U. S. DEPARTMENT OF COMMERCE
SINCLAIR WEEKS, Secretary
WEATHER BUREAU
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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1956
Volume 7 No. 1

ASHEVILLE: 1956

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NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 7 No. 1 JANUARY 1956

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GENERAL SUMMARY OF WEATHER CONDITIONS

West of the Continental Divide a rather persistent flow of warm, moist air from the Pacific was responsible for an unseasonably mild, wet, cloudy month and frequent occurrences of fog. Frequent rains produced unusually heavy monthly totals in the Pacific States and resulted in additional flooding in California, although damage was much less than in December. Fog was three times more frequent than usual at several southern California stations, and Phoenix, Ariz., had its cloudiest January since the beginning of records in 1876. The snowpack in the Cascade and Sierra Nevada Mountains, already above normal at the end of December, continued to increase during the month, thereby brightening prospects for irrigation water.

The month was abnormally cold, dry, and sunny in most sections east of the Rockies. The main exception was in New England where temperatures and precipitation averaged well above normal and the month was among the cloudiest Januaries on record. Many stations east of the Rockies reported near record dryness. The deficiency was most serious in the lower Great Plains where small grains and pastures urgently needed more moisture, even though rains late in the month were decidedly beneficial. Sault Ste. Marie, Mich., reported 50 percent of possible sunshine, the sunniest January on record there, and Jacksonville, Fla., reported 73 percent which equaled its previous record.

Frequent frosts and freezes during the first half of the month damaged tender truck in Florida. During the third week an influx of Arctic Air reduced temperatures to subzero levels in north-central areas and ushered in blizzard conditions in the Dakotas on the 16th.

TEMPERATURE.--West of the Continental Divide temperatures averaged as much as 10° above normal, and Tucson, Ariz., experienced the warmest January since 1867. Grand Junction, Colo., also had its warmest January. Above-normal temperatures persisted until the last few days of the month, but no unusual extremes were recorded.

Above-normal temperatures persisted throughout the month in New England, with the monthly anomalies ranging up to 12° at Caribou, Maine. Temperatures were also mild in the Great Lakes region, except for a cold third week. In other areas east of the Rockies monthly averages were below normal, with greatest departures of 6° to 9° occurring along the south Atlantic Coast. In most of the Southeast below-normal temperatures persisted throughout the month and many stations there had their coldest January since either 1911 or 1940. Mimai, Fla., had an average temperature of 62.6° for its second coldest January, and frost in nearby areas damaged tender vegetables on the 9th and 15th.

PRECIPITATION.--The heaviest precipitation fell in the Pacific States where monthly totals ranged up to 32.93 inches at Valsetz, Oreg., 32.75 inches at Pit River Powerhouse #5, Calif., and 31.04 inches at Cougar, Wash. Rains were frequent along the central and north Pacific Coast, occurring at Eureka, Calif., on all but 5 days, but most of the monthly amounts in the south fell near the end of the month. Four to 9 inches fell along the southern coast on the 25th and 26th, 9 to 13 inches in the mountains, and one-half to 2 inches in the desert. Damage from resulting floods in the Los Angeles area was estimated at several million dollars. Portland, Oreg., had 14.11 inches for its second wettest January on record. In Los Angeles, Calif., 8.07 inches of rain fell during January for the greatest record for the month and the second greatest of any month; also, 6.19 inches on the 25th-26th was the third greatest 24-hour amount on record there.

East of the Rockies precipitation was less than 50 percent of normal in southern Texas, in a belt extending from western Texas through Michigan, and also in southeastern Louisiana and large portions of Mississippi, Alabama, Georgia, the Carolinas, Virginia, and Pennsylvania. The longest dry spell at St. Louis, Mo., 46 consecutive days with no measurable rain, ended on the 18th, and one of 30 days duration which set a new record at Baltimore, Md., ended on the 9th. Virtually all the month's precipitation in the Northeast fell during the period 8th through the 15th as an area of low pressure hovered off the coast. Heavy amounts (1 to over 4 inches) fell along the coast and moderate amounts (0.05 inch to over 1 inch) over the remainder of the Middle Atlantic and New England States.

In the South nearly all rains came during the latter half of the month. For the week ending the 23d, most of the South received an inch or more, and during the last week 1 to over 4 inches fell in most of Arkansas and Tennessee.

SNOWFALL.--The snow cover at the beginning of the month extended southward to northern Nevada, Utah, and northwestern Colorado in the Far West, while east of the Rockies it extended from the Dakotas to the Atlantic Coast. At the end of the month the cover extended over most of Nevada and the northern portions of Arizona and New Mexico, and east of the mountains over the area north of a line joining Albuquerque, N. Mex., and Elkins, W. Va.; Atlantic Coastal areas were bare as far north as southern New England. In the Far West a heavy snowpack ranged up to 200 inches at Paradise Ranger Station, Wash., and 95 inches at Silver Lake, Utah. The cover was also heavy in north-central areas, with 37 inches at Houghton, Mich. In the Northeast depths were below normal as a result of the mild weather. The heaviest snowstorm east of the Rockies occurred as the month closed when up to 10 inches fell over an area extending from Kansas and Nebraska eastward over the southern Great Lakes region, the Ohio and middle Mississippi Valleys, and Northeast.

DESTRUCTIVE STORMS.--Storm losses were mostly limited to states along the north Atlantic Coast and the north Pacific Coast. Mainly responsible for damage in the former area was a large low pressure area which lingered off the Atlantic Coast from the 8th to the 15th. Glaze caused

$1,000,000 damage in Pennsylvania on the 8th and minor damage in New England, New Jersey, and Virginia. Winds and tides from the 8th to 12th caused additional damage of $50,000 along the North Carolina coast and small amounts along the Virginia and New England coasts.

In Oregon high winds, rain, and snow from the 4th to the 6th caused $350,000 damage, winds and rain from the 14th to the 16th an additional $150,000, glaze in the north-central Columbia Basin on the 18th about $10,000, and snow in the western portion on the 26th and 27th at least $12,000. In the state of Washington rain and snow from the 14th to the 23d was blamed for losses believed to amount to several hundred thousand dollars.

In Faulkner and White Counties, Ark., on the 28th a tornado injured 28 persons and damaged property to the extent of $27,000.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

JANUARY 1956

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Livingston	77	6	Haleyville	11	2	Waterloo	6.62	Centreville	1.30
Arizona	Gila Bend	90	10	Alpine	-11	30	Bright Angel RS	4.63	Ehrenberg	.00
Arkansas	2 Stations	79	28+	Gravette	4	16	Wilson	9.22	Lead Hill	.69
California	do	85	3+	Boca	-22	30	Pit River PH 5	32.75	4 Stations	.00
Colorado	Holly	79	5	Sugarloaf	-29	25	Wolf Creek Pass 4W	10.67	2 Stations	.08
Connecticut	6 Stations	47	9+	Falls Village	-8	2	Pauchaug Forest	5.29	Bulls Bridge Dam	1.64
Delaware	Lewes	64	30	Newark College Farm	5	25	Selbyville	3.81	Dover	2.18
Florida	Loxahatchee	85	23	Jasper 9ESE	17	1	Mt. Pleasant	6.60	St. Petersburg	.08
Georgia	Brunswick CAA AP	80	30	Blairsville Exp. Sta.	7	14	Thomasville	5.71	Thomaston 2S	.43
Idaho	2 Stations	60	4+	Island Park Dam	-44	31	Idaho City 11SW	7.26	Idaho Falls 42NW	.64
Illinois	3 Stations	65	5	Stockton	-13	21	Brookport Dam 52	3.43	2 Stations	.11
Indiana	Jeffersonville	62	6	Greensburg 3SW	-14	26	Tell City	4.07	Whiting	.33
Iowa	3 Stations	65	5	3 Stations	-27	21+	Osage	1.44	Eddyville	T
Kansas	2 Stations	80	5	Cedar Bluff Dam	-17	30	Ottawa	1.82	Attica	.12
Kentucky	Barbourville	68	6	2 Stations	3	26	Munfordville	7.55	Shepherdsville	1.49
Louisiana	5 Stations	82	6+	Converse	15	9	Buras 2NNW	6.68	New Orleans Dublin	1.40
Maine	West Buxton 2NNW	54	9	Old Town CAA AP	-28	1	Bar Harbor	8.26	Caribou WB Airport	2.49
Maryland	Frederick Police Brks	65	30	Oakland 1SE	-11	28	Oakland 1SE	3.89	Stevensville 1W	1.52
Massachusetts	Worcester	48	4	Stockbridge	-13	2	Blue Hill	9.56	Amherst	1.75
Michigan	Dowagiac	48	5	Kenton U. S. Forest	-26	22	Houghton CAA AP	3.16	Houghton Lake 3NW	.19
Minnesota	2 Stations	46	5	3 Stations	-32	22+	Hallock	1.50	St. James Filt Pl.	.16
Mississippi	3 Stations	78	6+	2 Stations	15	14	Corinth	6.80	Russell 2W	1.37
Missouri	Waynesville	76	5	do	-8	31	Kennett	5.68	Gallatin 2NE	.04
Montana	2 Stations	59	4+	Wisdom	-42	31	Haugan	4.64	5 Stations	T
Nebraska	Benkelman	71	4	Broken Bow 2W	-21	18	Geneva	1.26	Harrison 10NE	.06
Nevada	Lathrop Wells	74	11	2 Stations	-27	31	Glenbrook	6.90	Sarcobatus	.00
New Hampshire	3 Stations	50	9	Fabyan	-28	1	Greenville	8.68	North Stratford	1.72
New Jersey	Millville CAA AP	59	30	Layton 3NW	-3	2	Clayton	4.56	Canoe Brook	1.23
New Mexico	Bitter Lakes WL Ref.	80	28	Gavilan	-23	30	Bateman Ranch	3.25	10 Stations	.00
New York	Middleburg 4SW	50	5	Saranac Lake	-24	1	Windham 2E	5.06	Theresa	.54
North Carolina	Sloan 3S	76	30	Boone	0	10	Hatteras WB City	4.41	Yanceyville 2NNE	.61
North Dakota	2 Stations	53	5	Langdon Exp. Farm	-32	19	Walhalla	2.33	Sentinel Butte 20S	.02
Ohio	do	61	6	2 Stations	-9	24	Racine Dam 23	3.26	Hoytville 2NE	.94
Oklahoma	4 Stations	81	5	Kenton	-12	30	Carter Tower	3.01	Burbank	T
Oregon	Echo	62	6	Seneca	-32	31	Valsetz	32.93	Baker CAA AP	1.03
Pennsylvania	2 Stations	57	7	Du Bois 7E	-13	26	Kregar 4SE	3.95	Bear Gap	.75
Rhode Island	Block Island WB AP	47	3	Greenville	2	2	Woonsocket	6.82	Block Island WB AP	3.59
South Carolina	Sumter	78	6	Chester 2SW	7	9	Charleston WB AP	2.56	Pelion	1.10
South Dakota	3 Stations	64	8+	Pukwana 3W	-29	21	Timber Lake	1.52	Ludlow 2NW	.04
Tennessee	Jackson CAA AP	72	5+	2 Stations	4	24	Johnsonville Stm. Pl.	9.36	Mountain City	1.74
Texas	2 Stations	92	29+	Spearman	-1	18	Goose Creek	7.34	Several Stations	.00
Utah	La Verkin	70	10	Woodruff	-35	31	Alta	13.70	Fruita	T
Vermont	Chelsea	50	10	Lemington	-31	1+	Somerset	5.06	Lemington	.81
Virginia	2 Stations	70	30	Burkes Garden	-6	27	Rose Hill	3.42	Alta Vista	.42
Washington	Richland	62	6+	Republic	-29	31	Cougar 1E	31.04	Ephrata CAA AP	1.17
West Virginia	Madison	68	30	Bayard	-12	28	Alpena 1NW	6.00	Princeton	1.07
Wisconsin	Lake Geneva	47	13	2 Stations	-31	22	Oconto	1.14	Burlington	.16
Wyoming	6 Stations	65	10+	Bondurant	-39	31	Snake River	6.71	5 Stations	T
Puerto Rico	Utuado	93	19	Cidra 3E	48	14	Dorado 4W	15.06	Josefa	.25

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

Table 2

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	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	Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	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.			0–3	4–7	8–10	0–10	%
ALABAMA																																	
Birmingham	610	994.1	1019.9	52	32	41.6	-3.6	71	6	21	9+	0	18	30	67	1.85	-3.13	0.82	7	1	T	0	10.0	N	37	NW	30	6	9	16	6.7	43
Mobile	211	1011.2	1019.5	60	38	49.0	-3.7	73	6+	25	14	0	8	37	70	5.16	.14	2.23	5	2	0.0	0	11.7	N	--	---	--	11	6	14	5.4	--
Montgomery	198	1011.9	1019.5	56	34	44.7	-4.5	73	29	22	1	0	14	33	69	1.79	-2.81	.92	5	1	.0	0	8.4	NW	27	S	29	10	5	16	6.0	45
ARIZONA																																	
Flagstaff	6993	------	------	47	20	33.2	7.9	59	8+	4	30	0	30	--	--	1.62	-.07	.69	9	0	12.5	6	----	---	--	---	--	7	6	18	6.7	--
Phoenix	1114	976.3	1015.7	69	43	56.0	6.3	80	11	34	3	0	0	37	53	.67	.07	.51	3	0	.0	0	3.2	E	*14	SW	16	6	5	20	7.2	86
Prescott	5014	846.9	1017.2	56	29	42.2	6.9	66	7+	16	30	0	21	--	--	.33	-.77	.22	5	0	1.2	1	6.9	SW	38	SW	27	6	5	20	7.1	57
Tucson	2558	926.2	1014.7	70	42	56.1	6.4	79	4+	33	18	0	0	26	38	1.08	.45	.67	4	1	.0	0	6.9	ESE	31	SW	28	11	1	19	6.6	81
Winslow	4880	851.0	1016.1	55	28	41.4	8.7	66	6	14	4	0	22	21	50	.64	.27	.26	5	0	1.9	1	7.3	SE	*41	SSW	27	6	6	19	7.1	--
Yuma	199	1010.2	1015.3	74	44	59.0	3.7	79	8+	38	2	0	0	30	37	.04	-.29	.03	2	0	.0	0	4.8	NNE	26	NW	16	8	8	15	6.4	77
ARKANSAS																																	
Fort Smith	458	1003.7	1021.1	48	27	37.5	-2.5	74	28	15	20	0	24	27	69	1.32	-1.57	.58	6	0	3.0	3	8.2	E	29	SW	28	12	3	16	5.6	53
Little Rock	257	1007.5	1020.9	49	31	40.0	-1.8	75	28	23	24	0	21	28	66	5.77	.65	3.63	8	2	2.8	2	9.1	NNE	24	W	29	12	3	16	5.7	50
Texarkana	361	------	------	54	34	43.9	-2.0	79	29	23	9	0	17	--	--	2.23	-2.89	1.39	10	1	1.0	1	----	---	--	---	--	--	--	--	---	--
CALIFORNIA																																	
Bakersfield	489	1000.7	1019.0	60	42	51.2	4.3	70	15	32	4	0	1	45	81	.90	-.12	.40	7	0	.0	0	4.0	NW	*21	N	16+	1	6	24	8.6	--
Bishop	4108	873.0	1015.6	54	24	39.2	1.3	64	5	13	29	0	27	--	--	1.45	.33	1.16	4	0	3.0	3	----	---	--	---	--	5	8	18	7.1	--
Blue Canyon	5280	837.1	1017.3	39	29	34.0	-2.2	51	11	18	29	0	24	--	--	22.46	13.29	3.36	21	0	73.5	24	----	---	--	---	--	3	1	27	8.8	--
Burbank	699	990.9	1017.1	65	44	54.3	1.7	78	12	35	6	0	0	41	67	6.13	3.78	4.66	7	0	.0	0	3.1	S	*30	N	16	4	8	19	7.7	--
Eureka (U)	43	1012.9	1015.2	55	44	49.1	1.9	61	12	31	30	0	1	--	--	11.51	5.31	2.22	25	1	.0	0	8.9	---	39	SW	26	3	4	24	8.4	23
Fresno	331	1006.8	1018.5	55	41	48.2	3.5	67	26	32	29	0	1	45	89	2.41	.84	.75	13	0	.0	0	6.3	SE	29	S	26	1	3	27	9.0	27
Los Angeles (U)	312	------	------	64	48	56.0	1.0	77	3	43	1+	0	0	44	69	8.39	6.01	6.11	7	0	.0	0	5.7	---	36	W	16	7	9	15	6.6	60
Los Angeles	99	1013.5	1017.1	62	47	54.6	1.4	75	3	41	8	0	0	40	80	8.07	6.06	6.19	7	0	.0	0	5.5	W	%44	N	16	3	11	17	7.5	--
Mt. Shasta (R)	3544	869.9	1016.1	40	29	34.6	1.8	54	11	7	31	0	18	--	--	12.12	7.58	2.52	21	0	28.2	10	----	---	--	---	--	2	4	25	8.5	--
Oakland	3	1018.3	1018.6	55	43	49.2	2.0	60	3+	34	31	0	0	45	85	7.60	4.30	2.43	18	1	.0	0	5.5	SE	*32	SW	7	3	2	26	8.6	--
Red Bluff	341	1004.7	1017.5	52	42	47.0	1.9	64	11	30	29	0	2	41	82	8.63	4.90	2.25	20	0	T	0	10.4	SSE	43	SE	6	3	5	23	8.3	34
Sacramento	17	1016.9	1017.9	53	42	47.5	3.2	58	6	32	29+	0	2	44	88	6.10	3.44	1.34	17	0	.0	0	8.8	SE	52	S	25	3	5	23	8.5	27
Sandberg (R)	4517	862.5	1016.9	51	38	44.4	4.6	62	12	27	29	0	8	--	--	1.64	-.66	.98	8	0	2.3	2	----	---	--	---	--	2	7	22	8.3	--
San Diego	19	1013.9	1017.1	63	48	55.4	.5	73	3	41	3	0	0	48	78	1.65	-.04	1.12	6	0	.0	0	5.5	S	23	S	26	7	6	18	7.4	52
San Francisco (U)	52	------	------	56	48	51.7	1.6	59	3+	43	29	0	0	--	--	8.72	4.69	3.49	18	1	.0	0	6.9	---	29	S	7+	3	4	24	8.3	28
San Francisco	1	1017.3	1018.2	55	45	49.9	2.0	60	13	34	31	0	0	47	89	8.78	5.31	2.07	18	0	.0	0	6.2	SE	40	S	7	2	3	26	8.6	--
Santa Maria	238	1009.5	1018.4	60	41	50.8	.4	64	14	32	29	0	1	46	84	2.54	-.17	1.92	12	0	.0	0	5.7	WNW	*23	SSE	25+	0	8	23	8.5	--
COLORADO																																	
Alamosa	7538	769.4	1022.2	41	5	23.0	6.1	57	5+	10	19	0	31	--	--	.58	.35	.47	4	0	8.6	7	----	---	--	---	--	11	8	12	5.5	--
Colorado Springs	6173	808.3	1019.1	45	18	31.4	2.6	69	5	11	30	0	31	11	51	1.12	.90	.73	5	0	12.7	9	9.2	SE	*32	NW	1	11	9	11	5.3	--
Denver	5292	835.4	1016.7	47	21	34.0	5.3	72	5	3	31	0	29	12	49	.39	-.11	.32	5	0	6.3	5	11.2	S	34	W	1	9	9	13	5.8	64
Grand Junction	4849	859.5	1018.5	46	27	36.7	12.7	60	8	18	5	0	28	23	61	1.07	.47	.64	6	0	3.2	1	7.0	E	36	SW	27	7	8	16	6.8	48
Pueblo	4639	855.7	1019.5	46	14	29.7	.3	70	5+	16	30	0	31	12	56	.74	.36	.45	6	0	13.4	7	5.7	W	41	SW	27	10	9	12	5.6	72
CONNECTICUT																																	
Bridgeport	7	1012.3	------	36	25	30.8	1.6	47	9	8	2	0	25	--	--	2.11	-1.32	.60	10	0	4.0	3	----	---	--	---	--	9	6	16	6.6	--
Hartford	169	1006.8	1013.0	35	23	28.9	1.9	46	9	1	2	0	26	20	70	2.71	-.44	.70	13	0	6.8	4	12.9	NW	34	NW	30	8	6	17	6.8	38
New Haven	6	1011.9	1012.5	36	25	30.2	1.1	47	9	6	2	0	26	--	--	3.49	-.40	.83	13	0	9.1	6	9.0	---	29	NE	9	9	6	16	6.8	46
DELAWARE																																	
Wilmington	73	1011.0	1014.2	39	25	31.8	-1.5	52	30	14	25+	0	26	23	71	2.61	-.95	.74	11	0	8.7	7	10.4	NNW	--	---	--	5	12	14	6.9	--
DIST. OF COLUMBIA																																	
Washington (U)	72	------	------	41	29	34.9	-1.6	63	30	18	28	0	23	--	--	2.56	-.85	.82	13	0	4.4	3	9.1	---	31	NW	14	--	--	--	---	--
Wash. Nat'l. AP	14	1011.0	1015.4	41	29	34.5	-1.7	63	30	20	24+	0	25	24	67	1.99	-1.25	.64	13	0	4.5	3	12.5	NNW	44	NW	30	7	7	17	6.8	50
FLORIDA																																	
Apalachicola (U)	13	1016.9	------	59	42	50.2	-5.0	73	7	30	9	0	3	--	--	3.11	-.50	1.78	6	5	.0	0	8.7	---	26	E	22	16	9	6	3.7	66
Daytona Beach	31	1015.7	1017.3	65	49	52.5	-7.0	80	30	29	9+	0	4	40	70	2.55	.45	2.08	5	2	.0	0	10.3	WNW	*30	SSW	19	20	3	8	3.5	--
Fort Myers	15	1016.9	------	71	47	58.7	-5.9	82	31	33	15	0	0	--	--	.57	-.95	.30	5	2	.0	0	9.4	---	*28	NNE	4+	17	5	9	3.9	--
Jacksonville (U)	18	------	------	62	41	51.8	-5.5	79	30	29	9	0	1	--	--	2.56	-.26	1.65	--	--	.0	0	----	---	--	---	--	--	--	--	---	--
Jacksonville	24	1016.2	1017.6	62	38	50.2	-5.7	79	30	27	9	0	8	37	68	2.91	.23	2.02	4	2	.0	0	9.0	NW	32	NW	4	18	7	6	3.7	73
Key West (U)	9	1015.8	------	74	62	67.9	-2.9	82	30	51	15	0	0	--	--	.27	-1.27	.19	3	1	.0	0	9.0	---	23	NW	11	14	12	5	4.4	67
Lakeland (U)	214	------	------	66	47	56.4	-5.6	79	30	32	9	0	1	--	--	1.43	-.73	1.28	4	1	.0	0	6.1	---	--	---	--	16	9	6	3.5	86
Miami (U)	8	------	------	70	55	62.6	-5.9	79	17	39	14	0	0	--	--	1.30	-.85	1.10	3	1	.0	0	----	---	34	NW	13	17	11	3	3.3	76
Miami	8	1015.6	1016.8	72	53	62.7	-5.6	81	23+	39	14	0	0	52	74	1.74	-.32	1.31	4	1	.0	0	10.5	NNW	25	SW	23	11	15	5	4.0	--
Miami Beach	9	------	------	72	57	64.4	-5.6	80	24	42	14	0	0	--	--	1.30	-.74	1.19	4	0	.0	0	----	---	--	---	--	14	11	6	---	--
Orlando	106	1013.2	1017.8	67	43	55.1	-6.8	81	30	31	9	0	2	63	72	1.66	-.39	1.30	4	2	.0	0	9.4	WNW	29	W	23	17	8	6	3.4	--
Pensacola (U)	13	1016.6	------	58	41	49.5	-4.5	70	3+	30	9+	0	5	--	--	3.91	-.64	3.05	5	2	.0	0	11.9	---	23	W	19+	--	--	--	---	59
Tallahassee	64	1015.3	1017.9	61	36	48.8	-4.8	77	30	23	1	0	12	36	68	5.09	1.24	2.51	7	3	.0	0	7.2	NW	--	---	--	14	10	7	4.2	--
Tampa	19	1016.8	1018.1	66	45	55.3	-6.2	77	18+	32	14	0	1	45	75	2.02	.03	1.77	4	1	.0	0	10.7	WNW	*30	W	10	15	6	10	4.2	79
West Palm Beach	15	1015.4	1016.4	71	50	60.5	-6.5	82	23	31	9	0	1	50	73	.89	-1.59	.64	3	2	.0	0	12.2	WNW	*36	NW	4	15	10	6	4.1	--
GEORGIA																																	
Athens	798	987.5	1017.3	53	30	41.8	-2.9	68	6+	20	14	0	20	28	65	2.11	-2.90	1.10	8	1	T	T	11.0	NW	*29	NW	9	10	11	10	5.4	--
Atlanta	975	975.5	1018.5	51	32	41.5	-3.1	68	6+	23	9	0	16	30	66	1.88	-2.79	1.11	7	0	T	0	14.8	NW	40	NW	11	10	10	11	5.4	56
Augusta	143	1010.1	1017.0	56	29	42.8	-5.9	73	29	17	15	0	21	30	68	1.54	-1.92	.65	4	0	T	T	7.3	WNW	*25	NNW	8	11	8	12	5.3	--
Columbus	385	1004.1	------	56	32	44.2	-3.2	73	29	21	14	0	16	--	--	1.43	-3.15	.75	5	2	.0	0	----	---	--	---	--	12	7	12	5.1	--
Macon	356	1003.7	1017.5	57	34	45.4	-4.1	74	29	25	14+	0	13	30	60	1.35	-2.66	.70	8	0	.0	0	9.4	NW	27	NW	9+	13	8	10	4.8	69
Rome	637	995.4	------	50	29	39.3	-3.4	69	29	17	1	0	23	--	--	1.97	-3.58	.98	8	1	T	0	----	---	--	---	--	7	7	17	6.7	--
Savannah	48	1014.3	1017.0	59	34	46.5	-5.6	77	30	23	9	0	13	34	69	1.66	-.79	1.05	7	0	.0	0	9.7	WNW	36	NW	8	15	7	9	4.5	65
IDAHO																																	
Boise	2842	919.4	1017.6	41	26	33.5	6.2	57	4+	-5	31	0	24	26	76	2.17	.84	.71	17	0	10.0	4	12.6	SE	34	SE	7+	6	5	20	7.5	37
Idaho Falls 46W (R)	4933	845.9	1019.0	32	13	22.6	6.9	46	7	-30	31	0	31	--	--	.80	.14	.18	15	0	10.5	7	6.2	---	a39	WSW	8	--	--	--	---	--
Idaho Falls 42NW (R)	4790	------	------	33	12	22.3	10.0	45	10	-30	31	0	31	--	--	.64	.11	.26	11	--	----	--	5.0	---	a33	S	8	--	--	--	---	--
Lewiston	1413	963.1	1016.3	39	27	32.9	2.1	57	6	-7	31	0	23	--	--	2.54	1.49	1.35	15	0	10.3	4	----	---	--	---	--	6	4	21	7.5	--
Pocatello	4444	861.5	1018.4	37	21	28.7	6.7	52	7	-21	31	0	30	24	83	2.92	1.71	.65	16	0	21.0	9	11.4	SW	44	W	8	5	3	23	7.9	33
ILLINOIS																																	
Cairo (U)	314	1007.8	------	42	27	34.4	-3.0	64	5	17	16	0	24	--	--	2.53	-1.95	1.69	5	2	6.1	5	9.3	---	26	N	7+	10	6	15	5.9	45
Chicago	610	998.3	1022.0	35	22	28.5	3.6	47	5	2	22	0	30	21	73	.38	-1.46	.25	8	0	1.2	1	9.6	NW	25	NW	6	7	8	16	6.7	48
Moline	589	1000.7	1022.5	32	13	22.7	-.5	55	5	-10	21	0	31	15	74	.31	-1.19	.13	8	0	2.2	2	10.8	WNW	37	SE	28	5	8	18	7.1	48
Peoria	654	999.0	1022.3	34	17	25.9	.9	52	5	1	23	0	31	18	71	.25	-1.72	.09	6	0	1.8	1	11.2	---	34	NW	6	9	3	19	6.8	38
Springfield	587	998.6	1022.9	35	17	25.9	-1.5	57	5	-1	31	0	30	18	73	.57	-1.46	.27	10	0	6.6	3	11.6	NNW	31	SE	28	7	3	21	7.2	37
INDIANA																																	
Evansville	383	1005.1	1021.3	40	22	31.2	-3.5	58	5+	2	26	0	29	24	79	2.22	-1.71	.98	8	2	7.8	4	10.0	WNW	32	NW	30	6	9	16	6.8	41
Fort Wayne	801	988.2	1020.6	33	17	25.2	-1.1	46	5	-1	24	0	30	20	79	1.61	-.93	.44	12	1	11.3	5	9.8	N	31	NW	6	8	5	18	6.8	45
Indianapolis	793	990.2	1021.2	35	19	27.2	-1.6	50	6	-3	31	0	31	20	76	1.05	-2.10	.42	11	1	11.6	5	10.8	N	30	SW	2+	8	4	19	7.0	49
South Bend	768	991.9	1021.0	34	18	25.6	1.0	46	5	-1	23	0	30	20	79	1.05	-.95	.61	14	0	12.7	7	10.4	N	*25	NNW	6	7	5	19	6.9	--

