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WEATHER BUREAU

UNITED STATES METEOROLOGICAL YEARBOOK

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FOREWORD

Prior to 1935 this publication constituted the statistical sections of the Annual Report of the Chief of the Weather Bureau. The practice of publishing annual meteorological statistics in a separate volume, entirely disassociated from the Annual Report of the Chief of the Weather Bureau, was inaugurated in 1935 to avoid some duplication in printing, but primarily to make printed meteorological matter more accessible to the public and to conform with similar publications of foreign nations.

The discussions and statistics presented herein concern principally the climatological phase of meteorology. Statistical data relating to the work of all the Divisions of the Weather Bureau are published currently in the Monthly Weather Review. From time to time special articles, based on the statistical data collected by the several Divisions of the Bureau, appear in the Monthly Weather Review and its supplements.

J. P. Kohler, *Editor.*

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GENERAL SUMMARY OF THE WEATHER CONDITIONS IN THE UNITED STATES DURING THE YEAR 1938

REVIEW OF WEATHER CONDITIONS DURING 1938

The outstanding feature of the weather of 1938 was its abnormal warmth. For the country, as a whole, it was one of the warmest years of record and was unique in that every first-order Weather Bureau station reported above-normal temperature for the year, probably an unprecedented condition. The greatest abnormalities in temperature occurred in the interior of the country where, over large areas, the year averaged 4° above normal. Of the last 20 years only one, 1929, had appreciably cooler-than-normal weather for the entire United States, although both 1919 and 1924 had slightly subnormal warmth. All other years of the 2 decades were warmer than normal.

Notwithstanding the pronounced above-normal temperature trends, many northern and western sections experienced severe cold periods at times during January and February. Minimum temperatures in the Northern Plains and northern portions of the Mississippi and Missouri Valleys during these months generally ranged from −35° to the lowest of the year, −51°, at Long Lake, Wis., on February 1.

The excess temperature of the year was largely the result of more or less steady warmth rather than of periods of abnormally high temperature such as occurred, especially in interior regions, in 1934 and 1936. Maxima of 100° or above occurred in all months, except January, February, and November, and in 38 of the 42 climatic sections into which the United States is divided for climatological study. In New England, New York, Michigan, and Ohio the maxima ranged from 97° to 99°. The highest temperature reported during the year was 125° at Cow Creek, Calif., in July and August. At Lamesa, Calif., a temperature of 100° was reported on December 8.

Table 1 shows, for the 42 climatic sections, the monthly and annual departures of the mean temperature from the normal during the year. For the entire year only 3 sections, Arizona, California, and New Mexico, had subnormal warmth, and in no case did the deficiency amount to more than 0.7°.

TABLE 1.—*Monthly and annual temperature departures from normal, for the Year 1938*

Section	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Alabama	+1.7	+6.7	+7.9	+0.5	+1.6	−0.8	+0.1	+1.7	−4.0	+2.0	+1.2	+0.3	+1.6
Arizona	+2.7	−.5	−2.1	−.6	−1.0	−.3	−.9	+.1	+1.8	−.2	−4.5	+2.8	−.2
Arkansas	+1.1	+7.3	+7.7	+.6	+.9	−1.4	+1.5	+3.1	+1.3	+4.2	−.7	+1.0	+2.2
California	+1.6	−2.4	−3.9	−1.5	−.3	+.1	−.6	−.5	+2.0	−1.9	−3.2	+1.8	−.7
Colorado	+3.0	+3.2	+3.2	+1.2	−.3	+1.3	+.1	+2.9	+2.3	+3.3	−4.6	+1.7	+1.4
Florida	−.6	+2.9	+4.1	+.4	+1.2	−1.0	−1.1	+.8	−.7	−2.3	+2.1	−1.1	+.4
Georgia	+.3	+6.1	+5.6	+.3	+1.2	−2.0	−1.3	+1.8	−.6	−.4	+2.6	−1.6	+1.0
Idaho	+3.8	+3.3	−.2	+.5	−1.2	+1.8	+.1	−.9	+6.2	+1.4	−5.6	+2.6	+1.0
Illinois	+.8	+9.3	+8.4	+2.0	+.3	−1.4	+.6	+3.1	+1.2	+4.7	+2.7	+1.0	+2.7
Indiana	+.5	+8.7	+7.1	+2.6	+.4	−1.6	−.1	+2.7	+1.0	+3.5	+2.9	+.8	+2.4
Iowa	+2.5	+6.7	+9.2	+1.6	−.5	−.3	+1.9	+3.5	+3.0	+7.8	+1.4	+2.3	+3.3
Kansas	+4.9	+4.7	+7.4	+.3	−.3	.0	+1.8	+5.1	+2.6	+7.7	−.6	+3.2	+3.1
Kentucky	−.1	+8.6	+7.3	+3.1	+.3	−2.0	.0	+2.2	−.2	+1.7	+1.4	+.2	+1.9
Louisiana	+.9	+5.3	+6.7	−.9	+.7	−.3	+.1	+.6	−.8	+1.4	−1.0	−.1	+1.0
Maryland-Delaware	−.1	+5.3	+4.5	+3.0	−1.1	−.6	+.6	+3.0	−1.9	+.6	+2.9	+.8	+1.4
Michigan	−1.5	+5.3	+6.6	+1.8	+.8	−.5	+.3	+4.2	−1.9	+3.6	+2.2	+1.4	+1.9
Minnesota	−.5	+3.7	+8.2	+.7	−1.8	.0	+.3	+3.9	+1.5	+6.5	−1.8	+1.9	+1.9
Mississippi	+.7	+6.6	+7.7	−.3	+1.5	−1.1	+.9	+1.9	+.2	+1.8	+.1	−.7	+1.6
Missouri	+2.3	+8.3	+9.6	+1.5	+.6	−1.2	+1.7	+4.6	+2.3	+6.4	+1.5	+1.8	+3.3
Montana	+5.2	−3.8	+2.2	+.4	−1.2	+1.6	+.4	+.2	+7.5	+2.8	−3.2	+3.4	+1.3
Nebraska	+5.1	+2.4	+6.6	+1.1	−.9	+1.4	+1.8	+4.7	+3.2	+7.7	−1.3	+3.3	+2.9
Nevada	+5.8	+.9	−2.0	+1.4	−.1	+1.0	.0	+.7	+4.8	+.9	−4.4	+4.2	+1.1
New England	−1.3	+3.4	+1.9	+2.6	−1.5	+1.5	+.6	+3.3	−2.3	+3.0	+2.6	+2.1	+1.3
New Jersey	+.1	+4.8	+4.1	+3.3	−1.4	−1.6	+1.0	+3.6	−2.3	+1.5	+2.0	+1.1	+1.4
New Mexico	+.5	+1.0	+1.0	−.4	−1.1	−.5	−1.5	+1.2	−.7	+.9	−4.0	+2.0	−.1
New York	−.9	+5.1	+4.9	+2.4	−.9	+.5	+1.1	+3.7	−3.6	+2.4	+2.7	+2.1	+1.6
North Carolina	−.6	+5.3	+5.5	+1.7	+.9	−1.8	−1.2	+1.9	−.2	−.4	+2.9	−.5	+1.1
North Dakota	+3.4	−2.4	+9.3	+1.4	−1.4	+1.1	+.9	+3.4	+5.1	+7.1	−2.8	+5.5	+2.6
Ohio	+1.5	+8.1	+7.3	+3.0	+.8	−1.0	+.5	+3.2	+.1	+2.4	+2.6	+1.3	+2.5
Oklahoma	+3.9	+5.4	+7.3	−.9	+.5	−.3	+.5	+2.9	+1.4	+5.5	−1.0	+2.3	+2.3
Oregon	+3.0	.0	−2.2	+.2	−.1	+1.7	+1.6	−1.8	+4.2	+.3	−4.2	+1.7	+.4
Pennsylvania	+.4	+5.8	+5.0	+2.7	−.7	−1.0	+1.0	+3.5	−2.2	+2.2	+1.4	+.9	+1.6
South Carolina	−.4	+5.3	+5.6	+.5	+1.4	−1.9	−1.6	+2.4	.0	−.7	+3.0	−.6	+1.1
South Dakota	+2.9	−.5	+6.7	+1.6	−1.1	+1.9	+1.6	+5.0	+3.9	+7.4	−2.4	+4.1	+2.6
Tennessee	+.4	+7.9	+7.3	+1.7	+.9	−2.1	+.5	+2.5	−.4	+2.1	+1.1	−.3	+1.8
Texas	+2.0	+4.3	+5.7	−1.6	+.5	+.4	−.1	+.8	+.4	+2.9	−2.2	+1.4	+1.2
Utah	+5.0	+3.1	−.6	+1.0	−2.0	+1.0	+1.7	+.6	+3.5	+1.2	−6.9	+4.0	+1.0
Virginia	−.3	+5.8	+5.1	+2.4	−.4	−1.6	.0	+2.0	−1.1	−.2	+2.8	.0	+1.2
Washington	+3.4	+.8	−.5	+1.2	+.7	+2.4	+2.9	−1.8	+5.9	+1.4	−2.9	+1.6	+1.3
West Virginia	+.7	+7.6	+5.8	+3.0	−.6	−1.7	+.4	+1.9	−.6	+.4	+1.5	+.1	+1.5
Wisconsin	.0	+6.5	+6.8	+1.8	−.1	−.6	.0	+3.2	−.7	+4.6	+1.2	+.7	+2.0
Wyoming	+2.3	+2.4	+2.7	+1.1	−1.0	+1.5	−.6	+1.1	+4.3	+4.0	−5.9	+2.2	+1.2

Most States had above-normal rainfall in 1938. The South Atlantic and Gulf areas and the northern Great Plains were relatively dry. In all other areas, except locally, the yearly totals were above normal. For the country as a whole the average precipitation for the year was 29.47 inches, about 1 percent above normal, but less than the average of 30.34 inches in 1937. Since the recent drought years, 1938 was the second in succession with somewhat above-normal rainfall. The first half of the year was unusually wet, but the last half brought harmfully deficient moisture to some midwestern sections, especially the normally drier areas of the Great Plains

Table 2, below, gives the monthly and annual distribution of precipitation in percentages of the normal for the year. Colorado, Nevada, Wisconsin, Utah, and the New England States had amounts considerably in excess of the usual annual fall. The greatest positive departures from normal occurred in the upper Mississippi Valley and along the New England and the North Atlantic coast, while in the Gulf and Southeastern States, the Dakotas, and the extreme Northwest, annual deficiencies ranged from 17 to more than 20 inches at some stations along the east Gulf coast. The greatest monthly amount of precipitation at any station in the United States was 38.05 inches at Inskip, Calif., in February. By way of contrast, one station in Hawaii received 98.78 inches in the month of April. A large number of stations, particularly in portions of the Plains area and the far West, reported 1 or more months with no measurable amount of rainfall.

TABLE 2.—*Percentage of Normal Precipitation, 1938*

Section	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Alabama	69	36	107	223	89	105	139	86	42	12	102	54	92
Arizona	59	145	229	42	69	296	73	93	76	14	7	183	101
Arkansas	151	183	126	99	91	106	99	62	46	30	145	69	102
California	77	220	232	121	42	59	214	80	80	131	47	76	128
Colorado	108	102	167	115	130	121	75	90	228	74	116	99	117
Florida	75	44	60	46	101	101	117	54	86	111	74	50	82
Georgia	49	23	76	191	100	126	132	58	74	26	100	63	85
Idaho	86	110	195	106	94	116	187	85	55	186	94	74	113
Illinois	112	112	183	92	124	128	144	99	86	50	85	73	109
Indiana	56	117	168	74	136	134	157	95	86	31	98	59	104
Iowa	107	87	136	134	133	100	114	108	149	37	170	60	115
Kansas	68	115	143	93	201	102	90	80	78	17	107	24	102
Kentucky	82	69	134	72	142	94	176	119	119	17	106	47	101
Louisiana	103	70	79	152	55	99	100	123	73	41	104	65	90
Maryland-Delaware	72	82	79	50	127	105	173	63	189	68	107	89	101
Michigan	135	190	127	63	115	100	93	162	85	43	66	104	103
Minnesota	80	107	127	151	207	84	98	81	126	26	162	78	113
Mississippi	97	65	104	174	61	126	107	93	46	32	91	66	92
Missouri	132	160	157	95	127	99	93	67	45	42	165	90	102
Montana	68	99	132	62	145	123	141	81	64	170	91	64	109
Nebraska	64	89	129	123	141	70	97	70	134	11	92	26	95
Nevada	63	178	215	162	134	220	211	82	39	236	80	43	184
New England	121	76	71	87	109	162	208	92	247	68	88	118	122
New Jersey	102	64	57	78	94	210	185	65	272	72	108	77	116
New Mexico	102	135	113	56	58	186	90	41	205	96	41	110	101
New York	100	112	81	87	86	100	129	115	221	40	92	100	106
North Carolina	79	39	78	123	118	131	133	51	147	40	152	84	97
North Dakota	102	148	78	75	109	80	134	72	40	52	140	62	89
Ohio	54	111	157	102	142	108	131	92	134	27	116	50	105
Oklahoma	99	330	193	85	126	114	88	68	60	17	108	37	101
Oregon	89	148	195	94	48	74	113	31	71	107	90	65	101
Pennsylvania	77	96	93	83	99	123	112	70	137	56	108	81	95
South Carolina	42	22	57	207	114	101	119	40	120	36	122	76	85
South Dakota	95	105	110	114	117	77	78	49	140	12	85	46	88
Tennessee	114	57	104	105	140	116	144	105	89	20	121	55	100
Texas	146	116	102	110	83	102	131	55	54	33	66	76	88
Utah	76	117	208	91	148	123	76	104	76	162	122	91	118
Virginia	86	53	81	78	113	151	160	60	127	42	157	92	101
Washington	71	91	136	100	56	48	55	45	51	120	77	83	84
West Virginia	61	96	103	87	149	132	122	53	122	32	143	54	99
Wisconsin	171	185	146	121	141	127	122	155	199	54	128	96	137
Wyoming	101	67	112	101	124	95	131	97	111	107	144	92	108

JANUARY

The relatively warmest weather occurred over the northern Rocky Mountain region and in portions of the Colorado Plateau and southern Great Plains; in these areas the month was from 3° to 11° warmer than normal, with the largest excesses in the northern Great Plains and northern Rocky Mountain region.

January precipitation was subnormal in more than half the country, with the greatest deficiencies noted in portions of the Plains States, the upper Mississippi Valley, the Southwest, the northern Rocky Mountain region, and the Pacific States. Another dry area centered over the Ohio Valley, much of the Southeast, and the Appalachian and eastern Lake regions. Portions of Kansas and Nebraska had only 3 to 25 percent of the normal January fall, while in the eastern dry section percentages ranged from 28 to 94.

In a rather wide belt reaching from the Rio Grande Valley in Texas eastward and northeastward to the northern Lake region precipitation was normal or decidedly above, with several stations in southwestern Texas, southeastern New Mexico, Arkansas, Iowa, and Wisconsin reporting more than 200 percent. Central and southern New England also had above-normal precipitation, as did portions of central California, the Great Basin, Colorado Plateau, and portions of the northern Great Plains.

Practically all the Rocky Mountain section, North Dakota, and much of the Mississippi Valley, upper Lake region, Tennessee, and New England had above-normal precipitation; Wisconsin, with 164 percent of normal, was the relatively wettest State. Despite the above-normal rains, subsoil moisture remained deficient in much of this area.

Deficiencies were greatest over the Great Plains in Nebraska and Kansas, where the month brought only 62 to 68 percent of the normal fall. In the Ohio Valley deficiencies were also marked, and another dry area centered in the Southeastern States. At the close of the month snow storage was still deficient in portions of the near Southwest and over the central and southern Great Plains.

FEBRUARY

February was abnormally warm over much the greater portion of the country. In fact, it was warmer than normal everywhere, except very locally in the Northeast, the extreme Northwest, and the extreme West. From the Great Plains eastward, and over much of the Rocky Mountain area, temperatures averaged rather generally from 3° to 10° above normal.

Precipitation was heavy over most of a wide belt extending from Texas and New Mexico northeastward over the Lake region, and also in nearly all the Pacific area. The relatively heaviest falls occurred in California and the lower Great Plains where the month had from 200 to 400 percent or more of normal rainfall. On the other hand, in the South Atlantic area, it was one of the driest Februaries of record; precipitation was also scanty along the Mexican border and over considerable northwestern sections.

When State areas, rather than first-order stations, are considered, the relatively wettest was Oklahoma, with 327 percent of the normal monthly fall; California, with 224 percent, was second. Most States west of the Mississippi River had normal, or above, precipitation, the exceptions being Washington, Montana, Wyoming, Nebraska, and Iowa. The Lake region and New York also received more than the usual February amount, but elsewhere the month was relatively dry with the lowest percentages reported in the Southeast, where South Carolina and Georgia had only 22 and 23 percent, respectively.

Precipitation in the Dust Bowl area was much greater than during the preceding month when Oklahoma averaged 95 percent of normal and Kansas 68 percent. Compared to a year ago, the contrast was decidedly marked; in February 1937, Oklahoma received only 28 percent of normal precipitation as did Texas, and Kansas had 67 percent compared with 115 percent in the month just ended. The Southeast, which was decidedly subnormal in rainfall this year, was largely normal or above a year ago. Nebraska was the only Great Plains State with subnormal precipitation in February of both 1937 and 1938.

THE WINTER OF 1937–38

In contrast to the winter of 1936–37 which was extremely cold over the western half of the country and abnormally warm in Eastern States, the winter of 1937–38 was outstanding for uniformly mild weather throughout practically the entire country. Only one first-order Weather Bureau Station, Canton, N. Y., had a subnormal average winter temperature and that only 2° below; all other stations were substantially normal or decidedly above. The relatively warmest area, with the normal as a base, extended from the central and lower Mississippi River westward to the Plateau region of the West. Locally in this area the winter averaged 6° to 7° warmer than normal.

Winter precipitation was unevenly distributed; it was above normal in most areas west of the Mississippi River and below normal rather generally to eastward. The Gulf States from Louisiana eastward, the Ohio Valley and Tennessee, the Atlantic States, and New England had subnormal amounts; a second dry area included portions of the upper Mississippi Valley from Iowa northward, and the Great Plains from Kansas through South Dakota. Totals were only slightly subnormal in portions of the far Southwest.

In much of the Lake region, middle Mississippi Valley, the near Southwest, and most Western States, precipitation for the 3-month period ranged from 101 percent of normal in Washington to as much as 164 percent in Oklahoma, the latter high percentage being due mainly to excessive rains during the month of February. Nearly the entire Pacific coast had much more than normal rainfall, but most western mountain sections had less-than-normal snowfall. Because of the prevailing mild temperatures, precipitation was more than usually in the form of rain.

MARCH

March was abnormally warm and wet. The month was very warm throughout the central valleys and the northern Great Plains, where mean temperatures ranged from 8° to 13° above the seasonal normal. In most other sections from the Rocky Mountains eastward to the Atlantic coast monthly means varied from 5° to 7° above normal. The only subnormal temperatures reported were in Central Pacific States and the western Great Basin, where they were from 2° to 3° below the average.

Precipitation for the month was above normal practically everywhere from the Appalachian Mountains westward, except in some north-central districts. The month was unusually wet in the Ohio Valley and the lower Great Plains, with totals ranging from 150 to over 300 percent of normal; throughout the latter area totals were generally over 150 percent, with local sections well over 200 percent. In the Pacific Coast States and some adjoining sections to eastward March had from 2 to 3 times the normal rainfall, while locally in the upper Great Basin the amounts were also over 200 percent.

Subnormal precipitation was reported from the Gulf and Atlantic coasts, the amounts being particularly deficient in portions of the Carolinas and along the Central Gulf. Local areas elsewhere were slightly subnormal, the most extensive regions being portions of the northern Great Plains, and from western Iowa northward, as well as in northern New Mexico.

On a State basis, March precipitation was a decided contrast to a year ago, with subnormal precipitation confined to the Eastern States from Florida northward, Louisiana, and North Dakota. Percentages in the upper Ohio Valley in 1938 were nearly five times as great as in 1937, and in some far Western States percentages were nearly double those of a year ago. The relatively wettest State was California where the March average was 8.54 inches, or 238 percent of normal. Other high percentages were Arizona, 233; Nevada, 204; Oregon, 198; Idaho, 196, and Oklahoma, 192. The Plains States, with the exception of North Dakota, and the Mississippi Valley, except Louisiana, received abundant moisture. Surface-soil moisture throughout these areas was ample for current needs, except locally.

For the 3 months, January–March, inclusive, the entire Great Plains area averaged above normal in precipitation, as did most of the Lake region, but from Louisiana, Mississippi, Tennessee, Oklahoma, and West Virginia northward and eastward, precipitation was subnormal with the largest deficiencies in South Carolina and Georgia.

APRIL

April was warmer than normal over much the greater portion of the country, although the departures were mostly small. The relatively warmest weather occurred from the Ohio Valley eastward and northeastward, in the western Lake region, and in the northern Great Plains, where the month was generally 3° to 4° above normal. It was relatively cool very locally in the most western States, and in the central and west Gulf area, although minus departures exceeded 2° at only two first-order stations.

Rainfall was unevenly distributed. From the Great Plains eastward there was a general tendency to above normal, although a few local areas were decidedly dry, particularly in the lower Ohio Valley and parts of the Southeast. Most of the central and eastern Cotton Belt had heavy rainfall, and amounts were generally above normal in Minnesota, Iowa, South Dakota, Nebraska, and most of Kansas. A large, far-southwestern area, including western Texas, New Mexico, and Arizona, had little rain, with some stations reporting no measurable amounts the entire month. In general moisture was scanty in the northwestern Great Plains and in most sections west of the Continental Divide.

On a State basis precipitation was much above normal in the South from Texas eastward through North Carolina, except Florida, which was considerably below. Above-normal precipitation was also noted from the upper Mississippi Valley westward through the northern Rocky Mountain region to portions of the Pacific coast. The largest excess occurred in Alabama, with 228 percent, followed by South Carolina with 205 and Georgia with 191 percent.

The relatively driest sections were in the Southwest where Arizona reported only 42 and New Mexico 54 percent, and in the northern Great Plains, with North Dakota reporting 73 and Montana 63 percent of normal. It was also relatively dry in portions of the Ohio Valley and Lake region, and Maryland and Delaware had only 49 percent of the normal April amount.

MAY

May was unusual for its uniform, moderate warmth. The average temperatures at first-order Weather Bureau stations were within 1° of normal, ranging from about 1° above normal

to 1° below, in all areas, except for a few isolated cases. It is very rare indeed for a month to show such uniformly normal average temperatures.

The month had above-normal rainfall in practically all sections, except the Southwest and extreme West. The precipitation, based on nearly complete reports, was over twice the normal in Kansas and Minnesota and was substantially above normal in the Ohio Valley and most of the Great Plains. The situation this year is in marked contrast to 1937, with all major agricultural sections showing substantial increases over last year's rain, except in the extreme lower Mississippi Valley.

SPRING OF 1938 WARMER AND WETTER THAN NORMAL

The outstanding weather features of the spring of 1938 were the abundant widespread rains and generally above-normal temperatures. For the country as a whole it was a warm, wet spring. The spring of 1937 had mostly deficient rainfall, especially in the Great Plains where, in large areas, amounts were only about half the normal. In contrast, the spring season of 1938 had heavy rains over nearly the entire country, exceptions being a few areas along the southern border, the extreme Northeast, and locally in the far Northwest.

Over the Great Plains, where droughts have been frequent for a good many years, rainfall was generally 2 to 3 times that received last year. The season was especially wet in the upper Mississippi Valley and southern Great Plains, and west of the Rocky Mountains rainfall was mostly far above normal. Another outstanding feature, however, was the severe drought in Florida which caused extensive damage to citrus fruit and truck crops, until it was broken by heavy rains the latter part of May.

While there were a few abnormally cold spells this spring with considerable frost damage over wide areas, the general tendency was to above-normal warmth throughout practically the entire country.

JUNE

Mean temperatures for June 1938 were generally subnormal in the Ohio and central Mississippi Valleys and the Southeast, and in portions of the upper Lake region and along the Pacific coast. In the first-named area temperatures ranged from slightly below normal to as much as 3° below; in the other sections they were only slightly under the seasonal average. Temperatures were unusually high in most areas from the western Great Plains northwestward; the departures were particularly marked in portions of the central Rocky Mountain area and the interior of the Pacific Northwest. Somewhat warmer weather was also noted in the Northeast, with departures ranging from 2° to 3° above normal.

Precipitation was very spotted. In the Atlantic Coast States wide variations in rainfall occurred, with local percentages of normal for the month varying from 38 to over 300 percent. Abnormally heavy amounts were noted on the middle Atlantic coast and locally elsewhere, but at the same time subnormal rainfall was reported from portions of Maryland, Pennsylvania, northern New York, and in local areas elsewhere. Most of the Great Plains had subnormal rainfall, as did portions of the Lake region, the Ohio and lower Mississippi Valleys, and adjacent central and west Gulf sections. Abnormally heavy precipitation was noted in the northwestern Ohio Valley, and from thence southwestward amounts were generally above normal. Unusually heavy falls for the season occurred in portions of New Mexico and Arizona, as well as in the western Great Basin. Most Pacific coast sections were quite dry, although above-normal amounts were noted in the interior valleys of Washington.

On a State basis, precipitation was substantially below normal in the upper Great Plains and along the Pacific coast. Elsewhere it ranged from about normal to greatly in excess of the usual amount. Areas of relatively heaviest falls centered in the Great Basin and the Southwest with Nevada and Arizona reporting 255 and 300 percent, respectively. Substantial amounts were reported also from portions of the western Ohio Valley, the middle Atlantic region, and the extreme Northeast. The lightest rainfall was noted in California and Washington with 47 and 48 percent, respectively, of normal. Nebraska and South Dakota had 70 and 77 percent, respectively.

JULY

July was characterized by moderate warmth and unevenly distributed moisture, though rainfall was approximately normal or above in most sections of the country. July rainfall is normally of the showery type and therefore spotted, but this year large areas were uniformly above normal.

Temperature averaged near normal generally over the eastern third of the country and throughout the South, although in the eastern Lake region it was 2° or 3° above normal. In the

central and northern trans-Mississippi States most stations reported monthly means from 2° to 5° above normal. The far Northwest had a decidedly warm month, average temperatures ranging up to 6° or 7° in excess of normal. The Rocky Mountains and Great Basin had about-normal warmth.

At first-order stations of the Bureau, July rainfall was above normal east of the Mississippi River, except in local areas, principally the Lake region and upper Ohio Valley, where it was below. Between the Mississippi River and Rocky Mountains considerable areas had less than normal, especially the southern Great Plains and southern Texas. The subnormal areas also included Minnesota, eastern South Dakota, southern Iowa, and northern Missouri, eastern Colorado, Kansas, Oklahoma, and northwest Texas. The Great Basin of the West had abnormally heavy rain, and amounts in western portions of the Dakotas and in Montana were in excess of normal.

By States, based on a total of about 5,000 records, monthly amounts were much above normal everywhere east of the Mississippi River, except in Michigan, where there was a small deficiency. The relatively heaviest falls occurred in the Middle Atlantic States from Virginia to New England where averages ranged up to about twice the normal. Between the Mississippi River and Rocky Mountains most States had from slightly below normal to considerably above; the largest percentages were in the extreme northern Great Plains and the smallest in the southern Plains. Washington was the relatively driest State, averaging only 55 percent of normal. All States, except Colorado, Arizona, Utah, and Washington, had in excess of 80 percent of the July normal.

AUGUST

August was characterized by persistently warm weather throughout most of the country and by scanty rainfall in large areas, though locally the amounts were heavy to excessive. Temperatures were from 2° to 8° above normal everywhere east of the Rocky Mountains, except in the extreme south where plus departures were mostly about 1°. The relatively warmest weather occurred in the central and northern trans-Mississippi area. In the Rocky Mountains the month was from 1° to 3° warmer than usual while west of the Mountains temperatures averaged slightly below normal to slightly above. The thermal characteristic for the month was persistent warmth rather than extremely high temperatures. In the east abnormally high humidities were associated with the warm weather during the first half of the month.

August rainfall was decidedly spotted. In general, from the Lake region eastward, and locally in the Ohio Valley, the east-central Great Plains, southern Texas, and the northern Rocky Mountain districts, amounts were heavy. Otherwise, monthly totals were mostly subnormal, with large deficiencies in the south Atlantic area, the central Mississippi Valley, and the Southwest. No appreciable rain occurred in much of the Pacific area.

The month had considerably less rainfall than either June or July, in both of which the greater part of the country had above normal. These conditions were reversed in August when all but a few States had below normal, the greatest deficiencies being in the Southeastern and Southwestern States and the Pacific Northwest. In the East, South Carolina, with only 40 percent of normal, was the relatively driest State, with South Dakota, 49 percent, the second driest. The highest percentages occurred in Michigan and Wisconsin, both of which had more than 150 percent of the normal August total.

THE SUMMER

As a whole the summer of 1938 was characterized by relatively high temperatures and, during most of the period, by abundant rainfall. Each of the 3 summer months (June, July, and August) had average temperatures ranging from approximately normal to decidedly above in nearly all sections of the country, August having in general the greatest plus departures. For the entire summer the temperature averaged above normal in all sections, except for very limited areas in the East and far West. In some interior districts the season was from 3° to 5° warmer than normal.

With the exception of South Carolina and Florida, all States east of the Mississippi River had above-normal rainfall with New England reporting the highest percentage, 153. All States between the Mississippi River and the Rocky Mountains, except Louisiana, Iowa, and Montana, had below-normal rainfall, South Dakota, with only 70 percent, being the relatively driest. In the most western area all States, except Idaho, Wyoming, and Nevada, were drier than normal; Washington, with 49 percent of normal, was the relatively driest.

SEPTEMBER

The outstanding feature of the weather for September was the severe storm of tropical origin that passed inland over southern New England on September 21, resulting in heavy loss of life and enormous damage from winds and floods. Rainfall during the month, largely from

this storm, was abnormally heavy from eastern North Carolina northward, including all of New England and New York. The largest total for the month in New England, as reported from a first-order station, was 14.5 inches at New Haven, Conn., although Wilmington, N. C., had 16.3 inches. At New Haven it was the heaviest September fall of record and has been exceeded only once in other months; this was in July 1889, when 17.1 inches of rain fell.

September was warmer than normal in all sections of the country, except the Northeast and a few localities in the South and Southwest. From the lower Missouri Valley and southern Great Plains northwestward the month was from 4° to 11° warmer than normal, while the far Western States were mostly from 3° to 5° above.

In addition to the heavy eastern rainfall, precipitation was much greater than normal over a belt extending from Lake Michigan southwestward to Colorado and northern New Mexico, with from 2 to nearly 4 times the usual September amounts reported; Madison, Wis., measured 10.3 inches and Dubuque, Iowa, 9.1 inches. The middle Pacific coast area also had heavy rains, but on the other hand, the month brought scanty rainfall to the central and lower Mississippi Valleys, the southern Plains, and much of the far Northwest.

By State units, rainfall was heavy from Kentucky and North Carolina northward, being more than twice the normal from New Jersey and New York northeastward. Also, State averages were much above normal from Wisconsin and Minnesota southwestward to Wyoming and Colorado, and in New Mexico. However, parts of some of these States, notably southern Iowa and southern Minnesota, had deficient amounts.

In all other States rainfall was subnormal, with the greatest deficiencies in the far Northwest and the South. Alabama, Mississippi, Missouri, Arkansas, North Dakota, Nevada, and Washington had less than half the normal. North Dakota, with only 35 percent of the usual amount, was the relatively driest State, with Alabama, 39 percent, the second driest.

OCTOBER

The month was characterized by abnormal warmth and extreme dryness over large areas. Except along the south Atlantic coast, in Florida, and locally in California, monthly mean temperatures were above normal. East of the Mississippi River and west of the Rocky Mountains plus departures were moderate, but in the trans-Mississippi area the month was from 4° to 10° warmer than normal. For the past quarter of a century there has been a marked tendency for fall temperatures to range above normal and the present fall so far has been in line with this general trend.

Precipitation was markedly deficient practically everywhere from the Great Plains eastward; for this area, as a whole, it was one of the driest Octobers of record. Many individual stations in the South and in the Great Plains reported less than 10 percent of normal rainfall, and in a number of cases the State averages were less than 20 percent. Over the eastern two-thirds of the country only Florida, the States of the north Atlantic area, North Dakota, and Wisconsin had as much as half the normal for October. Amounts were relatively heavy in central and northern sections from the Rocky Mountains westward, including Montana, Wyoming, Idaho, Utah, Nevada, Washington, Oregon, and California. In California the high State average resulted from heavy rains in central and northern counties; the southern counties were extremely dry. In some Western States there was great contrast in the amount of moisture received; Utah had more than 150 percent of normal and Arizona only 13 percent.

NOVEMBER

Notwithstanding the abnormal cold the last week of November, temperatures for the month as a whole averaged above normal quite generally from the Mississippi Valley eastward. In nearly all areas plus departures from normal ranged from about 2° to around 6°. Warmth was about normal in south Pacific sections, but otherwise the western half of the country had subnormal temperatures, the greatest deficiencies appearing in the Great Basin of the West and in the central Rocky Mountain States with minus departures ranging from 3° to 7°.

Precipitation was markedly variable, though most stations in the Central and Eastern States were above normal. The extreme Southeast was decidedly dry and there was less than normal in most sections from the central Lake region southward over the western Ohio Valley. The trans-Mississippi States were wetter than normal, but in the Great Plains, especially from central Nebraska southward, precipitation was decidedly scanty. A large Southwestern area had very little rainfall and amounts were deficient quite generally west of the Rocky Mountains, except in the northern Great Basin. Record-breaking snowfall for November occurred the latter part of the month over a considerable Northeastern area.

By States, the monthly totals were above normal generally to east of the Rocky Mountains. The New England group and Michigan, Illinois, Indiana, South Dakota, Nebraska, Texas, Mississippi, and Florida had subnormal moisture, but all others from the Great Plains eastward were

above. The relatively heaviest falls occurred in North Dakota, the group of States bordering on the west bank of the Mississippi River, and those in the middle Atlantic area; the smallest percentages were in Mississippi, Florida, and Texas. West of the Great Plains a group of central Rocky Mountain States, including Wyoming, Colorado, and Utah, had above normal, but all others were drier than usual. A considerable area of the Southwest, centering in Arizona and southern California, was the driest of the country; Arizona had only 8 percent of normal, and the month was practically rainless in southern California. At the close of the month a severe drought prevailed in this area.

PRECIPITATION FOR THE FALL SEASON OF 1938

Precipitation for the 3 fall months, September–November, was subnormal in most sections from the Plains States eastward. The Atlantic area from North Carolina northward, Wisconsin, and Iowa, had above normal, but amounts were less than usual in all other States. Texas, with only 52 percent of normal, had the least rainfall, followed closely by Alabama, 54 percent, and Oklahoma, 56 percent. West of the Great Plains, Arizona and the Pacific Coast States had deficient moisture, but in all other States the totals were above normal, with the highest percentages in Nevada, Utah, and Colorado; the last-named State had almost one and one-half-times the usual Autumn amount.

DECEMBER

December was warmer and drier than normal. East of the Mississippi River and south of New York and the lower Lake region temperatures averaged approximately normal in most places, although the tendency was to slightly above normal. From the Lake region eastward monthly means were mostly from 2° to 4° above normal. West of the Mississippi River the month was relatively warm in all sections, except locally in southeastern Wyoming where there was a slight deficiency in temperature. In the northern Great Plains monthly means were from 5° to 8° above normal.

Moisture was scanty in most sections of the country. The New England States, Michigan, Colorado, New Mexico, and Arizona had above-normal precipitation and the State of New York exactly normal. All others had deficiencies, the greatest appearing in the central and southern Great Plains where a large area had from about one-fourth to slightly more than one-third of the normal December precipitation.

PRECIPITATION FOR THE YEAR 1938

Most States had above normal rainfall in 1938. The south Atlantic and Gulf areas and northern Great Plains were relatively dry. In all other areas, except locally, the yearly totals were above normal. For the country as a whole the average precipitation for the year was 29.47 inches, about 1 percent above normal and slightly less than last year when the average was 30.34 inches. Since the recent drouth years, 1938 was the second in succession with somewhat above-normal rainfall. The first half of the year was unusually wet, but the last half brought harmful deficiencies in moisture to some midwestern sections, especially the normally drier areas of the Great Plains.

Table 3 below shows the distribution of annual rainfall in percent of normal for the 42 climatic sections in the United States for the last 8 years.

TABLE 3.—*Percentage of normal precipitation by States*

State or region	1931	1932	1933	1934	1935	1936	1937	1938	State or region	1931	1932	1933	1934	1935	1936	1937	1938
Alabama	81	121	91	104	93	113	111	92	Nevada	89	92	75	79	96	116	101	134
Arizona	144	100	86	78	112	103	99	101	New England	99	105	107	103	93	119	114	122
Arkansas	97	105	101	88	117	72	114	102	New Jersey	81	103	109	99	93	105	105	116
California	103	66	86	76	94	111	123	128	New Mexico	126	112	88	70	102	94	104	101
Colorado	85	86	92	66	96	98	88	117	New York	97	108	96	90	97	103	112	106
Florida	83	100	106	101	99	109	111	82	North Carolina	88	105	79	108	97	121	107	97
Georgia	74	114	84	96	90	118	106	85	North Dakota	87	99	77	55	105	52	90	89
Idaho	83	111	100	89	72	96	116	113	Ohio	99	97	99	70	104	88	117	105
Illinois	102	98	94	88	112	82	99	109	Oklahoma	96	104	93	84	112	67	85	101
Indiana	97	108	103	75	100	86	117	104	Oregon	94	102	108	99	78	89	133	101
Iowa	112	102	79	85	105	82	87	115	Pennsylvania	88	92	107	92	95	100	110	95
Kansas	97	89	83	74	106	69	78	102	South Carolina	78	113	75	95	89	122	109	85
Kentucky	92	97	111	81	126	83	109	101	South Dakota	73	96	76	66	85	58	86	88
Louisiana	94	112	98	106	102	82	106	90	Tennessee	86	119	102	93	100	95	112	100
Maryland-Delaware	94	115	120	112	116	107	126	101	Texas	95	110	84	87	121	102	87	88
Michigan	97	108	99	83	93	89	101	103	Utah	79	105	83	74	65	132	115	118
Minnesota	89	86	83	80	102	73	102	113	Virginia	91	107	95	110	112	109	128	101
Mississippi	98	127	94	100	96	84	104	92	Washington	121	127	136	110	84	93	125	84
Missouri	100	94	90	85	118	73	93	102	West Virginia	99	102	113	87	119	98	116	99
Montana	66	106	103	73	71	75	85	109	Wisconsin	98	83	89	100	100	84	90	137
Nebraska	83	89	85	61	97	62	75	95	Wyoming	82	95	87	78	87	94	110	108

DUSTSTORMS OF 1938 IN THE UNITED STATES

Duststorms were far less extensive and noteworthy than in several preceding years,[1] but, particularly in the Dust Bowl itself (portions of western and southwestern Kansas, western Oklahoma, northwestern Texas, northeastern New Mexico, and southeastern Colorado) and locally to northward, occasional storms were as severe as any reported during recent years. The most severe storms generally came early in the year, particularly during the winter and early spring months when winter wheat was most susceptible to damage. There were frequent reports of tender growth cut and eroded away by flying sand or of young growth being buried.

There were a few reports of dust in central and eastern sections, especially during March and May, and locally in several other months, but duststorms were not so widespread as in 1934, 1935, and 1936.

January.—Because of dry subsoil and greatly subnormal rain and snow, duststorms were rather numerous and severe during January in portions of the Dust Bowl. Some damage was done by shifting soil in Nebraska and duststorms were especially severe in Kansas on the 13th of the month, with considerable deterioration of winter wheat. Some grain was blown out in western Oklahoma and some in sandy lands of the Northwest. New Mexico had duststorms during the week ending January 18.

The following week heavy duststorms were noted in western Kansas and on several days in western Oklahoma. There was also some damage by high winds and drifting soil in western portions of New Mexico, Colorado, and Wyoming, and locally in Montana and Nebraska.

During the closing week considerable damage resulted from blowing in west-central and northwestern Oklahoma; duststorms in western Kansas, with considerable soil movement, injured winter wheat in several southwestern counties. Less extensive damage was reported in the Northwest. Rather severe storms occurred in eastern New Mexico. Light dust was reported as far north as Montana and extreme western Minnesota, as far east as Tennessee, and in portions of Illinois and Mississippi.

In southern sections of the Great Plains light dust was reported on as many as 9 days, mostly during the latter half. The storms were most severe in the Dust Bowl. In western Kansas, particularly around Sublette, dust movement was sufficient to cause marked delay in transportation schedules; a train was delayed 18 hours by impassable drifts. A combination snow and dust plow was required to clear a pile of dust 3 to 6 feet deep and 1,400 feet long from the tracks. At times, not only in Kansas, but in other portions of the Dust Bowl, and locally as far north as Wyoming, visibility was reduced to zero, flying schedules were canceled, street lights were necessary and a marked increase in respiratory troubles was reported. Several fatal automobile accidents occurred during minimum visibility.

In Colorado a heavy "duster" on the 16th covered practically all southeastern counties and on the 23d swirling clouds of dust continued for 60 consecutive hours, reducing visibility to zero or one city block throughout Baca and eastern Prowers Counties. Soil erosion was noteworthy during this storm. Goodwell, Okla., reported 7 days with heavy dust and several days on which visibility was 75 feet or less. The storms of the 24–25th were most severe in northwestern Oklahoma and said to be the worst ever experienced in that section.

February.—Much of the month's precipitation was in the form of snow which aided materially in reducing the number of duststorms. Because of insufficient precipitation in portions of Colorado dust blowing caused considerable damage to wheat in Las Animas County and a large acreage in the western part of the State was abandoned. Generally, rains were not sufficient to restore deficient subsoil moisture and there was no permanent let up in soil blowing.

Dust was noted in the upper atmosphere as far east as Reading, Pa. At Marquette and Sault Ste. Marie, Mich., dust (mixed with snow) fell on the 13th. At Sault Ste. Marie the amount was estimated to exceed 5 tons per square mile.

In New Mexico duststorms were fairly general in Union, Quay, Curry, Harding, Roosevelt, and Lee Counties on the 2d; visibility during the day averaged about ¼ mile. Dense duststorms occurred in Kansas on the 1st and 8th with local soil blowing in Nebraska, South Dakota, and Colorado early in February. The storms of the 5th, 7th, and 12th were most severe and widespread in Colorado with durations of 6 to 8 hours and minimum visibilities ranging from zero to 100 yards; at Pueblo the dust cloud was a mile high. As far north as Montana, severe dust blowing was reported in areas not locally snow-covered.

March.—Duststorms were more extensive than in any other month and were reported from the Rocky Mountain States to the Ohio Valley and Tennessee, and from Texas and Mississippi to the Canadian border. In portions of Kentucky and Tennessee, and locally in Wisconsin, Illinois, and Mississippi, dust was thick enough materially to limit visibility.

[1] For accounts of previous duststorms, see the following Reviews: 1934, January and May; 1935, February to May, inclusive; 1936, March, May, and December; 1937, April.

In southern Plains sections there was a general tendency for the more severe storms to group near the close. Farther north storms were most general and severe during the latter half of March with some reports of grain blown out near the close as far north as Minnesota.

At Pueblo, Colo., the storm of the 24th made highway travel extremely dangerous; flying schedules were canceled and business houses and homes were quickly "filled" with fine red silt. In Colorado hardly a day passed without some dust; at times heavy dust began blowing from fields within an hour or two following rainfall of half an inch or more. The worst part of the blowing season in Colorado, normally from February 15 to March 31, was marked by some rather severe storms; a moderate duststorm of 7 hours' duration prevailed in southern Baca County on the 3d. On the 4th visibility was reduced to from ½ mile to 200 feet in portions of both Baca and Prowers Counties for several hours. On the 14th a storm lasted about 10 hours in Baca and 3 hours in eastern Prowers County, visibility ranging from 50 feet to zero at times; other storms were reported on the 2d, 21st, 24th, 26th, and 29th.

In Kansas light dust was reported at Dodge City on 13 days, thick dust on 9 days, and dense dust, with visibility of less than ¼ mile, on the 2d, 3d, and 14th; it was necessary for the Sante Fe Railroad to plow dust from the track about twice a week between Dodge City and Boise City, Okla.; dust piled on the track ranged in depth from 6 inches to 5 feet.

In New Mexico storms were most prevalent on the 3d, 12th, 14th, 16th, 17th, 21st–22d, 25th–26th, and 30th. The storm of the 25th–26th spread over the entire State and was accompanied at times by visibilities of less than ¼ mile and wind velocities of 30 to 40 miles an hour. The storm of the 30th was most severe; it began about 10 a. m. in the northeast and under the influence of winds of 30 to 50 miles per hour and the dry effect of the previous duststorms, especially those of 25th–26th, caused blowing sand over the eastern and southern portions of the State; it ended early on the morning of the 31st.

There were occasional reports of damage to winter wheat in portions of the Oklahoma Panhandle, southwestern Kansas, parts of New Mexico, North Dakota, Minnesota, and Washington.

April.—Duststorms were widespread and were reported from Texas to the Canadian border and from New Mexico and Montana to Illinois. The most severe storms in southern sections occurred before the 15th; extreme southwestern Kansas had severe storms on several days early in the month but only light or thick dust was reported from this State during the latter half. In Arkansas and Illinois dust was most noticeable after the 15th; in Nebraska, the Dakotas, Minnesota, Iowa, and New Mexico, the storms were distributed rather uniformly.

Some damage to winter wheat was reported in southwestern Texas, New Mexico, Montana, and in portions of the southern Great Plains and southern Rocky Mountain region. In Colorado "Black Blizzards" again "squelched" southeastern counties; in points of severity and destructiveness they were unequaled; wind-whipped dust cut plants into shreds or completely covered them, thus preventing vegetation from gaining a foothold. In extreme eastern counties south of the 39th parallel, duststorms continued with greater severity than in previous months and were much more frequent. Fields were badly blown and dunes as much as 5 feet high resulted from the dust and sand in southern Lincoln County. Windshields of automobiles were pitted by the flying sand. After the 7th, duststorms, locally of considerable severity, occurred every day, except on the 17th, 20th, and 21st, and reduced visibility daily to a few hundred feet and frequently to zero. Even rains of an inch or more failed to bring surcease for more than 6 hours; lister furrows were completely leveled after a few days of blowing.

May.—Despite heavy, beneficial rains, dusty conditions were more prevalent east of the Mississippi River than for several months past; dust was noted as far east as South Carolina on several dates and from the 15th to the 18th dusty conditions were reported from the eastern Gulf States northward to the Lake region; a minimum visibility of 100 feet occurred in portions of Indiana on the 16th. In nearly all instances, however, the storms were light in character to eastward of the Mississippi, but in western areas, particularly throughout the Great Plains, they were occasionally Statewide and were rather frequent. During the week ending May 17 there was unusual wind movement in portions of the Great Plains area and duststorms occurred in southwestern Kansas, western Oklahoma, and central and western North Dakota.

The most extensive storms generally occurred during the first half or near the middle of the month in Iowa, Minnesota, and the Dakotas, while in Montana the most severe storms occurred in extreme northeastern counties on the 13th. Storms in western North Dakota on the 1st, 13th, and 15th were the worst ever observed in that area. Further south the number of dense storms was less; visibilities in New Mexico were seldom less than ⅛ mile and in northwestern Texas dense dust occurred on only 3 days.

In Colorado excessively strong winds on the 1st caused heavy erosion in southeastern counties where the storm continued throughout the 2d–3d. A destructive storm occurred in Baca County on the afternoon of the 13th and another continued throughout the 17th. Other

light storms occurred in southeastern counties on the 14th, 15th, 16th, 18th, 25th, 27th, and 28th, but most of these were local in origin and where precipitation was more or less deficient.

At Dodge City, Kans., light dust occurred on May 1, 2, 3, 11, 13, 15, 17, 19, 28, 29, and 30, and thick dust on the 1st with minimum visibility of ⅛ mile; Kansas had duststorms only a short time after heavy rains.

On the 13th the most severe duststorm of the month in Montana affected all of Sheridan, Daniels, Roosevelt, and Richland Counties, and eastern parts of McCone and Valley Counties; local storms occurred in northern Judith Basin and central Lincoln Counties. Duststorms were general in North Dakota on the 13th-16th and in central and western portions of that State on the 1st-2d; some western stations reported the storms of the 13th–15th the worst ever observed. No damage was caused by the duststorms in Oklahoma, where heavy dust was confined to the Panhandle Counties. Visibility was reduced to 100 feet at times at Kenton, Cimarron County, on the 15th; on the 13th the visibility was 400 feet.

June.—Heavy rains of the preceding month were beneficial in reducing the extent, severity, and frequency of duststorms. None was reported east of the Mississippi River. In the northern Great Plains local storms occurred in portions of Daniels and Sheridan Counties, Mont., on two dates, and light dust was general in North Dakota on the 6th. In South Dakota local storms were general in the eastern two-thirds on 4 days early in the month and in the western portion on the 27th. Visibility was reduced to ¼ mile at times at Moorhead, Minn., on the 6th, and light dust was reported at that station on two other dates early in the month. At Rock Springs, Wyo., on June 20, visibility was reduced to zero for half an hour and several storms with zero visibility were reported at Goodwell, Okla. The storm at Springfield, Mo., on the 14th was the worst reported in 2 years.

The following comment from the Colorado report is interesting:

Duststorms during June have been less extensive and intensive due to large sections being "healed" over with weeds. There are large tracts of land, however, which will not grow weeds or any cover vegetation and dust of considerable intensity continues in the lee of these fields with the slightest wind movement * * *. Duststorms reducing the visibility to from 100 feet to zero and lasting from 4 to 18 hours occurred in Baca County on the 8th, 12th, 13th, 15th, 18th, 27th, 28th, and 29th.

