531
Sacramento (U)	579	1692	1468
Sacramento	612	1809	1506
Sandberg (R)	816	2273	2181
San Diego	296	619	742
San Francisco (U)	427	1617	1648
San Francisco	515	1656	1638
Santa Catalina	342	771	
Santa Maria	500	1530	1554
Stockton	653	1924	
COLORADO			
Alamosa	1601	4818	5043
Colorado Springs	1068	3162	3632
Denver	1059	3145	3365
Grand Junction	1220	3161	3451
Pueblo	978	2942	3201
CONNECTICUT			
Bridgeport	1029	3019	3053
Hartford	1169	3509	3528
Middletown	1146	3597	
New Haven	1044	3138	3202
DELAWARE			
Wilmington	982	2918	2816
DIST. OF COLUMBIA			
Washington (U)	829	2365	
Washington	882	2572	2474
FLORIDA			
Apalachicola (U)	441	1096	835
Daytona Beach	279	706	534
Fort Myers	110	334	279
Jacksonville	371	1047	798
Key West	31	63	68
Lakeland (U)	221	584	416
Miami	67	177	139
Miami Beach	57	120	96
Orlando	235	582	481
Pensacola	491	1320	930
Tallahassee	474	1365	961
Tampa	216	622	433
West Palm Beach	82	226	158
GEORGIA			
Athens	712	2029	1806
Atlanta	743	2122	1843
Augusta	630	1806	1512
Columbus	640	1749	1515
Macon	614	1674	1375
Rome	816	2350	2070
Savannah	514	1442	1167
Thomasville (U)	461	1288	983
IDAHO			
Boise	1202	3248	3426
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	1652	4897	4907
Idaho Falls 42NW(R)	1748	5019	5125
Lewiston	867	2804	3278
Pocatello	1416	3933	4063
ILLINOIS			
Cairo (U)	809	2352	2360
Chicago (Midway)	1090	3279	3457
Chicago (O'Hare)	1149	3734	
Moline	1129	3574	3712
Peoria	1118	3485	3509
Rockford	1181	3674	3920
Springfield	1055	3209	3248
INDIANA			
Evansville	937	2855	2756
Ft. Wayne	1099	3334	3564
Indianapolis	1056	3291	3293
South Bend	1100	3369	3612
IOWA			
Burlington	1075	3362	3577
Des Moines	1145	3503	3811
Dubuque	1242	3911	4262
Sioux City	1202	3649	4102
Waterloo	1255	3957	4207
KANSAS			
Concordia	992	2968	3166
Dodge City	911	2728	2940
Goodland	1006	3185	3517
Topeka	945	2834	3101
Wichita	867	2633	2808
KENTUCKY			
Lexington	924	2821	2750
Louisville	895	2724	2795
LOUISIANA			
Alexandria	592	1653	
Baton Rouge	466	1265	1056
Lake Charles	488	1222	961
New Orleans	424	1036	
(Audubon Park)			
New Orleans	459	1221	936
Shreveport	568	1586	1400
MAINE			
Caribou	1595	5424	5480
Greenville (U)	1460	5231	
Portland	1251	4258	4129
MARYLAND			
Baltimore (U)	843	2415	2367
Baltimore	959	2893	2738
MASSACHUSETTS			
Blue Hill Obs. (R)	1094	3504	3464
Boston	1026	3090	3059
Nantucket	973	2970	3003
Pittsfield	1281	4217	4228
Worcester	1167	3812	3854
MICHIGAN			
Alpena	1328	4354	4417
Detroit (City AP)	1066	3139	3460
Detroit	1139	3598	3591
(M. Wayne Co.)			
Detroit	1124	3403	3491
(Willow Run)			
Escanaba (U)	1283	4173	4590
Flint	1148	3649	3889
Grand Rapids	1157	3504	3816
Lansing	1130	3604	3835
Marquette (U)	1225	4037	4522
Muskegon	1108	3457	3803
S. Ste. Marie	1371	4532	5037
MINNESOTA			
Duluth	1487	4729	5599
Internat. Falls	1668	5303	6126
Minneapolis	1390	4264	4886
Rochester	1347	4275	4694
St. Cloud	1488	4549	5116
MISSISSIPPI			
Jackson	602	1707	1428
Meridian	663	1866	1481
Vicksburg (U)	553	1615	1306
MISSOURI			
Columbia	888	2835	2999
Kansas City	857	2576	2901
St. Joseph	1027	2991	3270
St. Louis (RFC)	842	2615	2675
St. Louis	932	2942	2882
Springfield	861	2645	2718
MONTANA			
Billings	1107	3638	3976
Butte	1480	4897	
Glasgow	1359	4276	5237
Great Falls	1118	3666	4192
Havre	1318	4342	4953
Helena	1328	4331	4690
Kalispell	1246	4455	5047
Miles City	1248	3791	4463
Missoula	1327	4520	4804
NEBRASKA			
Grand Island	1102	3382	3641
Lincoln (U)	1028	3079	3411
Norfolk	1212	3639	4038
North Platte	1140	3534	3891
Omaha	1117	3334	3670
Omaha N. Omaha AP	1145	3439	3946
Scottsbluff	1116	3413	3878
Valentine	1196	3661	4253
NEVADA			
Elko	1426	4177	4264
Ely	1411	4118	4328
Las Vegas	703	1641	1736
Reno	1002	3232	3520
Tonopah	1133	3180	
Winnemucca	1125	3398	3919
NEW HAMPSHIRE			
Concord	1295	4128	4299
Mt. Washington Obs. (R)	1768	7884	
NEW JERSEY			
Atlantic City	916	2686	2655
Atlantic City (U)	873	2649	
Newark	946	2747	2856
Trenton (U)	928	2767	2810
NEW MEXICO			
Albuquerque	1076	2704	2651
Clayton	942	2683	2966
Raton	1169	3331	3583
Roswell	936	2428	2578
Silver City	924	2295	
NEW YORK			
Albany	1266	3918	3879
Binghamton	1265	4156	4092
Buffalo	1099	3589	3888
New York (U)	902	2632	2682
New York	944	2647	2638
(LaGuardia)			
Rochester	1132	3658	3687
Schenectady	1238	3768	
Syracuse	1205	3740	3749
NORTH CAROLINA			
Asheville (U)	826	2596	2407
Cape Hatteras (R)	558	1626	1452
Charlotte	721	2091	1917
Greensboro	826	2519	2300
Raleigh	731	2283	2076
Wilmington	559	1627	1432
Winston-Salem	807	2428	2175
NORTH DAKOTA			
Bismarck	1520	4627	5186
Devils Lake (U)	1642	5028	5705
Fargo	1528	4585	5368
Grand Forks FAA	1618	4817	
Pembina	1738	5171	
Williston	1507	4559	
OHIO			
Akron	1117	3525	3547
Cincinnati (U)	869	2610	
Cincinnati	1011	3094	2928
Cincinnati Obs.	929	2825	2805
Cleveland	1084	3442	3603
Columbus	1076	3302	3149
Columbus (U)	990	2985	
Dayton	1032	3151	3216
Mansfield	1111	3480	3589
Toledo	1121	3527	3669
Youngstown	1145	3686	3500
OKLAHOMA			
Oklahoma City	761	2160	2367
Tulsa	739	2178	2250
OREGON			
Astoria	653	2476	2882
Burns (U)	1214	3886	4000
Eugene	691	2349	2670
Meacham	1174	4122	4294
Medford	915	2812	2757
Pendleton	760	2746	3134
Portland (U)	632	2063	2352
Portland	739	2596	2659
Roseburg	720	2329	2518
Salem	715	2564	2634
Sexton Summit (R)	973	3431	3292
PENNSYLVANIA			
Allentown	1103	3287	3297
Erie	1077	3335	3464
Harrisburg	1072	3214	3000
Philadelphia (U)	846	2412	
Philadelphia	985	2998	2958
Pittsburgh (U)	953	2910	2879
Pittsburgh	1035	3362	3397
Reading (U)	975	2822	2848
Scranton	1140	3441	3683
Williamsport	1143	3412	3407
RHODE ISLAND			
Block Island	988	2986	2886
Providence	1059	3283	3277
SOUTH CAROLINA			
Charleston (U)	505	1333	1112
Charleston	504	1422	1283
Columbia	640	1814	1576
Florence	622	1797	1497
Greenville-Spartanburg	714	2051	
SOUTH DAKOTA			
Huron	1361	4147	4621
Pierre	1231	3725	
Rapid City	1129	3461	4082
Sioux Falls	1299	4007	4551
TENNESSEE			
Bristol	952	2752	2552
Chattanooga	773	2188	2106
Knoxville	884	2600	2193
Memphis (U)	680	1997	1868
Memphis	739	2168	1954
Nashville	803	2406	2193
Oak Ridge	865	2564	2312
TEXAS			
Abilene	573	1557	1693
Amarillo	855	2366	2540
Austin	451	1198	1112
Brownsville	204	594	420
Corpus Christi	263	772	631
Dallas	604	1619	1508
Del Rio	484	1197	
El Paso	789	1830	1723
Fort Worth	651	1642	1539
Galveston (U)	393	953	758
Houston (U)	346	919	816
Houston	413	1072	835
Laredo	285	816	589
Lubbock	808	2143	2249
Midland	656	1695	1711
Port Arthur	447	1171	991
San Angelo	609	1632	1428
San Antonio	428	1161	1029
Victoria	332	926	770
Waco	562	1498	1305
Wichita Falls	655	1767	1872
UTAH			
Milford	1258	3533	3802
Salt Lake City	1331	3622	3443
Wendover	1193	3438	3511
VERMONT			
Burlington	1327	4573	4337
VIRGINIA			
Lynchburg	865	2591	2485
Norfolk	697	2201	1980
Richmond	826	2537	2332
Roanoke	852	2615	2488
WASHINGTON			
Olympia	772	2713	2982
Seattle (U)	664	2195	2493
Seattle	663	2199	2823
Seattle-Tacoma	771	2632	2958
Spokane	1098	3652	3972
Stampede Pass (R)	1192	5022	5131
Tatoosh Island (R)	660	2778	3172
Walla Walla	742	2607	
Walla Walla (U)	714	2521	2907
Yakima	982	3326	3636
WEST VIRGINIA			
Beckley	978	3403	
Charleston	899	2931	2594
Elkins	1028	3674	
Huntington	950	2951	2478
Parkersburg (U)	918	2909	2777
WISCONSIN			
Green Bay	1365	4348	4641
La Crosse	1258	3890	4459
Madison	1237	4117	4269
Milwaukee	1199	3902	3999
WYOMING			
Casper	1298	3720	4345
Cheyenne	1203	3531	4137
Lander	1376	4085	4833
Sheridan	1189	3697	4505

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

STORM SUMMARY

JANUARY 1964

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	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	2	1	10	6	5					0	0	5	0																
Alaska *																													
Arizona *																													
Arkansas	3	1	0	1	5	0	0	6	0	0	2	3	0																
California	1	1	0	0	3					0	4	4	0																
Colorado										0	4	6	0																
Connecticut										0	0	4	0					0	0	4	0								
Delaware																		0	0	4	0	0	11+	3	0				
Florida	4	1	0	0	4					0	0	4	0																
Georgia										0	0	4	0					0	0	3	0								
Hawaii *																													
Idaho																			10	4									
Illinois						0	0	5	0																				
Indiana																		0	0	5	0								
Iowa *																													
Kansas *																													
Kentucky	4	1	0	2	4	0	0	?	0	0	1	5	0	0	0	3	0												
Louisiana *																													
Maine																		0	0	4	0								
Maryland										0	0	4	0					10	0	4	0	3	100+	4	0				
Massachusetts										0	0	5	0					3	0	4	0	0	8	4	0	0	0	R 5	0
Michigan										3	1	4	0																
Minnesota																						0	0	4	0				
Mississippi						0	0	3	0	0	Few	5	0	0	0	2	0									0	0	3	0
Missouri						0	0	4	0	0	0	4	0	0	0	4	0												
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0	0	25	0	0				
New Jersey																		2	0	5	0								
New Mexico *																													
New York												5						19				3						4	
North Carolina										1	0	6	0					0	0	4	0					0	0	5	0
North Dakota *																													
Ohio *																													
Oklahoma *																													
Oregon										0	2-3	5	2					0	15-20	4	2					0	5-10	5	4
Pacific Area *																													
Pennsylvania										0	0	4	0					1	0	4	0								
Puerto Rico *																													
Rhode Island										0	0	4	0					0	0	4	0								
South Carolina										0	1	4	0									0	18	4	0				
South Dakota *																													
Tennessee						0	0	2	0	0	9	5	0	0	0	4	0	0	0	4	0	0	0	3	0	0	0	3	0
Texas *																													
Utah *																													
Vermont																		0	0	4	0								
U.S. Virgin Is. *																													
Virginia										0	1	4	0																
Washington										0	0	5	0																
West Virginia																		0	A	A	0								
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
R Rain
A Automobile accidents

† 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 1964

Major flooding occurred in tributary streams in southwest Washington and northwest Oregon during the latter part of January. Record high water was reported on some creeks in Oregon. According to the USGS, the monthly mean flow for the Chehalis River near Grand Mound, Wash., was the second highest for January in 34 years.

ST. LAWRENCE DRAINAGE

Lake Ontario.--Loose ice extending from shore to shore on the upper Niagara River damaged approximately 30 boat slips at the La Salle Yacht Club in eastern New York on the 5th. Docks reinforced with steel pilings were also crushed. The Niagara River was running 2 1/2 feet above normal at the time. Other docks were damaged nearby and on Cayuga Island. Along the lower Niagara River ice surged 40 feet above normal and forced one family to evacuate. The water level of the Upper Niagara's east branch rose 4 feet above normal during a southwest gale on the 10th. This caused flooding at Wheatfield, N. Y. There was also some flooding along Ellicott Creek and the Erie Barge Canal at Tonawanda and North Tonawanda, N. Y. On Grand Island a 200-foot dock was torn out at Sandy Beach Yacht Club.

The Lake Erie ice which was broken up by melting and wind action was blown into the Niagara River by a southwest gale on the 25th. This produced an ice bridge below Niagara Falls which was said to be the highest since 1938 when the ice destroyed the "Honeymoon Bridge". Both branches of the Niagara River were running 4 to 5 feet above normal when the ice began to move in. About 30 families were evacuated as flooding commenced in Wheatfield, N. Y., and other areas. Ice surged to massive buildups on the 26th, which reached 60 feet above the river water level from the base of Niagara Falls to the Whirlpool Bridge, 2 miles downstream. By the 27th some buildups were reported at 80 feet. This caused extensive damage to boats, equipment, and structures used for sightseeing in the gorge. Another ice jam clogged the river between Lewiston and Youngstown producing some overflow.

ATLANTIC SLOPE DRAINAGE

Rainfall on the 21st and 22d ranging from 1 to 2.5 inches in southern New England and central New England caused small streams and brooks to run full with some scattered minor flooding. Larger rivers rose and crested well below flood stage during the next 2 days. A second heavy rainstorm on the 25th over the same area caused additional flooding along small streams. No significant damage resulted from the overflows.

Minor flooding occurred along the Millstone and Raritan Rivers in New Jersey on the 10th from rainfall ranging from 1 to 2 inches. No damage was reported.

Snowmelt and light rains on the 21st and 26th caused moderate rises on all streams in the Susquehanna Basin. The Susquehanna in Pennsylvania rose to about three-quarters bankfull; the West Branch and the Juniata crested at half bankfull during the period from the 25th to the 27th. There was heavy ice movement and all main channels were opened by this rise. Some local ice-jam flooding was reported on the West Branch, Conodoguinet, and on the Susquehanna in the vicinity of Duncannon and above Safe Harbor, Pa. Snow cover at the end of the month averaged 5 inches in the upper half of the basin with a trace in the lower half.

There were two periods of flooding in eastern North Carolina during the month. The first rise was due to general rainfall during the 72-hour period ending on the 9th. Minor flooding resulted on the Neuse and Cape Fear Rivers. The second overflow was due to moderate to heavy rains on the 25th. Shallow flooding occurred again on the Neuse and Cape Fear Rivers.

Minor flooding occurred on the Broad River at Blair, S. C., on the 10th and on the Pee Dee River at Peedee, S. C., from the 13th to the 16th. Minor flooding began on the North Fork of the Edisto at Orangeburg, S. C., on the 10th and continued to the 18th. There were two more periods of flooding on the North Fork during the month. The Edisto at Givhans Ferry, S. C., began overflowing on the 15th and continued through the end of the month. Moderate flooding occurred on the Rocky River at Norwood, N. C., on the 25th and 26th. These overflows were due to heavy rain on the 9th, 13th, and 24th to the 26th. The city of Charleston, S. C., recorded the most rain for this month since 1915 and the most number of rainy days since 1885.

The flooding on streams in Georgia during January was due to general rains. The rainfall over most of the State was unusually heavy. At Macon, Ga., rainfall of 8.3 inches was the fourth heaviest of record. The longest period of rainfall was from the 5th to the 13th. The flooding was confined chiefly to swamplands and low-lying land subject to flooding.

The heavy rains on the 7th to the 10th caused the Apalachicola to rise above flood stage at Blountstown, Fla., on the 9th, the Choctawhatchee River at Caryville, Fla., on the 10th, and the Flint River at Albany, Ga., on the 11th. Flooding on the Flint extended to Bainbridge, Ga., on the 13th and continued in flood until the 20th. The Apalachicola River remained in flood at Blountstown, Fla., the remainder of the month. The Choctawhatchee River was above flood stage at Caryville, Fla., from the 10th to the 15th. Very little damage resulted from this flooding as only low-lying, wooded, and unpopulated areas were affected. Logging interests had to move equipment to higher elevations and reassign personnel to other areas, involving no losses.

Excessively heavy rains on the morning of the 25th over northwest Georgia and northeast Alabama resulted in flooding on the Oostanaula River at Resaca, Ga., and the Etowah River at Canton, Ga. Rainfall amounts over northwest Georgia averaged from 3 to over 4 inches for the 24-hour period ending at 7 a.m. on the 25th. The Etowah River at Canton, Ga., crested over 4 feet, above flood stage on the 26th. The Oostanaula River at Resaca, Ga., crested about 2 feet above flood stage on the 28th.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. -- With the exception of the Canadian Border, the Minnesota Arrowhead, and extreme northern and northeastern Wisconsin, precipitation was only half of the long term January mean. In much of the southwestern half of Minnesota it was less than 1/4 inch. January temperatures averaged 4° to 8° above the mean. Compared to January 1963, the temperatures averaged 14° to 18° warmer. Streamflow over the upper Mississippi upstream from St. Paul and Chippewa and the Wisconsin Rivers in Wisconsin continues below normal. Hydrogeneration along the Wisconsin River System ranked 23d out of the past 24 years.

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

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955
(Minnesota)										
Bemidji	11	2	13	4	8	8	5	11	26	8
International Falls	14	4	16	11	8	20	8	11	22	15
Duluth	9	6	15	9	16	11	11	14	29	17
Alexandria	2	2	9	0	5	0	5	2	16	6
New Ulm	T	4	2	T	1	2	3	T	6	4
Minneapolis	3	4	6	2	2	0	2	2	11	6
Rochester	0	6	3	T	2	3	2	1	10	3
(Wisconsin)										
Park Falls	5	10	19	2	14	12	12	13	21	17
Wausau	3	6	9	T	4	6	5	7	12	--
Portage	0	9	7	1	2	10	4	4	2	--

Missouri Basin.--There was 1 to 2 inches of snow on the ground in the northern counties of South Dakota at the end of the month. Elsewhere in the State, the ground was bare except for a scattering of snow drifts. Rivers were frozen throughout January, except for a few strips of open channel developing in the Missouri River in the latter half of the month.

The Missouri River was blocked intermittently by ice between Plattsmouth and Jefferson City, Mo., throughout the month. The ice blocks broke up at Lexington, Mo., on the 4th; at Nebraska City, Mo., on the 19th; above Jefferson City on the 22d; and above Rulo, Mo., on the 23d. The breakups were followed by minor rises downstream.

Ohio Basin.--Periods of thawing and freezing of the ice cover on the Allegheny River in Pennsylvania resulted in fluctuating gage heights with the movement of ice. Snowmelt augmented by rain showers on the 25th resulted in a general movement of the ice cover. Backwater from ice gorges at East Hickory and Parker, Pa., crested near bankfull stages with little or no damages. An ice gorge developed in the upper pool of Lock 8, Mosgrove, Pa., on the Allegheny River and backwater from this gorge and ice movement destroyed or seriously damaged 30 cottages and trailers. This gorge was 10 miles long, 20 feet high in places with ice cakes 8 to 12 inches thick. The gorge was stationary at the end of the month with water levels above the gorge falling slowly, lessening the flooding from backwater.

South Chickamauga Creek near Chickamauga, Tenn., was in flood from the 24th to the 26th.

Lower Mississippi Basin.--The Mississippi was very low at the end of December and remained below the 0.0 foot of the gage at Memphis, Tenn., until January 11. It reached the second lowest stage of record at this point, -4.9 feet on the 3d. At Vicksburg, Miss., the Mississippi reached a low stage of -5.8 feet, on the 6th, 7th, and 8th. This was the lowest stage at Vicksburg since October 1940.

WEST GULF OF MEXICO DRAINAGE

Flash flooding occurred on the extreme upper Nueces and Frio Rivers in Texas on the 30th due to locally heavy rains of 2 to 4 inches. Low water crossings were closed due to the high water.

PACIFIC SLOPE DRAINAGE

Heavy rains on the 17th through the 23d brought substantial rises on the upper Sacramento River and its tributaries in California. Overflow occurred at Colusa and Tisdale Weirs. Twelve feet of snow was reported on the ground at Norden near Donner Summit by the 23d, but this pack had settled to 7 feet by the end of the month.

Moderate to heavy rain on the 19th produced a 2-foot overflow on the Smith River at Ft. Dick, Calif., early on the morning of the 20th. Redwood Creek at Orick, Calif., rose to a crest of 20.9 feet, nearly 3 feet above flood stage on the morning of the 20th. Moderate damages resulted from the overflows.

Serious flooding occurred in the lower Coquille Basin in Oregon from the 18th to the 24th. Although no records were broken, the Coquille River remained above flood stage for over 48 hours at Coquille, Oreg., to crest at 24.1 feet, 3 feet above flood stage on the 20th. Due to the width of the Valley at this point, 3 feet above flood stage inundates a considerable area. Two separate crests occurred at Myrtle Point, Oreg., with the second crest on the 20th nearly 9 feet above flood stage. Less serious flooding occurred during this same period along the Umpqua River below its confluence with Cow and Myrtle Creeks. According to USGS, the West Fork of Cow Creek near Glendale, Oreg., and North Myrtle Creek near Myrtle Creek, Oreg., reported record high water marks. In spite of such high water in its tributaries, the Umpqua River crested only 1.9 feet above flood stage at Roseburg, Oreg., on the 20th.

Four to 6 inches of precipitation from the 17th to the 20th over the Willamette Basin in Oregon caused flooding along the tributary streams and on the Willamette at Harrisburg and Oregon City. During this period, the freezing level had stayed down near 2,500 feet. Near record snowfalls were reported along the western slopes. All tributary streams responded with sharp rises, particularly left bank Willamette tributaries heading in the low elevation coast mountain range where crests were generally several feet above flood stage. Runoff from Cascade range tributaries was from lower elevations only, due to the low freezing level. The Santiam River at Jefferson, Oreg., crested at just about flood stage, while only near bankfull stages were reported at McKenzie and upper Willamette points.

Heavy rain falling on low elevation snow produced major flooding on the Chehalis and Skookumchuck Rivers in Washington on the 25th and 26th. Flood crests on the Chehalis were 2 to 5 feet above flood stage. Lowlands in the Chehalis-Centralia area were inundated, but no major damage resulted.

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
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Millstone: Blackwells Mills, N.J.	8	10	10	8.1	10
Raritan: Manville, N. J.	12	10	10	12.6	10
Boundbrook, N. J.	8	10	10	9.2	10
Neuse: Smithfield, N. C.	13	(11 (27	14 29	15.1 #13.6	13 28
Goldsboro, N. C.	14	13	18	#16.25	16-17
Kinston, N. C.	14	16	21	15.0	19
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	11 26	14 29	23.0 23.8	12 28
Rocky: Norwood, N. C.	15	25	26	E 20.0	25
Pee Dee: Cheraw, S. C.	30	26	27	30.8	26
Peedee, S. C.	19	13 27	16 Feb. 3	#19.2 #20.9	15 31
Saluda: Pelzer, S. C.	6	25	28	9.3	26
Chappells, S. C.	13	26	26	13.8	26
Broad: Blair, S. C.	14	10 25	10 28	14.9 20.0	10 26
North Fork Edisto: Orangeburg, S.C.	8	10 19 26	18 23 28	# 8.7 # 8.1 # 8.1	12 20 27
Edisto: Givhans Ferry, S. C.	10	15	1/	#11.9	24
Savannah: Milhaven, Ga.	15	15	31	16.1	21
Clyo,	11	Dec. 26 13	1 31	11.3 14.8	Dec. 31 24
Ogeechee: Dover, Ga.	7	14	31	8.2	19
Eden, Ga.	9	15	31	11.5	21
Ocmulgee: Macon, Ga.	18	9 25	10 28	18.5 19.3	10 27
Abbeville, Ga.	12	13	31	14.2	17
Lumber City, Ga.	15	21	22	15.4	21
Oconee: Milledgeville, Ga.	20	26	27	24.2	26
Altamaha: Charlotte, Ga.	15	16	31	18.3	22
Satilla: Atkinson, Ga.	13	17	31	15.8	25,26
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	11	16	23.5	11
Bainbridge, Ga.	25	13	20	26.8	15
Apalachicola: Blountstown, Fla.	15	9	1/	20.7	13
Choctawhatchee: Caryville, Fla.	12	10	15	12.9	13
Oostanaula: Resaca, Ga.	22	27	28	24.0	28
Etowah: Canton, Ga.	17	25	26	22.2	25

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Ohio Basin					
South Chickamauga Creek: Chickamauga (nr.), Tenn.	10	24	26	#15.2	26
PACIFIC SLOPE DRAINAGE					
Sacramento: Colusa Weir, Calif.	62	21	23	63.7	22
Tisdale Weir, Calif.	44	22	24	47.6	22
Smith: St. Dick, Calif.	30	19		32.0	20
Redwood Creek: Orick, Calif.	19	19		20.9	20
Rogue: Raygold, Oreg.	12	20	20	12.4	20
Umpqua: Roseburg, Oreg.	22	20	20	23.9	20
Winston, Oreg.	26	20	20	26.5	20
Coquille: Myrtle Point, Oreg.	35	18 19	18 21	35.55 43.9	18 20
Coquille, Oreg.	21	20	22	24.1	20
Marys: Philomath, Oreg.	20	19	20	20.6	19
Luckiamute: Suver, Oreg.	27	19 25	21 27	29.1 28.8	20 26
South Yamhill: Whiteson, Oreg.	38	19 25	22 27	42.2 42.8	20 26
Pudding: Aurora, Oreg.	20	19	Feb. 1	(23.5 (24.3	20 26
Tualatin: Dilley, Oreg.	12	6 17	8 Feb. 2	13.1 (13.8 (14.7	6 20 25
Farmington, Oreg.	29	19	Feb. 3	(33.2 (34.4	21 27
Oswego, Oreg.	20	20	31	(21.9 (24.7	22 28
Johnson Creek: Sycamore, Oreg.	8	19 25	20 26	9.6 11.3	19 25
Willamette: Harrisburg, Oreg.	12	20	20	E 12.5	20
Oregon City (Upper), Oreg.	12	21 26	23 29	12.6 12.8	22 27
Oregon City (Lower), Oreg.	25	21 25	23 29	26.0 27.6	22 27
Chehalis: Centralia, Wash.	63	25	27	68.6	26
Grand Mound, Wash.	14	25	27	16.8	26
Skookumchuck: Centralia, Wash.	68	25	26	70.1	26

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

RAWINSONDE DATA

Average monthly values

JANUARY 1964

Standard pressure surface (mb.)	ALBANY, N. Y. 1005 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 6.7	77	278	3.7
1000	31	124			296	3.5
950	31	528	- 4.6	69	269	9.9
900	31	953	- 5.7	66	281	15.9
850	31	1,400	- 6.8	61	284	21.2
800	31	1,872	- 8.3	56	287	24.5
750	31	2,374	- 9.3	52	287	28.6
700	31	2,905	-11.0	45	283	33.4
650	31	3,470	-13.8	47	279	37.1
600	31	4,077	-16.7	42	277	41.6
550	31	4,724	-20.6	42	274	46.8
500	31	5,425	-25.1	41	272	50.9
450	31	6,181	-30.3	42	272	55.8
400	31	7,013	-35.7	46	272	62.9
350	31	7,930	-41.4		271	67.0
300	31	8,962	-47.8		270	70.5
250	31	10,151	-52.8		267	75.4
200	30	11,579	-55.3		268	69.5
175	30	12,432	-54.9		267	69.9
150	30	13,416	-55.3		268	64.5
125	30	14,577	-56.5		269	57.1
100	30	15,988	-58.2		268	53.4
80	30	17,385	-59.6		271	48.6
70	30	18,223	-59.2		271	43.7
60	29	19,189	-58.3		272	39.6
50	29	20,238	-57.9		273	35.4
40	28	21,740	-58.4		276	38.7
30	27	23,552	-56.8		288	37.7
25	26	24,706	-56.1		286	36.1
20	23	26,131	-55.0		287	36.0
15	15	27,943	-54.8			
10						
7						
5						

Standard pressure surface (mb.)	ALBUQUERQUE, N. MEX. 838 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,619	- 6.0	57	33	1.6
1000	31	212				
950	31	620				
900	31	1,056				
850	31	1,509				
800	31	1,990	- 2.6	39	311	4.3
750	31	2,497	- 4.6	40	305	9.5
700	31	3,042	- 7.0	36	299	13.8
650	31	3,613	-10.1	34	297	18.6
600	31	4,230	-13.6		294	21.2
550	31	4,884	-17.9		295	22.1
500	31	5,594	-22.8		288	25.8
450	31	6,353	-28.0		286	28.0
400	31	7,196	-33.7		285	29.1
350	31	8,120	-40.2		285	33.8
300	31	9,156	-47.1		291	37.3
250	31	10,345	-53.2		285	43.1
200	31	11,774	-55.1		282	43.5
175	31	12,625	-55.5		276	45.1
150	31	13,605	-57.1		275	43.5
125	31	14,751	-60.1		274	39.4
100	31	16,132	-63.1		273	38.7
80	30	17,504	-63.4		277	28.6
70	30	18,334	-62.1		268	21.8
60	30	19,283	-60.9		273	16.1
50	30	20,417	-60.1		279	11.3
40	30	21,820	-57.3		285	9.5
30	28	23,651	-55.0		293	5.8
25	26	24,824	-53.9		311	3.5
20	24	26,262	-51.8		322	3.7
15	13	28,133	-50.4		26	10.3
10						
7						
5						

Standard pressure surface (mb.)	AMARILLO, TEXAS 891 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	- 3.0	56	287	7.8
1000	31	162				
950	31	575				
900	31	1,011				
850	31	1,468	2.4	38	296	15.7
800	31	1,957	1.1	34	299	16.1
750	31	2,474	- 1.2	33	293	15.7
700	31	3,021	- 4.5	30	280	16.9
650	31	3,597	- 8.0		273	20.6
600	31	4,218	-12.1		273	22.9
550	31	4,873	-16.7		276	23.5
500	31	5,587	-21.8		276	26.6
450	31	6,366	-27.0		268	30.1
400	31	7,194	-32.9		268	35.4
350	31	8,121	-39.5		266	37.1
300	31	9,160	-46.5		264	44.9
250	31	10,353	-52.8		267	53.0
200	31	11,786	-54.7		267	56.9
175	31	12,640	-55.3		265	58.5
150	31	13,622	-56.7		265	55.8
125	31	14,773	-58.8		266	50.9
100	31	16,164	-62.1		266	46.4
80	31	17,540	-62.7		268	39.0
70	31	18,364	-61.8		267	33.2
60	30	19,314	-61.0		266	26.6
50	29	20,449	-59.7		272	18.5
40	28	21,852	-57.4		264	12.2
30	28	23,680	-55.3		315	5.1
25	25	24,846	-53.4		299	7.2
20	23	26,283	-51.7		349	4.1
15	14	28,136	-50.7		15	7.8
10						
7						
5						

Standard pressure surface (mb.)	ANCHORAGE, ALASKA 994 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	29	-10.1	72	2	2.3
1000	31	21				
950	31	382	- 6.2	60	16	7.2
900	31	801	- 6.0	58	55	5.8
850	31	1,247	- 8.1	60	97	8.9
800	31	1,716	-10.8	61	115	8.9
750	31	2,209	-13.7	58	134	9.5
700	31	2,731	-16.6	57	144	8.2
650	31	3,283	-20.1	57	157	7.6
600	31	3,873	-24.2	54	168	6.4
550	31	4,497	-28.8	53	175	6.2
500	31	5,177	-33.9	51	196	5.8
450	31	5,902	-39.4		207	4.9
400	31	6,703	-45.7		224	8.2
350	31	7,580	-51.5		241	9.9
300	31	8,571	-55.1		241	14.4
250	31	9,733	-54.9		250	20.4
200	31	11,167	-52.1		258	22.5
175	31	12,034	-51.0		259	26.6
150	31	13,038	-50.2		258	29.5
125	30	14,234	-49.6		262	33.4
100	30	15,696	-49.2		266	36.9
80	29	17,157	-48.9		268	39.0
70	29	18,041	-48.8		269	40.6
60	29	19,047	-48.3		272	42.0
50	28	20,253	-47.8		276	44.3
40	28	21,728	-46.7		278	47.8
30	28	23,642	-45.7		283	51.7
25	27	24,864	-45.0		289	54.4
20	25	26,360	-44.0		292	56.3
15	16	28,351	-42.4		293	58.1
10	5	31,032	-42.7			
7						
5						