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	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	Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	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.			0–3	4–7	8–10	0–10	%
IOWA																																
Burlington	694	996.3	1023.4	32	14	23.0	-1.0	56	5	-3	23	0	31	15	72	0.17	-1.57	0.11	4	0	1.3	1	10.5	NW	31	NW	15	5	7	19	7.0	58
Des Moines	948	990.9	1023.8	28	12	19.9	-2.2	59	5	-14	21	0	31	14	78	.51	-.72	.13	9	0	4.8	5	10.8	NNW	34	NW	15	4	7	20	7.5	39
Dubuque	1065	996.6	1023.1	28	11	19.5	.1	42	5	-20	21	0	31	14	76	.58	-.79	.20	8	0	5.1	5	----	---	--	---	--	8	4	19	7.0	--
Sioux City	1094	980.0	1023.8	26	8	16.8	-2.3	61	5	-7	21	0	31	9	70	.75	.01	.27	12	0	8.2	6	13.7	NNW	42	NW	15	7	5	19	7.3	40
Waterloo	870	------	------	27	6	16.3	----	55	5	-21	21+	0	31	--	--	.41	----	.20	7	0	4.2	3	11.0	---	--	---	--	--	--	--	---	--
KANSAS																																
Concordia (U)	1375	970.2	------	34	16	24.9	-3.2	63	4	-3	18	0	30	--	67	.81	.22	.46	10	0	11.2	5	7.2	---	25	N	14	8	10	13	6.1	61
Dodge City	2594	929.2	1020.2	43	20	31.5	1.2	74	5	-4	30	0	29	16	59	.76	.27	.46	5	0	8.6	6	12.8	NE	53	NW	1	11	4	16	6.0	55
Goodland	3645	888.6	1019.6	42	15	28.5	2.7	70	5	-5	18	0	31	15	65	.68	.37	.35	4	0	7.7	5	10.4	SSE	*37	WNW	1	9	5	17	6.5	--
Topeka	879	985.8	1023.4	36	16	25.7	-3.0	69	5	-3	19	0	29	14	65	.75	-.32	.21	9	0	9.3	5	10.8	NNW	31	S	14	6	9	16	6.8	39
Wichita	1321	970.9	1021.4	40	19	29.5	-2.5	67	5	4	19	0	28	18	68	.43	-.62	.18	8	0	6.6	3	12.3	NNW	38	NW	1	12	3	16	6.0	61
KENTUCKY																																
Lexington	979	983.3	1020.2	39	24	31.5	-1.0	59	6	11	9	0	28	24	78	3.25	-1.25	1.84	12	1	5.3	3	10.6	NNW	--	---	--	9	7	15	6.5	--
Louisville	474	1000.7	1020.4	40	25	32.5	-2.4	62	6	15	24	0	26	24	75	2.87	-1.23	1.02	11	2	9.8	4	10.0	NNW	31	NW	30	7	7	17	6.5	54
LOUISIANA																																
Baton Rouge	64	1016.9	1019.8	62	39	50.6	-1.8	78	29	26	14	0	10	39	68	2.00	-3.49	1.12	6	3	.0	0	10.2	N	--	---	--	11	8	12	5.2	--
Lake Charles	12	1018.0	1019.3	63	43	52.6	.0	77	6	31	13+	0	3	43	73	2.94	-1.88	1.27	6	2	.0	0	8.6	N	*24	S	28+	10	8	13	5.4	--
New Orleans (U)	9	1016.3	------	60	44	52.4	-3.5	76	29	35	13	0	0	--	--	2.38	-2.40	1.58	6	2	.0	0	7.8	---	22	NE	22	13	5	13	5.2	54
New Orleans	3	1017.3	1019.5	61	42	51.7	-3.2	76	6+	31	1+	0	2	42	73	2.37	-2.31	1.41	6	4	.0	0	10.0	NNW	*23	N	11	13	7	11	5.1	--
Shreveport	252	1010.2	1019.6	57	36	46.6	-1.2	80	6	27	8+	0	11	34	66	3.68	-1.04	1.77	10	1	T	T	10.7	NNW	--	---	--	11	5	15	5.6	64
MAINE																																
Caribou	624	989.0	1013.3	27	16	21.4	12.7	43	8	-16	1	0	29	17	81	2.49	.25	.79	19	0	17.1	14	13.8	NW	*30	NW	24	5	0	26	8.5	--
Portland	61	1000.3	1012.3	35	20	27.4	6.7	45	8+	-9	2	0	24	20	76	5.82	1.39	1.20	14	0	12.4	8	11.7	NNW	44	NE	8	9	4	18	6.8	43
MARYLAND																																
Baltimore (U)	14	------	------	42	30	35.7	-.9	59	30	20	9	0	20	--	--	2.21	-1.45	.61	10	--	----	--	----	---	--	---	--	--	--	--	---	--
Baltimore	146	1010.3	1015.9	40	26	32.7	-1.5	58	30	14	25	0	26	25	73	2.49	-1.17	.66	12	0	7.4	5	11.4	NNW	52	NW	30	5	11	15	6.6	49
Frederick	294	------	------	39	22	30.2	-2.5	49	3	2	28	0	28	--	--	2.06	-.82	.65	14	0	9.2	6	----	---	--	---	--	--	--	--	---	--
MASSACHUSETTS																																
Blue Hill Obs.(R)	629	987.1	1011.3	33	21	26.9	1.0	43	9	0	2	0	27	--	79	9.56	5.47	3.08	13	0	14.7	13	17.8	NW	45	NE	9	11	2	18	6.5	37
Boston	15	1006.6	1011.4	36	26	30.6	1.5	44	8	5	1	0	24	22	74	6.99	3.49	1.95	13	0	7.7	6	18.8	NW	*53	NE	9	11	2	18	6.6	39
Nantucket	43	1009.4	1009.9	37	29	32.9	.8	47	30	15	2	0	23	29	84	4.95	1.08	1.13	15	1	9.5	3	15.7	NNW	43	NE	9	5	4	22	7.7	30
Pittsfield	1153	968.9	------	28	16	21.9	.7	44	9	-10	2	0	29	--	--	2.57	-.53	.95	11	0	11.7	6	----	---	--	---	--	--	--	--	---	--
MICHIGAN																																
Alpena (U)	587	998.3	------	28	16	21.9	.7	35	10+	3	22	0	31	--	--	.77	-.89	.21	12	0	8.5	7	10.3	---	42	SE	28	5	11	15	6.8	42
Detroit	619	992.6	1020.5	32	21	26.4	.2	42	6	7	23	0	31	21	80	1.09	-.99	.30	9	0	11.0	4	10.0	N	30	N	7	7	5	19	7.1	34
Detroit (Willow Run)	722	990.9	1020.2	32	19	25.3	.0	43	6	6	22+	0	31	20	80	.93	-.87	.32	8	0	9.1	4	11.3	N	*29	NNE	7	7	5	19	7.1	--
East Lansing (U)	856	------	------	30	18	24.1	.3	37	5+	8	22+	0	31	--	--	.80	-1.07	.22	10	0	6.9	3	5.6	---	15	NE	7	--	--	--	---	33
Escanaba (U)	594	999.0	------	29	12	20.5	3.0	35	13	-14	21	0	31	--	--	.98	-.55	.36	9	0	11.4	15	9.2	---	36	N	6	8	8	15	6.5	51
Flint	761	991.9	1021.0	30	15	22.1	-.8	36	5+	-4	24	0	31	18	81	1.03	-.54	.41	9	0	9.5	5	9.5	N	*23	N	10+	5	5	21	7.6	--
Grand Rapids	681	994.9	1021.3	32	17	24.3	.8	39	13	3	26	0	31	20	81	.29	-1.61	.10	8	0	5.3	2	8.7	NE	22	W	29	5	2	24	7.7	33
Marquette (U)	677	994.2	------	28	17	22.8	4.1	34	29	-5	21	0	31	--	77	.51	-1.66	.11	11	0	9.2	17	7.3	---	22	SE	28	2	3	26	8.7	25
Muskegon	627	997.6	1021.7	31	18	24.9	.0	38	16	1	26	0	31	19	77	.45	-1.50	.13	11	0	8.9	2	----	---	--	---	--	4	4	23	7.9	--
Sault Ste. Marie	721	999.7	1023.4	24	9	16.4	2.6	34	10	-7	8	0	31	12	81	1.31	-.85	.87	11	0	15.4	24	7.2	E	21	E	5	7	10	14	6.5	50
MINNESOTA																																
Duluth	1409	979.3	1022.9	21	3	12.4	4.1	32	12+	-24	20	0	31	8	78	.93	-.30	.54	10	0	12.9	31	10.6	ESE	44	NW	6	6	7	18	7.0	60
Intern'l Falls	1179	980.0	1024.0	19	-3	8.3	5.3	34	13+	-26	23	0	31	2	73	1.12	.23	.45	15	0	15.1	23	10.6	SE	--	---	--	5	8	18	7.3	--
Minneapolis	830	988.8	1024.6	21	4	12.7	-1.9	37	14	-18	20	0	31	7	80	.48	-.32	.20	7	0	4.6	11	10.1	SE	40	SE	27	11	5	15	5.9	46
Rochester	1017	984.8	1024.0	22	2	12.4	-1.9	40	5	-24	23	0	31	8	80	.57	-.36	.21	9	0	5.7	10	8.6	WNW	--	---	--	10	5	16	6.2	--
St. Cloud	1034	983.1	1023.8	20	-2	8.7	-1.8	35	14	-25	23	0	31	2	75	1.01	.26	.53	8	0	9.8	17	6.7	WNW	--	---	--	10	7	14	5.9	--
MISSISSIPPI																																
Jackson	305	1007.7	1020.0	55	34	44.4	-3.9	75	29	19	14	0	15	33	70	2.13	-2.96	.64	9	3	.0	0	8.8	N	34	NW	30	7	10	14	6.2	46
Meridian	294	1006.0	------	55	33	44.0	-3.5	74	6	20	1	0	15	--	--	1.70	-3.39	.70	4	0	.0	0	----	---	--	---	--	12	5	14	5.5	--
Vicksburg (U)	234	1010.5	------	55	37	46.0	-3.2	76	29	24	13	0	12	--	--	2.41	-3.03	.87	8	3	.0	0	8.6	---	28	SW	30	9	9	13	5.9	55
MISSOURI																																
Columbia	778	992.6	1022.3	38	19	28.7	-1.1	66	5	3	31	0	28	18	68	.42	-1.38	.32	4	0	5.9	5	10.3	N	30	SW	1+	8	2	21	7.1	39
Kansas City	741	986.5	1023.0	36	19	27.9	-2.1	68	5	4	16	0	29	17	66	.67	-.76	.35	6	0	8.2	4	9.8	NW	34	SW	1	7	6	18	7.0	41
St. Joseph	809	------	------	34	16	24.7	-2.4	65	5	-4	19	0	31	--	--	.24	-.91	.09	7	0	3.0	2	11.0	---	*28	NW	15	6	6	19	7.2	--
St. Louis (U)	465	1001.0	------	38	23	30.6	-2.7	63	5	8	16	0	25	--	--	.73	-1.59	.43	5	0	8.2	5	10.6	---	32	S	1	5	8	18	7.1	43
St. Louis	552	1001.0	1022.3	38	21	29.2	-3.0	62	5	6	31	0	27	19	68	.73	-1.19	.49	5	0	8.1	5	9.9	NW	--	---	--	6	8	17	7.1	--
Springfield	1265	971.9	1021.3	40	21	30.3	-2.4	69	5	2	16	0	28	21	71	1.00	-1.31	.25	9	1	10.4	6	12.9	SSE	44	SW	1	9	6	16	6.2	59
MONTANA																																
Billings	3568	890.3	1018.9	31	13	21.9	-1.0	52	4	-8	31	0	31	14	72	.56	.03	.29	8	0	8.2	5	10.0	SW	38	NW	23	4	11	16	6.9	51
Butte	5530	825.6	1020.4	29	2	15.4	1.2	44	4	-32	31	0	31	10	--	.51	-.08	.32	9	0	7.2	10	3.7	S	*36	W	13	5	9	17	7.1	--
Glasgow (U)	2277	943.1	1022.3	14	-3	5.6	-4.9	38	5	-25	31	0	31	2	83	.11	-.29	.04	5	0	2.7	5	10.1	ESE	*30	ESE	22	12	5	14	5.5	--
Great Falls	3664	886.2	1017.6	29	12	20.8	-1.9	54	4+	-15	30	0	28	11	67	.52	-.03	.26	7	0	6.4	4	14.1	SW	47	W	4	10	6	15	5.7	67
Havre	2488	926.9	1021.3	20	1	10.7	-5.5	53	4	-27	31	0	31	4	76	.16	-.30	.09	7	0	4.7	3	6.8	---	33	W	4	12	7	12	5.3	56
Helena	3893	871.3	1020.2	26	7	16.5	-1.1	53	4	-25	31	0	30	9	75	.64	.13	.43	8	0	9.4	5	5.0	W	35	S	4+	7	7	17	6.6	49
Kalispell	2965	------	------	30	15	22.2	1.9	47	5	-11	30	0	30	--	--	1.52	.20	.33	13	0	18.1	15	----	---	--	---	--	3	7	21	7.9	--
Miles City	2629	933.3	1022.0	23	-1	10.6	-5.5	44	5	-26	31	0	31	3	--	.52	.05	.14	9	0	5.3	7	9.3	NW	*29	NW	13	12	5	14	5.6	--
Missoula	3200	900.4	1018.8	31	15	22.8	3.4	48	4	-13	31	0	30	18	81	.80	-.01	.19	12	0	11.4	7	4.3	W	31	E	15	7	2	22	7.7	32
NEBRASKA																																
Grand Island	1841	953.3	1022.6	30	11	20.6	-2.4	60	5	-13	18	0	31	13	72	.93	.35	.36	8	0	10.6	9	11.7	NNW	--	---	--	5	9	17	7.0	--
Lincoln (U)	1166	------	------	31	14	22.7	-2.3	61	5	-3	16	0	31	--	--	1.00	.18	.27	11	0	11.3	8	8.9	---	45	NW	15	7	5	19	7.1	52
Norfolk	1544	965.5	1024.2	26	7	16.4	-2.9	55	5	-17	18	0	31	8	73	.70	-.09	.26	10	0	10.3	6	----	---	--	---	--	5	5	21	7.7	--
North Omaha	1323	972.6	------	27	11	19.0	---	61	5	-6	21	0	31	--	--	.61	----	.19	8	0	8.0	6	----	---	--	---	--	--	--	--	---	--
North Platte	2779	920.1	1021.0	34	12	23.3	-.7	60	4	-11	17	0	31	15	75	.47	.08	.16	9	0	5.2	2	8.5	SSE	47	NW	14	6	7	18	7.2	46
Omaha	978	981.7	1023.8	30	13	21.1	-1.9	62	5	-8	19	0	31	12	68	.71	-.14	.26	9	0	8.5	6	12.5	N	38	N	15	6	5	20	7.2	36
Scottsbluff	3950	878.1	1019.1	39	15	26.8	3.3	58	4	-6	30	0	31	17	70	.27	-.06	.20	4	0	4.3	2	9.6	WNW	--	---	--	6	10	15	6.5	--
Valentine (U)	2581	924.8	------	30	9	19.5	-1.6	60	5	-15	17+	0	30	--	--	.30	-.26	.16	6	0	6.2	5	9.7	---	45	N	14	7	6	18	7.0	56
NEVADA																																
Elko	5075	843.6	1018.0	40	21	30.6	8.7	54	4	-16	31	0	30	24	79	3.35	2.28	.73	14	0	16.2	7	4.8	WSW	*29	WNW	26	7	5	19	7.1	--
Ely	6257	807.0	1017.3	43	20	31.9	8.9	55	9+	-10	31	0	28	19	62	.99	.05	.51	10	0	7.5	5	11.2	---	50	SE	7	4	9	18	7.5	46
Las Vegas	2162	949.5	1015.3	61	37	48.8	4.6	67	10+	27	30	0	8	21	36	.23	-.21	.23	1	0	.0	0	6.8	W	*40	NNW	16	8	4	19	7.0	70
Reno	4397	860.5	1016.9	45	24	34.1	2.9	59	3	-1	30+	0	26	25	71	2.58	1.54	1.08	9	0	20.0	10	7.5	S	59	SSW	4	4	7	20	7.8	72
Winnemucca	4299	866.6	1016.9	43	26	34.7	6.9	54	4+	5	31	0	27	28	78	2.70	1.74	.67	14	0	2.9	2	8.4	---	56	W	7	6	4	21	7.3	34
NEW HAMPSHIRE																																
Concord	339	1001.4	1012.5	33	18	25.6	5.5	45	8	-13	2	0	27	19	76	4.40	1.49	1.21	15	0	8.0	6	8.7	NNW	40	NE	8	11	2	18	6.3	41
Mt. Washington	6262	793.4	------	21	8	14.5	9.1	34	13+	-20	1	0	31	--	83	7.04	1.94	1.85	18	0	19.3	18	29.2	NW	*123	SE	9	11	2	18	6.4	39

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	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	Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	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.			0–3	4–7	8–10	0–10	%
NEW JERSEY																																
Atlantic City (U)	8	1010.2	------	39	28	33.2	-2.6	52	30	19	8+	0	23	--	--	2.87	-0.91	0.70	11	0	6.6	3	17.6	---	54	NE	10	6	7	18	7.1	41
Newark	11	1012.2	1013.3	38	26	32.0	.5	47	10	12	2	0	27	22	67	1.50	-2.10	.65	10	0	2.4	2	14.4	NNW	*33	WNW	31	7	9	15	6.5	--
Trenton (U)	56	1005.8	1012.8	38	26	32.1	-.5	52	30	14	2	0	26	--	--	2.43	-.73	.63	12	0	7.9	4	11.4	---	30	NW	30	5	13	13	6.5	47
NEW MEXICO																																
Albuquerque	5310	848.6	1016.3	53	30	41.1	7.4	61	11+	16	18	0	22	22	50	.46	.18	.19	7	0	2.9	2	7.0	N	30	SW	27	10	4	17	6.3	64
Clayton	4969	843.9	1016.9	51	21	35.8	2.9	78	5	0	29	0	29	--	--	.10	-.17	.09	2	0	.9	1	----	---	--	---	--	8	7	16	6.4	--
Raton	6379	802.6	1015.5	50	17	33.6	7.4	66	4	-2	30	0	31	--	--	.42	.00	.33	4	0	4.1	3	----	---	--	---	--	9	9	13	5.8	--
Roswell	3612	893.7	1017.2	58	26	42.1	2.5	78	27	8	18	0	23	19	44	.02	-.40	.02	1	0	T	T	7.2	---	43	N	24	9	6	16	5.8	--
NEW YORK																																
Albany	277	1011.5	1015.1	29	18	23.5	1.0	45	9+	-7	2	0	28	17	75	2.25	-.02	.62	12	0	10.3	5	10.5	WNW	38	W	30	4	9	18	7.4	43
Binghamton	1601	954.3	1015.0	27	15	21.0	-.7	42	10	-2	2	0	30	17	83	1.97	-.41	.41	23	0	23.7	6	13.8	NNW	50	NW	30	1	6	24	8.4	31
Buffalo	693	989.0	1018.6	30	19	24.6	-.9	39	29	10	23	0	29	19	79	2.12	-.66	.64	21	0	17.7	4	12.2	WSW	34	NE	6	3	8	20	7.5	47
New York (U)	10	1000.9	------	38	27	32.7	-.2	49	10	16	2	0	25	--	--	2.29	-1.17	.70	9	0	1.5	1	15.9	---	56	N	7	9	8	14	6.2	50
New York	19	1011.5	1013.2	38	28	32.8	-.2	48	10	15	2	0	25	22	65	1.73	-1.46	.65	9	0	.9	T	17.6	NW	64	N	7	8	7	16	6.6	--
Rochester	543	998.2	1018.1	28	18	23.1	-1.6	37	3+	5	1	0	29	19	82	2.09	-.27	.65	20	0	21.1	6	13.4	WSW	31	N	7	2	6	23	8.4	36
Schenectady	217	------	------	31	20	25.2	3.7	46	9	-2	2	0	28	--	--	1.87	-.55	.58	11	0	9.1	6	----	---	--	---	--	13	5	13	5.6	--
Syracuse	424	995.4	1018.2	28	18	22.6	-2.9	41	10	-7	2	0	29	17	77	2.26	-.51	.62	16	0	26.2	11	7.5	NW	38	N	30	2	9	20	7.8	29
NORTH CAROLINA																																
Asheville (U)	2203	------	------	43	27	34.6	-4.8	63	6	17	9	0	28	--	--	1.02	-1.96	.58	6	0	3.4	3	10.7	---	34	NW	8	8	6	17	6.5	41
Charlotte	727	987.9	1016.6	52	30	41.0	-1.3	68	6	19	15	0	25	27	62	1.24	-2.44	.60	5	0	.5	1	10.1	NNW	39	N	9	11	10	10	5.5	56
Greensboro	891	983.9	1016.6	47	26	36.4	-2.6	62	30	17	15	0	27	23	63	1.04	-2.33	.49	6	0	2.9	2	9.7	NNW	34	N	7	10	9	12	5.7	66
Hatteras (R)	4	1013.0	1013.6	44	35	39.7	-8.3	56	3	27	8	0	6	33	80	4.41	.31	2.01	9	0	1.1	T	13.7	NW	43	NW	4	5	10	16	6.8	38
Raleigh	433	1001.8	1015.8	49	29	38.9	-2.5	66	30	21	15+	0	25	25	62	1.05	-2.29	.58	5	0	2.0	2	9.8	NW	*27	NNE	23	10	9	12	5.7	59
Wilmington	30	1014.3	------	51	33	42.0	-5.8	72	30	25	1+	0	21	--	--	1.55	-1.57	.56	8	0	.8	1	12.1	---	38	N	7	12	6	13	5.6	60
Winston-Salem	967	980.4	1017.1	47	28	37.8	-1.5	63	30	22	9+	0	24	24	60	1.09	-2.60	.61	7	0	4.9	2	9.6	NW	*27	NW	9	11	8	12	5.6	--
NORTH DAKOTA																																
Bismarck	1650	959.4	1024.0	14	-5	4.7	-4.5	41	5	-24	21	0	31	1	81	.97	.61	.30	7	0	9.9	9	10.3	E	40	NW	5	15	5	11	5.1	57
Devils Lake (U)	1471	966.5	------	12	-7	2.5	-2.3	36	5	-25	20	0	31	--	--	1.35	.95	.70	7	0	15.5	23	8.3	---	33	NW	5	9	5	17	6.1	58
Fargo	895	987.5	1024.6	15	-3	6.1	-1.0	36	5	-21	19	0	31	0	73	.72	.12	.27	8	0	7.9	7	15.5	SSE	48	SE	8	6	8	17	6.7	53
Williston (U)	1877	950.9	1023.0	16	-2	6.8	-3.2	39	5	-23	20	0	31	-1	70	.14	-.35	.07	6	0	1.6	4	5.9	---	23	NW	5	11	7	13	5.6	61
OHIO																																
Akron	1210	979.9	1019.5	32	19	25.5	-1.9	48	6	2	23	0	31	20	79	1.44	-1.30	.39	14	1	8.2	3	12.3	NNW	--	---	--	5	3	23	7.7	--
Cincinnati Obs.	761	------	------	37	23	30.0	-3.1	59	6	10	26	0	27	--	--	2.44	-1.00	.86	12	2	15.5	9	6.6	---	20	N	7	--	--	--	---	49
Cincinnati	869	986.8	1020.0	37	21	29.3	-2.5	57	6	3	26	0	29	22	74	2.49	-.91	.78	11	2	11.6	7	9.8	N	*23	SSW	2+	4	11	16	7.3	--
Cleveland	787	990.6	1019.6	33	22	27.6	-.9	48	6	6	23	0	30	22	81	2.75	.37	.92	15	0	14.1	7	12.4	NNW	30	N	8	3	7	21	8.0	22
Columbus (U)	724	------	------	34	23	28.6	-2.5	53	6	10	24	0	28	--	--	1.80	-1.01	.63	12	1	7.9	5	----	---	--	---	--	--	--	--	---	--
Columbus	815	989.0	1020.3	35	20	27.7	-2.0	56	6	4	24	0	29	21	79	2.13	-.81	.66	11	1	11.4	5	9.4	NNW	34	N	30	4	8	19	7.5	38
Dayton	1002	982.5	1020.4	34	19	26.3	-3.4	53	6	4	24	0	31	19	75	1.56	-1.40	.51	11	1	10.9	5	10.8	NNW	29	N	7	4	8	19	7.7	47
Sandusky (U)	603	995.9	------	32	21	26.5	-2.3	46	6	5	23	0	29	--	--	1.64	-.65	.52	7	0	10.1	6	7.4	---	25	N	8	6	5	20	7.3	37
Toledo	676	994.2	1020.7	31	16	23.9	---	45	6	1	23+	0	30	19	81	1.49	----	.50	8	0	13.3	5	10.2	N	29	N	7	6	6	19	7.2	47
Youngstown	1178	974.7	1019.1	32	19	25.4	-2.1	48	6	3	23	0	31	22	85	1.59	-1.73	.33	15	0	13.8	5	10.0	N	*39	N	7	4	4	23	7.8	--
OKLAHOMA																																
Oklahoma City	1280	975.3	1020.5	47	26	36.1	-1.0	68	5	10	19	0	23	23	65	.26	-1.24	.24	4	0	T	T	12.7	N	36	SW	1	13	1	17	5.9	49
Tulsa	672	995.9	1021.1	45	26	35.6	-1.8	70	4+	9	19	0	22	24	67	.98	-1.00	.55	8	1	2.8	1	11.1	N	29	S	1	14	1	16	5.5	57
OREGON																																
Astoria	8	1010.5	1011.2	47	37	41.9	1.8	58	11	21	27	0	8	37	84	17.09	6.43	2.79	25	3	1.1	1	9.0	ESE	--	---	--	3	4	24	8.4	--
Burns (U)	4140	870.3	1016.4	36	16	26.0	2.1	45	11+	-15	31	0	30	21	79	3.97	2.50	.90	20	0	36.6	21	----	---	--	---	--	5	6	20	7.3	--
Eugene	361	999.3	1013.2	48	36	41.8	3.6	58	15	21	31	0	9	--	--	10.89	5.48	1.84	24	0	2.5	1	9.9	---	--	---	--	2	3	26	8.5	--
Meacham	4050	------	------	34	23	28.1	3.2	47	11	-4	31	0	28	--	--	5.59	1.29	1.53	19	0	44.2	26	----	---	--	---	--	2	6	23	8.2	--
Medford	1312	966.5	1014.8	47	34	40.6	3.4	59	6	21	31	0	12	36	85	5.88	3.37	1.52	20	0	.2	T	4.3	SSE	*25	SSE	5	2	6	23	8.4	--
Pendleton	1492	960.4	1015.4	41	27	34.0	3.4	58	6	-10	31	0	22	27	78	2.97	1.49	1.29	17	0	9.6	5	9.4	SE	*46	SE	6	3	11	17	7.7	--
Portland	21	1007.5	1013.2	45	35	39.9	2.5	57	6	13	31	0	8	35	85	11.66	7.07	2.49	25	0	9.3	9	11.5	ESE	52	S	4	3	1	27	8.7	15
Roseburg	505	994.6	1013.5	48	35	41.6	---	59	15	22	31	0	12	--	--	9.90	5.30	2.80	22	0	8.0	7	4.6	---	34	SW	15	1	5	25	8.8	21
Salem	195	1005.1	1012.5	48	35	41.1	2.7	57	15	12	27	0	8	37	88	12.68	6.96	2.91	27	1	5.5	4	8.7	S	--	---	--	3	3	25	8.4	--
Sexton Summit (R)	3836	------	------	38	29	33.6	-2.2	50	15	20	30	0	23	--	--	10.00	5.98	1.73	27	0	37.2	17	----	---	--	---	--	4	2	25	8.5	--
PENNSYLVANIA																																
Allentown	376	1000.5	1015.0	36	22	29.2	.7	49	10	8	2	0	28	20	71	1.68	-1.53	.55	12	0	5.1	3	14.1	NW	--	---	--	3	13	15	7.0	--
Harrisburgh	335	1001.5	1015.7	38	26	32.0	.9	53	10	14	2	0	27	18	59	1.45	-1.17	.43	10	0	5.4	4	9.2	NW	47	W	30	5	11	15	7.0	46
Philadelphia (U)	26	------	------	39	29	34.1	-.8	52	30	19	2+	0	22	--	--	2.50	-.89	----	11	0	----	--	----	---	--	---	--	--	--	--	---	--
Philadelphia	10	1009.4	1013.9	38	26	32.1	-1.1	51	30	17	27	0	25	22	68	2.30	-1.07	.58	11	0	7.0	4	11.3	N	51	NW	30	6	8	17	7.1	49
Pittsburgh (U)	749	------	------	37	25	30.9	-2.1	55	6	15	23+	0	27	--	--	1.75	-1.08	.51	11	--	5.3	--	----	---	--	---	--	--	--	--	---	--
Pittsburgh	1151	987.0	1019.0	34	22	27.7	-1.3	52	6	9	23+	0	29	22	80	1.90	-.87	.44	16	0	7.3	4	10.4	NW	*29	WSW	30	5	6	20	7.8	42
Reading (U)	266	1002.3	------	34	27	32.7	.5	50	10	17	2	0	27	--	--	1.54	-1.61	.62	9	0	3.8	3	14.4	---	49	N	8	4	11	16	7.2	39
Scranton	940	980.6	1016.2	31	20	25.4	-1.5	44	10	8	2	0	29	18	73	1.01	-1.25	.28	12	0	4.7	3	7.4	NNW	42	W	30	1	8	22	8.0	28
Shippingport (U)	736	------	------	35	22	28.5	---	52	6	9	24	0	29	--	--	1.27	----	.42	10	0	4.0	4	3.3	---	%44	WNW	30	--	--	--	---	--
Williamsport	527	997.0	------	36	22	28.7	.2	47	10	8	25	0	28	--	--	1.48	-1.11	.37	14	0	6.3	4	----	---	--	---	--	7	5	19	7.1	--
RHODE ISLAND																																
Block Island	110	1005.9	1010.5	37	27	32.1	.2	47	3	12	2	0	22	--	--	3.59	-.08	.96	13	0	10.2	6	----	---	--	---	--	8	6	17	6.7	--
Providence	55	1005.4	1011.7	36	24	30.4	1.7	45	8+	3	2	0	24	22	73	4.92	1.17	1.36	13	0	10.0	10	12.4	NW	*36	NNE	9	11	1	19	6.5	42
SOUTH CAROLINA																																
Charleston (U)	9	------	------	55	39	46.7	-4.7	69	29	30	9	0	3	--	--	1.99	-.49	.65	6	2	.0	0	10.5	---	28	NE	24+	12	6	13	5.3	63
Charleston	41	1014.9	1016.8	56	34	45.1	-5.2	73	30	24	15	0	16	33	69	2.56	.08	.83	6	0	.0	0	11.6	WNW	--	---	--	13	6	12	5.1	--
Columbia	217	1007.9	1016.4	55	30	42.7	-4.3	71	6+	20	1+	0	22	30	69	1.73	-1.41	1.03	5	0	T	0	7.9	NW	27	SSW	30	12	9	10	5.1	62
Florence	146	1010.6	------	54	32	43.1	-3.2	72	30	23	1	0	17	--	--	1.69	-1.16	.85	6	0	T	T	----	---	--	---	--	15	4	12	5.2	--
Greenville	1018	978.2	1016.3	50	32	40.9	-2.4	65	6	23	17	0	19	24	57	1.58	-2.88	.92	6	1	.1	T	12.0	N	42	NE	8	9	10	12	5.8	61
Spartanburg	801	------	------	51	31	40.7	-2.7	65	6	24	8+	0	20	--	--	1.40	-3.11	.80	3	0	1.0	1	9.2	NW	*29	NW	16	--	--	--	---	--
SOUTH DAKOTA																																
Huron	1282	973.9	1024.1	18	0	9.1	-4.4	38	5	-23	21	0	31	5	83	.46	-.11	.18	8	0	7.6	11	11.9	SSE	60	SE	8	11	4	16	6.2	49
Rapid City	3165	901.5	1020.0	32	14	23.1	2.0	60	8	-10	31	0	31	15	75	.47	-.01	.22	8	0	3.6	2	8.3	NNW	43	N	14	7	4	20	7.0	51
Sioux Falls	1420	969.2	1023.9	22	1	11.2	-3.0	46	5	-20	21+	0	31	4	67	.58	-.14	.22	9	0	9.2	8	10.5	NW	*32	NW	14	9	4	18	6.6	--
TENNESSEE																																
Bristol	1519	962.8	------	41	24	32.2	-6.4	58	6	15	9	0	29	--	--	2.36	-1.14	.63	12	0	9.2	6	----	---	--	---	--	7	3	21	7.4	--
Chattanooga	670	991.5	1019.9	48	29	38.1	-3.5	68	6	18	15+	0	24	27	69	2.60	-2.63	1.01	9	2	T	T	7.8	NNE	45	W	30	6	5	18	7.0	36
Knoxville	950	983.4	1019.7	44	28	36.1	-4.4	63	6+	17	9	0	28	28	75	3.18	-1.36	1.26	11	1	7.0	4	7.0	NE	43	W	29	6	5	20	7.4	33
Memphis (U)	271	------	------	46	31	38.6	-3.3	68	6	19	24	0	19	--	--	3.42	-1.96	1.44	8	--	3.0	3	----	---	--	---	--	--	--	--	---	--
Memphis	263	1006.1	1021.2	47	30	38.7	-2.9	70	6	20	14	0	22	27	67	4.14	-1.41	2.00	8	1	5.2	5	11.6	N	43	NW	29	9	4	18	6.5	49
Nashville	577	1000.3	1020.7	45	27	35.9	-4.0	67	6	14	24+	0	26	28	77	5.67	.74	4.23	10	3	5.1	4	9.6	NNW	29	W	30	9	3	19	7.0	42
Oak Ridge (R)	905	985.3	------	44	26	35.0	-3.1	62	6+	14	9	0	29	--	--	4.57	-1.49	2.77	11	0	6.6	4	----	---	--	---	--	7	4	20	7.2	--
TEXAS																																
Abilene	1759	956.3	1018.8	55	31	43.4	.1	79	5	13	19	0	20	27	60	.69	-.19	.53	4	0	3.3	3	10.7	N	36	S	26+	11	3	17	6.0	64

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	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	Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	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.			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd.)																																
Amarillo	3590	889.3	1017.9	51	24	37.5	2.2	78	5	3	18	0	28	17	52	0.09	-0.55	0.04	5	0	0.7	1	11.6	S	41	W	27	10	4	17	6.1	68
Austin	615	997.0	1019.5	61	41	50.8	.9	84	6	27	19	0	4	35	62	1.65	-.98	1.17	6	2	.0	0	10.6	N	33	NE	3	11	6	14	5.6	57
Brownsville	16	1015.2	1017.6	74	52	63.0	2.5	82	2+	37	19	0	0	56	82	T	-1.55	T	0	0	.0	0	11.6	SSE	34	NW	18+	11	11	9	4.9	64
Corpus Christi	40	1017.3	1018.4	69	48	58.6	1.7	83	6	31	19	0	1	50	78	.43	-.96	.41	4	1	.0	0	10.0	NNE	34	S	28	11	11	9	4.9	67
Dallas	487	1001.4	1020.5	55	35	45.1	-.6	78	5	15	19	0	13	31	63	1.66	-.81	1.09	6	0	3.2	3	8.0	NNW	30	S	14	13	2	16	5.7	56
Del Rio	1091	983.4	1018.6	64	39	51.2	-.7	78	6+	29	19	0	6	37	62	.28	-.55	.19	4	0	.0	0	7.4	---	34	NW	18	15	7	9	4.4	64
El Paso	3920	886.9	1016.2	62	37	49.7	6.3	73	27	24	18	0	10	24	38	.35	-.07	.35	2	0	.0	0	11.7	N	36	NW	29	6	10	15	6.3	71
Fort Worth	544	999.3	1020.7	56	34	44.9	-.4	79	5	14	19	0	13	30	61	1.34	-1.08	.89	5	0	3.8	4	11.9	N	*37	NNW	30	12	3	16	5.7	--
Galveston (U)	7	------	------	62	49	55.5	1.0	72	6	33	19	0	0	--	--	2.44	-1.65	1.44	5	--	.0	0	12.8	---	33	NE	17	--	--	--	---	55
Galveston	5	1016.9	1019.2	62	49	55.1	.8	72	6+	34	19	0	0	47	77	3.14	-1.20	1.83	7	3	.0	0	18.3	NNE	--	---	--	11	8	12	5.3	--
Houston (U)	41	1013.5	------	64	47	55.2	1.4	80	6	33	19	0	0	--	--	3.19	-.79	1.23	8	6	.0	0	10.4	---	28	N	30	13	4	14	5.3	52
Houston	50	1016.6	1019.4	64	45	54.3	1.0	80	6	32	20	0	1	44	72	3.96	-.20	1.66	8	3	.0	0	12.7	ENE	--	---	--	9	8	14	5.7	--
Laredo	500	1002.4	1017.7	71	46	58.5	.9	90	29	32	13+	1	2	43	63	.15	-.87	.10	5	1	.0	0	8.7	ENE	*32	NNE	30	14	9	8	4.7	--
Lubbock	3243	903.5	1017.8	56	25	40.5	1.7	78	5	10	18	0	28	21	52	.01	-.66	.01	1	0	.0	0	12.9	WSW	*52	W	29	11	4	16	5.8	--
Midland	2854	917.0	1017.7	60	30	45.2	1.0	75	5	11	18	0	20	25	52	.16	-.46	.08	3	0	.8	1	7.1	SW	*31	WSW	29	13	4	14	5.5	--
Port Arthur	16	1018.3	1019.5	63	43	52.9	.0	77	6	30	9	0	4	44	75	3.50	-1.62	1.72	4	4	.0	0	12.9	N	41	N	30	13	5	13	5.3	54
San Angelo	1903	950.2	1018.8	59	33	46.3	-1.0	80	5	12	19	0	14	29	57	.71	-.28	.44	4	0	3.1	3	9.5	SW	*35	NW	29	13	3	15	5.2	--
San Antonio	792	993.6	1018.8	64	41	52.1	1.5	81	6	27	14	0	6	37	63	.81	-1.00	.72	3	1	.0	0	8.9	N	43	N	3	10	6	15	5.5	61
Victoria	110	1013.9	1018.6	67	45	55.6	.4	82	6	31	14+	0	3	43	67	1.14	-1.58	.80	7	2	.0	0	11.0	---	%45	S	28	11	7	13	5.3	--
Waco	500	998.0	1019.6	59	36	47.4	.1	84	6	21	19	0	15	34	64	2.75	.37	1.52	5	2	.9	1	13.8	N	--	---	--	12	3	16	5.7	--
Wichita Falls	1027	982.7	1020.0	52	29	40.4	-.2	76	5	12	19	0	23	26	61	.39	-.92	.17	6	0	2.4	2	10.1	N	*23	ESE	23+	11	4	16	6.1	--
UTAH																																
Milford	5028	842.9	1017.1	49	23	36.2	12.4	63	10	9	31	0	26	--	--	.51	-.06	.14	7	1	1.9	T	----	---	--	---	--	4	7	20	7.5	--
Salt Lake City	4220	866.6	1017.6	45	26	35.5	9.0	58	7	2	31	0	25	27	75	2.39	1.19	.80	9	0	6.5	4	8.0	SSE	34	S	26	4	3	24	8.0	34
VERMONT																																
Burlington	331	1001.0	1016.4	25	14	19.6	1.7	45	9	-12	2	0	30	14	77	1.92	.03	.74	13	0	16.7	6	8.6	N	36	S	29	3	3	25	8.6	27
VIRGINIA																																
Lynchburg	947	981.4	------	45	28	36.4	-1.3	61	30	18	27	0	27	--	--	.76	-2.67	.29	9	1	2.1	1	9.6	---	35	NW	10	7	14	10	5.9	50
Norfolk	26	1013.2	1014.4	44	31	37.2	-4.3	69	30	22	28	0	22	29	74	2.49	-.68	1.05	8	0	.4	T	13.5	NNW	42	SW	30	7	9	15	6.7	45
Richmond	162	1009.3	1015.6	45	27	36.0	-2.3	64	30	16	28	0	25	26	70	1.65	-1.99	.82	10	0	1.1	1	8.8	NNW	34	SW	30	8	7	16	6.4	49
Roanoke	1174	973.8	1016.8	43	27	35.4	-2.5	60	30	18	27+	0	24	22	59	.60	-2.79	.22	8	1	2.5	T	10.2	NW	--	---	--	8	11	12	5.8	--
WASHINGTON																																
Olympia	190	1003.7	1011.8	45	31	38.0	1.0	57	11	11	31	0	17	34	84	10.75	4.06	1.62	26	0	4.9	3	7.7	SSW	*55	S	5	2	3	26	8.7	--
Seattle (U)	14	------	------	46	38	41.7	1.0	54	5+	23	31	0	5	--	--	7.82	3.33	1.12	26	1	.3	T	10.3	---	42	SE	5+	4	3	24	8.0	41
Seattle	14	1011.1	1012.2	--	--	----	---	--	--	---	--	--	--	35	81	------	----	----	--	--	---	--	6.9	SSE	--	---	--	--	--	--	---	--
Seattle-Tacoma	379	998.0	1012.5	44	34	39.0	1.8	56	11	17	30+	0	10	34	84	8.67	3.94	1.24	24	1	.4	T	12.6	SE	*36	SW	16	2	4	25	8.5	--
Spokane	2357	945.1	1015.6	34	24	28.9	4.0	47	6	-11	31	0	27	25	86	2.87	1.15	.66	19	0	18.9	7	8.1	NE	38	S	4	4	3	24	8.3	23
Stampede Pass(R)	3958	872.0	1014.0	26	20	22.9	-.8	33	12+	-2	31	0	31	--	--	10.38	-2.67	1.97	26	0	90.3	143	----	---	--	---	--	2	1	28	9.0	--
Tatoosh (R)	101	1005.8	1009.7	45	38	41.2	-.8	53	12+	29	30+	0	4	36	82	11.97	1.78	2.85	26	3	4.2	2	19.5	E	61	E	14	3	3	25	8.5	22
Walla Walla (U)	949	979.3	1015.9	41	28	34.7	2.7	58	4+	-4	31	0	18	--	--	3.29	1.61	1.32	18	0	11.7	7	5.2	---	27	S	6	3	6	22	8.2	24
Yakima	1061	975.6	1015.9	36	19	27.2	.3	48	16	-15	31	0	31	23	84	3.25	2.29	1.18	19	0	26.2	13	5.3	W	--	---	--	4	5	22	8.0	--
WEST VIRGINIA																																
Charleston	950	982.0	1019.2	39	23	30.9	-5.5	61	6	8	18	0	28	23	76	2.72	-1.27	.72	12	2	8.4	4	6.9	WSW	*23	WSW	30	1	10	20	8.0	--
Elkins	1969	------	------	35	16	25.7	-6.5	60	6	-3	28	0	30	19	--	3.07	-.15	.50	17	1	18.0	10	6.1	---	*40	WNW	30	1	9	21	8.0	--
Huntington (U)	565	------	------	40	24	32.0	-6.0	62	6	14	18	0	28	--	--	2.75	-.86	1.07	11	--	8.8	4	----	---	--	---	--	--	--	--	---	--
Parkersburg (U)	615	------	------	38	23	30.2	-4.2	56	6	11	27	0	29	--	--	2.58	-.59	.93	13	2	9.5	4	6.0	---	29	W	30	6	7	18	7.0	32
WISCONSIN																																
Green Bay	689	999.0	1023.1	27	8	17.8	1.7	38	14	-16	21	0	31	11	74	.56	-.73	.31	4	0	4.0	2	9.1	NE	27	W	29	10	9	12	5.6	60
La Crosse	652	997.3	1023.7	25	6	15.6	-.1	39	14	-19	21+	0	31	9	75	.46	-.76	.20	7	0	5.8	7	6.6	NNW	*27	NW	6	13	5	13	5.6	--
Madison	857	985.4	1022.8	31	12	21.0	1.9	42	13	-11	21	0	31	14	76	.43	-.88	.16	7	0	3.9	3	8.1	WNW	30	NW	6	10	5	16	6.3	49
Milwaukee	675	995.9	1022.1	32	18	24.9	3.0	41	5+	-6	22	0	30	17	73	.57	-1.01	.22	7	0	4.4	3	13.1	WNW	35	SE	28	8	6	17	6.7	46
WYOMING																																
Casper	5322	834.1	1016.4	37	18	27.4	5.1	54	10	-6	31	0	30	15	63	.44	-.25	.16	9	0	9.0	3	14.0	SW	*46	WSW	8	8	3	20	6.9	--
Cheyenne	6131	808.3	1017.4	41	17	28.9	3.4	62	4+	-7	31	0	30	11	52	.70	.14	.36	5	0	8.6	6	12.9	WNW	49	W	8	9	11	11	5.9	57
Lander	5563	832.7	1019.1	32	12	22.0	5.2	51	4	-15	31	0	30	12	68	.67	.17	.42	4	0	8.7	6	5.2	---	42	W	5	7	8	16	6.5	62
Sheridan	3942	883.2	1019.9	32	11	21.2	1.1	56	4	-15	31	0	30	14	74	.55	-.20	.20	12	0	9.4	6	6.5	S	45	W	8	6	7	18	6.7	47
PACIFIC AREA																																
Canton Island	9	1007.5	1007.8	87	76	81.5	-1.5	89	20+	74	25+	0	0	70	72	.30	-.78	.25	2	0	.0	0	----	---	--	---	--	11	14	6	4.8	--
Hilo	31	1011.5	1013.0	81	64	72.0	1.6	87	13	60	5	0	0	64	81	7.95	-6.18	2.67	19	0	.0	0	9.1	SSW	*28	SSE	11	9	9	13	6.1	53
Honolulu	7	1012.5	1012.9	80	67	73.3	1.1	84	7	62	31	0	0	66	78	3.58	-1.07	2.04	12	0	.0	0	7.9	ENE	54	W	12	5	12	14	6.4	56
Koror (R)	94	1004.7	1008.6	85	74	79.7	-.5	88	7+	72	23+	0	0	75	85	24.45	12.42	5.47	29	1	.0	0	----	---	--	---	--	0	2	29	9.4	--
Lihue	115	1007.1	1012.3	79	65	71.9	1.8	84	16	59	14+	0	0	66	86	17.56	11.33	11.09	15	3	.0	0	9.0	WNW	36	SW	12	10	7	14	6.1	36
Majuro	10	1007.1	1007.4	84	77	80.5	---	87	31	73	2	0	0	74	81	9.36	-----	2.30	17	0	.0	0	----	---	--	---	--	6	8	17	7.1	--
Ponape (R)	112	1003.1	1008.5	85	75	80.2	-1.0	90	23	72	7+	1	0	74	82	17.61	5.87	3.66	23	4	.0	0	----	---	--	---	--	0	9	22	8.5	--
Truk (Moen Island)	8	1007.8	1008.3	85	77	80.7	-.2	86	1+	73	6+	0	0	74	80	10.59	3.00	2.34	23	2	.0	0	----	---	--	---	--	0	7	24	8.6	--
Wake Island	11	1012.2	1012.6	81	71	75.9	-1.6	83	16	66	6	0	0	62	65	1.92	.66	1.26	6	0	.0	0	14.9	ENE	--	---	--	14	13	4	4.1	--
Yap (R)	53	1006.8	1008.6	85	76	80.2	-.6	87	4+	72	12+	0	0	74	80	7.78	.95	2.91	26	0	.0	0	----	---	--	---	--	0	0	31	10.0	--
WEST INDIES																																
San Juan (U)	47	------	------	80	70	75.1	.2	87	11	66	16	0	0	--	--	3.00	-1.69	1.11	10	2	.0	0	----	---	--	---	--	--	--	--	---	--
San Juan P.R.	9	1012.0	1014.5	81	67	73.9	---	85	11+	62	21	0	0	65	79	3.48	----	1.23	11	2	.0	0	10.1	NE	29	NE	31	12	10	9	5.3	60

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.
\+ And also on a later date or dates.
% Peak gust.
a Maximum hourly average.
ø Station pressures apply to elevations shown in Table 10b of the annual issue of this publication.