At Dodge City, Kans., the most severe duststorm of recent years occurred on the 10th. Visibility was reduced to 10 feet or less and windshields of cars driving against the storm were sandblasted to such an extent that new glass was required. At the time of the Dodge City report the center of the dust section was 50 to 60 miles west and south of the city; the railroad was still using plows to enable trains to move on the branch line from Dodge City to Boise City, Okla. In one of the cuts dust filled in 2 to 7 feet deep for a distance of 2,500 feet, despite the fact that Kansas had received from 2 to 4 or more inches of rain during the past month.

July.—Light dust was reported in central and southern Illinois on the 7th and 10th and local soil-blowing occurred in the eastern two-thirds of South Dakota on the 2d–4th, 11th, 13th, and 18th. No unusual duststorms occurred in Nebraska and the month was the first at Dodge City, Kans., without duststorms since January 1937. Light storms were reported in western Kansas on about 5 days during the first half of the month. Light to moderate storms were reported at Waynoka, Okla., on the 13th, at Kenton on the 22d and at Tulsa on the 27th. Light dust was reported at Abilene, Tex., on the 7th.

Portions of Montana, particularly Valley, Chouteau, and Yellowstone Counties, had light storms on 1 or 2 days and a severe storm occurred in Gallatin County, but elsewhere there was little dust blowing or soil movement during the month in that State.

August.—August was similar to July; only a few storms were reported and these were usually light and local in character.

Light dust was reported in extreme western Minnesota on the 18th and in South Dakota on the 1st–5th, 13th–20th, and 24th but with little or no damage. Light storms were reported in portions of McCone, Fergus, and Garfield Counties, Mont., on the 2d, 11th, and 29th and a few light local storms occurred in Nebraska on the 2d, 9th, 13th, 18th, and 19th. Only one was reported in Oklahoma; this was at Waynoka on the 20th and was unimportant. It was dusty on several days in Kansas, but only a few storms of local nature occurred in extreme northwestern and extreme southwestern portions; the soil in this State, particularly in the west, was still very dry at the close of the month.

September.—Light dust was reported at Hartford, Conn., on several dates, the most eastern occurrence during the year.

Light local duststorms occurred on 4 days during the last half of the month in South Dakota, on 1 day in Nebraska, and there were a few local storms in Kansas, mostly in southwestern counties, on the 12th, 17th, and 28th; one of these storms was especially severe. A few local storms were reported in Oklahoma on the 14th, 17th, 27th, and 29th. The storm at Alva on the 17th reduced visibility to ¼ mile for an hour.

At Rock Springs, Wyo., a storm on the 30th caused occasional zero visibility, and severe duststorms were reported in the vicinity of Helena and Trident, Mont., on the 4th. On September 29 southerly winds of gale force in Montana caused considerable dust and soil blowing in the Missoula River and Flathead Valleys; the storms lasted nearly an hour during which time traffic was at a standstill because of poor visibility.

October.—October was unusually dry in practically all central portions of the country but there were only a few duststorms and none of these compared in severity or extent with those in earlier months. In southern sections light local dust was reported on three dates in Oklahoma and on one date in Texas. Light dust was reported in extreme western Minnesota and this only on the 6th, 10th, and 12th. No storms were reported in Kansas and only one light storm occurred, on the 8th, in Nebraska. There were a few light and widely scattered storms at the beginning and near the end of the month in North Dakota. Local dust blowing was reported on the 1st, 10th–12th, 21st–25th, and 29th–30th in South Dakota; all of these storms were light; the one on the 25th was most prominently mentioned. Light storms occurred in southern Rosebud County, Mont., on the 13th and in west-central Sheridan County on the 27th.

November.—Duststorms of November were confined to Montana, Wyoming, South Dakota, Kansas, Oklahoma, and Texas, although there was one report of a heavy dust fall mixed with snow at Sault Ste. Marie, Mich. In Montana a light storm occurred in Judith Basin County on the 18th and dusty conditions prevailed at Rock Springs, Wyo., on the 4th with visibility reduced to zero at times. Light local dust blowing was reported in South Dakota on the 1st, 8th, and 21st, and at Dodge City, Kans., on the 1st, 2d, 9th, and 21st; the storm on the 21st covered three or four counties in the southwestern portion of the State. In Oklahoma dust was reported on the 2d and 21st at Waynoka; the only occurrence of heavy dust in the State was on the 21st when visibility at Alva was reduced to ½ mile. Light dust was reported at Abilene, Tex., on the 17th and 21st.

December.—The final month of 1938 brought above-normal precipitation to much of the Dust Bowl and to nearly all Plains States. The lowest percentage of normal was 88 in South Dakota and Texas. There was a heavy fall of dust mixed with snow at Sault Ste. Marie, Mich., on the 7th and muddy rain fell on December 4 at Madison, Wis. Kansas City, Mo., reported dusty conditions on the 28th.

Light duststorms were reported in Montana on the 3d, 5th, 10th, 24th, and 25th; the storm of the 25th was severe in portions of central Big Horn County. Local dust blowing was reported in South Dakota on the 17th, 24th, and 26th, and from several stations in the eastern and western thirds of that State on the 25th. Heavy dust occurred at Dodge City, Kans., on the 4th with a visibility of ½ mile, and light dust at Wichita on the 26th and 28th; rather severe storms occurred locally in the western third of the State on the 4th, 26th, and 27th. At Goodwell, Okla., the visibility was less than a mile on the 4th and dusty conditions were reported in the Panhandle on the 4th, 15th, 26th, 28th, 30th, and 31st; light dust occurred at Goodwell on about 10 days during December. In Texas there were only a few storms and these were mostly light.

TORNADOES, 1938

In accordance with the practice established in 1916, and pursued each year thereafter the tornadoes of 1938, are individually described in table 8, page 17. In particular, the form of presentation groups the tornadoes by States in alphabetical order with the several tornadoes of each State arranged chronologically. The information has been furnished chiefly by section directors of the Bureau, consequently descriptions of practically all tornadoes have previously appeared in print in the monthly section reports or were listed in the Monthly Weather Review's table, Severe Local Storms.

Owing to receipt of additional information and sufficient time to study more closely the violent storms which occurred, some differences in detail and number for the year will be found as compared with the rather abbreviated summaries contained in the several monthly and December issues of the Weather Review.

The result of later and more intensive considerations is the addition of a considerable number of tornadoes, some formerly overlooked or cataloged as nontornadic. In addition one or two storms previously classified as tornadoes are omitted from the accompanying compilation but are included, however, in the table on windstorms other than the tornadoes.

GENERAL SYNOPSIS

During 1938, there were 220 tornadoes in 33 States; this takes into account corrections for State border-crossing instances. Tabulations based on State occurrences without taking into consideration State border crossing frequencies would increase the total to 232 disturbances. In the Territories, one tornado occurred during the month of October, in the West Indies; none were reported from Alaska or Hawaii.

In the United States about 50 percent of these disturbances occurred in the months of March and May. During March, the month of the greatest number, there were 60 and May was almost as great with 51. Frequencies for other months were as follows: April, 34; June, 24; August, 17; July, 15; September and November, 8 each; February, 2; and October, 1; none were reported in the months of January and December.

The total loss of life attributed to tornadoes during 1938 was 183, which is considerably less than the 23 year average of 261. The number of persons injured, totaled somewhat in excess of 1,296, for in many cases injuries were described as "several injured" or "possibly additional number injured."

Property losses that were reported as the result of tornadoes (crop losses included) were without question much less than the true losses for it is seldom feasible to secure data for all parts of a long track and often no trustworthy reports can be obtained. Estimated losses for 1938, amounted to $8,796,257 which includes $343,470 damage to crops.

Table 4 shows the destruction of 1938 tornadoes expressed in dollars by months for the various States or sections. On a State basis, South Carolina suffered the greatest annual loss with $2,900,500, the greatest portion of which was incurred in September. Illinois ranks second, the damage amounting to $2,001,700 and Kansas, third with $885,050. Several of the 1938 tornadoes took place without a single fatality, with little or no financial losses, particularly in some of the far Western States where there exists much barren territory and absences of large population centers.

TABLE 4.—*Tornado destruction in dollars, by months, during 1938*

Station or section	January	February	March	April	May	June	July	August	September	October	November	December	Crop	Property	Total
Alabama			$88,000	$117,000										$205,000	$205,000
Arkansas			[1] 363,000		$46,600						$500			413,100	413,100
Colorado				6,800	25,000									31,800	31,800
Delaware				50,000										50,000	50,000
Florida				300	250		$45							595	595
Georgia				[2] 37,500										37,500	37,500
Idaho							500							500	500
Illinois			1,975,600		200	1,000	[3] 8,000 16,900						8,000	1,993,700	2,001,700
Indiana					272,000		2,000							274,000	274,000
Iowa			[3] 8,000	13,500	(2) (11) 15,000		5,000							41,500	41,500
Kansas			[3] 577,500	[4] 51,900	[3] 1,000 164,800	[3] 1,050 [3] 88,800							2,050	883,000	885,050
Kentucky			2,100											2,100	2,100
Louisiana		$250,000	5,000	[3] 2,500 10,000				$700			[3] 1,500 7,000		4,000	272,700	276,700
Maryland							[3] 8,000 68,000	[3] 500 3,000					8,500	71,000	79,500
Minnesota							[3] 25,000 440,500	(2) (11) [2] 60,500			20,000		25,000	521,000	546,000
Mississippi			(2) (11) [5] 3,500	(2) (11) [5] 31,000	(2) (11) 25,000						(2) (11) 4,500			64,000	64,000
Missouri			[3] 1,500 [6] 550,200		13,500				(2)				1,500	563,700	565,200
Nebraska				[3] 1,000 [3] 44,500	15,000								1,000	59,500	60,500
New England:															
New Hampshire								[3] 500 5,000					500	5,000	5,500
Massachusetts										3,000				3,000	3,000
New Jersey				2,000										2,000	2,000
New York						1,000								1,000	1,000
North Dakota						[3] 100,000 50,000 (2) (11)		[3] 30,000 20,000					130,000	70,000	200,000 (2) (11)
Ohio						(9)							(11)	(9)	(9)
Oklahoma			(2) (11) 47,192	(2) (11) 10,000	(9) (14) 120 7,800	[3] 25,000 215,000							25,120	279,992	305,112
Pennsylvania					8,000	[3] 20,000 20,000	100,000						20,000	128,000	148,000
South Carolina					9,500				(2) (11) 2,000,000					2,009,500	2,009,500
South Dakota						[3] 33,600	(2) (13) 1,000 70,000	[3] 6,000	[3] 5,000 25,000		5,000		6,000	139,600	145,600
Tennessee			25,000											25,000	25,000
Texas		50,000	[15] 60,000	30,000	[3] 7,300 [5] 31,000	[3] 100,000 100,000					1,000		107,300	272,000	379,300
Virginia					7,000									7,000	7,000
Wisconsin					10,000			5,000						15,000	15,000
Wyoming					[3] 2,000 8,500	(2) (11) 200		(2) (11) 2,000					2,000	10,700	12,700

See footnotes at end of table.

TABLE 4.—*Tornado destruction in dollars, by months, during 1938*—Continued

Station or section	January	February	March	April	May	June	July	August	September	October	November	December	Crop	Property	Total
Territories: West Indies										(1)2,500 300			2,500	300	2,800
Crops			1,500	3,500	10,420	246,050	42,000	31,000	5,000	2,500	1,500		343,470		
Property		300,000	3,708,092	404,500	659,150	509,600	702,945	102,200	2,025,000	3,300	38,000			8,452,787	
Total		300,000	3,709,592	408,000	669,570	755,650	744,945	133,200	2,030,000	5,800	39,500				8,796,257

[1] Additional damage in 2 instances; no estimate secured.
[2] One instance wherein damage was incurred; no estimate secured.
[3] Crop loss.
[4] Additional damage in 1 instance of several hundred dollars; no definite estimate secured.
[5] One instance wherein damage reported as "small."
[6] Several instances where no data obtained.
[7] Four instances wherein damage probably occurred, but no estimate obtained.
[8] One instance wherein no estimate obtained.
[9] Damage reported as "several thousand dollars," no exact figure obtained.
[10] Two instances wherein damage reported as small.
[11] Reported as "small."
[12] Some damage incurred, but no estimate obtained.
[13] Four instances of damage reported as small.
[14] Additional crop damage in 3 instances, reported as small.
[15] One instance of damage, but no estimate obtained.

SYNOPSIS BY STATES

Thirty-three States in all reported tornadoes during 1938. No tornadoes were reported in the following 15 States: Arizona, California, Michigan, Montana, Nevada, Maine, Vermont, Rhode Island, Connecticut, New Mexico, North Carolina, Oregon, Utah, Washington, and West Virginia, nor in the District of Columbia.

In comparison with the 23-year average (1916–38) the occurrence of such storms was considerably above normal in the western Ohio Valley, the Plains States and the Gulf sections. Arkansas with 22 storms was 11 above normal, Nebraska with 33 was 19 above normal, Missouri with 18 was 11 above normal, and Illinois with 18 was 14 above normal. Departures from the average were generally of the order of 3 to 6 in the Gulf States. Occurrences were generally below average in the eastern Ohio Valley and the New England section and Pacific Coast States.

Table 5 shows the monthly and annual frequencies of tornadoes for 1938, by sections.

TABLE 5.—*Monthly and annual frequency of tornadoes, 1938, by sections*

State or section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Alabama			3	3									6
Arkansas			16		5						1		22
Colorado				2	1								3
Delaware				1									1
Florida				1	1		2						4
Georgia				5									5
Idaho							1						1
Illinois			12		2	2	2						18
Indiana					1		1	2					4
Iowa			2	4	2		1						9
Kansas			4	7	11	10			1				33
Kentucky			2										2
Louisiana		1	1	1				1			3		7
Maryland						1	1	2					4
Minnesota							5	6			1		12
Mississippi			2	4	1						1		8
Missouri			14		3				1				18
Nebraska				5	3								8
New England:													
New Hampshire								1					1
Massachusetts										1			1
New Jersey				1									1
New York						1							1
North Dakota						1		1					2
Ohio					1	1							2
Oklahoma			5	1	5	2							13
Pennsylvania					1	1	1						3
South Carolina					4				5				9
South Dakota						2	2	2	1		1		8
Tennessee			1										1
Texas		1	6	1	5	2					1		16
Virginia					2								2
Wisconsin					1		1	1					3
Wyoming					2	1		1					4
Territories: West Indies										1			1
Total [1]		2	68	36	51	24	17	17	8	1	8		232
Total [2]		2	60	34	51	24	15	17	8	1	8		220

[1] Territorial occurrences not included.
[2] Monthly and annual number corrected for State boundary crossings instances.

Table 6 shows the number of deaths and injuries by months and sections for the year 1938. The table shows that the greatest number of fatalities and injuries occurred in the Plains sections and southeastern parts of the country.

TABLE 6.—*Deaths and injuries incurred by tornadoes during 1938*

State or section	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Alabama					2	49	10	68																	12	117
Arkansas					18	287			2	20											0	0			20	307
Colorado							0	0	0	2															0	2
Delaware							0	0																	0	0
Florida							0	0	0	0			0	0											0	0
Georgia							1	6																	1	6
Idaho													0	0											0	0
Illinois					24	168			0	0	0	0	0	0											24	168
Indiana									0	0			0	0	0	0									0	0
Iowa					0	4	0	2	0	0			0	0											0	6
Kansas					11	167	0	1	6	24	0	5					0	0							17	197
Kentucky					0	0																			0	0
Louisiana			21	40	4	9	0	8							0	0					1	10			26	67
Maryland											0	0	0	0	0	0									0	0
Minnesota													0	2	0	7					0	1			0	10
Mississippi					0	0	0	16	0	12											1	0			1	28
Missouri					17	84			0	0							0	1							17	85
Nebraska							3	9	0	1															3	10
New England:																										
New Hampshire															0	0									0	0
Massachusetts																			0	0					0	0
New Jersey							0	2																	0	2
New York											0	0													0	0
North Dakota											0	0			0	1									0	1
Ohio									2	0	0	0													2	0
Oklahoma					0	11	0	0	0	2	0	0													0	13
Pennsylvania									0	0	0	0	0	0											0	0
South Carolina									0	0							32	150							32	150
South Dakota											0	1	3	16	0	0	0	0			0	0			3	17
Tennessee					0	4																			0	4
Texas			0	24	0	3	3	50	4	13	14	9									1	2			22	101
Virginia									3	2															3	2
Wisconsin									0	2			0	0	0	0									0	2
Wyoming									0	0	0	0			0	1									0	1
Territories:																										
West Indies																			0	0					0	0
Total [1]			21	64	76	786	17	162	17	78	14	15	3	18	0	9	32	151	0	0	3	13			183	1,296

[1] Territorial occurrences not included.

BOUNDARY-CROSSING TORNADOES

Ten 1938 tornadoes definitely crossed State boundaries. In order of time, three of these disturbances occurred on March 15, the first originated shortly before 3:25 p. m., in the extreme southeastern portion of Greene County, Ark., and passed through Dunklin, Pemiscot, and New Madrid County, Mo., and terminated in the extreme western portion of Fulton County, Ky., about 4 p. m. The second disturbance on the same day, originated in the extreme northeastern portion of Mississippi County, Ark., shortly before 4:45 p. m., and terminated in the southeastern portion of Dyer County, Tenn., after traversing the northwestern portion of Lauderdale County in the same State. The third disturbance originated shortly before 5:05 p. m. in the extreme eastern portion of Mississippi County, Mo., crossed the Kentucky-Missouri State border and terminated in the southwestern portion of Carlisle County, Ky., about 5:30 p. m., after traversing the extreme northwestern portion of Hickman County in the same State.

On March 30 there was another series of three State boundary-crossing tornadoes. The first originated in Missouri around 5:53 p. m., in the eastern portion of St. Charles County and terminated in the extreme western portion of Montgomery County, Ill., near 6:45 p. m. after traversing portions of Madison and Macoupin Counties of the same State. The second disturbance occurred about 10 a. m. on March 30, in Washington County, Okla., and terminated in the extreme southern portion of Montgomery County, Kans. The third of these series also originated in Oklahoma, near 10:50 a. m. on March 30, in the extreme northeastern portion of Craig County, traversed portions of Labette and Cherokee Counties, Kans., and terminated in early afternoon in the extreme northwestern portion of Polk County, Mo. after traversing portions of Jasper, Barton, and Cedar Counties of the latter State.

On April 26 the seventh border-crossing tornadic disturbance originated in the northeastern portion of Texas County, Okla., about 5:30 p. m. and terminated in the southern portion of Haskell County, Kans., approximately 1 hour later. On May 1 the eighth such disturbance

originated near 5:45 p. m. in the extreme northeastern Harper County, Okla., and terminated a short time later in the southwestern portion of Comanche County, Kans.

On July 9, in South Dakota, a disturbance originated in the northeastern portion of Brookings County, crossed the Minnesota-South Dakota State border, and was last observed in the extreme northwestern portion of Lincoln County, Minn. The last storm in this category occurred in the eastern United States on July 15. In the early morning of July 15, a tornado which originated in the northeastern portion of Carroll County, Md., traversed the extreme northern portion of Baltimore County, terminating about 3:45 a. m. in the southeastern portion of York County, Pa.

The number of tornadoes during 1938, based on State occurrences, was 232—but enumerated according to origin and termination the number is decreased to 220—this is evident from the above discussion, eight tornadoes being reported twice by States and two reported three times by States.

SPEED OF ADVANCE

The reports gathered of various tornadoes are seldom complete enough in detail to afford accurate computations of the speed of translation. Nevertheless several tornadoes during 1938 were quite closely observed and the time elapsing between two or more points obtained accurately enough to permit mathematical treatment. The highest speed of progress computed was 60 miles per hour. The lowest translational speed reliably observed was around 40 miles an hour and several cases were noted between these limits.

OUTSTANDING 1938 TORNADOES

The most outstanding destructive 1938 tornadoes occurred during a series of 5 such storms which struck Charleston S. C., and vicinity on the morning of September 29. It was the greatest disaster in loss of life for Charleston since the earthquake of August 31, 1886, when 87 deaths resulted. However, property damage of the 1911 hurricane probably exceeded the tornadic destruction. The series of 5 tornadoes extended over an hour and three-quarters from 6:45 a. m. on September 29 to 8:30 a. m. Thirty-two persons were killed and 150 or more injured. The property loss was estimated around $2,000,000 which included 100 buildings destroyed or later condemned in the residential and business districts of the city.

The second most destructive tornado of the year occurred on March 30 in Illinois. This storm originated about 3 p. m. in the southeastern portion of Adams County and traversed portions of Brown, Schuyler, Fulton, Mason, and Tazewell Counties terminating in the southern portion of Woodford County 2 hours and 20 minutes later. In all 13 people were killed, 73 injured, and damage to property amounted to $905,000.

Two other storms exceeded or approached the half-million dollar mark; 1 in Kansas on March 30, which killed 10 persons, injured 150, and incurred losses of $575,000; then in Minnesota on July 9 a disturbance incurred losses amounting to $400,500. No persons were injured or killed by the latter disturbance.

SUMMARY FOR PAST YEARS

Table 7 gives the total number of tornadoes, deaths resulting from such storms, and the estimated property losses for the years 1916–38.

TABLE 7.—*Deaths and property losses caused by tornadoes, 1916–38*

Year	Reported	Aggregate loss of life	Aggregate reported property losses	Year	Reported	Aggregate loss of life	Aggregate reported property losses
	Number				*Number*		
1916	86	140	$2,511,500	1929	197	274	$10,049,400
1917	121	508	15,007,700	1930	192	179	12,289,100
1918	81	134	7,631,200	1931	94	36	3,215,400
1919	65	205	6,861,500	1932	152	394	8,983,525
1920	87	498	15,205,000	1933	260	362	16,190,640
1921	106	202	5,406,300	1934	147	47	4,424,960
1922	108	133	6,630,000	1935	182	70	4,732,230
1923	100	109	2,958,750	1936	159	552	26,228,550
1924	130	376	26,120,850	1937	148	29	3,185,875
1925	119	794	24,023,900	1938	220	183	8,796,357
1926	111	144	4,318,950				
1927	164	540	43,445,650	Total	3,262	6,001	271,428,527
1928	203	92	13,235,600				
				Average	141	261	11,801,240

ITEMS OF TABLE 8

Where two or more county names appear, the word "and" between them or before the last-named county, indicates that the tornado path began in the first and continued in the order

named, and was confined to those counties, unless it was one of the few tornadoes that crossed a State boundary, in which case only the portion within the single State is indicated. Frequently braces are used, especially in cases where it is possible to present statistics for each county. Notations immediately after county names such as (N.), (NE.), (E.); and (E.-C.) indicate, respectively, north, northeast, east, and east-central, portions of the counties in which the disturbances occurred.

The direction of advance is usually entered to 8 points of the compass, but occasionally to 16 points when sufficient detail exists. If the tornado changed direction, the curvature of path is outlined by two directions separated by a hyphen.

The length of path of a "not continuous" storm is not the length devastated but the entire distances from first havoc to last. The width of the path is usually the mean width, but occasionally the width has varied sufficiently for the limits of variation to be given; that is, the minimum and maximum widths. It will be noted that in several instances the tornadic character of a storm is given as somewhat doubtful, but in these cases the presence of marked rotary winds over a rather narrow area was taken as sufficient evidence to classify the storm as a tornado.

TABLE 8.—*Tornadoes of 1938, arranged by States*

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
ALABAMA				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
1. Mar. 15	2:35 p. m.	Marengo (ext. NW.)	NE	1	300	1	30	35,000	Damage mostly at Demopolis
2. Mar. 15	3:45 p. m.	Walker (ext. NW.)	N	1½	20	0	11	3,000	Occurred at Nauvoo, about 90 miles N. from No. 1.
3. Mar. 15	4:20 p. m.	Jefferson (C.)	E	10	50	1	8	50,000	Most damage occurred at Mulga about 40 miles SE. from No. 2
4. Apr. 6	11:45 a. m.	Mobile (ext. NE.)	NE	5	600	0	5	35,000	Principal damage at Mount Vernon.
5. Apr. 6	1:30 p. m.	Monroe (W-C.)	NE	3	100	1	12	10,000	Possibly a continuation or reappearance of No. 4; principal damage at Mexia, 50 miles NE. from Mount Vernon (No. 4).
6. Apr. 7	[1] 12:30 p. m.	Pickens (ext. SW.)	NNE			[2] 9	[2] 50	[2] 50,000	[1] Time tornado was first observed at Aliceville. [2] Figures for Aliceville and vicinity.
	[1] 12:45 p. m.	Pickens (C.)	N			[2] 0	[2] 0	[2] 20,000	[1] Time of approach to town of Carrollton. [2] Figures for Carrollton and vicinity.
	[1] 2:00 p. m.	Pickens (N.)	N			[2] 0	[2] 1	[2] 2,000	[1] Time last noted on disturbance. [2] Figures on fatalities and damage which took place in northern part of Pickens County.
				[1] 20	100-300	[2] 9	[2] 51	[2] 72,000	[1] Total length of path, not continuous. Speed of linear translation averaged about 40 m. p. h. between Aliceville and Carrollton, then slowed down considerably. [2] Total losses for length of path.
ARIZONA									
(No tornadoes reported.)									
ARKANSAS									
*1. Mar. 15	Shortly before 3:25 p. m.	Greene (ext. SE.)	NE	(4)	(4)	0	0	(14)	No damage reported in Greene County; evidently disturbance originated very near Arkansas-Missouri border, *continued into Missouri as No. 5.
2. Mar. 15	4:45 p. m.	Mississippi (NE.)	NE	10	200	0	29	100,000	Principal property damage occurred at Blytheville. Linear rate of travel about 60 m. p. h.
*3. Mar. 15	Shortly before 4:45 p. m.	Mississippi (ext. NE.)	ENE	(4)	(4)	0	0	(14)	Inception near the Arkansas-Tennessee border; continued into Tennessee as No. 1.
4. Mar. 28	7:30 p. m.	Miller (NW.)	NNE	10	100-200	4	17	20,000	Disturbance first noted at Texarkana and terminated in vicinity of Mandeville; principal damage occurred at latter town.
5. Mar. 28	[1] Night	Hempstead	NE	(4)	(4)	0	9	(3) (4)	[1] Evidence indicated disturbance occurred after No. 4 and prior to occurrence of No. 5. Inception about 25 miles ENE. from termination of No. 4. [3] Several houses and much timber reported destroyed, an exact estimate not obtained.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
ARKANSAS—CON.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
6. Mar. 28	[1] 10:00 p. m.	Nevada (ext. N.)	NE.	5	200	0	0		[1] Time first noted at Boughton; inception about 25 miles NE. from termination of No. 5.
	[1] 10:15 p. m.	Clark (S.)	NE.	10	200	0	65		[1] Time disturbance struck town of Gurdon.
				[1] 15	[1] 200	[1] 0	[1] 65	[2] 85,000	[1] Total length of path and average width. [2] Aggregate losses; about 50 homes reported destroyed.
7. Mar. 28	[1] Night	Hot Springs (NE.)	NE.	(4)	[2] (4)	0	3	1,000	[1] Occurred more than 40 miles NE. from locality of No. 6 and presumably after 10:15 p. m. Most damage in vicinity of Butterfield. [2] While no data was received on width of path, it may be safely assumed as narrow.
8. Mar. 30	[1] 2:00 a. m.	Conway (SE.)	NE.	13	150	0	5	10,000	[1] Time of occurrence at Hill Creek. Two churches destroyed.
	[1] 2:30–3 a. m.	Faulkner (NW.)	NE.	16	200	1	9	4,000	[1] Time of occurrence at Republican and Grovesville, 2:30 and 3:00 a. m., respectively.
	[1] 4:00 a. m.	Cleburne (SE.)	NE.	15	200	2	3	14,000	[1] Time of occurrence at Quitman.
				[1] 44	[1] 200	[1] 3	[1] 17	[1] 28,000	Aggregate values.
9. Mar. 30	[1] 2:30 a. m.	Conway (E.)	NE.	10	200	0	13	10,000	[1] Time of occurrence noted at Overcup.
	[1] 3:00 a. m.	Faulkner (ext. NW.)	NE.	7	200	0	0	(7)	[1] Time disturbance struck Martinsville.
	[1] a. m.	Van Buren (SW.)	NE.	8	200	0	1	(7)	[1] Time of termination not obtained.
				[1] 25	[1] 200	[1] 0	[1] 14	[1] 10,000	[1] Aggregate values. Path of No. 9 about parallel to path of No. 8 and from 3 to 10 miles west thereof.
10. Mar. 30	6:00 p. m.	Cleburne (SW.-NE.)	NE.	28	200–425	7	96	75,000	53 homes, 1 store and 1 church destroyed; considerable live stock killed.
11. Mar. 30	6:00 p. m.	Independence (SW.)	NE.	(4)	425	1	5	12,000	Inception near Floral, about 10 miles SE. from termination of No. 10. Terminated 4 miles south of Batesville. 12 houses partially destroyed.
12. Mar. 30	6:00 p. m.	Independence (E.-C.)	ENE.	12	300	0	17	15,000	Disturbance occurred 25 miles NE. of No. 11. Greatest damage in vicinity of Moorefield and Sulphur Rock; 2 churches, 6 homes, and a store destroyed.
13. Mar. 30	8:00 p. m.	White (SE.)	NE.	5	(4)	0	12	5,000	Property damage. Disturbance occurred 25 miles S. from No. 11 and about the same distance SE. from Nos. 8 and 9.
14. Mar. 30	Night	Lawrence	(5)	(4)	(4)	3	0	(7)	Property damaged. Disturbance occurred more than 30 miles NE. of nearest disturbance this date, viz. No. 12.
15. Mar. 30	Night	Randolph	ENE.	16	(4)	0	0	(4) (7)	Several homes destroyed in vicinity of Hopewell. Occurred about 15 miles NNW. from No. 14.
16. Mar. 30	Night	Greene	NE.	14	(4)	0	3	15,000	Most damage occurred in vicinity of Stafford and Lafe; rural property destroyed. Inception about 20 miles SE. from termination of No. 15.
17. May 15	[1] 4–4:30 p. m.	Boone (S.)	E.	15	440	0	0	9,500	[1] Approximate time disturbance struck Elmwood and continued on to Valley Springs, Rally Hill, and Everton. Rural and suburban property destroyed.
18. May 22	10:00 p. m.	Scott	NNE.	1½	50	0	0	1,100	Rural property destroyed and damage occurred in Waldron.
19. May 22	10:35 p. m.	Yell (N.)	E-NE.	43	440–880	0	10	12,000	Path of disturbance extended from ext. NW. portion of County to ext. NE., damage occurred in 6 communities; inception about 30 miles NE. from No. 18.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
ARKANSAS—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
	[1] 11:00 p. m.	Pope (ext. SE.)	NE	5	440	2	8	10,000	Inception about 12 miles NE. from termination of No. 19. [1] Time disturbance struck 2 miles S. of Atkins.
20. May 22	[1] 11:30 p. m.	Conway (W.-SW.)	NE	10	150-200	0	2	10,000	[1] Time disturbance struck near Blackwell; terminated later in vicinity of Solgohachia.
				[1] 15	[1] 150-440	[1] 2	[1] 10	[1] 20,000	[1] Aggregate losses. Damage chiefly to rural property and livestock.
21. May 28	7:30 p. m.	Greene (C.)	SE	(4)	400	0	0	4,000	Rural property and livestock destroyed. Occurred in vicinity of Stanford.
22. Nov. 17	Night	Benton (NE)	E	5	880	0	0	500	Property damaged in Elkhorn community.
CALIFORNIA (No tornadoes reported.)									
COLORADO									
1. Apr. 26	3:00 p. m.	Baca (NE.)	(5)	(6)	(5)	0	0	6,000	Rural property destroyed in vicinity of Two Buttes.
2. Apr. 26	3:30 p. m.	Kit Carson (C.)	N	(6)	1,320	0	0	800	Occurred in vicinity of Stratton; property damage. Inception more than 100 miles S. from No. 1.
3. May 29	5:30 p. m.	Lincoln (NE.)	NE	(6)	67	0	2	25,000	Property damage at Arriba and vicinity.
DELAWARE									
1. Apr. 18	3-3:35 p. m.	New Castle (ext. N.)	NE	14	33	0	0	50,000	Disturbance noted at Newark at 3:00 p. m., moved northeastward through Wilmington (3:30) and into Edge Moor (3:35). Property damaged or destroyed in above mentioned localities.
FLORIDA									
1. Apr. 2	10:32 a. m.	Franklin (ext.)	NE	1½	100	0	0	300	Small tornado. $250 of damage, loss in timber; occurred in vicinity of Apalachicola.
2. May 10	1:40 p. m.	Monroe [1]	S	1	100	0	0	250	Occurred about 23 miles ENE. of Key West, at Pirates Cove fishing camp on Sugar Loaf Key.
3. July 4	6:57 p. m.	Hillsborough (C.)	NE	(6)	(5)	0	0	[1] None	Occurred in isolated territory.
4. July 14	3:25 p. m.	Volusia (NE)	SE	3	10	0	0	45	Occurred at Daytona Beach airport, damage to airplane hangar.
GEORGIA									
1. Apr. 7	4:17 p. m.	Troup	NW	(1)	(1)	(1)	(1)	[1] None	Tornado aloft. Typical tornado cloud observed over LaGrange at 4:17 p. m.
2. Apr. 7	6:00 p. m.	Coweta (NW.)	NE	10	100	0	(5)	2,500	Rural property destroyed; some smaller buildings reported blown skyward 500 feet. Inception about 30 miles NNE. from No. 1.
3. Apr. 7	6:30 p. m.	Douglas (N.)	N	15-20	200	0	0	30,000	25 to 30 homes demolished, principally in Billarp community, a group of 100-foot pines almost completely destroyed. Inception about 15 miles N. from No. 2.
4. Apr. 7	7:15 p. m.	Paulding (SE.)	NE	(6)	50	1	(5)	5,000	Principal property damage occurred near Hiram; 2 persons blown about 100 yards without injury. Disturbance occurred 13 miles N. from No. 3.
5. Apr. 8	Early a. m.	Early (NW.)	NE	(6)	(6)	0	6	(5)	A few houses and smaller buildings blown down 3 to 5 miles WNW of Blakely. Disturbance occurred in extreme southwestern part of State, while those previous were mostly in west central.
IDAHO									
1. July 2	3:00 p. m.	Camas (N.)	NE	1	440	0	0	500	Occurred in sparsely settled region 7 miles SE. of Fairfield.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
ILLINOIS									
				Miles	*Yards*	*Number*	*Number*	*Dollars*	
1. Mar. 15	3:15-3:30 p. m.	Randolph (ext. NW.)	NE	1	170	0	0	1,500	Inception occurred some time between 3:15-3:30 p. m., when it was first noted 1 mile west of Red Bud. Funnel-shaped cloud provided sufficient warning to cause people to seek protection in basements or other points, thus no one was injured. Rural property destroyed or damaged.
		Monroe (ext. SE.)	NE	2	170	0	0	3,500	
2. Mar. 15	4:53 p. m.	St. Clair (C.)	N-NE	5	170	10	65	550,000	First observed a few miles S. of Belleville; approached Belleville due N. at about 24 m. p. h. After reaching this town, direction of motion changed to NE. and proceeded at about 60 m. p. h. towards O'Fallon; 8 persons were killed or died of injuries and 52 persons injured at Belleville, 2 persons were killed and 12 injured near O'Fallon. At Belleville 18 blocks suffered severe destruction.
3. Mar. 15	5:30 p. m.	Randolph (NW.)	NE	5	100	0	(2)	[1] 9,500	First observed about 5:30 p. m. approximately 4 miles SE. of Red Bud. [2] See remarks for Washington County.
		St. Clair (S.)	NE	15	100	0	(2)	49,500	Greatest damage disturbance struck town of Darmstadt. [2] See remarks for Washington County.
	About 6:15 p. m.	Washington (NW.)	NE	10	100	0	[2] 12	5,100	Terminated NE. of Okawville; funnel-shaped cloud observed; path not continuous; [2] 12 persons reported injured, distribution per county not known.
4. Mar. 30	Near 3:00 p. m.	Adams (SE.)	ENE	5	880	1	6	55,000	Disturbance appeared to have developed about 3 p. m. several miles SW. of Kellerville.
	[1] 3:30 p. m.	Brown (NW.)	ENE	16	1,320	0	3	75,000	[1] Time passage observed between Timewell and Mount Sterling.
	[1] 3:50 p. m.	Schuyler (E.)	ENE	20	1,320	0	6	85,000	[1] Time disturbance passed through south portion of Rushville.
	[1] About 4:10 p. m.	Fulton (S.)	ENE	20	1,760	1	5	60,000	[1] Time disturbance reached Astoria.
	[1] 4:30 p. m.	Mason (NW.)	ENE	16	170	0	0	10,000	[1] Time disturbance observed about 4 miles N. of Havana.
	[1] 5:00 p. m.	Tazewell (W. and N.)	ENE	28	440	11	50	610,000	[1] Time disturbance passed through South Pekin.
	[1] 5:20 p. m.	Woodford (S.)	ENE	10	220	0	3	10,000	[1] Time disturbance was noted ¾ mile S. of Eureka; finally terminated a few miles to the northeastward.
				[1] 115	[2] 220-2,640	[1] 13	[1] 73	[1] 905,000	[1] Value for entire path; [2] limits of variation in width of path.
5. Mar. 30	5:35 p. m.	Sangamon (W.)	NE	(4)	47	0	0	2,500	Occurred ½ mile NW. of Loami; funnel-shaped cloud observed.
*6. Mar. 30	[1] 6:15 p. m.	Madison (ext. NW.)	NE	10	440	0	10	27,500	*Continuation of Missouri No. 12. [1] Time disturbance struck north portion of Alton. See remarks for Macoupin County.
		Macoupin (SE.)	NE	17	440	0	1	265,000	More than 100 residences and several business buildings were damaged in Alton (Madison County) and Bunker Hill (Macoupin County).
	[1] 6:45 p. m.	Montgomery (ext. W.)	NE	3	440	0	0	25,000	[1] Last observed at Litchfield.
				30	[2] 167-440	[1] 0	[1] 11	[1] 317,500	[1] Aggregate value for Illinois. [2] Limits of variations in width of destructive path.
7. Mar. 30	[1] 6:15 p. m.	Christian (NW.)	ENE	1	67	0	1	3,000	[1] Inception about 4 miles N. of Edinburg.
8. Mar. 30	6:45 p. m.	Madison (S.-C.)	NE	6½	587	1	3	75,000	First observed near Glen Carbon; funnel-shaped cloud observed; rural property principally affected.
9. Mar. 30	7:00 p. m.	Macon (C.)	NE	4	440	0	0	2,000	Occurred a few miles N. of Decatur.
10. Mar. 30	7:30 p. m.	Champaign (N.-C.)	NE	(4)	352	0	2	10,000	Occurred in vicinity of Thomasboro.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
ILLINOIS—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
11. Mar. 30	6:00 p. m.	Randolph (E.)	NE	5	170	0	0	20,000	Occurred in vicinity of Steelville.
12. Mar. 30	11:00 p. m.	Wabash	NE	12	200	0	1	21,500	Occurred in vicinity of Bellmont.
13. May 29	1:44 p. m.	LaSalle (S.)	(6)	(1)	(1)	0	0	[1] None	Funnel-shaped cloud observed in air near Streator; no damage; duration short; no contact made with ground.
14. May 28	8:00 p. m.	Henry (NE.)	N	2	55	0	0	200	Small building destroyed.
15. June 24	4:30 p. m.	Will	E	[1] (6)	[1] (6)	0	0	[1] None	Tornado funnel-shaped cloud aloft, observed between Peotone and Monee.
16. June 24	6:10 p. m.	Will (S.-C.)	NNE	3	135	0	0	1,000	Funnel-shaped cloud first observed on northern outskirts of Joliet; proceeded to Romeo. Small buildings and boxcars overturned.
17. July 11	4:00 p. m.	Shelby (N.)	SE	10	100	0	0	[6] 3,000 750	Funnel-shaped cloud observed; moved from point 8 miles NW. of Westervelt to 2 miles SE. thereof.
[1] 18. July 12	6:30 p. m.	Moultrie (SE.)	SSW	6	100	0	0	[6] 5,000 16,150	Occurred near Allenville; main damage to dwellings, bridges and railroad property; reports of several separate funnel-shaped clouds about ¾ mile to the southeast of main path but number not definitely known. Damage, if any, incurred by subsidiary funnel-cloud not known.
INDIANA									
[1] 1. May 21 (Series.)	(6)	Grant	(6)	(6)	(6)	0	0	10,000	[1] Evidence points to a series of tornadoes, details lacking,
		Greene	(6)	(6)	(6)	0	0	100,000	
		Knox	(6)	(6)	(6)	0	0	2,000	
		Monroe	(6)	(6)	(6)	0	0	155,000	
		Owen	(6)	(6)	(6)	0	0	5,000	
								[2] 272,000	[2] Aggregate loss.
2. July 11	(1) p. m.	Perry (ext. SW.)	(6)	(6)	(6)	0	0	2,000	Details lacking.
3. Aug. 1	(6)	Knox (ext. W.)	[1] NE	(6)	(6)	0	0	[1] None	Tornado cloud noted aloft, in circling movement over Vincennes, produced the semblance of a waterspout on Wabash River, finally moving off in a northeasterly direction.
4. Aug. 24	(6)	Delaware (C.)	[1] (6)	(1)	(1)	0	0	[1] None	Funnel-shaped cloud observed aloft northeast of Muncie; as far as known, did not make contact with ground.
IOWA									
1. Mar. 15	1:20 p. m.	Fremont (NW.)	NW-N.	3	50	0	4	8,000	Inception near McPaul. Funnel-shaped cloud lifted at times after disturbance changed direction.
2. Mar. 22	(6)	Crawford (C.)	(6)	(6)	(6)	0	0	(12)	Possibly a small tornado occurrence at Denison, in conjunction with widespread damaging wind (not tornadic) in that vicinity.
3. Apr. 27	3:30 p. m.	Marshall (E.)	NE	7	100	0	0	4,000	Inception 4 miles SE. of Marshalltown, proceeded to a point 2 miles E. of Green Mountain.
4. Apr. 27	[1] Afternoon	Appanoose	(6)	(6)	(6)	0	0	(1)	Small tornado; one farmhouse reported damaged; details not available.
5. Apr. 27	Afternoon	Monona (NE.)	E	(6)	(6)	0	2	4,000	Occurred in vicinity of Mapleton; details lacking.
6. Apr. 27	6:45 p. m.	Hamilton	NE	1	(6)	0	0	5,500	Occurred in Freedom township. Rural church destroyed; buildings damaged on 2 farms.
7. May 18	[1] Afternoon (prior to 6:15 p. m.).	Delaware (C.)	(6)	(6)	(6)	0	0	(12)	Reported 6 miles SE. of Manchester; some damage to rural property. [1] Occurred prior No. 8.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
IOWA—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
8. May 18	6:15 p. m.	Dubuque (SE.)	ESE	7	100	0	0	[c] (9)	Incurred damage at Bernard and Zwingle (Dubuque County) and near La-Motte (Jackson County). Funnel-cloud observed; path zig-zagged somewhat between slightly north of east and slightly south of east.
		Jackson (N.)	ESE	3	100	0	0	15,000	
9. July 26	2:00 p. m.	Clinton (NE.)	ESE-E.	(8)	(8)	0	0	5,000	Inception near Goose Lake; rural property destroyed or damaged. Damaging hail and winds (not tornadoes) associated with disturbance, included in tables 9 and 10.
KANSAS									
1. Mar. 10	6:30 p. m.	Saline (E.-C.)	SE	½	100	0	17	2,000	Destructive, limited tornado struck in only one place; 17 members of one family injured. Occurred 2½ miles SE. from Salina.
2. Mar. 30	9:45 p. m.	Anderson	NE	1	100	1	0	500	Rural property damaged: inception 1 mile N. of Lone Elm.
*3. Mar. 30	[1] After 10:00 a. m.	Montgomery (ext. S.)	NNE	(7)	(8)	0	0	(16)	Continuation of Oklahoma No. 4 which originated near Ochelata, Oklahoma, about 10 a. m. and continued into Kansas.
Mar. 30	[1] 10:50 a. m.	Labette (ext. SE.)	NE	10	133	0	(10)	45,000	Continuation of Oklahoma No.3, continuing into Missouri as No. 8. One of the most destructive storms known in Kansas. [1] Time disturbance struck Chetopa.
	[1] 11:15 a. m.	Cherokee (S. and E.)	NE	25	133	10	[2] 150	530,000	[1] Time disturbance struck Columbus. $500,000 damage incurred at Columbus where 10 persons killed, 150 injured; 180 residences demolished, or badly damaged and 90 other buildings, including a high school, damaged or demolished. [2] At Faulkner several persons reported injured, exact number not known.
				[1] 35	[1] 133	[1] 10	[1] 150	[1] 575,000	[1] Figure for Kansas only. Disturbance continued into Missouri as No. 8.
5. Apr. 15	7:50 a. m.	Rooks (S.)	NE	1½	200	0	1	12,400	Inception 12 miles SW. of Plainville. Rural property affected.
6. Apr. 26	5:00 p. m.	Stanton (SW.)	SW	5	(8)	0	0	(9)	Chief damage was in Manter; to buildings.
*7. Apr. 26	6:10 p. m. to 6:45 p. m.	Seward (W.)	NNE	27	133	0	0	[1] 12,000	Continuation of Oklahoma No 6. [1] Separate estimate per county not available.
		Haskell (S.)	NNE	13	133	0	0		
				[1] 40	[1] 133	[1] 0	[1] 0	[1] 12,000	Figures for Kansas only, chief damage in vicinity of Liberal and Sublette.
8. Apr. 26	7:00 p. m.	Lane (ext. NW.)	(8)	(11)	(11)	0	0	500	Small tornado, chief damage occurred at Healy.
9. Apr. 26	7:20 p. m.	Ford (NW.)	NE	(12)	(8)	0	0	1,000	Small tornado, inception 5 miles west of Dodge City. Winds (not tornadic) did $20,000 damage in surrounding country, included in table No 10.
10. Apr. 26	7:30 p. m.	Ford (S.)	NE	(12)	(8)	0	0	1,000	Rural property damaged. Inception 9 miles N. and 1 mile E. of Fowler.
11. Apr. 26	[1] p. m.	Trego (N.)	NE	20	(8)	0	0	[2] 25,000	Inception 12 miles SW. from Wakeeney. [1] Time of occurrence described as "early evening." [2] Separate county losses not obtained, but it is safe to assume most damage took place in Trego County.
	[1] p. m.	Graham (ext. SE.)	NE	5	(8)	0	0		
			NE	[1] 25	(8)	0	0	[1] 25,000	[1] Aggregate values.
*12. May 1	5:45 p. m.	Comanche (SW.)	NE	20	880	0	1	35,000	Continuation of Oklahoma No. 7. Terminated 4 miles S. of Coldwater. Rural property damage.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
KANSAS—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
13. May 1	7:30 p. m.	Comanche (NE.)	NE	3	1,760	0	0	[2] 5,000	Inception 8 miles SW. of Sun City. Passed through north Barker County. Terminated 6 miles N. of Isabel.[2] Separate county losses not available. Hail accompanied storm; did $5,000 damage to crops, included in table No. 9.
		Barker (N.)	NE	17	1,760	0	0		
	8:00 p. m.	Pratt (SE.)	NE	8	1,760	0	0		
				[1] 28	[1] 1,760	0	0	[1] 5,000	[1] Aggregate value.
14. May 1	9:30 p. m.	Reno (SW.)	NE	2½	880	0	2	12,000	Inception 9 miles SW. of Arlington.
15. May 1	9:30 p. m.	Pratt (SE.)	NE	11	200	[1] 6	[1] 20	[1] 100,000	Inception 11 miles SW. from Cunningham. [1] Figures per county not available. Termination 2 miles N. of Cunningham, Kingman County.
	10:00 p. m.	Kingman (NW.)	NE	2	200				
				13					Total length of path.
16. May 3	5:15 p. m.	Harper (ext. NE.)	NE	3	440	0	0	[6] 1,000	Inception 3 miles NW. from Argonia. Three vortex clouds observed.
		Sumner (NW.)	NE	6	440			9,000	
				[1] 9	440	0	0	[6] 1,000 9,000	Separate losses per county not available. [1] Total length of path.
17. May 3	[1] 5:00 p. m.	Norton (E.)	(6)	(1)	(1)	0	0	None	Observed 4 miles SE. of Norton; lasted only a minute, and no damage resulted.
18. May 4	8:30 a. m.	Allen (SE.)	N	1	100	0	0	1,000	Inception 4 miles S. of Moran; rural property damaged.
19. May 4	9:55 a. m.	Johnson (SE.)	NE	1/4	50	0	0	200	Observed 1 mile SE. of Olathe. Suburban properties affected.
20. May 4	3:00 p. m.	Douglas (NE.)	N	[1] (4)	[1] (5)	0	0	1,000	Occurred 2 miles SE. of Eudora; path not well defined.
21. May 6	5:30 p. m.	Montgomery (S.)	NE	(4)	(5)	0	0	100	Small tornado; occurred at Coffeyville in conjuncton with a hailstorm.
22. May 18	3:00 p. m.	Harper (C.)	(6)	1/4	100	0	1	1,500	Occurred 8 miles NW. from Anthony. Rural property damaged.
23. June 10	5:00 p. m.	Rooks (S.-C.)	NE	4	33	0	0	[6] 50 200	Inception 5 miles NE. from Plainville.
24. June 10	5:30 p. m.	Coffey (NW.)	WSW	4	400	0	0	[6] 1,000 35,000	Inception 4 miles SW. of Lebo. Rural property destroyed; 32 head of cattle killed and remains scattered over an area 1 mile long.
25. June 10	6:00 p. m.	Rooks (S.-C.)	NE	2	300	0	0	2,000	Inception a short distance NE. of Plainville; southeastern part of town in path.
26. June 10	6:30 p. m.	Anderson (N.-C.)	SE	12	133	0	2	40,000	Inception 11 miles NW. of Garrett and passed through town. 4 cars blown from a freight train. Several small vortex clouds observed.
27. June 10	8:30 p. m.	Dickinson (ext. E.)	W	(6)	33	0	0	200	Occurred 3 miles S. of Woodbine.
28. June 10	9:30 p. m.	Saline (ext. S.)	NE	12	(6)	0	0	5,000	Origin south of Assaria; 2 vortex clouds observed. Rural property damaged.
29. June 10	10:00 p. m.	Harvey (ext. NE.)	NE	3	2,640	0	0	(6)	Inception 4 miles W. of Peabody (Harvey County). Passed west of Florence and ended 8 miles NE. thereof (in Chase County).
		Marion (S. and E.)	NE	20	2,640	0	3	5,000	
		Chase (ext. W.)	NE	2	2,640	0	0	(6)	
				[1] 25	2,640	0	3	[1] 5,000	[1] Value for entire path. Rural property principally damaged.
30. June 10	10:00 p. m.	Marion (S.)	NE	1	17	0	0	400	Small tornado; occurred 1½ miles S. from Florence.
31. June 14	7:00 p. m.	Shawnee (SE.)	NE	5	67	0	0	1,000	Small tornado. Origin 1 mile west of Berryton. Rural property damaged.
32. June 17	4:40 p. m.	Neosho	(1) (6)	(5)	(5)	0	0	[1] None	Small tornado aloft. Occurred E. of Chanute, lasted only 10 minutes and did not contact ground.
33. Sept. 10	4:00 p. m.	Jefferson	NE	3	(1)	0	0	[1] None	Originated SSW. of McLouth. Tornado aloft, cloud did not contact ground. Winds not tornadic, in conjunction did $20,000 damage, included in table 10.
		Leavenworth	NE	7					