Standard pressure surface (mb.)	* ANNETTE, ALASKA 998 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	1.9	84	129	5.6
1000	31	23			139	6.8
950	31	435	.0	75	151	11.1
900	31	867	- 3.0	80	168	13.2
850	31	1,318	- 5.8	81	182	15.9
800	31	1,791	- 8.7	77	192	16.7
750	31	2,290	-11.9	74	203	16.3
700	31	2,814	-15.3	65	214	16.5
650	31	3,368	-18.8	65	217	18.3
600	31	3,963	-22.6	60	225	16.3
550	31	4,594	-27.2	58	228	20.2
500	31	5,277	-32.2	57	231	21.2
450	31	6,008	-47.8	55	235	21.8
400	31	6,817	-43.6		244	25.3
350	31	7,703	-49.5		249	29.7
300	31	8,702	-53.6		253	35.2
250	31	9,870	-54.7		264	38.7
200	31	11,304	-52.5		269	35.4
175	31	12,169	-51.3		271	25.4
150	31	13,171	-50.9		271	36.7
125	31	14,357	-51.1		275	35.0
100	30	15,808	-51.3		281	35.0
80	30	17,257	-51.4		283	34.0
70	30	18,129	-51.2		287	31.5
60	30	19,126	-51.0		289	31.1
50	30	20,314	-50.6		294	30.5
40	30	21,769	-49.9		299	31.7
30	30	23,654	-48.6		303	34.0
25	29	24,852	-48.2		309	35.7
20	29	26,323	-47.7		318	35.9
15	28	28,236	-46.8		324	42.3
10	25	30,951	-45.3		330	50.3
7	19	33,396	-41.8		335	62.4
5	8	35,668	-40.0			

Standard pressure surface (mb.)	ATHENS, GA. 990 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	1.6	81	284	3.1
1000	31	163				
950	31	580	4.6	59	282	9.3
900	31	1,021	4.0	54	276	14.8
850	31	1,486	3.6	49	266	19.0
800	31	1,977	2.2	45	265	22.9
750	31	2,492	.2	40	261	26.2
700	31	3,047	- 2.5	36	261	30.5
650	31	3,628	- 5.6		262	35.9
600	31	4,256	- 9.0		263	42.5
550	31	4,921	-13.1		260	48.8
500	31	5,644	-18.1		257	52.4
450	31	6,416	-23.3		253	59.6
400	31	7,276	-29.1		251	69.7
350	31	8,219	-35.0		252	84.3
300	31	9,277	-42.3		254	90.7
250	30	10,484	-50.2		255	100.0
200	30	11,918	-55.8		256	99.8
175	30	12,764	-57.6		258	91.9
150	29	13,727	-59.7		258	90.3
125	29	14,859	-62.7		259	77.1
100	29	16,225	-65.0		264	57.3
80	28	17,585	-65.6		264	42.5
70	28	18,398	-65.2		262	38.3
60	27	19,334	-63.9		265	27.0
50	27	20,458	-62.4		272	22.7
40	25	21,846	-59.8		275	18.3
30	25	23,655	-57.0		287	14.2
25	25	24,814	-54.7		286	16.9
20	25	26,247	-53.0		289	12.6
15	19	28,117	-50.1			
10	5	30,786	-47.5			
7						

Standard pressure surface (mb.)	* BARROW, ALASKA 1012 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	-28.9	62	58	6.6
1000	31	93	-28.7	63	63	6.6
950	31	468	-26.2	72	81	8.5
900	31	855	-23.7	72	81	7.4
850	31	1,274	-22.7	64	95	7.0
800	31	1,718	-23.4	64	118	5.4
750	31	2,191	-24.3	65	201	3.1
700	31	2,690	-22.6	67	236	7.0
650	31	3,224	-28.6	68	249	10.5
600	31	3,794	-31.6	62	255	14.2
550	31	4,406	-35.1	56	254	19.2
500	31	5,064	-39.1	54	255	22.3
450	31	5,777	-43.8		257	25.8
400	31	6,563	-49.0		254	28.7
350	31	7,429	-54.2		253	32.2
300	31	8,406	-59.1		251	32.1
250	31	9,540	-61.5		257	33.4
200	30	10,936	-59.2		260	35.5
175	29	11,770	-58.6		262	36.9
150	28	12,739	-58.5		264	42.2
125	28	13,885	-58.4		266	47.6
100	28	15,290	-57.9		269	55.8
80	27	16,702	-56.9		271	65.7
70	25	17,581	-55.7		272	71.3
60	25	18,553	-55.1		274	81.4
50	25	19,719	-54.2		276	91.7
40	25	21,154	-53.1		278	101.6
30	25	23,010	-52.3		278	112.7
25	24	24,216	-50.9		280	122.6
20	23	25,676	-49.4		284	125.7
15	20	27,642	-46.1		287	135.4
10	14	30,416	-39.9		287	133.1
7	8	33,045	-35.0			

Standard pressure surface (mb.)	BARTER IS., ALASKA 1010 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	-27.5	63	91	2.9
1000	31	89	-27.2	59	75	2.5
950	31	459	-25.1	63	102	6.6
900	31	855	-21.6	61	107	6.4
850	31	1,278	-20.1	59	115	2.7
800	31	1,727	-20.4	56	207	.8
750	31	2,201	-21.9	53	271	4.7
700	31	2,710	-23.3	50	271	7.2
650	31	3,248	-26.2	49	277	10.5
600	31	3,825	-29.5	49	278	13.8
550	31	4,438	-33.0	49	279	17.1
500	31	5,106	-37.2	47	274	19.6
450	31	5,825	-42.0		273	21.2
400	31	6,616	-47.4		274	25.3
350	31	7,488	-53.1		276	26.2
300	31	8,468	-58.5		278	30.1
250	31	9,603	-61.5		278	28.7
200	31	10,994	-58.9		276	31.1
175	29	11,834	-57.8		277	33.4
150	28	12,805	-57.5		276	38.5
125	27	13,969	-56.9		276	40.0
100	27	15,382	-56.7		277	47.0
80	26	16,806	-55.9		279	53.4
70	26	17,663	-55.7		280	56.7
60	26	18,638	-55.3		278	60.2
50	26	19,802	-54.6		283	66.4
40	25	21,238	-54.7		283	72.3
30	24	23,081	-54.1		285	79.8
25	20	24,290	-51.8		288	85.3
20	16	25,745	-49.9		294	95.6
15	12	27,654	-45.4		287	94.8
10						
7						
5						

Standard pressure surface (mb.)	BETHEL, ALASKA 993 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	-15.6	78	30	6.6
1000	31	20			26	6.6
950	31	377	- 8.3	69	74	10.5
900	31	794	- 7.8	62	108	7.4
850	31	1,238	- 9.3	59	136	5.8
800	31	1,705	-12.0	58	147	5.8
750	31	2,191	-14.8	59	156	5.4
700	31	2,716	-17.8	55	169	5.2
650	31	3,262	-21.4	53	172	6.4
600	31	3,852	-25.1	50	174	9.5
550	31	4,473	-29.3	48	193	9.3
500	31	5,154	-34.1	52	203	11.5
450	31	5,879	-39.6		208	11.7
400	31	6,680	-45.5		223	12.0
350	31	7,557	-51.3		213	12.6
300	31	8,550	-55.1		213	13.0
250	31	9,712	-55.2		229	20.2
200	31	11,148	-51.7		243	24.1
175	31	12,017	-50.5		246	28.7
150	31	13,023	-49.7		249	30.1
125	29	14,218	-49.2		252	34.6
100	29	15,683	-48.5		255	38.3
80	28	17,159	-47.4		257	41.8
70	28	18,050	-46.8		259	41.4
60	27	19,064	-46.2		260	44.5
50	26	20,291	-45.0		264	44.5
40	25	21,789	-43.6		270	47.8
30	25	23,727	-42.4		271	52.3
25	24	24,957	-42.0		274	53.8
20	23	26,481	-41.5		280	53.2
15	6	28,299	-44.5			
10						
7						
5						

Standard pressure surface (mb.)	BISMARCK, N. DAK. 952 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	-12.3	71	331	2.1
1000	31	124				
950	31	522			308	3.9
900	31	940	- 5.3	56	301	12.8
850	31	1,390	- 4.9	48	305	16.5
800	31	1,865	- 6.8	47	304	18.6
750	31	2,367	- 9.7	47	303	20.8
700	31	2,896	-12.6	51	301	23.9
650	31	3,456	-15.7	53	300	24.7
600	31	4,059	-19.2	50	295	29.3
550	31	4,695	-23.8	48	293	31.9
500	31	5,390	-28.8	46	293	34.6
450	31	6,125	-34.5	44	292	35.9
400	31	6,948	-40.7		292	39.6
350	31	7,845	-46.9		289	39.8
300	31	8,852	-52.4		285	44.3
250	31	10,020	-55.4		285	48.0
200	31	11,442	-54.8		283	43.5
175	31	12,301	-52.7		280	43.9
150	31	13,296	-52.9		281	42.7
125	31	14,471	-53.3		281	40.4
100	31	15,901	-55.3		281	38.9
80	31	17,323	-55.3		283	33.8
70	31	18,174	-55.3		288	28.2
60	31	19,160	-54.8		290	27.4
50	31	20,326	-54.3		289	25.1
40	31	21,756	-54.2		301	27.0
30	30	23,602	-53.5		307	26.6
25	28	24,779	-53.6		315	25.1
20	26	26,212	-53.4		321	29.1
15	20	28,055	-52.9		320	37.9
10						
7						
5						

Standard pressure surface (mb.)	BOISE, IDAHO 919 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	- 4.4	90	150	2.9
1000	31	198				
950	31	606				
900	31	1,034	- 2.7	71	151	2.5
850	31	1,488	- 3.1	64	217	2.9
800	31	1,965	- 5.3	63	260	9.9
750	31	2,471	- 7.8	61	275	15.0
700	31	3,004	-10.1	54	281	20.0
650	31	3,571	-13.1	48	285	24.7
600	31	4,179	-16.6	46	281	26.6
550	31	4,825	-20.7	43	283	30.5
500	31	5,526	-25.3	41	276	33.4
450	31	6,279	-30.9	39	276	34.4
400	31	7,109	-37.1	39	279	38.9
350	31	8,020	-43.4		280	45.3
300	31	9,041	-50.5		278	50.5
250	31	10,213	-56.5		280	51.3
200	31	11,620	-58.0		284	50.3
175	31	12,465	-56.0		286	44.5
150	31	13,449	-55.0		284	40.0
125	31	14,612	-56.0		280	35.5
100	30	16,030	-57.1		284	30.9
80	30	17,440	-57.5		285	26.0
70	30	18,288	-57.1		288	19.8
60	30	19,260	-56.8		290	13.8
50	30	20,419	-55.4		297	12.8
40	30	21,846	-53.9		322	10.1
30	28	23,699	-52.2		358	8.2
25	25	24,869	-51.2		5	7.0
20	23	26,317	-50.5		26	9.9
15	18	28,187	-49.6			
10	7	30,773	-51.7			
7						
5						

Standard pressure surface (mb.)	* BROWNSVILLE, TEXAS 1018 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	11.7	82	313	1.0
1000	31	155	13.8	76	142	1.4
950	31	585	12.3	69	178	5.1
900	31	1,041	11.2	56	190	7.2
850	31	1,518	10.5	46	225	8.5
800	31	2,021	8.7	46	233	12.4
750	31	2,550	6.4	46	235	17.5
700	31	3,117	3.6	43	239	21.6
650	31	3,707	- .1	41	244	26.2
600	31	4,353	- 3.8	40	247	34.6
550	31	5,025	- 8.3	44	249	40.0
500	31	5,768	-13.2	49	249	49.7
450	31	6,554	-17.9	49	250	62.9
400	31	7,438	-23.6	50	247	75.6
350	31	8,401	-30.5	49	247	83.5
300	31	9,478	-38.8	42	247	104.9
250	31	10,703	-48.4		248	109.9
200	31	12,141	-57.3		250	100.2
175	31	12,980	-59.7		249	93.6
150	31	13,937	-62.6		249	88.2
125	31	15,052	-66.2		249	72.8
100	30	16,391	-70.1		250	49.3
80	29	17,716	-70.4		249	32.2
70	29	18,514	-69.4		255	28.4
60	29	19,433	-67.2		261	14.8
50	29	20,539	-64.7		259	11.8
40	29	21,916	-61.3		254	3.1
30	29	23,716	-57.7		263	4.7
25	28	24,873	-55.3		252	6.8
20	19	26,306	-52.6		97	7.2
15	18	28,171	-50.1		83	3.9
10	14	30,843	-46.1			
7	8	33,228	-39.8			
5	5	35,619	-33.3			

Standard pressure surface (mb.)	BUFFALO, N. Y. 988 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	- 2.3	73	234	5.8
1000	31	119				
950	31	526	- 2.8	69	240	15.2
900	31	954	- 4.5	62	247	19.2
850	31	1,403	- 5.8	55	256	20.2
800	31	1,876	- 7.6	51	261	22.0
750	31	2,379	- 9.3	48	267	24.5
700	31	2,908	-11.6	45	266	29.7
650	31	3,473	-14.2	43	265	35.4
600	31	4,076	-17.8	46	270	37.1
550	31	4,720	-21.5	45	268	42.7
500	31	5,420	-25.7	43	271	47.8
450	31	6,171	-30.9	42	272	49.3
400	31	7,004	-36.2	45	269	52.8
350	31	7,919	-42.1		266	58.1
300	31	8,947	-48.1		263	63.9
250	31	10,134	-53.0		260	70.5
200	31	11,564	-54.8		262	75.4
175	31	12,420	-54.0		265	73.6
150	30	13,403	-54.8		267	66.8
125	29	14,559	-56.0		268	56.9
100	29	15,972	-57.5		270	55.8
80	29	17,380	-58.0		270	43.5
70	29	18,224	-59.1		271	40.8
60	28	19,187	-59.2		273	39.2
50	27	20,337	-57.7		280	32.4
40	26	21,748	-57.3		283	31.3
30	23	23,578	-56.8		281	30.9
25	21	24,731	-56.1		290	32.2
20	18	26,154	-54.3		286	34.2
15	14	28,037	-52.3			
10	9	30,727	-49.8			
7						
5						

Standard pressure surface (mb.)	* BURRWOOD, LA. 1019 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	11.4	84	39	4.5
1000	31	163	12.4	73	64	3.5
950	31	595	10.0	69	234	1.9
900	31	1,041	8.2	62	242	6.6
850	31	1,513	7.7	48	254	10.5
800	31	2,012	6.4	46	257	15.5
750	31	2,539	4.2	39	254	20.6
700	31	3,098	1.5	42	252	23.5
650	31	3,690	- 1.6	41	252	30.3
600	31	4,325	- 5.2	40	252	35.0
550	31	4,996	- 9.2	41	250	38.7
500	31	5,734	-14.0	40	250	44.7
450	31	6,523	-18.8	43	249	50.7
400	31	7,397	-24.5	49	249	61.8
350	31	8,356	-31.2	47	249	66.6
300	31	9,430	-39.1	44	250	82.2
250	31	10,654	-48.8		251	91.7
200	31

RAWINSONDE DATA

Average monthly values

JANUARY 1964

Standard pressure surface (mb.)	CAPE HATTERAS, N. C. 1017 MB						CARIBOU, ME. 988 MB						CHARLESTON, S. C. 1018 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	7.3	79	295	3.7	31	191	-12.3	80	294	4.1	30	13	5.2	86	265	3.1
1000	31	140	8.8	71	289	6.8	31	97					30	158	8.0	70	273	5.2
950	31	561	7.6	62	268	10.7	31	489	-10.8	71	298	10.3	30	582	8.3	56	265	11.7
900	31	1,008	5.7	56	259	13.6	31	905	-11.0	70	291	14.0	30	1,028	7.2	49	257	15.2
850	31	1,475	4.2	49	263	19.4	31	1,345	-10.9	66	291	17.3	30	1,498	5.9	43	257	19.2
800	31	1,968	2.9	44	265	24.1	31	1,811	-11.6	62	295	20.0	30	1,993	4.7		262	22.1
750	31	2,486	.6	42	265	27.8	31	2,305	-12.7	55	292	23.3	30	2,516	3.0		261	27.6
700	31	3,039	- 2.1	42	266	32.8	31	2,830	-14.8	50	291	26.2	30	3,074	- .1		258	31.5
650	31	3,621	- 4.8	40	265	38.1	31	3,386	-17.3	46	283	27.2	30	3,663	- 3.0		258	37.3
600	31	4,251	- 8.3	35	265	43.7	31	3,985	-20.3	42	278	30.1	30	4,295	- 6.3		264	36.5
550	31	4,917	-12.2		263	49.1	31	4,623	-23.9	40	274	36.3	30	4,963	-10.5		261	44.9
500	31	5,645	-16.7		266	56.3	31	5,316	-28.3	37	274	39.6	30	5,698	-15.2		260	49.5
450	31	6,419	-21.9		266	61.2	31	6,058	-33.5		279	41.0	30	6,475	-20.9		261	55.4
400	31	7,286	-27.8		263	70.9	31	6,882	-39.1		274	44.1	30	7,347	-26.5	42	258	64.7
350	31	8,233	-34.2		260	76.1	31	7,785	-44.8		274	51.3	30	8,299	-33.1	43	258	80.8
300	31	9,295	-41.9		259	88.6	31	8,804	-49.5		272	60.4	30	9,365	-40.8		260	87.8
250	31	10,508	-49.8		266	94.8	31	9,992	-51.7		268	65.9	30	10,581	-49.7		263	98.1
200	31	11,948	-55.2		267	101.0	31	11,434	-52.5		270	60.8	30	12,015	-57.1		265	98.3
175	31	12,797	-56.4		271	94.8	31	12,296	-52.4		270	60.0	30	12,856	-58.6		265	98.7
150	31	13,772	-58.4		271	86.8	31	13,293	-52.6		272	55.2	30	13,820	-60.6		266	83.3
125	31	14,911	-61.5		267	77.9	31	14,467	-53.9		266	45.3	29	14,948	-63.6		266	71.7
100	31	16,285	-63.9		272	63.9	30	15,894	-56.0		266	48.4	29	16,308	-66.1		270	57.7
80	31	17,649	-64.8		267	48.2	30	17,309	-57.1		270	43.1	27	17,657	-67.6		268	45.5
70	31	18,473	-64.1		267	42.9	30	18,159	-57.1		270	42.5	26	18,472	-66.1		269	38.7
60	31	19,411	-62.8		269	35.8	30	19,129	-57.8		267	38.3	25	19,400	-64.8		276	29.1
50	31	20,538	-61.1		272	27.4	30	20,278	-58.3		273	36.5	25	20,518	-62.8		278	22.5
40	31	21,932	-58.3		283	22.0	29	21,679	-57.8		273	33.4	24	21,902	-59.8		282	16.1
30	31	23,754	-55.3		285	13.6	29	23,491	-58.2		277	37.1	24	23,715	-56.0		275	18.8
25	31	24,920	-54.0		286	12.4	29	24,637	-58.6		281	44.5	22	24,879	-54.3		291	10.9
20	31	26,360	-51.5		288	12.9	29	26,043	-57.6		286	51.3	21	26,308	-52.5		296	13.6
15	31	28,242	-48.3		299	15.9	29	27,869	-55.8		283	57.9	16	28,190	-49.1		293	18.6
10	29	30,927	-44.1		272	34.8	27	30,451	-53.4		282	65.3	6	30,791	-48.3			
7	26	33,353	-39.8		269	53.6	24	32,793	-49.3		272	86.1						
5	10	35,572	-38.1				8	34,939	-49.6									

Standard pressure surface (mb.)	* COLD BAY, ALASKA 985 MB						COLUMBIA, MO. 987 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	- .8	85	208	5.7	31	238	- 1.7	71	221	2.7
1000	31	- 61					31	128				
950	31	348	- 2.1	75	229	5.2	31	540	.8	57	251	9.7
900	31	776	- 4.9	78	227	4.9	31	973	.5	52	267	16.1
850	31	1,223	- 7.6	80	236	4.7	31	1,431	- .5	47	276	19.2
800	31	1,693	-10.5	75	236	6.4	31	1,915	- 2.5	42	278	21.2
750	31	2,187	-13.5	70	242	7.6	31	2,423	- 4.6	39	279	22.5
700	31	2,708	-16.7	65	247	8.0	31	2,965	- 7.5	36	277	24.9
650	31	3,257	-20.4	64	240	8.5	31	3,534	-10.8	35	274	27.2
600	31	3,849	-24.4	63	222	10.1	31	4,150	-14.1		272	31.7
550	31	4,474	-28.9	58	224	11.1	31	4,800	-18.4		269	33.4
500	31	5,152	-33.7	56	230	13.0	31	5,510	-23.3		269	38.3
450	31	5,879	-38.8		232	15.2	31	6,264	-29.0		267	42.0
400	31	6,682	-44.0		238	18.8	31	7,105	-35.1		269	45.8
350	31	7,568	-49.0		242	22.0	31	8,024	-41.1		269	51.9
300	31	8,573	-51.8		233	22.5	31	9,056	-47.8		266	60.6
250	31	9,753	-51.7		233	28.6	31	10,243	-53.2		267	62.9
200	31	11,207	-49.4		241	28.2	30	11,679	-54.4		270	62.4
175	31	12,083	-46.9		243	28.4	30	12,535	-53.9		268	60.4
150	31	13,097	-46.0		246	29.9	30	13,523	-54.9		271	57.7
125	31	14,300	-47.9		247	27.6	30	14,683	-57.0		270	52.1
100	31	15,772	-47.4		245	28.7	30	16,087	-59.5		270	45.5
80	31	17,249	-47.2		247	25.8	30	17,481	-60.0		266	35.0
70	31	18,144	-46.8		251	26.4	30	18,317	-60.0		271	32.2
60	31	19,163	-46.4		250	22.9	30	19,278	-59.2		272	25.8
50	31	20,375	-46.0		253	21.4	30	20,423	-58.3		280	18.8
40	30	21,864	-44.8		261	18.6	30	21,831	-56.9		293	16.3
30	30	23,796	-43.2		277	17.1	29	23,664	-54.7		302	13.2
25	30	25,027	-42.1		287	17.9	27	24,835	-53.6		310	15.0
20	29	26,542	-41.5		284	16.9	25	26,275	-52.1		308	16.3
15	27	28,482	-41.5		308	17.1	18	28,144	-51.1		301	18.8
10	25	31,231	-41.0		319	17.7						
7	21	33,679	-40.5		331	20.6						
5	10	36,012	-37.9									

Standard pressure surface (mb.)	DAYTON, OHIO 980 MB						DEL RIO, TEXAS 982 MB						DENVER, COLO. 835 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	- 3.1	74	201	4.1	30	314	3.8	59	358	2.3	31	1,611	- 5.4	58	214	5.6
1000	31	134					30	165					31	166				
950	31	544	- 1.5	67	232	13.0	30	590	7.7	46	105	.4	31	578				
900	31	972	- 2.1	63	255	19.2	30	1,033	7.9	36	255	4.9	31	1,012				
850	31	1,426	- 2.7	51	265	22.5	30	1,503	6.5	31	262	10.5	31	1,464				
800	31	1,906	- 4.4	44	265	23.9	30	1,999	4.9	29	273	12.8	31	1,946	- .6	35	270	7.4
750	31	2,413	- 6.1	42	262	27.2	30	2,525	2.8	28	270	16.3	31	2,459	- 3.4	32	291	12.6
700	31	2,951	- 8.1	39	263	30.9	30	3,078	.1		264	21.8	31	3,002	- 7.0	32	294	14.2
650	31	3,520	-11.2	34	264	34.0	30	3,667	- 3.5		260	24.7	31	3,572	-11.0	34	310	16.9
600	31	4,134	-14.6		262	39.6	30	4,295	- 7.9		260	28.9	31	4,187	-15.1	33	302	22.7
550	31	4,783	-18.7		262	40.8	30	4,962	-12.3		259	29.9	31	4,835	-19.7	34	300	24.3
500	31	5,492	-23.2		262	43.3	30	5,687	-17.1		257	33.2	31	5,540	-24.7	33	296	26.0
450	31	6,250	-28.4		264	45.8	30	6,464	-22.7		258	40.6	31	6,292	-30.2		294	26.4
400	31	7,090	-34.1		262	45.8	30	7,324	-28.4		258	49.0	31	7,126	-36.7		288	26.0
350	31	8,011	-40.8		265	44.7	30	8,269	-34.8		257	55.9	31	8,037	-43.4		289	31.9
300	31	9,044	-47.7		270	53.4	30	9,328	-42.5		256	62.7	31	9,080	-49.6		288	36.7
250	31	10,232	-53.0		265	64.1	30	10,538	-50.7		255	71.1	31	10,237	-55.2		289	44.1
200	31	11,663	-54.4		264	76.7	30	11,974	-55.5		256	72.7	31	11,654	-56.2		282	45.6
175	31	12,518	-54.4		264	79.6	30	12,821	-57.5		256	71.1	31	12,505	-55.3		278	46.0
150	31	13,504	-55.3		263	71.3	30	13,793	-59.4		257	62.9	31	13,488	-55.6		274	46.0
125	31	14,662	-57.5		266	63.1	30	14,923	-63.0		258	55.4	30	14,654	-56.6		275	36.7
100	31	16,063	-55.9		267	52.4	30	16,284	-67.0		258	45.8	30	16,080	-58.8		271	31.1
80	31	17,453	-60.7		269	45.5	30	17,628	-67.1		256	35.4	30	17,459	-59.7		280	24.3
70	31	18,290	-60.0		271	40.0	30	18,435	-66.3		257	28.4	30	18,298	-59.6		273	21.4
60	31	19,249	-59.8		272	35.4	30	19,372	-64.8		258	22.7	30	19,259	-58.6		277	18.1
50	30	20,391	-59.3		275	30.9	30	20,493	-62.0		255	15.7	28	20,407	-57.5		286	14.6
40	29	21,794	-57.3		283	23.7	29	21,882	-58.7		268	11.7	28	21,823	-56.2		306	8.5
30	27	23,614	-56.3		300	17.7	29	23,700	-56.0		279	6.8	26	23,665	-54.0		337	8.4
25	26	24,773	-55.2		303	22.9	27	24,865	-54.5		296	4.7	25	24,836	-53.4		336	10.7
20	24	26,213	-53.2		297	30.9	26	26,300	-52.5		282	5.4	25	26,275	-52.5		338	8.5
15	14	28,041	-51.0		299	37.7	23	28,167	-50.0		301	4.9	20	28,156	-50.8		346	14.0
10							13	30,860	-47.0				12	30,835	-48.1			

Standard pressure surface (mb.)	DODGE CITY, KANS. 923 MB						EL PASO, TEXAS 884 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	- 3.8	61	298	6.2	31	1,193	- .3	37	312	3.3
1000	31	151					31	194				
950	31	562					31	610				
900	31	992	1.6	40	306	9.7	31	1,056				
850	31	1,454	2.1	33	315	15.0	31	1,512	3.5	32	295	5.2
800	31	1,942	.2	32	310	14.4	31	2,003	1.6	33	282	11.7
750	31	2,455	- 2.6	32	297	15.5	31	2,521	- .8	33	275	16.5
700	31	3,001	- 5.9	34	288	15.9	31	3,069	- 3.6	33	272	22.0
650	31	3,574	- 9.7	35	284	18.8	31	3,647	- 6.5		274	25.4
600	31	4,191	-13.9	36	279	21.2	31	4,274	-10.0		276	26.2
550	31	4,842	-18.5	36	278	23.9	31	4,935	-14.3		277	31.3
500	31	5,550	-23.4	35	275	26.2	31	5,656	-19.2		277	34.4
450	31	6,308	-28.9		271	30.7	31	6,425	-24.7		274	37.9
400	31	7,148	-35.0		265	35.0	31	7,279	-30.9		274	42.3
350	31	8,066	-41.6		265	39.8	31	8,213	-37.7		277	50.5
300	31	9,096	-48.2		265	47.8	31	9,262	-44.4		275	57.1
250	31	10,281	-54.0		267	52.3	31	10,484	-51.3		268	61.8
200	31	11,707	-55.0		266	56.1	31	11,900	-55.2		265	62.7
175	31	12,560	-55.0		265	57.7	31	12,750	-56.4		263	58.9
150	31	13,545	-55.1		267	54.2	31	13,725	-58.2		264	59.2
125	31	14,701	-58.0		265	46.6	31	14,864	-61.3		264	51.9
100	31	16,099	-60.4		268	40.4	31	16,237	-64.5		266	42.7
80	31	17,488	-60.6		265	31.7	31	17,596	-65.2		266	31.3
70	31	18,326	-60.3		267	26.4	31	18,414	-65.0		262	25.8
60	31	19,282	-59.9		268	19.8	31	19,352	-63.4		255	18.1
50	31	20,423	-58.8		275	15.2	30	20,475	-61.2		266	15.0
40	30	21,826	-56.9		288	10.1	27	21,874	-57.8		271	8.2
30	30	23,659	-54.3		310	8.5	27	23,699	-55.1		287	3.9
25	30	24,831	-53.4		322	7.4	25	24,867	-53.7		283	2.9
20	27	26,276	-52.3		327	9.7	19	26,311	-51.1		293	4.5
15	14	28,160	-50.4		315	15.7	11	28,183	-48.6			
10												

Standard pressure surface (mb.)	ELY, NEV. 809 MB						* FAIRBANKS, ALASKA 988 MB						FLINT, MICH. 986 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	-11.5	79	186	9.7	31	135	-27.2	69	19	.8	31	234	- 3.2	71	225	5.2
1000	31	248					31	46					31	118				
950	31	653					31	427	-18.2	71	93	3.9	31	526	- 3.7	71	236	10.7
900	31	1,079					31	830	-14.0	70	115	7.4	31	951	- 5.0	69	256	15.2
850	31	1,524					31	1,265	-12.4	65	128	3.9	31	1,400	- 5.7	58	262	19.0
800	31	1,993			200	5.8	31	1,728	-13.2	58	212	2.7	30	1,874	- 6.9	51	261	23.1
750	31	2,505	- 5.2	52	253	5.2	31	2,214	-15.6	58	233	5.2	30	2,375	- 8.6	45	261	25.1
700	31	3,041	- 7.3	43	288	11.8	31	2,735	-18.6	58	243	7.4	30	2,909	-10.9	47	262	28.6
650	31	3,615	- 9.9	37	301	17.7	31	3,278	-22.1	53	240	9.3	30	3,472	-13.6	46	263	31.1
600	31	4,229	-13.4	37	301	22.7	31	3,868	-26.0	51	236	9.9	30	4,080	-17.0	45	260	36.9
550	31	4,883	-17.9	39	298	27.6	31	4,486	-30.5	48	248	9.5	30	4,724	-20.9	42	264	41.6
500	31	5,591	-22.4	37	303	30.3	31	5,163	-35.2	48	251	11.8	30	5,428	-25.5	43	268	48.0
450	31	6,354	-27.7		312	33.6	31	5,885	-40.3		250	12.2	30	6,173	-30.8	45	266	48.0
400	31	7,194	-33.8		321	34.6	31	6,683	-46.2		247	13.0	30	7,008	-36.7		266	54.4
350	31	8,116	-40.8		317	34.2	30	7,558	-52.5		243	13.8	30	7,920	-42.8		267	60.8
300	31	9,147	-48.7		308	35.7	30	8,540	-57.5		241	15.9	30	8,944	-49.5		268	63.7
250	31	10,324	-56.1		309	40.0	30	9,685	-59.0		255	20.4	29	10,128	-54.2		265	66.0
200	31	11,730	-57.9		307	42.7	30	11,096	-55.3		263	25.1	29	11,556	-54.2		266	61.8
175	31	12,575	-56.4		297	36.3	30	11,950	-54.1		266	27.6	29	12,414	-53.6		267	61.2
150	31	13,553	-56.5		292	37.5	29	12,947	-53.2		266	33.0	29	13,403	-54.3		268	59.6
125	31	14,707	-57.8		289	35.5	29	14,123	-52.7		270	37.9	29	14,567	-55.8		269	53.0
100	31	16,108	-60.0		291	29.3	29	15,564	-52.2		271	46.2	29	15,981	-57.1		268	48.8
80	31	17,498	-60.5		293	21.0	29	17,011	-51.3		275	52.1	29	17,389	-58.3		269	41.4
70	31	18,340	-59.7		297	17.3	29	17,882	-50.8		275	55.0	29	18,236	-56.4		271	35.4
60	31	19,296	-58.9		303	10.7	29	18,885	-50.1		276	58.7	29	19,199	-57.7		276	28.4
50	31	20,444	-57.1		323	7.2	29	20,078	-49.4		279	62.7	28	20,353	-57.5		279	26.0
40	28	21,861	-55.7		13	6.0	28	21,555	-48.0		280	66.2	27	21,763	-56.9		282	28.0
30	24	23,705	-53.7		42	7.0	27	23,477	-46.6		284	73.0	27	23,589	-55.7		292	31.1
25	22	24,882	-52.1		54	7.4	26	24,685	-45.6		284	77.7	26	24,752	-55.3		299	31.5
20	22	26,331	-50.9		55	7.4	26	26,173	-45.0		288	86.4	24	26,191	-54.5		301	36.3
15	12	28,233	-47.3				22	28,098	-44.6		291	88.6	21	28,051	-52.0			
10							20	30,802	-43.0		297	99.3	8	30,762	-48.8			
7							15	33,257	-41.9		301	104.3						
5							5	35,637	-41.0									