HEATING DEGREE DAYS

Base 65°F.

Table 3 — JANUARY 1956

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	719	1961	1753
Mobile	489	1211	1039
Montgomery	623	1622	1381
ARIZONA			
Flagstaff	979	3620	4198
Phoenix (U)	219	602	980
Phoenix	271	731	1119
Prescott	699	2120	2641
Tucson	268	754	1123
Winslow	725	2213	2904
Yuma	178	576	682
ARKANSAS			
Ft. Smith	842	2263	2048
Little Rock	769	2045	1898
Texarkana	652	1745	1513
CALIFORNIA			
Bakersfield	423	1167	1380
Bishop	793	2431	2515
Blue Canyon	955	3103	2899
Burbank	324	892	976
Eureka (U)	487	2716	2585
Fresno	517	1452	1640
Los Angeles (U)	271	758	779
Los Angeles	316	873	1075
Mt. Shasta (R)	940	3299	3324
Oakland	485	1807	1790
Red Bluff	552	1516	1559
Sacramento (U)	512	1383	1594
Sacramento	535	1490	1714
Sandberg (R)	635	2038	2184
San Diego	290	735	813
San Francisco (U)	405	1899	1709
San Francisco	461	1830	1890
San Jose	403	1301	1348
Santa Maria	436	1781	1566
COLORADO			
Alamosa	1295	4564	5112
Colorado Springs	1036	3346	3513
Denver	955	3188	3489
Grand Junction	870	2970	3564
Pueblo	1088	3155	3383
CONNECTICUT			
Bridgeport	1053	3143	3169
Hartford	1113	3614	3458
New Haven	1073	3326	3276
DELAWARE			
Wilmington	1021	3018	2824
DIST. OF COLUMBIA			
Washington (U)	926	2632	2488
Washington	937	2680	2523
FLORIDA			
Apalachicola (U)	454	965	827
Daytona Beach	381	682	533
Fort Myers	209	325	250
Jacksonville (U)	404	876	719
Jacksonville	454	964	804
Key West (U)	27	29	46
Miami (U)	135	169	110
Miami	132	156	118
Miami Beach	97	111	80
Orlando	305	530	410
Pensacola (U)	475	1086	912
Tallahassee	496	1182	991
Tampa	298	521	424
West Palm Beach	178	219	154
GEORGIA			
Athens	712	2024	1738
Atlanta	724	1959	1757
Augusta	682	1827	1356
Columbus	639	1712	1514
Macon	598	1598	1321
Rome	789	2264	1956
Savannah	568	1445	1099
IDAHO			
Boise	970	3356	3509
Lewiston	989	3565	3307
Pocatello	1120	3838	4060
ILLINOIS			
Cairo (U)	942	2549	2321
Chicago (U)	1085	3335	
Chicago	1123	3535	3595
Chicago University	1116	3480	
Moline	1305	3905	3730
Peoria	1208	3648	3563
Springfield	1204	3476	3359
INDIANA			
Evansville	1040	2959	2654
Ft. Wayne	1226	3672	3582
Indianapolis	1164	3454	3263
South Bend	1214	3729	3694
IOWA			
Burlington	1297	3832	3605
Des Moines	1392	4161	3802
Dubuque	1404	4377	4215
Keokuk (U)	1189	3406	
IOWA (Cont'd.)			
Sioux City	1489	4448	4156
KANSAS			
Concordia (U)	1238	3512	3192
Dodge City	1033	3050	3027
Goodland	1123	3591	3676
Topeka (U)	1191	3269	2979
Topeka	1214	3346	3152
Wichita	1094	3005	2786
KENTUCKY			
Lexington	1031	2963	2892
Louisville	999	2805	2666
Pikeville (U)	939	2544	
LOUISIANA			
Baton Rouge	448	1099	1039
Lake Charles	388	951	1009
New Orleans (U)	391	898	770
New Orleans	414	985	848
Shreveport	569	1492	1398
MAINE			
Caribou	1348	5200	5663
Greenville (U)	1364	5045	
Portland	1161	4264	4220
MARYLAND			
Baltimore (U)	903	2652	2417
Baltimore	995	2938	2773
Frederick	1069	3262	2842
MASSACHUSETTS			
Blue Hill Obs. (R)	1181	3844	
Boston	1057	3320	3128
Nantucket	988	3193	3098
Pittsfield	1330	4403	4291
MICHIGAN			
Alpena (U)	1330	4255	4320
Detroit	1190	3552	3536
Detroit (Willow Run)	1225	3670	3614
East Lansing (U)	1260	3800	
Escanaba (U)	1373	4569	4686
Grand Rapids	1255	3850	3927
Marquette (U)	1300	4494	4602
Muskegon	1236	3806	3836
S. Ste. Marie	1498	4921	5162
MINNESOTA			
Duluth (U)	1591	5520	5386
Duluth	1625	5665	5600
Internat. Falls	1756	6200	6145
Minneapolis	1615	4980	4577
Rochester	1625	5054	4716
St. Cloud	1742	5557	5173
MISSISSIPPI			
Jackson	635	1672	1417
Meridian	647	1723	1517
Vicksburg (U)	590	1500	1282
MISSOURI			
Columbia	1121	3164	3064
Kansas City	1143	3103	2960
St. Joseph	1241	3550	3223
St. Louis (U)	1060	2873	2686
St. Louis	1101	3011	2822
Springfield	1071	2977	2842
MONTANA			
Billings	1331	4489	4072
Glasgow (U)	1837	5892	5141
Great Falls	1363	4885	4270
Havre (U)	1681	5712	4811
Helena	1495	5239	4818
Kalispell	1320	5153	4720
Miles City	1683	5215	4584
Missoula	1302	4936	4684
NEBRASKA			
Grand Island	1371	4143	3761
Lincoln (U)	1303	3782	3490
Norfolk	1501	4563	4161
North Platte	1288	4294	3852
Omaha	1354	3972	3675
Scottsbluff	1175	4015	3925
Valentine (U)	1405	4617	4091
NEVADA			
Elko	1062	4130	4241
Ely	1019	4007	4232
Las Vegas	497	1384	1622
Reno	952	3315	3474
Tonopah	907	3041	3323
Winnemucca	933	3621	3765
NEW HAMPSHIRE			
Concord	1216	4254	4299
Mt. Washington Obs.	1560	7555	
NEW JERSEY			
Atlantic City (U)	978	2715	2502
Newark	1013	3005	2951
Trenton (U)	1014	3002	2856
NEW MEXICO			
Albuquerque	736	2230	2727
NEW MEXICO (Cont'd.)			
Clayton	896	2731	2986
Roswell	703	2029	2202
NEW YORK			
Albany	1279	4050	3901
Binghamton	1356	4290	4193
Buffalo	1243	3733	3695
New York (U)	995	2903	2766
New York	991	2807	2724
Rochester	1296	3894	3765
Schenectady	1227	3797	
Syracuse	1307	3918	3594
NORTH CAROLINA			
Asheville (U)	937	2670	2427
Asheville	964	2870	
Charlotte	737	2083	1978
Greensboro	880	2550	2319
Hatteras (R)	777	1758	1315
Raleigh	802	2348	2036
Wilmington	708	1820	1402
Winston-Salem	837	2400	2255
NORTH DAKOTA			
Bismarck	1867	5950	5254
Devils Lake (U)	1936	6361	5769
Fargo	1826	5825	5399
Grand Forks	1931	6221	
Pembina	1938	6196	
Williston (U)	1800	5909	5271
OHIO			
Akron	1217	3716	3464
Cincinnati (U)	1002	2781	2653
Cincinnati	1104	3161	3028
Cleveland	1151	3436	3313
Columbus	1152	3306	3233
Dayton	1193	3431	3222
Sandusky (U)	1186	3413	3238
Toledo	1266	3840	3573
Youngstown	1221	3745	3437
OKLAHOMA			
Oklahoma City	888	2488	2282
Tulsa	905	2410	2238
OREGON			
Astoria	712	3142	2733
Burns (U)	1202	4121	4103
Eugene	712	2815	2770
Meacham	1135	4618	4348
Medford	747	2610	2711
Pendleton	953	3396	3161
Portland (U)	693	2559	2418
Portland	770	2896	2673
Roseburg	716	2588	
Salem	736	2800	2640
Sexton Summit (R)	968	3707	3278
PENNSYLVANIA			
Allentown	1103	3462	3337
Harrisburg	1015	3181	3022
Philadelphia (U)	954	2687	2557
Philadelphia	1011	2930	2777
Pittsburgh (U)	1050	3061	2882
Pittsburgh	1149	3461	3384
Reading (U)	995	3013	2888
Scranton	1222	3785	3413
Williamsport	1115	3560	3382
RHODE ISLAND			
Block Island	1015	3096	2989
Providence	1066	3449	3346
SOUTH CAROLINA			
Charleston (U)	557	1332	1103
Charleston	610	1586	1250
Columbia	683	1842	1544
Florence	672	1826	1603
Greenville	739	2085	1873
Spartanburg	745	2099	1881
SOUTH DAKOTA			
Huron	1732	5347	4626
Pierre	1642	5162	
Rapid City	1294	4427	4219
Sioux Falls	1663	5099	4637
TENNESSEE			
Bristol	1010	2861	2506
Chattanooga	828	2339	2105
Knoxville	890	2489	2214
Memphis	806	2146	1973
Nashville	895	2468	2150
TEXAS			
Abilene	666	1692	1721
Amarillo	844	2428	2651
Austin	445	1105	1130
Brownsville	118	295	437
Corpus Christi	228	563	695
Dallas	615	1566	1477
Del Rio	423	1060	1004
El Paso	468	1296	1756
Ft. Worth	625	1589	1512
Galveston (U)	291	689	758
Galveston	303	707	780
Houston (U)	320	782	843
TEXAS (Cont'd.)			
Houston	342	849	903
Laredo	227	545	576
Lubbock	751	2076	2256
Midland	604	1573	
Port Arthur	380	951	993
San Angelo	574	1470	1410
San Antonio	413	1024	1062
Victoria	305	759	760
Waco	546	1385	1311
Wichita Falls	759	1981	1937
UTAH			
Milford	886	3185	3828
Salt Lake City	908	3135	3473
VERMONT			
Burlington	1400	4475	4385
VIRGINIA			
Lynchburg	883	2692	2471
Norfolk	854	2246	1986
Richmond	896	2574	2360
Roanoke	910	2712	2472
WASHINGTON			
Olympia	833	3458	3122
Seattle (U)	714	2855	2529
Seattle-Tacoma	800	3360	3025
Spokane	1114	4287	3993
Stampede Pass (R)	1298	5860	5111
Tatoosh Island (R)	730	3593	3193
Walla Walla (U)	931	3240	2989
Yakima	1161	4175	3657
WEST VIRGINIA			
Charleston	1049	2940	2607
Elkins	1211	3662	3312
Huntington (U)	1012	2797	2434
Parkersburg (U)	1072	3013	2773
WISCONSIN			
Green Bay	1456	4657	4641
La Crosse	1527	4649	4459
Madison (U)	1345	4227	4164
Madison	1357	4302	4269
Milwaukee	1234	3961	3999
WYOMING			
Casper	1161	4124	4345
Cheyenne	1113	3893	4137
Lander	1327	4459	4833
Sheridan	1352	4635	4505

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

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

January 1956

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage by catagories †: Property (exclusive of crops)	Estimated damage by catagories †: Crops	Character of storm	Remarks
KANSAS Western and southern portions	1	Day							Wind and dust	Storm began early in morning in northwestern part of State and progressed southeastward across the State, with little evidence of dust after 8 p.m., in extreme southeastern corner of Kansas. By 6:30 a.m., northwest winds reached 37 m.p.h., in gusts at Goodland and visibility was reduced to 1-1/2 miles by blowing dust. Winds increased to 50 m.p.h., by 10:30 a.m., and visibility was reduced to 1/16 mile for several hours. After 3 p.m., wind quieted down and by evening visibility had increased to 10 miles. Most intense part of storm at Garden City and Dodge City was from about 10:30 a.m., to 2 p.m., when gusts of 50 to 60 m.p.h., from northwest recorded and visibility reduced to 1/2 mile. At Wichita, lowest visibility was only 3/4 mile at 12:48 p.m., and highest gust of wind 44 m.p.h., from west-northwest at 10:28 a.m. Top of dust reported as 5,900 feet m.s.l., near Wichita. In extreme southeast, cooperative observers stated sun was obscured last half hour before setting and visibilities were about 1 mile. Occasional southern sloping fields suffered most damage from wind.
	1									Minor storm also reported in western half of South Dakota.
WASHINGTON	1-6					3			Rain, snow, and thunderstorm	Continuous heavy rain in lower elevations of west, snow in mountains, and rain and snow in east. Thunderstorm occurred with passage of frontal system across State on 4th. Heavy rain and thunderstorm activity in west. 4-lane highway bridge destroyed over Salmon Creek a few miles north of Vancouver. This loss estimated at $75,000. Snow slides blocked highway passes. 1 family narrowly escaped serious injury when their car was covered by snowslide on Snoqualmie Pass. 3 persons injured when landslide destroyed their home in Seattle. Several residences and other buildings in western Washington damaged or destroyed by landslides. Many streams in east were out of bank as result of rain and rapidly melting snow on 4th. Soil erosion serious in several localities. Highway damage extensive in several places in southern half of east. Rail and highway traffic delayed by landslides in lower elevations of west.
IOWA Iowa City	3					1	1	1	Wind	Carpenter fell through stair well, resulting in back and arm injuries.
OREGON	4-6		300-400	*200-300	4	Several	5	1	Wind, rain, and snow	High winds accompanied by heavy rains becoming wet, heavy snow in some areas. Series of storms which began moving inland from Gulf of Alaska across northern Pacific Coast on 2d touched northern border of Oregon on 3d, when moderate snowstorm in Columbia Gorge halted over a thousand automobiles for several hours. On 4th, gusts recorded between 50 and 65 m.p.h., over much of western portion of State, with considerably higher peak speeds estimated in more exposed areas. Heavy rains turned to wet, heavy snow on evening of 5th and morning of 6th at many points, particularly in upper Willamette and upper Umpqua Valleys. Ground saturated from very heavy rainfall in December afforded only very minimum support to tree roots, power and telephone poles, and even foundations to hillside buildings. This combination of wind, rain, and snow toppled hundreds of utility poles over State as well as thousands of trees, many of which fell across power and telephone lines. These utilities suffered greatest damage from a single storm in several years, as many telephones out of operation in practically every community; power interruptions also numerous and widespread. Their combined damage estimated near $275,000. Winds also caused several hundred dollars damage to windows and roofs, particularly in coastal areas. Hanger at Lebanon demolished, resulting in $2,600 damage to it and a plane stored inside. Rapid runoff from heavy rains produced heavy erosion in many agricultural areas and damaged a number of county roads and several smaller bridges. Water accumulated in low-lying areas to depth of several feet, flooding basements and even homes. Many slides, some not yet completely cleared from December rains, were reactivated. Hundreds of roads closed for varying periods of time; near Multnomah Falls in Columbia Gorge, 5 cars of freight train derailed; in Portland, several homes suffered new or additional major damage. Slides carrying trees with them also pushed out utility poles and lines. Snow halted traffic over Cascades and some Coastal Range passes and made many areas in Willamette and Umpqua Valleys extremely hazardous to motorists. Large number of auto accidents resulted. Weather contributing cause to 4 traffic fatalities in State.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage by catagories †: Property (exclusive of crops)	Estimated damage by catagories †: Crops	Character of storm	Remarks
	7									Minor storm reported in central California.
	7-14									Minor storms reported at Caesars Head, S. C.
NEW ENGLAND	8	Early a.m.-evening			4	Several hundred		1	Ice (glaze)	One of most severe icestorms of recent years in Northeast moved down from northern Maine in early morning. By midday it had covered most of New England with sheet of ice that made walking, driving, and other forms of transportation extremely difficult and hazardous. In Boston bus transportation service halted for several hours. Glazing conditions lasted from 6 to 8 hours before rising temperatures restored relatively safe footing. Property damage consisted of broken branches, broken powerlines, and automobiles damaged in collisions.
NEW ENGLAND Eastern and southern portions.	8-11						6	1	Wind and rain	One of longest enduring wind- and rainstorms of record in Northeast buffeted eastern and southern New England for 4 successive days. Major loss suffered by Maine lobstermen as storm-driven tides ripped and destroyed their gear. Parts of Maine shore littered with traps, buoys, and warp from as far away as 10 miles offshore. High seas and pounding waves also did considerable damage to shore properties and installations elsewhere along New England coast. Farther inland heavy rains caused many flooded cellars. Runoff from rain and snowmelt swelled rivers to near flood stage, but local floods due mostly to ice jams at river bends, which caused waters to back up and overflow surrounding low spots. Additional serious damage done to many roads and highways by washouts and upheavals, occasioned by mild temperatures attending storm.
NORTH CAROLINA Dare and Currituck Counties	8-12						5		Wind and high tides	Nearly stationary low pressure storm off northern North Carolina coast caused high tides and rough seas which destroyed 5 cottages, damaged others, and washed out section of highway. Houses destroyed were in Kitty Hawk area, highway damage mostly on Hatteras Island.
	8-12									Minor storm also reported in central and eastern portions of South Dakota.
VIRGINIA	9					6		1	Wind, glaze, and high tides	Severe extra-tropical storm which lingered off coast for several days. Walks, seawalls, and beaches damaged in Virginia Beach, Norfolk, and Portsmouth areas from wind and tides. Injuries were from accidents in Arlington and Fredericksburg areas, due to glazed highways which caused some schools to close. Storm moved north-northeastward.
PENNSYLVANIA	9-10						6	1	Ice	Practically all sections of State received ice damage. No large local losses, but area affected so large that damage to antennas, roofs, trees, and automobiles was appreciable on statewide basis.
	10									Minor storm reported in northern Georgia.
HAWAII	11-13						4		Wind and rain	Damage to buildings in vicinity of Kekaha, Kauai, $25,000; in Honolulu, $11,000; unestimated damage in windward sections of Oahu and Kona districts.
CALIFORNIA Northern and central portions	13-15	Evening 13th-afternoon 15th					6		Rain	Storm moved east-northeastward with heavy continuous rain which resulted in flood conditions and slides. Local lowland flooding around Guerneville resulted in light damage. Local flooding in many communities in San Francisco Bay area. Low-lying areas in Marin County hardest hit, particularly Tamalpais Valley where hundreds of persons were evacuated; also Bolinas on the coast where serious landslides resulted. 4.70 inches of rain recorded at San Francisco during period. Mudslides caused considerable damage in areas of new construction in Peninsula cities south of San Francisco. Heavy rains along north coast on 14th and 15th caused considerable damage to previously weakened highways and railroads.
KANSAS Western half	14	9 a.m.-3 p.m.							Wind and dust	Conditions in storm not quite as severe as in storm on January 1. Lowest visibility was only 3/4 mile for 2 hours from 9 to 11 a.m., at Goodland. Visibility was reduced to 2 miles at Hill City, Russell, Garden City, and Dodge City for several hours near midday, and to 3 miles at Hutchinson and Wichita for short periods late in afternoon. Peak wind speed was 46 m.p.h., from north-northwest at both Hill City and Garden City at about 1 or 2 p.m. Some soil sifted from unprotected fields. Storm moved southeastward.
	14-15									Minor storm reported in northern half of South Dakota.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

January 1956

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage by catagories †: Property (exclusive of crops)	Estimated damage by catagories †: Crops	Character of storm	Remarks
OREGON	14-16		300	*100-200			5	3	Rain, wind, and snow	Heavy rains in western Oregon accompanied by high winds in coastal area, largely snow east of Cascades. Heaviest damage again due to slides and destruction of utility poles and lines. Losses to power and telephone installations estimated at $95,000 in Oregon resulted from: (1) High winds in coastal area that dropped trees across powerlines; (2) slides which pushed poles out of place; (3) slides which pushed trees through lines tangling them. Utility service interruptions numerous over State, some lasting 2 to 3 days. Rapid runoff from rains and/or melting snow damaged several county roads and bridges through central Oregon, and near Prineville rapidly rising Crooked River surrounded 12 homes, flooding some of them. On Willamette River persistent high water continued to interrupt movement of large, log rafts on which substantial portion of paper and lumbering industries in and around Portland are dependent. Scores of roads over western Oregon closed by slides. In Portland a number of streets either covered over from hillslides above or they themselves slid out. Damage to a number of yards and homes continued. Storm moved eastward.
WASHINGTON	14-23						5		Rain and snow	Heavy rain in lower elevations of west, snow in mountains, and rain and snow in east. Snowslides frequent in mountains, blocking highways, and landslides increased in lower elevations of west. Roofs of several warehouses and other buildings along east slope of Cascades collapsed from weight of snow. Runoff water from melting snow and rain damaged roads and property in some low-lying localities. Several residences in vicinity of Seattle damaged or destroyed by landslides. Damage in 1 slide area north of Seattle estimated at $100,000. Rail traffic delayed for several hours by slide between Seattle and Everett. Overall damage to highways and property as result of rain, snow, and slides estimated to be several hundred thousand dollars.
IOWA Northwestern half	15-16	All day				1	4	1	Snow, wind, and cold	Highways slick, resulting in several vehicle accidents; 1 man hospitalized.
KENTUCKY	16					1			Ice (glaze) and snow	Snow-and ice-covered streets caused numerous minor accidents and at least 1 injury.
TEXAS	17				4				Snow and ice	Snow occurred across northern tier of counties and snow cover extended from Texarkana south to College Station and west on line north of Austin to Marfa. Belt of sleet and freezing drizzle extended about 20 miles south of snowline through Austin. 3/4-inch ice coat broke lines and tree limbs, isolating Burnet for about 12 hours. Many schools closed because of icy roads. 4 fatalities due to automobile accidents on icy roads and bridges.
OREGON Columbia Basin (northern portion)	17-18	6 p.m.-8 a.m.	135	*15-25			4	1	Rain and ice	Freezing rain often mixed with snow occurred in northern Columbia Basin from Wamic to Weston during night and early morning. Heavy coating of ice formed on trees, highways, and utility lines. These produced several traffic accidents in some of which damage to cars was extensive. In Wasco to Kent area and in several other communities a number of trees either completely broken down under weight of ice or most of their larger branches broken. Several houses suffered minor damage as tree limbs came down on them. Also, many communities throughout storm area suffered several hours of interruption to power and telephone services as ice built up on transformers, burning them out or as lines gave way under weight of ice. Between Athena and Weston 10 power poles came down across highway. Storm moved eastward.
KENTUCKY Western portion	18								Ice and snow	Roads covered by sheet of ice as result of sleet and snow. Accident reports numerous.
KENTUCKY Northern portion	18-19				1	Several			Snow	Snowfall, measuring more than 5 inches, jammed traffic, caused several schools to close, cancelled airline flights, and caused accidents.
KANSAS Western and southern portions	21-26								Rain, glaze, and sleet	From 21st to 24th freezing drizzle and sleet fell in many parts of Kansas, with deposits occasionally sufficient to form glaze on wires and to make traffic hazardous. Most trouble was experienced in northwest. Accidents were of minor nature. Length of time and widespread character of this storm was more significant than its intensity.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage by catagories †: Property (exclusive of crops)	Estimated damage by catagories †: Crops	Character of storm	Remarks
FLORIDA Northern and central portions	23	Afternoon-evening				2	3	1	Wind, rain, and electrical	Thunderstorms with strong winds, heavy rain, and lightning. Property damage mostly due to trees falling on automobiles and buildings. Wind uprooted tree which fell on automobile, injuring passenger, the other injury due to lightning.
	23									Minor storm also reported in Clarke, Oconee, Hall, and Troup Counties, Ga.
HAWAII Island of Kauai (northern portion)	24-25				1		5		Rain	Heaviest rain of record in area; plantation flumes, dams, reservoirs, railroads, and other facilities washed out, severely damaged, or ruined. Estimated cost of reconstructing ruined public roads, including bridges, $300,000. Death caused by drowning.
KENTUCKY Northern portion	25					2			Snow	Snow up to 6 inches caused minor skidding accidents.
CALIFORNIA	25-27				1				Wind and rain	Could be classed as 2 storms: One low pressure area moved eastward across central California on 25th causing rain and high winds over north and central, and waves on trailing cold front caused continuous heavy rain in south on 25th and 26th. Another storm front moved across State on 26th and 27th causing heavy precipitation in central and south and high winds over much of State. Rain and wind with gusts of 50 to 60 m.p.h., in Merced-Sacramento area and 30 to 40 m.p.h., along central coast on 25th. Strong winds and heavy rains on 26th and 27th in central and south. Wind gusts of 70 m.p.h., at Blue Canyon, 58 m.p.h., at Arcata, 60 m.p.h., at Sacramento Airport, and 37 m.p.h., at Los Angeles Airport. High winds on 25th uprooted trees which caused power failures in Grass Valley area, and falling tree crushed top of automobile in Walnut Creek area. Flooding intensified by unusually high tides which flooded lowland areas in Delta and Bay areas. Levee at Alverado gave way, flooding several hundred acres of farmland. Torrential rains measured 7.84 inches during period in Santa Margarita area; 6.11 inches recorded at Los Angeles in 24-hour period which was third greatest 24-hour rainfall of record. Largest single report of damages was flooding and resulting fire at Ford Motor Company plant at Long Beach when dike broke under the influence of flood waters and high tide. Other damage largely due to inundation of many homes in low-lying sections, mostly in El Segundo, Torrance, Gardena, Venice, Lawndale, Wilmington, Playa del Rey, and Manhattan Beach areas. About 1,500 persons evacuated from their homes. Small boy fell into storm drain. Flooding also occurred in Fresno River area on 25th and 26th, with much agricultural land flooded.
OREGON Northern portion	26-27	Noon of 26th-through 27th	250	*50-150			4	1	Snow	In lower Willamette Valley and in sections of Columbia Basin snowfall very heavy. In Portland, greatest depth in 13 years recorded when maximum of 10.5 inches reached early in morning of 27th. Numerous schools closed over northwest. In lower Willamette Valley and Columbia Gorge innumerable traffic snarls developed as this snow rapidly packed into ice sheet over highways. In city of Portland from evening of 26th through 28th there were approximately 390 auto accidents due to hazardous conditions created by storm. In Hood River County another estimated 100 accidents reported due to similar causes. Both power and telephone lines again gave way under combined weight of snow and numerous trees or large branches which were broken down across them. A few cases of snow causing power outages. Snow removal cost city of Portland between $15,000 and $18,000. Storm moved eastward.
	26-27									Minor storm also reported in northern San Francisco Bay area, Calif.
SOUTH DAKOTA	27-28					Several	4	1	Rain, sleet, glaze, snow, and blizzard	Freezing drizzle, rain, and sleet fell in all but northwestern portion. Heaviest accumulations in extreme east. 5 miles south of Menno, school bus with 40 passengers slid off road, down very steep bank and overturned, injuring several persons. Telephone and telegraph lines downed, apparently by ice, in Brookings-Watertown area. Thunderstorms, unusual at this season, reported at Philip and Roscoe on 27th. Considerable blowing snow, with blizzard conditions locally in north-central.
IOWA Clinton	28	Early morning			1	3	3	1	Freezing rain (glaze)	Slippery highways resulted in several traffic accidents, 1 fatal.
LOWER MICHIGAN	28	Daytime			9	75	4	1	Freezing rain (glaze)	Freezing rain began in extreme south during morning and spread northward during day. Most deaths and

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage by catagories †		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
LOWER MICHIGAN (Contd.)										injuries caused by auto accidents on slippery streets and highways, but 2 deaths and many injuries resulted from falls on ice.
ARKANSAS Faulkner and White Counties	28	9:30-11 p.m.	29	100-200	0	12	4	1	Tornado, wind, rain, and electrical	Tornado moving northeastward destroyed 3 homes, damaged 21 others, and destroyed 7 buildings, and damaged 6. Storm traveled from Wooster to 1 mile south of Greenbrier in Faulkner County; then went aloft for 10 miles, returning to ground in Barney-Enola area in Faulkner County and remained on ground to Rosebud in White County. Principal damage in Faulkner County.
TENNESSEE Shelby County Airport (3 miles south of)	29	9 a.m.	8	600			4	1	Wind	No evidence of tornado damage. Damage spotty, with long gaps between places; 36 houses, 8 barns, and 10 chicken houses damaged.
KENTUCKY Southern portion	29								Rain	Heaviest 1-day rainfall in 31 years caused derailment of freight train and flooded scores of basements.
	29									Minor storm also reported in Tulsa, Craig, Rogers, and Mayes Counties, Okla.
GEORGIA Blakely, Early County	30	P.m.			0	0	1	1	Tornado (suspected) and wind	Referred to as "small, dip-down tornado"; lifted up large, metal awning and tossed it on top of store.
	31									Minor storm reported in Dade County, Ga.

* Miles instead of yards.

† This is a new form of presentation of storm damage estimates. The Weather Bureau has for some time recognized the fact that without detailed expert appraisal of damage all figures published are merely approximations to fact. Since errors in dollar estimates vary in proportion to the total, storms 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 1956

The most significant flooding during January occurred as in December 1955 on the West Coast. The floods were not as severe as in December, but caused considerable damage as temporary bridges and much of the repair work that had been done to roads, etc., were destroyed. The levee on the Feather River at Nicolaus, Calif., which had been only partially closed, was washed out again. Several houses and ranch buildings were under water to depths of 20 to 25 feet for approximately 6 weeks. Yuba City, Calif., was evacuated as a precautionary measure until danger of a repeat performance had passed. During December, this city was inundated to depths of 6 to 8 feet. Flooding elsewhere in the country was comparatively minor and widely scattered.

ATLANTIC SLOPE DRAINAGE

Mild weather and a rainy period from the 8th to the 16th over northern New England caused practically all of the snow in Maine and New Hampshire to melt and the ice to break up on the rivers. Some ice jams occurred along the middle reaches of the Saco and Androscoggin in Maine and on the Suncook and Pemigewassett in New Hampshire between the 10th and 13th. No property damage was caused and apparently no buildings were affected. Despite above-normal rain, reservoirs are still generally well below normal. Streams and ground water levels were slightly above normal at the end of the month.

Streams over the remainder of the Atlantic Slope drainage remained at low stages throughout the month.

EAST GULF OF MEXICO

The Chattahoochee and Flint Rivers in Georgia, the Apalachicola in Florida, and the Coosa and Cahaba Rivers in Alabama reached record low levels for the month of January. The Apalachicola at Chattahoochee, Fla., reached the all time record low of -1.5 feet established on September 24, 1925. It was the fourth consecutive month with runoff below normal in Alabama.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The snow cover over the northern half of Minnesota kept increasing throughout January. It was the heaviest snow cover in 5 years. A comparison of snow depths on January 31 with that of other years is given in the following table:

Comparative Snow Depths

Cities	Year 1956	Year 1955	Year 1952
Bemidji	26	8	17(Est)
International Falls	27(Est)	15	11
Duluth	29	17	20
Alexandria	16	6	13
New Ulm	6	4	10(Est)
Minneapolis	11	6	8
Rochester	10	3	7

The frost penetration is shallow in snow-covered areas, due to occurrence of early snow. In areas where the ground is bare or under concrete, the penetration is quite variable, running from 12 inches to as much as 6 feet. Under snow, the frost penetration varies from 3 to 20 inches.

Missouri Basin.--An unusual amount of ice collected on the Yellowstone and its tributaries during the winter and ranged in thickness from 1 to 3 feet between Park City and Miles City, Mont. A few minor ice jams were occurring at the end of the month. Along the main stem of the Missouri, the thickness of the ice ranged from 35 inches at Bismarck, N. Dak., to 20 inches at Sioux City, Iowa.

Precipitation over the Dakotas between Bismarck and Sioux City, Iowa, during December and January averaged 135 percent of normal. Snow cover at the end of the month ranged from 3 inches over the White and Niobrara Rivers in South Dakota to 11 inches over the lower James and the main stem of the Missouri between Bismarck and Mobridge, S. Dak.

A record low stage of 0.49 foot continued on the Marais des Cygnes River at Ottawa, Kans., throughout the month.

Ohio Basin.--Heavy rains on the 29th and 30th, supplemented by snowmelt runoff, caused a rapid rise to above flood stage along the Monongahela River and its tributaries between the 30th and 31st. Rainfall averaged 1.5 to 1.75 inches over the Monongahela Basin during the 36-hour period with the depth of snow on the ground at the beginning of the storm varying from a trace to 11 inches, with the heavier amounts reported over the headwater areas of the Cheat and Youghiogheny River Basins. The flood on Tenmile Creek (tributary of West Fork River) was described as one of the worst in the history at Wallace, W. Va. Water was reported as high as 5 feet in the streets and caused damage to several homes and affected traffic.

The Little Kanawha River exceeded flood stage slightly at Glenville, W. Va., on the 30th from the 1- to 2-inch rainfall during the period from the 28th to the 30th. The runoff was high, averaging nearly 2 inches, due to snowmelt and rain falling on frozen ground.

The moderate to heavy rains on the 28th and 29th

caused Paint Creek to exceed flood stage for a few hours on the 30th.

The heavy rainfall on the 29th and 30th caused the Green and Barren Rivers in Kentucky to rise to above flood stage on the 30th. They were still in flood and rising as the month ended. The rainfall during the 2-day period averaged 5.9 inches in the area from Franklin to Bowling Green to Munfordville.

The flooding in the Cumberland River Basin was due to heavy rainfall (4.1 inches) during the period from the 28th to the 30th. The excessive rains caused creeks in the Nashville area to go out of their banks and kept the Fire Department busy pumping water out of basements. A large barge loaded with about 2,500 barrels of bulk cement broke loose and drifted in against Cheatham Dam and sank.