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
KENTUCKY									
				Miles	*Yards*	*Number*	*Number*	*Dollars*	
*1. Mar. 15	After 4:00 p. m.	Fulton (ext. W.)	NE	(4)	(4)	0	0	(14)	*Continuation of Missouri—No. 5.
*2. Mar. 15	5:05-5:30 p. m.	Hickman (ext. NW.)	NE	2	(6)	0	0	None	*Continuation of Missouri No 6; crossed Missouri river about 2½ miles S. of Columbus, Ky. First observed at 5:05 p. m.
		Carlisle (SW.)	NE	6½	150	0	0	2,100	Terminated ¼ mile NW. from Arlington, lightning accompanying; disturbance caused injury to 2 persons.
LOUISIANA									
1. Feb. 17	9:45 p. m.	Caddo (ext. NW.)	NE	1½	150	21	40	250,000	Disturbance passed through Rodessa.
2. Mar. 29	3:30 a. m.	Concordia (NE.)	NE	(5)	75	4	9	5,000	Disturbance passed through town of Turtle Lake.
3. Apr. 6	10:00 a. m.	Allen (NE.)	NE	(5)	400	0	8	[e] 2,500 10,000	Principal damage in vicinity of Beaver Creek.
4. Aug. 15	9:30 a. m.	Allen (ext. S.)	NE	¼	70	0	0	700	Small tornado; incurred damage at Kinder.
5. Nov. 4	2-2:30 p. m.	Saint Mary (ext. E.)	NE		100	1	3	[e] 1,500 1,500	Occurred near Charenton.
6. Nov. 18	9:30 a. m.	Madison (ext. E.)	NE	6 or 7	200	0	0	3,000	Disturbance struck near Mound; 5 houses demolished and overturned 8 cars off a freight train.
7. Nov. 18	9:45 a. m.	Saint Landry (ext. SE.).	ENE	1½	70	0	7	2,500	Occurred near Krotz Springs.
MARYLAND									
[1] 1. June 23	11:10-11:25 a. m.	Harford (SE.)	NE	4	200	0	0	[1] None	Disturbance which occurred over Susquehanna Flats in upper Chesapeake Bay produced a waterspout several hundred feet high.
*2. July 15	3-3:45 a. m.	Carroll (NE.)	NE	8	200	0	0	[e] 2,000 18,000	Origin 1 mile W. from Manchester. Principal property damage in vicinity of Manchester and Greenmount.
		Baltimore (ext. N.)	NE	20	200	0	0	[e] 6,000 50,000	Principal damage incurred in vicinity of Freeland and Maryland line. Disturbance continued into Southeastern York County, Pa., as No. 3.
				[1] 28	[1] 200	[1] 0	[1] 0	[1] [e] 8,000 68,000	Cumulative figures for Maryland only.
[1] 3. Aug. 27	(6)	[1] Dorchester	(6)	(6)	(6)	0	0	[1] None	Disturbance occurred over Choptank River about 3 miles from Cambridge; produced a waterspout which dissipated on Howell Point. No damage.
4. Aug. 31	8:00 p. m.	Baltimore (N.-C.)	NE	5	880	0	0	[e] 500 3,000	Path from Glencoe to Corbett; 3 homes damaged.
MICHIGAN									
(None reported.)									
MINNESOTA									
*1. July 9	6:05 p. m.	Lincoln (ext, NW.)	NE	(6)	(6)	0	0	None	Continuation of South Dakota No. 3. Terminated in extreme northwestern Lincoln County.
2. July 9	6:15 p. m.	Lincoln (NW.)	SE	4½	67	0	0	(1)	Occurred near Hendricks.
3. July 9	8:30 p. m.	Watonwan (NE.)	SE	(6)	67	0	0	(1)	Most damage occurred in vicinity of Madelia. [1] See reference (2) of No. 4.
4. July 9	9:55 p. m. [1] 10:00 p. m.	Freeborn (E.)	SE	9	67	0	0	(1)	[1] See reference (2) of No. 4. Last reported 5 miles N. of Lyle.
		Mower (SW.)	SE	5	67	0	0	(1)	[2] $400,500 is the total estimated damage of Nos. 2, 3 and 4; separate estimate per disturbance, and county, not obtained. Some crop damage incurred, no estimate secured.
								[2] 400,500	
5. July 24	6:00 p. m.	Freeborn (N.)	NE	10	(6)	0	2	[e] 25,000 40,000	Origin in the vicinity of Hartland. Hail accompanying disturbance damaged crops an additional $10,000 included in table 9.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
MINNESOTA—continued				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
[16.] 7. 8. Aug. 19	4:30 p. m.	Aitkin (ext. N.)	NE		67	0	0		3 funnel-shaped clouds were first observed 3 miles SW. of Rabey (Aitkin County). Two of these appeared to merge ¼ mile N. of Rabey.
		Itasca (ext. SE.)	NE		67	0	5		
		St. Louis (SW.)	NE		67	0	0		
				[1] 33	[1] 67	0	5	(1) (6) (c) 10,000	Figures for entire path; separate values per county not obtained. In addition to property destruction, considerable livestock was killed.
9. Aug. 19	5:30 p. m.	St. Louis (S.-C.)	NE	(6)	(6)	0	2	(1)	Occurred in vicinity of Payne. All buildings on an 80 acre farm reported destroyed.
10. Aug. 22	8:30 p. m.	Stearns (ext. S.)	NE	20	185	0	0	c (12) 50,500	Occurred in vicinity of Paynesville. Rural property and livestock destroyed.
11. Aug. 22	10-11:30 p. m.	Fillmore (ext. NE.)	SE	1	(6)	0	0	(7)	Occurred in vicinity of Rushford.
12. Nov. 2	5:30 p. m.	Itasca (ext. E.)	NE	32	67	0	1	20,000	First observed in vicinity of Nashwauk, path not continuous. Livestock killed, rural property damaged or destroyed. Several values per county not available.
		St. Louis (W.)	NE						
MISSISSIPPI									
1. Mar. 15	Noon	Jasper (N. and W.)	NE	25	1,320	0	0	c (9) 3,500	Most damage incurred in vicinity of Verba.
[1] 2. Mar. 23	6:45	Harrison (ext. SE.)	(6)	(4)	(4)	0	0	(9)	Disturbance occurred as a waterspout on the Harrison-Jackson County line; only slight damage reported.
		Jackson (ext. SW.)							
3. Apr. 7	About noon	Scott (NE.)	NE	(4)	(3)	0	0	c (9) (9)	Property and crop damage reported as small. Occurred near Harperville.
4. Apr. 7	About noon	Neshoba (N.)	NE	¾	(3)	0	7	c (9) 20,000	Occurred near Bond.
5. Apr. 7	About noon	Noxubee (C.)	NE	(4)	(4)	0	4	c (9) 10,000	Most damage occurred north and east of Macon.
6. Apr. 7	About noon	Lowndes (E.)	NE	(4)	100	0	5	c (9) 1,000	Disturbance originated in vicinity of Columbus, damage there and in northeastern part of county.
7. May 17	3:00 p. m.	Bolivar (ext. N.)	NE	12	100	0	12	c (9) 25,000	Losses per county not reported.
		Coahoma (S.)							
8. Nov. 18	Near noon	Wilkinson (ext. SE.)	NE	38	440	1	0	c (9) 4,500	Path, not continuous, extended from Centreville to Auburn. Losses per county not available.
		Amite (N. and W.)							
		Lincoln (ext. SW.)							
MISSOURI									
1. Mar. 5	Early morning	Douglas (ext. N.)	N	5	(3)	0	0	10,000	Occurred in the early morning, losses per county not available.
		Wright (SW.)							
2. Mar. 14-15	11:50 p. m. (14th). 12:30 a. m. (15th).	Jasper (NW.)	NE	20	35	0	1	20,000	Disturbance appeared to originate on or near the Kansas-Missouri border. It moved through Asbury at 12:30 a. m. (15th) and continued on into Barton County, damaging power line in vicinity of Liberal and Iantha. Losses per county not available.
		[1] Barton (S. and W.)							
3. Mar. 15	Shortly before noon.	Dent (C. and NE.)	NE	[2] 80	[2] 100-800	[2] 1	[2] 18	[2] 150,000	Disturbance appeared to originate N. of Salem shortly before noon (Dent County.) Reported to have struck Berryman shortly after 12 noon (Crawford County). Swept across the central section Washington County. [1] Crossed the central section of Jefferson County and reported to have traversed the Mississippi River between 2:10-2:30 p. m. Reports for Illinois do not definitely establish this disturbance as maintaining its identity to the extent of being classified a State-boundary cross disturbance. [2] Separate values per county not available. Hail attended this disturbance.
	After 12 noon	Crawford (SE.)	NE						
	About 1:30 p. m.	Washington (C.)	NE						
	[1] 1:30-2:30 p. m.	Jefferson (S.)	NE						

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
MISSOURI—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
4. Mar. 15	[1] About 2:30 p. m.	Butler (N.)	N	5	[2] 35–100	[2] 1	[2] 8	15,000	Struck about 2:30 p. m. N. and NE. of Poplar Bluff.
	(5)	Wayne (SE.)	NNE	15				(5)	Moved across southeastern Wayne County.
	(5)	Bollinger (S.)	NNE-	25				(5)	Struck ½ mile E. of Millersville at 3:40 p. m.
	[1] 3:40–4:00 p. m.	Cape Girardeau (N. and W.).	NE	25				2,000	
	After 4:00 p. m.	Perry (SE.)	NE	5				5,000	Struck Altenburg after 4:00 p. m. [2] Separate values per county not available.
*5. Mar. 15	3:25 p. m.	Dunklin (S.)	NE	20	440	[2] 10	(5)	50,000	*Continuation of Arkansas No. 1, reported to have entered Dunklin County (Missouri) below Senath about 3:25 p. m., proceeded NE. through Caruth and Nesbit.
	4:00 p. m.	Pemiscot (N. and W.)	NE	10	200			15,000	[1] Time disturbance noted at Wardell and Swift.
	After 4:00 p. m.	New Madrid (ext. SE.)	NE	5	(6)	0	0	(5)	[2] Deaths per county not available, scores reported injured, no exact figure obtained. Disturbance reported crossed southeastern New Madrid County, the Mississippi River, then into extreme western Fulton County, Kentucky, as No. 1.
*6. Mar. 15	Shortly before 5:05 p. m.	Mississippi (ext. E.)	NE	(4)	(6)	0	0	(14)	Continued into Kentucky as No. 2.
7. Mar. 29	[1] a. m.	Butler	NE	[2] 10	(6)	0	1		Small tornado; struck Poplar Bluff shortly after midnight 28–29th (a. m. of 29th.) [2] Path possibly greater.
*8. Mar. 30	Shortly after 11:15 a. m.	Jasper (ext. NW.)	NE	8	(6)	0	0	(14)	Continuation of Kansas No. 4.
	[1] 11:50 a. m.	Barton (S. and E.)	NE	35	100–135	0	0	5,000	Struck southwest part of Lamar about 11:50 a. m.
	[1] 12:30 p. m.	Cedar (S. and E.)	NE	32	100–135	0	0	(15)	Passed 5 miles N. of Stockton about 12:30 p. m.
		Polk (ext. NW.)	NE	5	100–135	0	0	(14)	Terminated a few miles N. of Humansville. Hail attended disturbance.
9. Mar. 30	11:36 a. m.	Boone (E.)	NE	10	440	[1] 1	[1] 18	75,000	First observed at 11:36 a. m. 4 miles SE. of Columbia.
	12 Noon	Callaway (ext. NW.)	NE	5	440			45,000	Crossed northwestern Callaway County near 12:00 noon.
	[5] p. m.	Andrain (S.)	NE	15	440			(15)	Last observed W. of Mexico (time unknown). [1] Personal losses per county not available.
10. Mar. 30	[5] p. m.	Monroe (N.)	NE	[1] 30	[2] 400	0	0	(15)	[1] Time observed in vicinity of Shelbina.
	[1] Between 1:30–2 p. m.	Shelby (SE.)	NE			0	6	[6] 1,500 3,200	[2] Values per county not available.
	[5] p. m.	Marion (W.)	NE			0	0	(15)	
11. Mar. 30	3:00 p. m.	Callaway (S. and E.)	ENE	28	300–440	0	8	60,000	Principal damage occurred in vicinity of Fulton and Williamsburg.
*12. Mar. 30	5:53 p. m.	St. Charles (E.)	NE	17	500	0	2	25,000	Inception near St. Charles, continued into Illinois as No. 6 (approached Alton, Ill. at 6:15 p. m.).
13. Mar. 30	7:50 p. m.	Butler (S. and E.)	NE	20	100–440	4	20	50,000	Struck Neelyville about 7:50 p. m.
14. Mar. 30	9:00 p. m.	New Madrid (S.)	NE	25	(6)	0	2	[1] 20,000	First observed about 9:00 p. m. near Gideon (damage at Gideon $20,000), moved northeastward striking New Madrid about 9:30 p. m., incurring damage of several thousand dollars (definite estimate not available).
15. May 4	11:00 a. m.	Benton (C.)	N	(1) (6)	100–135	0	0	2,500	Struck town of Warsaw. Hail attended disturbance. [1] Path probably short.
16. May 4	[1] Forenoon	Caldwell (ext. NW.)	N	(2) (6)	1,700	0	0	1,000	Occurred east of Cameron. Most likely occurred after No. 15 and previous to No. 17. [2] Path probably short.
17. May 4	About 12 noon	Livingston	NE	22	100	0	0	10,000	Inception near Ludlow and moved northeastward to vicinity of Chula. Path not continuous.
18. Sept. 1	About 3:00 p. m.	Newton (N.)	SE	4	880	0	1	(7)	Occurred at Diamond and vicinity; crop damage, windows broken and trees blown down.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
MONTANA (None reported.)									
NEBRASKA				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
1. Apr. 15	10:30 a. m.	Cass (ext. SW.)	(6)	(6)	34	0	0	(1)	Funnel-shaped cloud observed near Elwood in open country; probably very little or no damage incurred.
2. Apr. 15	11:05 a. m.	Gosper (NW.)	NW	7	60	0	1	15,000	One church and several dwellings destroyed.
		Frontier (ext. NE.)	NW	3	60	0	0	(7)	Terminated near Eustis.
3. Apr. 15	Noon	Dawson (ext. W.)	NW	3	35	0	2	5,000	Occurred in vicinity of Gothenburg; details lacking.
4. Apr. 23	7:30 p. m.	Thayer (ext. N.)	SE	5	400	0	0	500	Passed through village of Bruning.
5. Apr. 26	2:15-3:00 p. m.	Garden (SW.)	NNE	25	100	3	6	[8] 1,000 24,000	Inception 12 miles SW. of Oshkosh; demolished a rural schoolhouse, killing 3 children, and destroyed buildings on several farms.
6. May 11	5:20 p. m.	Gosper	E	2	35	0	0	3,000	Details lacking.
7. May 11	5:30 p. m.	Dawson (W. and S.)	ESE	20	150	0	0	7,000	Path not continuous. Details lacking.
8. May 17	5:00 p. m.	Holt	E	3	200	0	1	5,000	Buildings on 3 farms badly damaged.
NEVADA (None reported.)									
NEW ENGLAND SECTION									
NEW HAMPSHIRE									
1. Aug. 1	5:45 p. m. (6) p. m.	Belknap (E.) Carroll (ext. W.)	ENE	7 1	30-70 30-70	0 0	0 0	[8] 500 5,000	Inception near the Weirs section of Laconia. Proceeded east-northeastward (in form of waterspout) across lower Meredith Bay, Lake Winnipesaukee and associated connecting waters, finally terminating on Long Island in Carroll County. Path not continuous. Separate losses per county not available.
MASSACHUSETTS									
1. Oct. 27		Plymouth (S.)	NNW	8	30	0	0	3,000	Disturbance traveled from Bridgewater to W. Bridgewater then into Brockton.
(No tornadoes reported in Maine, Vermont, Rhode Island or Connecticut.)									
NEW JERSEY									
1. Apr. 22	[4] p. m.	Hunterdon (ext. SW.)	(6)	(6)	(6)	0	2	2,000	Tornado, of rather weak character, noted in vicinity of Stockton.
NEW MEXICO (None reported.)									
NEW YORK									
1. June 17	5:45 p. m.	Schenectady (SW.)	(6)	(6)	(3)	0	0	1,000	Funnel-shaped cloud observed near Delanson; rural property destroyed.
NORTH CAROLINA (None reported.)									
NORTH DAKOTA									
1. June 14	3-4:00 p. m.	La Moure (NE.) Barnes (SE.) Cass (S.)	ENE ENE ENE	[1] 90	[1] 100	0 0 0	0 0 0	[1] [8] 100,000 50,000	Inception near Dickey, La Moure County, and continued east northeastward to vicinity of Fargo, Cass County. [1] Total length of path not continuous; [3] separate losses per county not available. Winds, not tornadic, caused additional damage, included in table 10.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
				Miles	*Yards*	*Number*	*Number*	*Dollars*	
NORTH DAKOTA—con.									
2. Aug. 13	7:00 p. m. 10:20 p. m.	Dickey (NE.) La Moure (ext. SE.) Ransom (W.)	NE NE NE	40	1,760-2,640	0	1	[c] 30,000 20,000	Mostly rural property affected; some livestock reported killed; separate values per county not available.
OHIO									
1. May 4	([1] [5])	Lorain [1]	(1)	(1)	(1)	[2] 2	0	(1)	Tornadic disturbance occurred in form of a waterspout on Lake Erie, a distance (unknown) off shore from the village of Avon. [2] Two men in row boat drowned.
2. June 26	3:00 p. m.	Miami (ext. SE.)	E	3	25	0	0	[c] (9) (16)	Several small buildings destroyed near Phoneton.
OKLAHOMA									
1. Mar. 28	1:30 p. m.	Bryan (C.)	NE	3/4	35	0	0	[c] (9) 650	Struck village of Pirtle.
2. Mar. 28	3:30 p. m.	Marshall (NW.)	SE	¼	33	0	2	[c] (9) 1,000	Small tornado; struck 6¾ miles east of Lake Murray dam.
3. Mar. 28	4:15 p. m.	Latimer (C.)	NE	1	440	0	9	[c] (9) 20,000	Struck Wilburton at 4:15 p. m.
*4. Mar. 30	10:00 a. m.	Washington (N. and C.).	NE-NNE	30	100-440	0	0	[c] (9) 25,542	Inception in vicinity of Ochelata. Continued into Kansas as No. 3.
*5. Mar. 30	Shortly before 10:50 a. m.	Craig (ext. NE.)	NE	(4)	(5)	0	0	(14)	Disturbance originated near the Oklahoma-Kansas border and continued into Kansas as No. 4.
*6. April 26	5:30 p. m.	Texas (NE.)	NE	20	440	0	0	[c] (9) 10,000	Small tornado, inception near Hooker, continued into Kansas as No. 7. Crossed state border in vicinity of Liberal, Kans.
*7. May 1	Shortly before 5:45 p. m.	Harper (ext. NE.)	NE	(4)	(5)	0	0	(14)	Continued into Kansas as No. 12, terminating 4 miles S. of Coldwater, Kans.
8. May 3	5:45 p. m.	Jackson (E.)	NE	15	67	0	2	[c] 120 4,000	Small tornado; inception in rural area 1½ miles SW. of Altus.
9. May 18	7:20-8 p. m.	Woods (S. and E.)	NNE	25	3,520	0	0	[c] (9) 1,800	Funnel-shaped cloud observed from airport station at Waynoka, moving north northeastward. Winds of tornadic force experienced in vicinity of Freedom, Avard, Hopeton (near Alva). Heavy rain with hail general at the time.
10. May 19	6:00 a. m.	Washington (NE.) Nowata (ext. NW.)	NE	10	20	0	0	[c] (9) 1,000	Small disturbance; most damage occurred at Dewey, Wann and vicinity. Separate losses per county not available.
11. May 29	3:00 a. m.	Ottawa (ext. NE.)	NE	(4)	(5)	0	0	[c] (9) 1,000	Struck in vicinity of Quapaw; hail attended disturbance.
12. June 3	8:15 p. m.	Rogers (C.)	SE	15	3,520	0	0	[c] 15,000 25,000	Disturbance first noted when it struck Claremore, attended by hail.
13. June 3	8:40 p. m.	Tillman (S.)	S	25		0	(16)	[c] 10,000 190,000	Disturbance struck town of Grandfield; attended by heavy hail.
OREGON (None reported.)									
PENNSYLVANIA									
1. May 23	6:00 p. m.	Westmoreland (N.-C.)	NE	2	75	0	0	8,000	Occurred in Salem Township; disturbance attended by hail, damage incurred by hail included in table 9.
2. June 12	2:30 p. m.	Dauphin (W.)	SE	10	200	0	0	[c] 20,000 20,000	Path of destruction extended from vicinity of Halifax to Elizabethville. Mostly rural property affected.
*3. July 15	3:45 a. m.	York (SE.)	ENE	12	1,760	0	0	100,000	*Continuation of Maryland No. 2. Most damage incurred in vicinity of New Freedom, Delta, and Stewartstown.
SOUTH CAROLINA									
1. May 21	8:00 p. m.	Sumter (C.)	SE	½	12	0	0	500	Incurred damage chiefly at Sumter.
2. May 23	3:30 p. m.	Calhoun (N.)	NE	15	440-880	0	0	5,000	Incurred property damage chiefly at St. Matthews and vicinity.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
SOUTH CAROLINA—con.									
				Miles	*Yards*	*Number*	*Number*	*Dollars*	
3. May 23	5:20 p. m.	Orangeburg (C.)	NE	15	440–880	0	0	2,000	Incurred damage chiefly at Orangeburg and vicinity.
4. May 23	[1] Afternoon	Sumter (E.)	(6)	(4)	(6)	0	0	2,000	Chief damage incurred at Mayesville. Time of occurrence most likely after No. 3. (5:20 p. m.)
[1] 5. Sept. 29	6:45–7:45 a. m.	Charleston	NNE	12	17–25	(2)	(2)	(2)	First disturbance of the Charleston series of 5 tornadoes passed near public landing at Yonges Island about 6:45 a. m.; proceeded in a northeasterly direction 12 miles west of Charleston. [2] See summation following Nos. 8 and 9.
[1] 6. Sept. 29	7:50–7:56 a. m.	Charleston	NNE	2	20–135	(2)	(2)	(2)	The second tornado proceeded from the edge of Seabrook Island and struck the city of Charleston close to the Ashley River Bridge. Destruction was very severe over a path 2 miles long, width at beginning 135 yards, which narrowed to 20 yards at close. [2] See summation following Nos. 8 and 9.
7. Sept. 29	8:00 a. m.	Charleston							The third tornado was first seen on James Island near 8 a. m.; crossed the Ashley River just west of Fort Sumter Hotel. Evidence indicates the occurrence of 2 more tornadoes during the duration of Nos. 5, 6, and 7, specific data lacking. Deaths, injuries and damages here given cover destruction wrought by a series of 5 tornadoes (No. 5–9). Separate values per tornado not available.
[1] 8. [1] 9. Sept. 29	8:00 a. m. 8:30 a. m.	Charleston	NE	(1) (6)	(1) (6)	(6)	(6)	(1) (6)	
		(Summation of Nos. 5, 6, 7, 8, and 9.)				32	150	(8) (9) 2,000,000	
SOUTH DAKOTA									
1. June 24	2:00 p. m.	Hutchinson (NW.)	(6)	(6)	(6)	0	0	(1) (7)	Occurred near Parkston; rural property destroyed (4 large barns wrecked).
2. June 24	2:00 p. m.	Hutchinson (SW.)	(6)	3	110	0	1	33,600	Occurred near Tripp; rural property damaged; some livestock killed.
*3. July 9	5:40–6:05 p. m.	Brookings (NE.)	(6)	(6)	110–220	0	1	(10) 1,000 15,000	Occurred in vicinity of White. Continued into Minn. as No. 1.
4. July 11	3:30–4:30 p. m.	Day (ext. W.)			200–880	3	15	(10) (12) 55,000	Occurred in vicinity of Andover.
5. Aug. 18	5:00 p. m.	Hyde (C.)	(6)		(6)	0	0	6,000	Small tornado; occurred in vicinity of Highmore. Mostly rural property damaged.
6. Aug. 18	8:00 p. m.	Beadle (W.)	(6)	10	100–200	0	0	(7)	Occurred in rural district between Wolsey and Broadland.
7. Sept. 7	7:00 p. m.	McCook (C.)	(6)	(6)	220–1,760	0	0	(10) 5,000 25,000	Tornado first struck about 6 miles S. of Salem. Rural property and crops affected.
8. Nov. 3	5:30 p. m.	Lincoln (ext. W.)	(6)	(6)	(6)	0	0	(10) 5,000	Occurred in the vicinity of Lennox; several barns moved from their foundation; five empty boxcars destroyed.
TENNESSEE									
*1. Mar. 15	4:45–5:15 p. m.	Lauderdale (NW.) Dyer (SE.)	ENE ENE	22 8	400 400	[1] 0	[1] 4	[1] 25,000	Continuation of Arkansas No. 3. First observed near Hales Point. Passed about 3 miles south of Dyersburg. Separate losses per county not available, however, most damage occurred in Dyer County. Approximately 16 small homes wrecked, many barns destroyed.
TEXAS									
1. Feb. 17	3:20 a. m.	Irion (SE.)	NE	4	400	0	24	50,000	Incurred damage at Mertzon and Sherwood, with greatest losses in business district of Mertzon.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
TEXAS—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
2. Mar. 22	2:00 p. m.	Hill (S.)	NE	12	(17)	0	0	10,000	Incurred damage at Vaughan and vicinity.
3. Mar. 26	12:10 a. m.	Archer (NW.)	SW	(6)	250	0	3	30,000	Damage incurred at Mankins.
4. Mar. 26	12:30 p. m.	Parker (C.)	(6)	(6)	(6)	0	0	(6)	Small tornado occurred in vicinity of Greenwood; rural property mostly affected.
5. Mar. 28	9:00 a. m.	Parker (C.)	(6)	(6)	(6)	0	0	(6)	Small tornado; occurred at Weatherford.
6. Mar. 28	3:30 p. m.	Fannin (ext. E.)	NE	(6)	1,760	0	0	10,000	Occurred in vicinity of Honey Grove.
7. Mar. 29	12:50 a. m.	Jefferson (ext. E.)	NE	1½	20	0	0	10,000	Occurred in vicinity of Port Arthur.
8. Apr. 26	6:00 p. m.	Lynn (NW.) Dawson (S.)	NE NE	[1] 30	880 880	3 0	9 41	[2] 30,000	[1] Distance traversed per county not available. [2] Losses per county not available. Fatalities occurred at Draw, Lynn County.
9. May 6	1:30 p. m.	Harris (C. and W.)	SE	15	(6)	0	3	4,000	Incurred property damage in vicinities of Barker and Fairbanks. Hail attended disturbance; hail damage included in table 9.
10. May 16	(1) (6)	San Patricio	(1)	(1)	(6)	0	0	(1)	Small tornado noted near Sinton during a widespread damaging windstorm. Damage, if any, attributable to tornado, not available.
11. May 21	6:30 a. m.	Jones (SE.)	SE	5	175	0	0	[6] 300 2,000	Most property damage to oil derrick and buildings at Hawley and vicinity.
12. May 22	8:00 p. m.	Stephens (NE.)	NE	30	250	4	10	[6] 7,000 (6)	Struck near town of Ivan.
13. May 22	6:00 p. m.	Comanche	(6)	(6)	(6)	[1] 0	[1] 0	25,000	Damage to property at New Hope. Definite figures on fatalities lacking, presumed to be none.
14. June 10	7:39 p. m.	Callahan (NW.)	S	2	300	14	9	[6] 25,000 85,000	Struck Clyde, incurred damage to business, residential and railroad property; 19 freight cars derailed.
15. June 11	6:00 p. m.	Martin (ext. SE.)	SE	(6)	1,320	0	0	[6] 75,000 15,000	Property damage occurred at Stanton.
16. Nov. 2	10:30 p. m.	Haskell (ext. SW.)	NE	(6)	300	1	2	1,000	Small tornado struck town of Sagerton.
UTAH									
(None reported.)									
VIRGINIA									
1. May 19	1:30 p. m.	Culpeper (C)	NE	5	900	0	0	2,000	Incurred property damage at Culpeper and vicinity.
2. May 20	3:30 p. m.	Richmond (S.)	ENE	30	900	3	2	5,000	Details on vicinities affected lacking.
WASHINGTON									
(None reported.)									
WEST VIRGINIA									
(None reported.)									
WISCONSIN									
1. May 3	3:30 p. m.	Langlade (S.)	E	2	35	0	2	10,000	Occurred west of Antigo; mostly rural property damaged.
2. July 22	12:30 p. m.	Winnebago [1]	(1)	(1)	(1)	0	0	None	Funnel-shaped cloud observed over Lake Winnebago; waterspout produced.
3. Aug. 23	1:00 p. m.	Juneau (SE.)	NE	3	100	0	0	5,000	Small tornado; occurred about 6 miles NW. of Wisconsin Dells; rural property mainly affected.
WYOMING									
[1] 1. [1] 2. May 1	1:00 p. m.	Goshen Goshen	NW SW	4½	800	0	0	[6] 2,000 5,500	Meager reports available, indicate that two separate disturbances advanced from the NW. and SW., merged into a single disturbance. Detailed data per path not available.

See footnotes at end of table.

TABLE 8.—*Tornadoes of 1938, arranged by States*—Continued

State, number, and date	Time	County	Direction of advance	Length of path	Width of path	Killed	Injured	Property losses	Remarks
WYOMING—con.				*Miles*	*Yards*	*Number*	*Number*	*Dollars*	
3. June 20	3:45 p. m.	Laramie (SW.)	W	2	200	0	0	[c 8] 200	Occurred near Federal, rural property damaged.
4. Aug. 13	2:30 p. m.	Sweetwater (NW.)	SW	[8]	[8]	0	1	[c 9] 2,000	Details lacking.
TERRITORIES									
ALASKA									
(None reported)									
HAWAII									
(None reported)									
WEST INDIES									
1. Oct. 16	3:43 p. m.	Bayamon (municipality.)	WSW	[1] 4	30	0	0	[c] 2,500 300	Developed as a waterspout over either the ocean or San Juan Bay. Length of path given is for land traversed only. Crop damage confined to sugar cane.

*Denotes State boundary-crossing disturbance.
[c] Denotes damage to crops.
[1,2,3] See adjoining remarks.
[4] Short.
[5] Narrow.
[6] Data unobtained.
[7] Estimate not obtained.
[8] Reported as "several" no definite figure obtained.
[9] Damage reported as "small."
[10] Number injured described as "several," no definite figure obtained
[11] Path not well-defined.
[12] Length of path described as a "few miles."
[13] Damage incurred, no estimate available.
[14] No damage reported.
[15] Damage reported as "several thousand dollars," no exact figure obtained.
[16] Damage probably incurred, but no estimate obtained.
[17] Wide.

HAIL 1938

Table 9 shows separate losses of property and crops by sections during the months of 1938, also similar aggregate totals for the 6 months, April to September inclusive, and for the 6 months' period preceding and following the crop season.

TABLE 9.—*Losses from hailstorms during 1938*

State or section	January		February		March		April		May		June		July	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Alabama									(1)	$2,000	(1)	$1,200		
Arizona									0	200	(1)	(1)	0	$2,100
Arkansas					$700	$300	(3)	(3)	$900,000	100,000				
California														
Colorado									(7)	[5 6] 25,000	(7)	[5 6] 9,000	0	(5) (6)
Florida									0	(1)	0	250		
Georgia					0	0	$21,000	$30,000	(1)	10,000	$500	(7)		
Idaho											0	26,000	$5,000	210,150
Illinois					135,500	8,000	300	0	2,000	1,000	0	6,000	69,600	234,400
Indiana					[13] 0	[9] 0			[13] 3,000	[9] 0			(12)	(12)
Iowa			(9)	0	(1)	0			500	(9)	2,000	[13] 3,000	(9)	[11] 50,000
Kansas	$20,000						10,000	0	[12] 73,900	[12] 1,784,600	[13] 15,000	[12] 1,270,000	(9)	[13] 68,000
Kentucky [4]														
Louisiana							[13] 5,000	(12)	(12)	(9)				
Maryland-Delaware							120,000	100,000	(14)	(14)				
Michigan							(1)	186	(1)	4,987	(1)	4,893	(1)	10,385
Minnesota					(12)	(1)	(1)	(1)	(9)	(9)	12,500	49,000	[13] 1,000	[13] 528,000
Mississippi					(1)	(1)	(1)	(1)			(1)	(1)	(1)	(1)
Missouri					[11] 26,000	(7)	[13] 100	100	(7)	(7)	(1)	(1)	(9)	(9)
Montana [11]									(1)	1,000	[10] 14,200	190,450	[10] 12,000	[11] 362,750
Nebraska							(1)	(1)	2,500	92,000	9,000	28,000	15,000	278,500
Nevada [4]														
New England											0	7,000	(12)	200,000
New Jersey											(9)	500	100	500
New Mexico									1,750	9,500	11,100	1,000	(1)	(1)
New York							(12)	(9)			0	8,000	(9)	[6] 1,000
North Carolina									3,000	328,000	32,500	1,277,500	1,500	193,500
North Dakota											0	56,750	0	168,300
Ohio									(9)	[13] 1,500	0	3,000	(9)	125,000
Oklahoma					(16)	(16)	10,000	10,000	[13] 285,950	[13] 741,355	[13] 1,000	690,000	0	500
Oregon							(12)	(12)	(12)	[12] 200	0	[12] 1,100	0	300
Pennsylvania									100,000	87,500	70,000	[13] 70,000	400,000	100,000
South Carolina					(9)	(9)			(12)	(9)	(12)	[13] 173,218	(1)	(1)
South Dakota							3,300	700	(9)	1,000	(12)	(9)	(12)	100,000

See footnotes at end of table.

TABLE 9.—*Losses from hailstorms during 1938*—Continued

State or section	January		February		March		April		May		June		July	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Tennessee					5,500	100	300	600	10,000	14,900	(12)	150	3,000	5,400
Texas							32,500	25,000	20,000	703,500	106,000	68,000	(12)	65,000
Utah											0	[13] 1,200		
Virginia											0	10,000	0	12,500
Washington											250	8,330	(4)	(1)
West Virginia			(1)	0			300	700	0	0	200	1,000		
Wisconsin									2,100	0			0	500
Wyoming							0	0	10,000	[10] 105,000	2,950	53,500	0	2,000
TERRITORIES														
Alaska [2]							(2)		(2)		(2)			
Hawaii [4]														
Total	20,000	0	(9)	0	168,100	8,400	202,800	167,286	1,414,700	4,013,242	277,200	4,018,041	507,200	2,718,785

State or section	August		September		October		November		December		Crop season Apr.–Sept., inclusive		Period: Jan.–Mar. and Oct.–Dec., inclusive	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Alabama	(1)	5,000									(1)	8,200		
Arizona	500	5,500									500	7,800		
Arkansas											[9] 900,000	[3] 1,00,000	700	300
California [4]														
Colorado	(9)	[5] 6,000									(7)	[5 6 8] 40,000		
Florida											0	[10] 250		
Georgia											[10] 21,500	[7] 40,000		
Idaho	0	11,000									5,000	247,150		
Illinois	2,600	28,500									74,500	269,900	135,500	8,000
Indiana											[13] 3,000	(12)		
Iowa	(7)	(7)	(1)	(1)							[7] 2,500	[7] 53,000	(1 9)	0
Kansas	(8)	[13] 110,000	(1)	(1)							[13] 98,900	[13] 3,232,600	20,000	0
Kentucky [4]														
Louisiana											[13] 5,000	(9)		
Maryland-Delaware											120,000	100,000		
Michigan	(4)	7,714	(4)	236	(4)	60	(4)	12			(4)	28,401	(4)	72
Minnesota	[13] 1,000	[13] 541,000					100	(12)			[13] 14,500	[13] 1,118,000	[13] 100	(12)
Mississippi	(1)	(1)									(1)	(1)	(1)	(1)
Missouri											[7] 100	[7] 100	[11] 26,000	(7)
Montana [15]	5,000	[11] 31,000	5,000	[11] 148,700							[10] 36,200	[11] 733,900	(4)	(4)
Nebraska	0	5,000	(4)	(4)							26,500	403,500	(4)	(4)
Nevada [4]														
New England	(12)	[13] 105,204									(12)	[13] 312,204		
New Jersey											[13] 100	1,000		
New Mexico					500	35,100					12,850	10,500	500	35,100
New York	(12)	(7)									(9)	[6] 9,000		
North Carolina	0	33,500	0	20,000							37,000	1,852,500		
North Dakota	0	69,000									0	294,050		
Ohio					(7)	0					(9)	129,500	(7)	0
Oklahoma	0	1,200					[10] 10,000	0			[13] 290,950	[13] 1,443,055	[10 16] 10,000	(16)
Oregon			0	200							(12)	[13] 1,800		
Pennsylvania											570,000	[13] 257,500		
South Carolina	(1)	[13] 5,000			0	7,500					(9)	[13] 178,218	(9)	[13] 7,500
South Dakota	(9)	(9)									[13] 3,300	[13] 101,700		
Tennessee	20,000	60,000									33,300	81,050	[10] 5,500	0
Texas	(12)	5,000									[13] 158,500	866,500	[11] 400	[11] 100
Utah	(4)	500	0	[13] 300							0	2,000	0	0
Virginia	0	2,000									0	24,500		
Washington											250	8,330		
West Virginia											500	1,700	(9)	0
Wisconsin	0	200									2,100	700		
Wyoming	0	(1)	0	(1)			0	0			12,950	[10] 190,500	0	0
TERRITORIES														
Alaska [2]											(2)	(2)		
Hawaii [4]														
Total	29,100	1,032,318	5,000	169,436	500	42,660	10,100	12			2,436,000	12,119,108	198,700	51,072

[1] Losses incurred, reported to be small.
[2] Moderate to heavy hail at various places in Alaska during April, May, and June; no damage reported.
[3] About 500 acres of cotton and corn damaged. One person injured.
[4] No damaging hail reported.
[5] Crop hail losses for Colorado are not available by months. Total losses amounting to $116,660, were paid farmers by the Colorado State Hail Insurance Commission; not all farmers (in Colorado) carry insurance, and those not covered by insurance were not considered in the State's summation; therefore, actual losses were greater than $116,660.
[6] Additional damages incurred, estimated to be several thousands.
[7] Damages incurred described as considerable.
[8] Damages incurred estimated to be several thousands.
[9] Losses incurred; no estimate of damage obtained.
[10] Additional losses incurred reported to be small.
[11] Additional losses incurred described as considerable.
[12] No estimate of damage, if any, obtained.
[13] Additional losses incurred; no estimate of these damages obtained.
[14] No losses incurred.
[15] Hail losses on crops paid by the Montana State Board of Hail Insurance and by private companies through the Montana Hail Insurance Clearing Bureau were a total of $548,115 against $13,063,531 risks written.
[16] Separate estimates of crop damage and total of other losses not obtained. Total damage estimated at $97,000.

LOSSES FROM WINDSTORMS, 1938

For the twenty-third consecutive year statistics have been collected, chiefly through field service officials of the Bureau, of the losses of property and life resulting from all classes of severe winds, except those that were considered to have been tornadoes. Special efforts were put forth to break down windstorm damage into two classes, first, damage to property and second, damage to crops. Table 10 shows the results by months, seasons, and sections.

TABLE 10.—*Losses from windstorms, other than tornadoes, by months, seasons, and sections, 1938*

[In dollars]

State or section	January		February		March		April		May		June		July	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Alabama	900		1,000		9,100	(1)	32,400	900					15,000	
Arizona											(1)	(1)	21,550	10,150
Arkansas							500		1,300				1,000	
California			1,000,000	(1)										
Colorado	5,000				25		(1)		158		8,000			
Delaware			(1)											
District of Columbia														
Florida												2,500		
Georgia									100					
Idaho	5,000													
Illinois					26,500		3,200	(1)	27,950	(1)	15,700		58,200	35,000
Indiana	1,000		2,000						40,000	(1)			455,000	(1)
Iowa					55,000		200,000	(1)	5,000	(1)	7,250	(1)	(1)	(1)
Kansas	30,000						20,000	1,000	23,000	100,000	670,500	949,500	26,000	8,000
Kentucky					75,000								10,000	(1)
Louisiana					6,000		5,650	(1)			400			
Maryland	(1)		500						1,000					
Michigan							6,000		1,000		10,000	(1)	10,500	
Minnesota	15,000				10,000				190,400	(1)	15,000	(1)	35,500	(1)
Mississippi					2,300									
Missouri	(1)						5,700		5,475	(1)	(1)	(1)	4,000	1,000
Montana			500										3,050	1,000
Nebraska											1,000	1,000	28,000	
Nevada														
New England									(1)	(1)	(1)	(1)	20,000	
New Jersey													75,000	25,000
New Mexico														
New York									(1)		(1)		500	
North Carolina								3,000	70,000	136,000	29,000	105,500	250	17,000
North Dakota											25,000	50,000	400	100
Ohio	75								(1)		(1)		25,000	(1)
Oklahoma							1,000	(1)	112,400	(1)			150	(1)
Oregon									1,000		(1)	(1)		
Pennsylvania									55,000	87,500			200,000	50,000
South Carolina	300						1,950				9,000	(1)	400	(1)
South Dakota							41,500	500			5,000	15,000		
Tennessee					2,300		2,900		1,600		750		75,000	(1)
Texas					30,125		32,500	25,000	3,005,500	1,537,500	60,000	10,000		
Utah					(1)						(1)			
Virginia									8,000					
Washington											8,330	250	(1)	(1)
West Virginia							300		4,300					
Wisconsin					204,000				7,000				(1)	(1)
Wyoming									15,000	(1)		(1)		
TERRITORIES														
Alaska			(1)						3,000					
Hawaii														
West Indies														
Total [1]	57,275		1,004,000	(1)	420,350	(1)	353,600	30,400	3,575,183	1,861,000	864,930	1,133,750	1,064,500	147,250

State or section	August		September		October		November		December		Crop season Apr.–Sept., inclusive		Annual	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Alabama	12,500	500									59,900	1,400	70,900	1,400
Arizona	200	150									21,750	10,300	21,750	10,300
Arkansas							700				2,800		3,500	
California									(1)				1,000,000	(1)
Colorado	100				100		(1)	(1)	300		8,258		13,683	(1)
Delaware													(1)	
District of Columbia														
Florida	3,000		(1)	(1)	(1)		100,000		50		3,000	2,500	103,050	2,500
Georgia	1,000	1,000									1,100	1,000	1,100	1,000
Idaho													5,000	

See footnotes at end of table.

TABLE 10.—*Losses from windstorms, other than tornadoes, by months, seasons, and sections, 1938*—Continued

[In dollars]

State or section	August		September		October		November		December		Crop season Apr.-Sept., inclusive		Annual	
	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage	Property damage	Crop damage
Illinois	8,000		1,000				169,100	14,950			114,050	35,000	309,650	49,950
Indiana							5,500				495,000	(1)	503,500	(1)
Iowa	255,000	(1)	8,200	10,000							475,450	10,000	530,450	10,000
Kansas	950,000	110,000	11,800	9,000							1,701,300	1,177,500	1,731,300	1,177,500
Kentucky	1,000	(1)					5,000				11,000	(1)	91,000	(1)
Louisiana	133,300	110,000	700								140,050	110,000	146,050	110,000
Maryland											1,000		1,500	
Michigan	350,000	(1)									377,500	(1)	377,500	(1)
Minnesota	69,700	(1)					11,000				310,600	(1)	346,600	(1)
Mississippi	(1)						500				(1)		2,800	
Missouri	(1)	(1)	300				(1)				15,475	1,000	15,475	1,000
Montana	1,000		(1)	(1)							4,050	1,000	4,550	1,000
Nebraska	6,000										35,000	1,000	35,000	1,000
Nevada														
New England	30,000	(1)	270,000,000	30,000,000					5,000		270,050,000	30,000,000	270,055,000	30,000,000
New Jersey			2,000,000	(1)							2,075,000	25,000	2,075,000	25,000
New Mexico					500	1,250							500	1,250
New York	(1)								50,000		500		50,500	
North Carolina	7,000	15,000	(1)	60,000	(1)						106,250	336,500	106,250	336,500
North Dakota	37,000	63,000									62,400	113,100	62,400	113,100
Ohio	(1)	(1)					(1)		(1)		25,000	(1)	25,075	(1)
Oklahoma	75,200	500	1,000	800			50,200				189,750	1,300	239,950	1,300
Oregon											1,000	(1)	1,000	(1)
Pennsylvania									45,000		255,000	137,500	300,000	137,500
South Carolina											11,350	(1)	11,650	(1)
South Dakota	53,000	10,000	10,000				10,000		(1)		109,500	25,500	119,500	25,500
Tennessee							10,000				80,250	(1)	92,550	(1)
Texas	550										3,098,550	1,572,500	3,128,675	1,572,500
Utah											(1)		(1)	
Virginia											8,000		8,000	
Washington									(1)		8,330	250	8,330	250
West Virginia	500		2,000						(1)		7,100		7,100	
Wisconsin	(1)		(1)		(1)						7,000	(1)	211,000	(1)
Wyoming							25,000				15,000	(1)	40,000	(1)
TERRITORIES														
Alaska			25,500		70,000						28,500		98,500	
Hawaii														
West Indies														
Total [2]	1,994,050	310,150	272,035,000	30,079,800	600	1,250	387,000	14,950	100,350		279,887,263	33,562,350	281,856,838	33,578,550

[1] Damage occurred, no estimate obtained.
[2] Territorial losses not included.

Deaths and fire losses caused by lightning, also havoc and loss of life caused by floods and storms are omitted from table 10, even though high winds were a feature of the electric storm that caused the downpour. When hail or beating rain, or both, accompanied these strong winds, or in the colder months, sleet, glaze, or heavy snow aided in causing damage, an effort is made to estimate what share of the total loss was due to winds.

Table 11 following gives for the various States and sections, deaths and injuries attributed to windstorms other than tornadoes during the year, 1938, on a monthly and annual basis. The total number of deaths caused by windstorms other than tornadoes during the year totaled 630, which is almost 3 times as great as the 23-year average of 230; similarly, the number injured in 1938 totaled 1,839, which is decidedly in excess of the average.

Examination of table 11 shows that property and crop losses for the year 1938 far exceeded the greatest losses of previous years. Decidedly increased losses during 1938 were largely attributed to the destructive windstorm which swept the New England States on September 21 and 22, causing an estimated property damage of $270,000,000 and an additional loss of $30,000,000 to crops.

Table 12 which follows, entitled: "Deaths and property losses caused by windstorms other than tornadoes" shows the number of deaths and property losses (crops included) caused by windstorms other than tornadoes since 1916.