Standard pressure surface (mb.)	FORT WORTH, TEXAS 998 MB						GLASGOW, MONT. 929 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	180	2.5	69	246	2.1	31	696	- 8.4	79	287	1.2
1000	31	160			327	3.5	31	122				
950	31	582	6.5	52	235	10.5	31	523				
900	31	1,022	6.3	38	255	13.0	31	946	- 4.8	62	296	11.3
850	31	1,490	5.0	33	267	14.8	31	1,397	- 4.3	58	299	19.2
800	31	1,982	2.8	34	271	16.7	31	1,872	- 6.8	55	301	21.6
750	31	2,502	.2	32	268	17.9	31	2,371	- 9.5	54	299	22.9
700	31	3,053	- 2.7		264	20.2	31	2,904	-12.7	55	293	24.1
650	31	3,635	- 6.1		264	24.3	31	3,460	-16.2	52	293	25.8
600	31	4,259	-10.3		264	27.2	31	4,063	-20.3	50	295	29.7
550	31	4,921	-14.6		260	31.1	31	4,695	-24.7	48	293	31.9
500	31	5,640	-19.3		255	35.4	31	5,388	-29.4	44	295	34.0
450	31	6,409	-24.7		256	41.4	31	6,125	-34.6		300	37.3
400	31	7,263	-31.0		256	47.8	31	6,944	-41.0		300	41.6
350	31	8,196	-38.0		257	53.2	31	7,839	-47.8		300	46.8
300	31	9,242	-44.7		259	55.8	31	8,842	-53.7		298	51.3
250	31	10,444	-51.4		261	65.7	31	10,004	-56.8		298	48.4
200	31	11,878	-55.0		257	68.6	31	11,421	-54.9		291	44.5
175	31	12,729	-56.2		260	63.9	31	12,277	-53.6		289	42.7
150	31	13,704	-58.6		259	60.0	31	13,269	-53.4		287	42.2
125	31	14,843	-61.3		262	54.2	31	14,443	-54.0		289	39.8
100	31	16,218	-64.7		261	47.6	30	15,880	-54.4		288	34.4
80	31	17,575	-65.3		261	36.7	30	17,305	-55.2		294	32.4
70	31	18,397	-64.3		260	30.5	30	18,158	-54.4		295	29.5
60	31	19,335	-62.9		265	24.3	30	19,145	-54.2		300	25.3
50	31	20,463	-61.0		265	16.9	30	20,313	-54.0		303	23.9
40	31	21,856	-58.8		268	13.4	30	21,747	-53.0		304	23.5
30	29	23,673	-55.8		290	8.0	30	23,599	-53.0		311	25.1
25	28	24,836	-54.8		291	6.2	30	24,775	-52.5		324	25.3
20	26	26,273	-52.8		320	8.0	27	26,226	-52.0		327	25.6
15	21	28,146	-50.3		296	14.8	23	28,091	-50.9		326	32.1
10							10	30,770	-49.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. 854 MB						GREAT FALLS, MONT. 882 MB						GREEN BAY, WIS. 986 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,474	- 7.6	65	116	2.5	31	1,123	- 3.3	61	228	12.4	31	210	- 7.9	77	251	4.1
1000	31	229					31	120					31	98				
950	31	635					31	531					31	500	- 6.2	71	272	7.4
900	31	1,066					31	964					31	923	- 5.6	61	284	11.1
850	31	1,513			108	3.3	31	1,418	- 2.2	47	244	22.5	31	1,370	- 6.4	54	287	14.2
800	31	1,991	- 4.6	46	149	4.9	31	1,898	- 4.7	52	265	22.3	31	1,844	- 7.8	50	288	17.9
750	31	2,495	- 6.7	46	225	4.3	31	2,399	- 8.3	55	277	24.1	31	2,340	- 9.4	47	283	21.8
700	31	3,034	- 9.3	47	273	10.9	31	2,936	-11.7	55	284	27.2	31	2,875	-11.8	47	283	25.8
650	31	3,600	-12.0	41	285	15.2	31	3,496	-15.1	50	287	28.0	31	3,433	-14.9	46	282	29.3
600	31	4,213	-15.6	40	290	18.6	31	4,102	-18.6	46	286	27.2	31	4,041	-18.4	45	280	31.5
550	31	4,856	-19.9	37	291	22.3	31	4,742	-23.0	47	291	30.1	31	4,679	-22.4	42	280	33.4
500	31	5,565	-24.7	37	291	27.2	31	5,437	-28.1	48	292	32.8	31	5,379	-27.3	41	278	35.7
450	31	6,316	-30.4		288	29.5	31	6,176	-33.8	49	293	34.4	31	6,123	-32.7	40	275	38.3
400	31	7,152	-35.9		292	35.0	31	7,002	-40.0		290	37.9	31	6,949	-38.6		270	43.7
350	31	8,068	-42.1		293	41.0	31	7,900	-46.7		289	40.6	31	7,855	-44.5		269	48.6
300	31	9,095	-48.9		300	46.8	31	8,909	-52.8		291	45.8	31	8,873	-50.4		267	55.0
250	31	10,276	-55.0		309	47.4	31	10,077	-55.7		295	49.1	31	10,051	-54.2		265	58.5
200	31	11,695	-55.5		306	43.3	30	11,492	-55.6		288	44.7	31	11,481	-53.6		267	56.1
175	31	12,548	-54.7		298	41.8	30	12,345	-54.6		286	41.4	31	12,341	-52.9		264	56.3
150	31	13,534	-55.1		293	39.6	30	13,336	-53.2		283	41.6	31	13,335	-53.3		271	52.6
125	30	14,691	-57.0		291	35.5	30	14,510	-53.6		288	35.9	31	14,505	-54.4		271	47.6
100	30	16,096	-59.9		286	27.8	27	15,922	-54.4		282	33.0	31	15,930	-55.8		271	43.3
80	30	17,486	-60.8		287	23.1	27	17,352	-54.0		287	31.9	31	17,348	-56.6		274	37.1
70	30	18,325	-59.4		289	18.6	26	18,221	-54.3		286	28.0	31	18,191	-56.8		275	33.8
60	29	19,282	-58.9		291	14.2	26	19,204	-54.1		291	25.1	30	19,171	-56.7		278	30.9
50	28	20,431	-58.1		293	10.1	25	20,375	-53.4		296	22.7	30	20,328	-56.2		282	27.0
40	28	21,844	-56.0		316	6.2	25	21,815	-52.1		308	21.6	29	21,746	-56.1		291	25.3
30	27	23,682	-54.0		341	9.1	25	23,681	-51.6		314	20.4	27	23,584	-55.0		300	26.6
25	27	24,855	-52.7		14	7.4	25	24,865	-51.1		316	20.8	26	24,749	-54.2		304	29.7
20	26	26,303	-51.7		27	8.0	25	26,320	-50.2		331	24.3	20	26,182	-53.3		307	33.2
15	22	28,178	-49.6		5	7.4	24	28,199	-49.7		343	27.4	13	28,046	-51.8		302	44.5
10	19	30,851	-47.0		338	7.0	21	30,853	-48.7		341	33.0						
7	13	33,231	-44.4		307	17.5	15	33,255	-45.9		344	41.4						
5	8	35,481	-43.0				10	35,544	-43.7									

Standard pressure surface (mb.)	GREENSBORO, N. C. 986 MB						GUAM, MARIANA IS. 1000 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	273	- .3	81	267	2.3	31	111	24.1	86	79	7.6
1000	31	154					31	114			80	7.6
950	31	572	3.7	52	264	8.2	31	566	22.0	83	75	19.8
900	31	1,010	3.1	48	257	12.6	31	1,032	19.1	80	78	20.8
850	31	1,472	2.1	50	265	16.5	31	1,522	16.8	70	81	19.0
800	31	1,961	1.1	47	266	24.1	31	2,038	14.6	58	78	21.0
750	31	2,476	- .9	40	264	28.7	31	2,584	13.0	40	83	17.9
700	31	3,027	- 3.8	38	262	31.3	31	3,160	10.6		84	16.7
650	31	3,605	- 7.1	36	260	34.8	31	3,776	7.4		91	15.5
600	31	4,229	-10.5		262	39.0	31	4,428	3.8		93	16.7
550	31	4,889	-14.5		261	45.5	31	5,127	- .3		93	14.2
500	31	5,611	-18.9		259	54.6	31	5,886	- 5.0		88	9.7
450	31	6,381	-24.1		256	64.4	31	6,702	-10.2		84	8.0
400	31	7,239	-29.9		254	69.5	31	7,606	-15.8		64	3.5
350	31	8,177	-36.5		253	73.0	31	8,598	-22.8		103	1.2
300	31	9,229	-43.7		252	83.9	31	9,710	-31.1		259	2.7
250	31	10,434	-50.8		255	92.7	31	10,976	-41.2		252	6.0
200	31	11,868	-55.3		260	97.1	31	12,452	-53.1		238	7.8
175	30	12,716	-56.9		263	92.5	31	13,299	-60.0		225	8.5
150	30	13,689	-58.6		266	87.8	31	14,244	-67.5		203	8.2
125	30	14,828	-61.2		265	74.4	30	15,319	-75.7		160	8.5
100	30	16,204	-63.5		264	62.5	30	16,584	-81.9		123	13.0
80	29	17,576	-64.5		264	46.4	30	17,841	-79.1		101	14.2
70	29	18,398	-63.9		264	38.9	30	18,605	-75.0		98	8.9
60	29	19,341	-63.1		269	32.4	30	19,518	-68.2		200	1.2
50	28	20,467	-61.2		269	28.4	30	20,625	-64.2		261	9.1
40	28	21,859	-59.5		273	23.1	30	22,004	-59.9		275	15.0
30	28	23,673	-56.7		287	17.5	28	23,822	-55.0		272	19.0
25	27	24,837	-54.8		296	16.3	28	24,995	-52.0		274	16.7
20	25	26,266	-53.2		290	20.2	25	26,449	-49.8		290	11.3
15	17	28,131	-50.8				18	28,327	-48.9		348	6.8
10							6	30,978	-45.5			

Standard pressure surface (mb.)	HILO, HAWAII 1017 MB						HUNTINGTON, W. VA. 989 MB						* INTERNAT. FALLS, MINN. 966 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	19.3	85	245	7.6	31	246	- 1.9	73	195	2.9	31	360	-14.0	75	241	3.3
1000	31	155	21.4	76	246	4.1	31	153					31	95				
950	31	596	18.4	79	83	5.6	31	565	.1	59	235	12.0	31	486	-12.6	78	260	6.8
900	31	1,061	15.0	81	91	8.7	31	997	- .8	58	255	19.8	31	901	-10.9	80	284	10.9
850	31	1,543	11.9	79	91	7.6	31	1,453	- 1.8	54	261	22.7	31	1,342	- 9.3	69	290	13.6
800	31	2,050	9.4	70	91	9.5	31	1,934	- 3.1	42	262	25.6	31	1,809	-10.9	67	291	17.5
750	31	2,585	7.4	49	88	12.4	31	2,443	- 4.8	39	263	29.5	31	2,305	-12.2	61	294	19.6
700	31	3,151	5.3	41	90	13.0	31	2,985	- 7.0	41	262	33.6	31	2,829	-14.6	59	294	20.6
650	31	3,754	2.7		89	12.4	31	3,556	-10.0	42	262	37.9	31	3,385	-17.6	56	291	25.3
600	31	4,398	- 1.1		78	11.5	31	4,173	-13.4	38	263	39.2	31	3,982	-21.2	54	290	26.4
550	31	5,085	- 5.1		57	8.4	31	4,825	-17.3		265	39.0	31	4,614	-25.3	52	289	30.3
500	31	5,830	-10.0		7	5.8	31	5,540	-21.8		265	43.3	31	5,305	-30.3	50	284	29.7
450	31	6,632	-15.4		301	10.1	31	6,297	-27.2		264	44.3	31	6,038	-35.5	50	285	33.8
400	31	7,516	-21.4		294	15.0	31	7,146	-33.2		268	46.6	31	6,857	-41.3		281	37.1
350	31	8,488	-27.7		281	27.0	31	8,072	-39.6		264	55.4	31	7,752	-47.4		282	38.7
300	31	9,582	-34.2		278	43.1	31	9,111	-46.0		264	58.3	31	8,757	-53.2		279	41.6
250	31	10,837	-42.2		276	55.0	31	10,308	-51.8		264	69.5	31	9,924	-55.3		278	43.1
200	31	12,314	-52.5		279	56.1	31	11,743	-54.7		267	73.8	31	11,349	-54.0		277	41.2
175	30	13,162	-58.7		280	53.8	31	12,596	-55.2		265	68.2	31	12,207	-53.4		278	43.1
150	30	14,117	-64.8		282	45.8	31	13,577	-56.7		265	67.4	31	13,200	-53.1		278	39.8
125	29	15,216	-70.4		285	37.9	31	14,727	-58.9		266	60.0	31	14,374	-53.2		279	41.4
100	29	16,521	-76.2		288	25.8	31	16,118	-61.6		266	54.4	31	15,806	-54.8		280	39.0
80	29	17,801	-76.9		299	10.3	28	17,487	-61.9		268	45.8	29	17,230	-55.4		281	34.2
70	29	18,575	-73.8		305	5.2	26	18,321	-61.3		272	39.6	27	18,082	-55.7		283	33.6
60	27	19,482	-69.2		288	4.3	26	19,277	-60.1		271	33.6	26	19,069	-55.7		284	32.6
50	26	20,581	-65.1		308	3.7	25	20,416	-59.9		275	26.6	26	20,230	-55.9		288	31.3
40	25	21,954	-60.4		286	9.1	24	21,811	-58.9		287	21.2	26	21,653	-55.3		291	35.4
30	25	23,764	-56.2		289	11.5	21	23,638	-56.4		290	26.2	24	23,479	-55.4		297	38.3
25	23	24,932	-53.9		299	10.3	19	24,797	-54.5		298	27.0	24	24,642	-55.2		300	41.6
20	22	26,374	-51.3		282	10.1	18	26,232	-52.4		300	30.1	24	26,069	-54.2		303	43.3
15	17	28,237	-49.2		268	8.7	13	28,111	-50.4		303	32.1	22	27,920	-53.7		306	48.4
10	7	30,909	-43.8				6	30,788	-48.4				20	30,544	-52.2		306	58.9
7													10	32,925	-48.4			

Standard pressure surface (mb.)	JACKSON, MISS. 1009 MB						JACKSONVILLE, FLA. 1020 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	94	3.6	83	176	.8	31	5	8.3	89	286	1.7
1000	31	164	4.5	70	175	1.0	31	171	10.5	77	324	1.6
950	31	582	6.1	56	244	7.4	31	597	9.4	69	232	6.8
900	31	1,028	5.5	46	259	11.5	31	1,046	8.4	61	236	12.2
850	31	1,494	4.9	43	264	13.6	31	1,519	8.1	48	249	15.7
800	31	1,986	2.6	42	262	17.1	31	2,019	7.0		256	20.2
750	31	2,504	.5	39	262	19.4	31	2,551	4.7		256	26.4
700	31	3,059	- 1.8	34	259	25.1	31	3,109	2.2		256	33.0
650	31	3,640	- 4.9		256	30.5	31	3,698	- 1.0		259	35.4
600	31	4,271	- 8.8		258	33.2	31	4,338	- 5.0	41	259	39.8
550	31	4,933	-12.9		259	36.9	31	5,009	- 9.1	41	256	46.4
500	31	5,662	-17.2		258	41.0	31	5,749	-13.6	45	255	52.8
450	31	6,435	-22.5		255	49.5	31	6,538	-18.4	45	257	62.5
400	31	7,300	-28.7		254	56.3	31	7,416	-24.1	44	258	69.7
350	31	8,242	-35.3		254	63.3	31	8,376	-31.0	42	264	77.7
300	31	9,299	-42.6		256	77.1	31	9,451	-39.3		263	88.6
250	31	10,509	-49.9		249	87.8	31	10,674	-48.9		263	94.4
200	31	11,947	-55.4		253	75.0	31	12,110	-57.0		266	97.9
175	31	12,795	-56.3		255	71.3	31	12,950	-59.5		264	95.8
150	31	13,769	-58.7		254	58.5	30	13,909	-62.0		268	81.0
125	31	14,902	-62.8		253	57.1	30	15,028	-65.4		268	71.3
100	30	16,264	-65.5		254	46.4	29	16,376	-68.9		270	57.5
80	29	17,521	-66.2		255	37.7	29	17,711	-68.8		266	36.7
70	29	18,437	-65.2		256	30.3	29	18,519	-68.5		267	32.8
60	27	19,375	-64.0		253	28.9	28	19,437	-66.7		268	24.5
50	27	20,496	-62.5		264	24.1	26	20,549	-63.4		265	15.7
40	26	21,883	-59.8		274	16.3	26	21,931	-59.6		292	8.9
30	25	23,697	-56.7		273	12.6	26	23,745	-56.4		313	4.9
25	24	24,859	-54.4		292	10.5	25	24,908	-53.9		337	4.1
20	24	26,296	-52.5		306	9.5	25	26,350	-51.3		294	4.1
15	18	28,161	-50.1				23	28,238	-47.7		289	8.9
10	10	30,816	-46.5				20	30,932	-41.7		252	18.5
7							9	33,331	-37.4			

Standard pressure surface (mb.)	JOHN F. KENNEDY INT. AP, N. Y. 1016 MB						JOHNSTON IS., PACIFIC AREA 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	- .4	61	299	7.0	31	3	25.0	77	77	15.9
1000	31	132	- .7	59	306	7.8	31	134	23.7	77	76	17.3
950	31	541	- 1.3	58	299	11.8	31	579	20.0	78	77	19.8
900	31	972	- 2.1	56	291	15.2	31	1,046	16.5	77	82	21.0
850	31	1,426	- 3.1	49	283	18.5	31	1,531	13.5	72	87	18.6
800	31	1,905	- 4.2	46	281	24.5	31	2,040	10.9	53	89	17.1
750	31	2,414	- 5.9	45	279	29.3	31	2,576	9.8		83	17.1
700	31	2,951	- 8.1	46	276	33.8	31	3,148	8.1		80	15.3
650	31	3,521	-11.1	44	272	37.7	31	3,752	5.1		75	15.3
600	31	4,135	-14.8	43	270	42.3	31	4,406	1.4		58	11.3
550	31	4,786	-18.8	42	272	47.4	31	5,092	- 3.2		45	8.2
500	31	5,492	-23.1	41	270	51.3	31	5,848	- 8.1		8	3.5
450	31	6,253	-28.0	37	269	58.3	31	6,655	-13.4		332	7.2
400	31	7,093	-34.0		270	67.0	31	7,547	-19.0		311	14.2
350	31	8,017	-40.2		271	71.3	31	8,531	-24.7		298	22.9
300	31	9,054	-46.3		269	82.9	31	9,638	-31.5		288	30.9
250	31	10,248	-52.3		270	89.4	31	10,905	-40.7		284	35.2
200	31	11,680	-54.8		268	84.7	31	12,386	-52.4		280	34.4
175	31	12,533	-55.0		267	82.9	31	13,236	-59.0		284	32.4
150	31	13,516	-55.8		267	76.9	31	14,186	-66.1		291	29.7
125	31	14,672	-57.7		269	69.7	31	15,273	-72.9		288	22.5
100	30	16,067	-60.6		271	58.7	31	16,559	-79.6		303	13.0
80	29	17,453	-60.3		270	47.8	31	17,822	-80.0		342	4.1
70	29	18,287	-60.2		271	44.5	30	18,582	-76.2		19	1.4
60	29	19,248	-59.4		273	39.6	30	19,484	-70.1		301	1.0
50	28	20,389	-59.4		273	34.2	30	20,585	-64.8		260	6.0
40	26	21,799	-58.5		272	28.7	30	21,964	-59.7		276	13.8
30	26	23,612	-57.2		277	28.7	30	23,785	-54.9		289	16.5
25	26	24,770	-55.8		281	29.1	29	24,959	-53.0		295	14.0
20	23	26,193	-54.6		281	33.0	26	26,399	-51.2		281	12.8
15	12	28,005	-53.1				25	28,285	-47.8		269	11.8
10							21	30,983	-44.1		250	11.5
7							8	33,379	-42.1			

Standard pressure surface (mb.)	KING SALMON, ALASKA 993 MB						KOROR, CAROLINE IS. + 1008 MB						KOTZEBUE, ALASKA 1004 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	-10.3	79	40	5.6	31	30	27.5	83	63	8.4	31	5	-21.2	75	89	6.0
1000	31	- 40			357	6.6	31	103	26.8	82	64	11.1	31	34			94	4.3
950	31	364	- 5.4	67	62	13.4	31	552	23.1	82	66	18.3	31	417	-16.9	65	98	9.7
900	31	783	- 6.4	64	76	10.5	31	1,026	20.1	80	68	20.4	31	824	-15.8	63	128	6.2
850	31	1,229	- 8.3	62	86	5.4	31	1,519	17.7	71	69	17.5	31	1,255	-15.5	63	158	3.9
800	31	1,697	-10.9	60	111	4.5	31	2,036	15.2	61	72	15.0	31	1,712	-16.9	62	201	5.4
750	31	2,189	-14.0	57	129	3.7	31	2,580	12.9	54	76	14.0	31	2,193	-18.6	58	218	8.2
700	31	2,711	-16.9	56	122	3.3	31	3,160	10.2	45	79	12.8	31	2,707	-21.4	52	220	8.9
650	31	3,262	-20.3	55	149	3.3	31	3,770	7.1	39	84	13.8	31	3,247	-24.5	50	225	10.3
600	31	3,852	-24.3	54	192	1.7	31	4,428	3.5	40	86	16.5	31	3,828	-28.3	47	224	11.5
550	31	4,474	-28.8	51	176	1.9	31	5,124	- .3	35	87	16.9	31	4,439	-32.4	46	229	12.0
500	31	5,155	-33.4	48	172	1.6	31	5,887	- 4.4		85	17.7	31	5,111	-37.1		231	13.4
450	31	5,882	-39.0		244	3.7	31	6,703	- 9.1		83	19.0	31	5,829	-42.1		231	15.2
400	31	6,685	-44.8		232	6.0	31	7,613	-14.9		90	16.9	31	6,620	-47.4		234	19.2
350	31	7,567	-49.8		238	10.1	31	8,610	-21.8		89	15.0	31	7,492	-52.9		239	19.2
300	31	8,565	-53.4		237	13.6	31	9,726	-30.2		92	11.5	31	8,475	-57.5		242	22.0
250	31	9,737	-53.6		250	18.8	31	10,996	-40.6		111	10.7	31	9,620	-59.3		243	24.3
200	31	11,180	-50.6		251	21.4	31	12,476	-53.2		121	14.6	31	11,028	-55.9		247	31.1
175	31	12,053	-49.6		255	24.5	31	13,322	-60.4		127	17.3	31	11,880	-54.9		247	33.2
150	31	13,062	-49.1		254	26.4	31	14,265	-68.1		123	22.5	31	12,866	-54.2		251	38.3
125	31	14,261	-48.3		257	28.0	31	15,338	-76.2		113	26.4	31	14,036	-53.8		252	41.8
100	31	15,731	-48.0		256	28.4	31	16,603	-81.1		98	23.1	31	15,473	-52.7		255	49.7
80	31	17,203	-47.7		263	31.7	31	17,862	-77.9		83	9.9	31	16,918	-51.5		258	55.2
70	31	18,087	-47.4		264	31.9	31	18,638	-70.7		304	3.5	31	17,792	-50.9		259	60.0
60	31	19,105	-46.9		266	31.5	30	19,566	-64.9		274	11.8	31	18,791	-50.1		260	64.1
50	31	20,315	-46.1		272	31.7	30	20,688	-61.3		274	17.1	31	19,984	-49.3		262	68.8
40	31	21,801	-45.1		275	31.1	30	22,085	-57.6		266	20.0	31	21,450	-48.4		264	75.8
30	29	23,735	-43.5		281	35.9	29	23,916	-54.8		266	25.3	31	23,349	-47.0		266	83.1
25	27	24,979	-42.0		285	36.3	28	25,083	-53.2		263	22.0	31	24,559	-46.2		268	86.1
20	24	26,499	-40.9		288	35.4	26	26,533	-51.1		260	11.3	28	26,086	-44.1		269	82.9
15	15	28,441	-41.5				17	28,420	-48.8		160	2.9	24	28,037	-43.8		275	94.4
10													11	30,772	-44.0			
7																		

See reference note at end of table

RAWINSONDE DATA

Average monthly values

LAKE CHARLES, LA. — 1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	5	6.8	85	70	1.4
1000	31	164	9.1	68	144	1.6
950	31	590	8.6	63	247	6.0
900	31	1,038	8.1	52	266	9.9
850	31	1,509	6.6	47	263	12.0
800	31	2,005	4.8	43	266	16.7
750	31	2,529	3.4	37	267	22.9
700	31	3,088	-.5	37	262	25.8
650	31	3,679	- 2.8		260	29.5
600	31	4,311	- 6.2		257	36.5
550	31	4,985	-10.2		256	39.6
500	31	5,717	-15.0		251	45.6
450	31	6,506	-20.5		250	47.8
400	31	7,369	-26.8		253	55.9
350	31	8,320	-33.2		252	69.0
300	31	9,385	-40.9		252	80.6
250	31	10,602	-49.7		251	90.5
200	31	12,038	-56.0		252	91.1
175	31	12,884	-57.3		254	82.8
150	31	13,854	-59.6		252	74.6
125	31	14,985	-63.3		254	62.4
100	31	16,342	-67.2		253	51.1
80	31	17,688	-67.2		256	40.8
70	31	18,504	-66.3		257	32.8
60	31	19,434	-64.4		261	26.0
50	30	20,555	-62.5		249	15.0
40	28	21,944	-59.3		270	13.6
30	24	23,759	-56.0		278	7.2
25	24	24,924	-53.7		288	6.4
20	23	26,363	-51.8		295	8.5
15	19	28,239	-48.7		295	12.4
10	6	30,930	-45.4			
7						
5						

LANDER, WYO. — 825 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	1,696	- 8.9	59	209	2.5
1000	31	176				
950	31	579				
900	31	1,010				
850	31	1,460				
800	31	1,935	- 4.2	44	241	2.3
750	31	2,440	- 5.4	39	272	8.2
700	31	2,982	- 8.5	39	283	15.3
650	31	3,545	-12.3	39	285	23.3
600	31	4,160	-16.4	39	293	28.7
550	31	4,800	-21.0	39	294	30.7
500	31	5,506	-26.3	39	290	31.9
450	31	6,254	-32.2	37	293	34.2
400	31	7,081	-38.2		297	35.0
350	31	7,987	-44.8		298	40.6
300	31	9,004	-50.9		297	45.1
250	31	10,175	-56.5		292	54.2
200	31	11,587	-56.1		284	53.0
175	31	12,438	-54.6		285	50.9
150	31	13,427	-54.0		284	46.0
125	31	14,592	-56.2		282	41.2
100	31	16,007	-57.5		282	34.4
80	31	17,415	-57.9		282	30.1
70	31	18,259	-58.0		286	24.9
60	31	19,229	-57.1		286	20.2
50	30	20,388	-55.8		302	15.0
40	30	21,811	-54.2		322	8.9
30	24	23,660	-52.7		354	9.7
25	24	24,839	-51.7		357	11.3
20	23	26,299	-51.0		353	11.3
15	22	28,199	-48.9			
10	11	30,763	-45.4			
7						
5						

LAS VEGAS, NEV. — 944 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	660	1.5	41	271	3.1
1000	31	191				
950	31	608				
900	31	1,049	5.1	35	341	3.9
850	31	1,513	2.8	37	343	5.1
800	31	2,002	.4	39	328	4.7
750	31	2,516	- 1.5	35	313	7.0
700	31	3,065	- 3.9	31	306	10.9
650	31	3,643	- 7.2		308	14.8
600	31	4,265	-10.9	32	304	19.6
550	31	4,922	-15.1	33	306	24.9
500	31	5,642	-20.1		302	28.6
450	31	6,400	-25.9		307	29.9
400	31	7,256	-32.2		293	32.8
350	31	8,184	-39.0		296	35.4
300	31	9,224	-46.8		293	40.8
250	30	10,407	-54.5		294	47.2
200	29	11,824	-56.5		291	49.5
175	29	12,665	-57.7		288	49.1
150	29	13,639	-57.2		289	46.0
125	29	14,786	-59.6		282	37.9
100	28	16,178	-61.6		292	33.4
80	26	17,559	-62.6		287	23.9
70	26	18,383	-61.5		285	18.6
60	26	19,341	-60.4		291	13.4
50	26	20,483	-58.3		308	7.8
40	24	21,895	-56.8		333	4.5
30	23	23,728	-53.6		41	6.4
25	22	24,905	-52.2		55	7.6
20	10	26,342	-50.5			
15						
10						
7						
5						

* LIHUE, HAWAII — 1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	30	36	21.9	79	46	9.3
1000	30	162	21.2	77	54	12.2
950	30	601	17.9	79	66	15.3
900	30	1,065	14.6	81	73	15.7
850	30	1,547	11.5	75	76	16.1
800	30	2,053	10.0	56	80	16.1
750	30	2,587	8.4	34	84	14.0
700	30	3,156	6.0	29	90	10.7
650	30	3,758	2.7	30	77	8.2
600	30	4,403	- 1.2	25	65	5.6
550	30	5,084	- 5.9	25	32	5.2
500	30	5,831	-10.6	23	333	5.8
450	30	6,626	-16.3	23	311	7.8
400	30	7,510	-22.6	23	299	13.4
350	30	8,477	-29.3	21	295	22.7
300	30	9,563	-35.9	19	287	36.3
250	30	10,812	-43.0		281	49.9
200	28	12,290	-52.0		278	57.9
175	28	13,144	-57.7		280	57.1
150	27	14,101	-63.4		282	52.3
125	26	15,208	-69.6		281	42.2
100	26	16,520	-74.6		288	30.9
80	26	17,809	-76.6		292	13.6
70	26	18,583	-73.2		306	7.0
60	25	19,493	-69.2		321	3.7
50	24	20,590	-64.9		328	4.1
40	23	21,965	-60.4		331	5.6
30	20	23,775	-55.9		318	4.9
25	20	24,939	-54.1		333	6.0
20	20	26,376	-52.1		19	6.4
15	18	28,255	-49.0		135	4.1
10	14	30,954	-43.9		261	6.4
7	10	33,374	-40.0			
5	5	35,676	-35.9			

LITTLE ROCK, ARK. — 1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	79	.1	78	256	2.5
1000	31	157	1.7	58	269	2.9
950	31	576	4.3	48	253	12.8
900	31	1,014	3.5	45	267	15.0
850	31	1,476	1.9	41	268	15.3
800	31	1,964	.5	34	267	18.3
750	31	2,479	- 1.8		271	21.8
700	31	3,027	- 4.4		268	24.1
650	31	3,605	- 7.2		266	26.8
600	31	4,228	-10.7		267	31.7
550	31	4,887	-14.8		265	35.4
500	31	5,608	-19.8		261	36.7
450	31	6,372	-25.0		261	38.9
400	31	7,228	-31.3		263	43.3
350	31	8,180	-38.1		259	50.3
300	31	9,205	-45.1		273	49.5
250	31	10,405	-51.4		278	51.7
200	31	11,842	-54.4			
175	31	12,696	-55.1			
150	31	13,675	-57.6			
125	31	14,818	-60.2			
100	31	16,202	-62.7			
80	31	17,576	-63.7			
70	30	18,401	-63.5			
60	31	19,344	-62.6			
50	30	20,475	-60.6			
40	31	21,874	-58.2			
30	30	23,695	-55.7			
25	28	24,857	-54.2			
20	23	26,293	-52.7			
15	17	28,168	-50.5			
10	5	30,827	-48.2			
7						
5						

MCGRATH, ALASKA — 990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	103	-26.0	58	124	.4
1000	31	28				
950	31	410	-19.1	63	54	6.0
900	31	813	-11.6	69	62	9.7
850	31	1,253	-10.2	61	63	5.2
800	31	1,719	-12.2	56	73	3.5
750	31	2,207	-14.8	52	93	2.5
700	31	2,729	-18.1	49	150	2.5
650	31	3,276	-21.5	49	180	4.7
600	31	3,866	-25.4	50	195	6.4
550	31	4,484	-29.7	49	203	7.6
500	31	5,165	-34.6	48	208	10.3
450	31	5,883	-40.0		207	9.5
400	31	6,688	-45.8		220	10.7
350	31	7,565	-51.6		235	5.8
300	31	8,554	-56.1		247	10.7
250	31	9,709	-56.7		247	17.5
200	31	11,135	-53.2		253	23.1
175	31	11,997	-52.0		255	25.8
150	31	12,997	-51.0		263	28.6
125	30	14,188	-50.3		258	32.4
100	30	15,645	-49.8		262	38.5
80	30	17,107	-49.0		265	42.2
70	30	17,985	-48.5		268	44.7
60	30	19,000	-47.9		272	48.4
50	30	20,204	-47.2		277	51.9
40	30	21,683	-46.5		280	52.4
30	30	23,597	-45.3		282	59.4
25	29	24,830	-44.2		281	60.0
20	28	26,329	-43.5		283	64.3
15	17	28,262	-43.9		285	70.7
10						
7						
5						