The flooding in the Tennessee River Basin along the Duck River was due to heavy rain (3 inches) during the 24-hour period ending on the morning of the 30th. Flooding was limited to lowlands and to a few basements, and damages resulting therefrom were negligible.

Lower Mississippi Basin.--The Mississippi River reached a record low stage of -5.4 feet on the 24th at Memphis, Tenn. The previous record was -3.6 feet on November 21, 1951. At Vicksburg, Miss., it reached a low January stage of -5.6 feet on the 28th, which was the lowest January stage on record with the exception of -6.2 feet recorded in 1940.

PACIFIC SLOPE DRAINAGE

Floods occurred again on the West Coast for the second consecutive month. Some of the same areas that were hit in December were hit again in January. However, the floods were not as severe and occurred in two separate periods. The first floods were moderate and occurred from the 14th to the 16th in the area from San Francisco and Sacramento northward into extreme southwestern Oregon. Yuba City, Calif., which was inundated to depths of 6 to 8 feet during the December floods, was evacuated until danger of a break in the levee on Feather River, repaired since the December flood, had passed. About 10 days later, severe floods occurred in southern California. In the Los Angeles area, where the total storm precipitation was nearly 8 inches, flow was record high at several gaging stations. A few peak discharges in the upper Salinas River Basin exceeded those of December, but were not record breaking.

CALIFORNIA COAST DRAINAGE

Storm of January 13-15

The weather in California and southern Oregon during January continued similar to the weather in mid-December which resulted in record-breaking floods. Frontal systems moved across the area at frequent intervals and brought enough precipitation to maintain relatively high stages on most streams from San Francisco and Sacramento northward. Conditions, therefore, were favorable for high runoff when the first major storm moved across the area on the 13th, 14th, and 15th. Most stations in the Sierras recorded 4 to 7 inches of rain which extended to high elevations. Some snowmelt occurred from the fringe area of the snowpack between 5,000 and 6,000 feet, but most of the runoff was due to rain alone.

The flooding in the Russian Basin was due to rainfall averaging 4.5 inches. One of the heaviest amounts recorded was 6.65 inches at Willits Howard Forest Ranger Station. Only light flooding occurred in the headwaters on the evening of the 15th. Further downstream at Guerneville, the crest was 5.5 feet above flood stage. This was considerably less than the crest during December which was 18.6 feet above flood stage. Damage was light and consisted primarily of damage to riverbank cabins and property in resort areas.

Local flooding occurred to many communities in the San Francisco Bay area. Low-lying areas in Marin County were hardest hit, particularly in Tamalpais Valley where hundreds of people were evacuated over the 2-day period due to high tides and runoff from the heavy rains. Serious landslides occurred at Bolinas on the coast.

Light to moderate flooding occurred on the Smith and Eel Rivers between the 14th and 16th. The flood crests were considerably lower than during December. The Eel River, for example, crested 6.4 feet lower at Fernbridge than the previous month. Extensive damage occurred as most of the roads, hills, and banks were still waterlogged from the December floods. Temporary bridges and much of the repair work to both county and state roads were destroyed. The Northwestern Pacific Railroad was kept closed another week or two, due to bad slides.

On the Upper Sacramento River, the peak tributary inflow below Shasta Dam was much greater than at Christmastime. A considerable amount of local flooding occurred near the small creeks in the upper Sacramento Valley, but the only flooding along the main stem was at Red Bluff. Overflow continued at all fixed sill weirs most of the month.

On the Feather River at Nicolaus, Calif., the levee break during the December floods had been only partially closed, and was washed out again with renewed flooding in Reclamation District 1001. Houses and ranch buildings in the 30,000-acre district were under as much as 20 to 25 feet of water for approximately 6 weeks. During the high stages of midmonth, water was backed up through the levee cut on the right bank of the Feather and Verona into Levee District No. 1 of Sutter County.

Yuba City on the Yuba River was evacuated by State Civil Defense on the 14th. The "bow levee" at the Gum Tree break site had been built to an elevation of 68 to 70 feet and held during the current flood.

Moderately high peak flows occurred on the Cosumnes, Mokelumne, and Stanislaus Rivers with some minor flooding occurring through the old levee breaks.

In southern Oregon, the Rogue and Umpqua Rivers rose rapidly, but crested slightly below flood stage.

Storm of January 25-27

The second, flood-producing storm occurred on January 25-27 in the coastal sections of southern California and in the San Joaquin Basin. This storm was similar to the storm of December 31, 1933-January 1, 1934, both as to storm type and amounts. Total rainfall ranged from 4 to 9 inches along the coast, 9 to 13 inches in the foothills and mountains, and 1/2 to 2 inches in

desert areas.

Most of the flooding was due to overflow of storm drains and small creek areas on the coastal plain. Very little runoff occurred in foothill and mountain areas due to the soil moisture deficiency resulting from a period of over 3 weeks with no measurable rain. Major stream channels generally carried from one-fourth to one-half of their capacity, but some damage occurred, due to undercutting at the interface between paved and unsurfaced channel sections. The largest single catastrophe was the flooding and fire at the Ford Motor Company plant at Long Beach, Calif. Some 1,500 people were evacuated from their homes during the height of the storm. Considerable damage resulted from the partial inundation of many homes in low-lying sections in the communities of El Segundo, Torrance, Gardena, Venice, Lawndale, Wilmington, Playa del Rey, and Manhattan Beach. Streets, highways, and commercial establishments were also damaged.

Stream flow in the San Joaquin Basin was considerably less than during December and most flooding occurred on agricultural land. The Chowchilla and Fresno Rivers inundated land around Chowchilla and Madera, but the heaviest uncontrolled runoff was from the Kaweah and Tule Rivers. Additional damage was sustained by levee systems of these rivers, but most inhabited areas were saved from flooding by constant repairs to protective systems. Highway 99, to the southeast of Visalia, was flooded for a short time, temporarily restricting travel. A stream normally used for irrigation purposes, and running under one of the main streets of Visalia, became blocked and flooded about one-third of the city, causing damage to homes and business establishments.

A minor but rapid rise occurred on the north fork of the Kern River on the morning of the 25th. Peak flow was 7,000 c.f.s., at Kern River Powerhouse #3. Minor flooding occurred on the lower Caliente Creek and on the lowlands east of Highway 99 on Poso Creek, beginning on the 25th and continuing into the 27th.

Columbia River Basin.--Precipitation in the Columbia Basin during January was well above normal, except in three small areas in the northern portion. In the remaining areas, January precipitation varied generally between 150 and 250 percent of normal. In the Bitterroot Basin in Montana and the lower Kootenai, the precipitation ranged from 70 to 100 percent of normal. This was the fourth consecutive month with precipitation over the lower half of the basin averaging considerably above normal.

Several tributaries of the Willamette River exceeded flood stage during the month. The only flooding along the Willamette was at Harrisburg, Albany, and Oregon City, Oreg. Damages were confined mostly to areas that have no surface drainage.

FLOOD STAGE DATA

Table 5 (All dates in January unless otherwise specified) JANUARY 1956

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Pemigewassett: Plymouth, N. H.	11	10	10	11.1	10
Suncook: North Chichester, N. H.	10	10	11	12.2	10
Nashua: East Pepperell, Mass.	8	10	13	10.2	11
Merrimack: Lawrence, Mass.	20	11	11	21.5	11
MISSISSIPPI SYSTEM					
Ohio Basin					
West Fork: Weston, W. Va.	17	30	30	17	30
Clarksburg, W. Va.	7	30	30	7.2	30
Cheat: Parsons, W. Va.	11	30	30	11.0	30
Monongahela: Lock 5, Brownsville, Pa.	23	30	31	24.0	30
Lock 4, Charleroi, Pa.	24	30	31	27.1	30
Lock 2, Braddock, Pa.	26	30	31	27.3	31
McKeesport, Pa.	12	30	31	12.5	31
Little Kanawha: Glenville, W. Va.	23	30	30	23.4	30
Paint Creek: Bourneville, Ohio	10	30	30	11.15	30
Barren: Bowling Green, Ky.	28	30	1/		
Green: Munfordville, Ky.	28	30	1/		
Brownsville, Ky., Lock 6	28	30	1/		
Woodbury, Ky., Lock 4	33	30	1/		
Cumberland: Nashville, Tenn.	40	31	1/		31
Clarksville, Tenn.	46	30	Feb. 2	49.2	31, Feb. 1
Duck: Shelbyville, Tenn.	719	30	30	721.3	30
Shelbyville (nr), Tenn.	21	30	30	22.3	30

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
PACIFIC SLOPE DRAINAGE	Ft.			Ft.	
San Joaquin: Newman, Calif.	16	27	31	16.9	30
Sacramento: Red Bluff, Calif.	23	14	15	23.7	15
Moulton Weir, Calif.	76.8	1	7		
		7	22	82.5	17
		23	30		
Colusa Weir, Calif.	61.8	1	31	68.9	17
Tisdale Weir, Calif.	45.5	1	31	50.5	17
Fremont Weir, Calif.	33.8	1	31	38.3	17
Rio Vista, Calif.	9	25	25	9.6	25
		26	26	9.8	26
		27	27	9.2	27
Russian: Hopland Largo Station, Calif.	21	15	15	21.6	15
Guerneville, Calif.	29	8	8	30.0	8
		15	16	34.6	16
Smith: Fort Dick, Calif.	30.5	15	15	32.0	15
Redwood Creek: Orick, Calif.	19	15	15	20.0	15
Eel: Fernbridge, Calif.	17.5	14	16	21.3	16
Columbia Basin					
North Fork: Westfir, Oreg.		15	15	12.0	15
Marys: Philomath, Oreg.		4	5	20.7	4
Santiam: Jefferson, Oreg.	13	4	5	13.8	4-5
		7	7	13.0	7
		15	16	18.1	16
South Yamhill: Whiteson, Oreg.	38	4	7	45.0	4-5
Pudding: Aurora, Oreg.		5	8	20.6	5
Molalla: Canby (nr), Oreg.	11	4	5	12.0	4
		15	15	12.85	15
Tualatin: Dilley, Oreg.	12	3	8	12.35	17
		5	11	34.4	5
		18	22	30.4	18,19

* Provisional
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

Table 20

JANUARY 1956

Standard pressure surface (mb.)	ALBANY, N. Y. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 4.6	73	333	3.5
1,000	31	113			326	3.2
950	31	522	- 6.3	74	339	6.9
900	31	937	- 6.8	76	352	7.5
850	31	1,383	- 6.6	78	356	7.1
800	31	1,857	- 6.3	72	347	6.6
750	31	2,366	- 7.1	67	331	6.4
700	31	2,897	- 9.4	65	325	6.4
650	31	3,472	-12.4	64	308	6.3
600	31	4,074	-15.8	60	299	7.1
550	31	4,727	-19.8	56	293	7.7
500	31	5,426	-24.3	51	287	8.5
450	31	6,192	-29.9	47	266	7.9
400	31	7,014	-36.0	43	260	9.7
350	31	7,927	-42.9		258	9.6
300	30	8,944	-50.1		259	12.8
250	30	10,119	-53.8		264	10.3
200	30	11,551	-53.1		271	14.4
175	30	12,412	-52.3		276	14.7
150	28	13,410	-53.1		277	14.3
125	27	14,583	-54.9		275	11.3
100	25	15,993	-57.6		274	10.5
80	22	17,394	-59.1		268	11.4
60	16	19,194	-59.1		268	10.9
50	16	20,338	-59.0		258	10.0
40	13	21,748	-58.6			
30	9	23,537	-58.2			

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	6.2	44	93	0.2
1,000	31	139				
950	31	572				
900	31	1,025				
850	31	1,499				
800	31	1,998	6.1	38	273	2.5
750	31	2,529	2.9	39	275	5.3
700	31	3,078	- .9	43	276	7.1
650	31	3,671	- 4.9	46	283	8.3
600	31	4,290	- 8.5	47	282	11.0
550	31	4,963	-12.6	43	281	11.8
500	31	5,681	-17.6	42	278	13.4
450	31	6,470	-23.0	44	278	16.1
400	31	7,313	-29.3	42	279	14.6
350	31	8,251	-36.7	38	289	13.3
300	30	9,296	-45.2		290	16.0
250	29	10,484	-54.0		290	17.8
200	28	11,893	-59.4			
175	28	12,728	-59.5			
150	28	13,692	-59.9			
125	23	14,816	-61.3			
100	21	16,199	-64.1			
80	16	17,554	-62.7			
60	13	19,334	-62.2			
50	12	20,470	-60.4			
40	9	21,886	-57.4			
30	9	23,710	-55.3			

Standard pressure surface (mb.)	ANCHORAGE, ALASKA (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	-12.9	55	32	0.5
1,000	31	49			22	1.6
950	31	450	- 9.1	54	19	4.6
900	31	863	- 8.0	47	39	4.9
850	31	1,306	- 8.8	45	52	3.7
800	31	1,773	-11.2	46	67	2.4
750	31	2,269	-13.4	44	89	2.8
700	31	2,788	-16.5	42	66	3.4
650	31	3,345	-20.3	45	61	2.4
600	31	3,929	-24.1	46	78	1.6
550	31	4,563	-28.1	44	83	1.9
500	30	5,232	-33.0	43	94	2.4
450	30	5,972	-37.7		109	2.4
400	30	6,770	-42.5		83	2.9
350	30	7,661	-47.8		126	5.2
300	29	8,658	-51.7		127	4.9
250	28	9,839	-53.4		74	3.4
200	28	11,278	-51.8		241	3.2
175	26	12,143	-51.4		260	5.6
150	25	13,137	-51.0		254	5.2
125	25	14,321	-51.2		271	8.2
100	22	15,779	-50.9		281	9.4
80	22	17,228	-51.7		273	11.5
60	18	19,101	-52.5		283	14.2
50	18	20,275	-53.2		288	16.1
40	16	21,728	-53.3		289	16.6
30	12	23,550	-55.2			

Standard pressure surface (mb.)	ANNETTE, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	0.5	68	88	5.7
1,000	31	66			92	5.6
950	31	478	- 2.2	68	119	6.3
900	31	902	- 4.9	71	138	6.7
850	31	1,349	- 7.4	74	152	6.6
800	31	1,819	-10.0	74	164	5.4
750	31	2,317	-12.7	69	173	6.4
700	31	2,837	-15.9	64	183	5.2
650	31	3,397	-19.7	57	191	4.4
600	31	3,981	-23.5	50	216	5.7
550	31	4,614	-27.9	47	209	5.4
500	31	5,289	-32.3	44	226	5.7
450	30	6,025	-37.1		254	5.6
400	30	6,827	-42.5		319	5.3
350	30	7,717	-48.3		314	2.3
300	30	8,721	-52.2		297	3.2
250	30	9,894	-53.6		270	1.3
200	30	11,335	-50.7		281	2.9
175	30	12,205	-50.6			
150	30	13,208	-50.9			
125	29	14,390	-51.6			
100	29	15,832	-52.8			
80	29	17,266	-54.3			
60	25	19,121	-55.6			
50	25	20,279	-56.4			
40	21	21,703	-57.4			
30	14	23,502	-59.6			

Standard pressure surface (mb.)	ATHENS, GA. (968 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	4.7	67	320	2.8
1,000	31	143				
950	31	567	5.9	53	323	3.8
900	31	1,006	4.8	51	326	4.2
850	31	1,471	3.7	49	317	5.7
800	31	1,963	3.3	44	311	8.5
750	31	2,491	1.1	43	300	10.5
700	31	3,037	- 1.7	39	293	12.6
650	31	3,632	- 5.0	36	299	14.6
600	30	4,251	- 8.8	32	298	18.2
550	30	4,926	-13.1	35	297	20.4
500	30	5,639	-17.9	35	293	22.5
450	30	6,429	-23.7		288	24.9
400	30	7,269	-30.0	37	288	27.4
350	30	8,205	-37.3	40	235	28.7
300	30	9,251	-45.1		284	31.6
250	30	10,446	-52.7		283	34.7
200	29	11,878	-56.1		281	35.5
175	29	12,725	-56.2		280	33.0
150	29	13,702	-57.3		280	31.1
125	27	14,840	-59.9		282	28.0
100	23	16,222	-62.3		255	21.4
80	19	17,590	-62.4		286	15.0
60	13	19,372	-60.6		281	7.5
50	16	20,507	-58.9		272	5.9
40	16	21,914	-56.6		267	4.5
30	12	23,760	-53.5		286	3.4

Standard pressure surface (mb.)	BARROW, ALASKA (1023 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	-27.7	57	213	0.7
1,000	31	171	-23.1	70	245	1.6
950	31	557	-19.9	64	271	2.8
900	31	950	-19.1	61	293	3.4
850	31	1,375	-19.4	60	295	3.8
800	31	1,825	-20.1	57	305	3.5
750	31	2,309	-21.6	58	299	4.2
700	31	2,808	-23.7	57	304	5.1
650	31	3,356	-26.3	54	311	5.7
600	31	3,921	-29.5	52	308	6.3
550	31	4,545	-33.1	46	306	8.1
500	31	5,201	-37.1		306	9.5
450	31	5,931	-41.4		303	11.4
400	31	6,714	-45.9		304	11.0
350	31	7,593	-50.4		303	12.9
300	31	8,589	-54.4		296	12.2
250	29	9,761	-57.2		289	12.3
200	29	11,169	-57.2		278	14.8
175	28	12,018	-57.2		278	14.6
150	27	12,994	-56.7			
125	26	14,154	-57.5			
100	23	15,582	-58.3			
80	22	16,981	-60.3			
60	14	18,777	-60.8			
50	10	19,911	-62.4			
40	5	21,216	-67.3			
30						
20						

Standard pressure surface (mb.)	BETHEL, ALASKA (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	-19.5	74	13	4.9
1,000	31	118			29	6.1
950	31	511	-13.4	60	28	7.4
900	31	920	-11.4	56	19	7.3
850	31	1,359	-10.4	49	10	8.3
800	31	1,825	-11.1	46	1	8.2
750	31	2,323	-12.9	40	359	8.4
700	31	2,842	-15.3	35	355	8.8
650	31	3,404	-18.1	35	355	7.8
600	31	3,993	-21.4	36	358	8.4
550	31	4,629	-25.5	36	359	7.1
500	31	5,314	-30.3	38	6	6.0
450	31	6,059	-35.6		2	6.4
400	31	6,865	-41.1		10	7.0
350	31	7,761	-46.5		28	3.4
300	31	8,771	-51.3		26	3.1
250	30	9,951	-54.6		338	3.9
200	25	11,351	-52.8		339	3.6
175	25	12,213	-51.8		325	5.1
150	22	13,218	-50.5		310	5.9
125	21	14,412	-50.6		283	5.2
100	18	15,855	-50.7		285	6.3
80	16	17,316	-51.6		298	7.1
60	14	19,169	-52.8			
50	13	20,352	-53.9			
40	10	21,806	-53.8			
30						
20						

Standard pressure surface (mb.)	DISMARCK, N. DAK. (960 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	-15.1	80	46	0.9
1,000	31	189				
950	31	585	-13.8	75	66	.6
900	31	996	- 8.7	68	268	2.0
850	31	1,441	- 5.7	59	291	2.5
800	31	1,917	- 5.2	50	298	4.3
750	31	2,428	- 7.0	49	292	5.7
700	31	2,958	- 9.6	46	290	8.0
650	31	3,532	-12.9	43	291	9.0
600	31	4,132	-16.5	44	285	9.0
550	31	4,784	-20.8	40	283	9.8
500	31	5,478	-25.5	38	285	10.9
450	31	6,245	-30.7	34	289	13.7
400	31	7,060	-36.7		285	14.7
350	31	7,970	-43.7		281	15.3
300	30	8,986	-50.4		282	15.9
250	30	10,160	-55.0		280	15.0
200	30	11,582	-55.4		285	15.7
175	28	12,444	-54.6		284	14.7
150	27	13,431	-54.2		286	16.1
125	27	14,595	-55.5		284	13.7
100	27	16,011	-56.9		286	12.6
80	26	17,424	-58.6		298	11.5
60	24	19,229	-59.3		295	9.6
50	19	20,365	-60.7			
40	16	21,746	-60.6			
30	10	23,523	-61.0			
20						

Standard pressure surface (mb.)	BOISE, IDAHO (915 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	1.0	77	141	4.2
1,000	31	143				
950	31	565				
900	31	999	2.5	67	141	4.1
850	31	1,460	.8	63	181	4.0
800	31	1,944	- 2.2	65	228	5.1
750	31	2,460	- 5.6	64	247	7.2
700	31	2,991	- 9.2	65	260	9.4
650	30	3,569	-12.7	59	263	11.2
600	30	4,167	-16.5	55	260	13.0
550	30	4,819	-20.5	56	269	15.8
500	30	5,515	-25.1	55	282	19.2
450	30	6,280	-30.2	54	275	19.3
400	30	7,101	-35.7	52	277	19.8
350	30	8,016	-42.3		288	24.1
300	30	9,043	-48.7			
250	30	10,223	-54.5			
200	28	11,652	-56.3			
175	26	12,501	-54.7			
150	21	13,480	-54.0			
125	17	14,665	-55.9			
100	14	16,074	-56.7			
80	8	17,492	-57.5			
60						
50						
40						
30						
20						

Standard pressure surface (mb.)	BROWNSVILLE, TEX. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	15.7	88	94	1.3
1,000	31	153	17.4	76	107	2.3
950	31	592	15.6	69	157	4.4
900	31	1,048	14.2	61	182	3.1
850	31	1,529	12.6	50	230	1.9
800	31	2,036	11.4	32	260	4.0
750	31	2,573	8.7	27	267	4.2
700	31	3,140	5.4		272	5.1
650	31	3,744	1.4		279	6.0
600	31	4,380	- 2.8		277	7.3
550	31	5,061	- 7.4		281	6.8
500	31	5,798	-12.6		274	7.4
450	31	6,599	-18.6		280	8.6
400	31	7,460	-25.4		275	8.7
350	31	8,412	-33.0		286	9.2
300	31	9,476	-41.5		286	10.6
250	31	10,690	-49.3		279	15.3
200	31	12,127	-55.9		269	21.2
175	31	12,971	-58.5		271	20.5
150	31	13,934	-61.1		270	18.5
125	29	15,059	-65.4		269	19.0
100	29	16,398	-70.0		266	18.4
80	23	17,712	-72.0			
60	21	19,419	-67.1			
50	20	20,528	-62.8			
40	19	21,906	-58.7			
30	16	23,720	-55.4			
20	5	26,283	-52.5			

Standard pressure surface (mb.)	BUFFALO, N. Y. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	182	- 4.6	82	319	2.1
1,000	31	142				
950	31	546	- 5.7	75	325	3.6
900	31	968	- 7.2	76	333	4.6
850	31	1,414	- 6.9	75	331	5.2
800	31	1,887	- 7.4	73	332	5.9
750	31	2,388	- 9.0	71	328	6.8
700	31	2,920	-10.9	68	322	7.7
650	31	3,491	-13.8	61	312	8.6
600	31	4,091	-16.9	52	309	9.2
550	31	4,741	-21.1	48	304	9.7
500	31	5,436	-25.9	44	305	10.3
450	31	6,193	-31.7	42	311	11.6
400	31	7,013	-37.7		311	12.9
350	31	7,919	-44.4		302	11.6
300	31	8,937	-50.5		297	12.0
250	30	10,114	-54.6		294	14.4
200	30	11,544	-53.5		289	14.6
175	29	12,399	-53.1		284	13.5
150	29	13,389	-54.1		282	14.2
125	28	14,553	-55.6		277	12.1
100	28	15,964	-58.1		276	11.8
80	26	17,365	-59.1		277	8.7
60	25	19,167	-59.6		274	8.2
50	24	20,302	-59.6		271	8.6
40	20	21,694	-59.1		266	9.9
30	17	23,495	-58.5			
20	10	26,050	-56.5			
15	5	27,829	-54.0			

Standard pressure surface (mb.)	BURRWOOD, LA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	12.2	83	22	2.9
1,000	30	160	12.6	68	7	3.4
950	30	593	10.7	59	334	3.4
900	30	1,039	10.6	50	329	3.9
850	30	1,515	9.8	42	316	4.7
800	30	2,016	7.7	40	305	7.6
750	30	2,550	5.0	34	292	9.1
700	30	3,106	2.4	31	289	10.9
650	30	3,704	- .8	29	284	12.3
600	29	4,333	- 4.9		284	13.2
550	29	5,011	- 9.3		285	14.7
500	29	5,742	-14.4		285	16.5
450	28	6,539	-20.2		286	16.1
400	27	7,388	-27.1		288	16.9
350	27	8,335	-34.5		286	17.9
300	27	9,393	-42.9			
250	27	10,598	-51.3			
200	23	12,026	-57.2			
175	23	12,864	-59.1			
150	23	13,825	-61.3			
125	22	14,945	-64.8			
100	20	16,293	-68.6			
80	18	17,617	-68.9			
60	15	19,344	-64.6			
50	14	20,461	-61.6			
40	13	21,855	-58.4			
30	9	23,678	-54.9			
20	5	26,334	-51.0			

Standard pressure surface (mb.)	CARIBOU, ME. (939 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	- 6.0	81	334	4.4
1,000	31	104				
950	31	507	- 6.4	79	7	6.1
900	31	928	- 7.0	82	40	6.3
850	31	1,374	- 6.2	85	65	4.7
800	31	1,848	- 6.8	81	57	4.3
750	31	2,356	- 8.5	75	57	2.1
700	31	2,883	-11.0	71	77	1.0
650	31	3,457	-13.9	67	224	.4
600	31	4,053	-17.3	62	220	2.0
550	31	4,705	-21.3	57	212	2.8
500	31	5,396	-26.0	52	222	3.9
450	31	6,163	-31.1	53	222	4.5
400	31	6,976	-36.6	51	225	6.7
350	31	7,887	-42.9		222	7.4
300	31	8,910	-49.7		227	7.8
250	31	10,083	-55.5		231	10.3
200	28	11,479	-54.8		257	8.9
175	23	12,333	-53.3		267	8.7
150	22	13,325	-53.8		272	9.3
125	20	14,503	-55.8		273	11.9
100	18	15,910	-57.3		277	11.8
80	15	17,285	-59.0		283	15.0
60	14	19,078	-60.0		277	16.4
50	12	20,208	-60.6		281	17.6
40	8	21,587	-61.3			
30	5	23,376	-62.8			

Standard pressure surface (mb.)	CHARLESTON, S. C. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	13	5.6	75	299	2.6
1,000	31	137	8.1	61	293	2.7
950	31	562	7.0	54	301	5.4
900	31	1,003	4.7	55	300	7.2
850	31	1,468	3.8	47	293	8.6
800	31	1,960	2.8	41	281	10.2
750	31	2,488	.7	38	278	12.1
700	31	3,032	- 2.0	37	280	13.9
650	31	3,626	- 5.4	36	278	15.3
600	31	4,242	- 9.1	33	284	16.5
550	31	4,915	-13.1	31	280	20.6
500	31	5,630	-17.9		282	20.8
450	31	6,415	-23.7		280	22.1
400	31	7,259	-30.0	34	277	22.8
350	31	8,196	-37.2	36	270	25.4
300	31	9,245	-44.5			
250	31	10,445	-51.7			
200	31	11,877	-56.1			
175	31	12,725	-56.5			
150	31	13,700	-57.9			
125	31	14,842	-60.8			
100	30	16,218	-63.8			
80	30	17,583	-64.4			
60	26	19,348	-61.6			
50	26	20,484	-59.2			
40	26	21,888	-57.1			
30	20	23,723	-55.3			
20	7	26,360	-52.2			

Standard pressure surface (mb.)	COLD BAY, ALASKA (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	29	- 6.9	87	328	4.0
1,000	31	100			331	5.7
950	31	505	- 7.6	72	346	8.6
900	31	918	- 9.1	66	353	10.8
850	31	1,359	- 9.8	61	351	11.2
800	31	1,826	-10.4	50	357	13.5
750	31	2,329	-12.0	40	354	9.9
700	31	2,847	-13.9	37	9	10.1
650	31	3,413	-16.8	36	356	10.0
600	30	4,004	-19.9	37	6	10.3
550	30	4,648	-23.9	36	14	10.5
500	30	5,333	-28.8			
450	30	6,089	-34.3			
400	30	6,893	-39.7		339	12.2
350	30	7,795	-44.7			
300	30	8,813	-49.7			
250	30	9,994	-53.3			
200	28	11,411	-53.3			
175	26	12,259	-50.6			
150	23	13,255	-49.8			
125	18	14,433	-49.3			
100	16	15,922	-50.0			
80	12	17,359	-50.8			
60	7	19,276	-51.9			

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

RAWINSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	COLUMBIA, MO. (992 MB.)						DODGE CITY, KANS. (926 MB.)						EL PASO, TEX. (883 MB.)						ELY, NEV. (807 MB.)						FAIRBANKS, ALASKA (1002 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	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	238	- 1.7	63	356	1.0	31	792	- 0.6	58	136	2.5	31	1,195	10.4	38	352	1.3	31	1,908	- 0.5	61	200	2.4	31	135	-29.2	63	16	0.6
1,000--	31	175					31	172					31	135					31	151					31	151			40	.8
950----	31	584	- 1.7	59	346	1.2	31	591					31	575					31	580					31	530	-20.5	57	88	2.5
900----	31	1,015	- .9	57	308	1.7	31	1,024	1.7	48	132	2.4	31	1,031					31	1,026					31	928	-18.7	56	93	3.5
850----	31	1,472	- .3	53	312	3.6	31	1,486	2.7	43	191	4.2	31	1,509	11.4	32	252	2.3	31	1,486					31	1,357	-15.6	56	93	3.0
800----	31	1,956	- 1.0	51	304	6.0	31	1,975	1.7	39	223	5.3	31	2,012	8.3	33	273	5.4	31	1,977	1.4	55	197	2.5	31	1,814	-15.5	54	113	2.2
750----	31	2,471	- 3.1	50	304	7.0	31	2,500	- .4	41	257	7.6	31	2,549	5.1	34	273	6.5	31	2,501	- .3	51	204	3.8	31	2,305	-16.9	52	120	.5
700----	31	3,013	- 5.8	50	299	8.2	31	3,042	- 2.9	42	273	9.2	31	3,102	2.0	30	273	7.8	31	3,044	- 4.0	49	243	6.9	31	2,815	-19.0	50	231	.9
650----	31	3,590	- 9.0	47	295	11.0	31	3,627	- 6.2	43	275	9.4	31	3,698	- 1.9	31	274	8.2	31	3,629	- 7.6	49	258	10.0	31	3,371	-22.0	48	255	1.2
600----	30	4,209	-12.6	47	295	12.9	31	4,247	-10.3	42	283	10.6	31	4,327	- 5.9	31	281	9.7	31	4,243	-11.5	49	264	12.0	31	3,948	-25.4	47	302	1.3
550----	30	4,862	-16.8	48	292	15.5	31	4,910	-14.7	41	284	13.0	31	5,001	-10.2		284	10.9	31	4,909	-15.5	47	271	14.8	31	4,579	-29.0	47	323	2.3
500----	30	5,577	-21.4	43	294	17.7	31	5,626	-19.7	40	283	14.7	31	5,731	-15.3	34	283	10.9	31	5,618	-20.2	44	275	16.5	31	5,250	-33.1	46	309	3.2
450----	30	6,348	-27.0	43	293	20.3	31	6,405	-25.3	37	276	17.4	31	6,524	-21.0	35	279	10.6	31	6,397	-25.6	43	283	18.8	31	5,993	-37.9		288	4.7
400----	30	7,183	-33.0	41	294	24.1	31	7,242	-31.6	35	274	18.2	31	7,378	-27.8		284	10.5	31	7,234	-31.4	45	281	19.0	31	6,785	-42.7		294	5.1
350----	30	8,108	-40.2		292	27.2	31	8,173	-38.9		274	22.0	31	8,321	-35.3		279	10.6	31	8,166	-38.4	48	281	19.2	31	7,675	-48.2		254	6.6
300----	30	9,141	-48.1		290	28.2	31	9,212	-47.2		269	19.8	31	9,375	-43.7		288	11.8	31	9,207	-46.3				31	8,678	-53.1		263	9.4
250----	30	10,323	-54.7		286	29.9	31	10,395	-54.8		280	20.5	30	10,572	-53.3				30	10,392	-54.2				30	9,832	-55.2		270	7.1
200----	29	11,738	-56.5		285	30.2	31	11,805	-58.5		276	20.7	30	11,983	-59.8				30	11,801	-59.8				29	11,253	-53.8		267	6.3
175----	29	12,586	-56.2		285	28.3	30	12,648	-58.0		275	23.1	29	12,819	-60.2				30	12,638	-58.4				29	12,112	-53.1		268	7.2
150----	28	13,564	-56.6		284	25.1	30	13,619	-57.9		272	20.5	29	13,779	-61.1				29	13,615	-57.9				28	13,093	-52.8		270	7.9
125----	28	14,716	-58.5		284	20.1	29	14,759	-60.1		273	19.3	27	14,899	-63.9				28	14,766	-59.4				27	14,265	-53.0		269	9.9
100----	27	16,114	-61.4		286	16.4	26	16,151	-62.8		273	15.0	23	16,262	-66.6				27	16,157	-60.9				26	15,697	-53.9		272	13.7
80-----	27	17,495	-61.3		289	12.1	24	17,513	-63.2				21	17,608	-67.1				25	17,541	-61.1				24	17,137	-54.8		281	13.5
60-----	25	19,277	-61.2		285	7.5	16	19,283	-61.3				18	19,356	-63.4				20	19,317	-60.1				23	18,975	-56.2		292	14.6
50-----	24	20,412	-60.1		279	6.3	14	20,429	-59.9				18	20,482	-60.6				19	20,458	-59.0				19	20,148	-57.2			
40-----	20	21,832	-58.8		272	5.4	13	21,828	-58.4				16	21,882	-58.2				18	21,855	-58.6				13	21,652	-55.9			
30-----	14	23,650	-56.5		264	6.4	6	23,654	-57.0				10	23,704	-55.1				12	23,696	-56.9				8	23,628	-53.0			

Standard pressure surface (mb.)	FORT HUACHUCA, ARIZ. (857 MB.)						FORT WORTH, TEX. (998 MB.)						GLASGOW, MONT. (936 MB.)						GRAND JUNCTION, COLO. (852 MB.)						GREAT FALLS, MONT. (885 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	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	1,428	11.6	29	240	3.0	29	178	7.1	58	347	1.3	31	696	-14.4	85	116	2.7	31	1,474	2.4	61	81	1.1	31	1,123	- 6.0	69	227	4.1
1,000--	31	115					29	161			355	1.8	31	184					31	154					31	150				
950----	31	559					29	590	8.0	51	8	1.2	31	576					31	586					31	564				
900----	31	1,017					29	1,030	7.4	48	269	1.0	31	992	- 8.7	67	191	1.2	31	1,027					31	992				
850----	31	1,497			243	2.4	29	1,501	7.4	42	259	3.4	31	1,439	- 5.3	62	266	3.6	31	1,493	3.9	47	64	.7	31	1,440	- 3.5	51	233	7.5
800----	31	2,003	9.1	34	235	4.0	29	1,999	6.2	39	271	5.7	31	1,915	- 5.6	58	271	4.8	31	1,985	3.0	47	182	1.1	31	1,917	- 4.9	58	246	8.6
750----	31	2,538	5.5	34	248	4.1	29	2,531	3.7	37	276	7.7	31	2,425	- 7.5	58	278	6.5	31	2,512	- .2	46	240	3.4	31	2,428	- 7.3	64	254	9.7
700----	31	3,093	2.0	30	267	5.1	29	3,083	1.0	38	270	9.7	31	2,954	-10.2	55	279	6.9	31	3,053	- 4.3	51	246	7.1	31	2,958	-10.3	61	260	9.8
650----	31	3,689	- 1.3	32	279	5.9	29	3,678	- 2.6	36	275	10.7	31	3,529	-13.6	54	264	6.9	31	3,639	- 8.1	52	259	8.7	31	3,531	-13.7	54	264	8.9
600----	31	4,320	- 5.4	32	273	8.2	29	4,305	- 6.5	37	279	12.0	31	4,125	-17.5	54	263	8.4	31	4,250	-12.1	52	268	10.8	31	4,128	-17.6	57	260	9.2
550----	31	4,996	- 9.8	35	275	11.1	29	4,982	-11.0	38	281	14.0	31	4,773	-21.9	52	266	9.2	31	4,913	-16.4	53	272	13.3	31	4,775	-22.0	55	257	10.9
500----	31	5,726	-14.5	34	273	12.9	29	5,704	-16.0	36	277	16.0	31	5,465	-26.6	49	270	11.8	31	5,619	-20.8	52	273	15.5	31	5,469	-26.8	51	256	13.4
450----	30	6,518	-20.3	35	273	12.3	28	6,499	-22.0	34	278	17.2	31	6,220	-32.0	45	275	13.2	31	6,399	-26.0	52	283	17.1	31	6,227	-32.4	51	259	14.0
400----	27	7,376	-27.4	36	271	13.5	27	7,349	-28.9		283	18.4	31	7,039	-38.0		273	12.9	31	7,232	-32.0	52	284	18.8	31	7,041	-38.2	49	260	14.4
350----	22	8,338	-35.2		269	16.0	27	8,289	-36.7		280	19.5	31	7,945	-44.4		266	13.8	31	8,161	-38.9		282	18.9	31	7,946	-44.7		261	18.8
300----	16	9,392	-43.7		269	18.5	26	9,333	-45.2		278	21.8	31	8,962	-50.7		267	15.7	31	9,199	-46.9		288	16.9	30	8,964	-50.3		261	22.0
250----	13	10,581	-53.5		269	21.5	26	10,525	-54.0		277	24.6	31	10,134	-55.3		274	16.6	30	10,385	-54.7				30	10,139	-54.5		260	21.5
200----	8	11,986	-61.5				26	11,937	-58.9		272	26.7	31	11,556	-54.9		273	14.7	29	11,798	-58.9				30	11,560	-54.9		266	18.3
175----							24	12,775	-57.7		270	27.4	30	12,412	-54.2		276	15.3	29	12,636	-58.0				30	12,415	-54.2		269	18.0
150----							22	13,753	-58.4		271	27.5	30	13,399	-54.2		283	12.7	29	13,608	-57.7				30	13,401	-54.6		270	16.2
125----							21	14,886	-62.2		270	24.8	27	14,563	-54.6		280	11.6	27	14,749	-59.2				30	14,567	-55.1		268	15.2
100----							18	16,257	-65.6		269	20.4	26	15,989	-55.9		284	9.0	27	16,137	-61.7				30	15,985	-56.5		270	14.1
80-----							15	17,595	-66.1		276	13.9	25	17,408	-57.5		292	10.8	26	17,512	-61.9				29	17,397	-56.9		274	11.3
60-----							9	19,370	-64.5				21	19,227	-58.2		283	9.7	20	19,300	-61.1				26	19,207	-58.2		274	9.7
50-----							5	20,454	-61.9				17	20,390	-58.3		313	5.6	15	20,440	-60.1				26	20,353	-58.5		273	10.4
40-----							5	21,842	-59.8				12	21,809	-58.7				10	21,845	-58.8				21	21,755	-58.4		290	10.5
30-----													8	23,647	-59.6				7	23,675	-56.7				15	23,570	-58.5		299	8.4