TABLE 11.—*Deaths and injuries resulting from windstorms, other than tornadoes, 1938*

State or section	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Alabama	0	0	1	1	0	7	0	8					0	0	0	0									1	16
Arizona											0	0	0	0	0	0									0	0
Arkansas							0	1	0	0			0	0							0	1			0	2
California			6	0																			0	0	6	0
Colorado	0	0	0	0	0	0	0	0	0	0	0	0			0	0			0	0	0	0	0	0	0	0
Delaware	0	0																							0	0
District of Columbia																										
Florida											0	0			0	2	0	0	0	0	0	0	0	0	0	2
Georgia									0	0					0	0									0	0
Idaho	0	0																							0	0
Illinois					0	1	0	0	0	4	0	0	0	0	6	0	0	0			1	12			7	17
Indiana			0	0					0	3			3	0							1	0			4	3
Iowa					0	0	0	0	0	0	0	4	0	0	0	5	0	1							0	10
Kansas	0	0					0	0	0	0	0	0	0	0	1	3	0	0							1	3
Kentucky					0	4							0	2	0	0					0	0			0	7
Louisiana					0	0	0	3			0	0			0	(1)	0	0							0	[2] 3
Maryland	0	0	0	0					0	0															0	0
Michigan							1	0	1	0	0	0	5	0	0	3									7	3
Minnesota	0	0			0	0			1	2	0	0	0	0	0	0					0	1			1	3
Mississippi					0	0									0	0					0	0			0	0
Missouri	0	0					0	0	0	4	0	0	0	0	0	0	0	0			0	1			0	5
Montana			0	0									0	0	0	0	0	0							0	0
Nebraska											0	0	0	0	0	0									0	0
Nevada																										
New England									3	(3)	2	(1)	0	0	0	0	585	1,700					1	20	501	[2] 1,720
New Jersey													0	0			3	16							3	16
New Mexico																			0	5					0	5
New York									1	0	0	0	3	0	0	0							2	(4)	6	[2] 0
North Carolina							0	1	0	1	0	0	0	1	0	2	0	2							0	7
North Dakota											0	0	0	0	0	0									0	0
Ohio	0	0							0	0	0	0	0	0	0	0					0	0	0	0	0	0
Oklahoma							0	0	1	0			0	0	0	0	0	0			0	0			1	0
Oregon									0	0	0	0													0	0
Pennsylvania									0	2			0	0									0	1	0	3
South Carolina	0	0					0	0			0	0	0	0											0	0
South Dakota							0	0			0	0			0	0	0	0			0	1	0	0	0	1
Tennessee					0	0	0	0	0	1	0	0	0	0							0	0			0	1
Texas					0	5	0	0	0	0	0	3			0	0									0	8
Utah					0	0					0	0													0	0
Virginia									0	0															0	0
Washington											2	1	0	1									0	0	2	2
West Virginia							0	0	0	0					0	0	0	0					0	0	0	0
Wisconsin					0	1			0	1			0	0	0	0	0	0	0	0					0	2
Wyoming									0	0	0	0									0	0			0	0
TERRITORIES																										
Alaska			0	0					0	0							0	0	1	0					1	0
Hawaii																										
West Indies																										
Total [5]	0	0	7	1	0	18	1	13	7	[2] 18	4	[2] 8	11	5	7	[2] 15	588	1,719	0	5	2	16	3	[2] 21	630	1,839

[1] Possibly some injuries, however, definite information lacking.
[2] See monthly references.
[3] Several reported injured, definite figures not obtained.
[4] Several reported injured.
[5] Territorial figures not included.

TABLE 12.—*Deaths and property losses caused by windstorms, other than tornadoes, 1916–38*

Year	Number of lives lost	Property and crop damage	Year	Number of lives lost	Property and crop damage
1916	65	$11,712,125	1930	49	$5,706,000
1917	25	1,400,550	1931	17	7,773,000
1918	79	7,602,200	1932	306	42,657,360
1919	344	28,170,760	1933	156	65,604,100
1920	42	4,735,400	1934	109	19,497,173
1921	65	13,174,650	1935	461	17,191,000
1922	133	5,055,800	1936	121	17,250,265
1923	68	5,261,800	1937	43	6,292,938
1924	78	13,545,750	1938	630	315,435,388
1925	88	11,612,380			
1926	357	93,610,250	Total	5,294	809,248,649
1927	64	6,783,160			
1928	1,947	88,836,000	Average	230	35,184,724
1929	46	20,334,600			

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SUNSHINE, 1938

able 13 gives for 166 stations the monthly amounts of sunshine and percentage of the le, as derived from the automatic records made by an instrument designated the "thermo- recorder," illustrated in preceding volumes of these series.

his instrument does not record satisfactorily the duration of sunshine for about 1 hour sunrise and for about 1 hour before sunset, and on this account it has been considered ary to apply to the record for these hours what has been designated a "twilight correction." mount of this correction is found by noting the comparative clearness of the sky during the hat elapses between the hour of sunrise and the moment the instrument begins to record etween the time the instrument ceases to act and the hour of sunset.

he average cloudiness of the whole sky is determined by numerous personal observations stations during the daytime, and is given in the column "Daylight" under "Cloudiness" tables of Climatology, pages 38 to 43.

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*

Stations	January		February		March		April		May		June	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Albany, N. Y	97	33	122	41	176	48	232	58	247	54	332	72
Albuquerque, N. Mex	238	76	177	58	286	77	314	80	371	86	348	80
Alpena, Mich	90	32	92	32	216	58	249	61	298	65	309	66
Amarillo, Tex	201	64	178	58	272	73	264	67	338	78	343	79
Apalachicola, Fla	188	58	237	76	275	74	281	73	309	73	313	74
Asheville, N. C	161	52	118	39	175	47	248	63	224	51	248	57
Atlanta, Ga	170	54	205	67	217	58	261	67	290	67	294	68
Atlantic City, N. J	129	43	138	46	190	51	238	60	246	55	257	58
Augusta, Ga	178	56	193	63	262	71	281	72	317	74	293	68
Austin, Tex	158	49	136	44	217	58	201	52	266	63	299	71
Baker, Oreg	122	43	137	47	180	49	287	71	353	77	384	82
Baltimore, Md	146	48	145	48	212	57	228	57	246	55	273	61
Binghamton, N. Y	60	20	72	24	133	36	167	42	172	38	219	48
Birmingham, Ala	182	58	182	59	207	56	258	66	299	69	299	69
Bismarck, N. Dak	120	43	149	52	181	49	214	52	214	46	273	57
Block Island, R. I	155	52	138	46	205	55	278	70	282	63	276	61
Boise, Idaho	117	41	95	32	153	41	244	60	282	62	325	70
Boston, Mass	121	41	114	39	176	47	233	58	279	62	302	66
Brownsville, Tex	174	52	166	53	222	60	258	67	253	61	318	77
Buffalo, N. Y	92	31	92	31	186	50	221	55	273	60	309	67
Burlington, Vt	136	47	144	49	215	58	212	53	304	66	370	80
Canton, N. Y	115	40	137	47	169	46	202	50	262	57	348	74
Cape Henry, Va	128	42	160	53	238	64	276	70	254	58	292	66
Charles City, Iowa	142	49	95	32	174	47	205	51	220	48	283	62
Charleston, S. C	178	56	186	60	288	78	324	83	280	65	274	64
Charlotte, N. C	133	42	131	43	201	54	265	68	284	65	288	66
Chattanooga, Tenn	149	48	160	52	193	52	255	65	297	68	300	69
Cheyenne, Wyo	148	49	199	67	250	67	232	58	209	47	314	70
Chicago University, Ill	106	36	74	25	225	61	252	63	268	59	305	67
Cincinnati, Ohio	138	45	86	28	188	51	265	67	276	62	314	70
Cleveland, Ohio	109	37	73	25	194	52	246	61	296	66	336	74
Columbia, Mo	128	42	123	41	217	59	251	63	260	58	295	66
Columbia, S. C	157	50	188	61	273	74	280	72	293	68	296	69
Columbus, Ohio	144	48	98	33	173	47	268	67	295	66	289	64
Concord, N. H	154	52	147	50	218	59	234	58	232	51	283	62
Concordia, Kans	188	62	162	54	220	59	284	71	228	51	333	74
Dallas, Tex	165	52	132	43	242	65	238	61	283	66	302	70
Davenport, Iowa	118	40	87	29	220	59	251	63	247	55	313	69
Del Rio, Tex	189	58	137	44	250	67	251	65	286	68	278	66
Denver, Colo	187	62	205	68	222	60	249	62	242	54	260	58
Des Moines, Iowa	150	51	115	39	198	53	226	56	219	48	335	74
Detroit, Mich	60	20	76	26	225	61	217	54	230	51	260	57
Devils Lake, N. Dak	164	59	185	65	262	71	306	75	284	60	307	64
Dodge City, Kans	198	65	168	56	236	63	278	70	307	70	349	79
Dubuque, Iowa	106	36	74	25	212	57	255	64	248	55	298	66
Duluth, Minn	121	43	132	46	276	75	264	65	192	41	319	67
Eastport, Maine	150	52	139	48	201	54	189	47	244	53	248	53
Elkins, W. Va	115	38	128	42	160	43	278	70	241	54	232	52
El Paso, Tex	211	66	199	64	306	82	317	82	385	90	307	72
Erie, Pa	70	24	67	23	190	51	229	57	276	61	314	69
Escanaba, Mich	100	35	106	37	222	60	201	49	281	61	259	55
Eureka, Calif	138	46	98	33	133	36	148	37	245	55	230	51
Evansville, Ind	156	51	112	37	165	44	272	69	297	67	285	64
Fairbanks, Alaska	66	40	125	53	234	64	330	72	278	48	299	46
Fort Smith, Ark	144	46	100	33	193	52	220	56	220	51	267	62

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*—Continued

Stations	July		August		September		October		November		December		Annual	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Albany, N. Y	250	54	317	74	197	52	222	65	138	47	94	34	2,424	53
Albuquerque, N. Mex	362	82	351	84	285	77	285	81	271	87	246	81	3,534	79
Alpena, Mich	342	73	318	73	199	53	175	52	74	26	30	11	2,392	50
Amarillo, Tex	370	84	391	94	322	87	298	85	264	85	203	67	3,444	77
Apalachicola, Fla	247	58	321	79	238	64	273	77	209	65	206	65	3,097	70
Asheville, N. C	199	45	233	56	156	42	310	89	208	67	170	56	2,450	55
Atlanta, Ga	279	63	309	75	258	69	317	90	202	65	174	57	2,976	67
Atlantic City, N. J	277	61	319	75	196	52	218	63	202	67	145	49	2,555	57
Augusta, Ga	300	69	345	83	253	68	311	88	197	63	180	58	3,110	69
Austin, Tex	305	71	297	72	296	80	279	79	202	63	191	60	2,847	64
Baker, Oreg	401	85	387	89	322	86	207	61	136	47	141	51	3,057	66
Baltimore, Md	284	63	340	80	190	51	269	78	201	67	154	52	2,688	60
Binghamton, N. Y	213	46	233	54	123	33	171	50	101	34	37	13	1,701	36
Birmingham, Ala	242	55	296	71	266	72	294	84	211	68	158	51	2,894	65
Bismarck, N. Dak	334	70	326	74	248	66	212	63	114	41	123	46	2,508	55
Block Island, R. I	293	64	331	77	261	70	257	75	228	77	188	65	2,892	65
Boise, Idaho	339	72	365	84	314	84	178	52	133	46	118	43	2,663	57
Boston, Mass	242	52	326	76	213	57	178	52	160	54	126	44	2,470	54
Brownsville, Tex	392	93	326	81	290	79	317	89	193	59	190	58	3,099	69
Buffalo, N. Y	339	73	326	76	217	58	208	61	149	51	63	22	2,475	53
Burlington, Vt	299	64	302	70	211	56	198	58	120	41	76	27	2,587	56
Canton, N. Y	264	56	256	59	174	46	219	65	142	50	76	28	2,364	52
Cape Henry, Va	265	59	330	79	162	44	206	59	216	71	184	61	2,711	60
Charles City, Iowa	334	72	315	73	228	61	241	71	167	57	109	39	2,513	55
Charleston, S. C	269	62	324	78	212	57	283	80	202	64	193	62	3,013	67
Charlotte, N. C	265	60	320	77	238	64	296	85	181	58	188	62	2,790	62
Chattanooga, Tenn	279	63	325	78	265	71	301	86	196	63	178	59	2,898	64
Cheyenne, Wyo	340	74	295	69	266	71	232	67	181	61	146	51	2,812	63
Chicago University, Ill	318	69	341	80	221	59	273	79	197	67	114	40	2,694	59
Cincinnati, Ohio	319	70	339	80	225	60	279	81	180	60	166	57	2,770	61
Cleveland, Ohio	339	73	328	77	213	57	242	70	160	54	55	19	2,591	55
Columbia, Mo	365	81	338	80	263	70	302	87	193	64	154	52	2,889	64
Columbia, S. C	257	59	313	75	218	59	304	87	194	62	188	61	2,961	66
Columbus, Ohio	310	68	329	77	206	55	269	78	172	58	126	43	2,679	59
Concord, N. H	241	52	273	63	204	55	203	59	115	39	87	31	2,391	53
Concordia, Kans	370	81	350	82	295	79	298	86	192	64	170	58	3,090	68
Dallas, Tex	291	67	335	81	315	85	308	88	223	71	164	53	2,998	67
Davenport, Iowa	330	72	288	67	212	57	247	72	176	60	107	38	2,596	57
Del Rio, Tex	321	75	337	83	296	80	310	87	218	68	198	62	3,071	69
Denver, Colo	322	71	254	60	256	69	250	72	179	60	194	67	2,820	64
Des Moines, Iowa	381	82	334	78	279	75	265	77	186	63	174	61	2,862	63
Detroit, Mich	253	55	273	64	170	45	228	66	149	50	58	20	2,199	47
Devils Lake, N. Dak	347	72	352	80	256	68	221	66	131	47	133	51	2,948	65
Dodge City, Kans	368	82	381	90	316	85	307	89	226	74	196	66	3,300	74
Dubuque, Iowa	334	72	310	72	204	54	226	66	177	60	130	46	2,574	56
Duluth, Minn	264	55	305	69	222	59	198	59	100	36	101	38	2,494	54
Eastport, Maine	202	43	270	62	227	61	205	60	134	47	100	37	2,309	51
Elkins, W. Va	278	61	315	74	182	49	232	67	194	64	118	40	2,473	54
El Paso, Tex	317	73	354	86	311	84	302	86	278	88	255	81	3,542	80
Erie, Pa	365	79	344	80	206	55	189	55	133	45	36	13	2,419	51
Escanaba, Mich	298	63	300	68	203	54	173	51	98	34	71	26	2,312	49
Eureka, Calif	210	46	237	55	146	39	186	54	171	58	104	36	2,046	46
Evansville, Ind	298	66	315	75	274	74	308	89	191	63	145	49	2,818	62
Fairbanks, Alaska	287	46	169	33	98	25	89	30	46	24	31	25	2,052	42
Fort Smith, Ark	316	72	345	83	266	72	273	78	181	58	163	53	2,688	60

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*—Continued

Stations	January		February		March		April		May		June	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Fort Wayne, Ind	95	32	80	27	190	51	274	68	318	71	360	80
Fort Worth, Tex	175	55	127	40	256	69	218	56	257	60	285	67
Fresno, Calif	113	37	147	49	219	59	293	74	395	90	405	92
Galveston, Tex	157	48	160	51	173	46	182	47	258	61	250	60
Grand Junction, Colo	172	57	142	47	163	44	236	59	267	60	280	63
Grand Rapids, Mich	63	22	81	28	217	59	213	53	251	55	315	69
Green Bay, Wis	83	29	75	26	195	53	171	42	194	42	240	51
Greensboro, N. C	126	40	120	39	191	51	251	64	245	56	264	60
Harrisburg, Pa	103	34	134	45	161	43	209	52	232	52	296	66
Hartford, Conn	112	38	125	42	177	48	245	61	249	55	258	57
Havre, Mont	137	50	167	59	242	65	265	64	235	49	292	60
Helena, Mont	144	52	175	61	185	50	263	64	253	54	276	58
Honolulu, Hawaii	228	67	204	64	226	61	266	70	271	67	276	69
Houston, Tex	162	50	166	53	208	56	215	55	314	74	323	77
Huron, S. Dak	121	42	156	53	208	56	200	49	206	45	307	66
Indianapolis, Ind	120	40	80	27	195	53	279	70	267	60	320	71
Ithaca, N. Y	80	27	92	31	158	43	200	50	229	51	322	71
Jacksonville, Fla	175	54	186	60	293	79	292	76	260	61	272	65
Juneau, Alaska	43	19	125	48	181	49	157	36	117	22	152	28
Kalispell, Mont	67	24	108	38	141	38	250	61	253	54	332	69
Kansas City, Mo	183	60	140	47	227	61	270	68	269	61	322	72
Keokuk, Iowa	124	41	100	33	216	58	264	66	296	66	343	76
Key West, Fla	198	59	251	79	303	81	268	70	275	66	260	63
Knoxville, Tenn	154	49	154	51	197	53	278	71	267	61	290	66
La Crosse, Wis	150	52	135	46	263	71	260	64	256	56	339	73
Lander, Wyo	190	65	207	70	269	72	270	67	276	61	336	73
Lansing, Mich	48	16	51	17	202	54	196	49	256	56	315	69
Lincoln, Nebr	183	61	136	46	201	54	281	70	249	55	330	73
Little Rock, Ark	158	51	130	42	234	63	276	70	318	73	336	77
Los Angeles, Calif	230	73	185	60	259	70	237	61	281	65	247	57
Louisville, Ky	137	45	80	27	167	45	244	62	273	62	302	68
Lynchburg, Va	158	51	143	47	216	58	235	60	265	60	260	59
Macon, Ga	178	56	222	72	252	68	268	69	286	67	281	66
Madison, Wis	96	33	67	23	217	59	216	54	241	53	306	67
Marquette, Mich	45	16	54	19	200	54	133	33	248	53	256	54
Memphis, Tenn	147	47	118	37	199	54	251	64	289	66	293	68
Meridian, Miss	159	50	149	48	188	50	228	59	290	68	296	69
Miami, Fla	180	54	222	70	301	81	290	75	286	69	244	59
Miles City, Mont	134	47	217	75	238	64	294	72	305	66	325	69
Milwaukee, Wis	66	22	48	16	223	60	201	50	240	53	288	63
Minneapolis-St. Paul, Minn	141	49	122	42	236	64	249	61	211	46	315	67
Missoula, Mont	62	22	136	47	118	32	214	52	266	57	303	64
Mobile, Ala	150	46	198	64	227	61	275	71	258	61	297	70
Modena, Utah	238	78	202	67	263	71	333	84	323	73	359	81
Moorhead, Minn	153	55	142	49	240	65	230	56	234	50	320	67
Nashville, Tenn	165	53	143	47	219	59	274	70	303	69	292	67
New Haven, Conn	154	52	140	47	199	54	266	66	290	64	299	66
New Orleans, La	173	53	188	60	254	68	268	69	315	75	323	77
New York, N. Y	131	44	156	52	200	54	264	66	257	57	292	65
Nome, Alaska	95	57	141	60	216	59	234	51	342	59	438	68
Norfolk, Va	114	37	128	42	226	61	256	65	247	56	269	61
Northfield, Vt	136	47	132	45	172	47	182	45	242	53	308	67
North Head, Wash	86	30	105	36	154	42	218	53	297	64	264	56
North Platte, Nebr	192	65	186	62	199	54	257	64	251	56	303	67
Oklahoma City, Okla	211	67	171	56	242	65	273	70	303	70	306	70

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*—Continued

Stations	July		August		September		October		November		December		Annual	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Fort Wayne, Ind	365	80	363	85	248	66	250	73	180	61	104	36	2,827	61
Fort Worth, Tex	293	67	351	85	316	85	324	92	215	69	168	54	2,985	67
Fresno, Calif	432	97	407	97	326	88	263	76	265	87	117	39	3,382	74
Galveston, Tex	277	65	272	67	257	70	288	81	197	61	174	54	2,645	59
Grand Junction, Colo	397	88	325	77	279	75	270	78	215	71	137	47	2,883	64
Grand Rapids, Mich	337	72	320	74	215	57	273	80	155	53	51	18	2,491	53
Green Bay, Wis	242	51	292	67	163	43	187	55	124	43	79	29	2,045	44
Greensboro, N. C	223	50	321	77	193	52	286	82	183	59	180	60	2,583	58
Harrisburg, Pa	254	56	364	86	221	59	276	80	184	61	149	51	2,583	57
Hartford, Conn	222	48	273	64	201	54	208	61	114	39	79	28	2,263	50
Havre, Mont	381	78	362	81	328	87	181	54	102	37	116	45	2,808	61
Helena, Mont	315	66	334	76	303	81	166	49	107	38	122	46	2,643	58
Honolulu, Hawaii	305	74	289	73	299	81	280	78	190	57	212	63	3,046	69
Houston, Tex	326	76	301	74	282	76	288	81	204	64	151	48	2,940	65
Huron, S. Dak	309	66	334	77	234	63	204	60	109	38	122	44	2,510	55
Indianapolis, Ind	341	75	332	78	266	71	277	80	203	68	128	44	2,808	61
Ithaca, N. Y	310	67	315	73	186	50	199	58	121	41	40	14	2,252	48
Jacksonville, Fla	257	60	326	80	240	65	234	66	172	54	180	57	2,887	65
Juneau, Alaska	145	27	233	49	62	16	64	20	33	14	28	14	1,340	28
Kalispell, Mont	387	80	348	79	301	80	184	55	54	20	39	15	2,464	51
Kansas City, Mo	385	85	358	85	285	76	294	85	211	70	204	70	3,148	70
Keokuk, Iowa	373	82	338	79	282	75	277	80	174	58	135	47	2,922	63
Key West, Fla	255	61	275	68	237	64	248	69	236	72	269	82	3,075	70
Knoxville, Tenn	322	72	337	81	246	66	305	87	208	67	157	52	2,915	65
La Crosse, Wis	339	72	319	74	195	52	229	67	153	53	119	43	2,757	60
Lander, Wyo	358	77	319	74	257	69	199	58	139	48	141	50	2,961	65
Lansing, Mich	328	71	325	75	191	51	233	68	139	48	58	21	2,342	50
Lincoln, Nebr	370	81	304	71	274	73	287	84	204	69	201	70	3,020	67
Little Rock, Ark	321	73	348	83	285	77	306	87	195	63	154	51	3,061	68
Los Angeles, Calif	346	79	338	81	288	77	281	80	270	87	236	77	3,198	72
Louisville, Ky	284	63	298	71	259	69	286	82	188	62	152	51	2,670	59
Lynchburg, Va	256	57	314	75	144	39	271	78	205	67	172	57	2,639	59
Macon, Ga	270	62	316	76	249	67	302	86	202	64	197	63	3,023	68
Madison, Wis	322	69	320	74	194	52	212	62	136	47	98	35	2,425	52
Marquette, Mich	244	51	279	64	187	50	151	45	34	12	43	16	1,874	39
Memphis, Tenn	284	64	292	70	228	61	288	82	191	62	126	41	2,706	60
Meridian, Miss	229	53	273	66	281	76	282	80	228	72	149	47	2,752	62
Miami, Fla	255	60	328	81	249	67	225	63	222	68	228	70	3,030	68
Miles City, Mont	382	80	370	85	291	77	205	61	142	50	168	62	3,071	67
Milwaukee, Wis	323	69	315	73	180	48	224	65	174	60	76	27	2,358	50
Minneapolis-St. Paul, Minn	326	69	324	75	227	60	248	73	121	42	132	48	2,652	58
Missoula, Mont	363	76	342	78	296	79	169	50	81	28	98	37	2,448	52
Mobile, Ala	230	53	277	67	254	69	277	78	224	70	182	58	2,849	64
Modena, Utah	378	84	298	71	275	74	249	72	261	86	184	62	3,363	75
Moorhead, Minn	366	76	355	81	246	65	210	62	98	35	48	18	2,642	57
Nashville, Tenn	253	57	304	73	234	63	314	90	212	69	164	54	2,877	64
New Haven, Conn	278	61	281	66	213	57	222	64	184	62	138	48	2,664	59
New Orleans, La	288	67	304	74	262	71	266	75	240	75	178	56	3,059	68
New York, N. Y	281	61	313	73	212	57	258	75	216	73	147	51	2,727	61
Nome, Alaska	216	35	81	16	160	40	68	22	52	27	30	23	2,073	43
Norfolk, Va	230	51	310	74	183	49	219	63	195	64	172	57	2,549	57
Northfield, Vt	212	45	255	59	158	42	182	53	138	48	86	31	2,203	48
North Head, Wash	301	63	227	52	161	43	158	47	108	38	80	30	2,159	46
North Platte, Nebr	343	75	326	76	253	68	266	77	204	69	170	59	2,950	66
Oklahoma City, Okla	358	81	381	91	311	84	302	86	225	73	201	66	3,284	73

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*—Continued

Stations	January		February		March		April		May		June	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Omaha, Nebr	139	47	119	40	187	50	246	62	251	56	314	70
Oswego, N. Y	54	19	84	28	161	43	204	51	273	60	306	67
Parkersburg, W. Va	129	42	110	36	162	44	287	72	272	61	281	63
Pensacola, Fla	150	46	199	64	228	61	257	66	268	63	245	58
Peoria, Ill	118	40	90	30	222	60	277	69	231	52	302	67
Philadelphia, Pa	113	38	150	50	194	52	272	68	252	56	267	60
Phoenix, Ariz	249	78	189	61	281	76	354	91	397	92	390	91
Pittsburgh, Pa	94	32	92	31	179	48	260	65	281	63	296	65
Pocatello, Idaho	122	42	119	40	142	38	214	53	277	61	331	72
Port Arthur, Tex	160	49	168	54	214	57	239	62	295	70	292	69
Portland, Maine	161	56	155	53	221	60	254	63	289	63	299	65
Portland, Oreg	86	30	98	34	154	42	253	62	337	73	345	73
Providence, R. I	162	55	136	46	197	53	256	64	266	59	261	57
Pueblo, Colo	206	67	190	63	254	68	290	73	308	70	305	69
Raleigh, N. C	136	44	147	48	226	61	275	70	276	63	295	68
Rapid City, S. Dak	116	40	173	59	182	49	202	50	245	54	321	69
Reading, Pa	131	44	139	47	152	41	176	44	193	43	262	58
Richmond, Va	118	39	140	46	218	59	254	64	217	49	218	49
Rochester, N. Y	68	23	87	29	158	43	198	49	257	56	306	67
Roseburg, Oreg	64	22	86	29	114	31	206	51	306	67	359	78
Roswell, N. Mex	226	71	189	61	294	79	301	77	375	87	289	68
Sacramento, Calif	98	32	124	41	195	52	288	72	403	91	407	91
St. Joseph, Mo	177	59	132	44	232	63	254	64	266	60	304	68
St. Louis, Mo	145	48	104	35	194	52	263	66	245	55	253	57
Salt Lake City, Utah	159	53	132	44	215	58	283	71	330	73	371	82
San Antonio, Tex	177	54	134	43	224	60	211	55	275	65	330	79
San Diego, Calif	230	73	170	55	248	67	249	64	275	64	266	62
Sandy Hook, N. J	110	37	128	43	189	51	241	60	251	56	266	59
San Francisco, Calif	178	58	132	44	187	50	218	55	292	66	255	58
San Jose, Calif	146	47	117	39	168	45	227	57	351	80	382	87
San Juan, P. R	227	66	229	71	284	76	295	78	304	76	246	62
Santa Fe, N. Mex	220	71	164	54	240	65	307	78	344	79	320	73
Saulte Ste. Marie, Mich	68	24	108	37	186	50	181	44	249	54	248	53
Savannah, Ga	142	44	159	51	226	61	272	70	255	59	244	57
Scranton, Pa	119	40	155	52	230	62	248	62	230	51	290	64
Seattle, Wash	69	25	105	36	126	34	196	48	290	62	280	59
Sheridan, Wyo	136	48	184	63	211	57	257	63	278	60	338	72
Sioux City, Iowa	144	49	138	46	213	57	237	59	262	58	338	74
Spokane, Wash	64	23	102	36	158	43	266	65	318	68	373	78
Springfield, Ill	116	39	76	25	199	54	254	64	258	58	310	69
Springfield, Mo	158	51	122	40	214	58	269	68	216	49	262	60
Syracuse, N. Y	90	31	109	37	185	50	214	53	244	54	316	69
Tampa, Fla	230	70	250	79	321	86	322	83	321	76	260	63
Tatoosh Island, Wash	87	32	126	44	192	52	203	49	293	62	293	61
Terre Haute, Ind	122	40	75	25	180	48	258	65	263	59	303	68
Toledo, Ohio	64	22	63	21	200	54	204	51	251	56	320	70
Trenton, N. J	107	35	138	46	193	52	267	67	292	65	279	62
Valentine, Nebr	144	49	225	76	240	65	238	59	241	53	313	68
Vicksburg, Miss	131	41	122	39	176	47	189	49	260	61	247	58
Walla Walla, Wash	36	13	46	16	162	44	242	59	289	62	338	72
Washington, D. C	113	37	132	44	190	51	212	53	208	47	264	59
Wichita, Kans	237	78	212	70	266	72	297	75	290	66	330	74
Williston, N. Dak	116	42	183	64	214	58	266	65	226	48	313	65
Wilmington, N. C	148	47	163	53	257	69	299	76	275	64	290	67
Winnemucca, Nev	137	46	149	50	177	48	223	56	323	72	323	71
Wytheville, Va	124	40	90	30	149	40	231	58	186	42	220	50
Yakima, Wash	52	19	54	19	175	47	271	66	333	71	338	71
Yellowstone Park, Wyo	116	41	154	53	178	48	252	62	228	50	297	64
Yuma, Ariz	266	84	232	75	317	85	377	97	421	98	421	98

TABLE 13.—*Monthly amounts and percentage of sunshine, 1938*—Continued

Stations	July		August		September		October		November		December		Annual	
	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible	Hours	Percentage of possible
Omaha, Nebr	370	81	322	75	291	78	289	84	170	57	131	45	2, 829	62
Oswego, N. Y	272	59	262	61	169	45	184	54	116	40	51	18	2, 136	45
Parkersburg, W. Va	297	66	319	75	185	50	255	74	199	66	113	39	2, 609	57
Pensacola, Fla	192	45	280	68	225	61	256	72	189	59	188	59	2, 677	60
Peoria, Ill	340	74	318	74	259	69	285	83	194	65	127	44	2, 763	61
Philadelphia, Pa	265	58	299	70	204	55	257	74	178	60	135	46	2, 586	57
Phoenix, Ariz	382	88	339	82	323	87	300	85	291	93	213	68	3, 708	84
Pittsburgh, Pa	300	66	318	74	213	57	250	73	187	63	102	36	2, 572	56
Pocatello, Idaho	353	76	330	77	307	82	176	52	132	45	90	32	2, 593	56
Port Arthur, Tex	252	59	302	74	267	72	293	83	214	67	170	54	2, 866	64
Portland, Maine	245	52	316	73	234	62	212	62	164	57	134	48	2, 684	60
Portland, Oreg	381	80	302	69	238	63	151	45	99	35	83	31	2, 527	53
Providence, R. I	212	46	267	62	211	56	208	61	151	51	141	50	2, 468	55
Pueblo, Colo	378	84	319	76	282	76	264	76	212	70	173	59	3, 181	71
Raleigh, N. C	265	60	347	83	218	59	274	79	191	62	176	58	2, 826	63
Rapid City, S. Dak	344	73	355	82	265	71	218	64	137	47	116	42	2, 674	58
Reading, Pa	313	69	325	77	184	49	209	61	149	50	126	43	2, 359	52
Richmond, Va	281	62	319	76	153	41	266	77	210	69	165	56	2, 559	57
Rochester, N. Y	302	65	306	71	197	53	185	54	134	46	46	16	2, 244	48
Roseburg, Oreg	409	88	381	88	260	69	153	45	99	34	63	22	2, 500	52
Roswell, N. Mex	316	72	347	84	270	73	261	74	266	85	236	76	3, 370	76
Sacramento, Calif	441	98	410	97	327	88	236	68	239	79	103	35	3, 271	70
St. Joseph, Mo	376	83	323	76	281	75	281	81	206	69	189	65	3, 021	67
St. Louis, Mo	312	69	319	75	272	73	310	89	195	65	130	44	2, 742	61
Salt Lake City, Utah	408	89	369	86	323	86	240	70	163	55	107	37	3, 100	67
San Antonio, Tex	354	83	329	81	325	88	310	87	206	64	192	60	3, 067	68
San Diego, Calif	309	71	280	68	285	77	255	73	271	86	205	66	3, 043	69
Sandy Hook, N. J	275	60	315	74	213	57	241	70	162	54	137	47	2, 528	56
San Francisco, Calif	240	53	267	63	223	60	240	69	249	82	166	56	2, 647	60
San Jose, Calif	360	80	374	89	308	83	241	69	241	79	160	53	3, 075	67
San Juan, P. R	296	73	300	76	257	70	289	80	259	76	249	72	3, 235	73
Santa Fe, N. Mex	352	79	330	79	267	72	285	82	255	83	216	71	3, 300	74
Saulte Ste. Marie, Mich	290	61	229	52	150	40	122	36	67	23	43	16	1, 941	41
Savannah, Ga	236	54	278	67	194	52	244	69	183	58	159	51	2, 592	58
Scranton, Pa	297	65	342	80	233	62	239	70	168	57	81	28	2, 632	58
Seattle, Wash	379	78	284	64	234	62	175	52	104	37	88	34	2, 330	48
Sheridan, Wyo	364	77	353	81	290	77	198	58	138	48	143	52	2, 890	63
Sioux City, Iowa	394	85	354	83	272	73	274	80	174	59	179	63	2, 979	66
Spokane, Wash	417	86	386	87	290	77	170	51	100	36	75	29	2, 719	57
Springfield, Ill	354	78	320	75	264	71	299	87	204	68	135	46	2, 789	61
Springfield, Mo	315	70	353	84	290	78	311	89	207	68	188	63	2, 905	65
Syracuse, N. Y	317	68	314	73	187	50	232	68	164	56	73	26	2, 445	53
Tampa, Fla	280	66	314	77	257	70	240	67	220	68	224	70	3, 239	73
Tatoosh Island, Wash	318	66	218	49	145	38	129	38	99	36	90	34	2, 193	47
Terre Haute, Ind	312	69	327	77	271	73	302	87	206	68	160	54	2, 779	61
Toledo, Ohio	315	68	324	76	196	52	267	78	154	52	68	24	2, 426	52
Trenton, N. J	288	63	320	75	206	55	238	69	154	51	104	36	2, 586	56
Valentine, Nebr	328	70	334	78	262	70	245	72	112	38	183	65	2, 865	64
Vicksburg, Miss	213	49	272	66	254	69	264	75	215	68	114	37	2, 457	55
Walla Walla, Wash	391	82	386	88	303	81	191	57	134	47	53	20	2, 571	53
Washington, D. C	256	56	320	75	144	39	252	73	192	64	121	41	2, 404	53
Wichita, Kans	384	85	387	92	325	87	314	90	241	79	240	81	3, 523	79
Williston, N. Dak	366	76	342	77	262	69	206	61	114	41	136	52	2, 744	60
Wilmington, N. C	288	66	314	76	224	60	256	73	195	62	185	60	2, 894	64
Winnemucca, Nev	384	84	379	89	331	88	210	61	177	60	161	56	2, 974	65
Wytheville, Va	186	42	274	65	126	34	281	81	176	58	141	47	2, 184	49
Yakima, Wash	411	86	409	93	282	75	196	58	143	51	72	27	2, 736	57
Yellowstone Park, Wyo	315	67	284	65	288	77	163	48	84	29	113	41	2, 472	54
Yuma, Ariz	416	95	362	88	349	94	320	91	301	96	239	77	4, 021	90

EXCESSIVE RAINFALL, 1938

Table 14 contains statistics of maximum amounts of rainfall during the calendar year 1938.

The method of tabulating excessive precipitation has been changed, beginning with the year 1936, to meet the needs of many sewage engineers.

The method heretofore used gave the accumulated depth of precipitation for each 5 minutes for a storm in which the rate of fall equaled or exceeded 0.25 inch in any 5-minute period or 0.30 inch in any 10-minute period, etc., and 0.80 inch in any 1-hour period, or 1.40 inch in 2 hours, the tabulation beginning with the 5-minute period where the rate of 0.05 inch in 5 minutes began, and continuing for 5-minute periods up to 120 minutes.

The present method gives the maximum fall of precipitation for the periods 5 to 180 minutes, the maximum amounts being taken for the periods in which the fall is the greatest for the given time, and is tabulated to show the maximum amounts for 5, 10, 20, 30, 45, 60, 80, 100, 120, 150, and 180 minutes, even if the fall does not equal the excessive rate for some of the periods.

Table 14 shows for most stations of the Weather Bureau furnished with self-registering gages the maximum amounts of precipitation in 5, 10, 20, 30, 45, 60, 80, 100, 120, 150, and 180 minutes. The following table A shows limits at which precipitation is considered as excessive for all stations except in the Southern States, including North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, Oklahoma, and San Juan, P. R.:

TABLE A.—*Showing limits at which precipitation may be considered as excessive*

Duration (in minutes)	Depth of precipitation (in inches)	Duration (in minutes)	Depth of precipitation (in inches)
5	0.25	35	0.55
10	.30	40	.60
15	.35	45	.65
20	.40	50	.70
25	.45	60	.80
30	.50		

This table is made up from the formula $A=t+20$, where A is the accumulated depth in hundredths of inches and t is the time in minutes.

For the Southern States, table B is used. This table is made up from the formula $A=2t+30$:

TABLE B.—*Showing limits at which precipitation may be considered as excessive*

Duration (in minutes)	Depth of precipitation (in inches)	Duration (in minutes)	Depth of precipitation (in inches)
5	0.40	40	1.10
10	.50	45	1.20
15	.60	50	1.30
20	.70	60	1.50
25	.80	80	1.90
30	.90	100	2.30
35	1.00	120	2.70

Similar data for the years 1896 to 1934, inclusive, have been presented in the appropriate annual reports of the Chief of the Weather Bureau and for the years 1935–1937 in appropriate issues of the United States Meteorological Yearbook. The published data prior to 1896 consist of a record of maximum amounts of rainfall in 5- and 10-minute periods, also in 1 and 24 hours. The annual report for 1895–96 contains a summary of the records which up to that time had been made at the principal stations supplied with automatic gages.

The excessive precipitation data for the years 1897–1935, inclusive, show the accumulated amounts of precipitation for each 5 minutes during all storms in which the rate of fall equaled or exceeded 0.25 inch in any 5-minute period, or 0.30 inch in any 10-minute period, or 0.35 inch in any 15-minute period, etc.

Normal standard time at the place of occurrence is employed in these tables.

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*

Stations and dates	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
NEW ENGLAND STATES											
Portland, Maine:											
June 5	0.20	0.41	0.70	0.70	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Sept. 1	.15	.36	.46	.82	.89	.91	.93	.95	.96	.98	.98
Sept. 20	.35	.54	.54	.56	.63	.64	.66	.68	.69	.79	.89
Burlington, Vt.:											
June 25	.29	.47	.52	.52	.52	.53	.53	.53	.53	.55	.57
July 12	.32	.41	.44	.45	.47	.48	.48	.48	.48	.48	.48
July 20	.26	.46	.57	.72	.72	.72	.73	.91	1.00	1.02	1.02
Aug. 8	.21	.32	.44	.52	.55	.56	.56	.56	.56	.56	.56
Northfield, Vt.:											
July 21	.27	.43	.49	.49	.49	.50	.53	.54	.54	.54	.55
July 28	.34	.62	.93	.97	.97	.98	.98	.98	.98	.98	.98
Aug. 23	.32	.42	.50	.61	.65	.72	.76	.82	.90	.94	.94
Concord, N. H.:											
June 17	.22	.32	.47	.52	.53	.54	.54	.54	.54	.54	.54
July 21	.25	.40	.51	.53	.55	.57	.59	.60	.60	.61	.61
July 23	.15	.32	.39	.54	.56	.58	.61	.64	.66	.71	.74
July 28	.42	.56	.67	.68	.87	.89	.90	.92	.94	1.00	1.37
Aug. 17	.26	.42	.61	.65	.66	.67	.67	.67	.67	.68	.68
Sept. 20	.23	.38	.58	.66	.77	1.02	1.21	1.30	1.47	1.66	1.70
Sept. 21	.32	.56	.90	1.06	1.18	1.24	1.27	1.27	1.27	1.27	1.27
Boston, Mass.:											
July 11	.29	.30	.33	.35	.36	.38	.38	.38	.38	.38	.38
July 18	.19	.35	.54	.58	.62	.64	.66	.70	.72	.77	.81
July 21	.16	.23	.38	.58	.76	1.05	1.17	1.30	1.48	1.71	1.80
July 22	.35	.37	.43	.53	.75	.76	.76	.76	.76	.76	.76
Aug. 16	.27	.46	.95	1.23	1.47	1.59	1.67	1.67	1.68	1.71	1.79
Sept. 20	.17	.30	.40	.55	.81	.84	1.02	1.06	1.08	1.12	1.12
Nantucket, Mass.:											
June 19	.28	.40	.52	.54	.54	.54	.54	.54	.54	.54	.54
June 27	.22	.42	.61	.70	.88	1.06	1.28	1.42	1.47	1.71	1.77
July 25	.21	.31	.34	.36	.38	.38	.38	.38	.38	.38	.38
Aug. 7	.44	.70	.92	1.02	1.32	1.36	1.38	1.42	1.44	1.45	1.45
Sept. 15	.22	.35	.56	.80	1.09	1.32	1.45	1.48	1.54	2.13	2.37
Sept. 15	.19	.35	.53	.66	.73	.94	1.21	1.32	1.39	1.48	1.54
Sept. 18	.26	.37	.44	.49	.53	.53	.54	.56	.58	.58	.60
Sept. 18	.28	.42	.48	.48	.49	.51	.52	.70	.72	.89	.95
Block Island, R. I.:											
Aug. 7	.25	.37	.47	.52	.53	.54	.61	.63	.72	.73	.74
Aug. 8	.52	.80	1.30	1.58	1.69	1.72	1.73	1.77	1.80	1.86	1.87
Providence, R. I.:											
June 19	.24	.34	.37	.39	.41	.41	.41	.41	.41	.41	.41
Sept. 4	.23	.35	.41	.46	.46	.47	.47	.47	.47	.47	.47
Hartford, Conn.:											
June 12	.28	.43	.47	.47	.47	.55	.75	.82	.86	.91	.94
July 18	.40	.77	1.22	1.51	1.59	1.61	1.82	1.88	1.94	2.07	2.12
July 20	.22	.32	.65	.93	1.33	1.46	1.93	1.99	2.03	2.03	2.03
July 21	.18	.32	.44	.53	.57	.73	.83	.97	1.10	1.18	1.21
July 22	.21	.31	.31	.32	.33	.48	.62	.62	.62	.65	.70
July 29	.30	.47	.50	.51	.52	.55	.61	.62	.64	.65	.65
Aug. 8	.46	.73	.82	.85	.87	.88	.92	.94	.95	.98	1.03
Sept. 18	.19	.29	.51	.71	.99	1.08	1.18	1.25	1.32	1.37	1.42
Sept. 19	.15	.24	.36	.54	.59	.65	.71	.79	.84	.85	.89
Sept. 20	.30	.39	.62	.75	1.21	1.39	1.56	1.68	1.70	1.89	2.29
Sept. 20	.20	.36	.62	.75	.84	.85	.86	.87	.88	.88	.88
Sept. 20	.12	.20	.37	.55	.77	1.00	1.25	1.45	1.68	1.74	1.82
New Haven, Conn.:											
July 22	.30	.37	.68	.70	.70	.70	.70	.70	.71	.71	.71
July 23	.24	.40	.51	.57	.69	.75	.79	.83	.84	.87	.92
Sept. 15	.16	.26	.47	.58	.66	.72	.74	.74	.74	.74	.74
Sept. 18	.20	.35	.46	.62	.91	1.09	1.28	1.38	1.41	1.42	1.43
Sept. 20	.29	.49	.76	.98	1.25	1.77	2.07	2.42	2.55	2.58	2.60
Sept. 20	.22	.42	.60	.79	1.25	1.38	1.44	1.50	1.56	1.62	1.72
MIDDLE ATLANTIC STATES											
Albany, N. Y.:											
June 11	.27	.36	.38	.42	.45	.48	.48	.58	.64	.68	.68
July 9	.28	.43	.81	1.13	1.42	1.56	1.61	1.61	1.61	1.61	1.61
Aug. 6	.26	.46	.64	.64	.64	.65	.66	.66	.66	.66	.66
Sept. 19	.13	.23	.41	.56	.75	.80	.84	.88	.88	.88	.89
Binghamton, N. Y.:											
Aug. 11	.21	.34	.43	.53	.56	.60	.68	.71	.72	.95	.97
Aug. 17	.25	.45	.64	.70	.74	.77	.82	.83	.89	.91	.94
New York, N. Y.:											
Apr. 18	.14	.22	.41	.50	.63	.67	.72	.76	.78	.85	.89
June 13	.37	.70	.97	1.13	1.30	1.41	1.50	1.53	1.55	1.58	1.61
June 26	.32	.41	.42	.44	.45	.46	.47	.47	.47	.47	.62
July 23	.23	.32	.45	.54	.56	.58	.59	.60	.60	.60	.95
Sept. 21	.21	.35	.50	.75	.96	1.19	1.44	1.60	1.76	2.01	2.08
MIDDLE ATLANTIC STATES—continued											
Harrisburg, Pa.:											
May 23–24	0.25	0.36	0.45	0.52	0.59	0.62	0.67	0.78	0.87	0.95	0.99
June 5	.32	.47	.48	.48	.48	.48	.48	.48	.48	.49	.50
June 11	.26	.35	.35	.36	.41	.42	.42	.42	.42	.42	.42
July 11–12	.32	.39	.45	.46	.46	.46	.46	.46	.53	.54	.54
Aug. 5	.30	.43	.64	.71	.72	.72	.72	.72	.72	.73	.73
Aug. 17	.41	.56	.61	.61	.62	.66	.69	.71	.71	.71	.71
Aug. 31	.30	.52	.61	.64	.68	.72	.75	.76	.77	.77	.79
Sept. 14–15	.18	.29	.41	.56	.61	.62	.63	.74	.82	.88	.89
Nov. 5	.39	.55	.59	.59	.62	.66	.90	.93	.95	.96	.96
Philadelphia, Pa.:											
June 11–12	.27	.46	.70	.92	1.17	1.52	1.75	2.09	2.32	2.40	2.40
June 12	.50	.90	.99	1.00	1.01	1.05	1.11	1.11	1.11	1.11	1.11
June 26–27	.20	.30	.38	.40	.44	.49	.58	.71	.77	.84	.92
July 20	.23	.39	.61	.83	1.13	1.29	1.42	1.47	1.51	1.51	1.55
Aug. 7	.20	.41	.44	.46	.46	.60	.79	.93	1.00	1.02	1.05
Aug. 18	.23	.41	.49	.57	.58	.58	.58	.59	.62	.63	.63
Sept. 20	.12	.22	.40	.48	.52	.70	.76	.82	.97	1.18	1.40
Reading, Pa.:											
June 11	.17	.29	.40	.41	.42	.43	.48	.49	.49	.49	.50
June 12	.32	.50	.68	.80	.85	.87	.87	.90	.93	.94	.94
July 12	.18	.31	.46	.51	.58	.87	1.03	1.05	1.08	1.09	1.13
July 21	.16	.28	.40	.45	.57	.65	.71	.76	.81	1.12	1.34
July 23	.31	.35	.39	.42	.42	.43	.43	.45	.46	.48	.53
Aug. 17	.35	.55	.89	1.01	1.16	1.20	1.21	1.21	1.21	1.21	1.21
Scranton, Pa.:											
June 25	.40	.67	.70	.70	.70	.70	.70	.70	.70	.70	.70
June 26–27	.16	.30	.43	.51	.56	.61	.64	.65	.66	.75	.91
July 9	.26	.34	.40	.45	.46	.47	.54	.63	.69	.73	.73
July 21	.17	.32	.40	.45	.54	.60	.71	.78	.81	.97	1.12
Atlantic City, N. J.:											
Jan. 7	.22	.28	.44	.50	.57	.63	.70	.75	.83	1.02	1.15
June 12	.29	.38	.39	.39	.57	.61	.63	.69	.77	.85	.86
July 20	.27	.36	.39	.67	.81	.96	1.02	1.03	1.27	1.36	1.62
Aug. 8	.30	.55	.81	1.01	1.12	1.14	1.15	1.16	1.16	1.16	1.16
Sept. 20	.16	.25	.47	.53	.56	.72	.77	.81	.84	.89	1.15
Sept. 21	.19	.28	.43	.63	.84	1.06	1.26	1.47	1.67	2.09	2.34
Sandy Hook, N. J.:											
June 12	.16	.26	.40	.55	.77	.83	.90	.94	.96	.96	.96
June 18	.26	.38	.59	.89	1.09	1.13	1.14	1.15	1.16	1.16	1.16
June 27	.16	.24	.32	.53	.60	.64	.76	.86	.90	.96	1.16
July 14	.30	.49	.74	.87	.92	.93	.94	.95	.95	.96	.96
July 21	.19	.30	.56	.73	.79	.79	.79	.79	.79	.79	.79
July 23	.11	.19	.34	.51	.67	.72	.78	.79	.79	.79	.79
July 24	.12	.20	.34	.50	.55	.60	.68	.75	.80	.83	.85
Aug. 6	.31	.35	.44	.45	.49	.50	.50	.51	.52	.53	.53
Aug. 8	.16	.30	.52	.73	1.02	1.07	1.07	1.07	1.07	1.07	1.07
Sept. 15	.25	.29	.46	.61	.62	.63	.63	.63	.64	.64	.65
Sept. 18	.20	.37	.69	.77	.99	1.11	1.12	1.17	1.27	1.33	1.36
Sept. 21	.13	.23	.37	.43	.60	.74	.99	1.17	1.34	1.48	1.67
Nov. 19	.26	.44	.71	.81	.92	1.02	1.09	1.12	1.16	1.24	1.98
Trenton, N. J.:											
June 7–8	.19	.31	.51	.66	.76	.82	.86	.89	.89	.98	1.09
June 12	.21	.32	.44	.74	.79	.82	.86	.90	.91	.92	.92
June 26	.28	.50	.57	.65	.79	.86	.94	1.02	1.07	1.36	1.81
June 27	.15	.24	.41	.50	.51	.55	.65	.81	.84	.85	.87
July 14	.40	.58	.61	.62	.63	.64	.65	.65	.65	.65	.65
July 20	.25	.39	.67	.84	1.01	1.07	1.08	1.08	1.09	1.09	1.17
Aug. 4	.17	.29	.40	.41	.41	.42	.43	.43	.43	.43	.43
Aug. 6	.33	.44	.54	.63	.87	.87	1.17	1.22	1.27	1.30	1.31
Aug. 17	.25	.41	.60	.68	.71	.72	.74	.75	.75	.75	.75
Sept. 19	.40	.68	.96	1.22	1.33	1.36	1.44	1.48	1.52	1.65	1.68
Baltimore, Md.:											
May 4–5	.27	.48	.69	.80	.87	.87	.98	.99	1.06	1.06	1.15
July 11–12	.36	.46	.60	.97	1.06	1.34	1.35	1.36	1.36	1.36	1.36
July 18	.26	.44	.62	.67	.76	.77	.77	.77	.78	.80	.80
Sept. 7	.14	.26	.42	.51	.69	.81	.85	.89	.90	.90	.91
Oct. 20	.27	.34	.37	.38	.45	.46	.48	.50	.55	.56	.57
Washington, D. C.:											
May 21	.26	.34	.42	.43	.45	.45	.60	.63	.63	.64	.64
June 27	.17	.26	.42	.54	.64	.66	.67	.68	.68	.71	.79
July 29	.37	.61	.81	.85	.88	.92	.94	.96	1.00	1.04	1.08
Aug. 5	.20	.38	.67	.97	1.24	1.30	1.32	1.33	1.33	1.35	1.42
Aug. 10	.30	.50	.75	.80	.85	.86	.86	.86	.86	.86	.86
Aug. 17	.43	.66	.88	.84	.90	1.09	1.21	1.27	1.31	1.32	1.37
Sept. 7	.31	.53	.60	.60	.61	.61	.61	.61	.61	.61	.61
Sept. 15	.28	.44	.48	.50	.57	.59	.60	.61	.61	.62	.68
Nov. 5	.25	.32	.38	.41	.45	.48	.50	.51	.51	.51	.54

See footnotes at end of table.