+ MAJURO, MARSHALL IS. — 1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	3	28.7	72	69	14.2
1000	31	96	27.4	72	65	17.1
950	31	539	23.0	75	65	22.1
900	31	1,018	20.0	73	72	21.6
850	31	1,510	17.4	68	79	17.7
800	31	2,027	15.2	60	78	11.8
750	31	2,567	13.6	40	78	9.7
700	31	3,151	11.4	30	73	8.2
650	31	3,761	8.0		78	7.4
600	31	4,423	4.2		85	9.3
550	31	5,119	.1		88	12.8
500	31	5,885	- 4.1		81	14.4
450	31	6,704	- 8.8		77	20.0
400	31	7,613	-14.0		67	16.5
350	31	8,614	-20.6		62	10.3
300	31	9,736	-28.9		63	5.8
250	31	11,014	-39.2		128	4.5
200	31	12,503	-51.9		143	8.4
175	31	13,354	-59.0		139	9.7
150	31	14,304	-66.7		115	8.4
125	30	15,384	-75.1		75	10.3
100	30	16,654	-81.6		84	19.2
80	30	17,910	-78.6		87	13.2
70	30	18,684	-71.3		243	2.5
60	30	19,608	-65.2		255	17.1
50	30	20,731	-60.9		259	28.6
40	30	22,132	-57.7		270	29.7
30	29	23,964	-54.2		268	29.1
25	29	25,137	-52.8		268	22.9
20	28	26,582	-51.5		274	12.4
15	24	28,460	-48.4		151	2.5
10	14	31,170	-43.7			
7	5	33,576	-39.9			
5						

MARCUS IS., N. PACIFIC — 1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	9	21.8	73	46	3.9
1000	31	151	20.7	72	52	4.3
950	31	591	17.2	75	29	3.5
900	31	1,053	14.2	74	302	1.9
850	31	1,533	11.0	72	265	5.8
800	31	2,039	9.9	49	261	9.7
750	31	2,573	9.4	34	261	15.5
700	31	3,144	7.0	27	263	21.0
650	31	3,746	3.9	27	266	25.8
600	31	4,396	.2	23	265	30.7
550	31	5,084	- 4.1	23	268	35.7
500	31	5,833	- 9.1	22	267	40.0
450	31	6,639	-14.4	21	269	45.5
400	31	7,524	-20.2	24	271	52.8
350	31	8,502	-25.9	21	269	60.2
300	31	9,603	-33.0	20	270	63.9
250	31	10,864	-41.4		270	67.8
200	31	12,343	-52.2		269	67.2
175	31	13,195	-58.3		269	65.3
150	30	14,150	-64.9		266	60.4
125	27	15,239	-72.1		264	54.6
100	26	16,536	-76.7		263	40.6
80	18	17,814	-76.0		261	28.0
70	17	18,587	-73.4		259	20.6
60	16	19,498	-68.8		250	12.5
50	16	20,601	-64.6		235	7.8
40	16	21,980	-60.0		231	6.0
30	14	23,798	-54.8		300	2.1
25	14	24,971	-52.4		33	2.1
20	14	26,416	-51.5		327	1.6
15	14	28,292	-49.5		31	4.7
10	12	30,959	-44.8		81	12.2
7	10	33,365	-41.4		110	8.9
5	8	35,655	-39.0			

MEDFORD, OREG. — 974 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	401	- .1	99	249	.8
1000	31	184				
950	31	598	1.2	87	269	1.7
900	31	1,035	1.6	77	192	6.0
850	31	1,493	.2	66	216	12.0
800	31	1,977	- 2.2	66	240	18.5
750	31	2,485	- 4.9	65	255	23.3
700	31	3,028	- 7.7	62	264	25.8
650	31	3,598	-10.9	59	272	28.2
600	31	4,213	-14.5	53	278	32.6
550	31	4,862	-18.7	50	280	34.2
500	31	5,572	-23.1	49	286	41.4
450	31	6,330	-28.5	49	286	45.5
400	31	7,171	-34.8	50	289	44.1
350	31	8,090	-41.4		288	45.5
300	31	9,121	-48.6		276	47.4
250	31	10,300	-56.1		282	49.1
200	31	11,701	-59.5		289	46.0
175	31	12,541	-57.3		288	45.6
150	31	13,519	-56.4		291	40.8
125	30	14,676	-57.2		286	33.2
100	30	16,086	-58.3		268	28.7
80	29	17,489	-58.6		285	22.7
70	29	18,339	-59.3		290	15.7
60	29	19,300	-57.9		312	13.0
50	29	20,455	-56.1		323	9.1
40	28	21,884	-54.0		32	6.6
30	27	23,732	-52.2		46	9.7
25	26	24,915	-51.3		49	13.4
20	25	26,371	-50.0		52	18.5
15	21	28,260	-49.0		41	21.8
10	16	30,959	-45.8		43	31.3
7	8	33,352	-43.9			
5						

* MIAMI, FLA. — 1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	4	17.7	86	79	1.2
1000	31	165	17.8	77	82	2.5
950	31	600	15.3	73	145	3.9
900	31	1,060	12.7	70	228	4.5
850	31	1,539	11.4	62	240	8.5
800	31	2,045	10.0	49	250	12.4
750	31	2,581	8.5	39	250	14.6
700	31	3,149	5.9	34	249	17.9
650	31	3,751	2.8	34	256	21.0
600	31	4,397	- 1.0	32	256	26.6
550	31	5,079	- 5.3	33	257	32.1
500	31	5,829	- 9.8	31	257	35.4
450	31	6,630	-15.1	30	257	42.0
400	31	7,516	-21.3	34	259	47.0
350	31	8,488	-28.2	34	262	53.2
300	31	9,574	-37.0	37	261	59.4
250	31	10,808	-47.3		262	64.1
200	31	12,250	-57.2		260	68.8
175	30	13,086	-61.0		259	69.3
150	30	14,038	-64.3		260	66.8
125	30	15,141	-69.2		259	57.3
100	30	16,460	-73.6		260	40.8
80	30	17,761	-74.0		257	28.9
70	30	18,553	-72.5		259	23.5
60	29	19,457	-70.0		260	16.1
50	29	20,549	-67.1		256	12.8
40	29	21,911	-62.6		268	12.6
30	28	23,713	-57.4		279	7.6
25	28	24,872	-55.2		286	8.0
20	28	26,306	-52.3		280	7.4
15	28	28,187	-48.6		274	13.4
10	20	30,890	-42.8		261	23.1
7	20	33,334	-37.5		253	42.5
5	13	35,655	-34.8		258	49.1

* MIDLAND, TEXAS — 916 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	874	- .2	52	266	5.4
1000	31	168				
950	31	582				
900	31	1,020	5.2	36	274	7.0
850	31	1,488	5.2	34	272	14.2
800	31	1,981	3.2	34	274	16.9
750	31	2,503	.5	36	271	19.8
700	31	3,053	- 2.7	38	269	21.6
650	31	3,635	- 6.0	38	268	23.5
600	31	4,260	- 9.6	38	264	28.9
550	31	4,922	-13.9	36	264	33.0
500	31	5,645	-18.9	35	260	35.7
450	31	6,416	-24.6	32	260	39.6
400	31	7,269	-31.1	33	264	41.2
350	31	8,203	-37.7	35	263	47.8
300	31	9,251	-44.3		263	57.7
250	31	10,453	-51.7		259	60.8
200	31	11,884	-55.3		261	61.0
175	31	12,735	-56.1		263	59.8
150	31	13,711	-58.2		259	58.3
125	31	14,850	-61.5		263	53.0
100	31	16,222	-65.4		280	42.9
80	31	17,575	-66.3		261	38.1
70	31	18,394	-64.7		261	33.6
60	30	19,328	-62.9		265	24.5
50	29	20,457	-61.5		264	14.8
40	28	21,851	-58.8		265	11.3
30	27	23,668	-55.9		270	8.9
25	26	24,832	-54.5		281	8.4
20	26	26,267	-52.3		299	7.2
15	23	28,129	-50.6		335	4.7
10	21	30,784	-47.7		300	11.1
7	15	33,150	-44.8		307	15.3
5						

MONTGOMERY, ALA. — 1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	61	3.7	82	72	3.3
1000	31	168	6.0	68	1	.8
950	31	585	6.6	60	265	6.4
900	31	1,033	6.1	54	268	10.9
850	31	1,500	4.9	44	271	15.3
800	31	1,994	3.7	40	267	18.8
750	31	2,516	1.9	41	263	26.2
700	31	3,070	- .7	40	262	29.3
650	31	3,653	- 4.4	40	263	34.2
600	31	4,284	- 8.4		259	39.4
550	31	4,949	-12.5		256	44.5
500	31	5,675	-16.9		257	54.2
450	31	6,457	-21.7		254	61.8
400	31	7,317	-27.3		254	69.2
350	31	8,267	-33.9		253	79.6
300	31	9,331	-41.1		253	92.3
250	31	10,548	-49.7		257	105.9
200	31	11,987	-55.7		255	96.0
175	31	12,835	-57.1		253	92.9
150	31	13,804	-60.5		258	83.1
125	31	14,933	-63.4		263	70.5
100	31	16,293	-66.4		264	55.2
80	31	17,643	-67.2		262	40.4
70	31	18,453	-66.2		263	34.0
60	30	19,390	-65.2		266	27.6
50	29	20,507	-62.8		268	19.4
40	28	21,892	-60.0		275	14.4
30	27	23,699	-56.7		285	10.5
25	24	24,860	-54.7		304	9.5
20	23	26,294	-52.4		304	8.9
15	19	28,154	-50.0		291	11.8
10	11	30,810	-45.8			
7						
5						

NANTUCKET, MASS. — 1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	14	- .4	76	293	5.1
1000	31	117			281	6.0
950	31	523	- 1.7	69	282	13.8
900	31	956	- 3.1	60	283	18.8
850	31	1,408	- 4.2	51	281	24.3
800	31	1,886	- 5.3	49	277	27.6
750	31	2,389	- 7.1	48	275	32.4
700	31	2,928	- 9.1	47	273	38.7
650	31	3,496	-11.7	46	273	43.1
600	31	4,109	-14.8	42	273	50.5
550	31	4,760	-18.8		273	51.9
500	31	5,467	-23.5	39	277	56.1
450	31	6,223	-28.8		276	62.9
400	31	7,063	-34.3		273	66.0
350	31	7,986	-40.3		276	72.3
300	31	9,023	-46.3		273	78.7
250	31	10,219	-52.0		273	79.8
200	31	11,653	-54.5		271	88.8
175	31	12,509	-54.6		269	79.8
150	29	13,506	-55.8		271	66.2
125	29	14,661	-57.5		272	59.4
100	29	16,063	-59.4		272	52.1
80	27	17,467	-60.6		272	42.5
70	27	18,299	-60.4		268	41.8
60	27	19,258	-60.1		274	37.5
50	27	20,399	-59.2		275	29.7
40	26	21,799	-58.0		283	22.0
30	25	23,611	-56.6		283	24.3
25	23	24,778	-55.7		284	31.1
20	22	26,207	-54.2		283	35.7
15	21	28,057	-52.1		281	44.5
10	20	30,699	-48.6		276	62.4
7	18	33,046	-45.6		272	77.7
5	10	35,204	-45.2			

NASHVILLE, TENN. — 996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind: Direction	Wind: Speed
SURFACE	31	177	.1	75	198	2.5
1000	31	150			315	3.1
950	31	563	1.9	55	241	10.7
900	31	999	1.7	48	254	15.3
850	31	1,460	.3	42	258	17.5
800	31	1,944	- 1.2	37	255	19.8
750	31	2,455	- 3.2	35	257	23.1
700	31	3,000	- 5.8		256	26.2
650	31	3,574	- 8.8		260	28.9
600	31	4,195	-12.0		262	35.2
550	31	4,853	-16.2

RAWINSONDE DATA

Average monthly values

JANUARY 1964

Standard pressure surface (mb)	NORFOLK, VA. 1017 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NORTH PLATTE, NEBR. 914 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	* OAKLAND, CALIF. 1022 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	3.0	74	237	4.5	31	848	- 7.9	69	306	4.1	31	6	6.5	82	102	1.0
1000	31	145	5.0	60	243	5.8	31	144					31	184	8.3	67	329	1.4
950	31	563	4.9	51	267	12.0	31	549					31	606	7.3	58	326	5.8
900	31	1,004	3.2	48	267	15.5	31	970	- 4.1	63	301	8.2	31	1,051	6.1	53	322	8.5
850	31	1,467	2.0	42	273	18.6	31	1,426	- .8	44	302	18.3	31	1,518	4.2	49	309	10.1
800	31	1,955	.4	41	270	23.7	31	1,909	- 2.5	40	305	18.6	31	2,009	1.7	44	301	14.2
750	31	2,468	- 1.8	40	264	27.0	31	2,418	- 5.4	43	306	20.8	31	2,525	- .9	38	305	15.7
700	31	3,018	- 4.8	38	263	31.9	31	2,956	- 8.5	40	301	23.1	31	3,076	- 3.7	33	307	20.2
650	31	3,593	- 7.4	36	263	36.1	31	3,527	-12.2	39	295	25.8	31	3,654	- 7.1	34	304	24.3
600	31	4,218	-10.3		264	41.8	31	4,134	-16.1	38	289	26.6	31	4,278	-11.0	34	300	28.2
550	31	4,877	-14.9		263	45.8	31	4,782	-20.4	38	290	28.6	31	4,938	-15.3	35	298	31.5
500	31	5,599	-19.5		264	51.7	31	5,482	-25.4	36	286	29.3	31	5,655	-20.1	36	300	37.1
450	31	6,369	-24.4		264	59.4	31	6,234	-31.0		287	30.3	31	6,420	-25.7	36	297	43.3
400	31	7,223	-30.5		264	63.7	31	7,063	-37.4		285	31.5	31	7,272	-31.9	36	297	44.5
350	31	8,159	-37.0		264	74.8	31	7,971	-44.2		293	31.1	31	8,202	-39.1	36	297	48.6
300	31	9,209	-43.9		263	85.9	31	8,988	-50.8		281	34.6	30	9,245	-47.1		296	50.7
250	31	10,413	-51.4		264	95.2	31	10,159	-55.9		280	39.2	30	10,430	-55.6		299	54.0
200	30	11,838	-55.3		271	95.2	31	11,578	-55.1		277	41.2	30	11,831	-60.8		294	53.8
175	30	12,688	-55.9		271	92.9	31	12,431	-54.5		274	42.9	30	12,664	-59.0		291	49.0
150	30	13,665	-57.6		272	81.8	31	13,418	-54.9		274	41.8	30	13,635	-58.2		289	48.4
125	30	14,808	-60.5		268	71.1	31	14,561	-55.9		276	38.3	29	14,785	-59.6		290	40.0
100	29	16,187	-63.2		269	57.3	31	15,990	-58.7		278	32.6	29	16,175	-61.7		290	32.1
80	29	17,558	-63.7		265	47.8	31	17,390	-59.0		286	24.9	28	17,557	-62.2		292	23.3
70	29	18,385	-63.4		265	41.6	31	18,236	-58.4		279	21.0	28	18,383	-61.0		298	18.6
60	27	19,337	-62.0		266	34.4	31	19,200	-57.8		261	19.4	27	19,244	-60.4		294	12.8
50	27	20,469	-60.6		271	23.9	31	20,351	-57.4		289	18.1	24	20,493	-59.5		342	8.4
40	27	21,865	-58.8		286	15.2	31	21,765	-56.0		301	11.8	23	21,895	-57.0		27	7.2
30	27	23,682	-56.5		296	13.4	31	23,603	-54.5		316	9.9	23	23,728	-54.3		35	8.5
25	26	24,846	-54.7		301	12.4	31	24,772	-53.9		321	11.5	22	24,902	-53.3		47	10.7
20	23	26,278	-52.6		297	15.5	31	26,211	-52.5		326	13.4	22	26,342	-51.7		45	13.6
15	12	28,122	-50.1				29	28,081	-51.0		323	15.9	22	28,219	-49.4		63	16.9
10							28	30,728	-49.2		315	18.6	19	30,886	-47.3		54	20.0
7							23	33,088	-47.7		297	26.4	8	33,256	-43.8			
5							19	35,300	-45.6									

Standard pressure surface (mb)	OKLAHOMA CITY, OKLA. 970 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OLYMPIA, WASH. 1007 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	- .2	63	209	2.7	31	58	3.7	94	195	8.2
1000	31	144					31	113			199	8.9
950	31	561	3.2	50	224	7.4	31	531	2.9	75	207	18.3
900	31	998	4.6	36	253	15.9	31	967	.5	76	223	22.1
850	31	1,463	3.7	31	255	17.3	31	1,425	- 1.7	73	241	22.0
800	31	1,953	1.5	30	258	18.8	31	1,905	- 4.3	68	248	22.7
750	31	2,468	- 1.5	31	258	20.0	31	2,409	- 7.0	65	251	24.1
700	31	3,017	- 4.4		253	21.8	31	2,947	-10.1	59	255	26.0
650	31	3,594	- 7.6		265	25.1	31	3,510	-13.5	57	257	28.7
600	31	4,216	-11.7		262	27.8	31	4,120	-17.5	54	261	31.9
550	31	4,875	-16.0		258	31.1	31	4,759	-21.7	51	269	35.2
500	31	5,588	-21.1		255	35.7	31	5,463	-26.4	50	277	39.4
450	31	6,252	-26.8		258	38.9	31	6,209	-31.6	46	282	44.7
400	31	7,197	-33.0		259	44.3	31	7,040	-37.3	46	284	52.1
350	31	8,124	-39.6		258	47.2	31	7,950	-43.8		296	56.5
300	31	9,163	-46.4		258	59.1	31	8,970	-50.3		297	61.8
250	31	10,359	-52.3		260	67.8	31	10,143	-56.1		294	57.9
200	31	11,790	-54.5		260	73.6	31	11,559	-55.6		292	47.6
175	30	12,646	-54.6		261	70.3	31	12,414	-53.6		287	42.9
150	30	13,629	-56.4		261	64.9	31	13,406	-53.4		287	40.8
125	30	14,778	-59.3		262	58.1	31	14,575	-54.5		289	38.1
100	30	16,169	-61.7		264	48.4	31	16,001	-55.1		289	32.1
80	29	17,536	-62.9		265	37.3	31	17,429	-54.5		294	24.7
70	28	18,368	-62.5		263	32.1	30	18,288	-54.4		296	21.6
60	27	19,315	-61.3		266	24.3	30	19,275	-54.1		303	16.5
50	26	20,451	-59.6		272	17.5	29	20,450	-53.3		315	14.0
40	24	21,852	-57.4		274	15.5	28	21,891	-51.9		329	14.2
30	23	23,681	-55.4		297	10.7	23	23,774	-50.2		351	11.5
25	18	24,841	-53.9		324	7.4	21	24,968	-49.7		9	14.6
20	15	26,282	-50.8		351	6.0	16	26,440	-48.3		10	26.2
15	10	28,155	-50.2				8	28,363	-45.8			

Standard pressure surface (mb)	OMAHA, NEBR. 966 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PEORIA, ILL. 991 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PITTSBURGH, PA. 973 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	- 5.0	71	266	3.7	30	200	- 4.9	82	232	2.1	31	353	- 5.1	71	225	4.1
1000	31	124					30	131					31	142				
950	31	529	- 2.6	66	285	6.2	30	539	- 1.3	66	262	13.8	31	549	- 2.0	66	230	8.5
900	31	962	.6	45	303	11.8	30	969	- 1.2	56	273	17.1	31	978	- 2.9	61	251	15.3
850	31	1,420	- .9	39	305	14.8	30	1,424	- 2.2	50	281	18.5	31	1,431	- 4.1	54	258	18.8
800	31	1,902	- 3.3	39	299	16.7	30	1,904	- 4.0	46	280	20.6	31	1,908	- 5.6	45	260	22.1
750	31	2,405	- 5.9	37	289	17.9	30	2,413	- 6.0	45	277	23.3	31	2,405	- 7.3	43	262	26.0
700	31	2,948	- 9.0	36	287	21.0	30	2,950	- 8.5	41	274	25.8	31	2,948	- 9.5	40	266	28.9
650	31	3,512	-12.2	39	287	23.9	30	3,521	-11.6	39	273	28.2	31	3,517	-12.0	40	268	34.0
600	31	4,127	-15.8	42	279	28.2	30	4,131	-15.1	37	271	32.1	31	4,128	-15.2	39	267	39.0
550	31	4,773	-20.1	44	279	30.1	30	4,781	-19.5	35	270	34.6	31	4,777	-19.2	37	270	43.5
500	31	5,478	-25.0	46	280	32.4	30	5,484	-24.4		267	36.3	31	5,484	-23.5	36	271	50.1
450	31	6,228	-30.5	48	278	34.8	30	6,237	-29.7	37	267	44.3	31	6,240	-29.0		268	51.1
400	31	7,063	-36.8		276	37.7	30	7,073	-35.8	36	263	47.2	31	7,080	-34.3		269	55.0
350	31	7,975	-43.6		277	43.1	30	7,988	-42.0		263	52.4	31	8,003	-40.5		270	56.9
300	31	8,997	-49.9		275	51.1	30	9,016	-49.0		261	56.1	31	9,039	-46.5		262	62.0
250	31	10,176	-54.5		274	52.8	30	10,197	-54.2		261	59.2	31	10,232	-52.4		260	69.7
200	31	11,603	-54.1		269	52.6	30	11,626	-54.4		263	62.2	31	11,664	-55.2		261	75.6
175	31	12,461	-53.5		270	51.1	30	12,482	-53.8		263	60.2	31	12,517	-55.0		263	73.6
150	31	13,451	-54.1		269	49.1	29	13,472	-54.3		264	58.7	31	13,500	-56.9		265	69.3
125	31	14,617	-55.5		272	46.8	29	14,635	-56.3		265	50.4	30	14,655	-57.7		266	61.4
100	31	16,033	-57.5		273	39.6	29	16,046	-58.4		264	43.9	30	16,055	-60.2		267	57.3
80	30	17,436	-58.2		274	31.3	28	17,447	-59.6		265	35.9	30	17,449	-59.6		271	39.6
70	30	18,279	-58.1		275	28.6	28	18,288	-59.3		269	31.9	30	18,285	-59.7		269	36.7
60	30	19,250	-57.2		282	26.2	28	19,251	-58.7		272	27.0	30	19,247	-60.0		268	29.1
50	29	20,404	-56.6		284	19.8	28	20,400	-57.6		282	21.6	29	20,394	-59.3		274	30.7
40	29	21,823	-55.3		295	17.3	27	21,807	-56.8		290	19.2	28	21,796	-57.6		282	24.1
30	29	23,662	-54.6		308	16.5	25	23,630	-55.1		296	20.4	28	23,618	-56.4		286	22.1
25	27	24,639	-53.3		316	15.5	25	24,796	-54.2		302	22.9	28	24,778	-55.2		294	26.0
20	27	26,278	-52.4		315	18.8	24	26,231	-52.8		297	24.5	27	26,208	-53.7		300	25.1
15	16	28,138	-51.8		308	23.5	23	28,098	-50.5		299	27.2	27	28,066	-51.5		290	31.1
10	8	30,771	-48.8				23	30,756	-47.7		304	32.6	25	30,704	-49.3		285	46.2
7							22	33,116	-45.8		298	39.4	22	33,051	-47.1		282	50.9
5							16	35,384	-41.8		284	44.1	16	35,247	-45.3		274	71.1

Standard pressure surface (mb)	PONAPE, CAROLINE IS. 1005 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. 1011 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	28.6	73	60	5.5	31	20	- 7.0	78	299	4.5
1000	30	86	28.0	73	64	10.9	31	108			291	6.8
950	30	530	23.3	80	73	17.7	31	511	- 4.7	57	296	10.7
900	30	1,011	19.5	83	73	22.0	31	936	- 6.2	57	308	15.9
850	30	1,502	17.4	72	80	19.2	31	1,383	- 7.3	56	304	18.6
800	30	2,020	15.7	60	74	13.4	31	1,855	- 7.8	48	298	22.0
750	30	2,562	13.3	47	68	8.9	31	2,355	- 9.8	42	291	25.4
700	30	3,145	10.7	32	77	5.1	31	2,886	-11.7	38	282	29.9
650	30	3,754	7.3		91	7.0	31	3,449	-14.3	39	279	34.4
600	30	4,414	3.8		92	11.1	31	4,055	-17.3		280	40.0
550	30	5,113	.4		92	15.2	31	4,698	-21.2	42	279	43.1
500	30	5,877	- 3.8		90	16.9	31	5,400	-25.7	44	276	47.2
450	30	6,694	- 8.8		91	21.2	31	6,148	-30.6	41	276	55.4
400	30	7,607	-14.5		84	19.2	31	6,984	-36.6		278	62.4
350	30	8,605	-21.5		84	14.8	31	7,899	-42.2		276	70.1
300	30	9,723	-29.7		83	8.7	31	8,928	-48.0		272	73.4
250	30	10,996	-40.0		133	6.4	31	10,128	-52.2		268	75.8
200	30	12,481	-52.3		142	10.7	31	11,557	-53.6		270	74.2
175	30	13,331	-59.2		140	10.9	31	12,417	-53.3		271	67.4
150	30	14,279	-67.0		115	10.7	31	13,408	-54.3		270	57.9
125	30	15,357	-75.5		88	15.9	31	14,572	-56.0		268	56.3
100	30	16,623	-82.6		89	23.3	31	15,985	-57.6		268	50.3
80	30	17,877	-78.0		95	14.8	31	17,391	-58.5		269	48.0
70	30	18,652	-71.5		218	2.7	31	18,233	-58.3		271	40.6
60	30	19,576	-65.2		264	15.7	31	19,201	-58.2		273	39.6
50	30	20,698	-61.1		267	23.9	30	20,350	-58.1		274	36.9
40	30	22,093	-57.9		273	28.0	29	21,760	-57.9		279	31.7
30	29	23,022	-54.4		272	30.5	26	23,564	-57.6		282	32.4
25	26	25,094	-52.3		271	22.5	25	24,713	-56.3		286	36.9
20	25	26,543	-50.8		257	9.3	20	26,113	-54.5		288	40.8
15	18	28,424	-49.8		151	5.1	8	27,951	-53.3			
10	7	31,090	-44.8									

Standard pressure surface (mb)	RAPID CITY, S. DAK. 900 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. 974 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. PAUL IS., ALASKA 992 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	- 4.8	65	302	5.1	31	316	-10.8	80	252	1.0	31	10	- 2.8	88	28	4.9
1000	31	132					31	108					31	- 55				
950	31	538					31	507	- 7.6	74	276	4.9	31	347	- 5.1	84	18	4.1
900	31	969			314	6.6	31	928	- 6.1	64	300	13.2	31	773	- 7.8	82	360	1.7
850	31	1,423	- 1.6	46	312	15.7	31	1,376	- 6.1	50	301	17.9	31	1,217	- 9.6	74	312	1.0
800	31	1,904	- 3.9	47	314	21.6	31	1,849	- 7.5	45	296	19.2	31	1,683	-12.1	66	218	1.0
750	31	2,408	- 7.1	49	313	23.7	31	2,348	-10.0	43	292	21.8	31	2,170	-14.8	57	176	1.7
700	31	2,945	-10.1	47	309	24.3	31	2,879	-13.0	40	291	22.9	31	2,693	-17.9	55	202	4.5
650	31	3,511	-13.6	44	304	25.4	31	3,438	-16.0	38	289	27.2	31	3,241	-21.5	53	210	3.9
600	31	4,117	-17.4	43	300	28.4	31	4,040	-19.3		286	29.7	31	3,830	-25.4	51	226	5.2
550	31	4,758	-21.9	41	297	29.9	31	4,677	-23.4		283	31.9	31	4,448	-29.7	52	228	4.7
500	31	5,456	-27.4	41	294	33.8	31	5,373	-28.2		283	35.7	31	5,129	-34.6	54	231	5.1
450	31	6,203	-33.0	38	287	35.9	31	6,113	-33.6	39	284	38.7	31	5,855	-39.9		198	6.2
400	31	7,025	-39.1		287	39.6	31	6,937	-40.0		282	41.2	31	6,652	-45.4		175	11.1
350	31	7,927	-45.7		289	45.5	31	7,837	-46.2		279	43.9	31	7,532	-50.7		177	13.2
300	30	8,934	-52.0		286	47.4	31	8,849	-51.8		278	48.0	31	8,529	-53.4		197	18.5
250	30	10,104	-55.2		282	48.8	31	10,020	-55.3		276	49.7	31	9,701	-53.1		215	19.6
200	30	11,527	-54.6		281	45.1	31	11,446	-53.7		276	50.1	31	11,149	-49.9		225	21.8
175	30	12,384	-53.4		279	45.8	31	12,305	-53.4		276	48.8	31	12,024	-49.0		231	23.5
150	30	13,377	-53.3		276	44.9	31	13,298	-53.2		276	47.0	31	13,037	-48.4		237	24.1
125	30	14,550	-54.0		279	41.8	31	14,470	-54.4		277	44.5	31	14,238	-47.7		240	26.0
100	30	15,974	-56.7		281	34.0	31	15,895	-55.7		278	38.9	31	15,714	-47.0		240	27.4
80	30	17,387	-56.5		280	29.1	31	17,315	-56.4		283	34.8	31	17,194	-46.4		246	29.1
70	30	18,238	-56.9		284	24.5	31	18,162	-56.4		281	31.3	31	18,083	-46.0		245	27.2
60	30	19,213	-56.0		283	20.6	30	19,150	-56.3		280	27.0	30	19,105	-45.7		247	26.6
50	30	20,374	-55.2		288	18.1	30	20,308	-55.9		292	25.8	29	20,319	-45.1		253	25.6
40	29	21,799	-54.6		300	16.1	30	21,730	-55.5		293	26.0	28	21,811	-44.1		255	23.7
30	27	23,649	-53.1		321	16.1	30	23,566	-54.9		304	28.9	26	23,751	-42.5		264	23.3
25	26	24,822	-52.5		326	16.5	29	24,735	-54.3		307	29.7	25	24,984	-42.0		268	23.3
20	21	26,270	-52.2		327	19.2	28	26,166	-53.6		311	30.5	24	26,501	-41.4		271	22.3
15	10	28,142	-51.7				20	28,011	-51.4		310	42.0	19	28,443	-40.9		267	18.3
10							6	30,736	-47.3				7	31,134	-42.3			