Standard pressure surface (mb.)	GREEN BAY, WIS. (996 MB.)						GREENSBORO, N. C. (984 MB.)						HATTERAS, N. C. (1013 MB.)						HILO, T. H. (1011 MB.)						INTERNAT. FALLS, MINN. (977 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	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	210	- 7.8	77	352	1.4	31	273	1.0	67	315	2.2	31	3	4.1	84	310	3.1	31	11	24.3	75	134	3.0	31	360	-12.7	68	181	0.7
1,000--	31	175			23	3.8	31	139					31	108			317	4.2	31	109	23.2	75	135	3.5	31	184				
950----	31	580	- 6.1	68	352	3.1	31	558	2.5	50	312	5.5	31	530	3.3	61	323	8.4	31	557	20.0	77	149	4.6	31	582	-10.7	68	182	1.1
900----	31	1,000	- 6.0	61	2	2.2	31	990	.6	51	332	8.2	31	963	1.7	60	321	7.0	31	1,020	16.9	80	170	3.9	31	994	- 9.4	68	216	2.0
850----	31	1,447	- 6.1	57	349	2.8	31	1,448	.0	49	343	8.0	31	1,423	1.2	60	298	6.8	31	1,506	14.1	79	191	3.6	31	1,438	- 7.6	63	242	2.7
800----	31	1,921	- 6.6	51	333	4.3	31	1,932	- .9	49	333	7.2	31	1,910	- .3	59	289	9.4	31	2,017	11.8	72	179	3.0	31	1,909	- 8.2	56	259	2.9
750----	31	2,430	- 8.5	48	316	5.4	31	2,453	- 2.9	47	316	8.4	31	2,433	- 1.7	50	289	11.5	31	2,565	9.9	57	174	2.5	31	2,411	-10.3	57	271	3.6
700----	31	2,955	-10.9	43	318	6.4	31	2,990	- 5.3	45	309	10.7	31	2,972	- 4.1	45	290	12.5	31	3,127	7.0	49	200	2.6	31	2,937	-12.5	57	275	3.9
650----	30	3,528	-14.0	43	312	6.7	31	3,576	- 8.3	42	302	12.8	31	3,560	- 7.4	46	288	13.7	31	3,737	3.6	48	218	3.2	31	3,502	-15.8	56	279	5.8
600----	30	4,126	-17.2	42	309	8.1	31	4,185	-11.9	41	299	13.6	31	4,172	-10.9	43	288	15.0	31	4,379	- .2	46	233	4.2	31	4,098	-18.9	52	282	7.4
550----	30	4,777	-21.0		304	8.5	31	4,851	-16.3	39	297	15.4	31	4,838	-14.9	40	287	17.1	31	5,075	- 4.2	39	236	5.8	30	4,739	-23.0	47	291	8.4
500----	30	5,470	-25.6		302	10.2	31	5,556	-21.0	38	294	16.6	30	5,553	-19.8	38	288	14.8	31	5,817	- 8.4		247	7.9	30	5,433	-27.8	46	293	8.8
450----	30	6,233	-30.9		303	10.3	31	6,333	-26.6	38	289	19.5	30	6,335	-25.3	37	296	14.2	31	6,637	-13.8		250	10.5	30	6,189	-32.7		291	11.0
400----	30	7,051	-36.6		295	10.7	31	7,165	-32.7	37	290	20.2	30	7,171	-31.6	36	304	11.5	31	7,512	-19.9	39	261	10.4	30	7,001	-38.4		289	12.2
350----	30	7,962	-43.2		296	10.5	31	8,091	-39.4		282	17.2	30	8,100	-38.8		315	10.4	31	8,487	-27.3		269	13.0	29	7,915	-44.7		291	12.9
300----	30	8,983	-49.8		294	11.3	31	9,129	-46.4				30	9,140	-46.1				31	9,579	-35.4		274	18.6	28	8,931	-51.5		288	13.2
250----	30	10,161	-54.1		286	13.5	31	10,321	-52.7				30	10,335	-51.8				31	10,822	-44.9		274	21.3	28	10,099	-55.8		294	16.2
200----	29	11,586	-53.5		289	13.8	31	11,748	-55.4				29	11,763	-55.0				31	12,277	-55.9		281	22.7	26	11,511	-54.7		294	15.9
175----	29	12,444	-53.2		288	15.3	31	12,601	-54.8				28	12,610	-54.1				29	13,120	-61.5		295	20.7	25	12,360	-54.0		289	15.5
150----	29	13,436	-53.7		289	14.7	31	13,584	-55.9				28	13,595	-55.6				25	14,072	-67.8		294	19.3	23	13,345	-53.9		285	15.2
125----	29	14,604	-54.6		283	13.9	31	14,736	-58.8				28	14,750	-58.1				19	15,159	-74.5		302	8.6	22	14,517	-54.8		286	13.9
100----	29	16,022	-57.1		288	12.9	31	16,127	-61.3				28	16,143	-61.2				10	16,469	-78.9				14	15,974	-56.9		288	10.5
80-----	29	17,431	-58.0		286	11.2	31	17,510	-61.1				27	17,525	-61.5				7	17,719	-78.8				9	17,362	-58.8			
60-----	26	19,244	-58.7		281	9.5	29	19,294	-60.1				25	19,312	-59.8				5	19,409	-70.4				7	19,184	-58.8			
50-----	22	20,402	-58.8		274	10.4	27	20,433	-59.0				24	20,453	-58.8										5	20,320	-59.9			
40-----	21	21,800	-58.6		274	10.4	25	21,832	-57.6				21	21,853	-56.8															
30-----	10	23,617	-57.3				21	23,651	-56.1				18	23,698	-54.7															
20-----							7	26,249	-54.0				6	26,266	-53.6															

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

RAWINSONDE DATA

Average monthly values

Table 20—Continued

JANUARY 1956

Standard pressure surface (mb.)	JACKSONVILLE, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KING SALMON, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LAKE CHARLES, LA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (826 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	7.9	78	286	1.1	31	15	-18.7	68	8	5.1	31	5	-24.8	70	64	2.5	31	5	10.8	74	79	1.0	31	1,696	- 5.8	67	298	0.6
1,000--	31	146	10.9	62	280	2.3	31	68			357	5.4	31	167	-20.3	65	52	3.1	31	161	11.8	66	69	1.7	31	166				
950----	31	576	9.2	56	295	5.6	31	463	-12.1	60	4	6.8	31	557	-16.3	57	33	3.6	31	590	10.6	62	106	.4	31	579				
900----	31	1,020	7.6	50	300	6.5	31	872	- 9.5	59	7	6.5	31	958	-15.3	54	13	3.4	31	1,040	10.3	55	283	1.2	31	1,013				
850----	31	1,489	6.4	44	296	6.9	31	1,313	- 9.6	56	6	7.4	31	1,390	-14.7	47	343	4.2	31	1,515	9.6	45	290	3.5	31	1,467				
800----	31	1,985	5.0	41	291	8.5	31	1,780	-10.7	54	4	8.2	31	1,848	-15.7	43	345	5.3	31	2,017	7.5	42	288	6.2	31	1,947	- 2.2	53	198	.6
750----	31	2,515	2.8	37	290	11.5	31	2,278	-13.2	52	2	7.8	31	2,344	-17.5	41	346	6.2	31	2,552	5.0	35	293	7.4	31	2,464	- 3.2	42	250	3.1
700----	31	3,065	.2	34	293	12.8	31	2,797	-16.0	48	359	9.2	31	2,848	-19.6	42	343	6.4	31	3,106	2.2	32	293	9.1	31	3,003	- 6.4	42	264	5.3
650----	30	3,658	- 3.2	33	289	15.4	31	3,356	-19.1	44	359	10.5	31	3,404	-22.6	43	334	7.0	31	3,704	- 1.2	29	293	11.1	31	3,579	-10.4	45	274	8.9
600----	30	4,284	- 6.8	31	288	17.3	31	3,943	-22.0	45	360	11.7	31	3,979	-25.7	43	323	6.5	31	4,334	- 4.9	27	290	12.1	31	4,189	-14.3	44	269	12.5
550----	30	4,960	-11.2	29	287	19.7	31	4,584	-26.1	47	1	12.4	31	4,613	-29.0	43	315	8.3	31	5,014	- 9.3		291	12.9	31	4,845	-18.5	42	275	12.4
500----	30	5,682	-16.2		285	21.3	30	5,253	-30.8	46	1	13.1	31	5,281	-32.9		310	9.2	31	5,743	-14.2		282	15.1	31	5,547	-23.5	40	280	13.6
450----	30	6,472	-22.0		285	23.3	30	5,999	-35.9		2	14.7	31	6,025	-37.8		311	10.0	31	6,544	-20.1		284	16.8	31	6,312	-29.0	41	274	15.7
400----	30	7,321	-28.8		284	25.3	29	6,814	-40.6		2	17.3	31	6,819	-43.0		302	10.8	31	7,396	-26.7		292	16.6	31	7,141	-35.2	44	269	15.6
350----	30	8,262	-36.1		282	27.3	29	7,710	-46.4		357	14.9	31	7,707	-48.4		293	10.4	31	8,344	-34.5		288	19.8	31	8,058	-41.9		273	18.5
300----	30	9,314	-43.9		281	29.7	28	8,710	-50.9		343	15.1	31	8,710	-52.5		294	11.3	31	9,402	-43.0		287	19.6	31	9,085	-48.6		264	17.0
250----	30	10,515	-51.7		277	33.5	28	9,888	-53.0		337	11.6	30	9,882	-55.2		288	10.8	31	10,606	-51.8		291	23.8	31	10,265	-54.9		264	21.3
200----	30	11,945	-56.4		275	37.8	28	11,329	-51.7		329	10.5	30	11,302	-55.3		279	9.3	30	12,030	-56.9		287	25.3	31	11,680	-57.4		272	17.5
175----	29	12,793	-57.5		276	38.3	26	12,198	-51.2		338	14.5	30	12,155	-54.2		276	10.9	30	12,872	-58.2		283	26.5	31	12,526	-56.4		280	19.6
150----	29	13,761	-59.7		277	36.9	21	13,220	-51.4		330	12.4	30	13,142	-54.0		275	11.2	29	13,845	-59.7				31	13,504	-56.3		275	14.0
125----	29	14,891	-63.1		277	32.9	13	14,438	-52.5		327	21.7	28	14,308	-53.0		274	16.4	29	14,974	-63.6				30	14,659	-56.9			
100----	28	16,247	-66.7		276	25.2	8	15,878	-54.4				28	15,745	-53.3		275	16.1	26	16,335	-66.6				30	16,067	-58.6			
80----	24	17,592	-66.7		273	17.8	7	17,313	-54.4				27	17,181	-54.2		277	15.6	25	17,680	-68.3				29	17,467	-59.2			
60----	22	19,338	-62.9		276	11.1	5	19,161	-57.1				25	19,031	-54.8		278	18.3	25	19,422	-63.7				26	19,265	-59.4			
50----	20	20,470	-60.1		263	5.3	5	20,308	-58.7				21	20,206	-54.8		275	22.7	22	20,545	-61.3				23	20,409	-58.5			
40----	17	21,870	-57.3		251	4.9							15	21,598	-55.5		271	26.1	21	21,939	-57.7				19	21,812	-58.3			
30----	12	23,698	-54.7		259	6.2							6	23,486	-56.1				17	23,764	-54.9				13	23,657	-56.4			
20----	5	26,288	-52.9																7	26,359	-52.9									

Standard pressure surface (mb.)	LAS VEGAS, NEV. (939 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LITTLE ROCK, ARK. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MAZATLAN, MEXICO (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MC GRATH, ALASKA (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MEDFORD, ORE. (967 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	9.1	37	239	2.6	31	79	4.3	65	19	1.0	28	14	21.2	79			26	103	-26.5	64	3	0.4	31	401	4.9	87	173	1.5
1,000--	31	130					31	166	4.9	59	14	1.6	28	116	21.0	76			26	135			49	1.6	31	119				
950----	31	564					31	590	3.8	56	16	1.8	28	572	21.3	52			26	515	-21.0	62	37	6.1	31	545	5.9	74	175	2.3
900----	31	1,014	12.1	32	214	1.7	31	1,023	3.5	53	326	1.7	28	1,028	19.6	41			26	913	-16.5	56	49	10.1	31	982	4.2	69	184	4.8
850----	31	1,490	9.5	34	218	3.1	31	1,487	3.9	49	302	3.9	28	1,517	16.6	38			26	1,344	-14.4	55	46	11.9	31	1,444	1.2	72	204	6.6
800----	31	1,990	6.3	36	237	4.3	31	1,979	3.0	43	302	6.2	28	2,030	13.2	36			26	1,804	-14.1	53	40	11.4	31	1,930	- 1.9	71	223	9.6
750----	31	2,524	2.9	38	257	5.8	31	2,506	.7	43	292	9.2	28	2,579	9.5	36			26	2,297	-15.6	49	34	11.6	31	2,446	- 4.4	62	241	11.6
700----	31	3,072	.0	36	266	7.7	31	3,051	- 1.9	47	290	10.6	28	3,138	5.8				26	2,810	-17.7	47			31	2,982	- 7.2	58	245	14.2
650----	31	3,666	- 3.8	37	267	8.9	31	3,640	- 5.2	45	286	12.6	28	3,748	2.0				25	3,360	-21.0				31	3,562	-10.5	55	248	16.0
600----	31	4,288	- 8.0	40	268	10.8	31	4,262	- 8.6	42	288	13.5	28	4,381	- 1.9				25	3,939	-24.3				31	4,169	-14.6	57	251	15.1
550----	31	4,962	-12.3	42	274	14.7	31	4,934	-12.7	39	286	16.3	28	5,069	- 6.7				23	4,561	-28.1				31	4,826	-18.8	52	259	14.1
500----	31	5,681	-17.4	45	272	16.1	31	5,652	-17.4	39	283	18.0	28	5,804	-11.7				23	5,237	-32.0				31	5,526	-23.5	49	260	16.5
450----	31	6,471	-23.3	46	270	19.4	31	6,441	-23.3		286	18.1	26	6,608	-17.4				23	5,983	-36.9				31	6,295	-29.0	46	260	17.3
400----	31	7,312	-29.5	45	273	21.7	31	7,283	-29.7		286	19.9	26	7,473	-24.1				23	6,780	-42.0				31	7,120	-34.8		262	18.9
350----	31	8,250	-37.0	46	276	24.5	30	8,225	-37.0		278	21.8	24	8,432	-31.8				21	7,669	-47.5				31	8,039	-41.4			
300----	30	9,294	-45.4		279	27.1	30	9,272	-45.3		272	24.6	22	9,503	-40.2				20	8,662	-52.8				31	9,068	-48.4			
250----	29	10,478	-54.8		277	29.6	30	10,464	-53.9		291	26.4	22	10,721	-49.6				18	9,862	-55.4				31	10,250	-54.6			
200----	29	11,878	-61.5		273	30.3	29	11,877	-58.0				19	12,145	-57.4				18	11,285	-54.1				31	11,670	-55.9			
175----	28	12,703	-60.7		271	28.9	29	12,718	-57.8				16	12,975	-59.7				18	12,143	-53.2				31	12,520	-54.7			
150----	27	13,668	-59.6		267	26.7	27	13,697	-58.6				11	13,927	-62.4				18	13,134	-53.4				31	13,505	-55.0			
125----	27	14,802	-61.9		266	21.6	27	14,834	-62.0				6	15,012	-66.3				18	14,309	-52.9				31	14,667	-56.0			
100----	25	16,177	-63.9		265	16.8	25	16,207	-64.4				6	16,348	-70.8				18	15,744	-54.1				28	16,083	-58.4			
80----	22	17,543	-63.1		269	11.9	24	17,569	-64.4										17	17,175	-54.8				28	17,484	-58.7			
60----	21	19,319	-61.9		262	7.4	19	19,325	-62.1										17	19,005	-56.7				27	19,289	-58.3			
50----	19	20,449	-60.3		270	3.5	18	20,464	-59.7										15	20,156	-58.1				26	20,431	-58.3			
40----	18	21,843	-58.7		282	2.3	17	21,868	-57.7										12	21,611	-57.1				23	21,823	-58.2			
30----	12	23,688	-55.9		272	2.4	10	23,706	-55.1										7	23,581	-54.8				11	23,654	-56.6			
20----	9	26,281	-53.5																											
15----	5	28,170	-49.9																											

Standard pressure surface (mb.)	MIAMI, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MIDLAND, TEXAS (918 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NANTUCKET, MASS. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NASHVILLE, TENN. (999 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NOME, ALASKA (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	15.5	81	322	1.3	31	871	7.1	47	121	1.0	30	14	0.2	82	343	3.9	31	177	1.8	78	344	1.8	31	7	-19.5	71	58	2.6
1,000--	31	147	16.4	71	311	1.6	31	152					30	81			328	5.0	31	168			352	1.6	31	160	-16.3	61	55	2.5
950----	31	584	14.0	67	301	2.8	31	586					30	496	- 1.3	77	334	6.5	31	586	1.2	61	332	3.3	31	554	-14.6	54	38	2.8
900----	31	1,037	11.5	63	292	2.9	31	1,033	9.8	40	166	1.4	30	922	- 2.0	71	313	4.3	31	1,016	.2	58	345	4.9	31	957	-13.0	42	12	4.1
850----	31	1,513	9.8	51	288	4.1	31	1,507	9.3	34	260	4.2	30	1,376	- 2.9	63	298	5.0	31	1,475	.6	51	341	5.7	31	1,392	-12.5	37	1	6.2
800----	31	2,015	8.0	38	291	4.9	31	2,008	8.1	32	274	7.0	30	1,855	- 4.0	56	285	6.4	31	1,961	.0	46	322	7.6	31	1,854	-13.6	36	357	6.5
750----	31	2,551	5.9		287	6.6	31	2,545	4.9	32	275	7.1	30	2,369	- 6.2	60	296	6.5	31	2,484	- 1.7	44	316	9.5	31	2,348	-15.0	37	351	4.6
700----	31	3,108	3.2		279	7.9	31	3,096	1.4	33	280	8.3	30	2,900	- 8.6	58	285	8.2	31	3,023	- 3.9	41	309	11.7	31	2,862	-17.4	38	336	3.7
650----	31	3,707	- .1		286	9.8	31	3,696	- 2.1	32	280	10.0	30	3,481	-11.1	54	286	8.2	31	3,609	- 7.1	38	303	12.1	31	3,418	-20.5	39	327	5.1
600----	31	4,342	- 3.9		286	11.4	31	4,320	- 6.1	33	278	11.6	30	4,083	-14.2	51	279	9.8	31	4,224	-10.9	40	290	14.5	31	4,002	-23.8	41	322	6.5
550----	31	5,021	- 8.4		278	12.9	31	4,999	-10.4	29	277	12.9	30	4,741	-17.9	49	260	9.0	31	4,893	-14.8	42	289	17.2	31	4,636	-27.5		322	5.9
500----	31	5,755	-13.6		279	15.3	31	5,722	-15.9	30	278	14.9	30	5,444	-23.1	48	256	7.8	31	5,601	-19.7	41	285	18.8	31	5,312	-31.7		329	7.3
450----	31	6,558	-19.5		279	14.6	31	6,516	-21.7	32	276	16.0	30	6,216	-28.7	43	256	9.0	31	6,385	-25.3	37	283	20.2	30	6,055	-36.5		313	6.8
400----	30	7,418	-26.0		277	17.8	31	7,364	-28.5	34	281	16.3	30	7,040	-34.8		235	7.2	31	7,219	-31.4		278	20.9	30	6,850	-41.8		313	8.9
350----	30	8,370	-33.2		281	20.4	31	8,305	-36.2	35	282	17.4	30	7,957	-42.1		224	6.1	31	8,149	-38.6		299	18.3	30	7,743	-47.2		289	7.4
300----	30	9,437	-40.6		285	19.0	31	9,356	-44.6		276	17.4	30	8,981	-49.7		214	7.0	31	9,189	-46.5				30	8,751	-51.8		300	8.9
250----	30	10,655	-48.9		278	21.2	31	10,551	-53.8		276	17.5	30	10,160	-53.6		178	11.1	31	10,377	-54.2				30	9,923	-54.7		301	8.6
200----	27	12,102	-56.7		279	27.6	31	11,963	-59.0		273	18.6	29	11,590	-52.8				31	11,794	-56.8				30	11,343	-55.3		291	6.8
175----	27	12,940	-59.7		274	30.8	31	12,800	-59.3		271	21.6	28	12,459	-52.3				31	12,639	-56.9				30	12,198	-53.4		275	7.6
150----	27	13,898	-62.6		283	32.3	31	13,762	-60.5		256	24.8	28	13,452	-53.4				31	13,614	-57.1				30	13,191	-52.3		277	10.1
125----	27	15,010	-67.2				29	14,893	-63.3		264	23.6	27	14,623	-55.4				31	14,761	-59.5				30	14,368	-52.2		258	10.7
100----	26	16,342	-71.1				27	16,248	-66.6		252	16.9	25	16,037	-57.6				29	16,151	-61.9				29	15,800	-52.3		270	15.6
80----	25	17,655	-72.2				24	17,587	-67.0				22	17,435	-58.1				24	17,533	-62.4				29	17,238	-53.1		275	14.9
60----	24	19,366	-66.1				21	19,327	-63.9				20	19,243	-59.0				23	19,315	-60.9				28	19,092	-53.7		272	16.6
50----	24	20,482	-62.1				21	20,452	-61.0				18	20,384	-58.7				22	20,453	-59.7				25	20,274	-53.8		278	18.9
40----	21	21,874	-58.4				20	21,850	-58.2				15	21,798	-58.0				18	21,866	-57.5				23	21,700	-55.0		277	18.5
30----	20	23,695	-55.4				9	23,698	-55.6				12	23,620	-57.5				13	23,711	-54.6				17	23,640	-53.3			
20----	11	26,291	-52.4																6	26,308	-54.5				5	26,387	-49.1			
15----	6	28,156	-51.3																											

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

RAWINSONDE DATA

Average monthly values

Table 20—Continued

JANUARY 1956

Standard pressure surface (mb.)	NORFOLK, VA. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NORTH PLATTE, NEBR. (919 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OAKLAND, CALIF. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OKLAHOMA CITY, OKLA. (973 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OMAHA, NEBR. (973 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	2.5	75	345	3.9	31	848	- 5.8	78	93	1.0	31	6	10.0	86	227	0.4	31	392	2.1	63	45	1.5	31	403	- 7.3	73	19	1.6
1,000--	31	114			336	5.0	31	177					31	151	10.4	77	204	.8	31	168					31	184				
950----	31	535	1.3	62	329	8.0	31	589					31	580	7.9	76	209	2.6	31	585	3.9	52	57	2.2	31	594	- 6.0	67	11	1.7
900----	31	962	- .1	61	330	9.0	31	1,014	- 2.7	66	119	.8	31	1,021	5.8	71	228	3.2	31	1,025	5.0	43	41	2.0	31	1,012	- 2.6	60	313	2.3
850----	31	1,419	- .7	63	326	8.8	31	1,467	- 1.7	56	271	2.6	31	1,488	3.9	62	248	3.9	31	1,492	5.0	39	337	1.6	31	1,467	- 1.5	54	301	2.9
800----	31	1,903	- 1.7	63	313	9.1	31	1,950	- 1.5	50	289	5.4	31	1,979	2.0	55	253	6.1	31	1,985	3.8	35	296	3.5	31	1,949	- 2.3	51	297	4.5
750----	31	2,422	- 3.5	57	306	10.0	31	2,466	- 3.3	46	290	7.4	31	2,503	- .7	48	255	8.9	31	2,514	1.4	37	283	6.3	31	2,467	- 4.2	49	299	6.9
700----	31	2,958	- 5.6	51	300	11.4	31	3,005	- 6.3	47	288	7.3	30	3,044	- 3.7	43	257	11.7	31	3,060	- 1.0	36	286	9.0	31	3,001	- 6.6	49	296	9.1
650----	31	3,543	- 8.8	50	293	12.7	31	3,584	- 9.7	49	277	9.2	29	3,631	- 7.0	44	259	13.3	31	3,650	- 4.6	39	288	10.2	30	3,579	-10.3	50	300	11.1
600----	31	4,151	-12.3	46	288	14.2	31	4,195	-13.2	50	284	11.2	29	4,248	-11.0	45	263	15.5	31	4,272	- 8.6	39	285	10.9	28	4,185	-14.1	45	298	13.1
550----	31	4,815	-16.4	43	283	15.6	31	4,854	-17.4	49	285	12.5	29	4,917	-14.8	46	265	18.3	31	4,942	-12.6	38	284	13.5	28	4,843	-18.5	44	296	14.6
500----	31	5,521	-21.4	43	280	18.0	31	5,559	-22.2	49	284	14.3	29	5,627	-19.7	46	269	20.9	31	5,662	-17.3	40	285	15.6	28	5,544	-23.4	46	292	15.9
450----	31	6,298	-27.2	44	278	19.3	31	6,333	-27.9	46	286	15.4	28	6,413	-25.0	49	267	23.1	31	6,451	-23.0	41	286	17.3	28	6,314	-28.6	46	293	18.7
400----	31	7,126	-33.2	43	279	21.9	31	7,160	-34.0	41	283	17.0	28	7,250	-30.8	47	268	26.1	31	7,293	-29.7	39	286	18.2	28	7,139	-34.4	42	292	21.8
350----	31	8,051	-39.8		280	26.3	31	8,080	-40.9		280	18.6	28	8,183	-38.3		269	29.6	31	8,229	-37.5		288	18.5	28	8,059	-41.2		292	25.4
300----	30	9,089	-46.8		282	31.7	31	9,110	-48.5		282	19.9	28	9,225	-46.3		268	34.4	31	9,273	-46.0		292	20.5	28	9,087	-48.7		290	26.9
250----	28	10,277	-52.5		277	35.3	31	10,289	-55.1		277	19.5	28	10,413	-54.9		274	35.8	31	10,461	-54.5		295	20.9	28	10,268	-54.1		290	28.9
200----	28	11,707	-54.8		277	33.5	31	11,703	-57.4		286	17.8	28	11,816	-60.9		271	35.2	31	11,872	-58.7		287	23.2	27	11,693	-56.1		286	28.2
175----	28	12,562	-53.8		278	32.1	29	12,552	-57.3		283	17.4	28	12,647	-59.7		273	32.0	31	12,711	-58.7		282	21.8	27	12,541	-55.5		287	24.8
150----	26	13,540	-55.1		279	26.8	29	13,527	-56.6		286	17.5	27	13,604	-58.7		274	26.6	30	13,681	-59.4		276	23.0	26	13,517	-55.0		285	21.8
125----	26	14,699	-57.0		274	23.3	28	14,678	-57.7		285	14.6	25	14,748	-60.0		274	20.5	29	14,821	-61.6		273	19.8	25	14,681	-56.8		283	18.1
100----	23	16,098	-59.8		273	17.2	27	16,077	-60.3		287	10.8	23	16,132	-61.7		272	14.6	29	16,194	-64.3		269	16.6	24	16,087	-59.4		280	15.1
80-----	21	17,490	-61.1		271	14.2	24	17,470	-61.3		295	7.4	21	17,507	-61.6		269	11.0	27	17,550	-64.2				22	17,479	-59.0		287	11.2
60-----	19	19,282	-59.9		266	10.2	18	19,249	-60.4				18	19,295	-60.3		271	5.6	22	19,308	-62.3				21	19,283	-59.4		291	9.0
50-----	18	20,423	-58.8		259	9.1	15	20,393	-60.0				16	20,435	-60.0		286	3.5	21	20,445	-60.1				18	20,429	-58.6		298	6.9
40-----	15	21,825	-57.6		265	11.0	14	21,800	-58.8				13	21,821	-58.9		326	2.9	19	21,845	-58.4				16	21,832	-58.8		298	6.7
30-----	11	23,641	-57.5		257	10.7	8	23,590	-58.3				7	23,637	-57.1				10	23,696	-56.3				10	23,613	-58.3			

Standard pressure surface (mb.)	PHOENIX, ARIZ. (976 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PITTSBURGH, PA. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	RAPID CITY, S. DAK. (905 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (983 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	341	13.9	49	38	0.1	31	353	- 2.7	81	299	2.9	31	20	- 2.9	76	346	3.4	31	966	- 5.2	74	28	0.9	31	316	-12.9	76	286	0.6
1,000--	31	133					31	151					31	94			334	4.1	31	171					31	182				
950----	31	574	17.3	33	66	.3	31	562	- 3.4	76	293	4.1	31	504	- 4.4	74	351	8.0	31	581					31	584	- 9.6	73	121	.6
900----	31	1,030	14.8	32	119	.2	31	985	- 5.4	75	311	5.6	31	924	- 4.2	75	5	7.0	31	1,009			6	.9	31	998	- 5.8	61	207	.7
850----	31	1,509	11.3	34	229	1.6	31	1,433	- 4.8	68	320	5.9	31	1,374	- 4.5	72	353	5.5	31	1,461	- 2.1	58	263	3.0	31	1,446	- 5.4	56	270	2.0
800----	31	2,012	7.9	37	243	3.5	31	1,910	- 5.3	63	320	6.5	31	1,851	- 5.5	63	330	4.9	31	1,943	- 2.8	55	278	4.4	31	1,921	- 6.1	49	274	3.0
750----	31	2,545	4.3	40	252	4.9	31	2,420	- 6.8	59	311	7.9	30	2,362	- 7.4	59	315	5.1	31	2,456	- 4.8	52	283	5.5	31	2,427	- 7.7	49	280	4.6
700----	31	3,098	.9	40	266	6.5	31	2,952	- 8.8	55	300	10.2	30	2,892	-10.2	57	306	6.1	31	2,992	- 8.1	52	281	7.0	31	2,959	-10.0	47	284	6.0
650----	31	3,694	- 2.5	37	270	8.2	31	3,527	-11.9	50	300	10.6	29	3,465	-13.7	55	299	7.5	31	3,567	-11.7	55	279	9.3	31	3,531	-13.2	47	286	7.1
600----	31	4,320	- 6.4	38	282	10.6	31	4,131	-15.7	48	301	11.4	29	4,062	-16.8	51	281	7.0	31	4,173	-15.4	56	284	10.6	31	4,132	-16.7	46	283	7.2
550----	31	4,995	-10.7	37	285	12.0	31	4,783	-19.9	45	293	13.3	29	4,715	-20.4	47	269	8.8	31	4,825	-19.8	53	280	11.7	31	4,783	-20.6	43	291	7.5
500----	31	5,720	-15.9	37	281	13.2	31	5,482	-24.8	41	292	15.7	29	5,410	-24.7	48	259	9.9	31	5,525	-24.5	52	281	13.5	31	5,479	-25.2	36	287	8.1
450----	31	6,511	-21.6	42	283	14.6	31	6,244	-30.4	42	291	17.8	29	6,173	-29.8	49	252	12.1	31	6,289	-30.0	53	281	15.3	31	6,240	-30.7		286	8.9
400----	31	7,362	-28.2	42	289	16.2	31	7,066	-36.8	39	285	20.2	29	6,999	-35.7		257	13.4	30	7,103	-36.3	55	278	17.3	31	7,062	-36.6		289	10.3
350----	30	8,302	-35.6	43	294	18.1	31	7,976	-43.7		282	23.4	28	7,914	-42.6		252	13.8	30	8,016	-43.0		278	19.7	31	7,974	-43.3		284	10.8
300----	30	9,354	-44.0		290	17.4	31	8,997	-50.1		282	24.0	28	8,936	-49.8		243	13.0	30	9,038	-50.2		277	22.9	31	8,996	-49.7		290	13.8
250----	30	10,551	-53.1		291	20.8	31	10,172	-54.6		289	27.0	25	10,102	-54.7		241	15.8	29	10,204	-55.9		273	21.5	30	10,176	-54.4		288	14.8
200----	30	11,960	-60.1		280	18.7	30	11,600	-54.0		288	24.3	22	11,514	-53.8		264	17.6	27	11,620	-55.9		272	22.7	30	11,602	-54.8		287	14.4
175----	29	12,791	-60.6		284	17.1	28	12,456	-53.4		288	18.1	21	12,367	-52.8		268	16.4	27	12,470	-55.6		275	20.0	29	12,454	-53.5		291	15.0
150----	28	13,750	-60.8		278	15.8	25	13,450	-54.8		280	20.3	21	13,360	-53.2		261	15.5	24	13,454	-55.6		273	18.6	29	13,445	-53.8		286	14.0
125----	27	14,879	-63.2				24	14,613	-56.7		280	18.3	19	14,539	-54.8		256	15.4	14	14,646	-56.2		278	14.7	29	14,613	-55.0		283	12.3
100----	26	16,241	-65.5				24	16,018	-59.1		276	15.1	14	15,954	-57.2		261	14.9							28	16,036	-56.9		283	11.5
80-----	24	17,601	-65.7				21	17,403	-60.2		273	11.9	7	17,340	-59.3										28	17,444	-58.2		286	10.1
60-----	20	19,351	-63.8				18	19,203	-59.8		275	10.6	6	19,104	-61.4										24	19,259	-58.8		288	9.2
50-----	20	20,474	-61.5				15	20,363	-59.6		269	11.1													19	20,403	-58.5		278	11.2
40-----	18	21,868	-59.0				8	21,746	-58.0																15	21,789	-58.9			
30-----	7	23,709	-56.5																						8	23,605	-58.9			