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*—Continued

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
MIDDLE ATLANTIC STATES—continued											
Cape Henry, Va.:											
Apr. 9	0.25	0.41	0.59	0.66	0.83	0.96	1.05	1.14	1.23	1.36	1.45
May 24	.40	.66	1.05	1.18	1.49	1.64	1.68	1.70	1.79	1.91	2.01
June 20	.17	.33	.38	.39	.40	.40	.52	.67	.76	.77	.81
June 28	.13	.22	.39	.59	.85	1.04	1.32	1.50	1.54	1.78	1.86
July 13	.33	.46	.52	.53	.54	.54	.54	.54	.54	.54	.54
July 22	.31	.50	.64	.67	.67	.67	.67	.67	.67	1.11	1.23
July 24	.22	.33	.52	.66	.94	1.03	1.07	1.09	1.11	1.15	1.16
July 28	.23	.38	.56	.59	.60	.60	.60	.60	.60	.60	.60
Aug. 11	.29	.51	.85	1.03	1.14	1.18	1.18	1.19	1.19	1.19	1.19
Sept. 14	.29	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
Oct. 6	.26	.29	.30	.31	.32	.33	.33	.33	.33	.33	.33
Oct. 28	.16	.26	.41	.43	.50	.52	.53	.55	.55	.55	.55
Lynchburg, Va.:											
May 20	.33	.45	.55	.69	.90	.92	.98	1.15	1.16	1.28	1.38
June 7	.29	.46	.58	.59	.59	.59	.59	.59	.59	.60	.60
June 16	.27	.33	.48	.60	.62	.62	.62	.64	.66	.67	.68
June 18	.33	.51	.63	.69	.71	.72	.72	.72	.72	.72	.72
June 27	.25	.37	.58	.76	.79	.83	.90	.90	.90	.90	.90
July 20	.17	.24	.41	.45	.47	.48	.48	.48	.48	.49	.51
July 21	.35	.42	.55	.56	.57	.57	.58	.60	.61	.67	.75
Aug. 2	.30	.46	.57	.64	.69	.72	.74	.80	.86	.96	1.10
Aug. 17	.29	.50	.52	.53	.54	.54	.54	.54	.54	.54	.54
Norfolk, Va.:											
Jan. 7	.32	.48	.58	.61	.67	.69	.79	.86	.92	.97	.98
Apr. 1	.20	.36	.43	.46	.63	.66	.71	.73	.79	.84	.85
Apr. 9	.17	.28	.47	.65	.82	.90	.96	1.02	1.06	1.18	1.27
May 20	.30	.55	.76	.95	1.09	1.20	1.21	1.21	1.21	1.21	1.21
May 24	.33	.46	.53	.67	.70	.71	.72	.80	.83	.89	1.05
June 5	.30	.36	.41	.41	.41	.41	.41	.41	.41	.41	.41
June 21	.19	.27	.40	.52	.68	.76	1.08	1.20	1.23	1.46	1.54
June 23	.49	.77	1.12	1.15	1.17	1.17	1.17	1.17	1.17	1.17	1.17
June 28	.28	.41	.72	.88	.95	1.01	1.09	1.17	1.26	1.37	1.46
July 23	.26	.27	.28	.29	.29	.29	.29	.31	.31	.33	.33
July 28	.34	.52	.76	1.22	1.53	1.77	1.93	1.99	2.00	2.01	2.06
Aug. 11	.33	.57	.90	1.16	1.20	1.20	1.21	1.21	1.21	1.22	1.22
Sept. 13	.37	.48	.49	.50	.50	.50	.50	.50	.50	.50	.50
Sept. 17	.46	.50	.56	.58	.58	.58	.59	.59	.59	.59	.59
Sept. 18	.42	.64	.76	.77	.78	.78	.78	.79	.79	.79	.79
Sept. 19	.20	.28	.40	.43	.66	.75	1.03	1.03	1.04	1.04	1.04
Richmond, Va.:											
May 23	.30	.32	.33	.33	.35	.37	.39	.39	.39	.39	.39
May 24	.39	.48	.54	.54	.56	.56	.58	.60	.60	.60	.60
June 17	.29	.42	.48	.52	.57	.61	.65	.67	.67	.68	.68
June 27	.26	.43	.65	.82	1.06	1.18	1.34	1.46	1.61	1.84	1.96
July 30	.28	.46	.59	.69	.89	.94	.97	1.02	1.09	1.13	1.14
Aug. 2	.54	1.04	1.65	1.82	1.92	1.96	1.97	1.99	2.00	2.00	2.00
Wytheville, Va.:											
May 24	.26	.40	.61	.65	.66	.66	.68	.71	.72	.72	.75
May 29	.22	.40	.50	.65	.67	.71	.86	.94	1.01	1.02	1.04
June 10	.26	.35	.42	.42	.42	.42	.42	.42	.42	.42	.42
July 14	.23	.38	.53	.61	.62	.63	.69	.72	.77	.82	.83
July 20	.19	.33	.49	.53	.53	.53	.53	.53	.53	.53	.53
July 29	.26	.46	.64	.67	.68	.70	.70	.70	.70	.70	.70
Aug. 2	.26	.40	.53	.54	.74	.84	1.02	1.07	1.12	1.15	1.16
Nov. 5	.22	.29	.36	.55	.74	.91	1.04	1.07	1.13	1.22	1.23
SOUTH ATLANTIC STATES											
Asheville, N. C.:											
June 2	.40	.70	.73	.75	.77	.79	.81	.81	.81	.81	.81
Sept. 3	.41	.59	.65	1.16	1.17	1.23	1.30	1.55	1.80	1.97	1.97
Charlotte, N. C.:											
May 21	.39	.59	.89	.92	.93	.94	.95	.95	.95	.95	.95
Aug. 17	.33	.49	.86	.90	.91	.93	.93	.93	.93	.93	.93
Greensboro, N. C.:											
June 20	.35	.58	.80	.82	.83	.88	.91	.94	.97	.98	.98
Hatteras, N. C.:											
Dec. 5	.30	.55	.94	1.03	1.11	1.15	1.19	1.23	1.48	1.78	1.88
Raleigh, N. C.:											
May 23	.35	.56	.62	.62	.62	.62	.62	.65	.79	.85	.86
June 17	.36	.52	.73	.86	.98	1.02	1.03	1.07	1.10	1.10	1.10
June 19	.26	.50	.88	.96	1.02	1.20	1.23	1.24	1.27	1.29	1.33
Wilmington, N. C.:											
Apr. 8	.30	.51	.81	1.01	1.09	1.33	1.36	1.37	1.38	1.38	1.42
June 8	.35	.65	.98	1.13	1.14	1.14	1.14	1.14	1.14	1.18	1.20
July 24	.34	.62	.92	.99	1.03	1.08	1.25	1.38	1.39	1.60	1.60
Aug. 17	.42	.63	.83	1.07	1.22	1.22	1.22	1.23	1.24	1.27	2.14
Aug. 18	.43	.78	1.02	1.35	1.39	1.39	1.39	1.39	1.39	1.39	1.39
Aug. 27	.38	.60	.65	.66	.66	.66	.66	.67	.67	.67	.67
Sept. 16	.24	.45	.71	.86	1.21	1.42	1.71	1.84	1.88	1.91	1.98
Sept. 29	.44	.85	1.42	1.81	2.22	2.59	2.88	3.36	3.96	4.50	5.11
Charleston, S. C.:											
Aug. 5	.48	.91	1.55	1.72	1.73	1.74	1.75	1.75	1.75	1.75	1.78
Columbia, S. C.:											
June 3	.21	.39	.66	.95	1.10	1.18	1.23	1.25	1.29	1.36	1.38
July 24	.35	.60	1.15	1.52	1.79	1.93	2.00	2.06	2.13	2.20	2.22
SOUTH ATLANTIC STATES—continued											
Greenville, S. C.:											
May 28	0.28	0.51	0.81	0.92	1.03	1.10	1.12	1.12	1.12	1.15	1.20
Aug. 4	.26	.45	.85	1.03	1.18	1.22	1.23	1.23	1.23	1.23	1.23
Sept. 2	.31	.56	.77	.86	.98	1.04	1.12	1.15	1.19	1.46	1.53
Augusta, Ga.:											
July 23	.32	.61	1.09	1.43	1.58	1.62	1.66	1.68	1.73	1.80	1.86
July 29	.27	.48	.68	.72	.74	.74	.75	.75	.76	.76	.76
Savannah, Ga.:											
May 24	.23	.37	.71	.91	1.00	1.11	1.22	1.42	1.54	1.73	1.96
May 30	.24	.41	.74	.91	1.05	1.14	1.15	1.15	1.15	1.15	1.15
June 25	.37	.56	.98	1.20	1.39	1.79	2.00	2.07	2.08	2.08	2.08
July 11	.34	.60	.87	1.08	1.28	1.31	1.32	1.33	1.35	1.37	1.39
Jacksonville, Fla.											
Jan. 3	.46	.60	.63	.63	.63	.66	.68	.70	.76	.77	.79
May 25	.61	.90	1.23	1.28	1.31	1.31	1.31	1.33	1.33	1.33	1.34
May 25	.39	.68	.95	1.10	1.13	1.14	1.14	1.25	1.27	1.28	1.29
May 31	.28	.56	.98	1.18	1.41	1.53	1.55	1.66	1.68	1.68	1.68
May 31-June 1	.26	.44	.76	.83	.85	.85	.85	.86	.86	.86	.86
June 5	.41	.58	.65	.65	.76	.76	.77	.77	.77	.77	.77
June 13	.42	.69	.99	1.26	1.36	1.38	1.39	1.39	1.39	1.39	1.39
June 26	.29	.52	.98	1.32	1.62	1.82	1.86	1.87	1.88	1.92	1.93
July 9	.36	.69	.96	.97	.97	.97	.97	1.03	1.04	1.04	1.04
July 21	.51	.85	1.08	1.16	1.26	1.35	1.35	1.36	1.36	1.36	1.36
July 26	.42	.58	1.12	1.39	1.59	1.73	1.86	1.95	2.17	2.32	2.41
Aug. 6	.28	.55	.71	.87	.98	1.10	1.19	1.44	1.51	1.76	2.01
Aug. 20	.46	.77	.98	1.29	1.63	1.95	2.34	2.56	2.59	2.68	2.69
Sept. 17	.22	.35	.67	.92	.94	.95	.95	.95	.95	.95	.98
FLORIDA PENINSULA											
Key West, Fla.:											
June 1	.39	.72	.88	.89	.91	.92	.93	.94	.94	.95	.95
July 2	.45	.80	1.25	1.45	1.59	1.66	1.69	1.71	1.71	1.71	1.71
Miami, Fla.:											
Jan. 7	.38	.57	.75	1.12	1.36	1.74	2.20	2.29	2.29	2.30	2.30
May 11	.46	.87	1.34	1.72	2.04	2.15	2.22	2.35	2.40	2.78	2.85
July 22	.41	.56	.65	.79	.85	.87	.88	.91	.95	.99	1.01
Sept. 27	.32	.63	1.03	1.31	1.45	1.56	1.77	1.84	1.89	1.98	1.98
Sept. 29	.37	.63	1.10	1.40	1.49	1.82	1.86	2.02	2.05	2.05	2.14
Sept. 30	.44	.71	1.19	1.68	2.39	2.51	2.64	2.69	2.78	2.87	3.01
Oct. 3	.32	.56	1.00	1.26	1.34	1.60	1.71	1.87	1.97	2.05	2.17
Dec. 14	.33	.52	.79	.97	1.31	1.52	1.57	1.59	1.60	1.61	1.61
Tampa, Fla.:											
May 6	.25	.43	.80	1.02	1.19	1.26	1.27	1.27	1.27	1.27	1.27
May 25	.55	.85	1.11	1.15	1.17	1.17	1.17	1.17	1.17	1.17	1.17
June 1	.36	.56	1.04	1.59	1.81	1.86	1.87	1.87	1.87	1.87	1.89
June 22	.45	.63	.98	1.18	1.35	1.41	1.42	1.42	1.42	1.42	1.42
June 22	.37	.59	.85	1.21	1.36	1.53	1.57	1.57	1.57	1.59	1.62
July 30	.46	.67	.68	.68	.68	.68	.68	.68	1.07	1.30	1.34
July 31	.39	.78	1.38	1.79	2.03	2.10	2.11	2.12	2.14	2.18	2.22
Sept. 10	.32	.61	.99	1.17	1.20	1.31	1.32	1.32	1.32	1.32	1.32
Sept. 27	.46	.75	.90	.92	.95	.96	.97	.98	.98	.99	1.00
EAST GULF STATES											
Atlanta, Ga.:											
June 21	.40	.74	.99	1.04	1.08	1.09	1.09	1.09	1.09	1.09	1.09
June 25	.56	1.06	1.88	2.30	2.42	2.42	2.42	2.42	2.44	2.46	2.48
July 10	.29	.54	.83	.86	.87	.87	.87	.87	.87	.87	.87
Sept. 27	.37	.65	1.29	1.50	1.72	2.26	2.44	2.46	2.46	2.46	2.46
Macon, Ga.:											
May 29	.55	.88	1.53	1.73	1.77	1.78	1.79	1.79	1.79	1.79	1.79
July 3	.44	.71	1.07	1.32	1.51	1.61	1.62	1.63	1.69	1.71	1.71
July 20	.41	.73	1.12	1.23	1.27	1.29	1.31	1.31	1.31	1.32	1.36
Apalachicola, Fla.:											
Jan. 2	.27	.50	.85	1.01	1.08	1.14	1.18	1.22	1.26	1.30	1.34
June 2	.52	.87	1.47	1.85	1.96	2.07	2.32	2.40	2.49	2.52	2.55
June 21	.40	.48	.64	.74	.94	1.34	1.51	1.55	1.56	1.57	1.57
June 26	.28	.54	.83	.92	.96	1.02	1.27	1.42	1.43	1.45	1.45
June 27	.48	.60	.66	.70	1.00	1.09	1.13	1.38	1.40	1.43	1.46
Aug. 7	.41	.65	.94	1.14	1.53	1.67	1.84	2.11	2.15	2.26	2.30
Aug. 28	.28	.46	.89	1.04	1.09	1.09	1.10	1.10	1.10	1.11	1.11
Sept. 3	.28	.46	.80	1.16	1.51	1.65	1.68	1.97	2.19	2.26	2.31
Sept. 10	.33	.56	.77	.86	.88	.88	1.10	1.14	1.14	1.14	1.16
Sept. 18	.22	.39	.66	.83	.85	.91	.91	.91	.92	1.01	1.15
Sept. 28	.21	.36	.62	.88	1.26	1.58	1.74	1.94	2.18	2.42	2.65
Pensacola, Fla.:											
Mar. 16	.38	.62	.79	.96	1.00	1.01	1.02	1.02	1.03	1.10	1.11
Apr. 8	.39	.74	1.17	1.19	1.27	1.33	1.35	1.36	1.37	1.44	1.45
May 24-25	.26	.46	.80	.96	1.10	1.19	1.28	1.39	1.45	1.53	1.60
July 20	.46	.81	.94	1.13	1.17	1.26	1.28	1.30	1.49	1.56	1.56
July 24	.32	.58	.92	1.20	1.58	1.85	1.91	1.96	2.01	2.06	2.09
Dec. 26	.46	.75	.86	.90	.93	.96	1.01	1.02	1.05	1.05	1.06
Birmingham, Ala.:											
Apr. 7	.36	.53	.91	1.20	1.41	1.54	1.65	1.72	1.75	1.87	1.96
July 7	.40	.72	1.14	1.43	1.55	1.56	1.57	1.57	1.57	1.57	1.57
Sept. 9	.34	.49	.74	.97	1.08	1.11	1.12	1.12	1.12	1.12	1.12

See footnotes at end of table.

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*—Continued

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
EAST GULF STATES—continued											
Mobile, Ala.:											
July 5	0.26	0.46	0.73	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
July 21	.25	.40	.72	.75	.76	.76	.77	.77	.77	.77	.77
July 23	.32	.58	1.00	1.23	1.52	1.54	1.56	1.58	1.61	1.63	1.64
Dec. 26	.57	.83	.92	1.02	1.15	1.25	1.38	1.44	1.48	1.51	1.52
Montgomery, Ala.:											
Jan. 24	.28	.53	.69	.77	.86	.88	.96	1.10	1.11	1.12	1.14
Mar. 19	.32	.56	.74	.76	.82	.87	.88	.88	.88	.89	.92
Apr. 1	.34	.53	.70	.95	1.23	1.31	1.38	1.46	1.51	1.65	1.98
Apr. 8	.52	.79	1.10	1.17	1.28	1.32	1.41	1.50	1.55	1.61	1.64
June 2	.57	.87	1.17	1.19	1.20	1.21	1.22	1.22	1.22	1.22	1.22
July 15	.34	.68	1.21	1.46	1.59	1.60	1.61	1.66	1.70	1.76	1.81
July 20	.24	.36	.66	.97	1.24	1.45	1.53	1.53	1.54	1.54	1.54
July 23	.28	.48	.77	.88	.90	.92	.93	1.08	1.14	1.17	1.17
Meridian, Miss.:											
Mar. 15	.61	1.12	2.01	2.64	3.10	3.30	3.34	3.35	3.35	3.35	3.35
Mar. 31	.58	1.08	1.37	1.41	1.77	2.03	2.30	2.44	2.47	2.50	2.50
Apr. 7	.40	.61	1.06	1.33	1.95	2.57	2.74	3.08	3.33	3.70	3.74
Apr. 17	.35	.53	.76	.94	1.20	1.28	1.37	1.41	1.43	1.45	1.45
May 13	.36	.54	.64	.69	.75	.77	.77	.77	.78	.79	.79
June 11	.35	.62	1.15	1.53	1.56	1.61	1.72	1.79	1.79	1.83	1.86
June 19	.35	.52	.85	.94	.98	1.07	1.33	1.93	2.05	2.12	2.18
June 20	.34	.56	.58	.58	.58	.58	.58	.58	.58	.58	.58
June 27	.42	.75	1.27	1.30	1.30	1.30	1.30	1.30	1.61	2.33	2.33
Vicksburg, Miss.:											
Mar. 23	.40	.70	.88	1.02	1.11	1.16	1.23	1.26	1.29	1.33	1.33
July 12	.52	.91	1.43	1.58	1.68	1.70	1.71	1.71	1.71	1.71	1.71
July 19	.34	.66	1.12	1.37	1.75	1.77	1.78	1.82	1.93	2.00	2.03
Aug. 8	.32	.53	.94	1.01	1.11	1.13	1.14	1.14	1.14	1.14	1.14
Sept. 2	.38	.66	.75	.78	.80	.80	.80	.81	.83	.85	.87
Nov. 18	.30	.49	.79	.95	.98	1.20	1.22	1.24	1.24	1.24	1.25
New Orleans, La.:											
May 27	.32	.50	.69	.72	.72	.72	.72	.72	.72	.72	.74
July 8	.45	.63	.70	.71	.72	.72	.73	.73	1.07	1.15	1.16
July 18	.51	.68	.68	.68	.69	.70	.70	.70	.70	.70	.70
July 20	.33	.50	.71	.78	.79	.80	.82	.84	.84	.84	.84
Sept. 11	.34	.52	.60	.60	.62	.97	1.14	1.27	1.27	1.28	1.54
WEST GULF STATES											
Shreveport, La.:											
Mar. 28	.34	.57	.68	.68	.68	.68	.69	.70	.70	.70	.70
Apr. 7	.39	.60	.82	.86	.95	1.09	1.14	1.19	1.25	1.36	1.45
June 4	.27	.49	.84	.96	1.03	1.04	1.04	1.04	1.04	1.04	1.04
Fort Smith, Ark.:											
May 22	.46	.79	1.16	1.38	1.44	1.66	1.78	1.85	2.02	2.10	2.20
Aug. 16	.23	.35	.71	.87	.98	1.28	1.40	1.40	1.40	1.42	1.46
Sept. 14	.25	.40	.75	1.05	1.25	1.27	1.27	1.27	1.27	1.27	1.27
Little Rock, Ark.:											
Mar. 30	.35	.50	.59	.60	.61	.61	.64	1.12	1.14	1.14	1.14
Apr. 20	.49	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70
June 16	.28	.48	.78	.93	1.00	1.01	1.02	1.15	1.61	1.61	1.61
Aug. 12	.55	.85	1.31	1.63	1.86	1.92	1.93	1.93	1.94	1.94	1.94
Nov. 18	.37	.56	.73	1.12	1.38	1.50	1.60	1.70	1.84	1.91	1.91
Austin, Tex.:											
Jan. 23	.31	.58	.70	.85	.92	.96	1.07	1.16	1.18	1.20	1.21
June 17	.32	.50	.61	1.02	1.06	1.11	1.11	1.11	1.11	1.11	1.11
Sept. 14	.27	.44	.69	.95	1.16	1.20	1.20	1.20	1.20	1.36	1.36
Brownsville, Tex.:											
Mar. 8	.28	.53	.96	1.16	1.26	1.27	1.36	1.37	1.37	1.38	1.38
May 24	.39	.66	1.18	1.60	2.02	2.47	2.65	2.82	2.90	2.94	2.94
Aug. 28	.38	.47	.74	.75	.79	1.00	1.35	1.54	1.69	1.89	2.06
Corpus Christi, Tex.:											
Feb. 21	.32	.57	.97	1.30	1.34	1.36	1.37	1.37	1.38	1.39	1.40
Apr. 18	.34	.57	.65	.70	.71	.87	.93	.97	1.00	1.02	1.04
Dallas, Tex.:											
Jan. 21	.44	.68	1.03	1.24	1.59	1.76	1.88	1.92	2.16	2.23	2.42
Galveston, Tex.:											
Jan. 23	.30	.51	.66	1.04	1.13	1.24	1.25	1.25	1.25	1.25	1.25
Apr. 18	.56	1.02	1.89	2.39	2.80	3.06	3.39	3.50	3.59	3.71	3.78
May 7	.38	.60	.85	1.18	1.45	1.64	1.74	1.93	1.97	1.98	1.99
Aug. 3	.43	.72	1.11	1.31	1.49	1.53	1.56	1.58	1.60	1.61	1.62
Aug. 10	.36	.56	.88	.98	1.03	1.04	1.14	1.17	1.18	1.18	1.19
Aug. 27	.50	.70	1.24	1.62	1.70	1.70	1.72	1.76	1.79	1.79	1.80
Sept. 2	.33	.51	.82	.85	.86	.87	.87	.87	.87	.87	.87
Sept. 10	.44	.66	.66	.66	.67	.67	.69	.70	.70	.71	.71
Houston, Tex.:											
Feb. 18	.35	.62	.97	1.23	1.74	1.79	1.80	1.80	1.81	1.83	1.91
May 6	.60	1.05	1.84	2.55	3.20	3.75	4.21	4.81	5.06	5.49	5.69
May 16	.51	.92	1.11	1.14	1.19	1.19	1.35	1.48	1.49	1.52	1.52
June 9	.33	.48	.73	.79	.84	1.04	1.17	1.48	1.54	1.73	1.83
July 20	.26	.49	.80	1.00	1.29	1.49	1.57	1.63	1.65	1.66	1.75
July 31	.53	.98	1.58	1.99	2.36	2.49	2.52	2.53	2.54	2.55	2.61
Sept. 11	.30	.57	.96	1.11	1.14	1.15	1.15	1.15	1.15	1.15	1.15
Palestine, Tex.:											
Jan. 23	.38	.57	1.01	1.28	1.66	1.71	1.73	1.73	1.76	1.92	2.16
July 19	.32	.61	1.09	1.31	1.84	2.19	2.40	2.68	2.78	2.78	2.90
Nov. 6	.40	.57	.89	.97	1.02	1.05	1.07	1.07	1.11	1.25	1.26
Dec 2	.30	.44	.68	.93	1.07	1.13	1.14	1.14	1.14	1.14	1.15

See footnotes at end of table.

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
WEST GULF STATES—continued											
Port Arthur, Tex.:											
Apr. 18	0.49	0.85	1.42	1.82	2.56	2.78	2.93	3.04	3.16	3.28	3.32
May 6	.36	.54	.62	.65	.67	.88	1.04	1.07	1.07	1.07	1.12
June 18	.30	.46	.73	.84	.93	.93	.93	1.22	1.35	1.46	1.47
June 20	.68	.98	1.13	1.14	1.15	1.15	1.17	1.19	1.19	1.46	2.15
July 8	.25	.42	.78	.97	1.06	1.08	1.09	1.10	1.10	1.10	1.10
July 11	.26	.50	.83	.98	1.12	1.16	1.18	1.18	1.18	1.18	1.18
July 22	.43	.64	.81	.82	.82	.82	.83	.83	.83	1.02	1.03
July 25	.38	.56	1.01	1.35	1.46	1.79	2.14	2.22	2.34	2.42	2.42
Aug. 13	.37	.62	.75	.87	1.11	1.22	1.22	1.22	1.22	1.22	1.22
Sept. 12	.29	.45	.72	1.03	1.39	1.49	1.58	1.63	1.66	1.67	1.67
San Antonio, Tex.:											
Mar. 27	.30	.55	.86	1.03	1.18	1.34	1.65	1.98	2.13	2.18	2.43
Apr. 17	.32	.52	.78	.81	.81	.82	.82	.82	.82	.83	.83
OHIO VALLEY AND TENNESSEE											
Chattanooga, Tenn.:											
Apr. 7	.33	.54	.65	.68	.71	.76	.80	.82	.84	.88	.94
June 17	.43	.62	.87	.96	1.03	1.04	1.04	1.22	1.25	1.26	1.26
June 19	.31	.63	.93	1.06	1.07	1.22	1.27	1.31	1.32	1.38	1.40
June 19	.44	.60	.62	.62	.64	.65	.65	.65	.65	.65	.68
June 26	.29	.48	.87	1.15	1.17	1.17	1.19	1.20	1.20	1.23	1.26
July 6	.27	.52	.96	1.18	1.27	1.30	1.31	1.47	1.53	1.59	1.60
July 16	.31	.55	.65	.66	.66	.66	.66	.66	.66	.66	.66
Knoxville, Tenn.:											
May 20	.45	.57	.57	.58	.58	.59	.59	.59	.60	.60	.62
May 22	.42	.62	.65	.68	.69	.70	.70	.70	.70	.70	.70
Nashville, Tenn.:											
June 26	.33	.60	.78	.84	.84	.84	.84	.84	.94	1.20	1.20
July 22	.30	.51	.69	.76	.82	.86	.86	.86	.86	.86	.86
Sept. 10	.54	.92	1.12	1.20	1.25	1.26	1.32	1.37	1.40	1.45	1.50
Louisville, Ky.:											
Mar. 31	.19	.31	.53	.78	.87	.91	1.05	1.06	1.10	1.13	1.19
May 23	.22	.32	.45	.47	.54	.58	.60	.62	.73	1.08	1.10
July 30	.43	.68	.94	1.00	1.00	1.02	1.03	1.03	1.03	1.03	1.04
Aug. 4	.22	.35	.67	.82	1.18	1.31	1.32	1.33	1.34	1.36	1.58
Aug. 8	.21	.33	.51	.54	.54	.55	.55	.55	.55	.55	.55
Evansville, Ind.:											
May 21	.27	.48	.63	.70	.74	.76	.77	.77	.77	.77	.77
May 28	.21	.38	.75	.86	.88	.89	.90	.91	.91	.91	.91
June 18	.15	.29	.48	.63	.78	.82	.86	.87	.87	.87	.87
July 11	.25	.36	.59	.78	.87	.96	1.15	1.18	1.18	1.18	1.18
Aug. 1	.39	.61	1.10	1.20	1.29	1.30	1.30	1.30	1.30	1.30	1.30
Aug. 5	.27	.52	.89	1.10	1.19	1.24	1.27	1.30	1.30	1.30	1.30
Sept. 10	.23	.35	.41	.49	.52	.52	.52	.55	.56	.57	.57
Nov. 7	.26	.44	.46	.47	.47	.47	.47	.47	.47	.48	.48
Indianapolis, Ind.:											
Mar. 25	.40	.42	.42	.42	.43	.43	.43	.44	.44	.44	.44
Mar. 30	.22	.31	.39	.53	.67	.76	.86	.88	1.14	1.18	1.20
June 11	.41	.49	.66	.82	1.13	1.14	1.14	1.14	1.14	1.16	1.18
June 25	.25	.48	.81	1.16	1.62	1.93	1.99	2.00	2.06	2.11	2.17
July 2	.28	.45	.59	.90	1.12	1.26	1.72	1.87	1.95	2.09	2.30
July 2	.41	.69	1.21	1.47	1.60	1.61	1.67	1.73	1.77	1.84	1.91
July 27	.31	.60	.75	.90	.93	.95	.95	.95	.96	.96	.96
Aug. 21	.18	.28	.38	.45	.58	.64	.76	.84	.91	.98	1.00
Sept. 10	.37	.63	.85	.88	.89	.89	.90	.90	.90	.90	.90
Nov. 18	.16	.28	.50	.67	.71	.77	.80	.83	.85	.92	.96
Terre Haute, Ind.:											
Mar. 30	.19	.30	.52	.67	.71	.73	.75	.76	.78	.78	.79
Mar. 30	.22	.28	.48	.61	.88	1.04	1.18	1.32	1.56	1.78	2.05
May 27	.19	.37	.53	.63	.79	.83	.94	1.09	1.11	1.16	1.19
June 1	.31	.34	.60	.73	.82	.83	.83	.83	.83	.83	.83
June 25	.23	.33	.48	.56	.81	.86	.94	.98	1.08	1.14	1.17
July 2	.51	.93	1.39	1.52	1.57	1.60	1.66	1.69	1.72	1.78	1.83
July 11	.20	.32	.33	.33	.34	.34	.34	.35	.35	.35	.35
Aug. 5	.32	.50	.90	1.17	1.47	1.86	2.27	2.93	3.28	4.13	4.30
Aug. 16	.25	.38	.50	.66	.83	1.08	1.50	1.66	1.82	2.12	2.30
Aug. 21	.21	.34	.60	.78	.99	1.15	1.72	1.99	2.08	2.14	2.17
Sept. 10	.19	.35	.47	.49	.50	.51	.52	.52	.52	.53	.53
Nov. 7	.26	.36	.46	.51	.55	.58	.58	.59	.61	.64	.65
Nov. 17–18	.49	.62	.74	.95	1.00	1.08	1.17	1.21	1.28	1.32	1.38
Cincinnati, Ohio:											
Apr. 8	.22	.31	.35	.35	.35	.35	.35	.37	.40	.41	.41
May 21	.24	.35	.42	.59	.66	.81	.92	1.03	1.15	1.17	1.17
May 23	.37	.54	.63	.70	.75	.76	.78	.78	.80	.94	.97
June 25	.29	.38	.57	.62	.64	.69	.71	.71	.71	.71	.73
July 9	.21	.32	.34	.44	.50	.54	.75	.80	.84	.84	.84
Sept. 7	.33	.53	.66	.73	.84	.90	.91	.93	.94	1.04	1.08
Sept. 10	.28	.42	.48	.61	.67	.73	.76	.79	.80	.90	.97
Nov. 17–18	.28	.32	.42	.45	.78	.84	1.07	1.43	1.44	1.58	1.60
Columbus, Ohio:											
May 14	.19	.33	.41	.45	.54	.61	.67	.71	.72	.72	.72
June 11	.23	.31	.37	.39	.47	.55	.60	.69	.71	.72	.72
Aug. 1	.20	.35	.56	.75	1.06	1.22	1.38	1.61	1.75	1.78	1.80
Sept. 12	.45	.78	1.07	1.22	1.32	1.44	1.80	1.83	2.16	2.42	3.08

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*—Continued

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
OHIO VALLEY AND TENNESSEE—COR.											
Dayton, Ohio:											
Mar. 15	0.32	0.40	0.51	0.51	0.53	0.55	0.56	0.58	0.63	0.73	0.81
Mar. 30	.23	.34	.67	.70	.74	.78	.82	.87	.98	1.04	1.15
May 19	.31	.53	.72	.72	.73	.73	.73	.73	.73	1.00	1.00
May 19	.21	.32	.40	.42	.42	.42	.42	.42	.42	.42	.42
May 20	.36	.49	.67	.97	1.21	1.28	1.30	1.30	1.30	1.31	1.31
May 21	.29	.40	.41	.41	.41	.44	.47	.48	.48	.62	.77
May 23	.15	.28	.43	.58	.68	.74	.84	.88	.90	.91	.92
May 27	.25	.27	.28	.28	.29	.29	.30	.30	.30	.30	.30
May 27	.19	.38	.55	.55	.56	.56	.56	.56	.56	.56	.56
June 11	.23	.40	.54	.71	.71	.71	.73	1.04	1.05	1.14	1.16
June 25	.22	.33	.38	.39	.67	.76	.80	.84	.85	.89	.94
July 14	.28	.43	.52	.59	.65	.67	.70	.76	.83	1.08	1.32
Aug. 4	.20	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38
Aug. 6	.24	.40	.49	.50	.50	.50	.50	.50	.50	.50	.50
Sept. 14	.20	.32	.48	.74	.95	1.08	1.09	1.09	1.10	1.11	1.12
Nov. 18	.34	.56	.83	1.01	1.19	1.26	1.34	1.40	1.47	1.59	1.64
Elkins, W. Va.:											
July 9	.36	.53	.67	.68	.68	.68	.68	.68	.68	.68	.68
Sept. 1	.27	.46	.67	.88	.97	.97	.97	.97	.97	1.02	1.06
Sept. 14	.15	.28	.53	.59	.63	.68	.73	.77	.82	.85	.90
Parkersburg, W. Va.:											
July 9	.24	.46	.71	.95	1.04	1.22	1.23	1.23	1.23	1.23	1.23
Sept. 7	.31	.49	.62	.64	.65	.65	.65	.65	.65	.65	.85
Sept. 12	.22	.36	.52	.58	.63	.69	.81	.85	1.09	1.17	1.27
Pittsburgh, Pa.:											
June 11	.21	.30	.43	.53	.58	.63	.66	.69	.70	.70	.70
Aug. 6	.27	.47	.69	.91	.96	1.06	1.08	1.10	1.11	1.13	1.13
Aug. 10	.20	.29	.48	.62	.63	.63	.64	.64	.64	.64	.64
Aug. 17	.23	.38	.55	.58	.58	.58	.58	.58	.58	.58	.58
Sept. 12	.25	.45	.74	.90	.96	.98	.99	1.01	1.01	1.01	1.01
Sept. 15	.20	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32
LOWER LAKE REGION											
Buffalo, N. Y.:											
Aug. 10	.25	.35	.44	.49	.54	.57	.76	.81	.81	.81	.81
Aug. 10	.27	.38	.72	.85	.88	.93	.95	.99	1.00	1.00	1.01
Canton, N. Y.:											
June 25	.18	.33	.44	.47	.50	.61	.72	.80	.87	.98	1.05
July 22	.30	.48	.52	.52	.52	.52	.52	.52	.52	.52	.52
July 23	.23	.45	.80	.93	.97	1.05	1.13	1.20	1.27	1.29	1.29
Ithaca, N. Y.:											
Aug. 22	.33	.53	.68	.83	.94	.98	1.04	1.14	1.20	1.25	1.28
Sept. 12	.22	.36	.52	.64	.69	.72	.74	.76	.78	1.21	1.31
Oswego, N. Y.:											
June 25	.18	.26	.48	.53	.57	.60	.61	.61	.61	1.00	1.10
July 28	.27	.36	.45	.47	.47	.47	.48	.48	.48	.48	.48
Rochester, N. Y.:											
July 18	.22	.36	.46	.47	.49	.52	.55	.58	.59	.60	.60
July 23	.23	.38	.39	.39	.39	.39	.39	.39	.39	.39	.39
Syracuse, N. Y.:											
May 29	.24	.44	.85	1.17	1.47	1.61	1.67	1.91	1.96	2.00	2.00
July 22	.35	.60	.80	.84	.89	.89	1.54	1.66	1.67	1.67	1.67
Aug. 7	.34	.54	.71	.92	1.06	1.08	1.17	1.34	1.38	1.39	1.39
Aug. 11	.16	.28	.43	.54	.64	.70	.74	.77	.80	.81	.81
Aug. 17	.19	.30	.34	.35	.35	.35	.39	.45	.46	.47	.47
Erie, Pa.:											
Apr. 18	.26	.48	.71	.83	.85	.87	.89	.90	.93	1.01	1.04
June 12	.21	.31	.37	.44	.47	.48	.50	.54	.55	.57	.59
July 11	.22	.32	.43	.48	.53	.62	.69	.73	.75	.76	.76
Aug. 6	.35	.56	.79	.79	.79	.79	.83	1.21	1.27	1.28	1.28
Aug. 8	.19	.31	.53	.65	.68	.70	.72	.73	.73	.73	.73
Sept. 7	.22	.39	.49	.61	.64	.64	.68	.68	.73	.79	.80
Sept. 14	.17	.29	.50	.60	.74	.85	1.07	1.29	1.45	1.71	1.85
Nov. 13	.34	.42	.44	.45	.47	.48	.50	.52	.53	.87	.97
Cleveland, Ohio:											
May 19	.28	.46	.66	.70	.73	.75	.77	.78	.79	.79	.93
July 11	.27	.32	.54	.75	1.12	1.15	1.16	1.16	1.17	1.17	1.17
Sept. 12	.31	.56	1.00	1.09	1.22	1.33	1.34	1.35	1.35	1.35	1.35
Sandusky, Ohio:											
May 19	.43	.75	1.37	2.04	2.72	2.79	3.16	3.26	3.44	3.61	3.63
July 8	.22	.32	.38	.41	.43	.45	.46	.46	.46	.46	.46
July 22–23	.17	.29	.46	.49	.49	.49	.49	.49	.49	.49	.51
Aug. 6	.36	.60	.95	1.07	1.08	1.08	1.08	1.08	1.08	1.26	1.26
Sept. 14	.36	.59	.79	.96	1.07	1.25	1.33	1.33	1.33	1.33	1.44
Toledo, Ohio:											
Aug. 10	.29	.36	.43	.45	.46	.46	.47	.47	.47	.47	.47
Fort Wayne, Ind.:											
June 25	.29	.42	.51	.53	.55	.56	.60	.65	.67	.70	.71
July 25	.16	.30	.46	.47	.47	.47	.48	.48	.48	.48	.48
Aug. 16	.13	.24	.42	.55	.61	.64	.70	.73	.76	.83	.88
Detroit, Mich.:											
May 19	.31	.51	.63	.74	.80	.82	.88	.91	.92	1.00	1.01
June 6	.28	.49	.62	.65	.71	.80	.85	.90	.93	.95	.99
Aug. 10	.25	.28	.30	.40	.63	.67	.69	.72	.72	.72	.72
Aug. 16	.21	.31	.40	.44	.47	.48	.50	.51	.51	.51	.51

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
UPPER LAKE REGION											
Alpena, Mich.:											
July 14	0.39	0.48	0.50	0.53	0.55	0.55	0.56	0.58	0.59	0.59	0.59
July 23	.31	.61	.79	.80	.80	.80	.80	.80	.80	.80	.80
Aug. 15	.37	.69	1.30	1.54	1.56	1.57	1.95	2.01	2.01	2.02	2.02
Aug. 29	.27	.36	.41	.42	.42	.42	.44	.45	.45	.45	.45
Sept. 18	.15	.27	.43	.46	.48	.49	.51	.52	.52	.53	.53
Escanaba, Mich.:											
Aug. 10	.20	.33	.50	.66	.82	.94	1.01	1.04	1.07	1.34	1.46
Aug. 19	.23	.33	.53	.62	.63	.75	1.00	1.06	1.07	1.08	1.08
Grand Rapids, Mich.:											
May 19	.35	.69	1.01	1.04	1.06	1.08	1.18	1.21	1.26	1.29	1.31
July 28	.52	.65	.82	.98	1.04	1.05	1.05	1.12	1.12	1.12	1.12
Aug. 16	.33	.48	.59	.61	.62	.62	.62	.62	1.15	1.19	1.19
Aug. 20	.25	.38	.50	.51	.52	.57	.64	.66	.68	.74	.79
Nov. 7	.23	.33	.39	.40	.42	.44	.45	.46	.49	.67	.67
Lansing, Mich.:											
Aug. 10	.29	.43	.45	.45	.50	.50	.52	.52	.52	.53	.54
Aug. 20	.17	.27	.49	.70	.89	.90	.95	1.04	1.08	1.13	1.17
Marquette, Mich.:											
June 10–11	.23	.40	.69	.83	.94	1.05	1.18	1.30	1.47	1.83	1.94
Aug. 1	.25	.50	.70	.76	.78	.88	.89	.89	.89	.89	.89
Aug. 8	.21	.34	.39	.39	.40	.40	.40	.40	.40	.40	.40
Sault Ste Marie, Mich.:											
July 8	.25	.27	.27	.27	.27	.27	.27	.27	.27	.27	.28
Chicago, Ill.:											
June 1	.30	.48	.58	.61	.62	.62	.62	.62	.62	.69	.71
June 6	.27	.39	.57	.68	.73	.76	.82	.85	.87	.91	.92
July 22	.37	.52	.61	.67	.76	.77	.77	.77	.77	.77	.77
July 25	.35	.48	.62	.66	.73	.89	.91	.91	.93	.97	1.00
Aug. 5	.27	.42	.50	.54	.55	.64	.67	.68	.69	.78	.79
Sept. 9	.20	.33	.56	.66	.86	.91	1.05	1.36	1.46	1.54	1.57
Sept. 11	.23	.41	.65	.69	.70	.73	.77	.78	.79	.79	.80
Green Bay, Wis.:											
Apr. 14	.15	.27	.49	.70	.75	.82	.86	.87	.87	.87	.87
May 3	.33	.50	.52	.53	.72	.80	.80	.95	.95	1.00	1.00
July 8	.42	.46	.47	.47	.47	.47	.50	.55	.55	.55	.55
Aug. 10	.27	.46	.51	.67	.70	.73	.74	.74	.74	.74	.74
Sept. 9	.18	.30	.36	.37	.38	.39	.39	.39	.40	.40	.40
Milwaukee, Wis.:											
May 19	.25	.38	.68	.86	1.03	1.09	1.09	1.20	1.42	1.48	1.49
July 22	.38	.43	.44	.45	.46	.46	.54	.63	.67	.69	.70
Aug. 15	.21	.37	.63	.69	.81	.82	.99	1.06	1.26	1.34	1.56
Aug. 20	.34	.61	.98	1.09	1.18	1.21	1.26	1.34	1.35	1.35	1.35
Sept. 7	.25	.33	.36	.39	.43	.44	.49	.54	.59	.62	.75
Duluth, Minn.:											
June 5	.42	.55	.57	.57	.57	.59	.59	.59	.59	.59	.59
Aug. 9	.24	.34	.41	.50	.51	.52	.52	.53	.53	.53	.53
Moorhead, Minn.:											
Aug. 30	.21	.41	.56	.56	.56	.56	.57	.57	.57	.57	.57
Bismarck, N. Dak.:											
June 30	.23	.41	.50	.50	.50	.50	.50	.50	.50	.50	.50
Aug. 27	.21	.41	.46	.47	.47	.47	.47	.47	.47	.47	.47
Devils Lake, N. Dak.:											
Apr. 26	.37	.51	.88	1.09	1.21	1.42	1.50	1.62	1.68	1.80	1.87
July 3	.17	.35	.60	.70	.78	.79	.79	.79	.79	.80	.80
July 5	.23	.36	.41	.43	.44	.46	.51	.53	.55	.56	.56
Aug. 18	.30	.40	.52	.52	.53	.54	.74	.84	.86	.86	.86
Williston, N. Dak.:											
June 30	.15	.29	.47	.55	.73	.84	.87	.93	.98	1.02	1.03
July 26	.20	.35	.50	.70	.90	1.12	1.27	1.37	1.45	1.56	1.57
UPPER MISSISSIPPI VALLEY											
Minneapolis, Minn.:											
June 15	.20	.35	.50	.57	.69	.73	.78	.83	.86	.89	.90
July 4	.25	.45	.74	.79	.81	.82	.82	.82	.83	.83	.84
Aug. 5	.26	.36	.49	.54	.63	.72	.74	.81	.83	.84	.84
Aug. 19	.28	.37	.46	.52	.54	.58	.65	.70	.82	.82	.87
Aug. 22	.21	.36	.51	.64	.79	.81	.81	.81	.81	.81	.81
Aug. 30	.18	.35	.37	.37	.37	.37	.37	.37	.37	.37	.37
La Crosse, Wis.:											
June 10	.25	.43	.55	.58	.60	.60	.61	.62	.62	.62	.62
July 2	.14	.26	.38	.57	.77	.84	.86	.90	.90	.90	.90
July 5	.37	.61	.84	.87	.96	1.29	1.40	1.49	1.51	1.57	1.57
July 6	.21	.40	.45	.46	.47	.47	.47	.47	.47	.47	.47
July 21	.36	.61	1.11	1.46	1.48	1.49	1.50	1.50	1.50	1.58	1.72
Aug. 5	.27	.42	.56	.78	1.16	1.42	1.58	1.60	1.61	1.62	1.63
Sept. 9–10	.26	.49	.84	.98	1.05	1.12	1.18	1.22	1.36	1.45	1.52

See footnotes at end of table.