Standard pressure surface (mb)	SALEM, OREG. 1011 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH 875 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	4.6	88	181	9.5	31	1,288	- 7.0	82	159	6.0
1000	31	147			190	10.9	31	233				
950	31	563	3.9	75	204	19.8	31	639				
900	31	1,003	1.6	75	222	22.1	31	1,066				
850	31	1,462	- .8	73	235	24.5	31	1,515	- 4.3	69	175	7.8
800	31	1,944	- 3.3	72	244	25.8	31	1,993	- 4.6	61	214	6.8
750	31	2,449	- 5.9	68	250	27.6	31	2,502	- 6.9	59	258	10.5
700	31	2,990	- 8.9	65	255	28.7	31	3,035	- 9.6	58	287	15.3
650	31	3,555	-12.2	61	258	31.9	31	3,505	-12.9	58	291	19.0
600	31	4,169	-15.8	56	262	34.4	31	4,221	-16.8	54	289	21.8
550	31	4,813	-20.1	55	266	38.3	31	4,856	-20.6	48	294	27.4
500	31	5,520	-24.4	50	270	42.3	31	5,559	-25.2	43	298	32.2
450	31	6,273	-29.8	46	277	47.4	31	6,313	-30.4	43	299	35.2
400	31	7,110	-36.0	46	282	47.6	31	7,144	-36.5		307	38.3
350	31	8,024	-42.8		286	53.0	31	8,056	-42.8		314	46.2
300	31	9,049	-49.6		284	56.7	31	9,082	-49.4		309	46.4
250	31	10,222	-56.5		287	56.9	31	10,257	-56.4		305	45.6
200	31	11,630	-57.2		285	52.8	31	11,667	-57.1		296	46.8
175	31	12,480	-54.7		285	46.2	31	12,516	-55.2		288	44.1
150	31	13,467	-54.6		282	42.0	31	13,501	-54.9		285	38.7
125	31	14,630	-55.9		279	36.9	31	14,662	-56.9		285	36.5
100	31	16,047	-56.5		283	34.2	31	16,066	-58.8		277	31.3
80	31	17,463	-56.3		285	23.5	31	17,466	-58.7		281	25.1
70	31	18,314	-55.7		293	19.8	31	18,312	-59.1		287	16.1
60	30	19,299	-56.0		302	16.3	30	19,269	-58.2		294	14.2
50	30	20,462	-55.1		314	11.3	30	20,422	-56.6		307	10.7
40	29	21,894	-52.7		327	10.5	29	21,842	-54.8		331	8.0
30	28	23,761	-51.4		17	8.9	27	23,691	-52.9		3	10.3
25	27	24,946	-50.5		27	12.6	25	24,869	-52.1		32	11.5
20	22	26,404	-49.3		32	16.7	24	26,314	-51.3		29	13.6
15	9	28,296	-48.7				19	28,188	-49.9		13	16.3
10							6	30,826	-47.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SAN ANTONIO, TEXAS 991 MB						SAN DIEGO, CALIF. 1005 MB						* SAN JUAN, P. R. 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	6.7	75	340	2.7	31	124	7.5	72	63	1.7	31	6	22.3	85	108	2.9
1000	31	164					31	164	9.6	63	46	1.7	31	154	22.8	73	96	10.3
950	31	588	7.9	60	231	4.7	31	593	11.0	47	352	1.6	31	594	19.6	72	85	14.0
900	31	1,032	7.2	51	235	10.3	31	1,042	9.3	39	323	4.5	31	1,063	16.4	71	85	14.6
850	31	1,503	6.8	42	239	12.2	31	1,514	7.1	34	312	6.8	31	1,548	13.4	68	83	14.8
800	31	2,000	5.2	31	246	15.2	31	2,011	4.7	30	314	8.4	31	2,057	11.5	52	86	12.4
750	31	2,525	2.8		251	19.0	31	2,531	2.5	28	311	13.2	31	2,596	10.0	35	83	11.7
700	31	3,081	.2		258	22.7	31	3,090	- .3		308	16.7	31	3,168	9.0	26	80	9.9
650	31	3,671	- 3.2		257	28.4	31	3,672	- 3.9		304	20.6	31	3,778	6.2	18	83	7.0
600	31	4,300	- 7.3		252	33.2	31	4,308	- 8.2		302	23.3	31	4,431	2.6	15	84	6.8
550	31	4,970	-12.0		253	35.4	31	4,986	-12.6	26	301	25.1	31	5,123	- 1.6	15	97	4.3
500	31	5,697	-16.6		254	42.0	31	5,698	-17.6		301	27.4	31	5,881	- 6.4	14	67	3.5
450	31	6,477	-21.9		254	46.8	31	6,468	-23.4		298	31.5	31	6,692	-12.1	14	30	1.6
400	31	7,339	-27.8		253	56.7	31	7,329	-30.2		298	34.4	31	7,587	-18.7	15	310	4.7
350	31	8,286	-34.2		252	68.0	31	8,266	-37.3		296	38.7	31	8,568	-26.0	15	307	10.7
300	31	9,347	-41.9		252	75.6	31	9,315	-45.2		295	41.2	31	9,664	-34.7	16	312	14.6
250	31	10,560	-49.8		250	87.8	31	10,520	-52.9		298	42.3	31	10,911	-44.4		290	20.0
200	31	11,997	-55.9		253	77.7	31	11,931	-57.8		289	45.8	31	12,373	-54.0		282	30.5
175	31	12,843	-57.7		255	75.0	30	12,774	-57.9		281	46.8	31	13,219	-59.0		283	33.4
150	31	13,810	-59.9		255	67.4	30	13,745	-58.4		282	43.9	31	14,172	-65.0		282	29.7
125	31	14,940	-63.3		256	59.2	30	14,884	-61.1		282	40.6	31	15,265	-71.5		283	21.4
100	30	16,299	-67.3		257	46.6	30	16,262	-64.0		281	32.6	31	16,562	-77.3		289	12.0
80	30	17,644	-67.1		254	33.8	30	17,624	-64.8		289	26.0	30	17,838	-76.9		353	5.2
70	30	18,458	-66.4		257	28.6	30	18,443	-64.0		291	20.4	30	18,619	-74.2		27	5.8
60	29	19,387	-65.0		257	22.0	30	19,389	-61.5		294	14.6	29	19,534	-71.0		26	4.9
50	29	20,503	-62.9		256	15.7	30	20,522	-59.9		306	8.2	28	20,607	-65.8		347	3.3
40	29	21,890	-59.2		272	9.1	25	21,921	-57.3		337	4.1	28	21,985	-58.6		288	10.5
30	27	23,711	-56.5		276	6.6	25	23,754	-53.7		14	3.5	28	23,814	-53.9		288	13.0
25	26	24,673	-54.7		282	4.7	27	24,929	-52.3		65	4.9	28	24,991	-51.6		287	12.4
20	26	26,306	-52.5		282	4.3	26	26,377	-50.9		71	5.1	28	26,449	-48.5		266	12.4
15	18	28,182	-50.4				19	28,260	-48.6		33	5.2	28	28,351	-46.3		248	14.4
10	8	30,822	-47.2										26	31,064	-42.3		242	15.0
7													21	33,494	-36.4		235	7.8
5													6	35,790	-33.9			

Standard pressure surface (mb.)	SANTA MONICA, CALIF. 1015 MB						SAULT STE. MARIE, MICH. 984 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	10.7	55	16	4.3	31	221	- 6.9	87	273	1.2
1000	31	161	12.4	47	19	4.1	31	89				
950	31	587	11.1	43	357	2.3	31	490	- 6.5	83	255	5.2
900	31	1,040	9.2	35	290	2.3	31	912	- 7.4	76	257	12.0
850	31	1,512	6.9	34	313	5.6	31	1,356	- 8.6	66	272	14.5
800	31	2,008	4.8	30	317	8.9	31	1,825	- 9.9	60	274	16.5
750	31	2,528	2.2	28	310	13.6	31	2,321	-12.0	53	272	18.1
700	31	3,086	- 1.3		300	17.7	31	2,847	-14.2	53	272	20.6
650	31	3,665	- 5.0		304	20.6	31	3,404	-17.1	55	270	25.0
600	31	4,298	- 9.1		301	24.1	31	4,002	-20.2	51	272	29.1
550	31	4,956	-13.5		302	26.2	31	4,641	-24.1	48	273	32.2
500	31	5,685	-18.5		298	27.6	31	5,331	-29.0	49	272	35.2
450	31	6,452	-24.6		298	32.1	31	6,074	-34.1	47	271	38.3
400	31	7,310	-31.1		295	34.0	31	6,891	-39.6		272	45.6
350	31	8,244	-38.2		300	38.7	31	7,792	-45.6		267	51.3
300	31	9,288	-46.2		301	41.4	31	8,807	-50.9		264	54.2
250	31	10,480	-54.0		299	44.3	31	9,982	-54.4		264	58.3
200	31	11,897	-58.0		295	44.5	31	11,408	-54.2		265	55.8
175	31	12,736	-58.6		292	46.4	31	12,265	-53.5		269	52.4
150	31	13,706	-58.5		287	45.3	31	13,257	-53.2		272	50.7
125	31	14,847	-61.3		285	40.2	31	14,428	-54.4		271	46.2
100	31	16,224	-63.7		284	33.4	31	15,855	-55.3		275	42.2
80	31	17,593	-64.7		287	25.4	31	17,273	-56.7		275	39.6
70	30	18,413	-63.5		290	20.4	30	18,123	-56.6		277	38.9
60	30	19,093	-61.5		299	11.3	30	19,093	-56.9		281	37.3
50	30	20,494	-60.2		302	8.7	29	20,245	-57.3		281	34.4
40	30	21,895	-57.4		325	6.2	26	21,646	-57.5		285	37.3
30	29	23,725	-54.3		26	5.1	26	23,466	-56.8		294	40.2
25	29	24,898	-52.7		45	5.8	26	24,624	-56.3		294	41.6
20	24	26,348	-51.0		63	5.2	24	26,038	-55.9		303	45.8
15	22	28,226	-49.0		45	1.7	23	27,678	-54.1		302	50.7
10	8	30,913	-45.3				20	30,480	-51.7		302	59.2
7							16	32,787	-50.3		292	65.9
5							14	34,938	-48.2			

Standard pressure surface (mb.)	SHEMYA, ALASKA 991 MB						* SHREVEPORT, LA. 1011 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	- 1.2	77	359	3.7	31	79	4.4	74	182	3.1
1000	31	- 34					31	167	5.1	63	178	3.9
950	31	373	- 3.6	71	2	3.3	31	593	6.2	57	229	9.7
900	31	759	- 7.1	75	2	2.5	31	1,031	5.2	54	255	11.8
850	31	1,242	-10.9	76	316	1.7	31	1,497	3.8	48	272	13.0
800	31	1,706	-13.5	69	279	2.7	31	1,987	2.1	43	273	15.5
750	31	2,192	-16.7	61	268	4.1	31	2,504	.0	38	272	17.7
700	31	2,709	-19.8	55	270	6.6	31	3,057	- 2.5	35	261	22.3
650	31	3,253	-23.1	51	274	8.9	30	3,639	- 5.1	33	259	30.1
600	31	3,838	-27.0	50	256	10.9	30	4,269	- 8.9	33	260	35.7
550	31	4,456	-31.4	50	254	11.5	30	4,932	-13.0	30	260	39.2
500	31	5,126	-36.1	53	257	14.2	30	5,657	-17.8	31	258	46.0
450	31	5,850	-40.6		257	18.8	30	6,430	-23.2	32	256	50.7
400	31	6,647	-45.8		253	22.5	30	7,290	-29.4	35	253	57.1
350	31	7,528	-50.0		245	24.3	30	8,229	-36.4	35	253	67.0
300	31	8,53C	-52.2		248	24.7	30	9,281	-43.9		254	73.4
250	31	9,709	-52.0		247	27.8	30	10,484	-51.0		251	85.7
200	31	11,164	-48.9		244	26.8	30	11,917	-55.1		256	86.6
175	31	12,042	-48.5		243	27.8	30	12,768	-56.0		257	76.7
150	31	13,057	-47.9		247	28.6	30	13,743	-58.1		256	71.1
125	31	14,261	-47.2		246	28.7	29	14,878	-62.3		258	58.1
100	31	15,741	-46.1		239	29.1	29	16,244	-65.6		260	51.9
80	31	17,226	-45.8		241	26.6	28	17,595	-66.0		260	39.8
70	31	18,123	-44.9		240	24.7	27	18,418	-65.7		255	34.0
60	31	19,146	-45.0		240	22.0	27	19,347	-63.7		258	27.0
50	31	20,365	-44.5		236	19.2	27	20,471	-61.7		254	19.4
40	29	21,859	-43.4		232	18.1	27	21,858	-59.7		261	15.5
30	28	23,796	-41.5		223	13.6	26	23,673	-56.6		275	10.1
25	28	25,036	-40.5		205	11.3	26	24,823	-54.8		294	8.5
20	25	26,545	-39.6		181	7.6	26	26,266	-53.0		305	7.6
15	17	28,434	-41.2		114	4.9	24	28,231	-50.3		307	8.7
10	8	31,103	-40.7				19	30,802	-46.8		285	13.2
7							16	33,191	-44.3		272	22.3
5							10	35,374	-41.7			

Standard pressure surface (mb.)	SPOKANE, WASH. 930 MB						SWAN ISLAND, W. I. 1014 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	722	- 1.7	88	180	6.2	29	10	24.9	80	78	8.0
1000	31	139					29	130	24.2	79	74	11.1
950	31	568					29	577	20.9	80	80	13.4
900	31	983	- 1.1	78	198	12.4	29	1,045	17.9	77	99	13.2
850	31	1,438	- 2.6	71	227	18.5	29	1,533	15.6	75	99	12.4
800	31	1,916	- 5.5	69	242	20.0	29	2,045	13.0	72	102	11.8
750	31	2,418	- 8.5	65	248	21.4	29	2,582	10.1	53	97	10.3
700	31	2,953	-11.1	61	260	23.7	29	3,157	6.2	41	95	9.7
650	31	3,515	-14.4	60	265	26.8	29	3,763	5.5		107	9.5
600	31	4,121	-18.3	60	266	31.1	29	4,418	2.7		124	8.2
550	31	4,761	-22.3	56	273	34.0	29	5,110	- 1.4		150	5.7
500	31	5,459	-27.1	55	274	38.3	29	5,871	- 5.6		189	7.2
450	31	6,201	-32.4	49	277	43.3	29	6,682	-11.1		209	9.1
400	31	7,020	-38.7		278	45.8	29	7,584	-17.8		228	12.4
350	31	7,933	-45.7		281	51.1	29	8,568	-25.5		242	14.6
300	31	8,946	-51.9		287	55.9	29	9,666	-34.7		251	17.1
250	31	10,114	-56.3		289	57.9	29	10,913	-44.9		253	22.0
200	31	11,527	-55.8		289	48.0	29	12,370	-54.8		249	31.1
175	31	12,381	-54.0		287	43.5	29	13,214	-59.8		243	35.9
150	31	13,373	-53.0		288	40.2	29	14,164	-65.4		244	36.3
125	31	14,547	-53.7		286	36.9	29	15,255	-72.2		246	28.4
100	31	15,979	-54.5		288	29.5	29	16,547	-77.8		237	15.5
80	30	17,405	-54.7		296	27.2	27	17,827	-76.9		220	4.3
70	30	18,263	-54.4		287	25.8	27	18,601	-74.8		200	1.6
60	29	19,256	-53.6		300	21.0	27	19,501	-71.4		263	2.1
50	29	20,430	-53.0		312	15.2	26	20,590	-66.2		277	8.7
40	27	21,871	-51.8		310	15.0	26	21,960	-61.2		284	13.8
30	26	23,742	-50.5		341	14.8	26	23,772	-55.3		277	18.3
25	26	24,932	-50.0		346	17.7	25	24,944	-52.8		279	17.1
20	19	26,399	-49.9		349	19.2	25	26,394	-49.8		273	20.2
15	10	28,291	-48.3				17	28,264	-46.6			
10												
7												
5												

Standard pressure surface (mb.)	TAMPA, FLA. 1020 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	11.6	83	41	4.3
1000	30	174	12.7	76	72	4.9
950	30	600	11.8	69	192	4.9
900	30	1,057	16.5	54	236	9.9
850	30	1,534	16.0	52	248	13.4
800	30	2,038	9.0	42	252	16.5
750	30	2,564	7.3	37	256	15.6
700	30	3,136	4.6	40	255	24.7
650	30	3,731	1.1	40	254	28.0
600	30	4,376	- 2.9	45	253	34.4
550	30	5,050	- 7.1	42	253	40.2
500	30	5,798	-11.6	43	252	44.1
450	30	6,589	-16.5	42	253	53.6
400	30	7,476	-22.2	44	254	59.8
350	30	8,443	-29.4	42	254	63.7
300	30	9,525	-37.8		254	71.9
250	30	10,753	-48.0		258	81.6
200	30	12,190	-57.1		259	81.8
175	30	13,028	-60.3		256	83.1
150	29	13,982	-65.0		254	75.2
125	29	15,092	-67.0		259	65.9
100	28	16,422	-71.0		263	50.3
80	28	17,745	-70.9		264	35.5
70	27	18,548	-69.8		256	30.9
60	26	19,462	-68.0		256	19.8
50	25	20,566	-65.0		259	12.4
40	24	21,943	-60.8		281	10.9
30	22	23,749	-56.4		319	6.6
25	22	24,914	-53.8		307	6.4
20	16	26,366	-51.1		279	12.6
15	7	28,256	-48.1			
10						
7						
5						

Standard pressure surface (mb.)	* TATOOSH IS., WASH 1007 MB						TOPEKA, KANS. 983 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	6.6	84	207	9.5	31	269	- 3.0	73	213	2.5
1000	31	92			202	10.9	31	136				
950	31	508	3.0	78	224	16.5	31	547	.4	56	244	6.9
900	31	946	.0	82	230	19.4	31	978	1.5	46	262	13.6
850	31	1,402	- 2.9	77	240	20.0	31	1,438	.4	37	274	14.6
800	31	1,881	- 5.4	71	248	21.8	31	1,922	- 1.6	36	280	16.9
750	31	2,384	- 8.5	63	244	23.5	31	2,431	- 4.3	35	281	18.3
700	31	2,917	-11.7	59	247	26.0	31	2,975	- 7.1	35	283	21.0
650	31	3,478	-15.1	59	252	29.5	31	3,545	-10.4	38	276	22.9
600	31	4,083	-18.9	62	255	33.0	30	4,159	-14.2	38	273	26.5
550	31	4,723	-23.3	59	257	34.8	30	4,807	-18.7	37	271	29.9
500	31	5,417	-28.0	56	260	37.3	30	5,518	-23.7	37	269	33.6
450	31	6,160	-33.0	51	264	42.3	30	6,273	-29.0	36	267	38.5
400	31	6,986	-36.8	48	268	48.6	30	7,113	-35.4	39	269	41.2
350	31	7,89C	-45.1		258	54.0	30	8,030	-41.8		270	45.6
300	31	8,906	-51.3		259	61.2	30	9,059	-48.5		269	52.3
250	31	10,077	-55.9		268	61.0	30	10,241	-54.5		270	56.5
200	31	11,493	-55.6		272	52.1	30	11,664	-55.2		268	57.7
175	31	12,346	-54.3		274	45.3	30	12,517	-54.6		267	56.3
150	31	13,337	-53.0		270	40.4	30	13,504	-54.9		269	52.3
125	30	14,519	-53.4		280	39.0	30	14,664	-56.8		269	49.7
100	30	15,949	-55.3		279	35.2	30	16,069	-59.1		268	40.6
80	29	17,368	-54.6		281	29.7	30	17,464	-59.9		271	32.4
70	28	18,228	-54.4		290	22.9	30	18,303	-59.6		272	26.4
60	28	19,214	-53.8		295	22.7	30	19,264	-58.7		273	23.1
50	26	20,383	-52.9		302	18.3	30	20,412	-57.9		283	16.3
40	22	21,925	-51.4		303	20.4	30	21,824	-56.7		287	13.4
30	22	23,700	-49.9		318	20.6	30	23,656	-54.7		307	12.6
25	21	24,896	-48.9		325	21.0	30	24,826	-53.4		315	12.2
20	21	26,361	-48.6		344	18.8	30	26,265	-52.4		314	15.0
15	15	28,305	-46.3		360	23.9	26	28,124	-51.1		306	16.3
10	13	31,024	-43.4		5	34.0	13	30,775	-49.1		299	23.5
7	10	33,458	-42.3									
5												

Standard pressure surface (mb.)	* TRUK, CAROLINE IS. 1010 MB						TUCSON, ARIZ. 927 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	2	28.7	72	40	8.4	31	789	3.0	42	134	6.8
1000	31	94	27.7	74	51	11.8	31	167				
950	31	543	23.6	79	73	19.0	31	586				
900	31	1,020	20.5	78	76	19.0	31	1,030	7.8	32	139	6.2
850	31	1,513	17.8	73	81	17.7	31	1,500	6.4	32	182	2.1
800	31	2,030	15.5	58	84	14.2	31	1,995	3.9	31	272	4.5
750	31	2,579	13.6	40	86	11.5	31	2,514	1.1	30	292	8.0
700	31	3,155	10.9	29	86	8.7	31	3,069	- 1.6	27	299	12.6
650	31	3,771	7.6		92	7.2	31	3,650	- 4.8		295	15.9
600	31	4,426	3.9		94	11.7	31	4,281	- 8.7		295	22.1
550	31	5,122	.1		90	14.6	31	4,941	-12.9		292	26.2
500	31	5,887	- 4.2		93	18.1	31	5,670	-18.0		292	29.7
450	31	6,705	- 8.9		94	19.4	31	6,438	-23.8		290	29.3
400	31	7,617	-14.3		92	19.4	31	7,298	-30.3		293	32.1
350	31	8,616	-21.0		87	14.6	31	8,234	-37.4		290	36.5
300	31	9,737	-29.3		89	11.5	31	9,281	-44.9		293	42.0
250	31	11,012	-39.5		120	9.1	31	10,477	-52.6		284	46.0
200	31	12,498	-51.9		140	10.3	31	11,905	-55.3		280	50.3
175	31	13,350	-59.0		133	12.4	31	12,756	-55.9		273	49.0
150	31	14,299	-66.8		117	14.6	31	13,732	-58.0		272	48.0
125	30	15,379	-75.1		102	20.6	31	14,872	-61.1		273	44.9
100	30	16,649	-81.8		100	24.3	31	16,249	-63.0		273	40.0
80	29	17,914	-76.5		107	14.8	31	17,611	-64.6		276	29.9
70	29	18,695	-70.4		198	1.7	31	18,435	-64.3		274	24.9
60	29	19,624	-66.1		278	23.8	31	19,374	-62.1		272	19.4
50	29	20,751	-60.2		272	23.9	30	20,506	-60.1		272	12.8
40	29	22,152	-57.6		277	27.0	30	21,908	-57.4		264	8.0
30	29	23,987	-53.9		273	28.6	30	23,739	-54.3		301	3.7
25	29	25,160	-52.4		275	22.9	29	24,908	-52.7		13	1.4
20	28	26,631	-49.9		259	8.7	27	26,352	-51.0		33	3.5
15	24	28,497	-48.5		142	5.1	25	28,232	-48.5		55	6.2
10	12	31,187	-43.8				22	30,924	-44.6		42	12.0
7							18	33,337	-41.5			
5												

Standard pressure surface (mb.)	* WAKE IS., PACIFIC AREA 1016 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	24.4	74	66	9.1
1000	31	142	23.3	76	70	13.0
950	31	585	19.6	82	79	14.8
900	31	1,053	16.5	78	86	12.6
850	31	1,539	14.0	68	93	10.9
800	31	2,051	14.2	36	93	6.8
750	31	2,591	12.5	27	95	5.8
700	31	3,169	9.9	23	97	4.1
650	31	3,777	6.8	22	138	1.6
600	31	4,434	2.7	23	293	1.4
550	31	5,127	- 1.8	20	301	5.1
500	31	5,883	- 6.8	17	295	5.3
450	31	6,695	-11.9	18	293	14.6
400	31	7,589	-17.8	17	290	19.4
350	31	8,576	-23.8	16	284	25.6
300	31	9,686	-31.2	16	280	29.1
250	31	10,953	-40.8		278	30.3
200	31	12,433	-52.5		278	29.1
175	31

RAWINSONDE DATA

Average monthly values

JANUARY 1964

Standard pressure surface (mb.)	WALLOPS IS., VA. NASA 1017 MB						WASHINGTON, D. C. 1007 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	20	3	1.6	79	283	3.5	31	84	- 3.2	72	304	3.7
1000	20	142	3.8	56	282	8.4	31	139			308	4.3
950	20	563	3.6	52	295	12.2	31	554	.4	54	282	12.6
900	20	997	2.4	50	284	12.0	31	984	- .8	51	283	17.5
850	20	1,458	1.1	45	277	15.3	31	1,440	- 1.5	44	284	19.0
800	20	1,944	- .9	45	268	21.6	31	1,922	- 2.8	42	276	20.8
750	20	2,457	- 3.3	44	266	25.4	31	2,435	- 4.5	43	273	26.4
700	20	3,000	- 6.0	38	261	31.1	31	2,973	- 6.5	35	269	30.1
650	20	3,576	- 8.5	37	263	36.9	31	3,549	- 9.4	36	266	34.6
600	20	4,196	-11.4	34	269	42.0	31	4,164	-13.1		266	40.2
550	20	4,855	-15.5	36	266	47.4	31	4,817	-17.1		259	44.1
500	20	5,571	-20.3	38	269	51.5	31	5,531	-21.7	37	258	50.3
450	20	6,339	-25.4	37	270	60.2	31	6,294	-26.8		259	57.7
400	20	7,189	-31.3	40	269	62.2	31	7,139	-32.8		257	63.5
350	20	8,122	-37.9		266	75.0	31	8,065	-39.4		257	68.2
300	20	9,169	-44.9		264	91.3	31	9,105	-46.1		256	78.3
250	20	10,369	-52.0		269	92.3	31	10,300	-52.4		257	88.6
200	19	11,818	-54.7		275	95.8	31	11,730	-55.2		260	89.2
175	18	12,673	-55.5		279	86.1	31	12,582	-55.8		263	82.8
150	18	13,653	-56.6		281	79.1	31	13,558	-57.5		265	76.1
125	18	14,803	-59.3		279	53.8	30	14,702	-58.8		267	68.4
100	16	16,186	-61.1				30	16,093	-61.4		267	56.3
80	16	17,565	-62.6		265	43.5	29	17,472	-62.0		268	45.6
70	16	18,391	-62.4		269	44.9	29	18,308	-62.1		267	37.1
60	16	19,342	-61.1		268	39.6	29	19,253	-60.8		269	34.6
50	16	20,480	-58.9		273	36.5	29	20,388	-60.2		275	27.0
40	16	21,880	-58.9				29	21,782	-59.3		279	22.0
30	15	23,711	-56.1		282	35.2	27	23,599	-57.0		292	18.5
25	15	24,873	-55.0		292	26.6	27	24,758	-55.5		296	17.7
20	15	26,303	-53.7		281	19.6	27	26,184	-54.4		297	20.0
15	12	28,174	-50.9		307	17.7	24	28,032	-52.7		295	30.3
10	11	30,831	-47.4				19	30,655	-50.4		282	43.7
7	7	33,199	-44.2				5	32,983	-48.5			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. 872 MB						WINSLOW, ARIZ. 853 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	- 4.9	83	169	2.1	31	1,492	- 6.8	54	208	2.5
1000	31	211					31	230				
950	31	622					31	636				
900	31	1,054					31	1,072				
850	31	1,508	- 1.3	64	180	4.9	31	1,521			271	.8
800	31	1,991	- 2.5	57	248	9.9	31	2,003	- 1.3	38	284	6.6
750	31	2,500	- 4.8	53	267	15.7	31	2,515	- 2.9	34	285	8.7
700	31	3,041	- 7.3	48	274	19.8	31	3,059	- 5.4	31	282	15.9
650	31	3,613	-10.3	46	281	22.5	31	3,633	- 8.1	32	291	16.3
600	31	4,228	-14.1	46	285	23.3	31	4,256	-11.8		293	18.8
550	31	4,881	-18.2	44	289	30.7	31	4,914	-16.3		302	26.0
500	31	5,590	-22.6	41	294	29.3	31	5,628	-20.8		299	31.3
450	31	6,349	-28.3	39	298	33.4	31	6,395	-26.3		299	32.2
400	31	7,189	-34.6	39	294	36.3	31	7,240	-32.2		295	38.9
350	31	8,110	-41.1		294	40.0	31	8,168	-39.0		293	45.6
300	31	9,140	-48.5		302	46.4	31	9,208	-46.7		297	49.5
250	31	10,321	-55.7		299	47.4	31	10,395	-54.3		295	52.6
200	31	11,726	-58.3		295	40.8	31	11,815	-55.9		286	51.9
175	31	12,571	-55.9		285	37.1	31	12,665	-55.5		278	53.2
150	31	13,553	-55.8		282	37.7	31	13,645	-56.7		277	46.4
125	31	14,710	-57.2		280	33.8	31	14,792	-59.5		275	43.1
100	31	16,118	-58.6		285	29.5	31	16,178	-62.4		278	34.0
80	31	17,517	-59.0		290	22.1	31	17,552	-62.8		276	28.6
70	30	18,364	-58.4		295	16.9	31	18,379	-62.5		279	22.1
60	30	19,330	-57.4		300	10.7	30	19,329	-60.8		281	17.1
50	30	20,484	-56.3		327	8.5	29	20,469	-59.5		283	11.8
40	29	21,913	-54.5		28	8.2	28	21,875	-57.0		291	6.6
30	28	23,764	-52.2		52	12.8	25	23,710	-54.4		325	2.7
25	28	24,946	-51.2		53	14.2	25	24,882	-53.1		336	3.1
20	23	26,407	-50.1		52	16.7	23	26,330	-51.3		319	4.7
15	12	28,283	-49.8				17	28,208	-49.4		9	1.9

Standard pressure surface (mb.)	YAKUTAT, ALASKA 998 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	25	12	- 2.7	85	93	5.6
1000	25	- 3				
950	25	406	- 1.8	71	112	12.6
900	25	835	- 4.3	70	132	12.4
850	25	1,283	- 7.2	71	144	13.2
800	25	1,753	-10.3	71	153	12.2
750	25	2,244	-13.5	69	163	10.9
700	25	2,769	-17.1	65	171	9.9
650	25	3,313	-20.6	60	183	8.9
600	25	3,909	-24.5	57	200	9.5
550	25	4,530	-28.9	55	213	11.5
500	25	5,213	-33.8	50	222	13.0
450	25	5,935	-39.3		231	14.6
400	25	6,742	-45.3		233	17.3
350	25	7,622	-50.7		244	19.2
300	25	8,617	-54.2		260	22.3
250	25	9,784	-55.1		263	22.7
200	25	11,218	-52.4		266	26.8
175	25	12,083	-51.5		267	29.5
150	25	13,084	-50.9		271	33.8
125	24	14,275	-50.2		275	33.0
100	24	15,733	-49.9		280	37.3
80	24	17,191	-49.9		278	39.0
70	23	18,060	-49.4		282	39.6
60	23	19,069	-48.7		283	42.0
50	23	20,268	-48.3		288	41.0
40	23	21,739	-47.5		290	42.7
30	23	23,648	-45.3		296	48.2
25	22	24,877	-44.6		300	48.2
20	21	26,372	-43.9		304	53.6
15	17	28,284	-44.6		303	55.8

Standard pressure surface (mb.)	YAP, CAROLINE IS. + 1009 MB						YUCCA FLAT, NEV. 884 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	17	27.1	83	52	11.3	30	1,196	- 5.3	55	300	2.3
1000	31	101	26.3	83	55	14.2	30	213				
950	31	548	22.6	82	65	22.0	30	624				
900	31	1,023	19.6	80	70	23.1	30	1,058				
850	31	1,515	17.3	73	75	21.2	30	1,511	1.1	41	350	4.1
800	31	2,032	15.1	64	76	17.3	30	1,997	- .7	38	333	3.3
750	31	2,575	12.7	55	76	16.3	30	2,511	- 2.5	37	308	5.6
700	31	3,155	10.0	43	74	15.2	30	3,056	- 4.8	35	306	12.0
650	31	3,767	7.0	37	77	15.3	30	3,632	- 7.9	36	302	17.1
600	31	4,423	3.7		84	15.7	30	4,254	-11.6	33	305	21.8
550	31	5,115	.0		80	16.7	30	4,906	-16.1	32	306	26.6
500	31	5,883	- 4.3		83	15.0	30	5,626	-20.9		307	28.4
450	31	6,699	- 9.2		83	15.0	30	6,386	-26.9		308	29.5
400	31	7,610	-15.1		88	13.4	30	7,235	-33.3		306	34.4
350	31	8,606	-22.0		86	10.9	30	8,160	-40.1		307	36.5
300	31	9,721	-30.4		91	8.2	30	9,195	-47.6		306	42.7
250	31	10,990	-40.6		118	6.6	30	10,376	-55.5		296	46.4
200	30	12,470	-52.9		140	10.7	30	11,786	-58.7		289	51.7
175	30	13,317	-60.1		138	12.6	29	12,634	-58.4		287	45.6
150	30	14,261	-67.9		135	15.3	29	13,606	-58.0		283	50.5
125	29	15,333	-75.9		118	20.4	29	14,753	-59.0		284	43.5
100	29	16,599	-81.3		106	20.6	29	16,145	-61.5		280	33.2
80	29	17,858	-78.7		87	11.3	29	17,526	-61.7		279	24.7
70	29	18,627	-74.4		66	1.7	29	18,356	-61.6		289	19.4
60	29	19,543	-66.4		298	6.6	29	19,311	-59.8		296	13.8
50	29	20,658	-62.3		278	15.2	29	20,455	-57.8		298	6.2
40	29	22,047	-58.3		271	18.8	29	21,867	-56.5		322	2.7
30	29	23,873	-54.7		263	22.1	27	23,699	-53.6		18	4.9
25	28	25,044	-52.7		264	18.8	26	24,876	-52.5		46	6.6
20	26	26,487	-51.1		267	12.0	23	26,320	-50.9		58	4.3
15	23	28,367	-49.0		144	3.7	15	28,190	-49.6		2	5.8
10	17	31,039	-45.5									

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. Relative humidity 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 5° 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. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. 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.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1964

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Jan.									
1	0.91	1.03	1.13	1.27	1.32	----	1.14	1.03	----
2	.93	1.03	1.15	1.30	1.32	1.29	1.13	.99	0.84
4	.93	1.05	1.16	1.30	1.30	1.27	1.13	.98	.87
5	----	----	----	1.26	1.26	----	----	----	.88
6	1.00	1.11	1.21	1.35	1.33	1.29	1.11	.98	.88
8	----	----	----	----	1.29	----	1.07	.94	.87
9	.97	1.08	1.21	1.36	1.35	1.33	1.18	1.07	.94
10	.99	.88	1.22	1.35	----	1.19	1.18	.83	.73
11	----	.99	----	1.29	1.33	1.33	----	----	----
12	1.00	1.11	1.24	1.39	1.38	----	1.21	----	----
13	.94	1.05	1.19	1.34	1.34	1.30	1.11	.91	.84
14	1.01	1.10	1.21	----	1.40	1.32	1.09	1.00	.89
15	----	----	----	1.33	1.34	1.23	1.10	.96	.85
16	.95	1.05	1.19	1.35	1.33	1.33	1.16	1.05	.89
17	----	----	----	----	----	1.32	1.20	1.07	----
19	.95	1.05	1.17	----	----	----	1.09	.94	----
20	.98	1.05	----	1.29	1.30	1.27	1.10	.97	.85
21	.91	1.03	1.14	1.30	1.36	1.31	1.16	1.04	.92
22	.85	.97	1.12	Broken wire		----	----	----	.72
24	.89	1.00	1.16	1.29	1.37	1.33	1.16	1.01	.90
25	----	----	----	1.32	1.36	1.31	1.14	1.04	.94
26	.90	1.01	1.14	1.30	1.34	1.27	1.10	1.00	.91
27	----	1.00	1.10	1.31	1.34	1.28	1.12	.99	.88
28	----	----	----	----	----	----	----	.84	----
29	.78	.91	1.03	1.21	1.29	1.23	1.07	.90	.80
30	----	----	----	----	----	1.24	----	----	.84
31	.81	.95	1.08	1.25	1.31	1.27	1.11	.91	.87
Averages	0.93	1.02	1.16	1.31	1.33	1.29	1.13	0.98	0.86

MADISON, WIS.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Jan.									
4	----	----	S 1.08	----	S 1.18	----	S 1.09	S 0.97	S 0.88
13	S 0.88	S 0.96	S 1.12	----	S 1.21	----	S 1.12	----	----
15	----	----	----	----	S 1.07	----	S 1.01	S .92	S .75
20	----	----	S 1.12	----	S 1.24	----	S 1.12	S 1.01	S .88
21	S .75	S .87	S 1.02	----	----	----	----	----	----
26	S .86	S .96	S 1.08	----	S 1.22	----	S 1.06	S .96	----
28	----	S .90	S 1.03	----	S 1.19	----	----	----	----
29	----	----	----	----	M 1.08	----	M .91	M .78	M .67
Averages	0.83	0.92	1.08	----	1.17	----	1.05	0.93	0.80

OMAHA, NEBR.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan. 1-29	Inoperative								
30	----	----	----	----	HS1.22	HS1.24	----	----	----
31	----	----	----	----	HS1.24	HS1.26	HS1.09	HM0.86	----
Averages	----	----	----	----	1.23	1.25	1.09	0.86	----

TUCSON, ARIZ.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Jan.									
1	0.91	0.98	0.14	----	----	----	----	0.02	0.87
2	----	----	----	----	----	----	----	----	.94
3	.71	----	----	----	----	----	----	----	----
5	.84	.93	1.08	----	----	----	1.10	.96	.84
8	.95	----	1.16	----	----	----	----	----	----
10	.99	1.10	----	----	----	----	----	----	----
12	----	----	----	----	----	----	----	1.01	----
13	.85	.96	1.10	----	----	----	----	.97	.84
14	.90	----	----	----	----	----	----	----	----
16	.85	----	----	----	----	----	----	----	.84
20	1.04	----	----	----	----	----	----	----	----
24	.93	1.03	----	----	----	----	----	1.03	.92
25	.96	1.04	----	----	----	----	----	----	.92
26	.98	1.08	1.18	----	----	----	----	----	----
28	.82	----	----	----	----	----	----	----	----
29	.70	.81	.97	----	----	----	.95	.83	.71
30	.81	.91	1.05	----	----	----	----	----	----
31	.88	.91	1.04	----	----	----	----	----	----
Averages	0.88	0.97	0.96	----	----	----	1.02	0.80	0.86

MAUNA LOA OBS., HAWAII

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Jan.									
3	----	----	1.38	1.48	----	----	----	----	----
4	1.17	1.28	1.38	1.50	----	----	----	----	----
5	1.07	1.18	1.27	1.43	----	----	----	----	----
7	----	----	1.37	1.49	1.58	----	----	----	----
8	----	----	----	----	----	----	1.29	1.18	----
9	1.10	1.20	1.31	1.44	----	----	----	----	----
10	1.15	1.25	1.35	1.48	1.58	1.50	1.36	1.26	1.18
11	H 1.06	H 1.19	H 1.30	H 1.45	H 1.56	H 1.48	H 1.35	H 1.25	H 1.15
12	1.19	1.30	1.39	1.53	1.64	1.53	1.39	1.29	1.19
13	1.27	1.36	1.45	1.55	1.64	1.54	1.38	1.28	1.18
14	1.26	1.34	1.41	1.54	1.63	1.46	1.39	1.29	1.20
15	1.22	1.32	1.42	1.53	1.63	1.52	1.41	1.31	1.23
16	1.19	1.28	1.37	1.50	1.60	1.49	1.36	1.25	1.16
17	1.19	1.28	1.38	1.51	1.61	1.53	1.40	1.31	1.23
18	----	----	----	1.53	1.64	1.53	1.41	1.31	1.22
19	1.21	1.31	1.41	1.54	----	----	----	----	----
20	1.21	1.29	1.41	1.54	1.64	1.54	1.41	----	----
24	HS1.06	HS1.15	HS1.26	HS1.40	HS1.53	HS1.39	HS1.26	----	----
26	1.12	1.20	1.30	1.43	----	----	----	----	----
27	1.16	1.26	1.37	1.52	1.62	1.52	1.38	1.28	1.18
28	1.21	1.30	1.40	1.52	1.63	1.52	1.41	1.30	1.21
29	1.19	1.29	1.40	1.52	1.63	1.44	1.34	1.24	1.15
30	1.15	1.26	1.39	1.45	1.61	1.50	1.37	1.26	1.17
31	1.17	1.27	1.38	1.51	1.62	----	1.39	1.28	1.19
Averages	1.17	1.27	1.37	1.50	1.61	1.50	1.37	1.27	1.19

GUAM, M. I.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observation due to cloudiness								

HS Slight haze
HM Moderate haze
H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
* Values corresponding to true solar noon.