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN ANTONIO, TEX. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN JUAN, P. R. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MARIA, CALIF. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	S. STE. MARIE, MICH. (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	- 5.0	87	53	2.2	31	243	10.6	62	19	1.7	31	23	22.0	80	97	1.6	31	74	10.5	86	318	0.4	30	221	- 8.5	83	50	1.6
1,000--	31	140			56	2.0	31	158					31	136	22.8	74	98	3.0	31	152	10.7	83	325	1.2	30	177	-11.3			
950----	31	547	- 7.5	80	12	1.6	31	592	11.8	57	94	1.8	31	584	19.9	75	75	4.4	31	581	10.5	72	339	2.7	30	579	- 7.5	66	65	2.5
900----	31	961	- 7.1	67	303	3.0	31	1,040	10.8	53	172	.8	31	1,046	16.5	76	66	3.1	31	1,029	8.7	63	323	2.7	30	997	- 7.1	66	34	2.5
850----	31	1,406	- 7.4	57	318	4.6	31	1,516	10.2	48	246	2.9	31	1,531	13.7	68	76	2.2	31	1,501	7.2	53	301	4.2	30	1,442	- 7.5	63	4	2.8
800----	31	1,878	- 8.4	50	319	5.2	31	2,020	8.8	36	278	6.1	31	2,040	11.1	59	51	1.6	31	1,998	4.9	45	295	6.4	30	1,913	- 8.6	60	345	3.1
750----	31	2,387	-10.7	42	335	4.1	31	2,558	6.1	31	278	8.3	31	2,582	9.2	46	346	.4	31	2,528	2.5		286	8.5	30	2,415	-10.1	54	347	4.3
700----	31	2,904	-13.7	39	348	4.9	31	3,113	3.0	31	273	8.7	31	3,146	6.9	32	281	2.5	31	3,077	- .6	45	278	10.2	30	2,941	-12.5	51	331	4.8
650----	31	3,474	-16.9	41	341	7.1	31	3,712	- .7	30	276	10.1	31	3,755	3.6		265	4.0	31	3,669	- 4.1	46	266	11.9	30	3,508	-15.5	49	324	5.7
600----	31	4,060	-20.4	43	338	5.4	31	4,344	- 4.7		276	11.2	31	4,396	- .2		276	5.1	31	4,292	- 7.9	45	263	14.2	30	4,103	-18.7	48	312	6.2
550----	31	4,707	-24.1	42	319	4.2	31	5,022	- 9.0		282	12.6	31	5,088	- 4.7		275	6.6	31	4,965	-12.0	48	264	16.3	30	4,750	-22.2	43	303	7.3
500----	31	5,388	-28.6		309	4.0	31	5,753	-14.4		273	11.7	31	5,829	- 9.4		274	8.6	31	5,687	-16.2	51	252	16.4	30	5,442	-26.3	39	304	8.3
450----	31	6,145	-33.8		314	5.7	31	6,549	-20.6		271	14.5	31	6,646	-14.8		274	11.4	31	6,480	-21.7	53	254	17.9	30	6,202	-31.8	40	300	9.4
400----	31	6,950	-39.5		294	7.8	31	7,402	-27.6		273	13.0	31	7,517	-20.9		275	16.7	31	7,329	-27.8	50	252	19.2	30	7,017	-37.7		301	10.1
350----	31	7,851	-45.6		292	8.1	29	8,342	-35.4		275	14.4	30	8,491	-26.7		269	19.4	31	8,273	-35.4	47	250	17.8	30	7,924	-44.5		308	11.2
300----	31	8,862	-51.9				29	9,395	-43.9		285	14.5	30	9,586	-34.6		267	25.8	31	9,325	-44.2		250	22.4	29	8,938	-51.4		294	11.5
250----	31	10,029	-56.3				29	10,594	-52.6		282	15.5	30	10,833	-44.6		267	27.9	31	10,520	-54.2				27	10,102	-55.3		303	13.7
200----	30	11,430	-56.6				29	12,013	-58.2		273	22.4	30	12,289	-55.5		271	29.6	29	11,929	-61.8				26	11,531	-53.5		293	13.9
175----	27	12,256	-53.7				29	12,849	-59.9		269	25.8	30	13,129	-60.6		280	28.9	29	12,755	-61.4				26	12,390	-53.1		286	13.7
150----	24	13,229	-51.6				28	13,811	-61.3		268	27.4	30	14,075	-66.5		276	25.7	29	13,711	-60.6				25	13,374	-53.9		289	15.1
125----	22	14,399	-50.8				28	14,931	-65.1		266	25.5	30	15,161	-72.3		276	21.8	28	14,843	-62.0				24	14,538	-55.1		287	14.6
100----	19	15,855	-50.6				26	16,275	-68.3		274	15.5	28	16,455	-78.1		276	14.1	26	16,218	-64.2				23	15,956	-57.2		284	15.2
80-----	17	17,307	-51.5				24	17,610	-69.3				25	17,724	-78.9		205	.5	22	17,583	-63.2				20	17,355	-58.7		290	13.9
60-----	16	19,187	-51.2				22	19,347	-65.2				23	19,390	-70.2		101	3.5	18	19,351	-61.8				17	19,153	-59.9		290	14.7
50-----	13	20,388	-51.0				20	20,467	-62.3				22	20,485	-65.3		126	3.6	18	20,482	-60.4				17	20,291	-60.2		291	16.5
40-----	9	21,885	-50.2				17	21,857	-58.7				22	21,856	-60.9		117	1.2	12	21,892	-58.4				13	21,707	-59.8		289	15.4
30-----	6	23,789	-51.3				14	23,680	-55.7				19	23,669	-55.5				6	23,714	-56.8				7	23,545	-59.2			
20-----							10	26,287	-53.0				11	26,287	-51.2															

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

RAWINSONDE DATA

Average monthly values

Table 20—Continued

JANUARY 1956

Standard pressure surface (mb.)	SHREVEPORT, LA.* (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (929 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	20	77	6.9	74	40	2.2	31	722	- 1.5	87	135	0.9
1,000--	20	147	7.5	68	49	2.1	31	128				
950----	20	573	6.2	68	108	2.0	31	548				
900----	20	1,010	6.1	63	226	2.1	31	973	- .7	77	171	3.3
850----	20	1,478	5.9	61	279	5.4	31	1,427	- 2.9	74	204	5.5
800----	20	1,973	4.1	58	275	7.7	31	1,906	- 5.5	71	223	7.0
750----	20	2,502	1.7	57	275	9.1	31	2,415	- 8.7	72	236	6.6
700----	20	3,049	- .9	51	270	11.5	31	2,940	-12.4	72	242	8.2
650----	20	3,639	- 4.4	50	267	12.8	31	3,512	-15.8	68	247	10.2
600----	20	4,262	- 8.3	51	266	14.6	31	4,101	-19.7	60	248	11.6
550----	20	4,934	-12.3	45	262	17.5	31	4,746	-23.9	56	251	12.8
500----	20	5,654	-17.1		260	20.5	31	5,431	-28.4	51	250	15.1
450----	20	6,447	-22.7		261	20.6	31	6,184	-33.8	50	253	16.1
400----	19	7,288	-29.6		262	21.7	31	6,994	-39.4		256	18.3
350----	19	8,225	-37.2		264	24.8	31	7,897	-45.0		261	20.7
300----	18	9,276	-45.3		262	27.1	31	8,914	-50.0		264	19.7
250----	17	10,467	-54.3		259	30.4	31	10,094	-53.4		270	18.5
200----	12	11,896	-59.9		271	33.5	31	11,525	-53.6		269	17.3
175----	9	12,716	-59.1				31	12,385	-52.7		266	17.8
150----	6	13,668	-58.6				31	13,378	-53.2		266	16.0
125----							31	14,549	-54.3		268	14.5
100----							29	15,969	-55.6		262	12.7
80-----							29	17,386	-56.5		274	11.7
60-----							29	19,206	-57.2		286	8.6
50-----							25	20,366	-57.4		299	8.1
40-----							24	21,781	-57.8		307	7.5
30-----							14	23,600	-57.3		321	8.6
20-----							13	26,155	-57.8		317	10.7
15-----							7	28,021	-56.1			

Standard pressure surface (mb.)	TACUBAYA, MEXICO (773 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	14	2,306	14.7				31	7	11.4	80	329	1.2
1,000--	14	55					31	154	13.3	70	323	2.2
950----	14	510					31	586	11.9	57	303	4.2
900----	14	984					31	1,036	10.1	52	302	5.1
850----	14	1,484					31	1,510	9.2	37	296	6.4
800----	14	2,009					31	2,011	7.6	34	291	8.6
750----	14	2,559	13.1				31	2,548	5.2	31	296	9.8
700----	14	3,131	8.9				31	3,101	2.1	29	286	11.2
650----	14	3,749	4.0				31	3,700	- 1.4	29	286	11.5
600----	14	4,384	- 1.2				30	4,325	- 5.2	27	278	12.8
550----	14	5,066	- 6.8				30	5,005	- 9.6		282	13.6
500----	12	5,805	-11.8				30	5,731	-14.7		281	15.0
450----	12	6,611	-17.3				30	6,528	-20.7		278	16.3
400----	12	7,475	-23.8				30	7,379	-27.5		279	19.3
350----	11	8,436	-31.0				30	8,326	-34.8		282	20.7
300----	10	9,526	-39.4				30	9,386	-42.1		284	24.7
250----	8	10,733	-50.4				30	10,598	-49.7		282	29.1
200----	7	12,154	-59.1				29	12,032	-56.8			
175----	6	12,999	-60.1				28	12,873	-59.0			
150----	5	13,954	-62.6				27	13,834	-62.0			
125----							27	14,950	-66.3			
100----							26	16,290	-70.1			
80-----							26	17,610	-70.8			
60-----							24	19,329	-66.0			
50-----							24	20,445	-62.0			
40-----							23	21,837	-58.8			
30-----							18	23,653	-55.4			
20-----							9	26,230	-53.1			
15-----												

Standard pressure surface (mb.)	TATOOSH ISLAND, WASH. (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TOPEKA, KANS. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	4.8	84	110	6.6	31	270	- 3.9	64	4	1.4
1,000--	31	71			113	7.5	31	186				
950----	31	492	3.0	72	134	8.1	31	596	- 3.0	58	8	2.2
900----	31	925	.2	75	163	8.7	31	1,023	- .7	54	326	1.4
850----	31	1,380	- 2.8	76	182	10.7	31	1,480	.0	52	311	3.3
800----	31	1,858	- 5.7	73	192	9.3	31	1,965	- .6	50	304	4.9
750----	31	2,365	- 8.6	66	195	8.8	31	2,485	- 3.1	49	298	7.4
700----	31	2,893	-11.8	59	211	8.7	31	3,023	- 5.4	48	294	9.5
650----	30	3,462	-15.8	51	223	9.6	31	3,604	- 8.8	46	295	10.9
600----	30	4,054	-19.6	50	234	10.1	30	4,214	-12.9	48	294	13.6
550----	30	4,694	-23.9	51	244	11.6	30	4,875	-17.0	48	294	15.5
500----	30	5,383	-28.8	49	249	13.6	30	5,580	-21.6	49	289	18.1
450----	30	6,131	-34.2	49	259	14.8	30	6,359	-26.7	49	285	20.7
400----	30	6,944	-39.9		251	18.6	30	7,188	-32.7	45	286	23.0
350----	29	7,845	-45.9		250	21.6	30	8,113	-39.9		285	26.1
300----	29	8,859	-50.5		254	23.6	30	9,148	-47.6		287	30.0
250----	29	10,039	-52.9		260	20.8	30	10,330	-54.8		289	30.9
200----	28	11,484	-51.6		259	17.2	28	11,743	-57.4		286	28.7
175----	28	12,350	-51.2		254	16.4	28	12,588	-56.6		285	26.2
150----	23	13,356	-51.1		264	15.9	28	13,564	-56.8		282	25.0
125----	22	14,542	-51.9		265	14.3	27	14,718	-58.2		282	22.0
100----	22	15,980	-54.0		268	12.1	27	16,113	-60.8		282	16.4
80-----	21	17,413	-54.9		279	9.0	25	17,495	-61.1		282	12.5
60-----	19	19,254	-54.9		280	8.3	23	19,286	-60.7		287	8.8
50-----	19	20,417	-55.2		290	7.9	21	20,419	-60.7		291	7.5
40-----	17	21,853	-55.6		308	6.8	13	21,830	-58.9		301	5.7
30-----	12	23,690	-55.3				8	23,674	-57.0			
20-----												
15-----												

Standard pressure surface (mb.)	WASHINGTON, D. C. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	88	0.5	66	323	3.2	30	12	- 3.1	80	103	3.7
1,000--	31	122			306	3.3	30	34			107	4.8
950----	31	535	- .8	64	326	7.5	30	449	- 2.5	66	107	7.4
900----	31	964	- 2.7	67	337	8.0	30	870	- 4.9	65	119	5.7
850----	31	1,417	- 1.9	63	343	7.2	31	1,320	- 7.4	63	119	4.7
800----	31	1,898	- 3.1	62	328	7.5	31	1,789	-10.2	60	107	3.5
750----	31	2,413	- 5.1	60	320	8.4	31	2,268	-13.1	56	98	3.0
700----	31	2,947	- 7.5	57	314	9.4	31	2,806	-16.3	55	136	1.9
650----	31	3,524	-10.5	50	308	9.4	31	3,366	-19.7	53	154	2.6
600----	31	4,132	-13.9	45	305	11.2	31	3,949	-23.5	51	184	1.6
550----	31	4,790	-18.1	43	300	12.0	31	4,583	-27.8	51	254	.5
500----	31	5,492	-22.9	42	288	14.8	30	5,265	-32.6	48	271	2.2
450----	31	6,258	-28.4	41	290	13.7	30	6,008	-37.5		263	3.8
400----	31	7,090	-34.6	41	292	13.7	30	6,803	-42.7		267	4.8
350----	31	8,008	-41.3		293	15.2	30	7,693	-48.3		325	2.1
300----	31	9,037	-48.0		287	19.5	30	8,697	-52.5		346	3.8
250----	30	10,223	-53.0		297	16.0	27	9,864	-53.2		293	4.8
200----	30	11,660	-53.5		294	16.5	26	11,299	-51.6		323	5.8
175----	30	12,518	-53.2		290	15.3	22	12,184	-51.4		305	6.7
150----	30	13,508	-54.3		285	17.0	18	13,184	-51.0		315	7.9
125----	28	14,670	-56.4		289	15.0	14	14,363	-51.5		322	7.5
100----	26	16,071	-58.7		286	12.4	10	15,878	-50.4			
80-----	25	17,472	-59.9		285	9.4	7	17,310	-51.4			
60-----	23	19,265	-60.0		295	9.1						
50-----	21	20,406	-59.2		285	10.1						
40-----	17	21,819	-57.8		273	9.6						
30-----	15	23,634	-56.6		269	12.4						
20-----	9	26,224	-54.9									
15-----	5	28,116	-52.6									

Standard pressure surface (mb.)	YUMA, ARIZ. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	105	16.9	34	241	0.2
1,000--	30	128	17.2	35	224	.2
950----	30	570	16.4	31	295	1.2
900----	30	1,023	13.6	31	279	1.7
850----	30	1,502	10.7	31	276	3.6
800----	30	2,004	7.8	33	272	4.4
750----	30	2,539	4.8	35	275	5.9
700----	30	3,092	1.7	35	280	8.1
650----	30	3,688	- 1.8	31	279	8.8
600----	30	4,318	- 5.9	31	282	10.4
550----	29	4,991	-10.5	34	275	11.9
500----	29	5,719	-15.7	42	274	13.6
450----	29	6,509	-21.5	45	274	16.6
400----	29	7,362	-28.2	42	281	18.7
350----	28	8,303	-35.7	49	279	20.5
300----	28	9,356	-44.2		283	22.8
250----	27	10,555	-53.8		281	22.9
200----	27	11,957	-61.8		278	25.8
175----	27	12,780	-63.0		268	23.2
150----	23	13,738	-62.6		282	23.9
125----	14	14,843	-63.6		251	23.6
100----	5	16,209	-67.3			
80-----						
60-----						
50-----						
40-----						
30-----						
20-----						
15-----						

* Observations started January 11, 1956.

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

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

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

Note: Effective with this issue the publication of upper air wind resultant data for constant height levels, (Tables 21 and 22) has been discontinued. Table 20 has been expanded to include monthly mean wind resultants for all pressure surfaces having at least 10 wind observations at all rawin stations.

It is believed that the publication of wind data for the same surfaces as raob data will be beneficial to more users than the previous method of presenting raob data for constant height levels.

The National Weather Records Center will continue the processing of data for constant height levels, and will have these available in its archives.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for September 1955

Standard pressure surface (mb.)	DENVER, COLO. (834 MB.)				FT. WORTH, TEXAS (993 MB.)				OGDEN, UTAH (853 MB.)				RANTOUL, ILL. (990 MB.)				ROME, N. Y. (1001 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,661	17.0	43	30	178	26.6	59	30	1,450	19.0	32	30	227	18.4	64	30	146	12.7	74
1,000--	30	73			30	116			30	62			30	138			30	156		
950----	30	535			30	571	25.5	59	30	517			30	589	20.5	52	30	594	14.2	67
900----	30	1,006			30	1,044	22.3	62	30	991			30	1,047	17.5	54	30	1,046	11.5	68
850----	30	1,496			30	1,539	18.7	66	30	1,485	19.9	31	30	1,533	14.5	56	30	1,522	8.9	65
800----	30	2,018	18.8	37	30	2,057	15.2	65	30	2,006	17.7	30	30	2,043	11.8	50	30	2,022	6.6	58
750----	30	2,572	14.7	41	30	2,603	12.0	58	30	2,556	13.2	34	30	2,586	9.3	39	30	2,556	4.9	43
700----	30	3,147	10.7	42	30	3,177	8.7	52	30	3,129	8.7	38	30	3,150	6.3	37	30	3,110	2.6	41
650----	30	3,763	6.0	42	30	3,789	5.1	46	30	3,739	3.9	40	30	3,758	2.5	35	30	3,711	- .3	37
600----	30	4,409	.8	46	30	4,436	1.2	41	30	4,381	- 1.0	43	30	4,396	- 1.2	34	30	4,344	- 3.8	35
550----	30	5,099	- 4.9	48	30	5,124	- 3.4		30	5,066	- 6.2	42	30	5,084	- 5.3		30	5,025	- 7.2	
500----	30	5,841	-10.7	45	30	5,878	- 7.9		30	5,806	-11.7	40	30	5,826	-10.3		30	5,761	-12.4	
450----	30	6,652	-16.3	36	30	6,695	-13.2		30	6,607	-17.7	39	30	6,640	-16.0		30	6,563	-17.8	
400----	30	7,518	-22.7		30	7,576	-19.1		30	7,472	-24.3	35	30	7,506	-22.3		30	7,430	-23.6	
350----	30	8,481	-30.3		30	8,556	-25.9		30	8,429	-31.9		30	8,472	-29.8		30	8,391	-29.2	
300----	30	9,556	-38.3		30	9,655	-33.6		30	9,498	-40.0		30	9,551	-38.3		30	9,464	-39.5	
250----	30	10,787	-46.3		30	10,906	-43.0		30	10,720	-47.4		30	10,782	-46.6		30	10,688	-47.8	
200----	30	12,242	-53.8		30	12,377	-53.8		30	12,171	-53.6		30	12,236	-54.0		30	12,135	-55.3	
175----	30	13,091	-57.9		30	13,223	-59.7		30	13,022	-56.8		30	13,086	-57.5		30	12,982	-57.7	
150----	30	14,052	-62.0		30	14,172	-65.6		29	13,984	-59.5		30	14,049	-61.2		29	13,947	-60.2	
125----	30	15,169	-65.1		30	15,267	-70.7		29	15,115	-62.4		30	15,172	-64.2		28	15,078	-61.5	
100----	24	16,499	-65.8		30	16,581	-72.0		27	16,488	-62.6		30	16,530	-65.3		27	16,461	-61.9	
80-----	19	17,848	-63.6		30	17,906	-68.2		27	17,865	-61.8		29	17,892	-63.1		25	17,844	-60.6	
60-----	16	19,637	-59.3		29	19,656	-63.0		26	19,656	-59.5		22	19,676	-59.5		23	19,647	-58.2	
50-----	16	20,783	-57.3		28	20,787	-60.3		24	20,805	-57.7		21	20,817	-57.7		20	20,811	-57.0	
40-----	15	22,205	-54.7		27	22,194	-56.7		21	22,227	-55.7		20	22,230	-56.0		20	22,228	-55.4	
30-----	13	24,051	-52.8		26	24,029	-53.4		18	24,063	-53.0		17	24,086	-52.3		17	24,079	-52.6	
20-----	11	26,676	-50.1		24	26,654	-49.3		8	26,660	-49.7		15	26,726	-50.3		5	26,711	-48.8	
15-----	9	28,554	-48.1		18	28,549	-47.4						9	28,571	-48.3					
10-----	5	31,258	-43.9																	

* October data for the above Air Force stations will be included in the February 1956 issue of this publication

Note: *All observations scheduled at 0300, G.C.T. "Number of observations"* refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature *values are based on* 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

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

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

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force data for September 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	146	1.4	30	102	0.7	30	35	1.3	30	44	0.8	30	141	0.5
500	--	---	----	30	145	6.0	--	---	----	29	123	1.7	29	239	2.0
1,000	--	---	----	30	149	6.1	--	---	----	29	209	1.6	29	260	4.4
1,500	--	---	----	30	164	4.8	30	35	1.3	28	248	3.5	29	271	6.8
2,000	28	192	.6	30	172	4.1	30	308	1.3	28	267	4.4	29	276	8.2
2,500	28	227	1.5	30	179	2.8	30	275	2.0	28	273	5.5	30	277	9.6
3,000	28	236	3.0	30	192	1.7	30	257	4.2	28	289	6.8	30	280	10.0
4,000	27	260	4.7	30	280	1.6	29	243	6.8	28	286	8.0	29	277	14.7
5,000	27	262	7.7	30	321	2.7	29	242	9.1	29	288	9.6	29	278	16.4
6,000	29	272	9.4	30	317	4.4	29	245	10.9	29	283	10.5	29	281	17.3
8,000	29	276	13.1	30	274	7.1	29	257	14.4	29	278	15.2	29	272	21.1
10,000	30	268	16.7	30	264	11.8	30	257	18.8	29	277	20.0	28	276	27.0
12,000	30	263	22.9	30	268	15.3	30	259	22.6	30	278	22.7	28	269	31.3
14,000	30	268	21.8	30	273	14.9	28	263	20.4	30	278	21.4	26	273	26.7
16,000	25	261	15.8	30	276	7.8	27	264	14.4	30	283	14.8	25	273	19.4
18,000	19	252	7.2	30	159	1.2	26	269	5.2	26	279	7.9	23	279	12.4
20,000	16	263	2.3	28	81	5.8	25	310	.9	21	283	3.8	20	281	4.8
22,000	14	323	1.2	27	90	9.5	20	359	1.7	20	296	1.3	19	285	3.2
24,000	13	71	.7	26	87	9.5	16	282	1.7	17	75	1.2	17	283	1.4
26,000	11	108	1.1	24	88	10.1				15	76	2.5			
28,000	10	104	1.5	17	98	9.8				10	117	1.4			

* October data for the above Air Force stations will be included in the February 1956 issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1956

MADISON, WIS.

Date	Sun's zenith distance: A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Jan.									
1	----	----	----	----	----	----	HK0.92	----	----
3	----	----	----	----	----	----	1.15	1.04	0.90
6	K0.64	----	----	----	----	----	----	----	----
7	----	----	----	----	----	----	1.17	----	----
8	.96	1.12	----	----	----	----	----	----	----
12	.87	.99	1.13	----	1.26	----	----	----	----
13	H .78	HK .92	1.10	----	1.28	----	1.19	----	----
21	.72	.84	----	----	----	----	----	----	----
22	----	----	----	----	----	----	1.17	1.06	.97
23	.73	.88	1.10	----	1.29	----	1.34	----	----
31	.89	----	----	----	----	----	----	----	----
Averages	.80	.95	1.11	----	1.28	----	1.16	1.05	.94

BLUE HILL, MASS.

Date	Sun's zenith distance: A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.86	3.89	2.92	1.94	Noon	1.94	2.92	3.89	4.86
Jan.									
1	----	----	1.24	----	1.29	----	1.22	1.09	0.97
2	1.05	1.16	1.26	----	1.28	----	1.16	----	----
6	----	----	----	----	----	----	1.11	.96	.88
18	----	----	1.17	----	1.30	----	1.18	1.07	.97
19	.94	1.02	1.16	----	1.28	----	----	----	----
21	----	----	1.11	----	1.24	----	1.10	.98	.90
22	.99	1.09	1.17	----	1.22	----	----	----	----
24	.93	1.04	1.17	----	1.33	----	1.19	1.06	.96
25	.97	1.07	1.19	----	1.33	----	1.18	1.07	.97
28	----	----	----	----	1.24	----	1.12	.97	.87
31	.92	1.02	1.16	----	1.30	----	1.18	1.00	.94
Averages	.97	1.07	1.18	----	1.28	----	1.16	1.03	.93

ALBUQUERQUE, N. MEX.

	Air mass: 5.0	4.0	3.0	2.0	Noon	2.0	3.0	4.0	5.0
Recorder Inoperative During January 1956									

WASHINGTON, D.C. (WBCO)

Date	Sun's zenith distance: A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.96	3.97	2.98	1.99	Noon	1.99	2.98	3.97	4.96
Jan.									
5	----	----	----	----	1.13	----	0.99	----	----
18	0.73	0.91	0.99	1.25	----	----	1.12	0.92	----
26	----	----	----	----	1.24	1.15	1.08	.92	----
Averages	.73	.91	.99	1.25	1.18	1.15	1.06	.92	----

* Extrapolated
K Smoke
H Haze

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 in Table 30 appears in Monthly Weather Review, Volume 75, No. 3, March 1947, p. 47

SOLAR RADIATION DATA

JANUARY 1956

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----------	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys-------	42	37	9	38	18	38	37	31	17	9	12	14	13	5	14	12	28	30	7	71	69	50	72	47
Date----------	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys-------	71	41	73	72	61	62	65	63	12	13	62	62	24	60	69	43								

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----------	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys-------	170	170	11	46	20	162	129	101	19	9	11	14	10	7	15	12	30	40	8	180	223	42	201	104
Date----------	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys-------	224	42	226	228	62	119	137	148	16	15	221	229	26	130	93	104								

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----------	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys-------	582	509	5	46	12	541	473	310	16	7	8	14	10	8	13	11	45	54	8	591	488	52	601	263
Date----------	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys-------	551	90	615	620	75	174	531	380	11	11	608	579	22	173	193	228								

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----------	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys-------	188	117	10	55	20	176	175	106	20	9	11	13	10	7	14	12	32	47	7	241	120	61	220	104
Date----------	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys-------	192	133	249	244	72	79	238	172	14	14	252	209	28	130	93	106								

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----------	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys-------	44	29	17	78	40	44	53	43	37	17	17	22	16	14	28	22	62	82	6	47	59	75	54	55
Date----------	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys-------	60	58	50	56	105	110	59	71	16	20	54	56	38	138	146	67								

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

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. . .	16	34	35	-21	8	-2	20	-17	6	*-11	*19	46	46	-5	14	*-54	6	*54	*-18	55	-3	*57	*9	70	97	46	24	50	65	*45	51	24

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

* Estimated values owing to occurrence of rain during period. While rain is falling, radiation is assumed to be zero.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. JANUARY 1956

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.	Great Falls, Mont.
1956																																	
Jan. 1------	---	331	14	394	80	292	---	49	75	222	70	196	379	629	185	312	201	207	123	155	195	249	(115)	369	248	12	315	259	354	143	241	177	137
Jan. 2------	---	320	28	382	16	196	---	5	---	212	191	142	355	677	184	259	66	192	105	305	55	234	(103)	366	265	7	309	188	333	147	233	283	137
Jan. 3------	---	327	51	272	11	263	---	27	192	18	47	4	295	(679)	70	269	20	231	88	325	28	53	75	369	118	4	346	211	296	196	256	271	140
Jan. 4------	---	325	42	391	42	323	---	46	185	79	79	65	360	685	98	297	49	218	39	324	61	77	48	366	212	10	350	(142)	346	151	275	244	127
Jan. 5------	T	321	12	389	29	311	---	18	155	40	73	31	298	662	50	333	220	213	51	305	134	56	78	335	204	15	346	70	364	141	295	231	166
Jan. 6------	T	278	54	359	29	301	---	7	---	216	133	193	405	681	48	310	213	179	164	270	66	237	63	281	240	2	334	239	330	101	266	186	197
Jan. 7------	0	319	54	347	138	317	---	26	191	200	199	191	408	661	163	265	105	78	49	302	155	145	61	363	244	3	331	214	307	189	262	164	173
Average-------	T	317	36	362	49	286	---	25	160	141	113	117	371	(668)	114	292	125	188	88	284	99	150	(78)	350	219	8	333	(189)	333	153	261	222	154
Jan. 8------	1	317	40	407	114	341	---	49	173	37	176	50	337	676	50	336	145	192	223	276	188	94	95	363	278	6	337	261	365	149	293	284	150
Jan. 9------	T	311	61	413	69	346	---	61	189	18	31	10	157	676	54	340	70	239	65	320	75	54	71	367	---	16	317	97	372	181	294	---	143
Jan. 10------	1	322	36	396	109	283	---	40	176	19	30	3	398	691	34	87	39	252	53	326	42	54	48	345	211	16	366	70	352	185	300	286	105
Jan. 11------	1	338	44	381	148	294	---	37	88	22	177	3	438	669	58	215	35	71	236	313	38	64	58	365	167	27	361	57	338	99	297	---	176
Jan. 12------	0	325	27	186	41	316	---	38	194	19	129	6	438	---	67	305	49	266	18	324	192	61	90	370	155	19	360	59	335	196	286	---	174
Jan. 13------	T	255	36	382	113	330	0	38	146	15	150	22	406	680	47	333	217	262	41	205	231	78	52	294	151	29	348	113	380	161	203	146	84
Jan. 14------	3	241	74	403	8	351	---	---	49	29	38	20	402	616	36	358	292	139	19	276	72	65	65	202	118	32	272	90	356	126	78	110	152
Average-------	1	301	45	367	86	323	---	44	145	23	105	16	368	668	50	282	121	203	94	292	120	67	69	330	180	21	337	107	357	157	250	207	141
Jan. 15------	1	312	44	388	66	298	---	71	137	64	29	51	412	660	38	350	166	42	24	208	101	83	63	341	161	40	332	111	370	---	113	233	71
Jan. 16------	4	89	57	169	36	248	---	48	140	83	58	52	243	684	83	77	117	112	242	102	59	122	89	243	205	8	362	335	63	105	139	---	148
Jan. 17------	1	198	2	394	57	328	0	48	206	8	193	6	227	---	80	346	39	79	106	165	199	47	116	212	280	35	62	217	334	141	293	290	133
Jan. 18------	1	375	85	244	144	251	0	40	212	252	74	233	387	---	100	324	215	41	139	346	132	274	97	366	185	6	110	276	306	210	---	307	188
Jan. 19------	T	355	66	216	41	35	(1)	36	127	225	33	205	387	646	118	121	77	220	83	338	92	261	70	395	71	10	397	166	106	124	299	270	214
Jan. 20------	4	---	104	377	48	57	1	51	221	80	42	64	270	630	130	191	*	148	25	338	101	108	73	350	97	16	199	151	308	119	223	147	155
Jan. 21------	4	---	50	371	23	293	1	45	226	254	70	234	199	675	73	244	---	143	49	70	130	277	101	160	267	20	46	228	345	116	309	240	117
Average-------	2	265	58	309	59	216	(T)	48	181	138	71	121	303	659	89	236	123	112	96	224	116	167	87	295	181	19	216	212	262	136	240	248	147
Jan. 22------	1	258	30	37	57	66	1	75	249	251	64	236	147	650	96	118	---	102	17	73	161	290	93	110	108	20	53	135	32	91	215	174	189
Jan. 23------	4	128	48	112	47	56	1	58	78	75	179	74	428	620	132	46	---	189	98	101	215	86	99	308	210	8	78	87	10	120	101	29	136
Jan. 24------	3	288	18	234	86	137	(2)	96	106	273	250	256	412	665	101	81	---	95	62	240	245	301	(161)	358	233	10	94	133	147	229	301	310	202
Jan. 25------	3	206	76	327	228	63	1	100	244	279	51	259	234	529	130	100	---	105	126	161	138	137	96	378	99	---	329	117	322	253	110	67	239
Jan. 26------	10	351	35	432	86	315	4	104	165	105	85	102	208	702	131	365	---	158	115	211	243	96	113	387	256	49	55	180	381	126	292	254	171
Jan. 27------	12	235	72	415	214	173	4	34	(54)	136	76	115	328	556	239	333	---	66	81	136	254	195	92	406	304	28	222	324	366	125	224	234	180
Jan. 28------	14	100	149	404	122	108	2	38	---	259	287	245	397	683	254	126	---	79	300	233	44	303	118	173	360	45	191	221	346	205	363	221	265
Average-------	7	224	61	280	120	131	(2)	72	(149)	197	142	184	308	629	155	167	---	113	114	165	186	201	(110)	303	224	27	146	171	229	164	229	184	197
Jan. 29------	13	405	157	411	116	272	2	94	261	16	125	21	353	702	51	263	---	38	264	142	114	65	156	362	364	21	148	322	342	204	374	362	193
Jan. 30------	5	407	61	360	193	182	6	42	(254)	21	284	30	80	687	124	294	---	352	220	431	170	(60)	171	224	244	6	187	155	347	182	261	348	243
Jan. 31------	15	157	64	161	205	307	6	92	(251)	291	328	293	179	669	264	290	---	---	307	185	251	(303)	205	378	287	16	129	280	153	211	238	161	270
Feb. 1------	15	120	24	199	185	8	8	30	280	292	362	275	343	518	284	66	170	49	324	202	137	315	174	336	391	9	47	303	132	209	364	309	277
Feb. 2------	9	122	28	419	103	83	8	44	271	28	306	35	76	637	---	224	57	139	318	(445)	206	70	136	205	381	24	86	361	315	139	395	395	270
Feb. 3------	16	---	6	419	176	56	(16)	51	(212)	161	303	157	68	674	279	345	301	328	298	364	331	190	108	349	376	38	68	374	278	175	380	381	236
Feb. 4------	22	408	88	231	26	610	(10)	50	225	176	252	155	398	683	284	177	65	299	204	347	264	176	97	442	370	41	102	341	226	167	391	386	183
Average-------	13	270	61	314	143	217	(8)	57	(251)	141	280	138	214	653	214	237	148	201	276	(302)	210	(168)	150	328	345	22	110	305	256	184	343	335	239

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

* Instrument inoperative from January 20th through 31st.