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*—Continued

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
UPPER MISSISSIPPI VALLEY—con.											
Madison, Wis.:											
May 27	0.23	0.44	0.66	0.68	0.71	0.73	0.76	0.80	0.80	0.80	0.80
June 14	.21	.36	.49	.50	.51	.52	.57	.59	.60	.61	.61
June 24	.29	.37	.41	.41	.42	.42	.43	.43	.44	.45	.46
June 30	.25	.36	.50	.62	.72	.87	.99	1.03	1.29	1.48	1.51
July 2	.33	.57	.88	1.02	1.06	1.09	1.12	1.15	1.16	1.17	1.17
Aug. 8	.29	.58	1.00	1.26	1.39	1.41	1.43	1.44	1.44	1.44	1.47
Aug. 23	.34	.48	.56	.59	.61	.68	.71	.73	.78	.80	.81
Sept. 6	.26	.30	.45	.49	.58	.61	.66	.90	1.03	1.28	1.30
Charles City, Iowa:											
Apr. 27	.26	.33	.41	.45	.50	.53	.53	.57	.59	.59	.61
May 3	.29	.52	.65	.67	.70	.70	.71	.71	.71	.71	.71
May 27	.29	.45	.60	.77	1.19	1.45	1.65	1.76	1.84	1.86	1.90
May 31	.21	.39	.57	.62	.67	.73	.80	.88	.96	1.08	1.14
June 10	.42	.71	.95	1.07	1.15	1.22	1.30	1.32	1.33	1.33	1.33
June 23-24	.22	.42	.70	.97	1.02	1.02	1.03	1.05	1.19	1.33	1.34
June 24-25	.23	.38	.46	.58	.72	.90	1.03	1.22	1.25	1.25	1.25
July 2	.25	.41	.58	.59	.60	.61	.61	.62	.63	.63	.63
July 9	.38	.55	.80	.86	.98	1.00	1.00	1.00	1.00	1.01	1.01
July 30	.36	.59	.66	.70	.72	.73	.73	.73	.73	.75	.76
Aug. 5	.25	.44	.49	.49	.49	.49	.49	.49	.49	.49	.49
Sept. 6	.30	.31	.48	.60	.89	.95	1.02	1.12	1.20	1.54	1.79
Sept. 8	.26	.35	.56	.62	.71	.71	.71	.86	.92	.94	1.10
Davenport, Iowa:											
May 4	.26	.35	.38	.40	.42	.44	.48	.53	.64	.72	.75
May 27	.32	.54	.76	1.10	1.25	1.31	1.39	1.45	1.49	1.59	1.61
May 31-June 1	.22	.33	.42	.45	.47	.49	.53	.58	.64	.66	.66
June 10	.23	.32	.33	.33	.33	.33	.34	.34	.34	.34	.34
June 14	.34	.44	.44	.45	.45	.46	.46	.46	.46	.46	.46
June 14-15	.27	.47	.71	.73	.93	1.00	1.21	1.26	1.29	1.40	1.67
July 6	.42	.60	.78	.84	.88	.89	.91	.93	.97	.99	.99
July 13	.19	.32	.42	.48	.53	.53	.54	.56	.60	.60	.73
July 31	.41	.50	.51	.51	.51	.51	.51	.52	.52	.52	.52
Aug. 8	.43	.57	.59	.62	.62	.64	.65	.66	.95	1.00	1.01
Sept. 13	.33	.56	.94	1.26	1.45	1.52	1.57	1.76	1.83	2.15	2.50
Des Moines, Iowa:											
Mar. 22	.21	.35	.43	.44	.44	.44	.44	.45	.45	.45	.45
May 17	.19	.23	.45	.45	.45	.45	.45	.45	.45	.45	.46
May 18	.27	.42	.72	.75	.87	.89	.90	.90	.90	.90	.90
June 13	.21	.37	.40	.45	.47	.47	.47	.47	.47	.47	.47
July 3	.33	.59	.90	1.13	1.30	1.39	1.41	1.42	1.42	1.42	1.42
July 6	.19	.32	.43	.44	.44	.44	.44	.44	.44	.44	.44
Aug. 5	.18	.29	.38	.44	.45	.45	.46	.47	.47	.47	.47
Aug. 7	.13	.22	.37	.38	.65	.70	.74	.75	.78	.79	.79
Aug. 16	.21	.33	.46	.50	.54	.56	.60	.63	.65	.67	.69
Sept. 10	.40	.58	.71	.74	.76	.76	.76	.76	.76	.76	.76
Sept. 13	.20	.35	.55	.67	.75	.78	.82	.83	.86	.91	.92
Dubuque, Iowa:											
May 18	.21	.34	.43	.44	.44	.44	.44	.44	.44	.44	.44
May 27	.55	.94	1.59	1.89	1.93	1.95	2.00	2.08	2.19	2.27	2.32
June 14	.43	.69	1.12	1.64	2.24	2.84	3.10	3.12	3.24	3.56	3.56
June 24	.20	.38	.70	.93	1.07	1.11	1.15	1.20	1.23	1.29	1.34
June 25	.20	.32	.40	.42	.45	.46	.46	.47	.47	.47	.47
Aug. 5	.19	.32	.64	.78	.82	1.04	1.15	1.15	1.15	1.18	1.54
Aug. 5	.36	.61	.68	.69	.69	.69	.69	.69	.69	.69	.69
Aug. 15	.21	.36	.53	.66	.83	.93	.99	1.00	1.00	1.02	1.02
Aug. 15	.14	.25	.48	.67	.93	1.07	1.19	1.24	1.28	1.31	1.32
Sept. 6	.19	.26	.36	.40	.66	.75	.78	.80	.80	.80	.80
Sept. 7	.28	.39	.50	.53	.57	.59	.64	.70	.72	.72	.72
Sept. 7	.20	.36	.60	.68	.84	.95	1.05	1.08	1.08	1.08	1.08
Sept. 8	.24	.33	.35	.35	.35	.36	.36	.36	.36	.36	.36
Sept. 10	.27	.35	.54	.64	.68	.73	.78	.82	.83	.88	.88
Keokuk, Iowa:											
Mar. 25	.42	.66	.81	.91	1.05	1.07	1.23	1.24	1.24	1.27	1.27
May 4	.25	.30	.39	.41	.43	.46	.49	.50	.52	.86	.91
May 31	.22	.33	.41	.42	.43	.43	.43	.43	.43	.43	.43
June 10	.36	.42	.44	.45	.46	.48	.49	.49	.49	.49	.49
Aug. 31	.23	.41	.55	.60	.63	.65	.67	.68	.69	.70	.70
Sept. 5	.29	.55	.82	.90	.94	.94	.94	.94	.94	.94	.94
Sept. 12	.26	.35	.53	.80	1.08	1.32	1.39	1.46	1.48	1.48	1.48
Sept. 13	.28	.39	.43	.45	.48	.50	.56	.57	.60	.61	.63
Cairo, Ill.:											
Jan. 30	.15	.29	.47	.60	.68	.74	.78	.87	.96	1.03	1.10
Mar. 13	.30	.53	.86	1.12	1.46	2.00	2.55	2.94	3.21	3.68	3.82
Mar. 13-14	.27	.42	.48	.52	.68	.94	1.10	1.30	1.48	1.52	1.56
Mar. 30	.32	.45	.70	.84	1.05	1.36	1.91	2.09	2.33	2.42	2.46
May 28	.26	.40	.58	.59	.60	.60	.61	.61	.61	.61	.61
June 1	.14	.27	.39	.41	.43	.44	.54	.56	.59	.63	.65
June 15	.18	.32	.52	.63	.68	.69	.71	.73	.73	.75	.76
July 17	.33	.58	.83	.95	1.11	1.12	1.13	1.14	1.30	1.49	1.61
July 30	.27	.48	.81	1.03	1.25	1.39	1.77	1.91	1.94	2.04	2.10
July 31	.16	.26	.36	.46	.69	.87	.98	1.08	1.16	1.30	1.47
Aug. 1	.32	.51	.76	.87	.96	.97	.97	.98	.98	.98	.98
Sept. 1	.18	.28	.42	.43	.43	.43	.43	.43	.43	.43	.43
Nov. 18	.21	.34	.52	.56	.62	.69	.90	.97	1.05	1.37	1.49

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	40	60	80	100	120	150	180
UPPER MISSISSIPPI VALLEY—con.											
Peoria, Ill.:											
Mar. 15	0.21	0.33	0.40	0.42	0.43	0.47	0.47	0.47	0.48	0.48	0.48
Mar. 30	.25	.40	.46	.48	.50	.54	.54	.57	.60	.60	.60
May 4	.20	.33	.41	.57	.77	.85	.90	.91	.95	.96	.96
May 18-19	.19	.31	.34	.40	.42	.45	.48	.49	.52	.52	.52
June 6	.32	.40	.53	.56	.57	.58	.62	.66	.67	.68	.68
June 10	.45	.71	.74	.74	.74	.74	.74	.74	.74	.74	.74
June 14	.22	.33	.49	.55	.55	.55	.62	.69	.69	.69	.69
June 24	.39	.68	1.17	1.63	1.88	2.02	2.02	2.28	2.39	2.85	3.07
July 2	.26	.34	.41	.43	.44	.45	.46	.47	.49	.50	.50
July 7	.57	.86	1.11	1.22	1.30	1.35	1.38	1.45	1.52	1.60	1.62
July 13	.19	.35	.55	.68	.82	.83	.85	.89	.93	.99	1.00
July 27	.22	.39	.58	.65	.69	.72	.73	.74	.74	.75	.75
July 31	.29	.50	.94	1.19	1.24	1.25	1.27	1.27	1.27	1.27	1.27
Aug. 31	.44	.72	1.19	1.24	1.33	1.35	1.41	1.43	1.46	1.48	1.48
Sept. 13	.29	.42	.64	.68	.68	.79	.80	.81	.81	.81	.81
Springfield, Ill.:											
May 18	.26	.48	.74	.77	.78	.78	.78	.78	.78	.78	.78
May 19	.31	.39	.49	.50	.50	.50	.50	.55	.55	.55	.55
May 21	.35	.57	.98	1.19	1.30	1.34	1.37	1.37	1.37	1.37	1.37
June 10	.35	.69	.94	.98	.99	.99	.99	1.05	1.08	1.11	1.13
July 2	.31	.45	.62	.66	.68	.69	.69	.69	.89	.90	.90
July 31	.20	.34	.53	.58	.61	.61	.61	.63	.64	.66	.68
Aug. 20	.20	.39	.52	.63	.76	.84	.90	.98	1.16	1.26	1.32
Sept. 9	.34	.63	.69	.92	1.05	1.16	1.18	1.18	1.18	1.18	1.18
Sept. 17	.19	.31	.42	.45	.47	.48	.48	.49	.49	.51	.51
Oct. 12	.27	.45	.56	.60	.60	.61	.62	.62	.62	.76	.78
Oct. 18	.24	.38	.63	.88	1.01	1.35	1.54	1.56	1.58	1.66	1.71
St. Louis, Mo.:											
Mar. 2	.18	.32	.40	.42	.44	.50	.53	.57	.59	.61	.61
Mar. 13	.26	.34	.42	.52	.67	.78	.90	1.02	1.09	1.15	1.16
Mar. 15	.24	.40	.46	.47	.49	.49	.49	.50	.64	.85	.93
Mar. 22	.21	.29	.41	.49	.54	.56	.56	.56	.56	.56	.56
Mar. 30	.13	.22	.40	.40	.41	.45	.51	.57	.63	.89	.89
Mar. 30	.22	.39	.53	.73	.92	1.04	1.18	1.28	1.39	1.41	1.42
May 4	.19	.32	.34	.34	.34	.34	.34	.34	.34	.34	.34
May 23	.18	.31	.54	.77	1.04	1.12	1.20	1.26	1.27	1.33	1.34
May 27	.23	.32	.38	.38	.38	.38	.38	.38	.38	.38	.40
June 11	.18	.24	.44	.55	.66	.70	.77	.82	.83	.93	1.10
July 31	.36	.60	.82	.86	.86	.89	1.13	1.15	1.17	1.18	1.18
Nov. 17	.22	.35	.43	.48	.53	.60	.64	.69	.73	.78	.89
MISSOURI VALLEY											
Columbia, Mo.:											
Jan. 30	.25	.33	.53	.57	.77	.87	.93	.96	.96	.97	.98
Mar. 13	.43	.82	1.36	1.55	1.62	1.63	1.65	1.65	1.65	1.65	1.65
Apr. 5	.25	.29	.34	.48	.50	.51	.51	.51	.52	.52	.52
Apr. 7	.15	.30	.38	.44	.49	.54	.60	.68	.76	.81	.83
Apr. 29	.38	.48	.56	.60	.64	.64	.66	.71	.72	.75	.75
May 11	.13	.27	.35	.53	.74	.78	.81	.81	.81	.81	.81
May 23	.21	.37	.68	.83	.96	1.02	1.13	1.21	1.28	1.35	1.40
June 6	.30	.56	.89	1.22	1.34	1.37	1.40	1.43	1.46	1.50	1.50
June 10	.39	.57	.79	.85	1.09	1.13	1.16	1.17	1.19	1.25	1.31
June 16	.21	.38	.57	.70	1.00	1.11	1.46	1.81	2.09	2.34	2.46
Kansas City, Mo.:											
May 19	.31	.34	.38	.38	.38	.38	.38	.38	.52	.64	.68
June 6	.39	.68	.89	.93	.94	.94	.94	.94	.95	.95	.95
June 18	.25	.42	.52	.58	.61	.61	.67	.68	.68	.68	.68
July 17	.27	.54	.96	1.25	1.45	1.57	1.66	1.70	1.84	1.95	2.02
Aug. 20	.55	1.06	1.26	1.29	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Aug. 21	.30	.56	.89	1.02	1.40	1.44	1.89	2.62	2.82	3.05	3.08
Sept. 5	.23	.36	.48	.59	.59	.61	.61	.64	.65	.66	.67
Sept. 10	.18	.36	.51	.52	.53	.53	.53	.53	.53	.53	.53
Oct. 18	.33	.51	.53	.54	.55	.55	.55	.55	.55	.55	.55
St. Joseph, Mo.:											
Aug. 6	.32	.56	.96	1.40	1.96	2.38	2.65	2.72	2.73	2.75	2.76
Aug. 16	.37	.67	1.20	1.34	1.44	1.52	1.57	1.61	1.64	1.68	1.74
Springfield, Mo.:											
May 7	.18	.26	.43	.53	.60	.67	.77	.88	1.07	1.27	1.39
June 9	.17	.26	.42	.49	.53	.54	.58	.58	.58	.58	.58
June 15	.43	.65	.73	.79	1.15	1.41	1.58	1.60	1.62	1.75	1.77
June 16	.40	.58	.66	.67	.72	.75	.75	.77	.78	.78	.97
July 7	.29	.48	.81	.83	.84	.86	.87	.88	.88	.88	.88
July 16	.23	.34	.51	.58	.65	.68	.72	.72	.72	.73	.73
Sept. 4	.27	.44	.57	.59	.61	.62	.63	.64	.64	.64	.64
Oct. 12	.18	.35	.53	.59	.59	.61	.61	.61	.61	.62	.65
Oct. 18	.27	.38	.40	.40	.42	.44	.44	.44	.44	.47	.50
Oct. 18-19	.14	.24	.37	.52	.54	.58	.62	.66	.74	.83	.89
Topeka, Kans.:											
May 3[1]	.39	.67	.96	1.17	1.84	2.29	2.78	3.09	3.35	3.40	3.45
May 18	.25	.41	.54	.58	.63	.65	.65	.66	.66	.88	.99
July 6	.29	.42	.50	.51	.52	.64	.67	.68	.68	.69	.71

See footnotes at end of table.

TABLE 14.—*Maximum precipitation for stated intervals during 1938 at all stations furnished with self-registering gages*—Continued

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
MISSOURI VALLEY—continued											
Lincoln, Nebr.:											
May 31	0.18	0.29	0.41	0.41	0.41	0.41	0.42	0.43	0.43	0.45	0.45
June 22	.28	.51	.78	.86	.92	.94	.97	1.01	1.03	1.06	1.09
July 1	.18	.34	.52	.55	.57	.58	.63	.68	.81	1.04	1.07
Aug. 14	.19	.27	.45	.63	.83	.94	.95	.97	1.00	1.06	1.15
Aug. 31	.35	.52	.75	1.04	1.33	1.60	1.75	1.85	1.97	2.16	2.24
Sept. 10	.22	.38	.70	.74	.77	.78	.79	.79	.79	.79	.79
Oct. 11	.26	.34	.36	.36	.37	.37	.37	.37	.37	.37	.37
Omaha, Nebr.:											
Apr. 6	.09	.16	.33	.38	.70	.86	1.03	1.15	1.22	1.27	1.33
Apr. 27	.31	.37	.46	.49	.49	.49	.49	.49	.49	.49	.49
June 10	.24	.31	.45	.68	.80	.86	.87	.88	.88	.88	.88
July 5-6	.27	.46	.77	.86	1.05	1.25	1.35	1.43	1.44	1.47	1.49
July 26	.22	.34	.70	.81	.82	.82	.87	.96	1.05	1.08	1.09
July 29	.30	.47	.52	.56	.62	.78	.83	.90	.95	1.19	1.52
July 30	.18	.27	.38	.42	.42	.42	.42	.42	.42	.42	.42
Aug. 14	.14	.24	.33	.51	.63	.86	.94	1.00	1.06	1.13	1.17
Sept. 5	.20	.35	.47	.48	.53	.55	.56	.56	.56	.56	.56
Sept. 5	.32	.52	1.01	1.13	1.20	1.23	1.27	1.32	1.34	1.35	1.37
Sept. 6	.38	.48	.52	.53	.53	.55	.56	.56	.57	.57	.57
Oct. 12	.20	.37	.58	.83	.93	1.05	1.05	1.05	1.05	1.05	1.05
Valentine, Nebr.:											
May 17	.30	.54	.70	.74	.76	.79	.83	.85	.86	.88	.88
July 15	.37	.54	.76	.88	.98	1.00	1.00	1.01	1.01	1.01	1.01
Aug. 9	.35	.52	.71	.73	.75	.75	.76	.76	.76	.76	.76
Sioux City, Iowa:											
May 17	.29	.33	.43	.49	.51	.51	.51	.51	.51	.77	.88
June 13	.31	.52	.58	.59	.62	.67	.82	.97	1.01	1.03	1.20
July 2-3	.47	.83	1.22	1.61	1.87	2.00	2.13	2.17	2.19	2.23	2.27
July 5	.21	.27	.39	.51	.63	.71	.72	.73	.78	.81	.82
July 6-7	.44	.75	1.25	1.50	1.69	1.78	1.86	1.98	2.06	2.13	2.16
Sept. 4-5	.23	.44	.66	.74	.81	.87	.93	.96	1.00	1.19	1.44
Sept. 5	.22	.34	.57	.88	1.17	1.27	1.36	1.39	1.40	1.42	1.50
Sept. 5	.31	.50	.80	1.07	1.20	1.28	1.33	1.39	1.43	1.57	1.58
Oct. 11	.28	.51	.75	.77	.78	.78	.78	.92	.93	.93	.93
Huron, S. Dak.:											
Apr. 15	.17	.28	.36	.50	.61	.68	.71	.73	.74	.75	.75
Apr. 26	.25	.45	.64	.70	.71	.75	.78	1.12	1.19	1.20	1.22
May 17	.28	.50	.72	.80	.84	.89	.96	1.00	1.03	1.05	1.07
July 5	.21	.30	.30	.30	.31	.31	.31	.31	.31	.32	.32
July 7	.30	.51	.66	.68	.69	.70	.70	.70	.71	.71	.71
July 30	.39	.61	.79	.83	.84	.84	.84	.84	.84	.94	1.25
NORTHERN SLOPE											
Havre, Mont.:											
June 22	.52	.89	1.33	1.46	1.50	1.56	1.68	1.73	1.74	1.76	1.78
Oct. 9	.16	.33	.49	.60	.67	.71	.78	.80	.80	.80	.80
Helena, Mont.:											
June 22	.36	.41	.42	.42	.42	.42	.42	.42	.42	.42	.42
June 26	.40	.49	.58	.59	.60	.60	.60	.60	.60	.60	.60
July 5	.12	.21	.30	.51	.58	.60	.60	.60	.61	.62	.62
Miles City, Mont.:											
May 1	.19	.30	.40	.42	.44	.44	.45	.45	.45	.45	.45
June 14	.36	.49	.67	.67	.73	.74	.77	.79	.79	.79	.79
Rapid City, S.Dak.:											
June 23	.46	.74	1.08	1.11	1.17	1.18	1.18	1.18	1.18	1.18	1.18
July 26	.20	.30	.35	.35	.35	.35	.35	.35	.35	.35	.35
Sept. 9	.20	.34	.48	.51	.56	.58	.59	.60	.60	.60	.60
Cheyenne, Wyo.:											
July 25	.25	.26	.26	.26	.27	.27	.27	.27	.27	.27	.27
Aug. 15	.29	.44	.47	.47	.47	.47	.47	.49	.53	.54	.54
Lander, Wyo.:											
July 15	.17	.25	.42	.42	.42	.42	.42	.43	.43	.43	.43
Sheridan, Wyo.:											
May 18	.23	.40	.69	.92	1.11	1.16	1.19	1.20	1.20	1.20	1.20
North Platte, Nebr.:											
Apr. 14	.40	.59	.65	.67	.70	.70	.71	.71	.72	.72	.72
June 20	.20	.36	.62	.68	.81	.86	.89	.91	.93	.93	.94
June 24	.29	.44	.58	.61	.63	.64	.71	.72	.74	.74	.74
July 2	.55	.77	.82	.82	.90	1.22	1.30	1.38	1.38	1.39	1.39
July 6	.28	.37	.46	.53	.54	.88	.96	.97	.97	.97	.97
Aug. 15	.13	.28	.45	.56	.70	.75	.79	.91	1.04	1.12	1.16
Sept. 4	.38	.67	1.23	1.58	1.68	1.74	1.83	1.93	1.97	2.06	2.32
MIDDLE SLOPE											
Denver, Colo.:											
May 30	.48	.90	1.46	1.57	1.58	1.59	1.60	1.60	1.61	1.61	1.61
Sept. 2	.26	.36	.60	.83	.93	.95	.97	.99	1.02	1.04	1.05
Pueblo, Colo.:											
May 22	.19	.31	.37	.38	.47	.53	.57	.60	.62	.69	.76
Aug. 10	.17	.27	.49	.67	.99	1.12	1.17	1.20	1.24	1.25	1.26
Sept. 12	.23	.33	.36	.36	.37	.37	.37	.37	.37	.37	.37

Stations and data	Maximum amounts of precipitation (5 to 180 minutes)										
	5	10	20	30	45	60	80	100	120	150	180
MIDDLE SLOPE—continued											
Concordia, Kans.:											
May 1	0.27	0.46	0.89	1.06	1.33	1.54	1.77	1.77	1.77	1.79	1.81
June 10-11	.22	.27	.36	.47	.74	.84	.92	.99	1.04	1.17	1.20
June 14	.25	.28	.28	.29	.30	.43	.47	.49	.57	.67	.73
June 21	.31	.55	.70	.76	.78	1.06	1.19	1.24	1.28	1.30	1.31
June 24	.22	.41	.52	.54	.55	.56	.56	.56	.56	.56	.56
July 16	.22	.32	.40	.45	.55	.58	.60	.71	.73	.76	.78
July 28	.20	.30	.39	.48	.54	.56	.59	.62	.70	.77	.81
Aug. 14	.26	.47	.79	1.11	1.42	1.65	1.98	2.13	2.17	2.26	2.27
Sept. 10	.20	.29	.45	.50	.53	.54	.54	.54	.54	.57	.59
Nov. 2	.18	.34	.55	.80	1.01	1.23	1.33	1.33	1.33	1.33	1.33
Dodge City, Kans.:											
July 13	.29	.42	.55	.74	.88	.94	.96	.96	.97	.98	.98
Aug. 15	.42	.71	1.22	1.46	1.54	1.57	1.70	1.99	2.04	2.15	2.53
Sept. 4	.19	.30	.50	.52	.57	.62	.68	.73	.74	.78	.80
Wichita, Kans.:											
May 18	.25	.29	.44	.65	.76	.80	.84	.93	.98	1.00	1.01
May 19	.20	.30	.49	.62	.68	.74	.85	.90	.90	.99	1.39
June 16	.27	.49	.77	.93	1.28	1.45	1.68	1.80	1.88	1.94	1.96
July 22	.47	.71	.76	.78	.79	.79	.79	.79	.79	.79	.79
Aug. 15	.38	.67	1.10	1.29	1.51	1.66	2.07	2.35	2.56	2.67	2.74
Sept. 2	.20	.39	.72	.80	.90	1.07	1.11	1.15	1.19	1.21	1.22
Nov. 2-3	.19	.28	.40	.48	.56	.62	.68	.76	.83	.95	1.03
Oklahoma City, Okla.:											
May 6	.50	.52	.53	.57	.83	1.07	1.11	1.22	1.67	1.71	1.72
June 16	.30	.58	.92	1.16	1.33	1.34	1.34	1.35	1.35	1.35	1.35
July 15	.32	.56	1.02	1.23	1.33	1.37	1.48	1.49	1.49	1.50	1.50
SOUTHERN SLOPE											
Abilene, Tex.:											
May 21	.49	.76	1.11	1.33	1.71	2.12	2.60	2.77	3.00	4.04	4.24
June 8	.39	.63	.98	1.24	1.41	1.44	1.44	1.45	1.57	1.60	1.61
July 20	.29	.51	.91	1.31	1.79	2.18	2.50	2.64	2.67	2.78	2.83
Roswell, N. Mex.:											
July 22	.27	.45	.58	.60	.62	.65	.68	.69	.69	.69	.69
SOUTHERN PLATEAU											
Albuquerque, N. Mex.:											
July 15	.24	.37	.44	.44	.46	.46	.46	.46	.46	.46	.46
Oct. 7	.16	.29	.39	.52	.53	.53	.54	.54	.56	.56	.56
Santa Fe, N. Mex.:											
June 28	.27	.45	.71	.83	1.04	1.05	1.06	1.06	1.07	1.07	1.07
July 19	.39	.62	.71	.77	.81	.81	.83	.87	.88	.88	.88
MIDDLE PLATEAU											
Modena, Utah:											
July 25	.25	.47	.81	.96	1.20	1.24	1.31	1.34	1.34	1.37	1.44
Sept. 3	.33	.36	.38	.40	.41	.41	.41	.41	.41	.41	.41
Grand Junction, Colo.:											
Sept. 2	.13	.25	.36	.48	.74	.92	1.01	1.05	1.06	1.08	1.10
NORTH PACIFIC COAST REGION											
Roseburg, Oreg.:											
Sept. 28	.21	.33	.45	.49	.52	.55	.56	.67	.69	.72	.74
SOUTH PACIFIC COAST REGION											
Eureka, Calif.:											
Oct. 31	.27	.34	.35	.35	.37	.37	.37	.37	.67	.73	.73
Los Angeles, Calif.:											
Feb. 28	.21	.33	.50	.55	.68	.70	.77	.86	.88	.94	.97
Mar. 2	.18	.29	.48	.66	.83	.90	.99	1.27	1.44	1.78	1.93
San Diego, Calif.:											
Dec. 15	.21	.31	.43	.55	.69	.78	.80	.84	.95	1.29	1.43
ISLAND POSSESSIONS											
San Juan, P. R.:											
Mar. 28	.43	.75	1.22	1.39	1.45	1.47	1.51	1.52	1.61	1.65	1.72
July 10	.34	.56	.69	.92	.97	1.06	1.12	1.16	1.23	1.24	1.60
Sept. 9	.34	.52	.62	.63	.75	1.23	1.26	1.44	1.45	1.45	1.45
Oct. 3	.30	.52	.71	.75	.80	.88	.89	.91	.92	.94	.95
Honolulu, Hawaii:											
Feb. 3	.21	.28	.47	.58	.63	.71	.83	.93	.99	1.06	1.11
Mar. 27	.28	.50	.81	.95	1.06	1.10	1.14	1.16	1.25	1.29	1.35
July 1	.20	.31	.50	.64	.76	.84	1.04	1.08	1.14	1.18	1.20
Oct. 15	.18	.27	.40	.45	.49	.50	.51	.51	.51	.51	.55
Dec. 27	.17	.30	.35	.40	.50	.51	.52	.52	.52	.52	.53

[1] Interpolated.

NOTE.—The following stations had no excessive precipitation during the year 1938: In the New England States, Eastport, Maine; west Gulf States, Fort Worth, Tex.; Ohio Valley and Tennessee, Memphis, Tenn.; northern slope, Yellowstone Park, Wyo.; southern slope, Amarillo, and Del Rio, Tex.; southern plateau, Phoenix, Ariz.; middle plateau, Reno and Winnemucca, Nev., and Salt Lake City, Utah; northern plateau, Baker, Oreg., Boise, Idaho, and Spokane, Walla Walla, and Yakima, Wash.; north Pacific coast region, North Head, Seattle, Tacoma, and Tatoosh Island, Wash., and Portland, Oreg.; middle Pacific coast region, Redding, Sacramento, and San Francisco, Calif.; southern Pacific coast region, Fresno, Calif.; and in Alaska, Fairbanks, Juneau, and Nome.

EVAPORATION, 1938

The monthly and annual amounts of evaporation during the year 1938 appear in table 15 below. The number of these reports at the present time is small, records appearing from less than half of the States.

The evaporation measurements are all made from cylindrical pans, 4 feet in diameter, 10 inches deep, placed on framework laid on the ground, and exposed as far as possible to full sunshine. A description of equipment and methods of observation appeared in the Monthly Weather Review of December 1916, pages 674 to 677.

TABLE 15.—*Monthly and annual evaporation, in inches, at class A stations for 1938*

Stations	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
ALABAMA													
Fairhope	2.21	2.58	3.68	4.76	5.85	6.60	6.04	6.16	4.64	3.90	2.29	1.67	50.38
ARIZONA													
Lee's Ferry		2.64	5.07	8.98	10.89								
Marble Canyon [1]						15.24	15.58	13.49	9.32	6.85			
Mesa	2.99	2.59	4.80	8.63	10.54	11.23	10.42	9.49	7.93	4.78	4.13	2.33	79.86
Roosevelt	1.57	1.74	3.82	5.83	8.34	9.75	9.24	11.69	8.26	6.28	3.53	1.80	71.85
Sierra Ancha [2]	2.36	2.11	3.74	7.30	8.92	10.83	10.16	9.66	8.35	6.29	3.81	2.57	76.10
University of Arizona (Tucson)	3.14	3.11	5.80	8.69	12.12	13.23	11.04	9.78	8.28	7.24	4.48	2.60	89.51
Yuma (citrus)	4.81	4.37	7.42	11.28	13.26	14.93	15.69	14.55	11.45	7.53	6.26	3.66	115.21
Yuma (valley)	4.70	4.22	7.38	11.32	12.49	13.16	13.25	11.66	9.68	6.86	5.67	3.47	103.86
ARKANSAS													
Hope	2.71	2.97	5.52	4.99	7.92	7.02	7.66	8.63	6.78	6.38	3.64	2.62	66.84
Russellville	2.10	2.29	4.99	4.96	6.43	7.03	8.16	8.77	6.99	5.62	2.54	1.97	61.85
Stuttgart	1.48	1.82	3.72	4.82	6.08	6.31	7.21	6.70	5.66	4.58	2.81	1.74	52.93
CALIFORNIA													
Alvarado (near)	1.50	2.12	4.12	4.43	6.34	7.08	7.13	7.07	5.04	3.41	2.24	1.03	51.51
Chula Vista	3.17	3.27	5.00	6.07	6.42	7.02	7.38	6.90	6.32	4.72	4.33	3.02	63.62
Davis	1.02	1.82	2.99	4.96	8.80	10.27	10.90	9.91	7.79	4.19	3.66	1.17	67.48
Fall River Mills	.95	1.44	2.43	4.40	7.04	9.83	11.75	10.96	7.06	3.02	1.31	.67	60.86
Lodi	.78	1.77	3.14	4.26	8.11	10.42	11.12	9.99	7.27	3.70	2.38	.66	63.60
Mojave (Backus Ranch)	3.96	3.06	5.58	10.31	12.74	17.46	20.26	18.07	13.75	7.59	5.31	3.38	122.07
Oakdale	.67	1.45	2.99	4.06	8.99	13.09	14.06	11.68	7.89	3.87	2.49	.62	71.86
Tahoe						3.63	3.72	4.45	3.08				
GEORGIA													
Experiment				4.79	7.05	7.39	6.34	6.14	5.62	5.59	3.00	2.23	
Tifton	2.43	3.49	6.44	6.40	8.30	6.49	5.94	7.62	5.75	4.60	3.00	2.36	62.82
HAWAII													
Hoseae (upper)	4.04	4.26	5.13	6.04	5.80	7.24	8.04	6.97	6.16	5.74	3.99		
Pahala	4.58	3.89	5.10	5.76	4.52	5.39	5.64	5.70	5.31	5.60	4.14	4.64	60.27
IDAHO													
Aberdeen					6.30	7.74	7.76	8.02	5.49				
Arrowrock					6.15	8.18	9.53	9.01	6.51	1.62			
Lifton				3.92	5.66	7.70	8.40	8.05	6.21	3.06			
Milner Dam				4.07	5.66	6.71	8.41	8.50	6.10	2.79			
INDIANA													
Indianapolis				5.25	5.43	5.80	6.82	6.31	4.58				
IOWA													
Ames				4.26	5.46	7.38	10.72	8.63	5.26	4.91			
Cherokee					5.32	7.22	9.02	8.44	5.13	4.70			
Clarinda [3]					5.91	8.43	11.81	9.41	6.20	7.06			
Iowa City			3.25	4.80	5.04	6.40	8.21	7.10	4.27	3.69	2.57		
KANSAS													
Hays					7.38	11.00	17.22	18.89	11.37	11.38			
Manhattan (Agronomy Farm) [4]				6.63	6.89	7.97	12.67	13.88	11.37	9.15			
Tribune				5.67	7.70	9.70	11.74	13.68	7.34				
KENTUCKY													
Eadsville (Lock 21, Cumberland River)			4.17	4.30	4.47	5.30	5.79	5.37	3.62	2.68	2.46	1.22	

[1] Station opened May 19, 1938.
[2] Station opened October, 1935.
[3] Station opened Apr. 1, 1938.
[4] Station opened Oct. 1, 1937.

TABLE 15.—*Monthly and annual evaporation, in inches, at class A stations for 1938*—Continued

Stations	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
MISSOURI													
Columbia [5]					3.81	4.74	6.15	6.62	4.10				
Lakeside	1.22	1.75	4.69	6.16	5.77	7.44	9.14	9.49	5.41	5.20	3.47	1.64	61.38
Washington University (St. Louis)[6]						5.67	7.28	7.09	4.87	4.07	2.61		
MONTANA													
Agriculture College (Bozeman)				3.65	4.74	6.28	6.48	7.08	6.29	2.06			
Fort Peck [7]						8.62	9.97	9.40	6.07	3.19			
Malta					6.84	6.89	9.74	8.90	6.06	3.58			
Sherburne Lake					6.86	7.05	7.67	7.43	5.62				
Valier						7.40	6.88	7.92	8.37	4.19			
NEBRASKA													
Bridgeport					6.16	7.63	7.82	8.10	4.03				
Lincoln				6.54	4.98	7.59	10.78	10.07	5.82	6.41			
NEVADA													
Boulder City	4.59	4.42	6.91	11.96	13.39	17.11	17.40	15.50	12.11	7.68	5.47	3.46	120.20
Lamoille					5.58	7.66	8.80	11.31	7.47	3.49			
NEW MEXICO													
Agriculture College	3.02	4.60	8.49	10.28	13.06	12.72	10.72	11.88	8.01	6.84	4.50	3.31	97.43
Conchas Dam	3.77	5.40	10.20	11.25	13.58	11.77	13.66	16.25	7.97	7.12	5.69	3.32	109.98
Elephant Butte Dam	3.56	5.72	10.27	13.14	15.60	16.82	12.87	14.16	7.71	8.32	5.79	3.40	117.36
El Vado Dam					6.85	8.54	8.48	8.40	5.04	4.66			
Florida [8]										7.45	5.42	5.56	
Jornada (Las Cruces)[9]	2.90	4.08	7.08	9.82	13.30	14.73	10.67	12.64	7.76	6.99	4.23	2.85	97.05
Navajo Experiment Station				9.81	11.36	12.67	12.28	11.78	6.64	6.90			
Portales	3.04	2.94	6.82	10.67	10.66	12.30	11.34	12.40	7.03	7.17	5.92	5.60	95.88
Therma (Eagle's Nest)					7.16	7.41	7.02	7.82	4.50	4.24			
NEW YORK													
Albany (Voorheesville)					4.24	5.69	5.44	5.73	3.63	2.34			
Ithaca					4.15	5.97	6.32	6.55	3.42	2.61			
NORTH CAROLINA													
Chapel Hill	1.18	1.82	3.37	4.07	4.90	5.02	4.86	5.42	2.98	2.38	1.16	.72	37.88
OHIO													
Dayton				4.39	5.91	6.33	6.28	6.34	3.90	2.45			
Ohio State University				3.36	4.14	4.33	4.61	4.77	3.25	1.99			
Wooster					5.61	5.28	6.25	6.48	3.76	2.45			
OKLAHOMA													
Tipton [10]							13.28	15.04	10.48	8.37	5.92		
University of Oklahoma (Norman)			6.72	5.41	6.51	7.49	9.29	10.58	7.10	6.18	3.63		
OREGON													
Corvallis				3.14	4.13	5.85	6.57	6.37	3.98				
Medford			2.06	3.68	6.84	9.24	9.90	8.80	5.10	2.57	.96	.41	
Warmspring Reservoir				5.01	6.90	9.42	10.98	10.85					
PUERTO RICO													
San Juan	7.31	7.75	9.03	9.31	9.28	7.75	8.90	9.45	7.07	5.96	6.21	6.20	94.23
TENNESSEE													
Lock A, Neptune			3.98	4.81	6.06	5.45	6.30	5.76	4.75	3.57	2.60	1.39	
TEXAS													
Austin	3.24	2.92	4.58	5.43	6.45	7.95	9.23	8.71	7.11	5.39	3.65	3.05	67.72
Dilley	2.48	3.08	5.17	5.82	7.40	9.48	11.49	10.88	8.43	7.56	4.73	3.31	79.83
UTAH													
Bear River Game Refuge					11.07	10.50	10.94	11.09	7.91	3.89			
Myton					7.46	8.95	9.72	8.75	5.37	3.14			
Piute Dam						10.50	11.11	9.54	6.40	4.36			
Utah Lake				6.00	7.32	9.72	9.78	10.91	6.81	3.63			
VIRGIN ISLANDS													
St. Croix	4.36	5.12	6.18	6.07	6.36	5.80	6.68	5.29	6.29	4.72	4.24	4.10	65.21
WASHINGTON													
Kachess Lake					4.78	6.18	7.45	5.98	3.54	1.38			
Walla Walla			2.31	3.72	6.08	8.00	11.44	10.38	6.73	2.39			
Wind River					5.27	6.35	7.52	5.91	3.78	1.58			
WEST VIRGINIA													
Clarksburg				3.94	4.54	4.52	4.99	5.14	3.64	1.98			

[5] Station opened May 12, 1936.
[6] Station opened June 1, 1938.
[7] Station opened Sept. 10, 1934.
[8] Became Class A Station Oct. 12, 1938.
[9] Station opened Oct. 1, 1937.
[10] Station opened July 1, 1938.

MONTHLY AND ANNUAL METEOROLOGICAL SUMMARIES FOR 187 STATIONS FOR 1938

EXPLANATION OF THE TABLES

For a detailed account of the method of reducing the observed barometric pressures the reader is referred to the report on the barometry of the United States, Canada, and the West Indies, to be found in the Annual Report of the Chief of the Weather Bureau, 1900–1901, volume II.

Pressure.—Two mercurial barometers of the well-known Fortin cistern pattern, or a modified form thereof, are furnished each station. One of these, the station barometer, is used in making all regular observations; the other, the extra, is held in reserve for use in case of emergency, except that monthly comparative readings are made on the two instruments for purpose of check upon the deterioration of either instrument.

Each barometer, before issue to station, is compared with the substandard at Washington, and a certificate-of-correction card furnished showing the several constant corrections that must be applied to the readings of the instrument in order to derive therefrom the actual pressure of the air in standard units at a specified elevation. Each observation as made, therefore, is corrected by the application of the following:

(1) Correction of scale error, capillarity, etc.

(2) Correction to standard gravity, comprising both latitude and altitude terms.

(3) Correction for removal—a correction applied if any change has been made in the elevation of the barometer, to reduce the readings to the elevation adopted in 1900. (However, at a very few stations the elevation of 1900, or the original elevation of a station opened since 1900, has been replaced as the "station elevation" by an actual elevation since established.)

Corrections 1, 2, and 3 are constant for any one station and are combined in a single sum.

(4) Correction for the temperature of the scale and mercurial column.

In the pressure columns of this part the values presented are those at the station elevations of the barometer cisterns, which are at various heights above the ground level, but usually less than 100 feet. On the other hand, daily weather maps and most other pressure data issued by the Bureau indicate sea-level pressures.

The monthly mean pressures given in the summary are deducted from the corrected observations of pressure at 7:30 a. m. and 7:30 p. m., seventy-fifth meridian time, by taking the mean thereof and applying thereto a correction to reduce to the mean of 24-hourly observations. At several Alaska stations and at Honolulu the mean is printed uncorrected. The extremes are determined, wherever possible, from the barograph trace.

Temperature.—The temperature of the air at 7:30 a. m. and 7:30 p. m., seventy-fifth meridian time, and at noon, local time, is obtained by the use of the whirled dry-bulb thermometer. The latter is a part of the whirled psychrometer and is mounted in the thermometer shelter adopted in 1885. The means of these observations are given in the columns headed 7:30 a. m., 7:30 p. m., and noon, respectively.

The maximum temperature is obtained by the use of the Negretti and Zambra mercurial thermometer, having a constriction in the bore of the tube below the scale. The minimum temperature is obtained by the use of the ordinary Rutherford alcohol minimum thermometer. Both instruments are read and the values recorded twice daily, at 7:30 a. m., and 7:30 p. m., seventy-fifth meridian time, and are set twice daily at 7:30 a. m. and 7:30 p. m. The extremes given in the summaries are for the civil day, midnight to midnight, normal standard time. The monthly means have been obtained by dividing the sum of the mean maximum and mean minimum temperatures by 2.

Moisture.—The monthly means of the dew point, relative humidity, and vapor pressure are given as computed directly from the original daily observations.

The rain gages used at the regular Weather Bureau stations have a circular catchment area of about 8 inches diameter, and the snow, hail, or sleet caught within them is melted and measured as water. The rain gage proper is set within an enclosing cylinder, which serves as an overflow attachment in the case of heavy rains and as a snow gage in the winter season.

The sum total of the depth of rain and melted snow is measured to within 0.01 inch at 7:30 a. m. and 7:30 p. m., seventy-fifth meridian time, daily. The total precipitation is determined from the amounts recorded daily, midnight to midnight, standard of time in local use.

The snow caught and retained in the gage is melted and measured as water. No correction is applied for snow that is lost out of the gage by the eddying action of the wind; consequently in some cases the record is less than would be given if the observer had measured cylinders of snow cut from the spots representing the average snowfall on the ground. When it is known that the catch of the snow gage is markedly at fault, an independent ground measurement is made and used as the official record. The loss of both rain and snow caused by high winds, from gages exposed on the roofs of tall buildings in which some of the regular stations of the

Weather Bureau are located is undoubtedly larger than is the case at the cooperative stations where the gages are located in the open country and near the ground, but this loss does not appear to be sufficient to make the monthly sums derived from these two classes of stations wholly inconsistent with each other.

By the maximum precipitation in 24 hours is meant the greatest measurement for any 24 consecutive hours; it does not refer to the rate of rainfall for 24 hours, as deduced from short, heavy showers.

The number of days with precipitation amounting to 0.01 and 0.04 inch, respectively, relates to the rainfall from midnight to midnight, standard of time in local use. No record is made of deposits of dew.

The total snowfall column presents the depth as unmelted snow. The month in this instance runs from the last observation of the preceding month to the last observation of the month itself.

The cloudiness recorded in the summaries is derived from personal observations. The proportion of sky covered by clouds is estimated by the observer at 7:30 a. m., 7:30 p. m., and noon, on a scale of 0–10. These observations cannot be combined into a daily mean in the present state of our knowledge of the diurnal variations in cloudiness, and are therefore given separately. In order, however, to obtain a general record of the sunshine as affecting the growth of plants, the observer keeps some memoranda of the cloudiness sufficient to enable him at the end of the day to determine the average cloudiness on the scale given above from sunrise to sunset; the resulting average for each month is given in the column of "daylight" cloudiness.

The number of days that were clear, as given under "Number of days, etc.," includes those on which the daylight cloudiness was 0-, 1-, 2-, or 3-tenths; the days partly cloudy were those on which the daylight cloudiness was 4-, 5-, 6-, or 7-tenths; the cloudy days were those having 8-, 9-, or 10-tenths of cloudiness during daylight.

Wind.—The direction and velocity of the wind are recorded at nearly all the stations on what is known as the "triple register." On these instruments the direction of the wind is recorded every minute. The maximum velocities given are for 5-minute periods.

Beginning with January 1, 1932, the Weather Bureau began the practice of applying corrections to all records of wind velocity obtained from rotating cup anemometers. Correction tables for both three-cup and four-cup anemometers have been made available to stations and hence values furnished to the public are on a comparable basis, regardless of the particular instrument employed.

Number of days.—The number of days with hail includes all of those on which at least a trace of hail fell.

The number of days with dense fog includes all of those on which fog was dense enough to obscure objects 1,000 feet distant. Fog of less density is recorded as light.

Time.—7:30 a. m. and 7:30 p. m., in this part, indicate seventy-fifth meridian time, except in a few instances, where footnotes specify otherwise.

References and abbreviations.—H, official elevation of station=height of the ground above sea level at station; H_b=height of barometer cistern above mean sea level on January 1, 1900, or when the station was established, if it was established since January 1, 1900, that being the elevation to which all previous readings have been reduced. It is designated as the "station, or adopted elevation." At almost all stations where a change has been made in the elevation of the barometer since January 1, 1900, a corresponding correction has been applied to the observed reading, thereby reducing all values to the "station, or adopted elevation." The actual elevation and the station, or adopted elevation, are identical, except at stations where the barometer has been moved since January 1, 1900; h_t=height of thermometer above ground; h_r=height of rain gage (top) above ground; h_a=height of anemometer (cups) above ground.

ANNUAL METEOROLOGICAL SUMMARIES, 1938

Prepared by

A. F. MAGRUM

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*

ABILENE, TEX.

[ϕ=32°27′ N.; λ=99°44′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In				
January	28.26	28.72	27.77	40.8	52.4	52.4	58.5	38.4	48.4	84	17	32	30	32	72	47	50	0.188	0.189	0.200	1.49	0.75	0.0	5.3	5.5	4.9	5.6
February	28.30	28.60	27.99	45.1	57.0	57.3	62.6	42.2	52.4	80	26	40	39	40	82	56	56	.267	.269	.266	1.23	.62	3.5	6.8	7.4	7.9	7.6
March	28.08	28.54	27.71	53.2	70.5	71.6	76.5	50.4	63.4	92	34	42	40	37	69	38	34	.292	.266	.240	4.36	2.34	.0	4.8	4.5	4.1	4.1
April	28.15	28.53	27.71	53.5	70.1	69.5	75.3	51.1	63.2	88	27	47	47	44	80	47	43	.357	.353	.325	1.62	.48	2.9	6.1	5.4	4.1	5.3
May	28.06	28.43	27.63	63.3	80.2	81.7	85.4	61.7	73.6	99	42	56	55	54	77	44	41	.464	.457	.444	6.61	4.25	.0	4.8	4.2	4.7	4.7
June	28.15	28.38	27.88	70.9	88.1	88.5	92.8	69.8	81.3	99	63	64	62	61	79	43	42	.600	.570	.541	5.92	2.29	.0	5.1	4.1	5.1	4.8
July	28.16	28.30	28.00	73.6	89.0	89.4	93.5	72.4	83.0	103	68	66	65	63	78	47	46	.638	.615	.579	7.95	3.22	.0	4.5	5.2	4.5	4.6
August	28.20	28.37	27.93	73.8	91.7	91.4	95.4	73.3	84.4	100	69	64	62	60	72	38	36	.604	.562	.525	.04	.04	.0	3.0	3.5	2.8	2.9
September	28.21	28.42	28.01	67.4	87.9	86.2	91.6	66.3	79.0	97	54	55	52	51	66	31	31	.457	.408	.391	.29	.12	.0	3.2	3.7	2.6	3.3
October	28.25	28.48	27.98	59.0	79.8	75.9	83.7	57.3	70.5	97	38	48	45	44	68	32	34	.351	.318	.303	1.26	.99	.0	2.3	2.4	2.0	2.3
November	28.26	28.77	27.72	43.1	61.3	57.8	66.5	40.3	53.4	86	18	29	27	28	59	30	33	.190	.180	.179	.97	.90	.4	2.6	2.9	2.4	2.9
December	28.27	28.79	27.88	40.1	54.7	51.7	59.2	35.5	47.4	79	19	26	27	25	60	39	39	.152	.158	.142	.44	.31	.0	4.5	4.3	4.5	4.5
Year	28.20	28.79	27.63	57.0	73.6	72.8	78.4	54.9	66.7	103	17	47	46	45	72	41	40	.380	.362	.345	32.18	4.25	6.8	4.4	4.4	4.1	4.4

ALBANY, N. Y.[1]

[ϕ=42°45′ N.; λ=73°48′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.96	30.31	29.02	19.1	25.2	25.2	31.3	14.0	22.6	61	−16	13	15	16	77	64	67	0.092	0.095	0.098	3.49	1.05	17.2	7.3	7.3	7.1	7.2
February	30.10	30.74	29.18	25.8	30.9	30.8	37.1	21.6	29.4	50	2	19	19	20	74	60	63	.116	.112	.120	1.60	.48	6.5	7.2	7.4	6.1	7.3
March	29.89	30.35	29.28	33.1	42.5	42.2	49.3	29.4	39.4	80	−3	24	27	28	70	54	58	.144	.161	.169	1.63	.68	2.4	7.1	6.9	5.7	6.8
April	29.92	30.38	28.99	45.9	56.7	52.8	60.9	41.2	51.0	92	23	36	35	35	67	46	53	.227	.227	.225	2.59	1.34	.3	5.6	5.8	5.1	5.9
May	29.82	30.32	29.14	53.0	62.5	61.5	67.4	47.9	57.6	80	37	43	42	44	70	49	54	.289	.279	.295	3.42	2.27	.0	7.0	6.7	5.6	6.6
June	29.66	30.06	29.32	64.3	75.2	72.1	80.7	55.7	68.2	97	42	55	53	57	73	49	60	.445	.421	.475	3.52	1.16	.0	5.6	5.7	5.8	5.7
July	29.63	29.80	29.34	68.5	78.8	74.9	83.0	62.7	72.8	92	49	62	63	64	81	60	70	.571	.592	.605	5.11	1.62	.0	6.7	6.3	7.5	6.8
August	29.65	29.85	29.29	67.6	79.6	75.1	84.8	61.4	73.1	95	45	62	62	64	32	55	69	.562	.567	.609	3.18	.82	.0	4.8	6.3	5.4	5.1
September	29.68	30.08	28.37	52.8	64.9	59.7	69.3	47.8	58.6	83	34	49	50	51	88	61	75	.364	.385	.388	8.76	3.52	.0	5.3	5.9	6.0	6.0
October	29.78	30.17	29.24	45.7	59.4	53.6	63.5	41.8	52.6	82	27	42	44	44	86	58	70	.273	.297	.297	1.18	.50	.0	4.8	4.9	4.0	5.2
November	29.80	30.29	29.18	35.7	45.1	41.1	49.5	30.6	40.0	75	−11	31	34	35	84	65	78	.202	.229	.238	2.36	.93	6.8	7.3	6.8	5.6	6.9
December	29.73	30.33	29.02	26.8	31.6	29.7	35.0	21.8	28.4	52	1	22	22	21	80	67	70	.127	.129	.123	3.33	1.21	5.8	6.8	7.5	6.8	7.5
Year	29.80	30.74	28.37	44.9	54.4	51.6	59.3	39.7	49.5	97	−16	38	39	40	78	57	66	.284	.291	.304	40.17	3.52	39.0	6.3	6.5	5.9	6.4

ALBUQUERQUE, N. MEX.[2]

[ϕ=35°5′ N.; λ=106°43′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	25.09	25.47	24.72	25.6	44.4	43.4	49.8	22.1	36.0	60	12	20	23	22	79	43	44	0.111	0.124	0.119	0.12	0.10	T	3.6	4.3	4.2	4.1
February	25.08	25.43	24.77	31.8	48.6	49.0	53.6	27.3	40.4	67	14	23	24	24	70	39	39	.125	.132	.134	.49	.23	2.5	5.9	7.2	7.4	7.0
March	24.95	25.24	24.55	35.9	54.5	57.0	60.9	31.5	46.2	80	20	25	25	23	64	33	28	.135	.136	.124	.22	.18	T	4.2	4.4	4.8	4.6
April	24.98	25.27	24.59	40.1	65.0	66.6	71.2	37.7	54.4	84	20	24	24	23	52	22	22	.132	.135	.128	.20	.12	.1	3.8	4.0	4.9	4.5
May	24.96	25.26	24.69	48.0	73.4	74.9	79.6	46.1	62.8	93	30	28	29	25	48	21	18	.156	.162	.140	.02	.01	T	3.6	4.7	5.3	4.4
June	25.04	25.22	24.79	60.4	82.7	84.2	88.8	57.7	73.2	97	44	43	43	38	57	29	25	.302	.298	.260	1.51	.50	.0	3.3	3.7	5.8	4.7
July	25.10	25.25	24.93	63.2	84.5	85.2	90.4	61.4	75.9	97	56	51	52	49	67	34	31	.389	.393	.352	1.45	.52	.0	3.5	1.7	4.8	3.5
August	25.10	25.29	24.94	62.9	87.0	87.5	92.3	61.1	76.7	101	55	47	48	46	58	27	26	.331	.341	.323	.17	[3].92	.0	2.3	1.5	4.7	3.3
September	25.15	25.34	24.97	56.2	75.8	75.0	80.5	54.3	67.4	86	49	50	48	46	81	41	41	.373	.350	.328	2.36	.48	.0	3.6	2.4	4.3	3.6
October	25.11	25.32	24.83	44.6	68.3	66.8	72.8	42.4	57.6	84	32	34	34	35	66	30	33	.201	.202	.208	.63	.61	T	2.0	3.6	2.8	3.0
November	25.10	25.48	24.64	27.2	48.1	44.4	53.9	22.1	38.0	71	7	12	14	14	52	25	32	.080	.083	.082	.02	.01	.1	3.1	1.6	1.8	2.1
December	25.10	25.36	24.81	27.5	45.8	43.3	51.5	23.9	37.7	66	13	20	23	24	73	41	46	.109	.125	.126	.36	.31	.1	2.5	4.1	4.8	4.0
Year	25.06	25.48	24.55	43.6	64.8	64.8	70.4	40.6	55.5	101	7	31	32	31	64	32	32	.204	.207	.194	7.55	.92	2.8	3.4	3.6	4.6	4.1

ALPENA, MICH.