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

SOLAR RADIATION DATA

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

JANUARY 1964

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.	320	328	200	---	203	341	181	319	351	346	345	356	359	363	364	353	347	227	310	353	363	323	150	389	371	378	383	259	384	368	397	324
AMES IOWA	191	173	203	199	102	146	122	43	238	156	96	172	257	178	231	159	180	220	56	234	223	92	62	118	262	174	267	258	252	247	262	180
ANNETTE ALASKA	---	---	24	13	23	61	18	9	22	53	9	6	41	8	24	26	46	81	25	22	67	98	25	36	62	43	73	9	30	41	51	36
APALACHICOLA FLORIDA	366	383	358	209	283	133	158	85	68	183	49	252	157	402	387	120	186	287	269	406	220	204	100	124	288	361	71	421	442	356	59	238
ARGONNE NAT. LAB.	184	158	126	215	159	61	187	81	32	236	154	69	199	129	236	221	118	222	37	242	234	212	87	78	141	269	255	278	203	262	31	165
ASTORIA OREGON	31	99	41	133	5	35	102	75	74	74	51	49	30	118	17	82	81	47	21	83	58	133	158	8	123	36	66	80	179	21	155	73
ATLANTA GEORGIA	64	349	308	142	317	46	117	25	106	335	240	50	177	357	291	111	51	263	214	346	341	322	327	24	206	375	144	398	347	309	54	218
BETHEL ALASKA	10	17	16	55	38	26	46	37	70	6	8	40	19	16	16	25	21	67	58	48	31	21	28	40	30	76	40	38	47	32	51	35
BISMARCK N.DAK.	159	107	151	129	122	156*	113	171	166	59	203	207	124	198	164	141	134	115	214	178	190	191	50	188	---	248	254	197	239	140	248	165*
BLUE HILL MASS.	50	129	205	205	233	134	69	233	34	193	247	187	24	243	259	244	246	149	241	75	32	263	232	194	19	254	262	21	301	218	280	177
BOISE IDAHO	154	179	194	198	139	42	234	215	76	137	224	241	262	222	227	84	60	89	73	78	169	117	226	94	76	157	194	232	130	165	238	159
BOSTON MASSACHUSETTS	49	132	187	214	226	116	66	222	25	205	244	187	21	239	248	235	212	126	224	49	33	263	240	185	18	258	271	14	304	220	253	171
BROWNSVILLE TEXAS	399	398	142	368	332	73	222	312	200	208	395	428	375	112	79	404	440	412	239	336	287	240	113	114	315	211	426	302	150	86	244	270
BURLINGTON VERMONT	81	40	104	92	211	63	87	209	26	30	193	223	46	229	174	102	199	164	216	106	37	158	143	50	13	89	131	162	260	121	204	128
CANTON ISLAND P.I.	505	403	390	534	507	347	417	328*	302	346	223	598	118	436	169	245	175	479	210	579	362	346	427	465	386	548	---	662	607	676	681	416*
CAPE HATTERAS N.C.	247	294	303	260	246	286	54	42	36	322	289	24	120	326	328	324	37	217	244	127	349	332	323	254	32	---	272	335	337	360	146	229
CARIBOU MAINE	157	80	138	77	123	129	98	200	113	49	190	188	167*	138	146	116	197	89	169	71	42	83	110	186	26	157	194	231	249	166	200	138*
CHARLESTON S.C.	118	339	329	143	260	231	93	38	25	309	141	97	134	369	371	191	17	189	239	299	379	370	272	132	65	391	232	383	410	376	96	227
CLEVELAND OHIO	32	165	166	34	190	84	100	177	12	123	162	38	64	188	---	138	176	206	68	17	253	177	50	78	84	139	247	148	251	246	29	128
COLUMBIA MISSOURI	151	218	214	247	178	250	184	41	268	245	69	131	281	281	263	71	170	272	169	285	255	256	113	14	299	255	269	345	190	69	77	198
DAVIS CALIFORNIA	77	245	241	277	243	69	181	278	168	274	175	256	202	301	251	159	86	197	78	74	118	185	164	185	146	322	198	81	76	267	252	188
DODGE CITY KANSAS	253	255	240	271	95	280	231	130	282	184	234	241	308	293	287	282	211	220	190	294	296	300	251	287	308	288	313	302	328	149	320	256
E. LANSING MICHIGAN	120	122	98	132	165	90	209	164	23	144	109	71	130	157	198	87	149	219	73	68	227	190	49	66	109	203	203	317	210	287	38	143
EL CENTRO CALIF. NPF	285	280	296	296	300	284	261	300	301	246	292	297	306	114	306	304	254	218	301	300	217	193	323	332	337	---	399	434	248	334	347	290
EL PASO TEXAS	366	372	344	341	277	391	327	390	391	392*	407	408	400	409	400	412	333	269	260	410	420	422	390	446	436	440	430	424	225	445	408	380*
ELY NEVADA	271	203	283	274	275	136	---	305	243	---	310	226	317	277	300	225	137	141	---	305	172*	172	230	344	287	276	313	350	344	---	366	262*
FAIRBANKS ALASKA	4	4	3	2	3	19	18	8	20	9	8	16	29	30	7	18	6	12	33	26	45	40	53	50	53	40	17	23	24	14	17	21
FLAMING GORGE UTAH	266	131	264	---	---	192	149	221	241	167	110	292	285	298	262	229	241	96	238	173	285	176	156	281	253	---	---	320	340	242	---	227
FORT WORTH TEXAS	305	327	317	266	310	305	330	283	359*	354	268	322	373*	326	60*	160	---	383	321	349	205*	331	254	337	385	380	359*	385*	40	36	94	284*
FRESNO CALIFORNIA	159	37	112	45	58	233	68	150	268	222	230	267	245	70	264	253	232	203	260	151	191	173	271	309	249	161	269	269	39	90	98	182
GAINESVILLE FLORIDA	241	321	328	325	306	315	111	31	67	336	45	267	412	427	437	122	130	244	284	404	431	368	79	252	256	322	133	439	465	340	200	272
GLASGOW MONTANA	95	140	145	100	160	107	129	152	106	98	113	156	172	157	170	74	179	150	166	82	52	186	77	219	124	207	148	169	173	219	231	144
GRAND JUNCTION COLO.	277	162	298	160	298	182	203	326	268	197	275	331	315	295	301	284	225	120	305	269	184	197	332	334	269	197	361	361	355	206	364	266
GREAT FALLS MONTANA	132	116	46	31	96	94	75	158*	95	32	152	167*	145	104	78	118	85	163	80	87	101	111	198*	114	154	194	112	200	165	197	142	121*
GREENSBORO N.C.	74	300	290	251	302	139	84	66	63	326	332	21	190	320	304	265	229	311	153	126	337	324	289	55	153	362	228	377	364	345	131	230
GRIFFIN EXP.STA.GA.	77	413	393	139	346	59	142	33	123	393	245	64	223	440	383	120	40	313	280	430	442	388	382	38	285	461	121	487	438	379	78	263
ITHACA NEW YORK	13	22	162	66	36	39	98	198	44	117	84	9	29	91	229	113	206	204	176	40	234	243	167	83	61	67	229	93	238	70	129	116
LAKE CHARLES LA.	345	338	168	49	62	85	157	119	298	297	105	381	383	387	190	9	359	292	205	379	119	134	76	65	153	330	---	230	188	81	315	210
LAKELAND FLORIDA	262	426	388	327	271	322	192	260	291	119	154	111	176	375	388	106	72	344	249	222	297	297	177	302	229	305	181	300*	370	279	223	259*
LANDER WYOMING	207	74	237	195	233	226	110	246	185	141	240	263	241	245	248	238	248	162	242	199	162	174	163	246	255	175	257	286	272	264	293	217
LARAMIE WYOMING	204	87	229	184	220	165	129	188	172	94	121	250	252	252	262	175	225	123	234	250	262	237	172	278	147	83	281	283	292	155	189	200
LAS VEGAS NEVADA	297	276	309	253	310	285	298	318	310	309	315	313	326	275	322	---	327	245	293	350	152	268	321	352	256	357	345	364	360	355	380	308
LITTLE ROCK ARKANSAS	256	273	---	286	241	235	452	---	175	192	14	88	206	214	204	129	205	173	166	234	222	131	78	193	278	284	266	322	295	154	95	209
LOS ANGELES CALIF.WB	310	284	301	311	320	298	256	290	315	---	---	318*	321*	317	324*	306*	---	138	307	87	297	321	342	333	340	108	333	309	252	246	375	288*
LOS ANGELES CALIF. U	301	247	294	295	308	249	255	291	304	266	286	313	307	310	---	---	---	---	---	---	---	---	320	348	344	106	340	329	277	283	379	293
MANHATTAN KANSAS	238	268	268	287	134	300	194	180	302	183	198	186	---	342	279	281	196	246	111	284	272	287	192	283	299	300	254	312	310	79	319	246
MATANUSKA ALASKA	---	---	---	---	---	---	---	---	---	---	---	---	33	14	9	21	15	---	---	70	58	---	74	62	20	26	31	63	87	48	21	---
MAUNA LOA OB.HAWAII	555	419	378	316	394	307	538	306	351	546	554	563	564	---	593	578	586	577	580	595	439	523	319	569	309	514	615	621	611	615	620	502
MEDFORD OREGON	53	196	47	37	48	18	---	121	77	137	78	156	41	78	130	163	24	74	96	61	58	114	126	86	67	95	133	96	86	128	48	89
MIAMI FLORIDA	314	385	225	191	162	280	303	342	393	276	207	171	305	294	383	366	153	256	224	226	353	289	242	423	325	283	375	354	382	140	363	290
MIDLAND TEXAS	311	319	306	278	236	---	---	---	---	---	---	---	---	---	---	---	---	359	326	343	346	333	334	378	373	369	371	370	32	283	382	---
NASHVILLE TENNESSEE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NEW YORK N.Y. U	21	176	154	213	204	161	110	211	11	208	239	69	33	265	241	226	184	193	202	26	208	237	201	133	18	260	239	85	289	172	251	169
NORTH OMAHA NEBRASKA	238	238	247	245	97	247	153	54	271	156	72	225	272	281	276	245	244	259	62	286	277	264	152	285	285	135	311	305	311	299	319	229

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

U Indicates Urban sites.

SOLAR RADIATION DATA

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

JANUARY 1964

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.
OAK RIDGE TENNESSEE	80	260	154	235	259	35	245	91	106	274	272	46	128	283	270	143	288	239	105	151	304	272	220	32	214	294	200	317	309	265	62	199
OKLAHOMA CITY OKLA.	232	276	276	290	230	293	255	222	306	297	283	206	326	325	261	317	289	261	277	305	265	317	193	316	329	326	327	331	48	40	181	265
PHOENIX ARIZONA	299	298	308	305	324	318	291	339	321	294	340	309	333	328	332	341	310	314	271	334	343	185	351	365	373	366	244	218	366	368	375	318
PORTLAND MAINE	80	143	162	198	210	112	87	206	44	230	223	214	51	185	92	204	202	121	234	30	33	243	215	192	14	214	206	41	279	212	265	159
RAPID CITY S.DAK.	*167*	*87*	*180*	*99*	*152*	*140*	*109*	*188*	*189*	*100*	*125*	*245*	*180*	*227*	*197*	*98*	*204*	*193*	*222*	*201*	*189*	*181*	*116*	*242*	*133*	*201*	*67*	*239*	*241*	*121*	*248*	*170*
RIVERSIDE CALIFORNIA	346	317	358	351	360	320	303	359	361	297	363	369	368	287	375	362	345	116	192	331	159	262	352	385	381	266	391	394	382	363	421	330
SAINT CLOUD MINN.	169	81	64	163	120	120	152	56	200	181	183	229	206	191	166	203	179	87	102	205	204	96	103	24	225	245	248	204	172	228	264	163
SALT LAKE CITY UTAH	114	103	276	182	243	74	153	279	213	115	183	306	304	252	277	163	135	104	179	178	110	90	235	284	249	244	346	309	258	149	223	204
SAN ANTONIO TEXAS	379	378	353	347	333	303	369	353	403	404	316	410	385	388	48	328	431	411	391	351	134	166	117	312	229	204	292	260	29	93	298	297
SANTA MARIA CALIF.	312	306	307	271	313	286	300	304	300	302	252	305	287	321	321	291	225	253	225	250	---	269	333	341	---	291	348	356	330	373	371	301
SAULT STE MARIE MICH	102	128	66	91	152	112	104	97	31	123	211	219	248	221	161	173	65	77	117	114	221	93	187	21	80	124	209	284	91	226	97	137
SEATTLE TACOMA WASH.	14	80	37	127	20	32	67	41	32	25	114	134	25	91	27	116	64	51	33	94	67	25	111	21	48	69	73	118	111	59	102	65
SHREVEPORT LOUISIANA	310	303	210	285	179	204	300	23	261	349*	60	337	380	357	195	41	354	339	292	373	288	139	88	274	346	375	329	394	330	72	201	258*
SPOKANE WASHINGTON	47	184	97	158	58	77	180	97	95	111	65	128	81	84	74	133	68	130	60	137	156	174	205	72	74	215	107	219	124	207	74	119
STATE COLLEGE PENN.	32	142	212	86	220	32	217	263	18	164	237	51	56	271	284	262	254	264	187	28	279	232	253	131	150	204	310	217	368	242	118	187
STERLING VIRGINA	31	221	217	227	227	127	161	146	19	242	236	35	124	268	276	---	256	261	215	55	265	241	238	139	100	273	159	272	277	245	79	188
STILLWATER OKLAHOMA	244	287	269	302	232	311	237	219	306	303	282	174	322	322	305	310	248	280	255	316	281	329	170	296	339	339	340	343	179	34	191	270
SWAN ISLAND W.I.	358	131	357	80	402	435	454	513	488	436	494	509	364	196	457	525	---	388	389	511	460	541	502	506	524	267	461	501	540	485	557	428
TAMPA FLORIDA	250	381	380	331	227	301	---	---	---	142	154	182	117	330	---	119	---	---	211	247	291	286	144	344	90	---	156	315	413	330	272	251
TUCSON ARIZONA	324	328	312	329	329	338	328	353	347	322	349	363	354	353	345	350	221	352	322	356	269	216	323	378	380	372	267	338	365	376	391	334

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

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont. JANUARY 1964

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. . .	Equipment malfunction - all data doubtful																															

The measurement is made with a Beckman and Whitley 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 Huntley Exp. Station. **The instrument with which they were measured has not been checked by the 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
Albuquerque, N. Mex.	00311	00301	05299	00290	02318	00321	06536	00388	00323	00329	00341	00309	00337	00328	00381	00327	00291	05300	02326	00298	00288	00323	00356	00349	00327	00312	00299	06286	00328	00307	00301	321
Bedford, Mass.	-----	00344	00304	-----	-----	05325	35349	00336	05332	00325	-----	-----	-----	-----	00341	00352	00367	-----	-----	35360	-----	00328	00320	00349	-----	-----	00382	-----	00362	00366	00329	344
Bismarck, N. Dak.	00302	36313	00371	34355	35373	20390	35388	00440	36404	35354	00420	00363	33361	00349	00376	35333	38405	35372	00421	00348	00330	00380	35435	00400	00447	00342	00364	05342	00333	34321	00355	371
Caribou, Maine	34339	35363	35353	36352	36372	33378	37376	00392	02371	-----	00366	00417	00396	34414	35441	35396	00342	-----	00351	06357	-----	06361	06343	00374	-----	00394	05461	00495	00376	06445	00347	384
Green Bay, Wis.	00317	34321	00339	00349	33369	35383	00390	34402	36416	00365	34402	-----	00394	33384	00364	05409	05379	03402	34368	00418	00323	00329	03367	-----	-----	00392	00438	00370	06343	02344	02343	372
Nashville, Tenn.	-----	00338	00308	00301	00313	05359	00306	04264	00260	00299	00325	-----	-----	00361	00362	04359	00330	00303	04333	00349	00303	00293	00305	-----	00381	00321	00310	00334	00308	00302	07369	322
Sterling, Va.	06396	00375	00283	00311	00318	03313	00313	33266	06294	00304	00297	06369	06413	00342	00364	35384	00350	00335	00327	37370	00335	00299	00314	04331	00335	00401	00322	00348	00329	00321	34296	335

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. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1931-60) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. -In this chart the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1931-60) for about 270 first-order Weather Bureau stations.

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

Chart VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960.

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

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

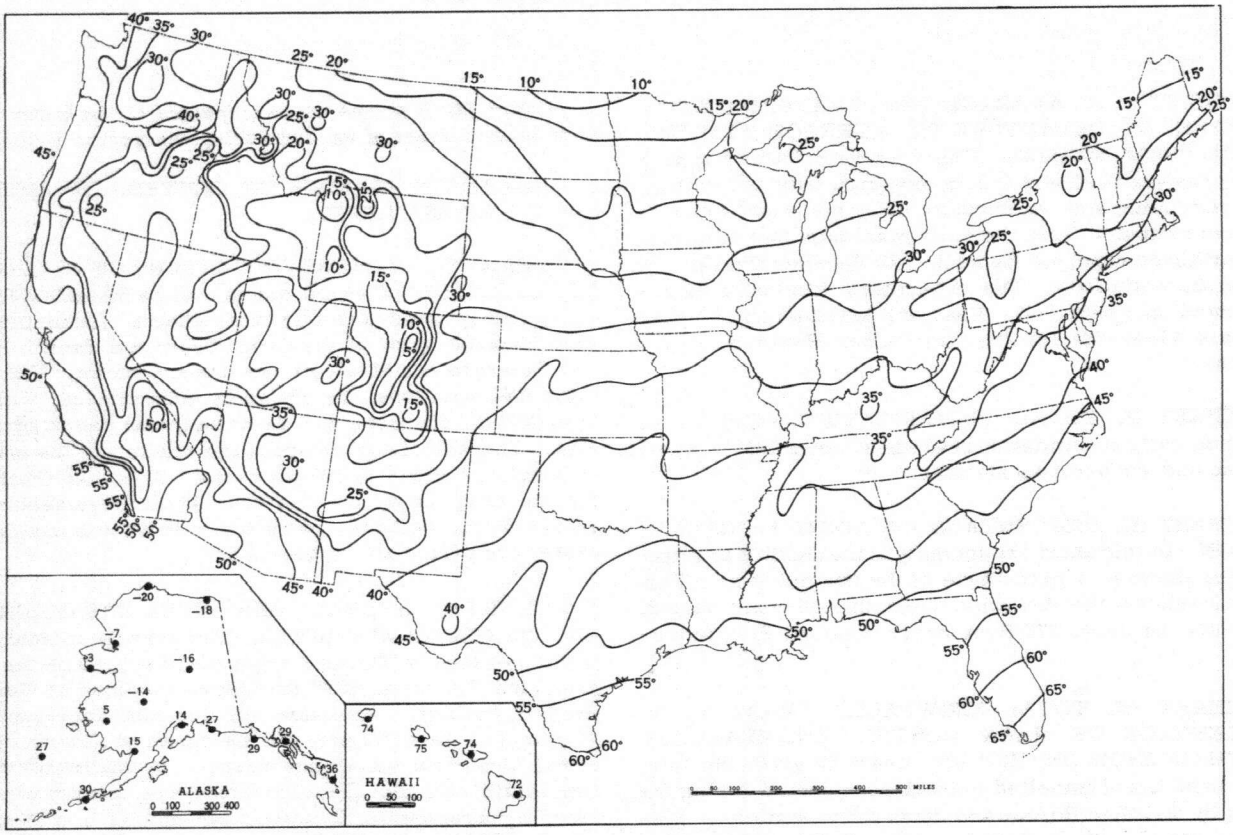
CHART X. AVERAGE SEA LEVEL PRESSURE(mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds 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, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

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

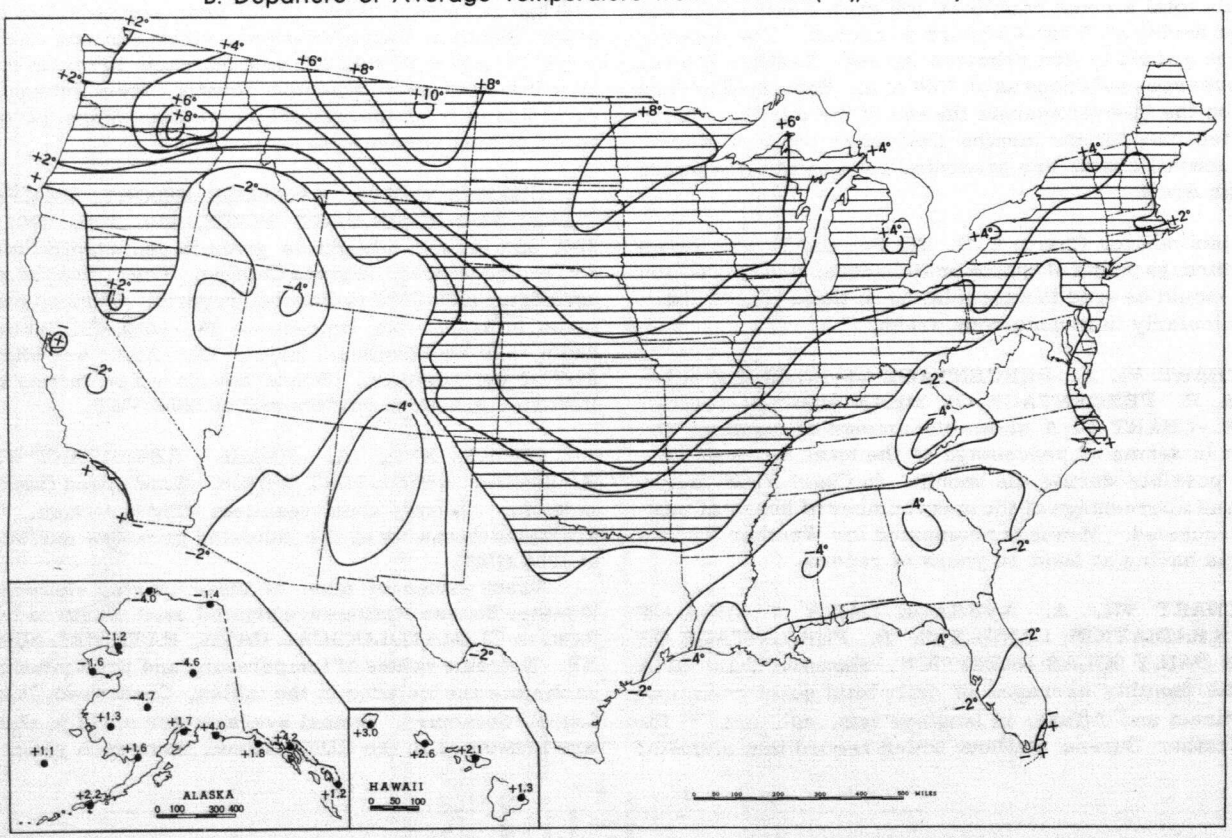
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

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

Chart I. A. Average Temperature (°F.) at Surface, January 1964.



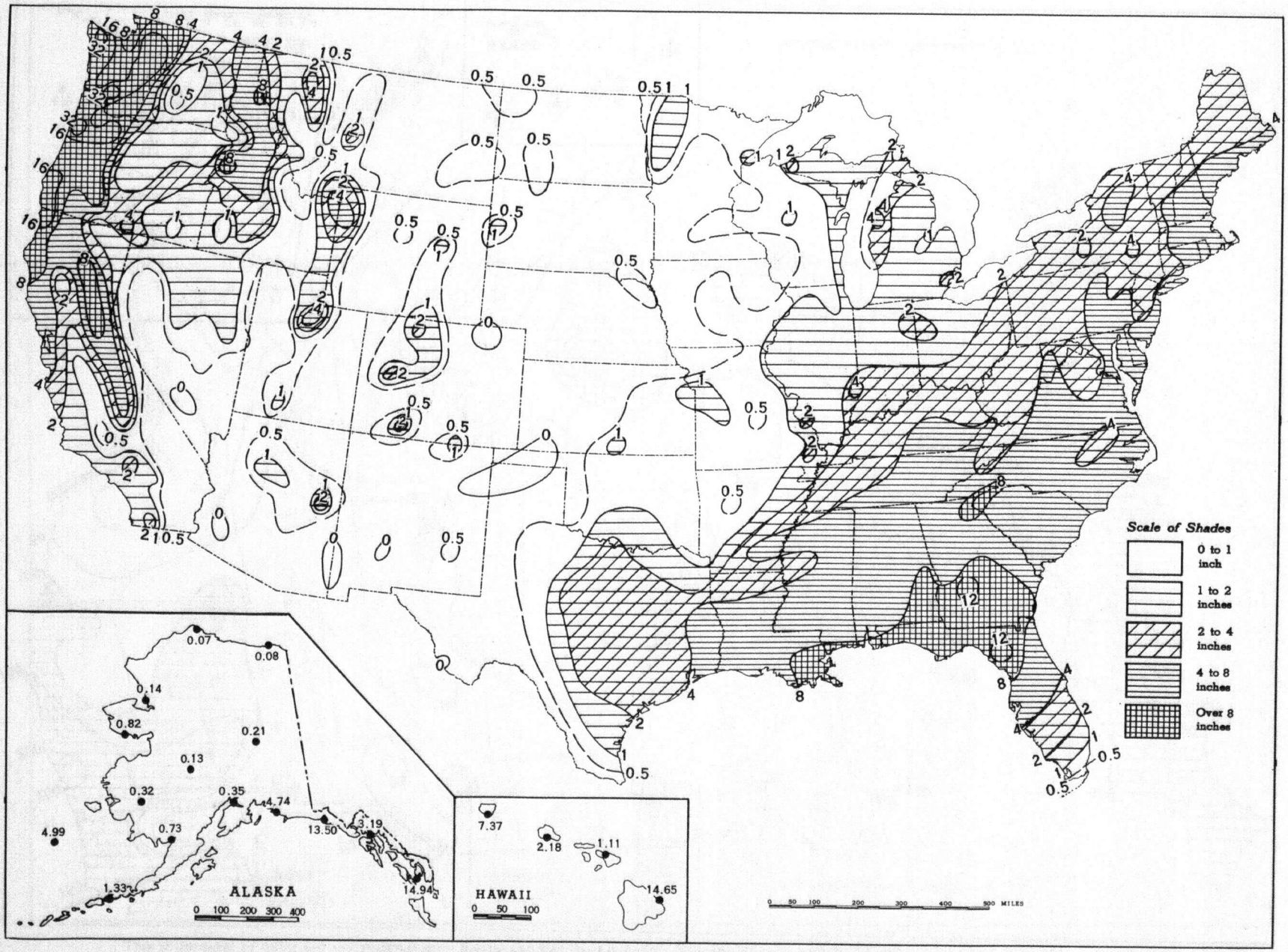
B. Departure of Average Temperature from Normal (°F.), January 1964.



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

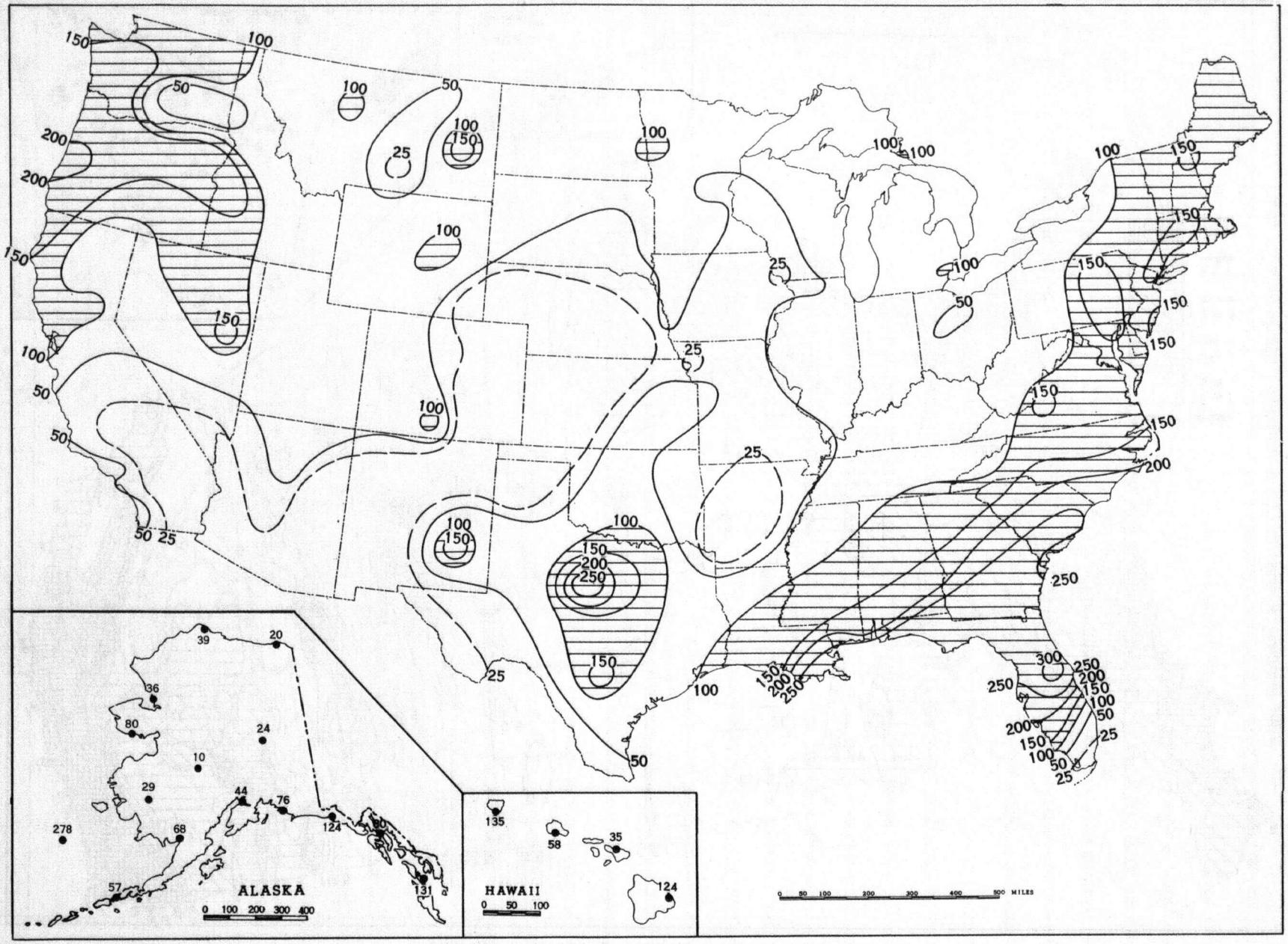
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), January 1964.