SOLAR RADIATION DATA

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.- Continued

JANUARY 1956

1956	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Las Vegas, Nev.	Lemont, Ill.	Little Rock, Ark.	Los Angeles, Calif. (urban)	Los Angeles, Calif.	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	Ste. Marie, Mich.
Jan. 1------	207	337	346	187	339	177	350	288	156	248	284	293	(192)	---	88	386	343	259	230	175	287	302	(212)	347	---	104	167	130	315	214	324	---	122
Jan. 2------	197	246	114	25	339	154	88	289	21	237	294	274	33	---	128	317	345	238	218	175	48	292	(175)	350	---	87	211	80	321	123	321	(249)	45
Jan. 3------	192	302	162	195	301	21	247	303	217	260	316	312	180	17	29	369	336	271	31	22	287	315	40	360	---	75	186	68	341	227	367	(237)	52
Jan. 4------	204	351	26	215	345	27	383	305	190	276	268	281	161	22	77	(361)	342	264	60	46	317	296	81	307	---	119	155	104	314	201	382	---	53
Jan 5------	205	344	309	197	289	26	363	204	168	262	193	211	158	24	199	443	361	266	44	167	288	318	138	163	---	84	145	48	264	152	370	212	103
Jan. 6------	188	334	301	227	318	132	337	247	214	238	254	243	192	13	146	436	288	259	227	198	280	232	(119)	278	---	99	122	131	318	182	375	298	---
Jan. 7------	164	351	252	150	200	88	155	221	183	272	238	229	197	26	37	362	353	123	174	109	189	317	(189)	246	---	124	175	126	271	171	368	254	172
Average-------	194	324	216	171	305	89	275	265	164	256	264	263	(159)	20	100	(382)	338	240	141	128	242	296	(136)	293	---	99	166	98	306	181	358	(250)	91
Jan. 8------	226	373	66	252	345	107	381	313	199	283	314	301	200	---	164	451	333	300	99	137	334	315	106	333	---	175	222	158	328	104	214	258	207
Jan. 9------	220	376	(43)	144	339	24	394	---	249	270	254	240	182	43	114	453	333	302	31	26	325	293	83	283	---	99	228	88	318	192	356	(279)	91
Jan. 10------	48	309	37	55	269	29	274	---	65	272	254	205	97	28	98	430	338	116	51	20	83	331	122	343	17	89	267	89	310	81	383	141	147
Jan. 11------	139	352	68	48	248	17	389	---	30	271	165	143	59	31	156	404	352	38	31	30	29	325	50	343	23	142	247	112	185	226	403	225	173
Jan. 12------	155	351	58	244	293	14	391	---	228	342	253	265	233	15	74	294	362	36	30	29	51	328	50	232	18	63	181	79	292	(231)	404	201	184
Jan. 13------	219	350	163	254	269	32	394	---	249	287	248	243	221	32	53	399	368	275	31	48	93	309	205	197	38	159	195	148	267	(195)	394	237	134
Jan. 14------	246	400	313	213	216	179	393	---	148	103	57	76	97	32	37	454	310	290	42	142	335	280	219	266	26	39	216	40	200	(102)	369	---	198
Average-------	179	359	(107)	173	283	57	388	---	167	261	221	210	156	30	100	412	342	194	45	62	179	312	119	285	25	109	222	102	271	(162)	360	(224)	162
Jan. 15------	219	349	375	60	251	178	346	286	133	257	116	69	75	35	97	448	221	69	89	157	157	234	214	344	47	60	204	62	196	(101)	373	---	(134)
Jan. 16------	86	275	155	125	379	155	377	233	221	283	297	295	176	51	85	425	267	147	174	156	121	272	76	298	41	102	72	99	206	(145)	350	(266)	146
Jan. 17------	224	359	345	118	352	39	204	325	44	64	319	313	30	42	97	395	237	109	(20)	133	230	139	151	382	27	181	199	148	340	(170)	56	(228)	146
Jan. 18------	238	303	348	94	341	113	61	320	122	30	293	295	74	29	33	352	383	157	264	253	271	81	222	376	214	134	264	158	329	(178)	225	(252)	135
Jan. 19------	24	62	95	107	256	127	274	158	48	148	186	192	98	23	106	349	290	35	208	126	29	325	184	346	224	49	227	52	237	(181)	396	(199)	132
Jan. 20------	110	75	283	102	292	89	391	159	76	39	47	38	99	41	115	281	219	51	111	85	54	256	131	288	141	54	161	55	76	(261)	311	103	132
Jan. 21------	219	361	161	142	318	133	180	326	254	100	294	222	239	26	47	91	67	233	257	228	217	118	220	87	187	50	222	43	298	(260)	58	---	172
Average-------	160	255	252	107	313	119	262	258	128	132	222	203	113	35	83	390	240	114	(160)	163	154	204	171	303	126	90	193	88	240	(185)	253	(210)	(142)
Jan. 22------	196	66	314	215	299	138	210	214	291	42	84	72	264	31	23	401	88	90	254	216	133	48	172	306	225	38	91	32	176	(281)	99	111	162
Jan. 23------	61	69	35	264	310	162	177	132	218	47	106	99	263	37	157	315	266	41	79	180	53	73	165	244	46	177	102	176	58	(283)	284	---	209
Jan. 24------	268	130	111	238	366	201	191	338	252	139	172	236	197	85	95	286	292	231	282	282	128	55	234	347	244	191	195	146	217	(130)	128	(261)	233
Jan. 25------	193	96	376	159	64	213	307	161	208	207	37	---	194	86	69	177	365	73	284	262	36	214	239	373	212	248	268	217	62	(148)	231	(27)	242
Jan. 26------	250	368	213	248	37	117	312	94	111	64	14	17	174	100	112	429	212	110	214	257	97	66	(143)	(272)	198	52	293	59	19	(148)	146	112	233
Jan. 27------	240	181	339	280	263	215	215	331	224	25	231	257	102	73	152	---	254	160	258	212	190	222	103	207	115	269	280	238	227	(97)	253	(350)	190
Jan. 28------	137	200	402	28	327	274	220	363	15	173	277	269	11	24	229	---	323	78	265	236	60	222	189	68	269	191	271	157	317	(110)	204	(276)	---
Average-------	192	158	256	204	238	188	233	233	188	99	131	158	172	62	119	322	257	112	234	235	100	129	(178)	(260)	187	167	214	146	154	(171)	192	(189)	212
Jan. 29------	73	192	254	7	323	44	207	358	121	25	253	254	183	13	250	---	327	2	32	22	14	45	67	387	21	188	250	210	237	(280)	216	266	135
Jan. 30------	62	160	241	272	---	16	350	219	297	263	180	173	254	23	267	---	188	68	25	9	109	386	57	409	31	232	237	233	224	(300)	---	(150)	174
Jan. 31------	204	219	288	---	403	222	---	248	314	249	327	315	286	23	291	382	292	360	308	287	386	230	240	201	317	---	311	256	307	(294)	77	(258)	231
Feb. 1------	133	43	409	74	440	233	231	278	78	14	357	374	132	60	299	408	69	21	295	259	44	274	248	387	189	---	352	244	424	(229)	66	(315)	211
Feb. 2------	44	137	324	120	450	41	96	---	130	29	331	373	303	49	285	436	169	38	43	18	14	135	102	400	66	---	319	220	431	(311)	97	(318)	177
Feb. 3------	29	112	154	274	444	202	80	---	303	25	367	362	254	83	276	262	96	54	174	181	45	130	(284)	441	---	---	329	148	396	(326)	100	(314)	290
Feb. 4------	27	68	256	183	439	75	133	395	313	40	356	358	301	49	91	289	270	17	141	45	39	83	215	448	210	---	317	113	396	(319)	471	(322)	154
Average-------	82	133	275	155	417	119	183	300	222	92	310	315	245	43	251	355	202	80	146	117	93	183	(173)	382	139	---	302	203	345	(294)	171	(277)	196

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

SOLAR RADIATION DATA

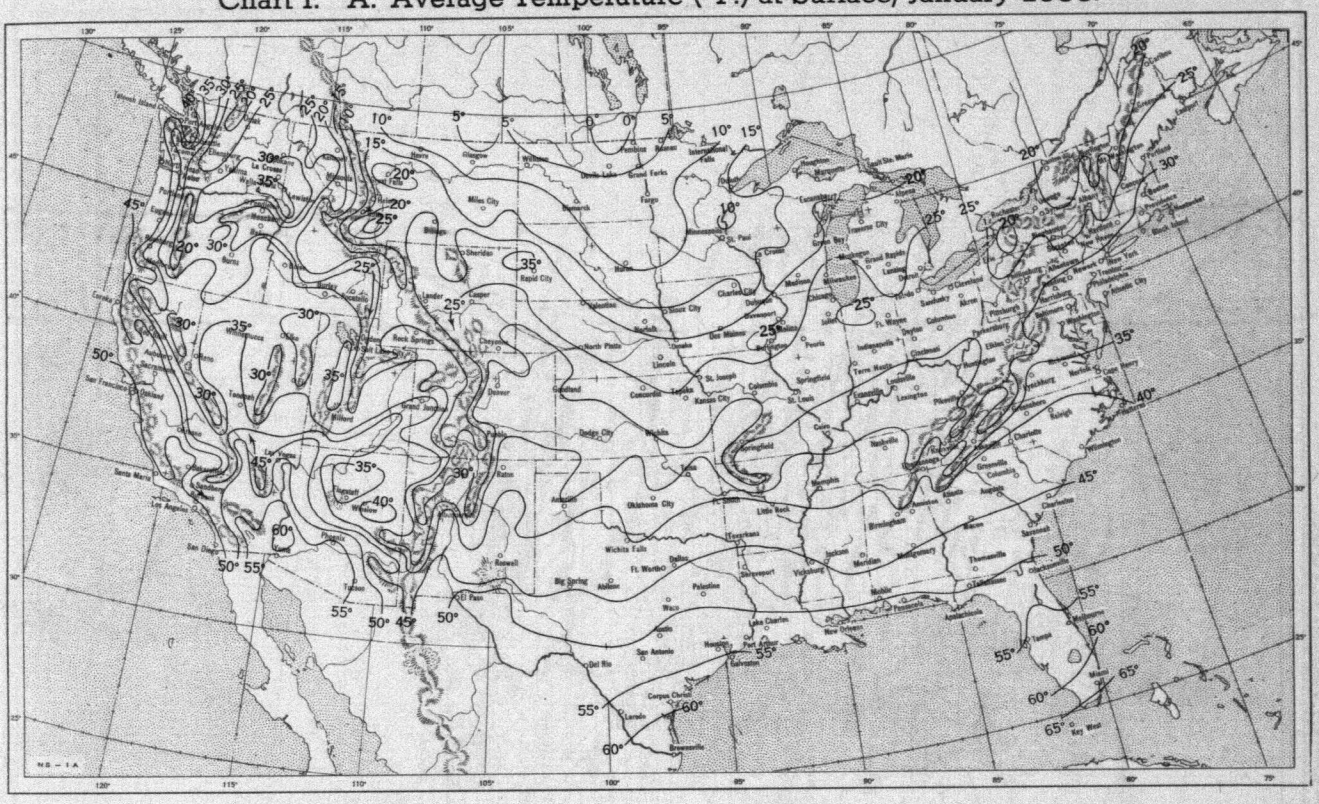
Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. - Continued **JANUARY 1956**

	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle-Tacoma, Wash.	Seattle, Wash. (U. of W.)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz.	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1956															
Jan. 1------	201	185	202	49	67	31	150	269	407	141	348	192	524	230	---
Jan. 2------	236	173	194	19	26	67	51	293	384	110	350	214	529	119	---
Jan. 3------	27	64	91	16	15	75	43	304	385	24	349	---	387	78	---
Jan. 4------	40	42	140	(48)	48	32	59	297	406	53	340	62	569	149	(107)
Jan. 5------	95	132	205	23	16	89	208	304	410	68	290	85	388	239	90
Jan. 6------	258	170	196	16	11	74	207	304	379	29	269	214	535	218	155
Jan. 7------	199	143	101	124	88	49	89	282	288	210	326	184	533	60	150
Average-------	151	130	161	(42)	39	60	115	293	380	91	325	158	495	156	(125)
Jan. 8------	235	155	111	103	81	55	238	297	421	184	335	---	---	---	---
Jan. 9------	31	66	28	(44)	35	171	57	280	420	34	279	27	532	29	46
Jan. 10------	32	51	10	61	68	124	19	338	412	61	323	31	493	12	(96)
Jan. 11------	52	43	20	111	90	83	38	316	310	33	338	55	490	23	150
Jan. 12------	50	22	35	78	73	143	39	314	75	89	284	58	515	44	115
Jan. 13------	80	35	69	117	86	83	140	292	125	222	204	71	429	129	109
Jan. 14------	85	81	190	35	32	40	263	264	413	238	235	97	422	246	69
Average-------	81	65	66	(78)	66	100	113	300	311	123	285	56	480	81	(97)
Jan. 15------	130	86	161	(56)	57	43	261	276	403	223	338	132	---	257	100
Jan. 16------	212	121	170	(33)	30	65	126	206	376	200	253	202	---	99	(163)
Jan. 17------	63	24	246	(65)	63	60	128	---	358	203	367	46	317	287	---
Jan. 18------	311	193	270	(112)	126	57	253	73	351	222	369	260	489	285	85
Jan. 19------	175	158	72	---	29	78	51	334	168	69	366	182	---	37	187
Jan. 20------	69	58	131	56	59	88	91	305	250	185	337	84	455	103	188
Jan. 21------	295	214	236	22	18	45	121	68	---	101	106	255	495	248	185
Average-------	179	122	184	(57)	55	62	147	210	318	172	305	166	439	188	(151)
Jan. 22------	276	156	249	(65)	54	61	114	27	---	221	274	---	526	268	176
Jan. 23------	166	178	166	(111)	32	165	289	56	---	227	253	---	314	148	(187)
Jan. 24------	317	154	270	126	114	177	295	24	386	248	334	294	489	197	94
Jan. 25------	303	229	239	(178)	225	233	148	178	317	239	372	276	480	168	107
Jan. 26------	319	128	289	108	155	90	273	34	439	242	322	252	536	315	159
Jan. 27------	257	129	218	169	153	175	218	35	412	218	179	241	529	198	94
Jan. 28------	341	209	291	11	15	99	267	40	402	108	93	274	507	285	141
Average-------	283	169	246	(110)	107	143	229	57	391	215	261	267	483	226	(137)
Jan. 29------	28	28	59	126	67	200	32	34	424	57	373	34	552	48	167
Jan. 30------	11	23	37	219	212	270	69	381	439	31	393	10	532	57	167
Jan. 31------	333	258	227	241	228	221	141	151	277	227	250	300	337	242	225
Feb. 1------	319	223	290	242	206	208	215	34	363	184	273	307	320	295	(226)
Feb. 2------	17	47	10	(130)	112	218	81	180	406	58	383	---	555	50	(222)
Feb. 3------	205	234	81	149	173	228	228	149	340	280	434	189	455	65	157
Feb. 4------	67	111	33	44	35	111	58	88	333	122	448	89	485	32	(221)
Average-------	140	132	105	(164)	147	208	117	145	369	137	365	155	462	113	(198)

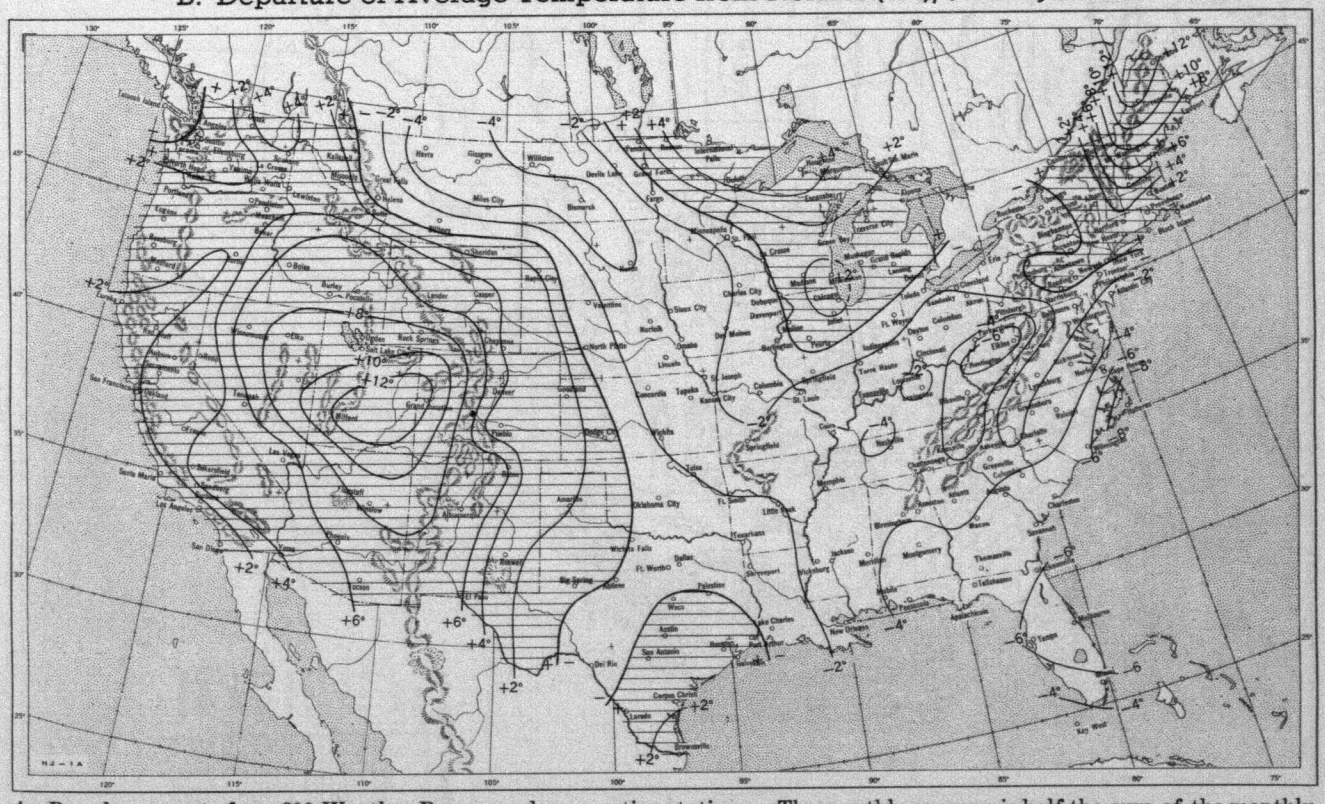
Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

NWRC, Asheville, N. C. --- 4/2/56 --- 1850

Chart I. A. Average Temperature (°F.) at Surface, January 1956.

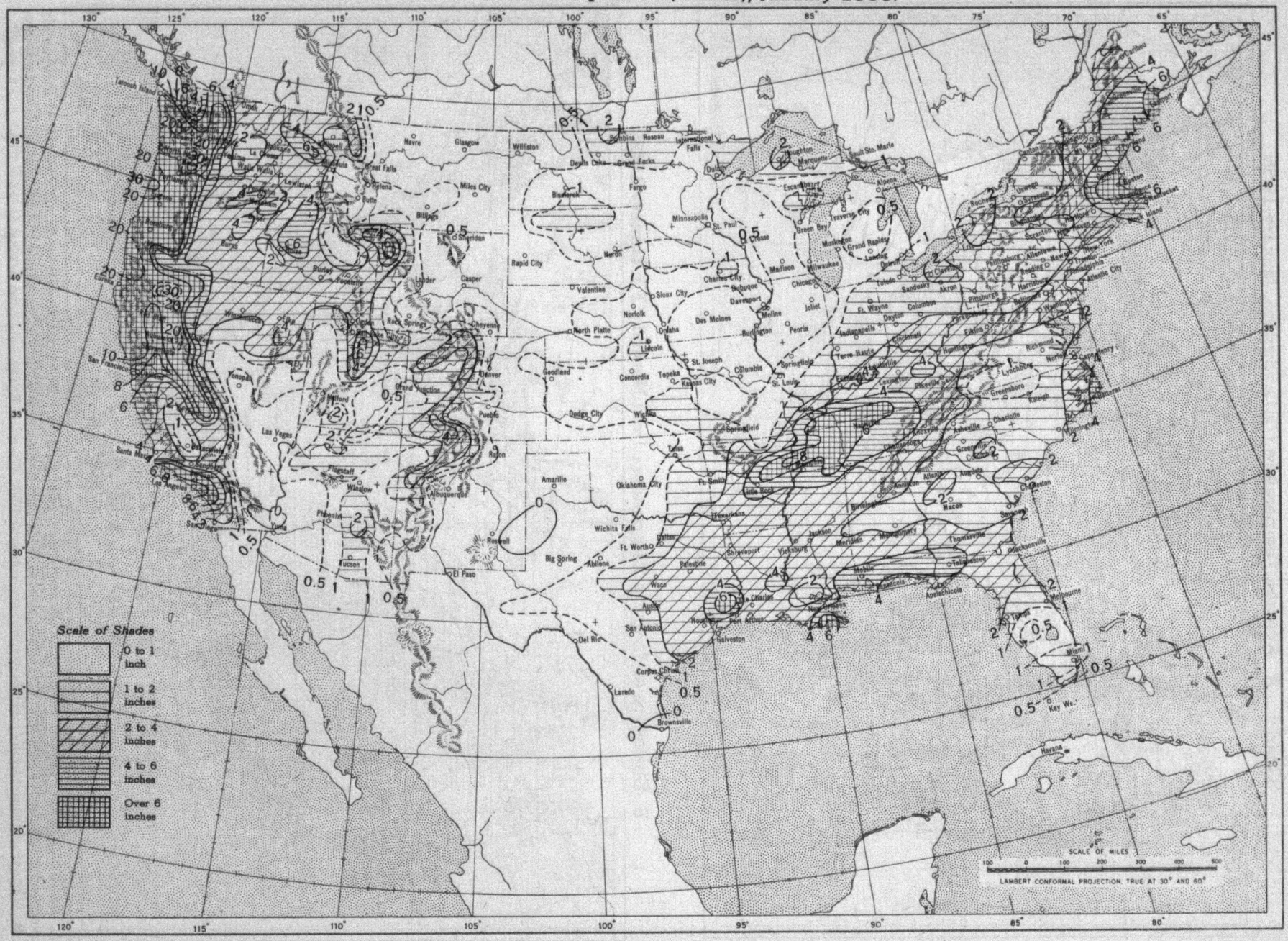


B. Departure of Average Temperature from Normal (°F.), January 1956.



A. Based on reports from 800 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. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

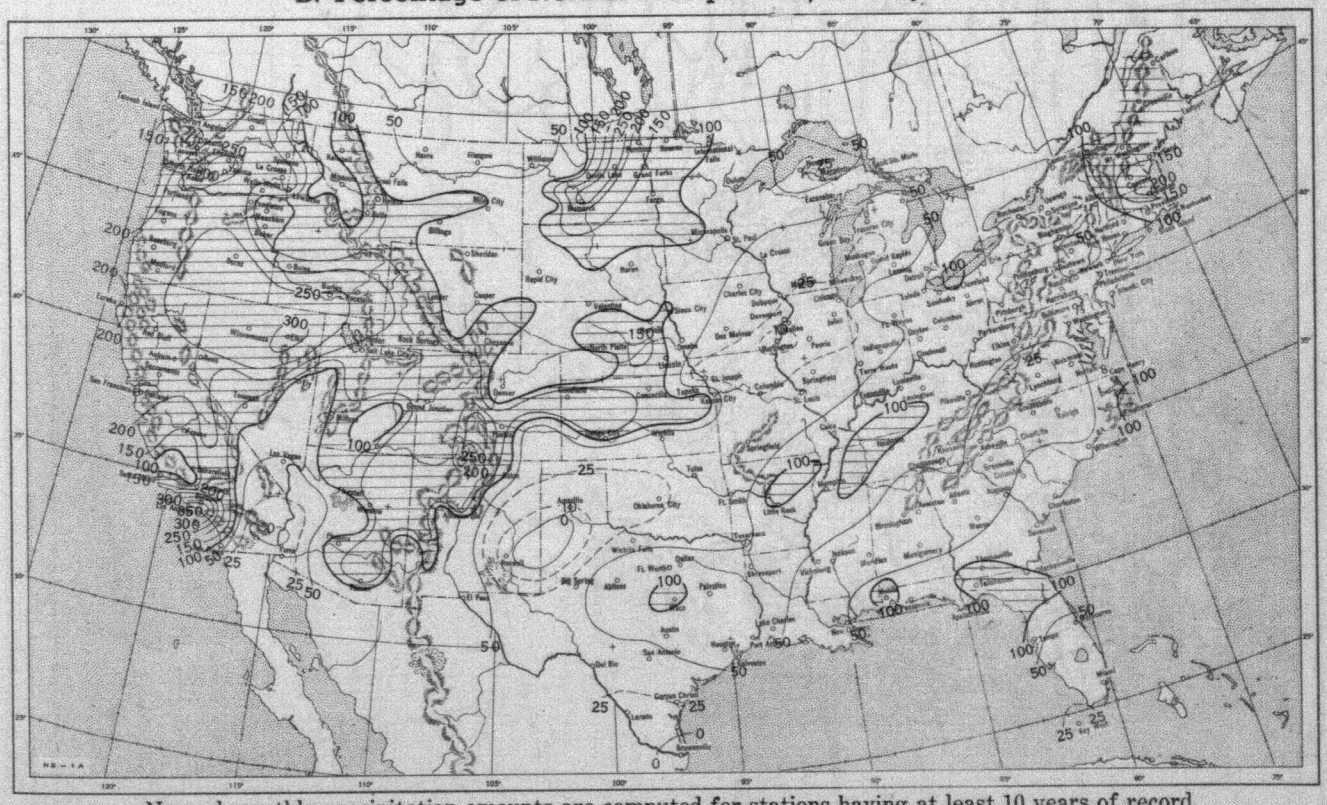
Chart II. Total Precipitation (Inches), January 1956.



Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

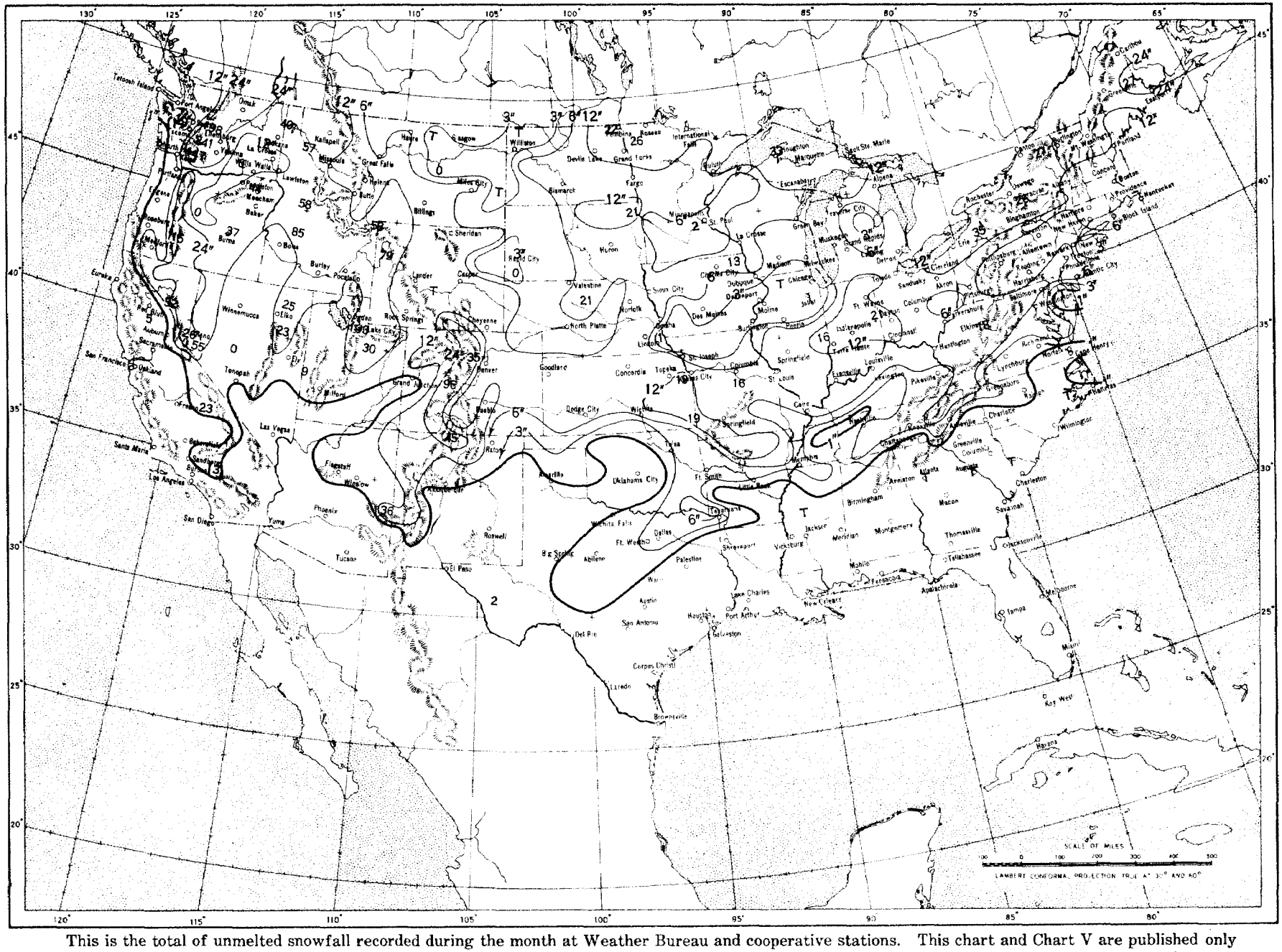
Chart III. A. Departure of Precipitation from Normal (Inches), January 1956.

B. Percentage of Normal Precipitation, January 1956.



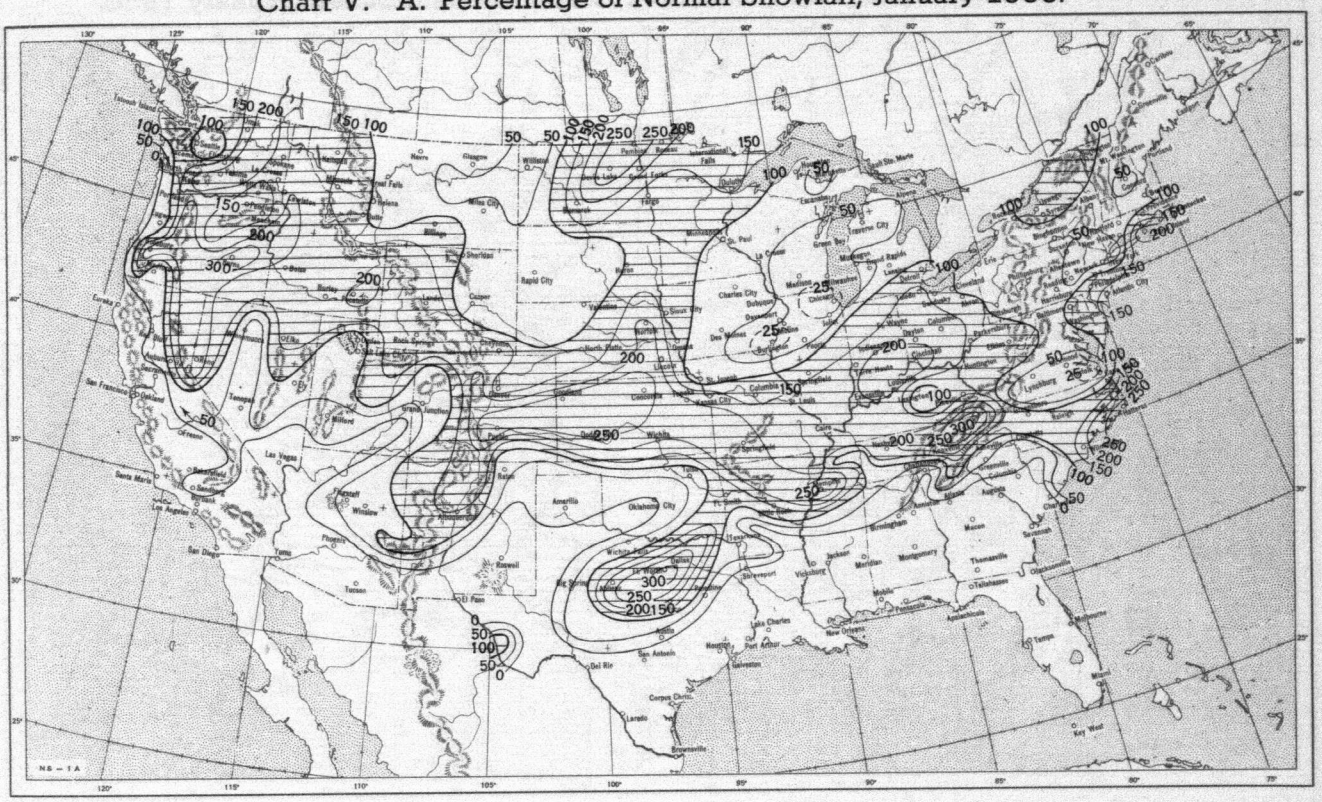
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), January 1956.

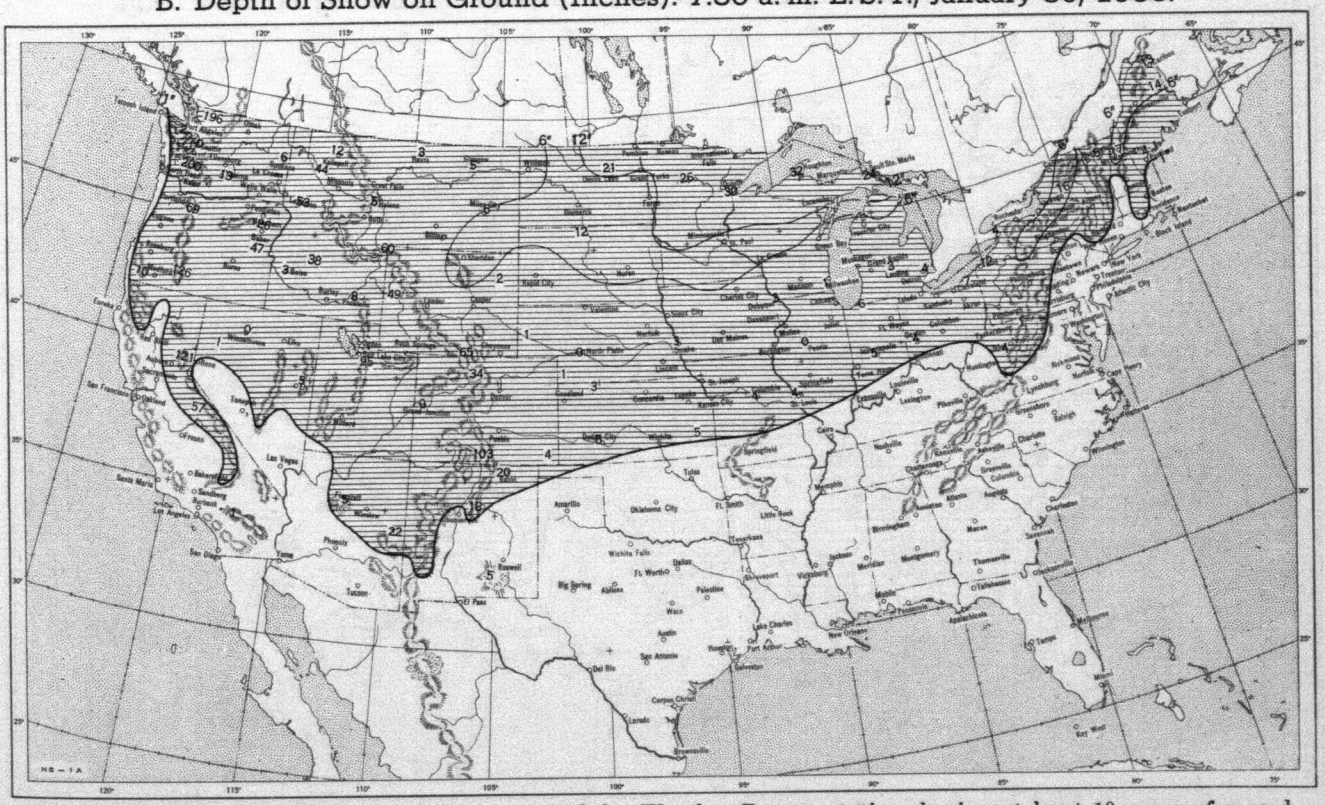


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in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

Chart V. A. Percentage of Normal Snowfall, January 1956.

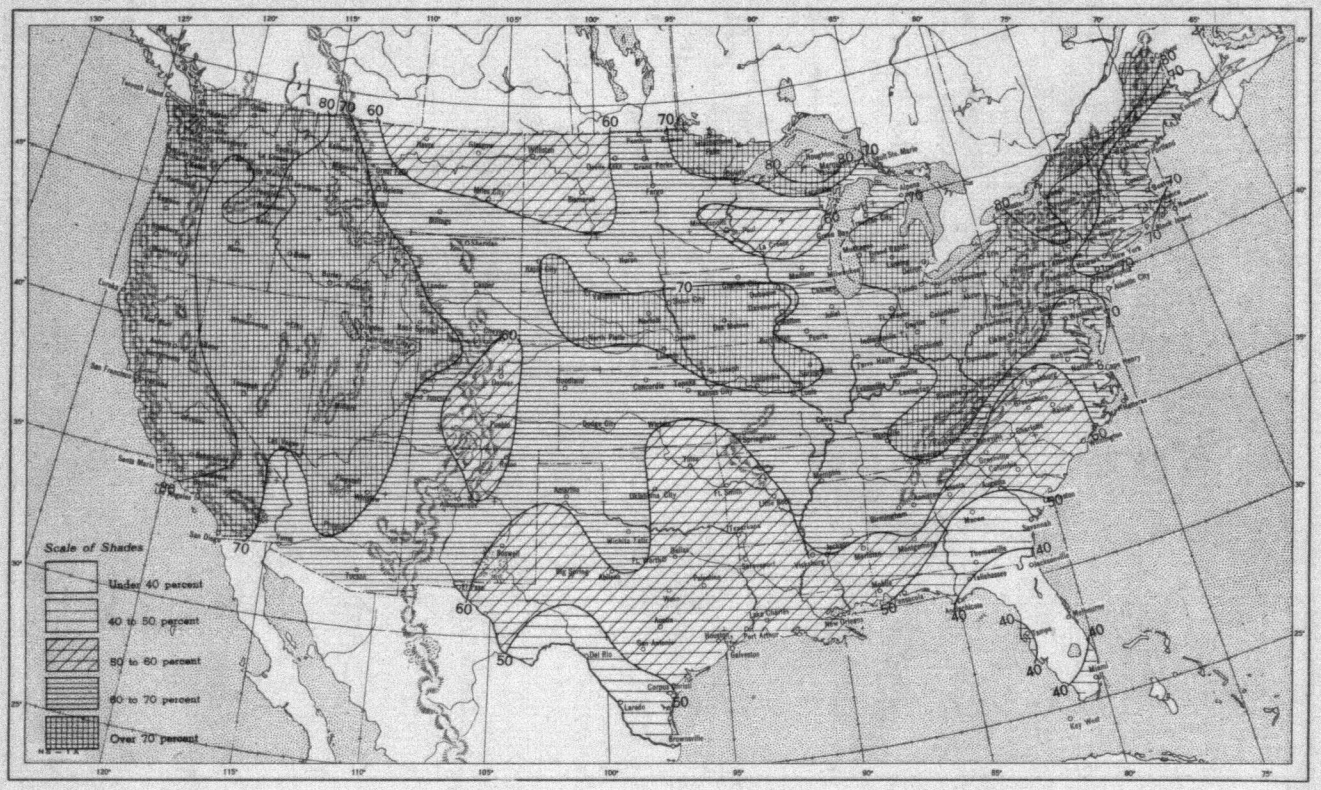


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., January 30, 1956.