[ϕ=45°04′ N.; λ=83°30′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.27	29.92	28.11	16.3	----	19.8	25.5	11.3	18.4	41	−8	13	---	15	85	---	81	0.085	----	0.093	2.42	0.91	19.5	8.0	----	6.9	7.9
February	29.51	30.04	28.61	21.4	----	25.2	29.3	16.1	22.7	45	−9	18	---	20	87	---	80	.107	----	.114	2.93	.66	10.2	8.6	----	7.4	8.0
March	29.23	29.66	28.63	29.0	----	32.8	40.5	24.6	32.6	79	−1	25	---	25	85	---	73	.152	----	.149	2.37	.59	5.1	5.1	----	5.8	5.7
April	29.33	29.87	28.65	37.7	----	43.4	51.2	33.8	42.5	86	19	32	---	32	78	---	65	.190	----	.194	.98	.22	1.7	6.1	----	6.4	6.6
May	29.28	29.60	28.79	48.3	----	52.9	58.4	43.3	50.8	70	34	41	---	41	78	---	66	.264	----	.263	2.74	1.33	.0	5.0	----	6.5	5.8
June	29.32	29.64	28.93	59.6	----	64.2	71.0	54.0	62.5	86	45	52	---	52	77	---	68	.399	----	.404	1.82	.62	.0	5.0	----	5.3	5.4
July	29.30	29.51	28.97	64.9	----	71.6	78.0	59.5	68.8	92	49	59	---	60	81	---	68	.502	----	.527	2.35	1.10	.0	4.9	----	3.6	4.8
August	29.32	29.53	29.02	66.1	----	73.1	81.1	61.6	71.4	98	48	60	---	61	80	---	69	.515	----	.557	5.23	2.88	.0	3.3	----	4.0	4.4
September	29.36	29.77	28.95	53.0	----	58.7	65.3	49.1	57.2	84	40	48	---	49	85	---	71	.348	----	.354	2.90	1.02	.0	5.0	----	5.5	5.6
October	29.43	29.94	28.76	45.5	----	51.4	59.5	42.1	50.8	83	30	41	---	43	86	---	74	.268	----	.286	1.26	.67	T	5.5	----	3.9	5.3
November	29.32	29.82	28.77	35.5	----	39.2	46.7	31.7	39.2	69	18	31	---	31	82	---	72	.180	----	.187	1.09	.53	4.9	6.4	----	7.7	7.4
December	29.29	29.80	28.59	26.7	----	28.5	32.7	23.7	28.2	44	3	22	---	22	81	---	76	.123	----	.124	1.93	.58	12.2	8.9	----	8.9	8.9
Year	29.33	30.04	28.11	42.0	----	46.7	53.3	37.6	45.4	98	−9	37	---	38	82	---	72	.261	----	.271	28.02	2.88	53.6	6.0	----	6.0	6.3

[1] Transfer of Station to Airport June 1, 1938. Record prior to June 1, 1938, taken at P. O. Building, Albany, N. Y.
[2] Observations taken at airport.
[3] For Aug. 31–Sept. 1.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

ABILENE, TEX.

[H=1,726 ft.; H_b=1,738 ft.; h_t=10 ft.; h_r=3 ft.; h_a=56 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	9.6	S.	29	S.	0	13	2	1	5	19	3	9	10	0	10	7	14	6	6	0	0	0	5	0	0	0	6	1	0
February	10.2	S.	29	NW.	0	9	6	2	4	18	4	6	5	1	3	7	18	6	6	2	1	0	8	0	0	0	8	2	0
March	11.8	S.	29	S.	0	9	1	3	8	23	7	7	4	0	15	10	6	7	6	0	0	0	1	0	0	1	0	4	0
April	12.3	S.	30	NW.	0	8	3	6	12	22	0	2	6	1	10	12	8	8	6	2	2	1	0	0	0	0	3	6	1
May	12.0	S.	32	SE.	2	8	1	5	14	26	3	3	2	0	13	11	7	9	7	0	0	2	0	0	0	11	0	9	0
June	10.0	SE.	32	S.	2	7	3	8	24	17	0	1	0	0	11	13	6	10	10	0	0	3	0	0	0	23	0	11	0
July	8.1	S.	29	SE.	0	2	0	7	18	29	3	2	1	0	15	7	9	9	8	0	0	0	0	0	0	24	0	5	0
August	9.1	S.	25	S.	0	1	0	2	25	32	1	0	0	1	20	8	3	1	1	0	0	0	0	0	0	29	0	4	0
September	8.1	S.	18	N.	0	5	0	11	14	22	2	3	2	1	18	8	4	4	3	0	0	0	0	0	0	23	0	2	1
October	8.4	S.	22	SE.	0	6	1	6	20	21	5	2	1	0	21	7	3	4	3	0	0	0	0	0	0	6	0	4	0
November	11.0	S.	30	S.	0	10	1	1	3	34	3	2	6	0	18	8	4	3	2	2	2	0	0	0	0	0	10	2	0
December	9.1	S.	29	S.	0	15	2	4	4	22	3	6	6	0	14	8	9	3	2	0	0	0	3	0	0	0	11	0	0
Year	10.0	S.	32	S.	4	93	20	57	151	285	34	43	43	4	168	106	91	70	60	6	5	6	17	0	0	117	38	50	2

ALBANY, N. Y.[1]

[H=277 ft.; H_b=292 ft.; h_t=26 ft.; h_r=25 ft.; h_a=40 ft.]

January	6.8	N.	31	S.	0	19	1	0	0	9	8	10	15	0	6	6	19	15	11	18	10	0	4	3	16	0	30	0	0
February	8.7	NW.	23	S.	0	18	1	2	1	14	3	4	13	0	5	5	18	15	8	13	7	0	7	0	8	0	23	0	0
March	8.3	S.	25	S.	0	19	1	1	0	17	6	6	12	0	6	10	15	14	9	10	5	0	5	0	2	0	14	0	1
April	8.0	S.	26	S.	0	13	7	1	3	17	2	5	12	0	7	13	10	11	8	7	3	0	3	0	0	1	8	2	0
May	7.4	S.	24	S.	0	8	2	0	4	20	3	7	18	0	2	18	11	14	9	0	0	2	6	0	0	0	0	2	2
June	7.9	S.	27	NW.	0	8	5	2	2	23	5	6	7	2	9	8	13	11	11	0	0	0	13	1	0	5	0	5	0
July	7.7	S.	36	NW.	1	5	5	2	2	28	3	8	7	2	4	9	18	17	13	0	0	1	23	4	0	2	0	10	2
August	7.4	S.	28	SW.	0	5	3	0	1	22	5	9	9	8	8	16	7	13	11	0	0	0	20	6	0	3	0	8	5
September	8.7	S.	42	W.	1	12	3	0	3	14	4	8	11	5	9	9	12	14	13	0	0	0	21	5	0	0	0	3	3
October	8.4	N.	26	NW.	0	17	8	1	3	14	3	2	8	6	12	8	11	5	4	0	0	0	19	3	0	0	1	0	5
November	9.6	S.	34	W.	1	9	1	1	3	21	5	7	8	5	5	10	15	12	9	10	4	0	15	6	5	0	16	0	1
December	9.1	S.	42	NW.	3	14	0	2	3	13	6	8	13	3	8	1	22	13	8	19	5	0	15	5	13	0	25	0	1
Year	8.2	S.	42	W.	6	147	37	12	25	212	53	80	133	31	81	113	171	154	114	77	34	3	151	33	44	16	117	30	20

ALBUQUERQUE, N. MEX.[2]

[H=5,101 ft.; H_b=4,972 ft.; h_t=5 ft.; h_r=15 ft.; h_a=39 ft.]

January	7.8	N.	44	NW.	4	20	6	2	1	9	4	11	7	2	17	5	9	2	1	2	1	0	0	0	0	0	30	0	2
February	7.5	N.	31	W.	0	19	2	4	8	10	4	7	2	0	4	9	15	5	4	5	2	0	2	0	0	0	21	0	0
March	12.0	W.	42	E.	8	13	2	4	6	5	9	14	9	0	10	16	5	4	1	5	2	1	1	1	0	0	18	1	0
April	10.2	S.	44	W.	7	13	2	2	3	11	4	11	14	0	12	11	7	5	2	3	1	0	0	0	0	0	8	2	1
May	10.5	W.	42	S.	6	15	2	0	8	3	5	13	14	2	13	9	9	2	0	1	0	0	0	0	0	3	1	1	0
June	10.2	SE.	50	NW.	7	12	2	5	11	12	0	8	8	2	10	13	7	7	6	0	0	0	0	0	0	16	0	9	0
July	7.7	SE.	41	N.	4	15	2	4	5	10	2	10	11	3	16	11	4	6	5	0	0	0	0	0	0	19	0	10	0
August	7.9	S.	35	S.	2	19	0	2	11	16	4	2	5	3	19	10	2	3	1	0	0	0	0	0	0	21	0	4	0
September	6.4	N.	35	NW.	1	22	9	4	6	10	2	1	4	2	17	6	7	8	6	0	0	1	0	0	0	0	0	6	0
October	7.2	N.	40	S.	1	22	0	1	6	19	2	0	6	6	17	12	2	3	1	1	0	0	9	0	0	0	1	2	0
November	7.7	N.	40	NW.	3	17	2	2	0	7	9	8	5	10	22	3	5	2	0	1	1	0	0	0	0	0	27	0	0
December	7.6	N.	32	NW.	2	25	1	2	1	6	7	6	9	5	17	6	8	4	3	2	1	0	0	0	0	0	29	0	0
Year	8.6	N.	50	NW.	45	212	30	32	66	118	52	91	94	35	174	111	80	51	30	20	8	2	3	2	0	59	135	35	3

ALPENA, MICH.

[H=587 ft.; H_b=609 ft.; h_t=13 ft.; h_r=4 ft.; h_a=89 ft.]

January	11.5	NW.	32	S.	1	0	4	3	8	8	9	14	15	1	5	4	22	17	11	24	16	0	1	1	23	0	31	0	1
February	10.9	NW.	32	SE.	1	3	8	4	11	5	5	4	16	0	0	10	18	16	8	18	12	0	1	0	17	0	28	0	0
March	11.5	NW.	30	SW.	0	1	4	6	10	8	5	17	11	0	8	12	11	16	11	11	6	0	3	1	0	0	20	2	2
April	12.1	NW.	31	SW.	0	4	9	2	14	4	4	6	17	0	4	13	13	15	8	6	3	1	2	0	4	0	13	2	0
May	11.0	SE.	29	E.	0	5	2	12	15	6	1	4	17	0	7	13	11	12	9	0	0	0	2	1	0	0	0	4	1
June	9.8	NW.	29	NW.	0	2	3	4	16	8	3	6	18	0	8	14	8	9	8	0	0	0	1	0	0	0	0	2	0
July	8.8	NW.	25	SW.	0	5	8	5	10	5	6	5	17	1	10	15	6	11	9	0	0	1	1	0	0	2	0	9	1
August	10.1	NW.	28	NW.	0	2	3	5	3	10	11	11	17	0	12	15	4	10	9	0	0	0	0	0	0	4	0	10	2
September	11.0	NW.	38	SE.	1	4	5	6	7	7	6	8	17	0	9	8	13	9	9	0	0	0	3	1	0	0	0	0	1
October	10.3	NW.	38	E.	1	5	5	6	3	10	14	7	11	1	10	11	10	14	8	1	0	0	5	2	0	0	3	2	1
November	12.6	S.	38	SE.	2	2	1	2	8	16	13	10	10	0	2	10	18	11	6	12	5	0	1	1	6	0	18	0	0
December	11.4	SW.	35	NW.	1	1	0	4	6	11	17	10	13	0	0	4	27	15	9	21	12	0	4	1	11	0	26	0	0
Year	10.9	NW.	38	SE.	7	34	52	59	109	98	94	102	179	3	75	129	161	155	105	93	54	2	26	9	70	6	139	31	9

[1] Observational work transferred to airport June 1, 1938.
[2] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

AMARILLO, TEX.

[ϕ=35°13′ N.; λ=101°50′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	26.29	26.70	25.86	31.3	48.3	47.3	52.9	28.6	40.8	75	11	19	22	21	59	36	38	0.107	0.121	0.116	0.18	0.15	0.7	3.9	4.6	5.2	5.0
February	26.32	26.67	26.02	34.3	49.2	48.2	53.8	32.0	42.9	77	17	25	29	27	71	52	54	.142	.161	.151	2.87	1.07	15.7	5.8	7.0	7.5	7.1
March	26.13	26.53	25.73	42.8	59.8	61.0	65.7	40.0	52.8	82	29	29	30	26	61	36	32	.159	.170	.150	1.24	.53	.1	4.7	5.2	4.7	4.6
April	26.21	26.56	25.77	46.4	63.9	64.2	70.0	43.3	56.6	89	20	36	36	34	68	40	38	.235	.228	.211	1.07	.27	5.1	5.4	4.8	5.1	5.3
May	26.16	26.46	25.79	55.3	76.1	73.9	78.6	53.2	65.9	94	34	45	44	41	69	40	35	.307	.306	.271	4.03	.95	.0	5.3	4.5	4.9	4.5
June	26.28	26.52	25.92	64.5	81.6	82.7	86.8	63.3	75.0	96	55	58	56	53	79	43	41	.479	.447	.425	2.49	1.04	.0	6.0	5.5	5.8	5.0
July	26.30	26.46	26.11	68.4	86.7	85.2	90.5	67.8	79.2	101	62	59	56	57	73	38	41	.499	.461	1.468	1.88	.75	.0	3.6	4.6	5.5	4.2
August	26.31	26.50	26.05	69.3	90.1	90.9	94.6	68.6	81.6	102	61	56	53	51	63	29	26	.453	.404	.376	.15	.11	.0	1.8	3.4	2.2	2.5
September	26.35	26.55	26.21	62.4	81.7	80.3	85.9	61.4	73.6	94	53	50	48	48	66	36	36	.381	.365	.357	1.62	.86	.0	2.5	3.8	3.3	3.0
October	26.35	26.57	26.07	54.1	72.2	70.1	77.1	52.4	64.8	90	38	40	39	38	60	34	35	.256	.258	.245	3.06	2.15	.0	2.2	3.3	2.8	2.7
November	26.28	26.75	25.80	35.5	54.9	50.2	59.0	32.1	45.6	76	13	21	20	20	55	27	31	.122	.108	.107	.43	.23	T	2.2	2.7	2.6	2.5
December	26.30	26.66	25.91	32.9	48.4	45.6	54.1	29.7	41.9	75	14	18	21	20	54	37	39	.100	.113	.111	.08	.06	1.0	3.1	4.5	3.5	4.2
Year	26.27	26.75	25.73	49.8	67.7	66.6	72.4	47.7	60.1	102	11	38	38	36	65	37	37	.270	.262	.249	19.10	2.15	22.6	3.9	4.5	4.4	4.2

APALACHICOLA, FLA.

[ϕ=29°45′ N.; λ=84°58′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.08	30.57	29.74	50.8	58.1	54.9	61.0	47.6	54.3	73	30	45	47	48	82	68	79	0.337	0.356	0.365	3.37	1.46	T	5.8	5.5	3.8	5.8
February	30.17	30.45	29.81	53.5	62.9	60.5	65.8	52.0	58.9	71	40	50	52	54	88	69	80	.375	.401	.432	.38	.30	0.0	4.8	5.2	3.9	5.0
March	30.04	30.39	29.77	62.0	71.6	67.1	73.7	59.7	66.7	80	43	58	59	60	89	66	80	.514	.524	.535	1.81	1.81	.0	4.5	5.3	4.5	5.3
April	30.04	30.27	29.72	64.4	71.1	68.2	74.0	59.8	66.9	86	39	60	60	61	86	69	78	.545	.549	.556	2.15	.78	.0	5.5	5.4	5.0	5.3
May	29.96	30.13	29.76	72.5	80.5	76.5	82.6	68.5	75.6	91	60	66	66	62	82	64	71	.664	.669	.652	1.36	.60	.0	4.5	6.2	5.9	5.5
June	30.00	30.19	29.82	77.2	83.8	80.6	86.1	72.4	79.2	91	68	71	70	70	81	65	72	.761	.747	.746	10.87	3.53	.0	5.3	5.0	5.0	5.4
July	29.98	30.13	29.79	79.5	83.3	81.0	85.9	74.9	80.4	93	70	73	73	73	82	73	76	.823	.823	.809	7.20	1.36	.0	5.5	7.1	7.2	6.8
August	30.02	30.21	29.88	79.3	87.0	82.9	89.3	75.8	82.6	96	69	74	74	73	85	65	73	.848	.826	.821	5.23	2.59	.0	4.0	5.1	5.8	5.0
September	29.95	30.13	29.74	73.2	81.3	78.2	83.3	70.9	77.1	90	57	70	70	70	89	69	78	.739	.738	.753	14.45	4.59	.0	5.0	5.5	5.5	5.6
October	30.00	30.28	29.75	62.5	74.3	70.3	76.0	61.0	68.5	87	49	58	57	61	85	58	73	.501	.493	.551	2.29	2.23	.0	3.8	3.5	3.1	3.8
November	30.09	30.50	29.76	58.2	67.6	63.3	70.6	55.1	62.8	83	29	54	55	56	86	66	77	.479	.487	.496	.51	.28	.0	5.1	4.2	3.8	4.8
December	30.09	30.44	29.80	49.0	60.5	56.2	63.0	46.0	54.5	76	34	44	46	48	85	62	76	.310	.338	.352	2.38	1.07	.0	5.4	3.8	4.2	4.7
Year	30.04	30.57	29.72	65.2	73.5	70.0	75.9	62.0	69.0	96	29	60	61	62	85	66	76	.575	.579	.589	52.00	4.59	T	4.9	5.2	4.8	5.2

ASHEVILLE, N. C.

[ϕ=35°36′ N.; λ=82°32′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.68	28.03	27.06	32.1	42.6	39.2	47.6	28.7	38.2	64	10	28	29	29	84	60	68	0.164	0.175	0.172	2.59	1.28	1.5	6.7	6.2	5.7	6.1
February	27.84	28.22	27.25	39.4	50.6	47.7	53.9	35.6	44.8	71	22	35	38	37	84	62	67	.217	.242	.234	1.04	.48	.2	7.2	7.1	6.6	7.5
March	27.70	28.02	27.34	44.8	58.3	55.0	63.6	41.3	52.4	80	20	39	40	41	82	53	64	.256	.267	.280	4.20	1.30	.0	6.4	6.4	6.7	5.9
April	27.73	28.06	27.11	48.3	63.6	59.8	68.4	43.3	55.8	82	28	42	44	45	80	52	60	.286	.303	.310	1.47	.38	.1	4.6	5.4	6.0	5.7
May	27.67	27.92	27.29	57.2	70.2	65.8	74.8	53.5	64.2	89	44	52	52	53	85	56	66	.403	.409	.421	3.29	.62	.0	6.1	6.5	7.7	6.2
June	27.74	27.96	27.58	62.5	75.4	71.4	80.6	58.5	69.6	87	51	58	60	61	87	60	70	.496	.523	.535	3.24	1.25	.0	6.1	6.6	6.3	6.3
July	27.74	27.87	27.58	66.9	78.8	75.4	83.7	63.9	73.8	92	54	64	64	65	90	63	72	.595	.601	.626	4.90	1.18	.0	6.5	6.9	7.0	6.8
August	27.79	27.94	27.65	66.9	80.9	75.4	86.0	64.2	75.1	93	56	64	65	66	92	60	73	.608	.628	.638	2.67	1.28	.0	5.5	6.1	6.4	5.9
September	27.74	27.95	27.44	59.3	74.2	68.0	77.7	57.1	67.4	88	42	57	58	59	93	59	74	.480	.505	.516	4.72	3.56	.0	5.3	6.1	7.1	6.1
October	27.80	28.08	27.39	44.7	67.4	61.6	71.5	42.8	57.2	85	32	41	46	45	88	47	56	.262	.318	.306	.22	.17	.0	2.3	2.0	1.2	1.8
November	27.81	28.04	27.45	40.2	56.4	51.2	61.1	36.5	48.8	76	15	36	38	38	85	52	61	.239	.261	.254	4.85	2.39	1.1	4.3	3.5	2.4	3.6
December	27.73	28.14	27.26	33.4	44.8	40.7	49.3	29.4	39.4	64	15	27	30	28	77	56	61	.152	.170	.160	2.22	1.39	2.7	5.4	5.4	4.4	5.6
Year	27.75	28.22	27.06	49.6	63.6	59.3	68.2	46.2	57.2	93	10	45	47	47	86	57	66	.346	.367	.371	35.41	3.56	5.6	5.5	5.7	5.6	5.6

ATLANTA, GA.[1]

[ϕ=33°39′ N.; λ=84°26′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.05	29.46	28.47	38.0	47.2	44.7	51.5	34.6	43.0	72	16	33	35	34	83	66	68	0.212	0.229	0.218	1.86	0.64	0.3	5.9	7.1	6.0	6.3
February	29.18	29.55	28.66	43.7	56.7	53.6	61.5	41.4	51.4	75	28	38	41	42	81	58	65	.246	.278	.280	1.13	.67	.0	6.2	5.4	5.1	5.5
March	29.02	29.39	28.74	50.2	64.1	61.4	69.7	47.2	58.4	84	27	46	46	43	84	55	62	.326	.335	.350	5.98	3.32	.0	6.9	6.7	5.4	6.3
April	29.05	29.35	28.60	54.0	67.2	64.6	72.8	49.9	61.4	85	32	48	49	50	82	56	62	.364	.370	.376	8.27	2.25	.0	5.6	6.0	4.9	5.4
May	28.96	29.18	28.72	64.6	77.7	74.9	82.0	60.5	71.2	96	51	57	57	57	78	51	56	.480	.478	.479	1.88	.54	.0	5.9	7.1	7.2	6.6
June	29.02	29.23	28.85	69.5	80.2	78.5	85.3	65.2	75.2	94	59	64	63	63	82	58	62	.591	.586	.590	7.39	3.30	.0	5.6	6.4	6.2	6.0
July	29.00	29.12	28.82	73.2	84.2	81.7	88.7	69.7	79.2	98	59	68	68	68	85	60	66	.692	.676	.696	3.88	1.11	.0	6.4	6.9	6.6	6.9
August	29.05	29.23	28.87	73.8	87.7	82.1	91.7	70.7	81.2	99	66	69	68	69	84	53	66	.701	.687	.707	1.83	.60	.0	5.3	5.4	5.0	5.2
September	29.01	29.20	28.74	65.3	80.4	74.6	84.7	63.0	73.8	96	46	59	60	61	86	52	64	.558	.541	.562	3.47	2.64	.0	6.0	6.2	5.2	5.7
October	29.07	29.36	28.74	52.9	73.0	65.4	77.1	51.2	64.2	91	41	47	48	50	89	42	58	.327	.342	.369	0.20	.20	.0	2.0	2.0	2.1	1.9
November	29.12	29.45	28.77	47.3	59.5	53.9	65.0	43.1	54.0	79	21	42	41	42	83	53	66	.309	.307	.309	4.76	2.52	T	5.1	4.3	2.9	4.2
December	29.08	29.49	28.67	38.1	48.7	45.1	52.7	34.6	43.6	63	20	32	34	35	78	60	68	.189	.211	.213	2.94	1.45	T	5.7	5.9	5.0	5.9
Year	29.05	29.55	28.47	55.9	68.9	65.0	73.6	52.6	63.0	99	16	50	52	51	82	64	73	.416	.429	.423	43.64	3.32	.3	5.6	5.8	5.1	5.5

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

AMARILLO, TEX.

[H=3,657 ft.; H_b=3,676 ft.; h_t=10 ft.; h_r=3 ft.; h_a=49 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		Mi.																											
January	9.8	SW.	30	W.	0	11	1	1	4	6	17	11	11	0	10	14	7	2	1	2	2	0	1	0	1	0	21	0	1
February	9.2	W.	34	W.	1	5	6	1	9	11	8	10	6	0	2	12	14	9	8	7	5	0	7	5	4	0	15	1	0
March	11.4	SW.	36	W.	2	10	3	0	4	11	23	7	4	0	13	12	6	6	4	1	1	1	0	0	0	0	3	2	0
April	12.2	S.	34	SW.	2	10	4	2	5	19	7	10	3	0	10	10	10	7	5	3	3	0	2	0	1	0	6	2	0
May	10.5	S.	31	W.	0	4	6	3	6	14	15	8	6	0	11	14	6	11	8	0	0	3	1	0	0	3	0	9	0
June	10.0	SE.	28	E.	0	2	4	6	21	15	8	3	1	0	7	18	5	9	8	0	0	0	0	0	0	13	0	6	0
July	8.4	S.	24	NE.	0	2	4	6	15	16	13	2	4	0	11	15	5	11	7	0	0	0	0	0	0	18	0	8	0
August	9.6	S.	23	NE.	0	3	1	3	14	28	11	2	0	0	23	7	1	2	2	0	0	0	0	0	0	27	0	2	0
September	7.9	SE.	19	SE.	0	4	5	3	18	19	7	2	2	0	20	6	4	8	5	0	0	0	0	0	0	9	0	3	0
October	9.3	S.	23	SE.	0	2	7	1	11	25	7	6	2	1	21	6	4	4	4	0	0	0	0	0	0	1	0	3	0
November	10.1	SW.	27	NW.	0	10	3	0	2	11	12	14	8	0	22	4	4	8	3	2	0	0	1	0	1	0	15	0	0
December	9.3	W.	32	SW.	1	7	6	1	2	8	16	10	12	0	15	10	6	2	1	2	2	0	3	1	0	0	22	0	0
Year	9.8	S.	36	W.	6	70	50	27	111	183	144	85	59	1	165	128	72	74	56	17	13	4	15	6	7	71	82	36	1

APALACHICOLA, FLA.

[H=13 ft.; H_b=35 ft.; h_t=11 ft.; h_r=3 ft.; h_a=51 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.3	NW.	26	NW.	0	11	6	6	9	6	6	9	9	0	10	9	12	8	7	1	0	0	9	5	0	0	2	0	0
February	8.9	E.	26	E.	0	13	4	11	10	3	4	3	7	1	12	6	10	2	2	0	0	0	20	6	0	0	0	0	0
March	8.5	S.	27	E.	0	6	6	2	17	17	6	7	1	0	12	8	11	1	1	0	0	0	17	7	0	0	0	3	0
April	9.5	SE.	26	SE.	0	6	4	5	18	11	6	6	4	0	11	7	12	7	6	0	0	0	6	1	0	0	0	7	0
May	7.2	S.	19	S.	0	11	6	2	5	10	9	12	7	0	7	15	9	9	6	0	0	0	5	2	0	1	0	8	0
June	7.9	W.	26	NW.	0	4	5	1	10	4	12	16	8	0	10	10	10	15	13	0	0	0	0	0	0	1	0	13	0
July	6.9	S.	22	SE.	0	2	2	2	13	5	14	17	7	0	6	9	16	18	14	0	0	0	0	0	0	2	0	15	0
August	6.6	S.	37	NE.	1	9	9	0	7	8	7	16	5	1	12	7	12	7	7	0	0	0	1	0	0	15	0	13	0
September	8.0	N.	29	SE.	0	14	13	7	5	4	2	9	4	2	10	8	12	16	13	0	0	0	1	0	0	1	0	11	0
October	9.3	NE.	26	NE.	0	11	21	10	5	0	0	8	7	0	17	6	8	4	3	0	0	0	1	0	0	0	0	0	0
November	9.1	N.	31	E.	0	15	12	9	8	2	6	1	7	0	11	10	9	4	4	0	0	0	5	3	0	0	2	0	0
December	8.1	N.	26	NW.	0	16	14	6	2	7	6	6	5	0	14	7	10	8	7	0	0	0	9	1	0	0	0	1	0
Year	8.2	SE.	37	NE.	1	118	102	61	109	77	78	110	71	4	132	102	131	99	83	1	0	0	74	25	0	20	4	71	0

ASHEVILLE, N. C.

[H=2,192 ft.; H_b=2,253 ft.; h_t=89 ft.; h_r=87 ft.; h_a=104 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.1	NW.	27	NW.	0	10	0	3	14	6	1	1	24	3	8	9	14	12	9	6	4	0	7	3	4	0	21	0	0
February	9.9	NW.	27	NW.	0	7	0	4	14	8	4	1	15	3	4	7	17	11	6	3	2	0	3	0	1	0	10	0	0
March	9.5	SE.	27	S.	0	7	0	2	17	10	2	3	16	5	9	8	14	15	11	0	0	0	2	1	0	0	6	4	0
April	8.1	NW.	32	E.	1	6	0	0	11	14	3	1	16	10	10	5	15	13	8	4	1	0	3	1	0	0	5	1	0
May	7.6	NW.	25	NW.	0	5	1	5	12	5	6	2	22	4	5	12	14	18	15	0	0	0	8	1	0	0	0	7	0
June	6.1	NW.	21	NW.	0	5	0	2	13	9	5	0	22	5	6	9	15	14	12	0	0	0	9	0	0	0	0	8	0
July	6.3	SE.	24	NW.	0	4	0	8	12	12	3	2	13	8	4	10	17	13	11	0	0	0	18	0	0	3	0	7	0
August	6.0	NW.	24	NW.	0	11	1	3	11	7	1	2	20	6	5	17	9	14	10	0	0	0	21	3	0	6	0	10	0
September	6.1	NW.	21	NW.	0	8	2	4	8	10	3	2	15	8	6	16	8	12	6	0	0	0	16	5	0	0	0	5	0
October	6.7	NW.	26	NW.	0	5	1	4	11	4	5	2	19	11	26	2	3	3	3	0	0	0	11	2	0	0	1	1	0
November	9.3	NW.	31	SE.	0	3	0	2	21	8	2	0	16	10	18	5	7	9	8	2	1	0	4	2	1	0	13	0	0
December	8.9	NW.	26	NW.	0	9	0	2	14	8	1	1	23	4	9	13	9	8	4	4	3	0	2	0	0	0	20	0	0
Year	7.8	NW.	32	E.	1	80	5	39	158	98	36	17	220	77	110	113	142	142	103	19	11	0	104	18	6	9	76	43	0

ATLANTA, GA.[1]

[H=975 ft.; H_b=976 ft.; h_t=5 ft.; h_r=38 ft.; h_a=72 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.0	NW.	32	SW.	1	7	4	6	4	8	4	9	18	2	7	8	16	11	7	2	2	0	12	6	1	0	13	0	1
February	9.9	NW.	33	SW.	1	7	10	11	0	5	3	4	15	1	9	8	11	5	3	0	0	0	9	2	0	0	4	0	0
March	9.3	S.	34	SE.	1	6	4	8	4	17	3	7	12	1	8	6	17	13	11	0	0	0	5	1	0	0	2	11	0
April	7.8	S.	32	SW.	1	4	3	10	6	17	3	5	10	2	11	5	14	9	8	0	0	0	6	1	0	0	0	6	1
May	7.9	W.	27	W.	0	3	5	7	2	13	8	11	12	1	5	12	14	11	10	0	0	0	6	2	0	6	0	7	0
June	6.5	S.	27	W.	0	8	7	3	6	12	7	5	11	0	4	15	11	13	10	0	0	0	7	1	0	6	0	12	0
July	6.5	S.	29	SE.	0	8	2	6	4	24	5	3	10	0	3	14	14	10	9	0	0	0	6	1	0	13	0	3	0
August	7.2	NW.	31	NW.	0	13	7	5	0	9	6	6	16	0	8	14	9	8	7	0	0	0	6	0	0	22	0	6	0
September	6.7	NW.	27	N.	0	6	9	7	7	2	4	8	13	4	7	15	8	7	5	0	0	0	4	0	0	10	0	5	0
October	7.5	NW.	27	N.	0	6	15	10	5	2	1	4	16	3	23	3	3	1	1	0	0	0	2	0	0	1	0	0	0
November	9.5	NW.	31	NW.	0	7	4	13	12	3	4	2	15	0	15	5	10	8	7	1	1	0	6	3	0	0	7	1	0
December	9.6	NW.	27	W.	0	7	4	12	1	4	3	12	18	1	9	6	16	10	7	1	0	0	11	4	0	0	11	0	0
Year	8.2	NW.	34	SE.	4	82	74	98	51	116	51	77	166	15	109	113	143	106	85	4	3	0	80	21	1	58	37	51	2

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

ATLANTIC CITY, N. J.

[ϕ=39°22′ N.; λ=74°25′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.01	30.38	29.28	33.2	38.5	36.4	41.9	29.6	35.8	53	17	27	28	28	77	65	70	0.157	0.165	0.162	3.26	1.78	T	6.8	6.7	5.1	7.0
February	30.14	30.73	29.38	36.3	40.8	38.7	45.6	32.0	38.8	70	17	30	30	29	76	65	70	.178	.178	.175	2.19	.85	0.3	7.1	6.0	5.3	6.5
March	29.96	30.32	29.50	41.0	46.8	44.7	51.6	36.5	44.0	72	17	34	35	36	76	66	73	.207	.212	.222	1.97	.50	1.6	4.9	5.9	5.5	6.2
April	29.99	30.41	29.07	49.2	53.7	51.6	58.7	45.2	52.0	84	34	42	41	42	76	66	71	.275	.277	.275	2.20	1.74	.0	6.2	6.3	7.0	6.5
May	29.89	30.35	29.18	57.3	61.6	59.0	65.7	53.0	59.4	87	42	50	49	50	78	67	76	.369	.357	.370	3.56	.88	.0	7.2	7.6	7.2	7.4
June	29.95	30.31	29.77	65.2	69.4	66.4	72.5	61.7	67.1	85	46	61	61	62	86	76	85	.542	.541	.553	4.61	1.05	.0	6.7	7.2	7.7	7.2
July	29.94	30.10	29.71	71.7	75.3	72.7	78.3	67.8	73.0	86	60	67	68	68	86	79	85	.674	.687	.686	7.08	3.37	.0	6.0	5.9	6.8	6.3
August	29.94	30.11	29.62	73.0	79.2	74.7	81.9	68.1	75.0	95	60	67	66	67	82	66	78	.664	.651	.670	3.91	2.11	.0	4.1	4.9	4.6	4.6
September	29.96	30.29	28.94	64.9	70.0	67.3	72.4	61.6	67.0	84	51	59	60	60	81	72	78	.512	.528	.526	11.76	6.27	.0	5.6	5.8	6.0	6.2
October	30.02	30.34	29.46	53.9	62.4	58.6	64.5	51.0	57.8	78	40	49	50	50	84	66	76	.361	.374	.380	3.19	1.11	.0	4.1	4.4	3.2	4.8
November	30.11	30.48	29.48	46.1	53.9	51.7	56.9	43.0	50.0	69	20	42	43	44	84	68	76	.294	.311	.323	3.59	1.24	5.9	5.7	4.5	3.7	4.7
December	30.04	30.54	29.41	37.6	42.9	39.9	46.0	32.9	39.4	57	20	30	32	31	74	65	70	.186	.192	.186	1.82	.66	T	6.9	6.2	4.5	6.5
Year	30.00	30.73	28.94	52.4	57.9	55.1	61.3	48.5	54.9	95	17	46	47	47	80	68	76	.368	.373	.377	49.14	6.27	7.8	5.9	6.0	5.6	6.2

AUGUSTA, GA.

[ϕ=33°28′ N.; λ=81°54′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.90	30.33	29.33	40.9	51.4	51.0	56.6	38.6	47.6	76	21	36	36	36	81	59	59	0.228	0.239	0.240	1.20	0.58	T	6.2	6.0	5.1	6.1
February	30.02	30.43	29.45	46.8	60.6	60.0	66.1	44.6	55.4	79	32	40	41	42	78	50	55	.268	.280	.291	.52	.38	0.0	5.6	4.8	3.8	5.2
March	29.86	30.25	29.52	53.6	69.5	67.7	74.5	50.8	62.6	86	32	48	46	46	82	46	50	.357	.347	.343	1.96	.88	.0	6.3	5.6	4.4	5.5
April	29.88	30.20	29.43	56.7	71.3	68.5	75.7	52.3	64.0	88	36	51	49	52	83	49	59	.405	.379	.408	7.81	2.62	.0	4.1	5.1	4.9	4.8
May	29.77	30.03	29.45	67.4	80.6	77.7	84.8	64.1	74.4	96	55	60	58	59	78	48	56	.527	.499	.514	4.15	2.21	.0	5.3	6.1	6.5	5.9
June	29.83	30.06	29.64	71.7	83.6	79.1	88.0	68.3	78.2	94	62	66	64	66	82	52	67	.634	.598	.645	5.87	1.97	.0	5.6	5.6	6.3	5.6
July	29.82	29.95	29.61	74.5	84.2	80.8	88.7	70.9	79.8	97	64	69	68	69	86	60	70	.720	.690	.722	6.31	2.94	.0	5.9	5.9	6.3	5.9
August	29.84	30.02	29.66	76.0	89.0	84.9	93.3	73.0	83.2	101	70	71	68	71	84	51	64	.751	.692	.751	1.86	.68	.0	3.8	5.1	4.7	4.3
September	29.81	30.02	29.51	68.3	82.4	77.9	86.4	66.3	76.4	95	49	64	61	63	86	51	63	.607	.566	.599	1.36	.95	.0	4.7	6.1	5.7	5.6
October	29.89	30.19	29.48	54.1	74.0	68.5	78.0	52.4	65.2	89	40	50	47	51	86	40	55	.365	.335	.380	.86	.86	.0	2.6	2.2	2.1	2.5
November	29.96	30.32	29.54	50.5	64.9	60.1	68.9	47.2	58.0	82	24	46	46	47	87	53	63	.358	.361	.362	3.85	1.32	.0	4.4	4.7	3.5	4.5
December	29.93	30.40	29.49	40.0	53.9	51.3	58.7	37.2	48.0	72	27	34	36	37	82	54	59	.210	.231	.237	3.99	2.16	.0	5.5	5.1	3.9	5.4
Year	29.88	30.43	29.33	58.4	72.1	69.0	76.6	55.5	66.1	101	21	53	52	53	83	51	60	.452	.435	.458	39.74	2.94	T	5.0	5.2	4.8	5.1

AUSTIN, TEXAS

[ϕ=30°16′ N.; λ=97°44′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.46	29.94	29.01	46.9	56.2	56.6	61.4	42.9	52.2	82	24	42	42	42	83	61	60	0.285	0.288	0.285	3.93	2.49	0.0	5.1	5.6	4.7	5.2
February	29.50	29.82	29.12	52.7	62.8	64.9	67.8	50.6	59.2	81	24	49	50	50	88	64	60	.384	.388	.388	2.72	1.44	.0	6.9	7.5	5.6	6.3
March	29.28	29.80	28.97	59.0	71.2	73.6	77.1	56.0	66.6	88	41	53	55	55	82	60	56	.426	.468	.463	1.57	.70	.0	7.0	5.4	4.2	5.0
April	29.34	29.71	28.80	58.8	69.8	71.3	74.6	56.4	65.5	86	34	55	57	57	89	64	63	.480	.499	.514	4.96	1.86	.0	7.4	6.1	6.2	6.0
May	29.26	29.59	28.91	67.2	78.8	79.8	83.1	65.8	74.4	91	50	64	63	65	88	61	61	.604	.598	.620	3.28	1.19	.0	6.1	5.1	3.8	4.9
June	29.34	29.54	29.11	73.7	87.5	86.2	91.7	72.8	82.2	96	65	71	69	70	92	55	59	.761	.711	.728	3.17	1.21	.0	5.5	3.9	3.1	4.0
July	29.32	29.48	29.18	75.3	90.0	90.5	94.5	74.9	84.7	98	72	72	70	70	89	52	52	.780	.707	.726	1.34	.96	.0	5.0	3.7	3.3	4.2
August	29.36	29.54	29.13	74.7	90.9	91.6	95.1	74.5	84.8	99	71	71	69	68	88	49	47	.760	.706	.682	.63	.63	.0	3.1	3.5	2.6	3.4
September	29.36	29.62	29.19	68.3	87.4	85.6	91.0	67.7	79.4	97	52	62	62	63	82	43	49	.592	.563	.591	2.85	1.36	.0	2.5	2.9	3.2	2.5
October	29.42	29.62	29.18	60.6	82.5	80.0	86.1	59.3	72.7	100	38	54	56	56	79	41	45	.435	.403	.463	.24	.16	.0	2.8	2.9	2.0	2.5
November	29.48	30.01	28.95	48.9	64.2	62.4	69.0	45.0	57.0	87	23	40	43	43	72	48	51	.308	.326	.323	.59	.48	.0	5.5	4.8	3.9	4.6
December	29.48	30.03	29.17	45.7	59.8	59.0	64.2	43.0	53.6	80	26	36	40	40	72	52	54	.229	.269	.269	1.75	1.29	.0	4.6	5.2	4.5	4.8
Year	29.38	30.03	28.80	61.0	75.1	75.1	79.6	59.1	69.4	100	23	56	56	57	84	54	55	.504	.499	.505	27.03	2.49	.0	5.1	4.7	3.9	4.4

BAKER, OREG.

[ϕ=44°46′ N.; λ=117°50′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	26.55	27.11	25.91	28.5	36.5	36.2	40.0	25.8	32.9	51	16	25	28	29	85	72	73	0.132	0.155	0.168	0.53	0.80	5.3	6.7	8.0	7.6	8.0
February	26.38	26.82	25.73	29.2	38.5	38.9	41.8	25.9	33.8	54	4	25	30	30	83	70	68	.135	.164	.163	1.51	.81	17.3	6.9	7.5	7.2	7.5
March	26.34	26.82	25.95	32.3	42.2	42.5	45.8	29.4	37.6	56	15	28	31	31	83	64	64	.155	.173	.177	1.13	.61	6.6	6.9	8.9	8.4	8.5
April	26.44	26.83	26.01	37.8	54.4	56.5	58.8	34.9	46.8	77	22	32	33	34	80	45	43	.185	.188	.194	.56	.20	T	6.1	6.9	7.2	7.2
May	26.46	26.72	26.18	39.8	62.0	62.8	66.3	37.8	52.0	85	26	34	36	37	80	38	40	.202	.216	.225	.53	.29	T	5.9	6.7	7.4	6.3
June	26.44	26.62	26.26	49.0	71.5	74.1	76.5	46.8	61.6	88	34	40	41	41	72	35	33	.258	.265	.270	.71	.54	.0	5.5	5.1	6.0	5.6
July	26.49	26.68	26.28	55.3	79.4	82.9	85.6	53.6	69.6	98	42	43	45	47	66	32	31	.283	.307	.322	.60	.35	.0	4.2	4.0	5.0	4.1
August	26.48	26.62	26.26	48.9	75.5	79.7	82.4	46.5	64.4	93	39	36	40	40	62	29	27	.213	.247	.256	.25	.11	.0	1.8	2.6	3.4	2.6
September	26.49	26.74	26.24	49.6	74.6	77.2	80.1	46.7	63.4	94	37	40	43	42	70	34	32	.248	.279	.273	.73	.51	.0	2.0	3.7	4.2	3.5
October	26.48	26.84	26.06	41.3	57.0	57.4	61.4	36.5	49.0	76	23	34	38	38	78	50	51	.202	.230	.234	.66	.27	T	5.1	6.4	5.5	6.0
November	26.38	27.19	25.96	27.0	37.1	35.6	40.1	23.1	31.6	50	8	22	25	26	83	62	68	.124	.136	.143	.92	.48	3.3	6.8	6.8	6.4	6.8
December	26.58	26.84	26.22	26.3	35.2	34.1	38.4	22.0	30.2	48	7	24	27	28	88	70	75	.128	.147	.151	.19	.07	2.8	6.2	6.7	7.8	7.5
Year	26.48	27.11	25.73	38.8	55.3	56.5	59.8	35.8	47.7	98	4	32	35	35	78	50	50	.189	.209	.214	8.32	.81	35.3	5.3	6.1	6.3	6.1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

ATLANTIC CITY, N. J.

[H=8 ft.; H_b=52 ft.; h_t=37 ft.; h_r=33 ft.; h_a=172 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	14.6	W.	51	SE.	7	14	2	1	4	10	6	18	7	0	4	12	15	14	9	7	1	0	4	3	4	0	20	0	0
February	17.0	NW.	53	NE.	6	10	7	3	3	7	7	9	10	0	6	8	14	10	8	4	2	0	6	3	0	0	13	1	0
March	17.7	S.	41	NE.	11	6	6	3	4	13	14	11	5	0	8	9	14	15	12	2	2	0	8	7	0	0	6	1	0
April	18.2	S.	43	NE.	8	3	12	5	4	12	11	8	5	0	4	15	11	7	5	0	0	0	6	5	0	0	0	0	0
May	14.3	NE.	40	W.	5	1	11	14	5	9	3	14	5	0	2	15	14	13	10	0	0	0	9	7	0	0	0	2	0
June	13.4	S.	37	S.	4	6	9	3	8	18	10	3	3	0	5	7	18	11	9	0	0	0	12	7	0	0	0	5	0
July	14.0	S.	38	SW.	2	4	3	0	3	28	14	6	3	1	5	14	12	15	13	0	0	0	9	4	0	0	0	6	0
August	13.4	S.	32	S.	1	4	3	3	8	17	11	7	9	0	12	11	8	7	5	0	0	0	13	5	0	2	0	8	0
September	15.0	N.	61	W.	4	15	8	8	2	11	9	5	2	0	7	11	12	14	11	0	0	0	9	3	0	0	0	3	0
October	16.2	NE.	50	NE.	7	10	10	3	3	10	4	11	11	0	13	7	11	7	6	0	0	0	8	7	0	0	0	1	0
November	15.6	S.	40	N.	8	8	0	6	4	15	7	12	8	0	12	9	9	12	10	3	3	0	5	1	0	0	6	0	0
December	15.2	W.	47	SE.	8	11	4	2	5	3	7	20	10	0	7	6	18	9	7	3	1	0	6	2	1	0	18	0	0
Year	15.4	S.	61	W.	71	92	75	51	53	153	103	124	78	1	85	124	156	134	105	19	9	0	95	54	5	2	63	27	0

AUGUSTA, GA.