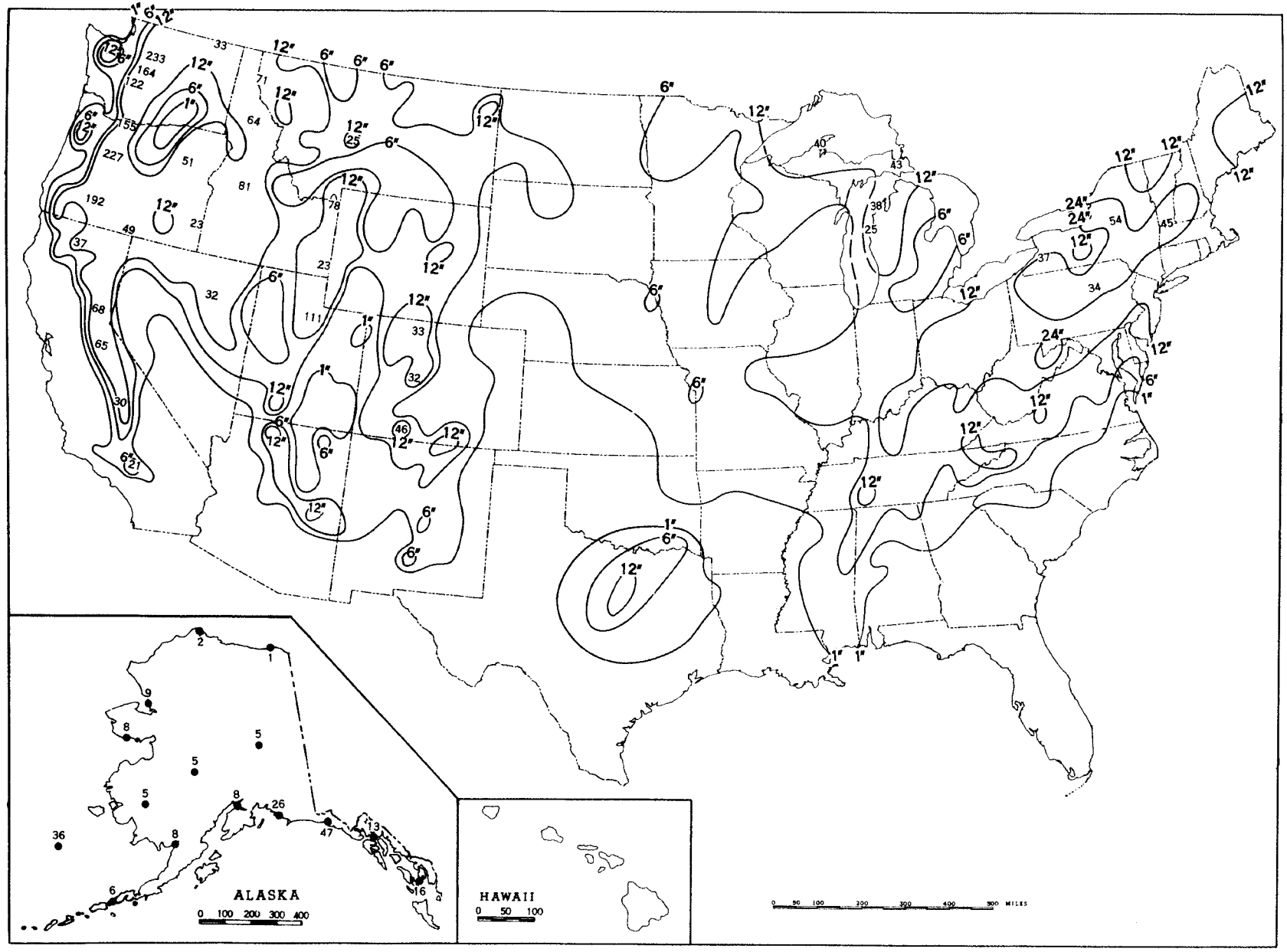
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, January 1964.



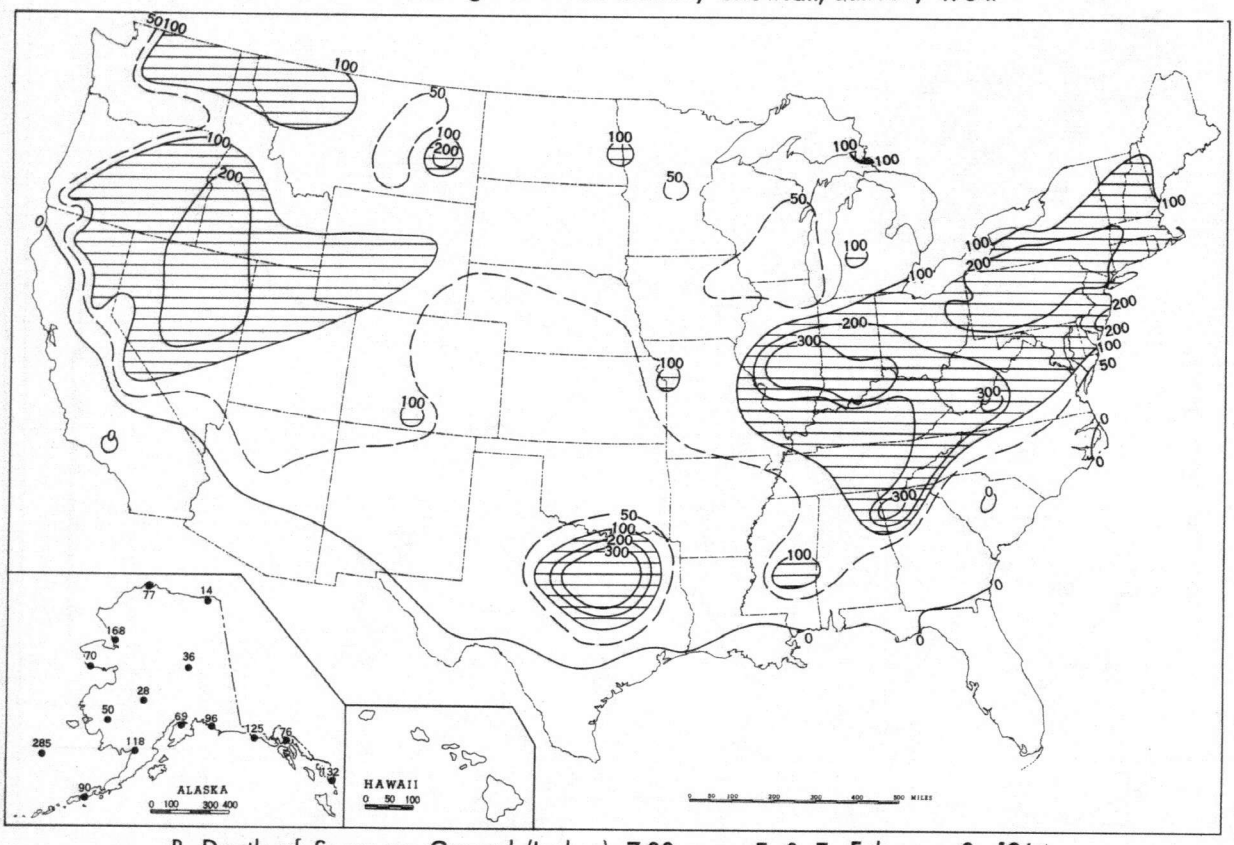
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), January 1964.

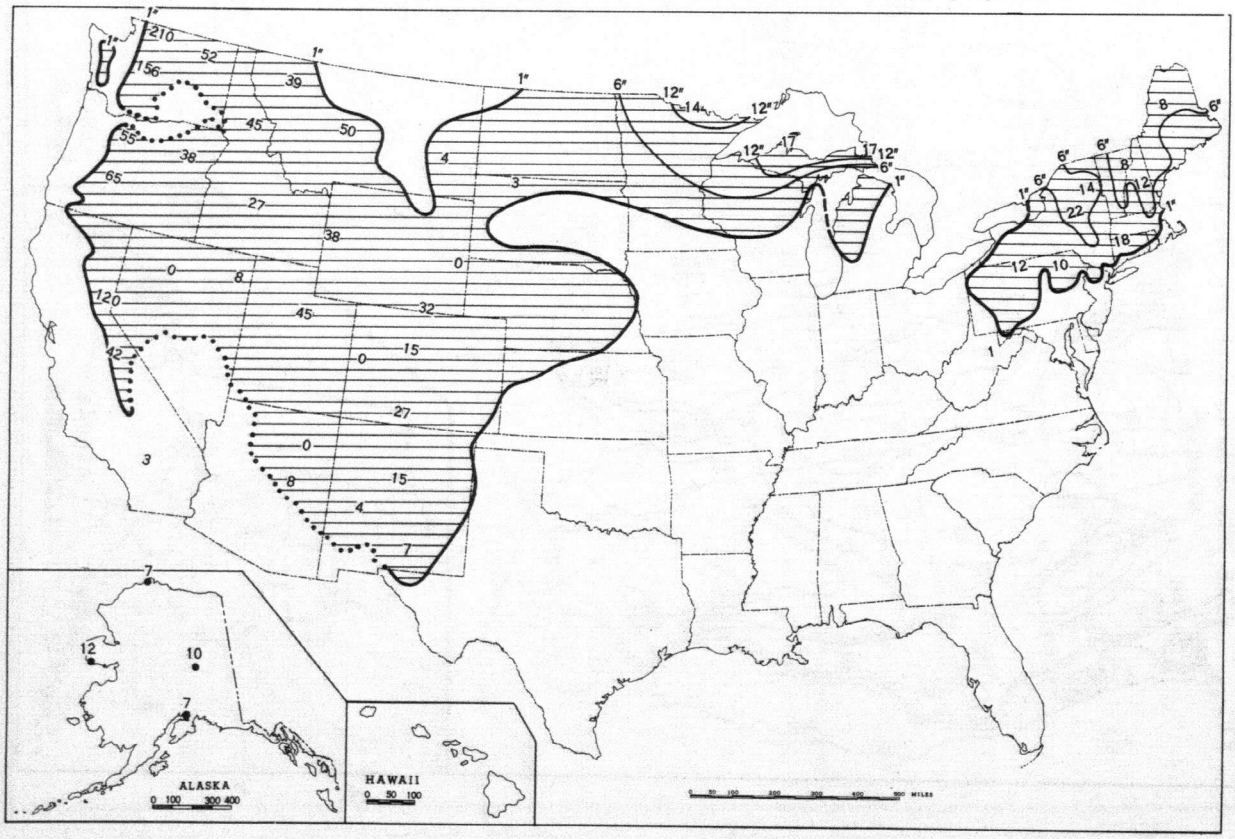


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in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

Chart V. A. Percentage of Mean Monthly Snowfall, January 1964.

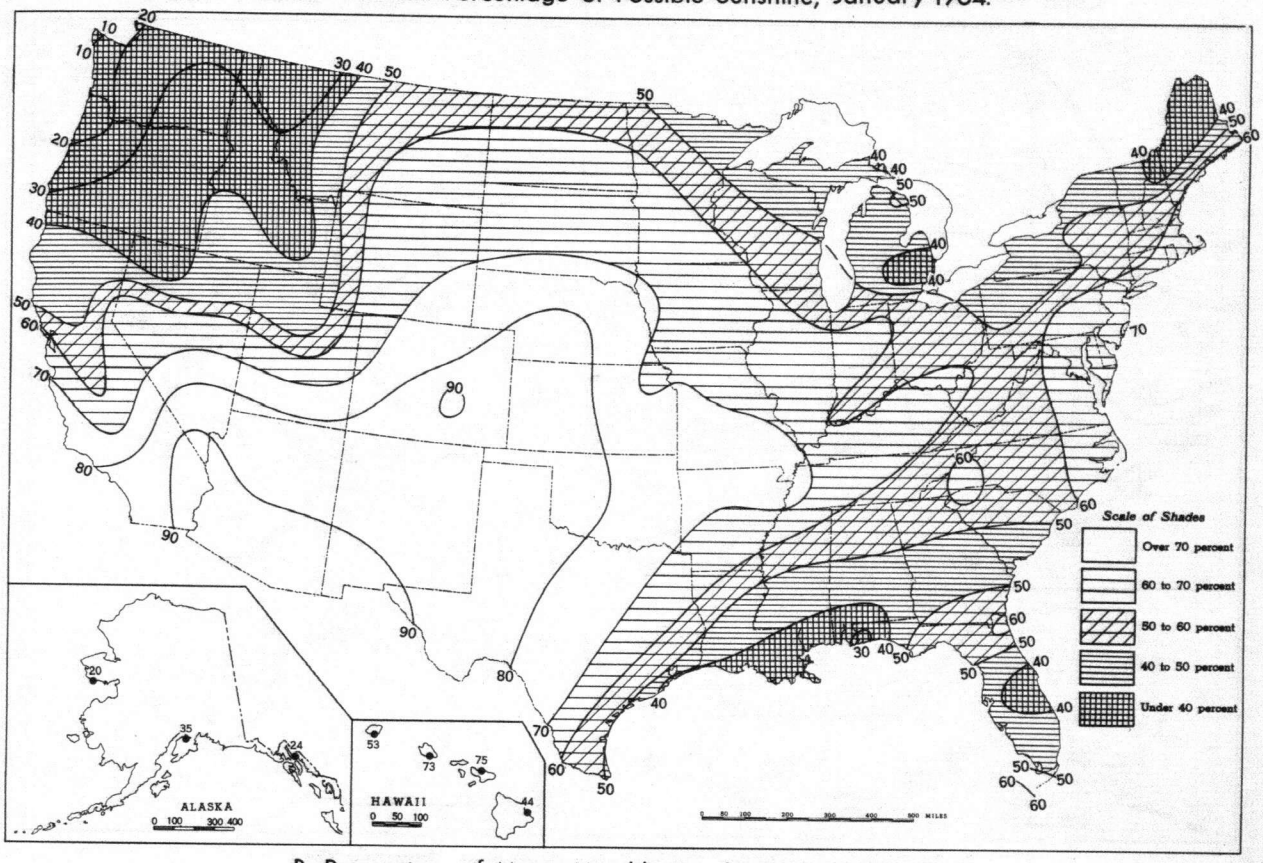


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., February 3, 1964.

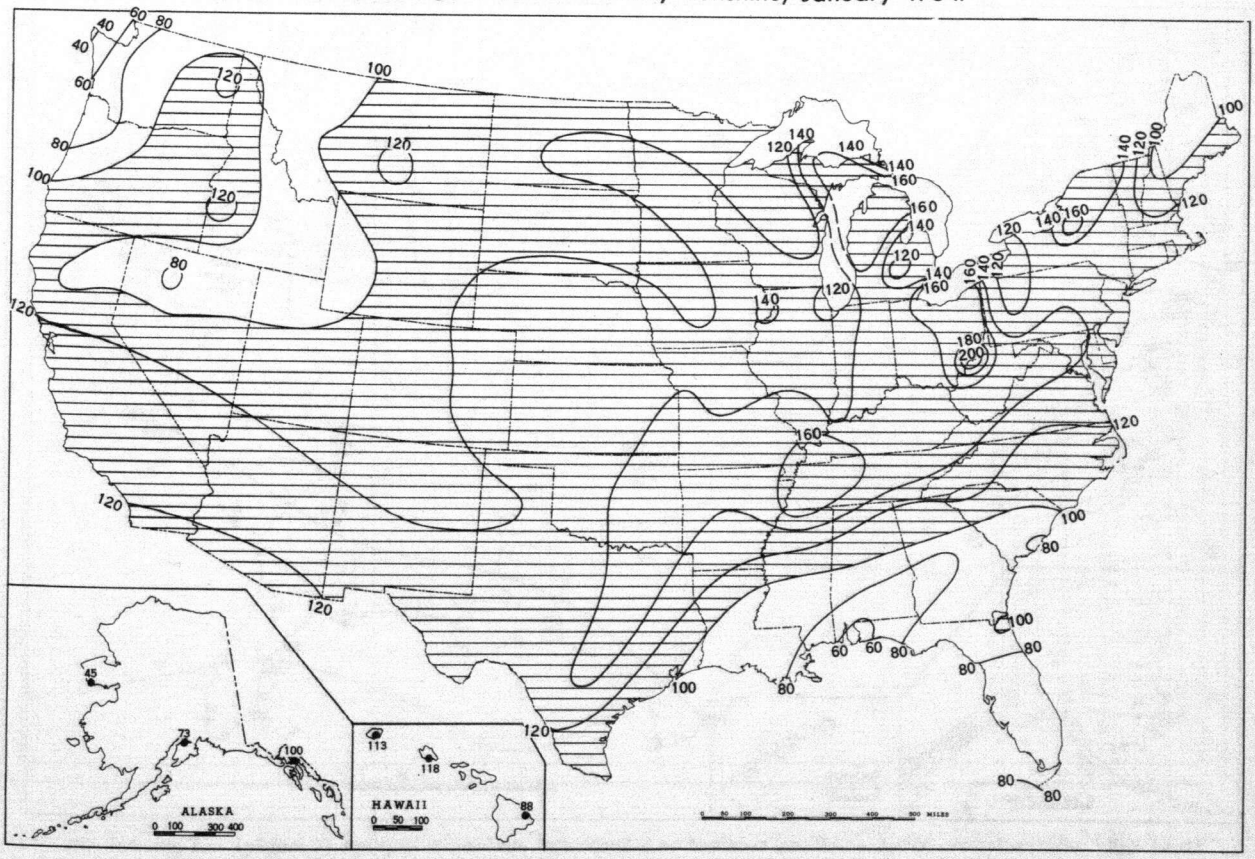


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1964.

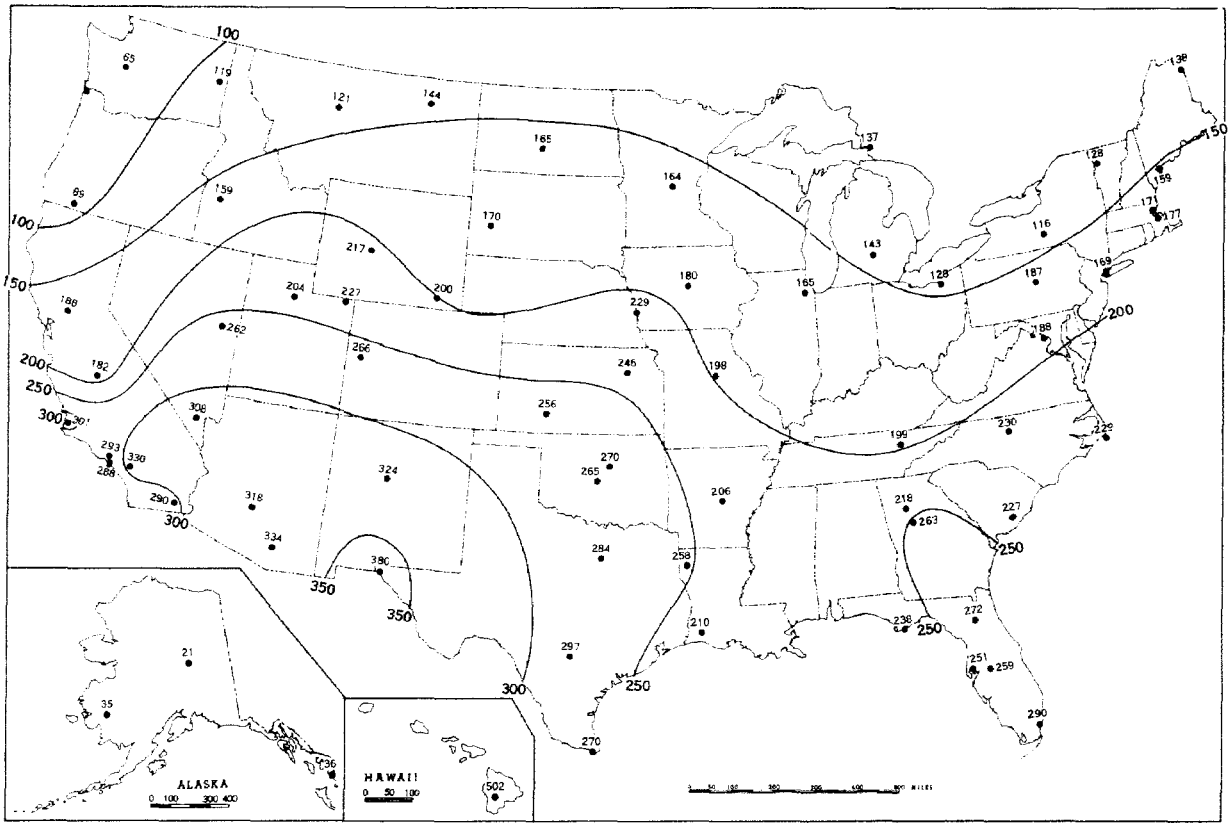


B. Percentage of Mean Monthly Sunshine, January 1964.

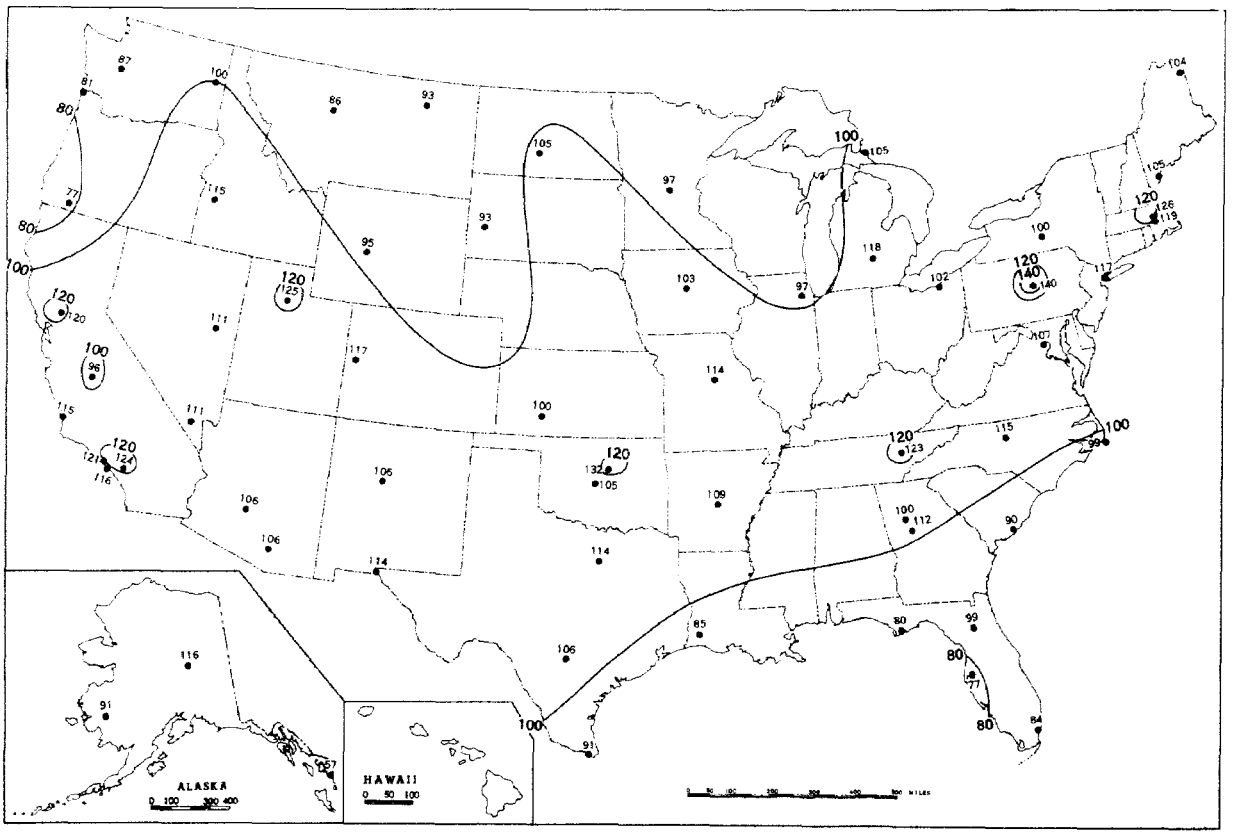


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1964.

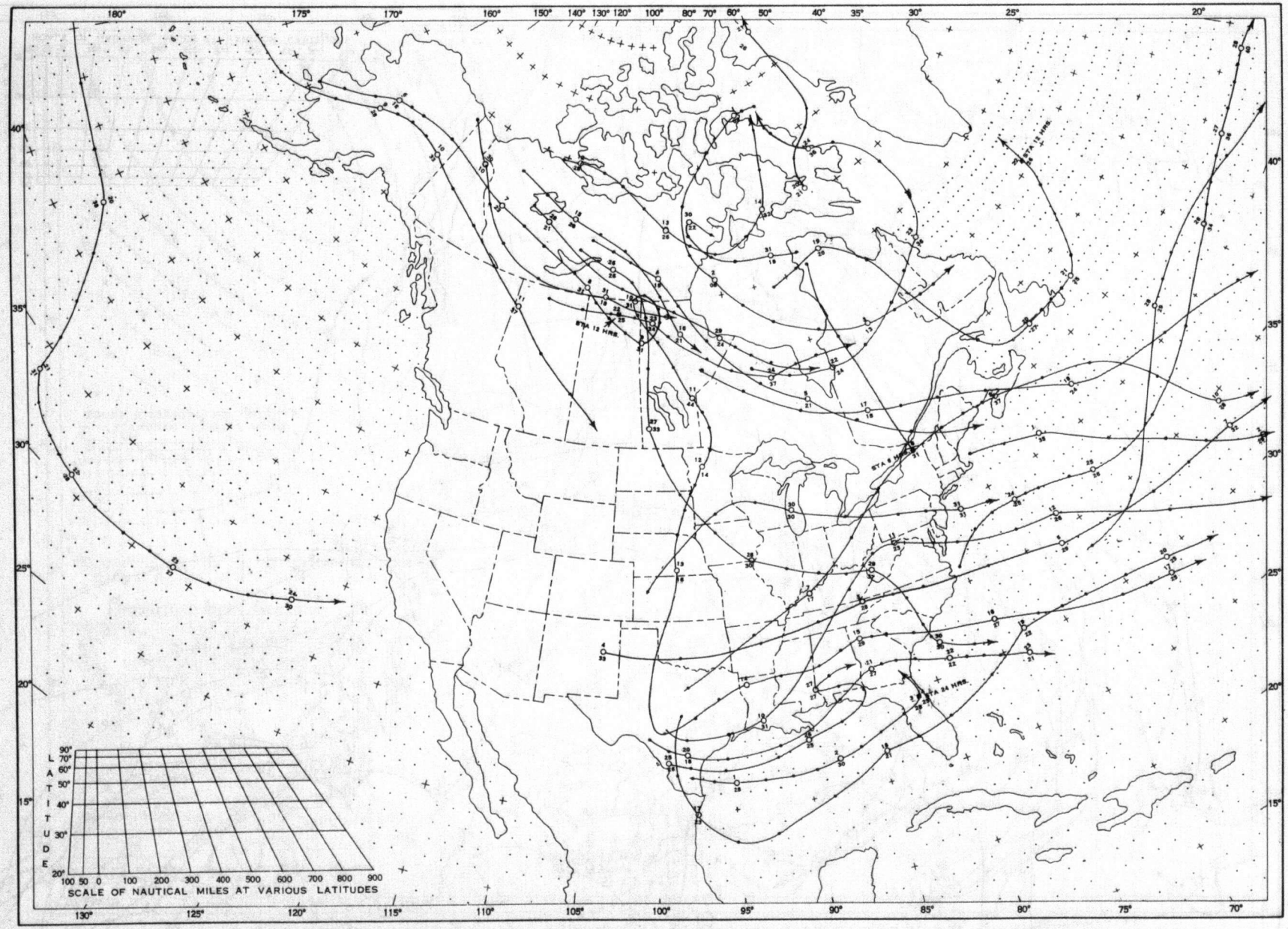


B. Percentage of Mean Daily Solar Radiation, January 1964.



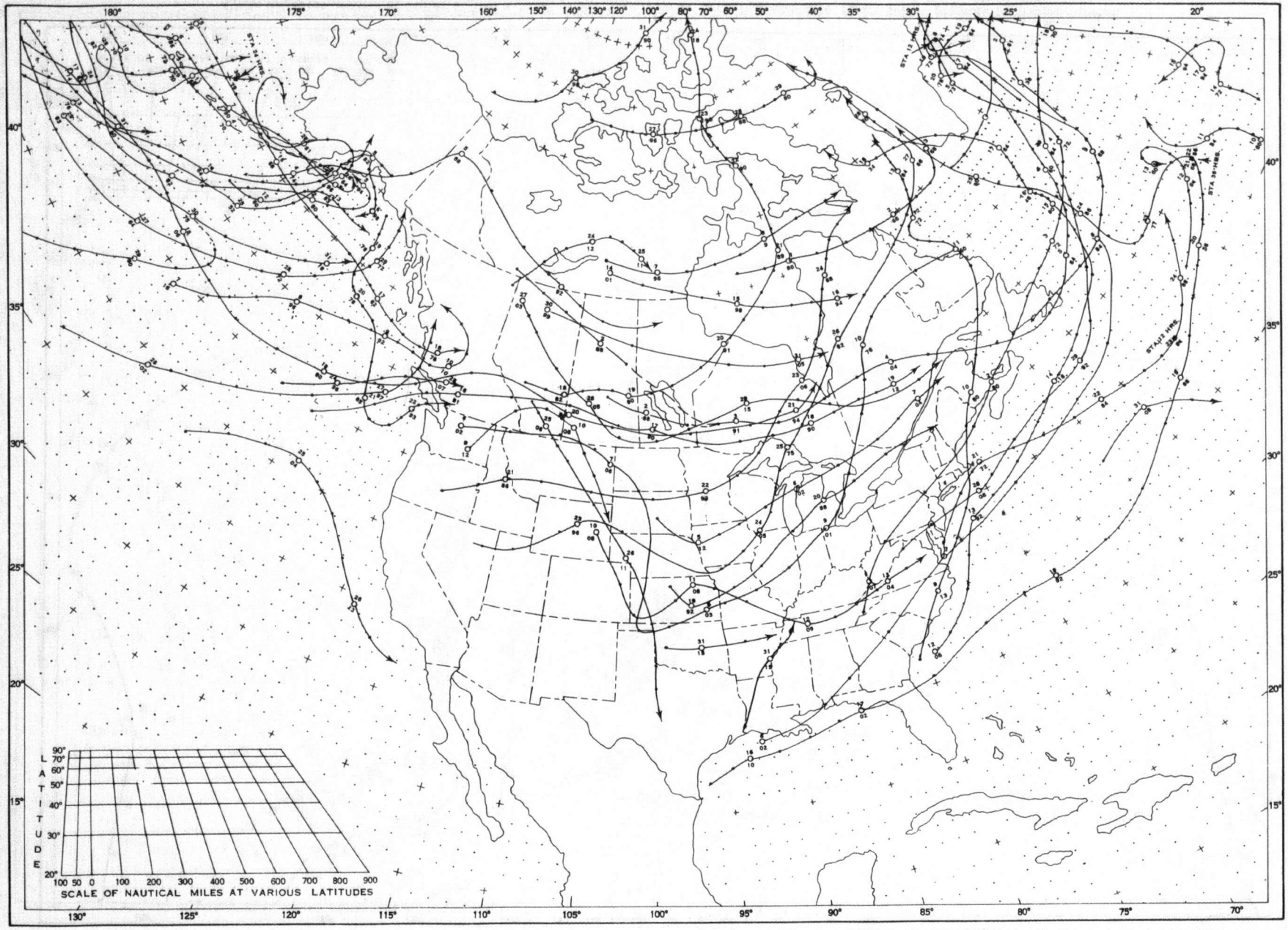
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International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

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, January 1964.