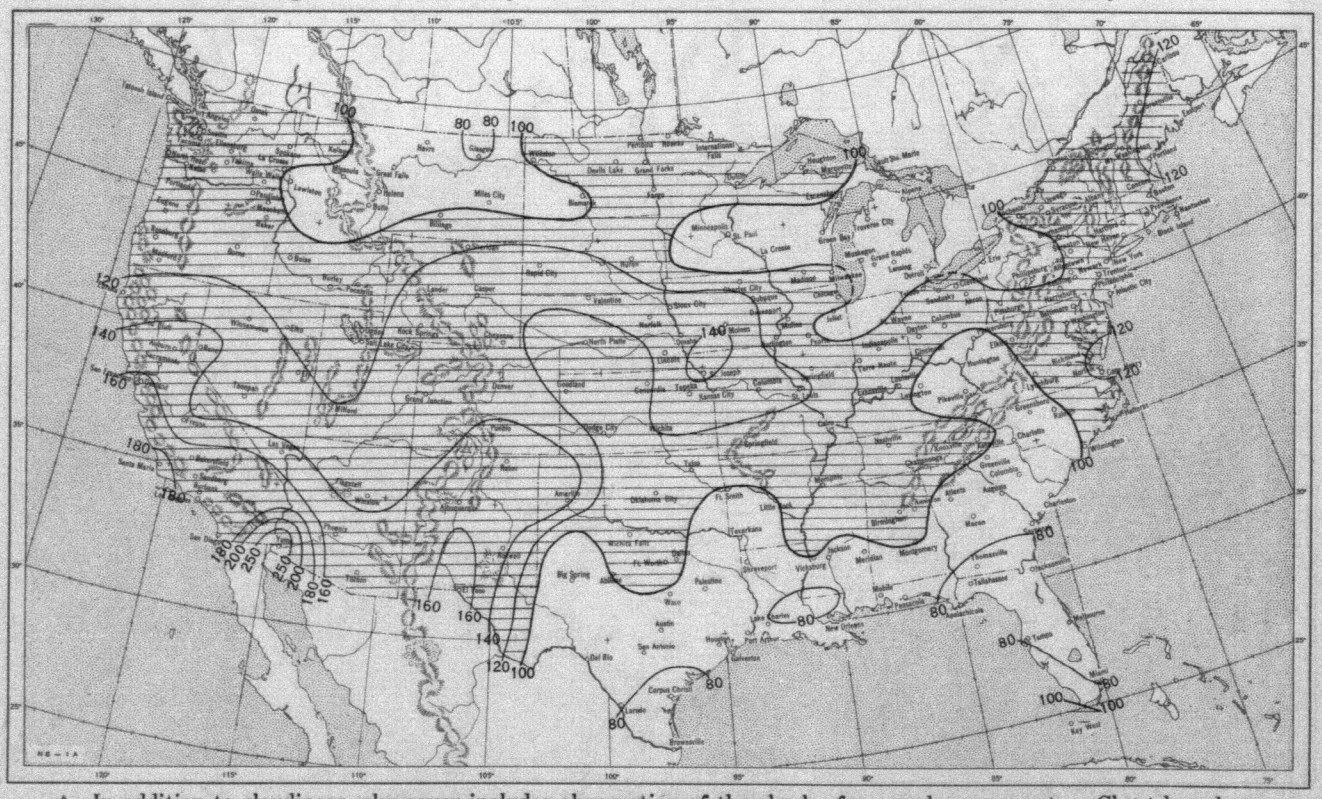


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a. m. E. S. T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, January 1956.

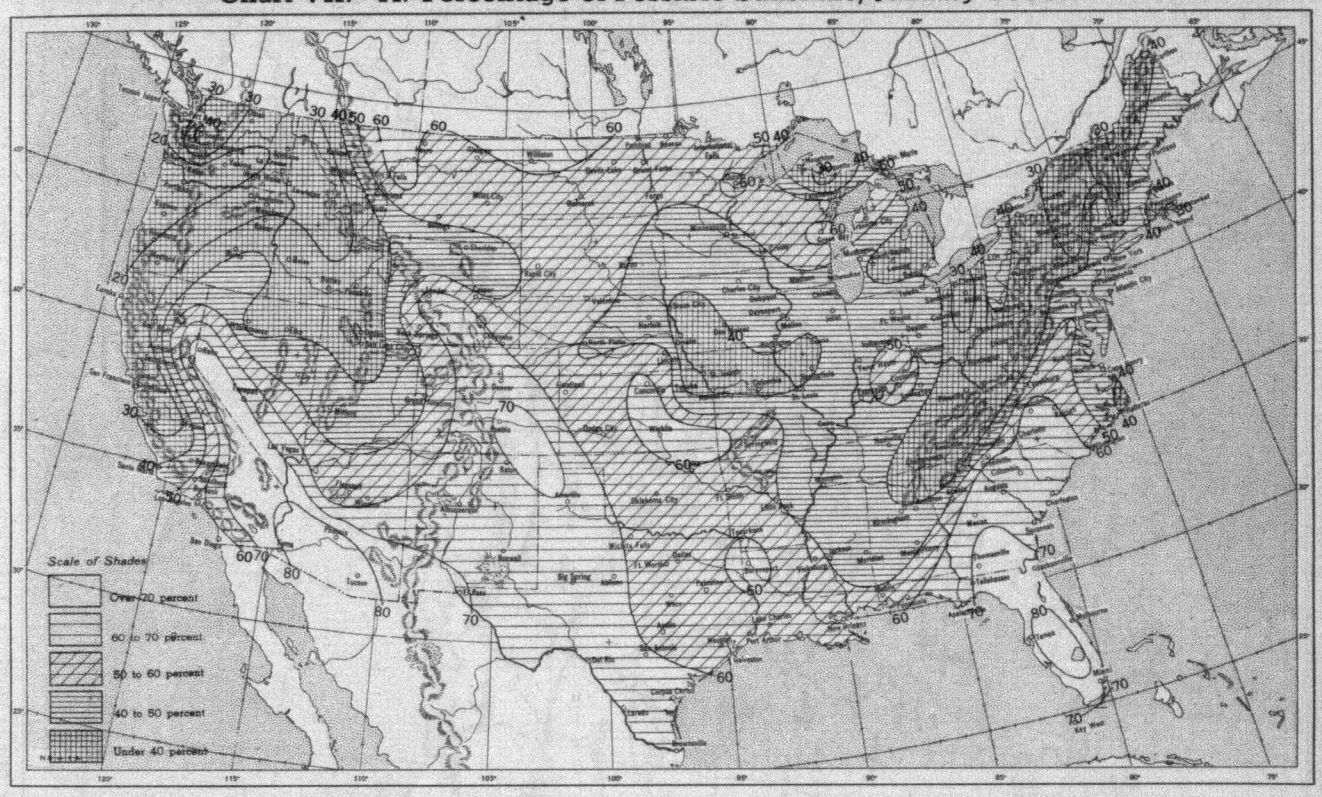


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, January 1956.



A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, January 1956.



B. Percentage of Normal Sunshine, January 1956.

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

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, January 1956. Inset: Percentage of Mean Daily Solar Radiation, January 1956. (Mean based on period 1951-55.)

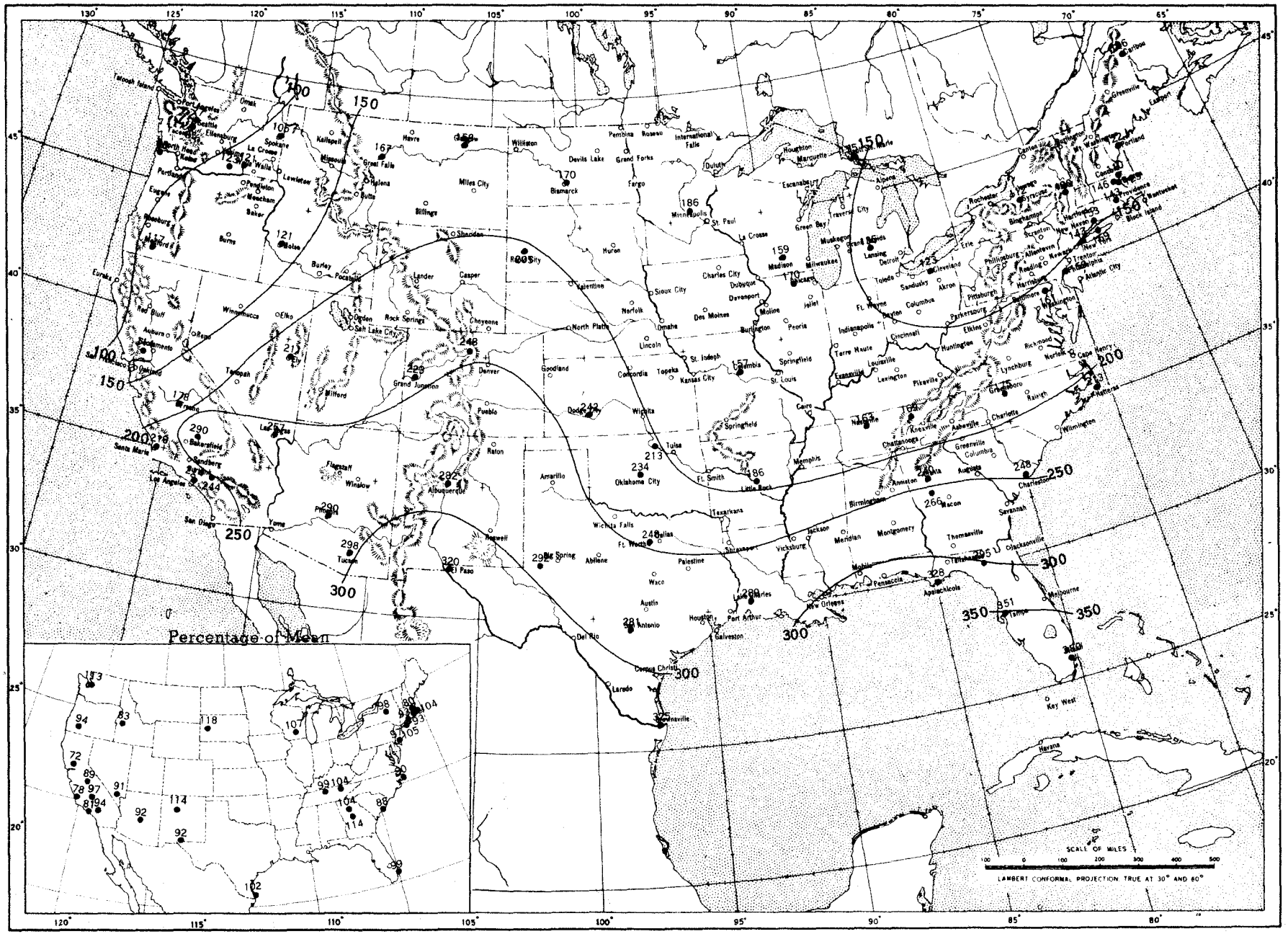
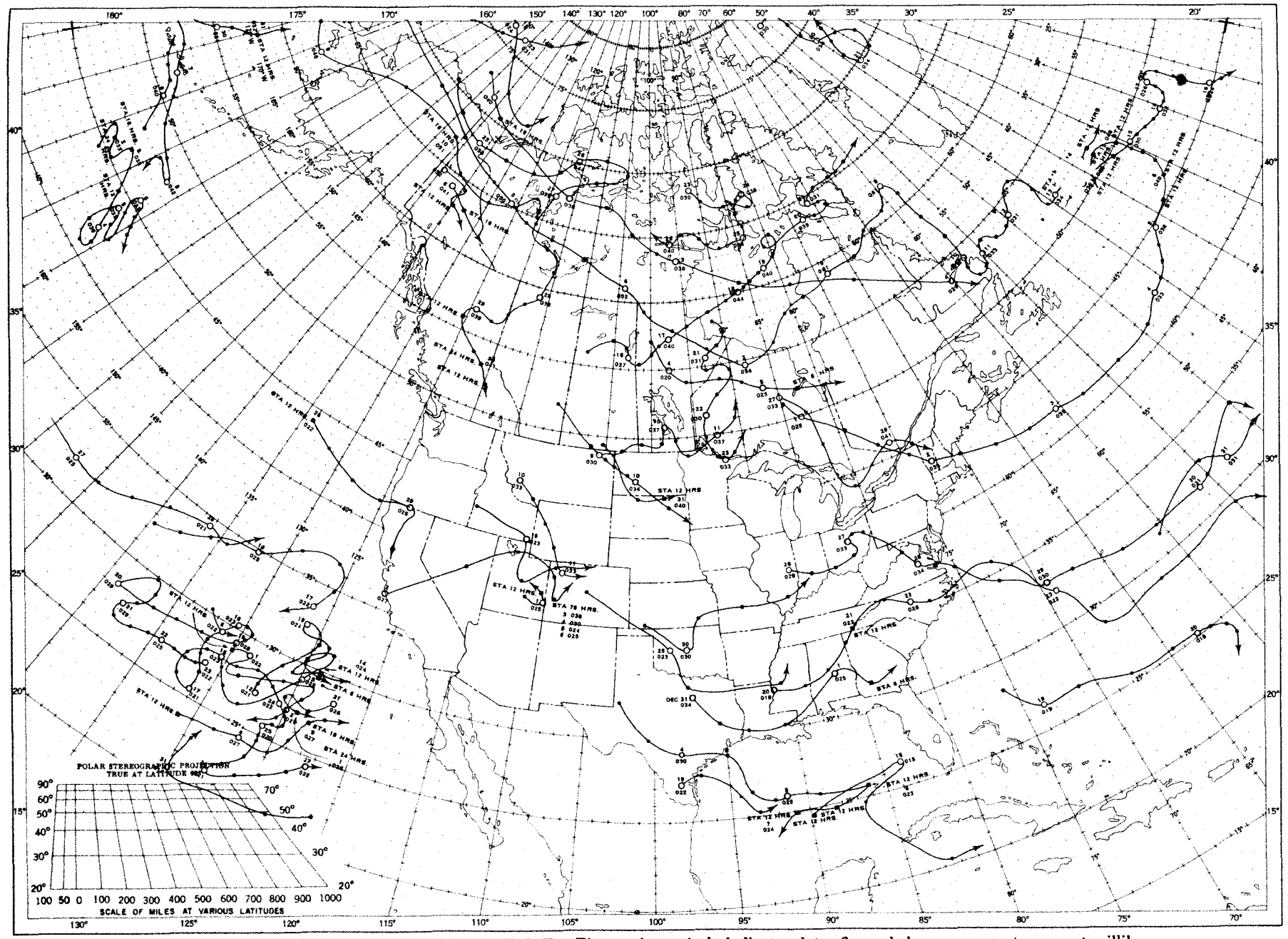


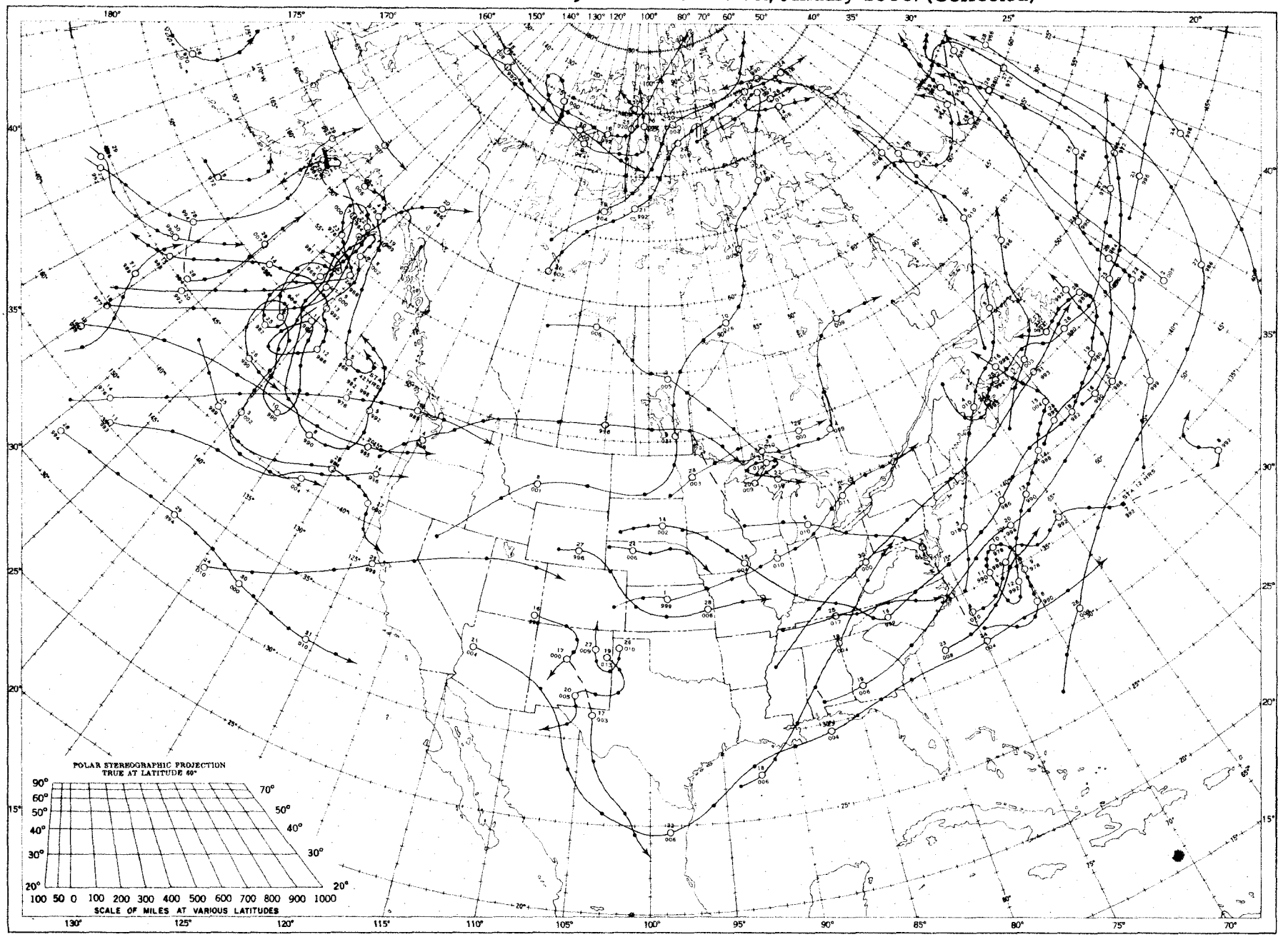
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits of accuracy are wider than for those data shown.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, January 1956. (Corrected)



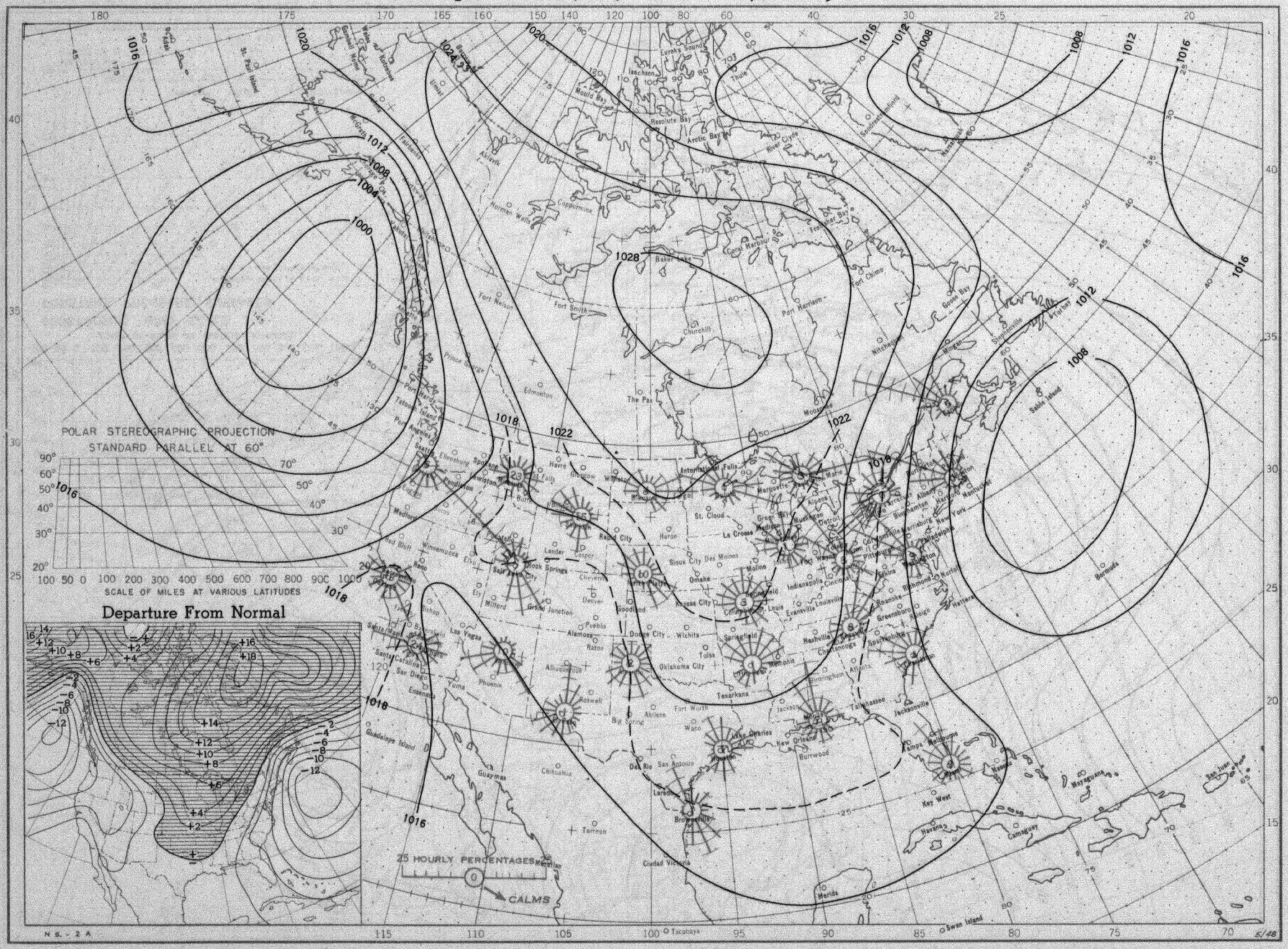
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, January 1956. (Corrected)



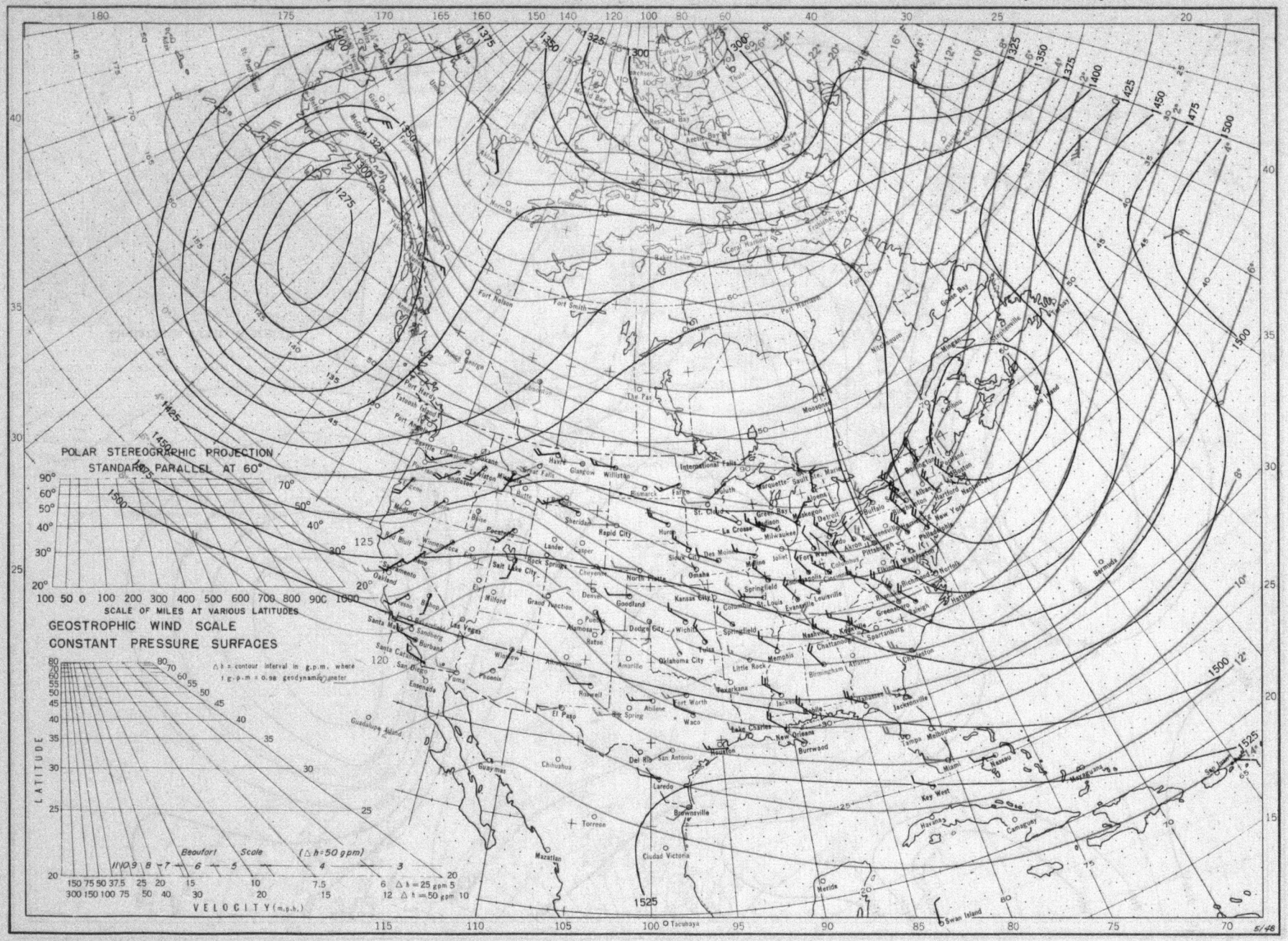
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Chart XI. Average Sea Level Pressure (mb.) and Surface Windroses, January 1956. Inset: Departure of Average Pressure (mb.) from Normal, January 1956.



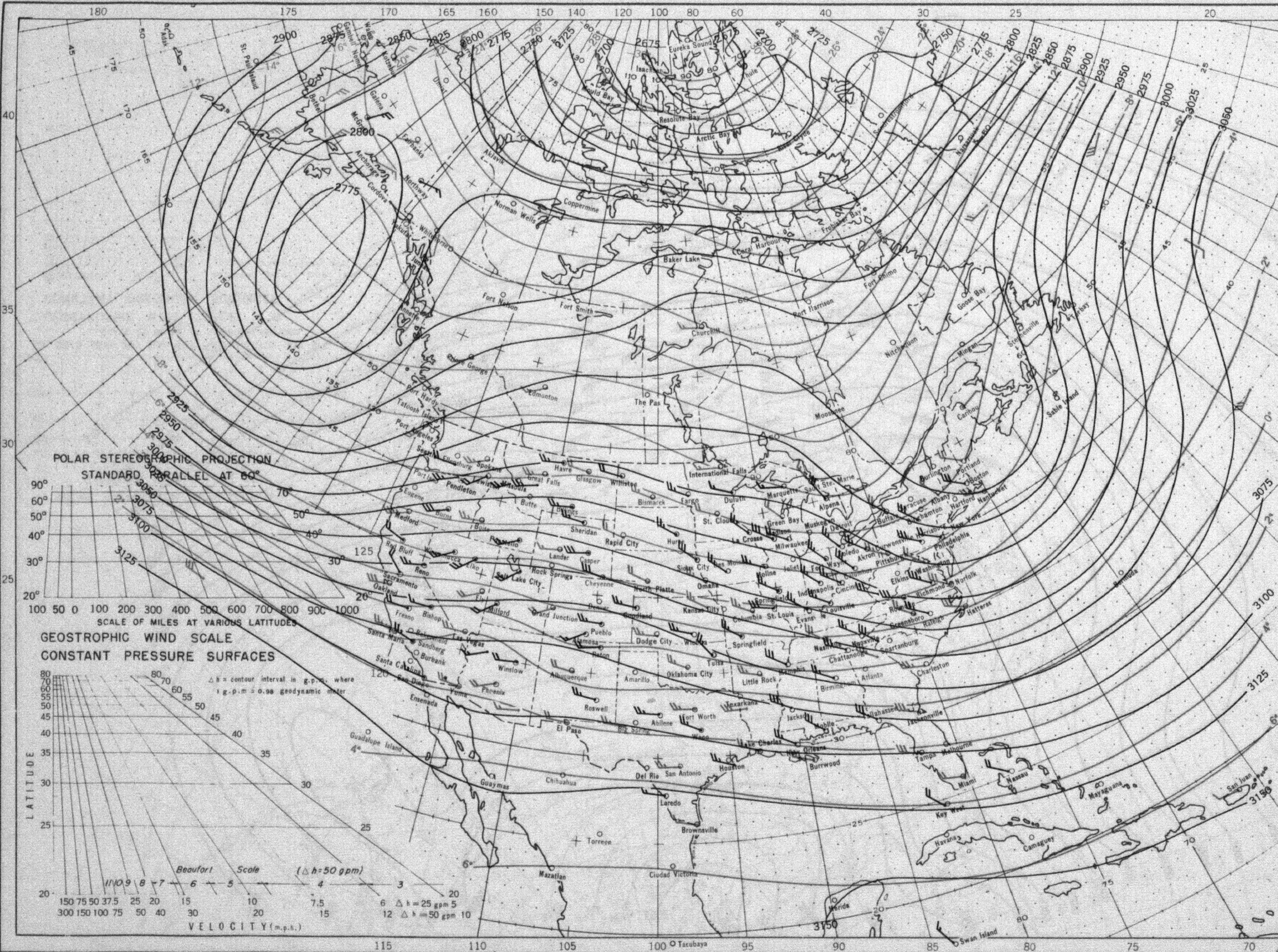
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), January 1956.



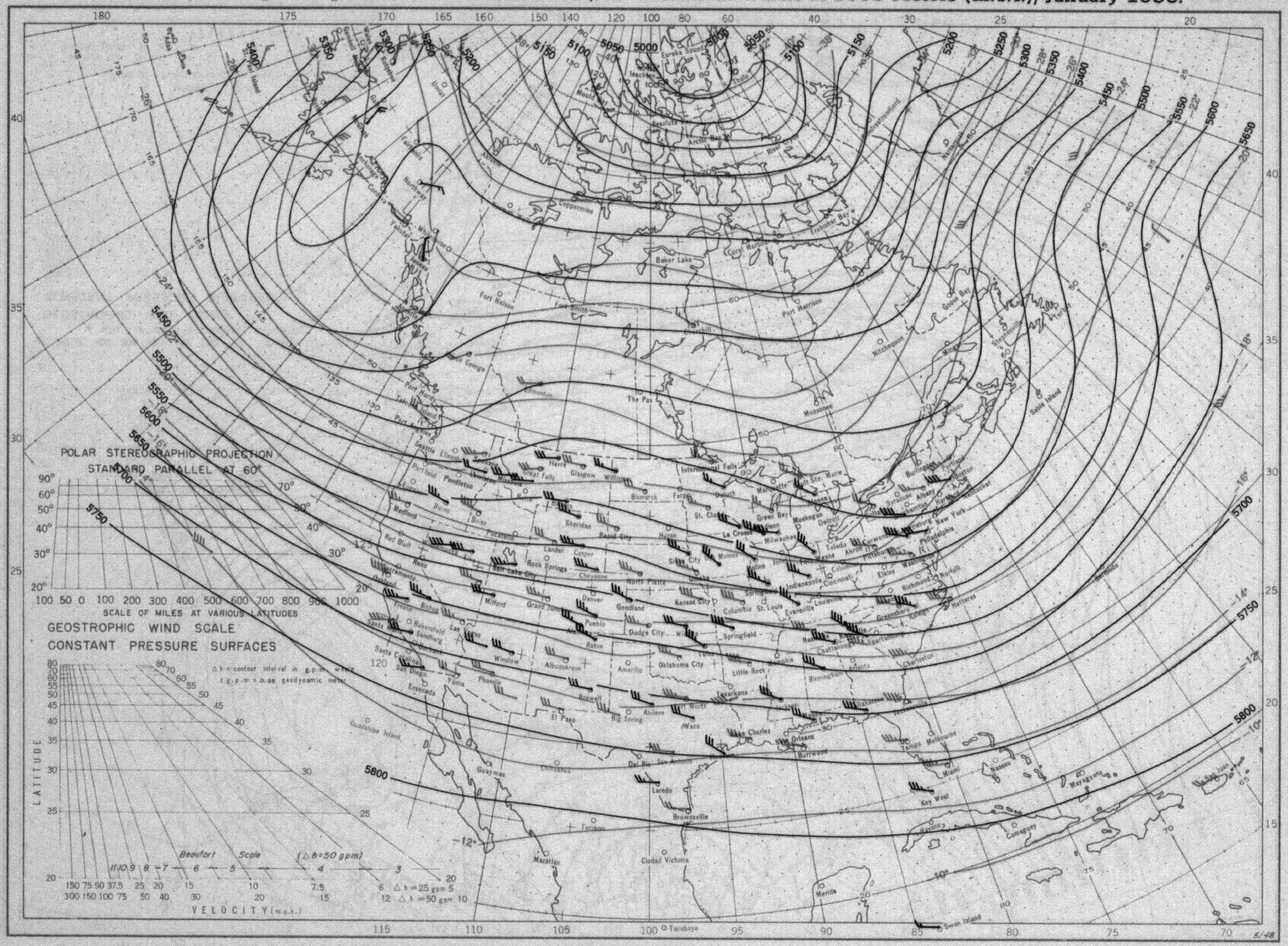
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIII. Average Dynamic Height in Geopotential Meters (1 g.p.m.. = 0.98 dynamic meters) of the 700-mb. Pressure Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), January 1956.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), January 1956.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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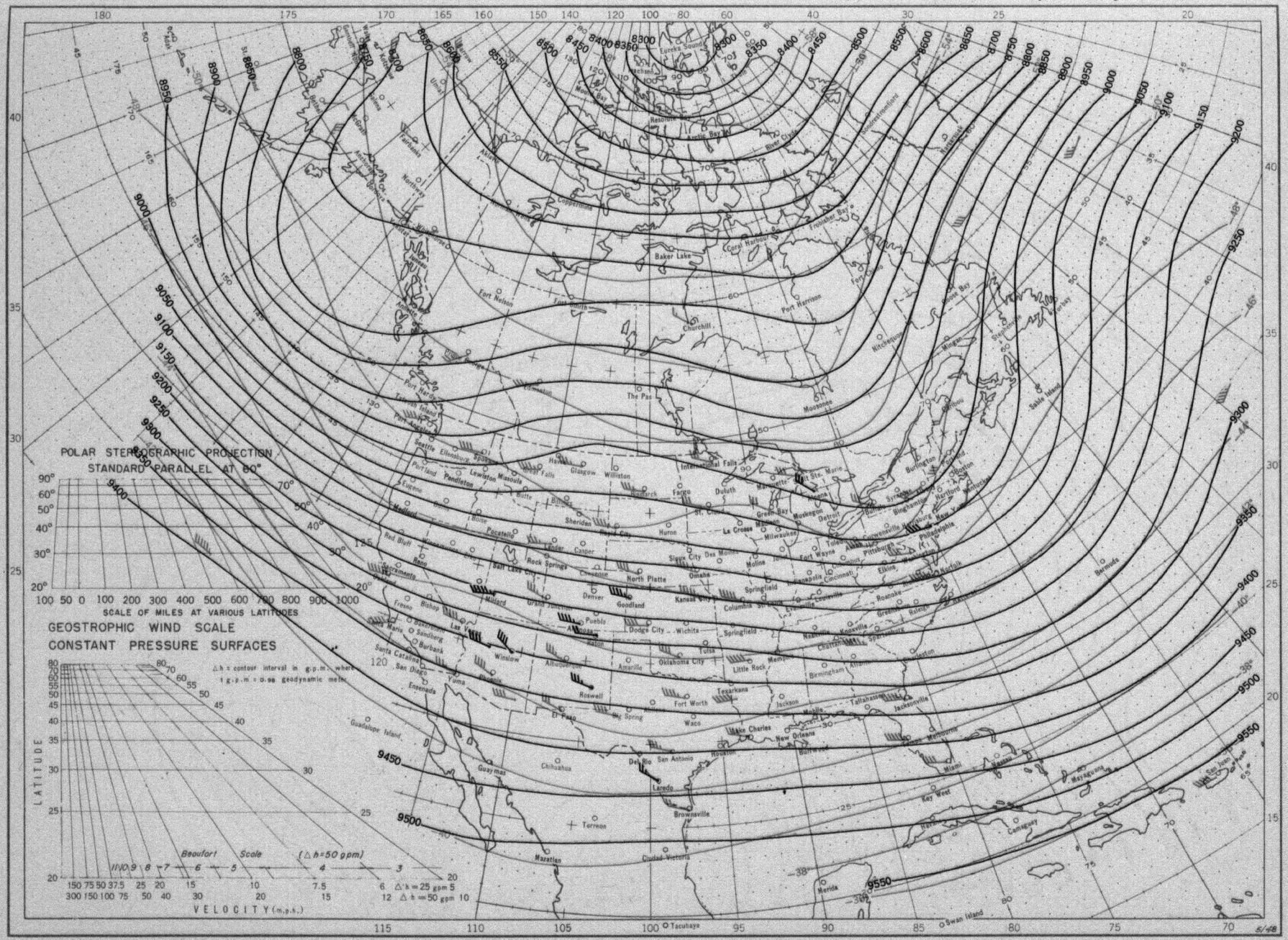
Chart XV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 300-mb. Pressure Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), January 1956.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.