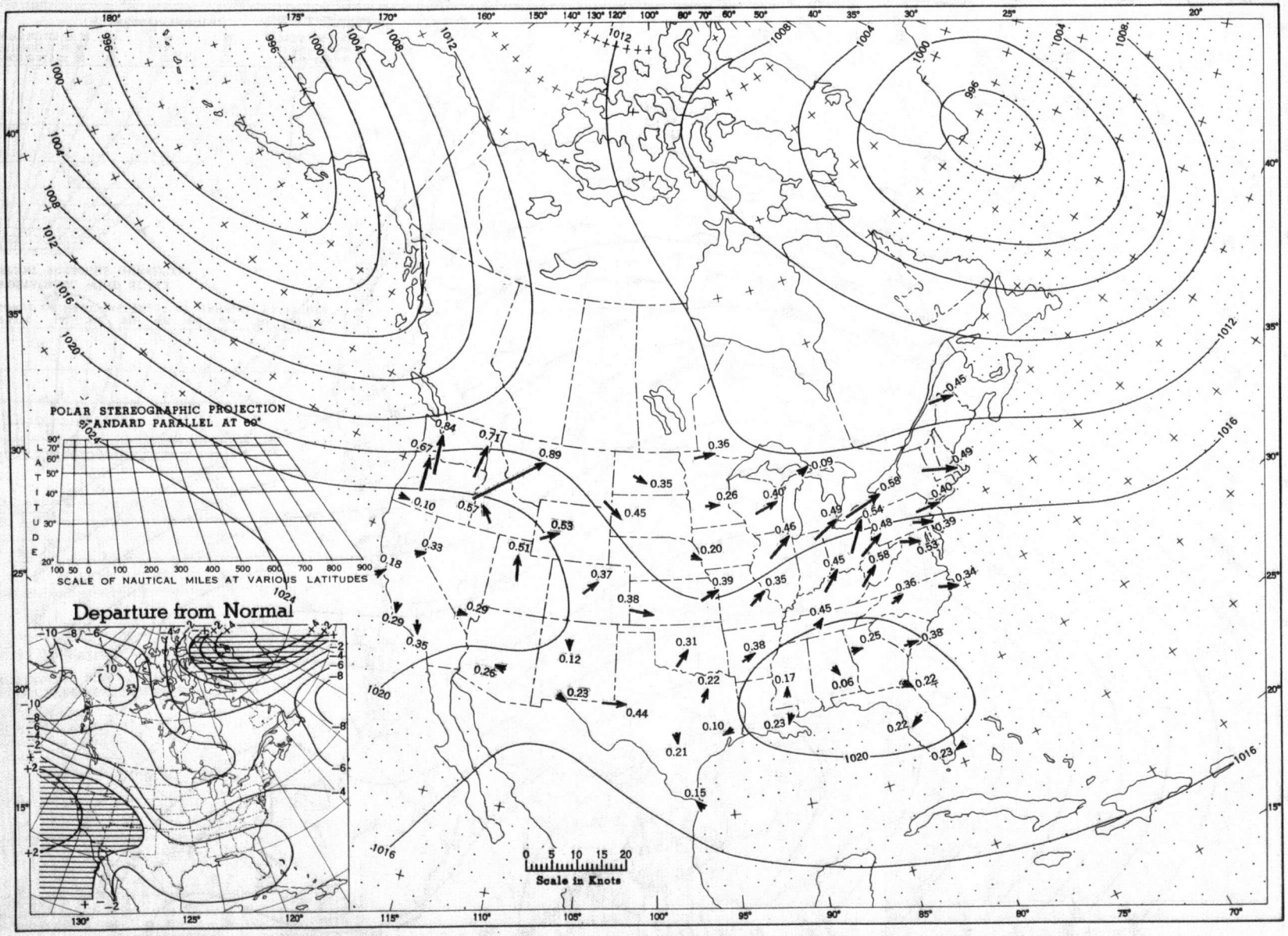
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. 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 1964.



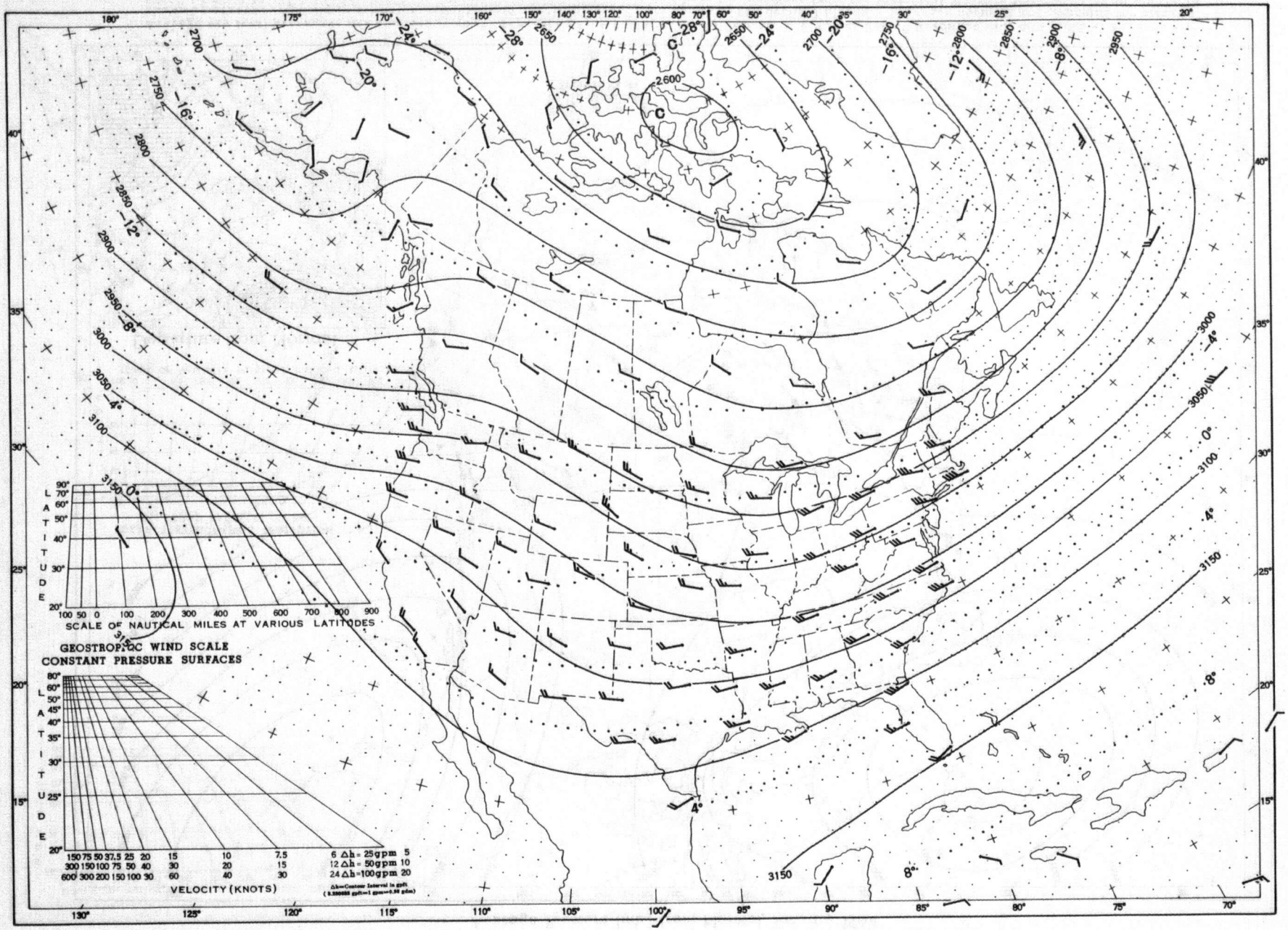
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, January 1964. Inset: Departure of Average Pressure (mb.) from Normal, January 1964.



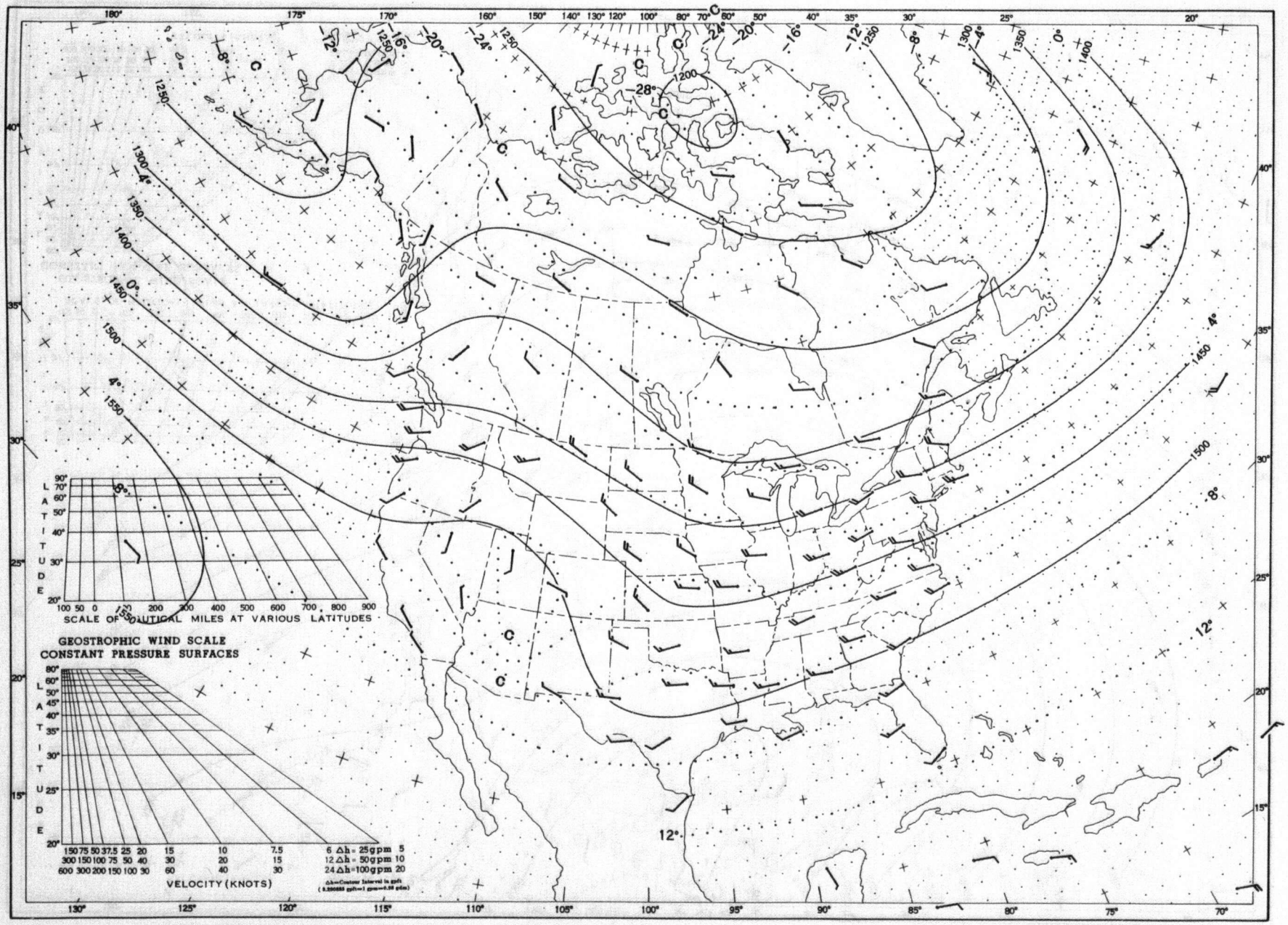
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



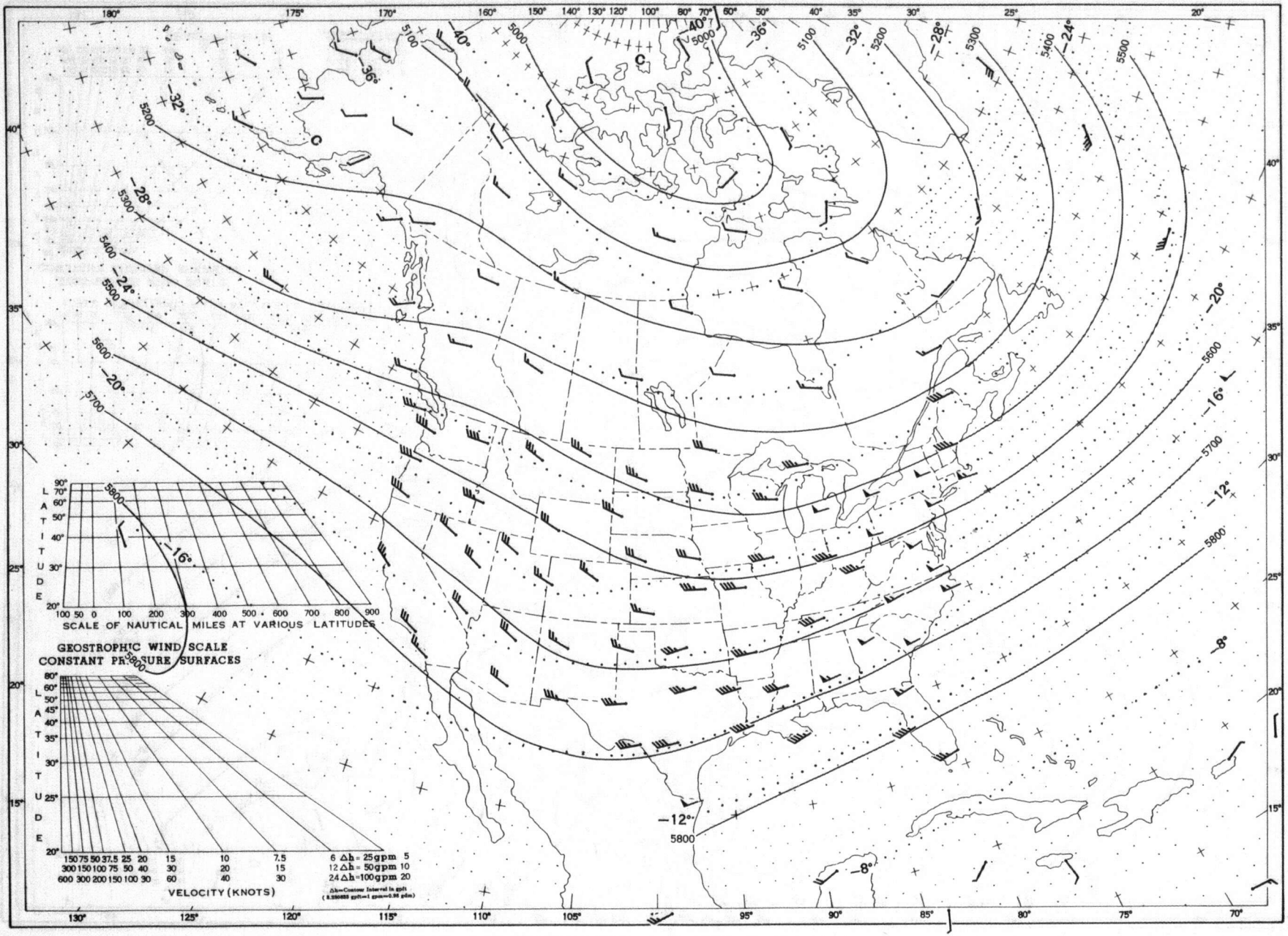
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



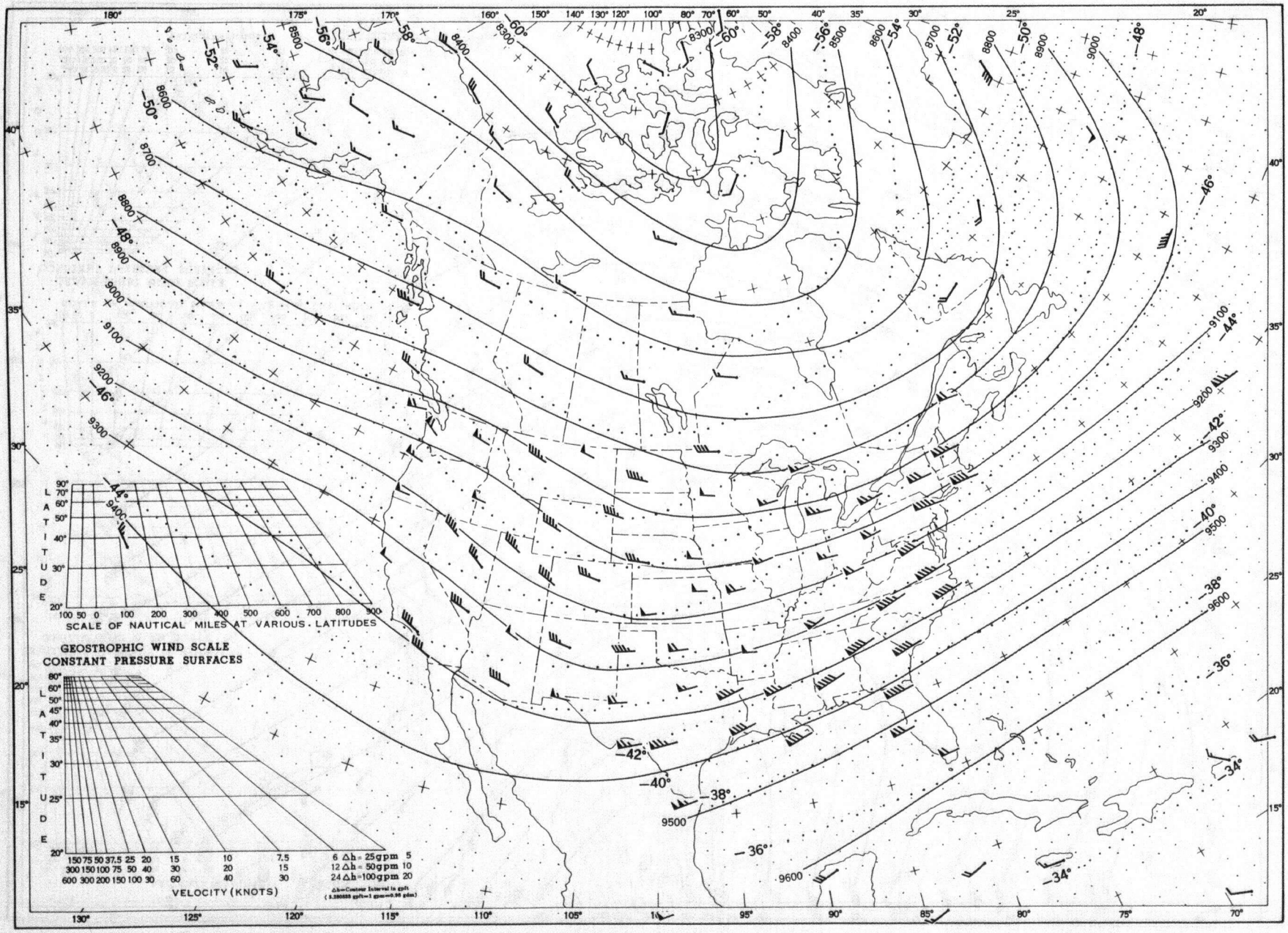
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



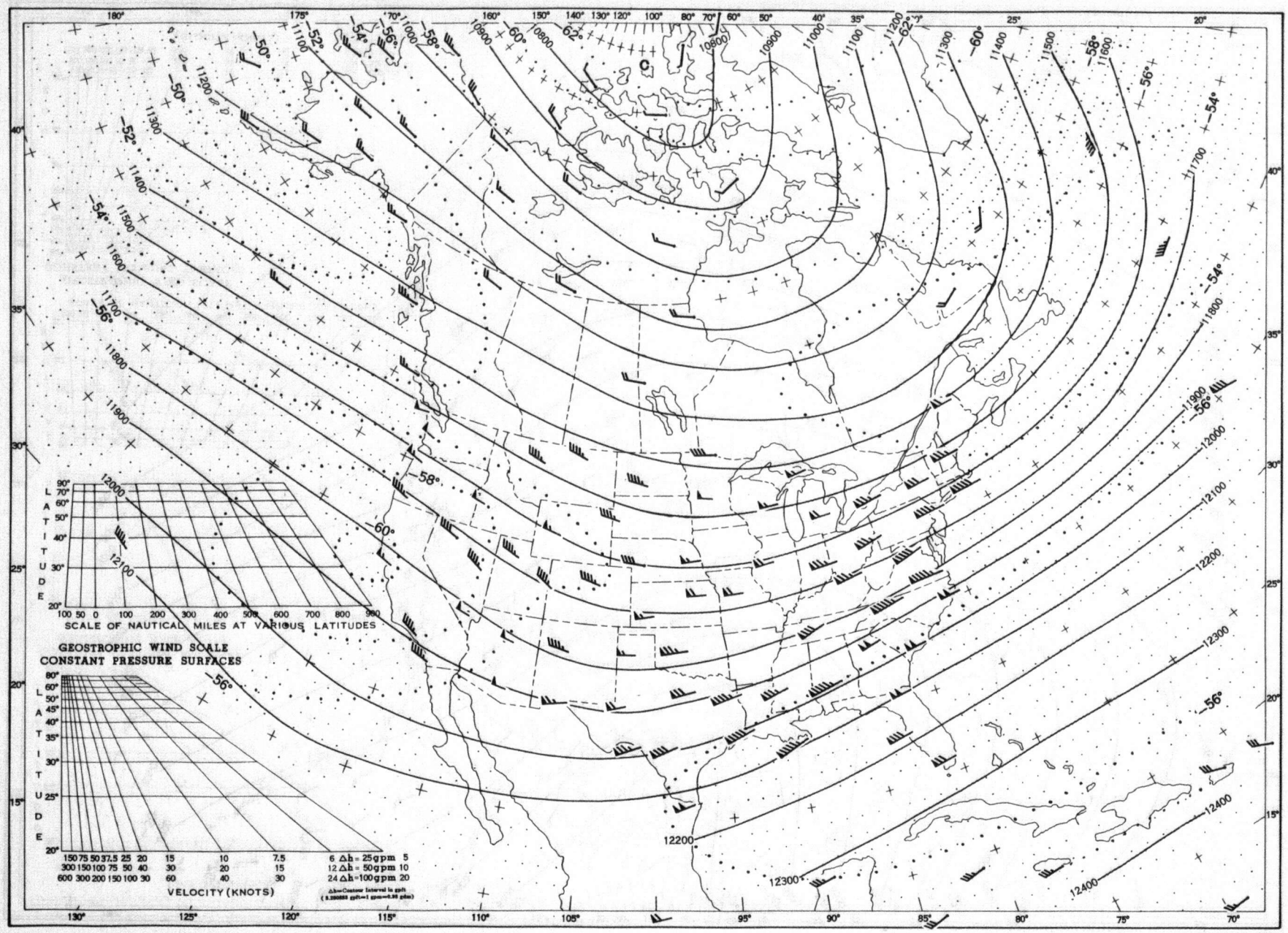
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



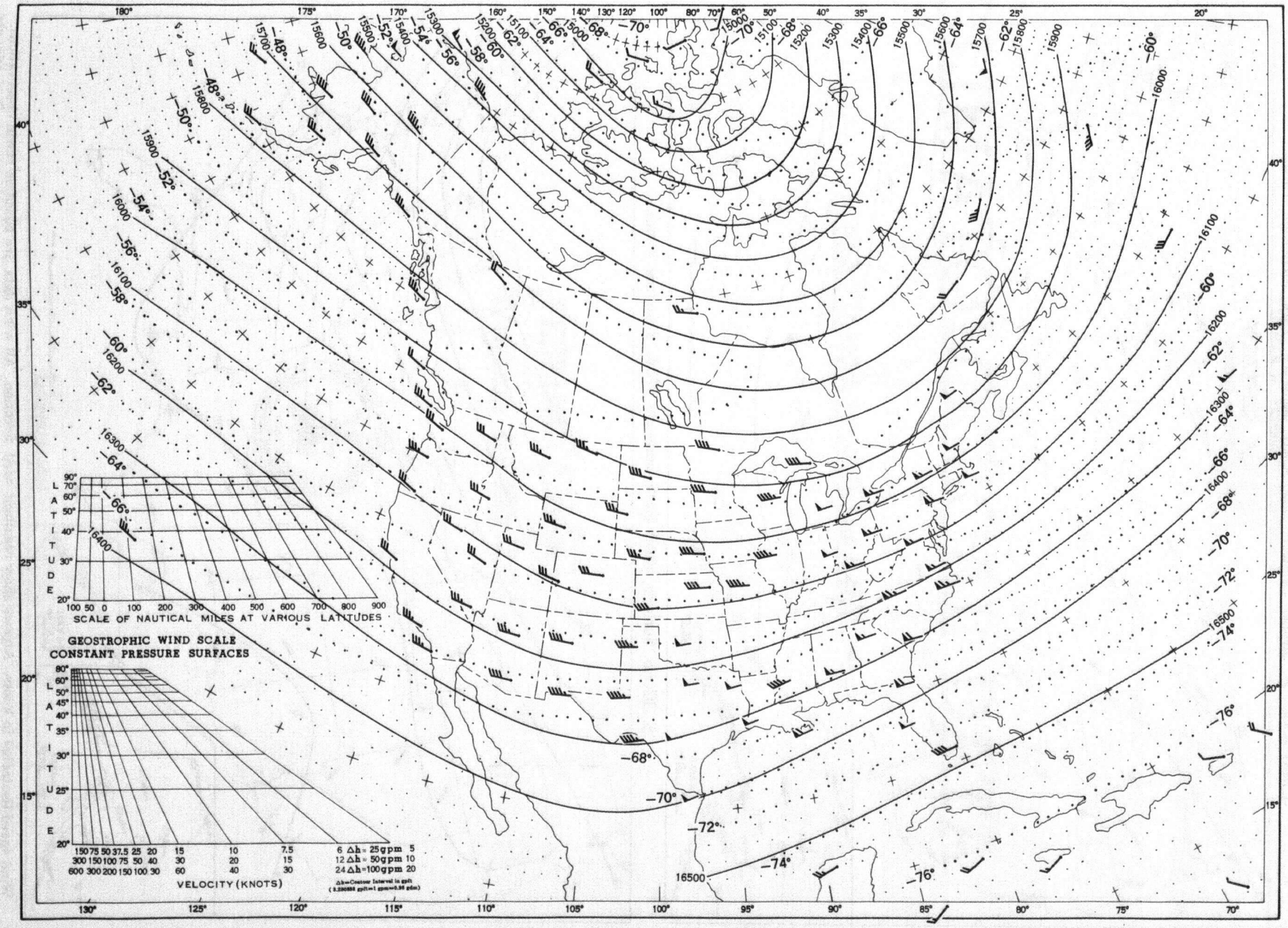
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



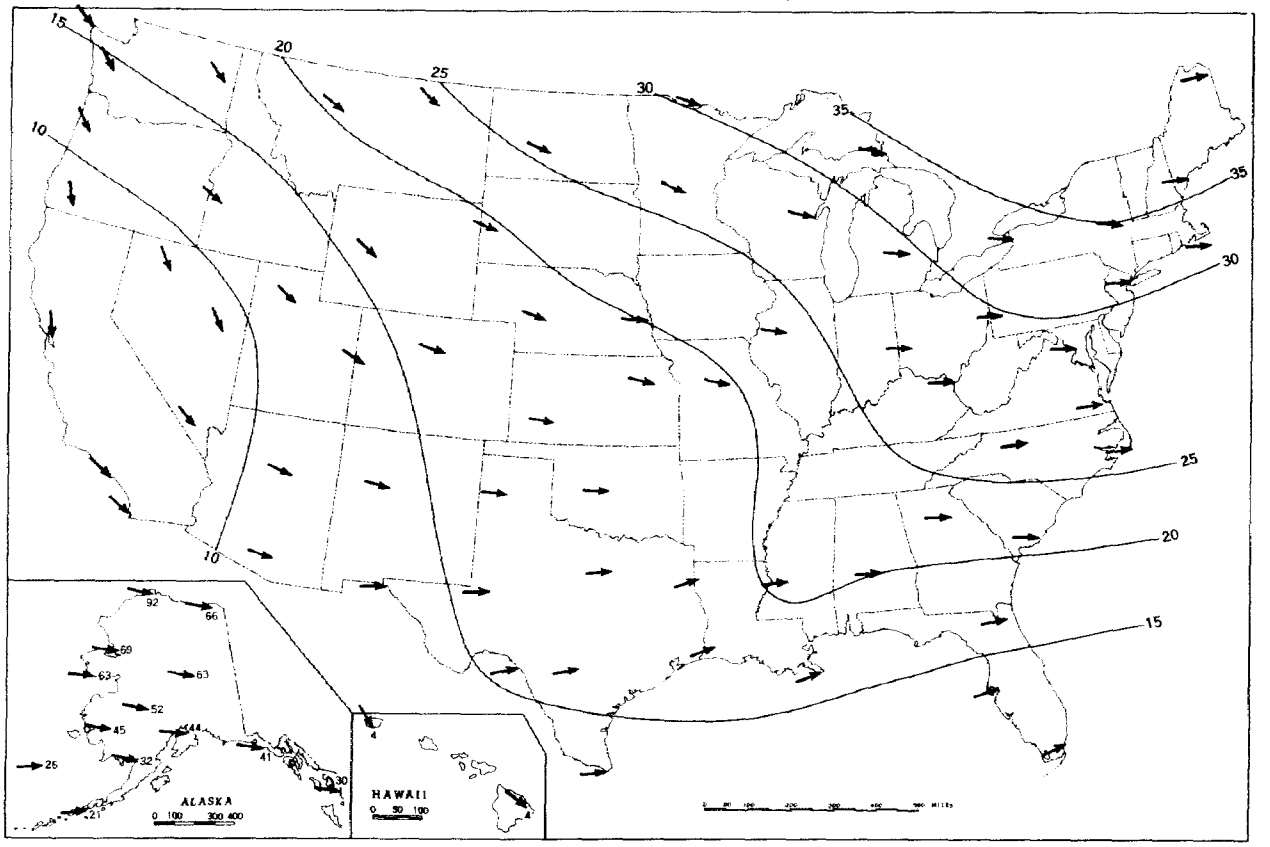
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.

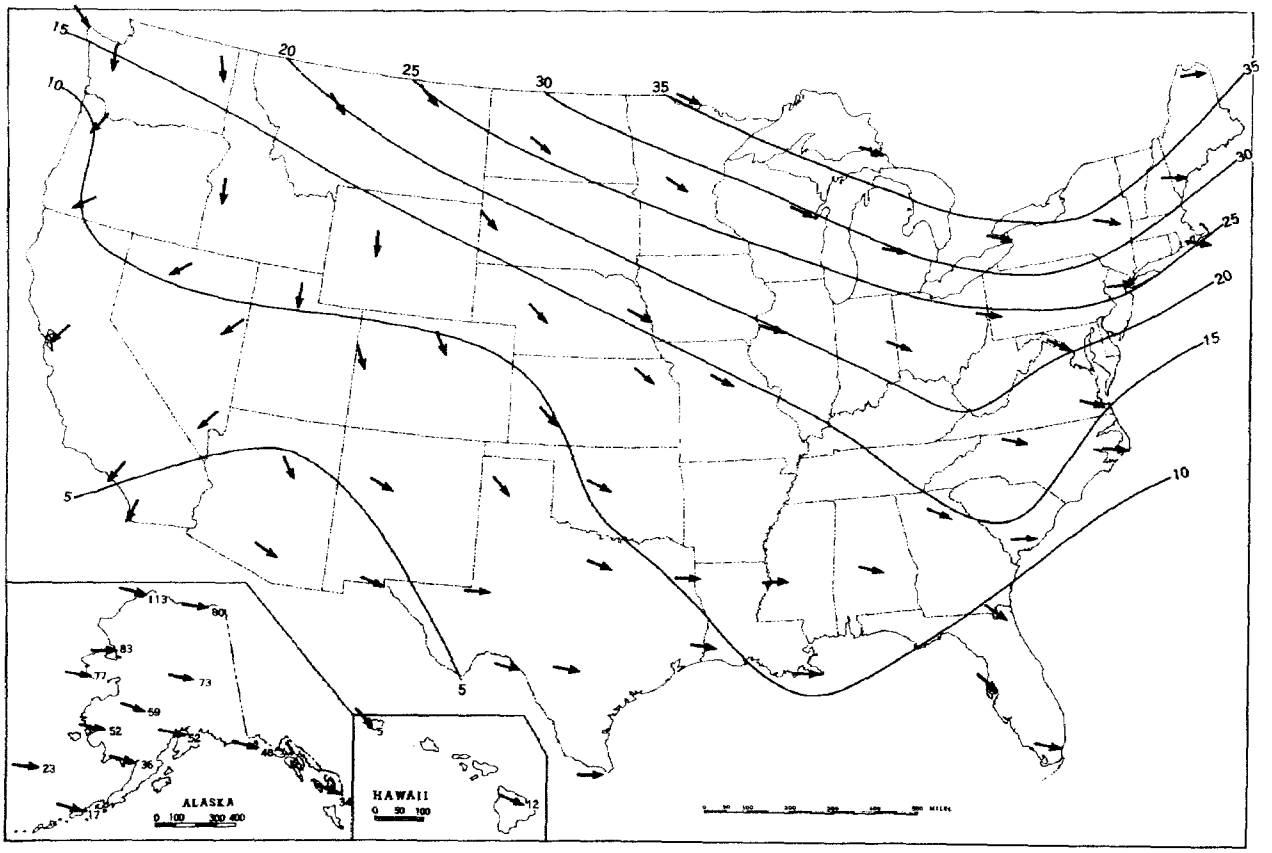


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1964. Resultant Winds.



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

USCOMM-WB-Asheville, N. C. -5/7/64-1850