[H=134 ft.; H_b=182 ft.; h_t=62 ft.; h_r=54 ft.; h_a=77 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.4	NW.	30	SW.	0	4	10	3	3	6	4	11	19	2	9	7	15	10	7	1	0	0	10	0	0	0	7	0	1
February	6.5	NW.	22	SW.	0	6	14	3	5	2	2	7	13	4	8	11	9	5	3	0	0	0	9	4	0	0	1	0	0
March	6.5	S.	23	W.	0	2	6	3	7	12	9	9	10	4	8	13	10	9	8	0	0	0	6	0	0	0	1	5	0
April	5.6	S.	28	NW.	0	1	4	4	6	16	7	6	14	2	13	6	11	11	9	0	0	0	5	0	0	0	0	6	1
May	5.8	NW.	24	SW.	0	3	6	5	5	10	9	7	15	2	6	13	12	9	9	0	0	0	6	0	0	7	0	9	0
June	5.1	S.	24	W.	0	5	10	2	5	18	9	4	7	0	6	15	9	12	10	0	0	0	1	0	0	11	0	14	0
July	5.2	S.	19	SW.	0	3	5	6	15	22	4	3	4	0	8	11	12	14	11	0	0	0	2	1	0	10	0	13	0
August	5.1	S.	26	SW.	0	6	4	8	7	16	3	5	12	1	15	10	6	8	6	0	0	0	3	0	0	27	0	6	0
September	4.8	NW.	21	SW.	0	4	14	8	4	9	3	2	15	1	8	11	11	9	5	0	0	0	2	0	0	10	0	4	0
October	4.9	NE.	18	NE.	0	10	13	9	2	4	2	2	17	3	21	7	3	2	2	0	0	0	4	2	0	0	0	1	0
November	5.4	NW.	21	NW.	0	13	4	5	9	7	6	4	12	0	14	6	10	11	8	0	0	0	3	4	0	0	5	0	0
December	5.5	NW.	21	W.	0	8	5	3	2	6	5	7	25	1	12	7	12	7	7	0	0	1	4	2	0	0	5	1	0
Year	5.6	NW.	30	SW.	0	65	95	59	70	128	63	67	163	20	128	117	120	107	85	1	0	1	55	13	0	65	19	59	2

AUSTIN, TEXAS

[H=531 ft.; H_b=605 ft.; h_t=68 ft.; h_r=60 ft.; h_a=90 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.2	N.	30	N.	0	17	2	5	3	13	1	5	14	2	13	6	12	7	6	0	0	0	10	2	0	0	4	3	0
February	8.7	S.	24	NW.	0	7	5	2	5	22	2	2	11	0	7	8	13	6	6	0	0	0	5	0	0	0	1	1	0
March	8.8	S.	30	SE.	0	9	4	3	7	24	1	4	9	1	13	7	11	7	5	0	0	1	7	2	0	0	0	5	0
April	9.2	S.	30	NW.	0	5	8	5	17	15	2	4	4	0	7	10	13	8	8	0	0	0	8	1	0	0	0	4	0
May	9.3	S.	25	W.	0	7	5	2	12	28	2	2	2	2	13	8	10	9	7	0	0	0	4	0	0	2	0	6	0
June	7.3	S.	22	NW.	0	0	4	8	20	24	1	1	0	2	14	14	2	6	5	0	0	0	1	0	0	25	0	4	0
July	6.8	S.	19	SE.	0	3	5	5	14	28	0	4	0	3	14	12	5	7	6	0	0	0	1	0	0	27	0	7	0
August	6.7	S.	25	SE.	0	0	2	13	14	17	3	4	4	5	19	10	2	1	1	0	0	0	2	0	0	29	0	3	0
September	5.8	S.	30	NE.	0	7	3	7	8	12	2	5	6	10	18	11	1	7	3	0	0	0	2	0	0	20	0	7	0
October	5.5	S.	22	N.	0	7	4	14	6	8	1	3	9	10	22	7	2	4	2	0	0	0	4	1	0	6	0	1	0
November	8.3	S.	29	NW.	0	13	3	3	8	19	1	4	5	4	13	9	8	4	3	0	0	1	2	0	0	0	6	2	0
December	7.8	N.	27	SW.	0	18	6	2	3	14	6	3	8	2	14	6	11	5	4	0	0	0	3	1	0	0	3	0	0
Year	7.7	S.	30	NE.	0	93	51	69	117	224	22	41	72	41	167	108	90	71	56	0	0	2	49	7	0	109	14	43	0

BAKER, OREG.

[H=3,445 ft.; H_b=3,471 ft.; h_t=36 ft.; h_r=41 ft.; h_a=54 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.6	S.	23	N.	0	5	1	2	24	12	2	12	3	1	3	5	23	9	4	15	7	0	2	2	1	0	29	0	0
February	7.4	SE.	25	S.	0	4	1	0	25	16	4	4	2	0	3	7	18	12	7	19	10	2	3	1	1	0	22	0	0
March	7.2	S.	23	SW.	0	7	1	3	17	21	7	2	4	0	1	6	24	11	8	15	7	1	2	0	2	0	25	0	0
April	6.7	N.	20	NW.	0	14	6	2	15	13	5	2	3	0	6	5	19	9	5	1	1	0	0	0	0	0	9	0	2
May	6.6	N.	28	N.	0	18	5	2	9	18	0	4	6	0	9	8	14	4	2	4	1	1	0	0	0	0	8	3	0
June	6.1	N.	21	N.	0	16	2	2	14	16	0	3	7	0	8	11	11	5	4	0	0	1	0	0	0	0	0	8	0
July	5.7	S.	24	SW.	0	6	2	1	16	16	4	10	7	0	15	10	6	6	4	0	0	0	0	0	0	10	0	7	2
August	5.9	N.	18	N.	0	15	6	2	13	18	1	3	4	0	20	7	4	3	3	0	0	0	0	0	0	4	0	3	2
September	5.8	S.	22	S.	0	5	2	1	19	20	3	4	6	0	17	7	6	6	3	0	0	0	0	0	0	3	0	5	1
October	6.5	S.	30	SW.	0	9	1	2	16	18	5	3	7	1	10	6	15	9	4	3	0	1	0	0	0	0	8	1	1
November	5.8	S.	26	SW.	0	7	3	1	15	14	5	9	3	3	7	8	15	12	5	15	8	0	1	0	5	0	24	0	0
December	5.3	S.	17	SE.	0	6	6	1	16	15	5	6	4	3	5	5	21	5	3	13	4	0	10	7	4	0	30	0	0
Year	6.2	S.	30	SW.	0	112	36	19	199	197	41	62	56	8	104	85	176	91	52	85	38	6	18	10	13	17	155	27	8

313225—42——5

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BALTIMORE, MD.

[ϕ=39°17′ N.; λ=76°37′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.94	30.37	29.09	32.6	38.1	37.1	42.8	29.5	36.2	61	17	25	24	25	72	58	61	0.144	0.139	0.143	2.23	0.69	1.4	7.2	6.8	5.9	6.5
February	30.08	30.66	29.31	36.2	42.0	41.8	47.9	32.8	40.4	73	20	27	26	29	68	55	61	.160	.160	.172	3.10	1.87	.6	6.7	7.0	5.4	6.9
March	29.89	30.27	29.38	42.6	51.8	50.6	59.2	39.1	49.2	79	16	33	34	35	69	54	61	.200	.214	.231	2.44	.64	4.8	6.1	6.3	6.0	6.4
April	29.92	30.29	29.05	51.6	60.8	59.4	65.8	47.6	56.7	87	33	40	40	40	66	50	51	.268	.268	.261	1.40	.55	T	6.0	5.5	5.5	5.7
May	29.82	30.28	29.26	59.9	66.6	66.6	71.9	55.2	63.6	85	45	49	47	50	68	53	60	.365	.344	.381	4.86	1.29	.0	6.9	6.8	6.5	6.2
June	29.87	30.19	29.60	69.3	78.4	75.4	82.0	64.2	73.1	95	48	59	57	60	70	49	60	.508	.482	.530	1.49	.56	.0	6.3	7.0	6.9	6.4
July	29.85	29.99	29.61	73.9	84.2	80.0	87.8	70.4	79.1	97	62	66	64	67	76	53	67	.641	.611	.676	4.87	1.44	.0	6.3	7.1	7.1	6.4
August	29.87	30.06	29.61	75.4	85.5	81.4	88.8	71.1	80.0	98	61	65	64	66	72	48	62	.638	.602	.663	2.43	.87	.0	4.9	4.7	4.5	4.9
September	29.89	30.24	29.38	63.1	71.4	68.8	75.4	60.7	68.0	90	48	56	56	58	79	60	70	.465	.463	.498	5.05	1.91	.0	6.2	6.7	6.0	6.6
October	29.97	30.30	29.42	53.2	65.7	61.3	69.4	50.2	59.8	90	42	45	45	48	74	50	62	.311	.318	.347	2.15	.58	.0	3.4	4.0	2.0	3.4
November	30.04	30.41	29.54	44.2	55.1	51.4	59.3	41.5	50.4	78	21	37	39	40	75	56	65	.249	.277	.277	2.11	.97	8.5	5.1	4.7	4.1	4.7
December	29.98	30.48	29.35	35.6	42.0	39.7	45.6	33.1	39.4	56	20	27	27	28	70	57	62	.157	.161	.160	2.66	1.04	.4	6.5	5.8	4.7	6.0
Year	29.93	30.66	29.05	53.1	61.8	59.5	66.3	49.6	58.0	98	16	44	44	46	72	54	62	.342	.337	.362	34.79	1.91	15.7	6.0	6.0	5.4	5.8

BINGHAMTON, N. Y.

[ϕ=42°6′ N.; λ=75°55′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.07	29.52	28.16	23.2	28.5	26.9	33.3	17.7	25.5	58	−14	20	22	22	89	74	82	0.119	0.121	0.122	2.13	0.73	4.6	9.2	8.6	8.0	8.9
February	29.24	29.78	28.38	26.1	32.3	31.3	38.7	20.8	29.8	58	2	24	25	27	90	73	82	.135	.144	.156	2.34	.48	2.3	8.5	9.5	8.4	8.9
March	29.04	29.42	28.51	33.7	44.8	42.8	51.2	30.3	40.8	82	1	30	33	34	84	64	73	.173	.209	.216	1.92	.95	2.3	8.2	8.4	7.5	8.0
April	29.10	29.49	28.18	43.7	55.8	51.3	59.5	38.7	49.1	87	19	38	41	40	80	59	67	.245	.277	.260	2.48	.70	7.7	7.7	8.0	7.3	8.0
May	29.02	29.47	28.41	51.1	62.1	60.7	67.2	45.8	56.5	85	29	45	50	48	81	66	64	.313	.368	.343	2.07	1.02	.0	8.3	7.7	7.5	7.8
June	29.08	29.41	28.78	60.4	75.0	71.1	79.0	54.5	66.8	92	42	56	58	58	85	58	64	.450	.495	.486	3.65	1.24	.0	6.4	8.3	8.0	7.9
July	29.06	29.20	28.77	66.7	78.7	76.5	83.5	61.5	72.5	93	46	62	62	62	85	60	63	.560	.574	.573	2.79	.77	.0	6.6	8.5	7.7	8.1
August	29.09	29.29	28.75	64.3	80.9	75.6	85.1	60.4	72.8	95	49	60	61	62	88	52	63	.538	.551	.560	3.83	2.03	.0	4.3	7.4	4.8	6.5
September	29.10	29.47	28.44	52.4	65.1	60.2	69.2	48.6	58.9	84	36	49	51	51	90	64	74	.365	.394	.389	5.74	1.65	.0	5.9	7.7	6.3	7.7
October	29.19	29.56	28.71	44.4	60.5	55.1	65.0	41.3	53.2	82	27	42	45	45	91	58	69	.273	.307	.305	.96	.55	.0	5.0	6.4	3.3	6.2
November	29.20	29.55	28.63	36.4	46.8	42.9	51.6	31.6	41.6	76	0	32	36	35	84	65	74	.206	.237	.230	2.52	1.12	6.9	7.2	7.5	5.4	7.6
December	29.11	29.62	28.56	28.5	34.0	31.3	37.2	24.0	30.6	55	9	23	25	23	80	67	71	.133	.140	.134	3.26	1.66	4.4	8.7	9.3	7.9	9.1
Year	29.11	29.79	28.16	44.2	55.4	52.1	60.0	39.6	49.8	95	−14	40	42	42	86	63	70	.292	.318	.314	33.69	2.03	28.2	7.2	8.1	6.8	7.9

BIRMINGHAM, ALA.

[ϕ=33°32′ N.; λ=86°50′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.35	29.76	28.76	40.3	49.6	47.3	54.9	37.0	46.0	77	19	35	35	34	82	60	61	0.231	0.232	0.223	3.69	1.06	T	5.1	5.8	4.7	5.6
February	29.46	29.74	29.01	46.8	55.8	57.8	64.0	45.1	54.6	78	23	41	44	43	82	63	60	.279	.305	.302	1.65	.99	0.0	4.9	6.2	4.0	5.7
March	29.28	29.73	28.97	54.8	66.7	64.5	71.8	51.6	61.7	82	29	48	49	50	80	55	62	.367	.375	.388	9.05	2.38	.0	6.3	6.3	5.1	6.1
April	29.32	29.59	28.82	56.5	68.4	66.1	72.5	53.3	62.9	85	32	50	51	49	80	57	58	.384	.395	.375	11.58	5.66	.0	5.4	5.5	4.2	5.0
May	29.24	29.41	29.00	65.3	79.0	75.4	82.4	62.4	72.4	91	51	60	59	58	83	51	57	.528	.513	.505	2.34	.88	.0	5.1	7.2	4.7	5.7
June	29.29	29.48	29.15	69.9	84.0	78.8	87.3	66.7	77.0	93	58	65	65	64	85	53	63	.622	.617	.606	3.35	.76	.0	4.6	6.3	5.0	5.4
July	29.26	29.40	29.11	73.5	85.1	80.4	89.1	71.3	80.2	95	68	70	71	70	89	63	72	.728	.750	.734	8.39	2.00	.0	5.4	7.0	7.3	6.4
August	29.32	29.52	29.17	73.6	88.1	83.5	92.0	71.6	81.8	103	65	70	69	69	88	56	64	.727	.716	.713	2.61	1.33	.0	3.8	5.4	4.4	4.6
September	29.29	29.47	29.00	65.9	82.7	76.5	85.9	64.3	75.1	93	48	61	60	61	85	47	59	.558	.536	.554	1.59	1.12	.0	3.1	4.7	3.5	3.6
October	29.35	29.62	29.08	56.9	77.2	71.0	80.6	55.3	68.0	93	39	48	46	46	72	35	42	.342	.327	.328	.05	.05	.0	1.8	1.8	2.4	1.9
November	29.40	29.78	28.99	48.0	62.1	57.9	66.5	44.3	55.4	82	21	40	41	41	75	49	55	.279	.296	.291	4.01	1.65	.5	3.4	3.4	2.0	3.3
December	29.38	29.76	28.91	40.3	50.9	48.6	54.8	37.3	46.0	70	20	33	34	34	75	56	58	.195	.212	.208	2.09	.94	.0	5.7	5.5	4.5	5.5
Year	29.33	29.78	28.76	57.6	71.0	67.3	75.2	55.0	65.1	103	19	52	52	52	81	54	59	.437	.440	.436	50.40	5.66	.5	4.6	5.4	4.4	4.9

BISMARCK, N. DAK.

[ϕ=46°48′ N.; λ=100°48′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.21	28.70	27.67	9.9	15.4	15.3	22.5	2.5	12.5	41	−23	6	10	11	84	75	80	0.064	0.072	0.078	0.40	.16	6.7	5.0	6.2	5.9	6.0
February	28.35	28.88	27.94	3.8	12.3	12.6	17.2	−1.5	7.8	45	−25	1	6	8	88	74	81	.053	.069	.073	.76	.27	10.3	4.3	6.5	5.6	5.7
March	28.04	28.51	27.28	27.5	38.9	39.3	44.1	24.7	34.4	65	4	23	23	24	84	56	58	.131	.127	.133	.58	.32	4.5	4.9	5.5	6.0	5.4
April	28.18	28.83	27.70	35.9	53.2	55.1	58.5	34.1	46.3	83	16	28	28	26	73	39	35	.165	.159	.150	.54	.24	.1	6.1	6.1	5.9	5.4
May	28.13	28.43	27.50	45.2	59.7	61.8	63.9	43.3	53.6	85	25	38	38	38	78	48	46	.241	.249	.240	2.45	1.06	.0	5.8	6.7	5.9	6.0
June	28.16	28.44	27.65	57.3	73.8	75.3	78.7	54.8	66.8	96	41	51	50	50	79	48	44	.386	.393	.387	3.17	1.23	.0	5.6	5.7	6.0	5.7
July	28.19	28.41	27.90	61.9	78.9	81.8	83.9	60.1	72.0	95	52	56	55	55	81	46	41	.451	.441	.437	2.36	.93	.0	4.7	4.0	3.7	3.9
August	28.14	28.55	27.69	58.3	80.8	83.3	86.3	56.5	71.4	101	42	49	48	47	73	35	30	.362	.354	.338	.84	.48	.0	3.0	3.6	3.5	3.3
September	28.27	28.52	28.04	52.4	71.0	72.2	76.4	50.7	63.6	94	32	45	46	45	77	46	42	.309	.326	.319	1.11	.89	.0	3.6	4.2	4.5	4.0
October	28.21	28.53	27.79	43.8	60.5	58.2	64.8	40.4	52.6	86	17	35	36	34	72	44	44	.211	.223	.207	.24	.11	T	4.2	4.4	4.4	4.3
November	28.18	28.82	27.59	23.1	30.9	28.4	34.6	17.1	25.8	52	−4	18	21	20	82	68	70	.105	.118	.112	.81	.49	8.1	6.2	6.5	6.1	6.5
December	28.17	28.63	27.62	16.7	25.9	25.6	30.6	13.0	21.8	50	−26	13	17	17	86	68	70	.088	.103	.104	.16	.08	3.1	3.7	6.4	4.7	5.6
Year	28.19	28.88	27.28	36.3	50.1	50.7	55.1	33.0	44.0	101	−26	30	32	31	80	54	53	.214	.220	.215	13.42	1.23	32.8	4.8	5.5	5.2	5.2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BALTIMORE, MD.

[H=14 ft.; H_b=123 ft.; h_t=100 ft.; h_r=90 ft.; h_a=215 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	10.0	SW.	41	S.	4	5	7	3	7	9	19	2	10	0	6	11	14	10	9	6	3	0	16	1	3	0	20	0	0
February	11.0	SW.	41	NW.	2	8	9	5	2	8	13	1	10	0	6	6	16	9	8	6	2	0	12	2	0	0	12	2	0
March	10.8	SW.	36	SW.	3	4	11	4	9	8	15	1	10	0	9	7	15	15	13	2	2	0	12	3	0	0	5	1	0
April	10.7	SW.	43	SW.	3	4	13	3	7	12	9	3	9	0	11	6	13	9	7	3	0	0	12	0	0	0	0	1	0
May	10.5	SW.	31	SW.	0	6	12	8	7	6	16	1	6	0	7	12	12	16	13	0	0	1	9	0	0	0	0	8	0
June	9.6	SW.	37	SW.	2	8	10	4	6	13	10	3	6	0	7	10	13	8	7	0	0	1	4	1	0	5	0	8	0
July	9.0	SW.	39	SE.	1	3	2	3	6	15	26	0	7	0	5	13	13	18	10	0	0	1	10	2	0	11	0	10	0
August	9.0	SW.	32	S.	2	7	5	1	2	12	21	3	11	0	12	11	8	10	7	0	0	0	3	0	0	12	0	8	0
September	9.5	SW.	35	NW.	1	5	16	7	3	7	15	1	6	0	8	6	16	14	13	0	0	0	14	1	0	2	0	2	1
October	9.4	N.	35	NE.	1	19	6	2	4	7	12	1	11	0	18	8	5	6	6	0	0	0	12	1	0	1	0	2	0
November	9.5	S.	35	NE.	4	12	7	2	8	16	7	2	6	0	13	7	10	8	7	3	2	0	17	1	0	0	6	0	0
December	9.9	SW.	32	SW.	1	12	5	7	3	11	13	0	11	0	7	11	13	9	5	5	2	0	10	2	1	0	14	0	0
Year	9.9	SW.	43	SW.	24	93	103	49	64	124	176	18	103	0	109	108	148	132	105	25	11	3	131	14	4	31	57	42	1

BINGHAMTON, N. Y.

[H=858 ft.; H_b=871 ft.; h_t=57 ft.; h_r=49 ft.; h_a=79 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.7	NE.	22	SW.	0	2	12	15	4	2	9	7	11	0	0	5	26	16	9	25	10	0	16	0	16	0	30	0	0
February	7.4	NW.	27	NW.	0	1	8	6	8	4	4	5	20	0	0	6	22	17	9	14	8	0	18	0	6	0	24	0	0
March	7.5	NW.	23	NW.	0	5	7	11	7	7	7	6	12	0	2	9	20	14	7	13	5	0	14	0	1	0	18	1	0
April	7.2	NW.	21	NW.	0	2	15	4	8	3	12	3	13	0	1	9	20	13	9	9	6	0	9	3	1	0	10	2	0
May	6.4	NW.	21	NW.	0	2	9	8	7	5	8	7	16	0	4	7	20	11	8	0	0	0	18	1	0	0	2	4	0
June	5.5	NE.	22	NW.	0	9	11	9	5	6	4	9	7	0	1	10	19	7	7	0	0	0	23	1	0	2	0	4	0
July	5.4	SW.	18	W.	0	7	9	12	4	5	10	7	8	0	0	12	19	12	10	0	0	0	19	2	0	2	0	7	0
August	5.6	NW.	21	NW.	0	5	11	14	1	4	8	9	10	0	4	13	14	11	8	0	0	0	27	6	0	8	0	7	1
September	6.0	NE.	20	NW.	0	8	16	8	5	5	5	3	10	0	3	8	19	13	12	0	0	0	22	10	0	0	0	0	1
October	5.3	E.	18	SW.	0	6	11	14	4	3	4	10	10	0	8	11	12	6	5	0	0	0	21	10	0	0	3	0	0
November	6.5	SW.	24	SW.	0	2	10	12	4	5	7	9	11	0	3	8	19	11	9	12	6	0	16	4	5	0	16	0	0
December	7.4	NW.	28	SE.	0	8	9	8	7	5	8	8	9	0	1	4	26	16	12	23	8	0	18	1	9	0	23	0	0
Year	6.4	NW.	28	SE.	0	57	128	121	64	54	86	83	137	0	27	102	236	147	105	96	43	0	221	38	38	12	126	25	2

BIRMINGHAM, ALA.

[H=694 ft.; H_b=700 ft.; h_t=11 ft.; h_r=3 ft.; h_a=48 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.2	NW.	36	SE.	2	14	1	4	9	10	4	7	13	0	10	10	11	10	7	2	0	0	1	0	0	0	11	0	0
February	8.2	SE.	24	SE.	0	6	1	7	11	12	4	4	11	0	10	8	10	6	5	0	0	0	3	0	0	0	3	0	0
March	9.1	S.	26	SE.	0	8	5	7	14	17	2	3	6	0	9	8	14	13	12	0	0	1	0	0	0	0	2	11	0
April	7.3	SE.	20	SE.	0	3	2	5	23	7	5	5	10	0	12	5	13	14	12	0	0	0	1	0	0	0	0	9	0
May	6.5	S.	21	S.	0	7	3	3	11	13	12	5	8	0	6	16	9	11	8	0	0	0	1	0	0	3	0	10	0
June	6.0	S.	26	SW.	0	10	4	3	8	13	7	3	11	1	6	16	8	13	13	0	0	0	0	0	0	6	0	15	0
July	5.8	S.	21	SE.	0	4	3	7	17	17	4	5	4	1	5	16	10	15	11	0	0	0	2	0	0	17	0	15	0
August	5.3	S.	18	S.	0	14	5	3	5	17	6	3	8	1	12	10	9	9	7	0	0	0	1	0	0	20	0	11	0
September	5.2	NW.	25	SE.	0	7	7	3	13	9	3	2	15	1	14	12	4	2	2	0	0	0	0	0	0	11	0	5	0
October	5.6	E.	15	S.	0	5	11	14	5	2	3	8	12	2	25	3	3	1	1	0	0	0	0	0	0	2	0	1	0
November	7.9	SE.	32	SE.	1	12	1	10	14	7	1	5	10	0	19	4	7	7	7	1	1	0	0	0	0	0	7	1	0
December	7.1	N.	24	SE.	0	17	0	8	11	6	8	4	8	0	11	7	13	13	10	0	0	0	1	1	0	0	9	0	0
Year	6.9	S.	36	SE.	3	107	43	74	141	130	59	54	116	6	139	115	111	114	95	3	1	1	10	1	0	59	32	78	0

BISMARCK, N. DAK.

[H=1,670 ft.; H_b=1,674 ft.; h_t=8 ft.; h_r=3 ft.; h_a=57 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.7	NW.	30	NW.	0	5	5	11	9	1	1	13	15	2	9	7	15	10	3	19	10	0	6	5	24	0	31	0	2
February	7.4	NW.	22	NW.	0	3	12	9	9	0	1	8	14	0	8	10	10	9	5	14	9	0	5	3	23	0	27	0	1
March	10.0	W.	32	NW.	1	3	4	8	8	2	10	13	13	1	8	13	10	4	4	6	2	0	2	1	7	0	22	0	4
April	10.1	NW.	30	NW.	0	8	16	4	4	3	2	5	17	1	7	14	9	7	4	4	1	0	1	0	1	0	10	1	2
May	10.2	NW.	32	NW.	1	7	11	5	7	2	5	6	17	2	8	10	13	12	8	0	0	0	0	0	0	0	4	2	2
June	9.7	NW.	37	W.	1	4	19	12	11	1	3	2	17	1	9	11	10	15	11	0	0	0	1	0	0	2	0	11	0
July	7.4	NW.	25	SE.	0	2	4	5	5	6	3	17	18	2	11	18	2	11	9	0	0	0	1	0	0	6	0	8	2
August	8.8	NW.	34	NW.	1	7	8	5	9	3	3	13	10	4	17	11	3	8	5	0	0	1	1	0	0	13	0	7	3
September	7.1	E.	22	E.	0	7	6	11	5	1	5	7	14	4	16	6	8	3	3	0	0	0	3	0	0	4	0	1	6
October	9.2	W.	28	NW.	0	5	10	8	6	3	3	15	12	0	14	9	8	4	3	1	0	0	1	0	0	0	5	2	5
November	9.2	W.	30	NW.	0	1	11	3	8	5	3	14	17	0	5	11	14	8	5	13	7	0	2	0	13	0	27	0	1
December	8.7	W.	30	W.	0	1	4	6	7	4	2	18	18	2	9	11	11	5	2	12	5	0	3	0	11	0	29	0	1
Year	8.8	NW.	37	W.	4	53	100	87	86	31	41	131	182	19	121	131	113	96	62	69	34	1	26	9	79	25	155	32	29

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BLOCK ISLAND, R. I.

[ϕ=41°10′ N.; λ=71°36′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.02	30.38	29.30	31.3	33.7	33.0	37.6	26.9	32.2	56	14	25	26	25	77	73	72	0.146	0.152	0.143	2.73	0.72	5.3	4.8	6.1	4.4	.53
February	30.13	30.82	29.21	32.4	34.4	34.1	39.1	27.9	33.5	50	9	27	26	26	79	72	73	.155	.154	.153	1.93	.49	.7	6.0	5.4	5.0	6.1
March	29.96	30.32	29.37	38.0	41.7	39.8	45.7	32.8	39.2	62	9	31	32	33	76	71	78	.183	.191	.196	2.61	.83	T	5.5	5.4	4.1	5.2
April	30.01	30.43	29.06	44.9	48.5	44.8	51.7	39.9	45.8	66	28	40	41	40	84	77	85	2.55	.274	.256	3.64	1.92	4.3	5.0	5.0	4.6	5.0
May	29.90	30.38	29.14	52.3	56.1	52.4	58.8	47.4	53.1	68	42	47	48	47	84	76	83	.331	.339	.323	4.24	1.72	.0	5.0	5.8	4.5	5.2
June	29.97	30.37	29.73	61.4	65.3	60.7	68.0	56.7	62.4	78	47	59	61	58	91	86	92	.499	.536	.493	6.53	3.34	.0	6.6	6.4	5.0	6.1
July	29.96	30.15	29.72	68.3	72.5	68.7	74.8	64.3	69.6	80	56	66	68	66	91	86	92	.636	.685	.649	3.08	.93	.0	5.7	4.4	5.1	5.3
August	29.95	30.15	29.56	70.1	74.5	70.2	76.9	65.4	71.2	89	60	66	67	66	87	77	87	.648	.667	.645	5.27	1.88	.0	3.4	4.2	4.2	4.0
September	29.99	30.35	28.63	61.8	65.2	62.4	67.9	57.1	62.5	74	50	56	56	56	82	73	82	.463	.463	.471	6.31	1.23	.0	4.3	4.7	4.8	4.5
October	30.04	30.36	29.36	55.0	59.2	56.3	61.7	51.1	56.4	73	43	50	50	49	82	73	78	.366	.374	.359	2.94	2.02	.0	3.4	3.9	4.0	4.1
November	30.11	30.56	29.32	46.4	50.3	49.2	54.2	42.2	48.2	68	16	40	42	42	79	73	76	.277	.289	.292	3.03	1.04	1.7	4.1	3.7	2.9	3.8
December	30.02	30.58	29.27	36.8	39.0	38.8	43.4	32.0	37.7	57	18	30	32	31	74	75	72	.179	.192	.183	3.44	1.25	.5	5.3	5.5	5.8	5.3
Year	30.00	30.82	28.63	49.9	53.4	50.9	56.6	45.3	50.6	89	9	45	46	45	82	76	81	.344	.360	.347	45.75	3.34	12.5	4.9	5.0	4.5	5.0

BOISE, IDAHO

[ϕ=43°37′ N.; λ=116°13′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.31	27.91	26.72	32.4	39.2	39.8	42.6	29.2	35.9	51	22	27	29	30	80	66	68	0.146	0.158	0.167	1.51	0.38	0.6	6.1	6.8	6.9	7.1
February	27.15	27.58	26.47	36.6	43.6	45.2	47.6	33.6	40.6	59	21	28	28	28	71	54	52	.150	.150	.154	.82	.26	4.8	7.1	7.9	7.4	7.6
March	27.08	27.49	26.65	37.9	44.8	46.3	49.7	33.8	41.8	59	24	30	30	30	75	56	56	.171	.165	.171	3.16	1.05	6.6	7.0	7.6	8.1	7.6
April	27.14	27.59	26.72	43.7	58.2	60.5	62.9	40.7	51.8	80	25	34	34	34	70	42	39	.201	.204	.198	1.09	1.20	.0	6.0	7.5	6.8	6.6
May	27.14	27.40	26.77	46.3	62.1	66.5	68.3	44.2	56.2	89	31	39	38	35	76	44	34	.242	.241	.207	2.55	.70	.4	5.8	5.4	5.6	5.5
June	27.10	27.34	26.90	55.4	74.3	78.6	80.6	53.5	67.0	94	39	46	47	45	71	40	33	.314	.334	.315	1.29	.85	.0	4.7	5.2	4.5	4.8
July	27.16	27.32	26.91	63.9	82.6	87.7	88.6	61.5	75.0	102	52	50	50	47	64	34	26	.368	.364	.323	.85	.40	.0	3.9	3.2	4.0	3.6
August	27.14	27.31	26.87	59.4	80.2	85.3	86.6	56.9	71.8	95	47	42	44	42	54	28	22	.272	.292	.272	.03	.03	.0	2.4	1.4	2.6	2.3
September	27.17	27.43	26.94	58.2	77.5	81.0	82.8	54.5	68.6	96	42	42	43	43	59	32	28	.276	.285	.283	.34	.24	.0	1.6	2.4	2.7	2.3
October	27.19	27.60	26.84	45.9	60.9	61.4	64.5	43.4	54.0	81	34	40	41	42	82	51	52	.250	.263	.275	1.68	.52	T	4.4	5.5	5.8	5.5
November	27.35	27.92	26.76	30.0	40.9	40.6	44.1	27.2	35.6	54	15	25	26	27	81	56	58	.137	.145	.151	2.51	1.10	5.0	5.0	5.9	4.9	5.9
December	27.34	27.62	27.00	30.1	37.9	37.7	41.1	27.4	34.2	51	16	26	27	28	84	66	70	.142	.153	.161	.57	.21	.1	5.0	7.1	5.9	6.8
Year	27.19	27.92	26.47	45.0	58.5	60.9	63.3	42.2	52.7	102	15	36	36	36	72	47	45	.222	.230	.223	16.40	1.20	17.5	4.9	5.5	5.4	5.5

BOSTON, MASS.[1]

[ϕ=42°22′ N.; λ=71°.02′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.01	30.36	29.28	24.2	31.5	29.9	35.2	20.8	28.0	57	3	20	22	22	81	66	70	0.117	0.131	0.125	4.91	1.65	29.6	6.0	5.8	4.8	6.0
February	30.12	30.85	29.16	28.3	33.3	31.9	38.0	23.1	30.6	53	8	22	24	24	77	68	72	.131	.137	.140	2.38	.59	10.0	4.9	7.2	6.7	7.0
March	29.94	30.37	29.27	35.3	42.0	40.1	47.3	30.9	39.1	78	7	27	29	30	72	61	69	.158	.171	.182	2.42	1.12	.3	6.8	6.7	4.6	6.7
April	29.99	30.47	29.03	45.4	53.9	48.8	57.2	40.2	48.7	89	25	36	37	37	72	55	67	.232	.234	.238	3.22	1.47	.9	6.6	6.6	6.8	6.6
May	29.89	30.42	29.13	52.8	59.5	55.6	63.7	47.8	55.8	81	41	43	43	42	71	56	65	.285	.285	.283	4.42	1.91	.0	5.7	7.5	6.0	6.8
June	29.94	30.37	29.63	65.4	72.6	66.9	76.1	58.4	67.2	93	48	56	56	57	75	60	73	.471	.472	.483	6.30	2.29	.0	5.7	6.1	6.6	6.1
July	29.93	30.11	29.68	68.8	75.5	71.7	79.3	64.2	71.8	90	54	62	63	64	81	67	78	.575	.582	.599	9.46	3.12	.0	7.8	7.2	6.5	7.3
August	29.92	30.14	29.54	69.7	79.0	73.0	82.0	65.2	73.6	94	56	62	62	64	77	56	73	.568	.564	.596	3.31	2.00	.0	4.8	5.4	6.6	5.5
September	29.98	30.34	29.06	58.4	67.4	62.0	70.3	54.2	62.2	82	45	51	52	54	78	60	76	.392	.406	.425	6.00	1.63	.0	5.4	5.6	4.8	5.4
October	30.04	30.42	29.39	50.9	60.8	55.5	63.4	48.6	56.0	87	38	45	46	47	80	61	74	.306	.323	.333	2.43	1.71	.0	4.8	6.0	4.8	5.6
November	30.09	30.58	29.41	42.0	50.1	46.8	54.3	38.4	46.4	77	12	35	37	38	76	62	72	.227	.247	.259	2.89	1.27	10.0	6.3	6.4	5.0	6.1
December	30.01	30.57	29.14	31.0	36.7	34.4	40.0	27.9	34.0	57	13	23	25	24	72	61	65	.141	.150	.139	2.80	1.29	1.3	6.0	6.3	5.6	6.4
Year	29.99	30.85	29.03	47.7	55.2	51.4	58.9	43.3	51.1	94	3	40	41	42	76	61	71	.300	.308	.317	50.54	3.12	52.1	5.9	6.4	5.7	6.3

BROWNSVILLE, TEX.

[ϕ=25°54′ N.; λ=97°30′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.00	30.58	29.63	57.5	66.1	63.4	68.5	54.7	61.6	82	34	53	53	54	85	66	74	0.429	0.436	0.449	0.92	0.36	0.0	5.5	5.5	5.3	5.7
February	30.04	30.36	29.75	61.9	70.9	67.8	73.5	59.2	66.4	80	40	58	58	59	89	64	74	.517	.488	.519	.96	.05	.0	5.5	7.3	5.9	6.5
March	29.81	30.25	29.53	69.4	78.0	74.9	80.9	67.5	74.2	89	56	67	67	67	94	69	77	.675	.658	.666	187	1.61	.0	6.8	7.2	6.6	6.5
April	29.87	30.28	29.40	67.7	77.3	74.1	80.1	66.2	73.2	89	42	62	61	62	84	58	70	.611	.579	.614	.96	.73	.0	5.7	6.5	5.1	5.6
May	29.79	30.04	29.47	74.1	82.8	79.5	85.2	72.3	78.8	90	64	71	69	71	91	65	75	.771	.720	.757	4.39	2.95	.0	5.9	6.3	5.8	6.0
June	29.88	30.06	29.70	76.0	86.0	83.1	88.8	74.8	81.8	94	70	74	72	73	92	64	72	.825	.779	.808	2.55	1.34	.0	3.0	6.0	4.6	4.6
July	29.87	30.03	29.73	77.2	89.1	85.4	91.3	76.8	84.0	93	73	75	71	72	93	55	66	.864	.760	.795	.04	.04	.0	2.0	4.1	2.5	3.0
August	29.89	30.05	29.68	77.2	89.0	84.9	91.3	76.5	83.9	95	71	74	72	73	90	57	67	.842	.772	.802	5.65	3.49	.0	3.7	6.1	3.9	4.6
September	29.90	30.08	29.73	73.2	86.2	81.9	88.8	72.8	80.3	96	66	70	69	70	89	57	67	.730	.705	.732	1.65	.85	.0	3.2	5.6	4.1	4.1
October	29.95	30.14	29.71	68.1	83.0	77.2	85.4	66.6	76.0	94	51	64	63	64	87	52	64	.606	.584	.603	.61	.29	.0	1.8	3.2	2.0	2.3
November	30.01	30.58	29.58	61.7	71.8	67.8	74.8	58.0	66.4	85	37	53	54	55	76	56	67	.467	.462	.487	.84	.33	.0	4.7	6.0	4.7	5.2
December	30.00	30.47	29.72	58.0	67.9	65.2	71.4	55.4	63.4	82	41	53	51	54	84	58	68	.418	.393	.434	1.80	.55	.0	4.5	5.7	4.5	5.0
Year	29.92	30.58	29.40	68.5	79.0	75.4	81.7	66.7	74.2	96	34	64	63	64	88	60	70	.646	.611	.639	21.54	3.49	.0	4.4	5.8	4.6	4.9

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BLOCK ISLAND, R. I.

[H=35 ft.; H_b=26 ft.; h_t=11 ft.; h_r=3 ft.; h_a=46 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	16.2	NW.	40	NE.	9	12	3	2	6	3	9	10	15	2	11	9	11	12	10	12	5	0	10	1	8	0	24	0	1
February	16.3	NW.	49	NW.	9	9	8	3	2	6	10	4	13	1	9	6	13	15	10	6	3	0	14	5	5	0	18	0	0
March	17.8	SW.	42	NW.	7	4	9	5	4	8	14	11	7	0	13	6	12	12	10	3	0	0	15	4	2	0	12	0	1
April	16.0	SW.	36	E.	5	5	10	6	3	8	14	8	6	0	10	13	7	12	9	4	2	0	13	5	0	0	4	2	2
May	13.6	W.	49	E.	2	5	4	8	7	9	11	11	7	0	10	12	9	13	8	0	0	0	13	7	0	0	0	2	0
June	13.3	S.	36	W.	1	2	12	5	1	14	20	4	2	0	7	10	13	14	10		0	1	24	10	0	0	0	5	0
July	12.3	S.	24	SW.	0	2	2	5	1	21	25	5	1	0	10	11	10	13	9	0	0	0	23	13	0	0	0	5	0
August	12.2	SW.	30	NW.	0	5	3	1	3	13	20	14	3	0	14	11	6	8	5	0	0	1	16	6	0	0	0	7	0
September	15.0	SW.	82	SE.	4	9	5	4	3	12	16	2	9	0	13	6	11	14	10	0	0	0	12	0	0	0	0	4	0
October	16.8	NE.	44	NE.	9	9	16	1	2	8	10	7	9	0	17	4	10	9	6	0	0	0	14	3	0	0	0	0	0
November	17.1	W.	52	NW.	11	5	2	3	4	13	10	14	9	0	17	6	7	10	9	4	2	0	6	1	0	0	6	2	0
December	19.1	N.	45	W.	15	9	6	3	8	4	10	6	16	0	12	7	12	15	11	8	3	0	11	2	3	0	15	0	1
Year	15.5	SW.	82	SE.	72	76	80	46	44	119	169	96	97	3	143	101	121	147	107	37	15	2	171	57	18	0	79	27	5

BOISE, IDAHO

[H=2,713 ft.; H_b=2,739 ft.; h_t=79 ft.; h_r=72 ft.; h_a=87 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.3	SE.	27	NW.	0	5	0	4	27	6	1	3	16	0	6	5	20	11	10	10	6	0	3	0	0	0	23	1	0
February	8.1	SE.	25	SE.	0	3	1	1	32	5	1	2	11	0	5	3	20	9	7	10	5	0	1	0	0	0	11	0	0
March	7.4	SE.	24	NW.	0	4	3	6	21	2	2	9	15	0	1	12	18	15	14	12	6	0	0	0	0	0	13	1	1
April	6.4	SE.	30	SE.	0	5	0	5	21	6	0	2	20	1	5	9	16	12	5	0	0	0	0	0	0	0	2	2	2
May	5.6	NW.	26	NW.	0	7	4	6	11	1	3	6	21	0	8	11	12	8	5	2	1	0	1	0	0	0	2	2	0
June	5.6	SE.	19	SE.	0	3	1	3	20	6	2	10	14	1	12	7	11	9	5	0	0	0	0	0	0	4	0	7	0
July	4.8	SE.	18	SE.	0	4	0	5	21	1	6	5	20	0	18	8	5	6	4	0	0	0	0	0	0	19	0	5	2
August	5.3	NW.	27	SE.	0	5	0	2	21	2	3	5	23	1	20	9	2	1	0	0	0	0	0	0	0	11	0	3	0
September	4.9	NW.	17	SE.	0	6	2	3	17	1	0	8	23	0	22	4	4	3	3	0	0	0	0	0	0	6	0	2	0
October	4.9	SE.	22	SE.	0	3	3	4	21	3	2	6	20	0	12	4	15	10	10	1	0	0	4	2	0	0	0	1	1
November	4.8	SE.	22	NW.	0	11	1	4	21	4	2	3	14	0	9	7	14	10	9	7	5	0	2	0	0	0	23	0	0
December	4.3	SE.	23	NW.	0	4	3	2	17	5	4	6	21	0	6	7	18	6	4	5	2	0	8	6	0	0	24	0	0
Year	5.6	SE.	30	SE.	0	60	18	45	250	42	26	65	221	3	124	86	155	100	76	47	25	0	19	8	0	40	98	24	6

BOSTON, MASS.[1]

[H=12 ft.; H_b=29 ft.; h_t=33 ft.; h_r=3 ft.; h_a=62 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.7	W.	48	S.	2	6	2	3	4	1	8	22	16	0	8	12	11	11	10	10	8	0	1	2	14	0	29	0	2
February	11.6	NW.	37	NW.	2	8	4	2	2	10	8	4	18	0	6	7	15	16	11	8	6	0	11	2	5	0	22	0	0
March	12.6	W.	34	NE.	1	6	6	4	9	7	11	12	7	0	7	8	16	10	8	7	1	0	12	3	1	0	15	0	3
April	12.2	SW.	31	S.	0	5	9	8	4	5	12	8	9	0	6	10	14	10	8	3	1	0	11	2	0	0	6	2	2
May	11.0	E.	43	NE.	1	3	6	12	5	10	6	7	13	0	4	10	17	14	9	0	0	0	9	5	0	0	0	1	1
June	10.4	SW.	32	NE.	1	3	8	8	0	8	21	7	5	0	7	11	12	12	8	0	0	0	13	3	0	1	0	2	0
July	9.3	SW.	31	SW.	0	5	7	2	2	14	16	6	8	2	3	12	16	17	16	0	0	0	17	5	0	2	0	10	0
August	8.6	W.	32	NW.	1	4	2	5	9	11	12	8	11	0	7	15	9	12	8	0	0	0	11	3	0	6	0	10	0
September	12.0	NW.	73	S.	1	7	4	4	2	12	13	3	15	0	10	7	13	12	11	0	0	0	8	2	0	0	0	3	1
October	11.1	NE.	33	NE.	1	8	14	7	2	10	5	6	10	0	10	10	11	10	6	0	0	0	7	3	0	0	0	2	2
November	11.6	SW.	39	NW.	2	5	1	3	2	10	18	10	11	0	9	8	13	10	9	5	3	0	7	3	3	0	7	0	1
December	11.7	NW.	36	W.	2	8	3	0	5	9	6	11	20	0	9	6	16	13	10	13	6	0	12	5	8	0	22	0	1
Year	11.1	SW.	73	S.	14	68	66	58	46	107	136	104	143	2	86	116	163	147	114	46	25	0	129	38	31	9	101	30	13

BROWNSVILLE, TEX.

[H=35 ft.; H_b=57 ft.; h_t=88 ft.; h_r=80 ft.; h_a=96 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.5	S.	32	S.	3	9	10	5	13	10	2	3	10	0	12	5	14	8	6	0	0	0	4	1	0	0	0	0	0
February	11.2	SE.	27	S.	0	3	6	12	29	1	0	0	5	0	4	14	10	3	1	0	0	0	3	2	0	0	0	0	0
March	12.5	SE.	36	SE.	1	0	5	13	35	8	0	1	0	0	3	17	11	4	4	0	0	0	10	2	0	0	0	2	0
April	12.6	SE.	37	NW.	2	4	4	12	33	2	0	0	5	0	7	14	9	3	2	0	0	0	4	0	0	0	0	2	0
May	12.1	SE.	27	SE.	0	3	4	13	38	2	0	0	2	0	8	15	8	6	5	0	0	0	0	0	0	1	0	7	0
June	10.5	SE.	25	SE.	0	1	2	11	42	3	0	0	1	0	11	16	3	9	4	0	0	0	0	0	0	10	0	2	0
July	11.2	SE.	22	S.	0	0	0	1	54	6	0	0	1	0	21	9	1	1	1	0	0	0	0	0	0	28	0	0	0
August	10.0	SE.	30	NE	0	5	2	17	33	3	0	0	2	0	14	13	4	6	5	0	0	0	1	0	0	25	0	2	0
September	8.1	SE.	26	NE.	0	6	5	8	23	4	0	3	11	0	15	11	4	7	4	0	0	0	0	0	0	15	0	3	0
October	8.3	SE.	23	N.	0	7	7	19	14	5	2	3	5	0	25	4	2	5	5	0	0	0	2	1	0	3	0	2	0
November	11.9	SE.	37	NW.	4	8	3	5	27	4	0	0	13	0	11	9	10	6	5	0	0	0	1	1	0	0	0	0	0
December	10.9	SE.	30	SW.	0	9	4	5	22	10	0	2	10	0	10	14	7	9	6	0	0	0	1	1	0	0	0	0	0
Year	10.9	SE.	37	NW.	10	55	52	121	363	58	4	12	65	0	141	141	83	67	48	0	0	0	26	8	0	82	0	20	0

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BUFFALO, N. Y.

[ϕ=42°53′ N.; λ=78°53′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.14	29.71	28.33	23.1	25.3	24.7	31.1	17.8	24.4	51	0	19	20	20	82	79	80	0.104	0.111	0.113	1.99	0.45	18.5	8.9	8.5	6.7	8.4
February	29.32	29.88	28.45	26.4	30.3	30.4	36.0	21.0	28.5	55	0	22	24	25	83	77	80	.126	.137	.144	4.23	1.34	9.8	8.5	8.7	7.5	8.3
March	29.10	29.50	28.57	34.7	41.1	38.7	46.7	28.9	37.8	71	−1	28	32	32	77	70	76	.170	.199	.195	1.84	.73	3.0	7.4	7.0	6.5	7.1
April	29.17	29.57	28.54	41.9	46.8	45.8	52.6	38.4	45.5	73	23	35	36	37	76	68	72	.210	.223	.232	2.02	.61	6.9	6.6	6.6	7.2	6.5
May	29.10	29.52	28.62	51.9	57.3	58.6	63.1	48.1	55.6	87	34	43	45	48	73	66	70	.289	.312	.353	2.06	.52	T	6.1	6.4	6.8	6.5
June	29.17	29.46	28.83	62.3	67.0	66.8	71.6	58.6	65.1	84	54	54	55	56	76	68	70	.428	.444	.451	2.28	.55	.0	5.2	5.8	5.2	5.4
July	29.14	29.31	28.83	69.1	74.2	73.9	77.7	65.6	71.6	87	55	62	62	62	78	66	69	.552	.561	.570	2.06	1.01	.0	5.5	5.7	4.6	5.5
August	29.18	29.35	28.83	69.5	74.9	74.0	78.4	66.2	72.3	90	56	62	63	64	79	68	72	.577	.588	.599	3.24	2.03	.0	4.4	5.1	4.9	4.7
September	29.18	29.54	28.66	56.1	63.1	60.9	66.4	51.9	59.2	76	44	50	50	52	79	64	72	.367	.375	.395	3.57	1.25	.0	5.6	6.2	4.8	5.8
October	29.28	29.67	28.70	49.6	56.5	53.7	59.8	46.9	53.4	76	36	42	43	46	76	62	74	.273	.285	.312	.37	.14	.0	5.7	5.1	3.1	5.1
November	29.25	29.56	28.71	40.9	45.6	43.2	50.7	36.1	43.4	73	14	33	35	36	74	68	75	.203	.218	.227	3.79	1.54	11.1	6.0	6.0	4.6	6.2
December	29.17	29.64	28.66	30.1	32.5	31.4	36.6	26.0	31.3	55	10	25	26	26	79	75	80	.137	.141	.146	2.27	.46	14.2	8.8	8.5	7.9	8.6
Year	29.18	29.88	28.33	46.3	51.2	50.2	55.9	42.1	49.0	90	−1	40	41	42	78	69	74	.286	.300	.311	29.72	2.03	63.5	6.6	6.6	5.8	6.5

BURLINGTON, VT.

[ϕ=44°29′ N.; λ=73°12′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.57	29.93	28.55	14.2	20.2	17.6	25.6	8.9	17.2	55	−16	10	13	12	84	73	79	0.079	0.085	0.082	1.99	0.73	8.5	7.4	6.7	6.0	7.0
February	29.73	30.36	28.84	18.5	23.8	22.9	30.2	14.0	22.1	45	−5	15	17	18	85	72	80	.094	.100	.106	1.64	.57	5.6	7.0	6.9	6.3	7.1
March	29.51	29.94	28.83	26.7	34.3	33.2	40.8	21.8	31.3	73	−24	21	24	25	80	66	72	.128	.141	.149	2.09	.77	10.7	6.4	6.5	5.6	6.2
April	29.55	30.05	28.72	41.7	49.1	46.9	53.9	35.3	44.6	83	16	34	33	34	73	56	63	.209	.213	.211	2.31	.61	4.7	6.6	6.9	6.4	6.9
May	29.47	29.94	28.88	51.6	59.4	56.3	63.8	44.2	54.0	75	35	42	42	42	72	55	61	.280	.280	.274	2.13	.74	.0	7.0	5.5	6.7	6.3
June	29.52	29.93	29.17	64.6	74.7	69.4	78.5	55.1	66.8	94	43	53	52	53	68	46	58	.420	.399	.415	2.04	1.45	.0	5.1	4.8	6.2	5.4
July	29.50	29.68	29.14	67.5	74.5	70.5	78.1	61.6	69.8	87	51	61	62	62	80	66	77	.549	.569	.572	4.69	1.42	.0	6.8	7.6	7.0	7.0
August	29.51	29.73	29.16	67.0	76.0	71.8	79.5	60.6	70.0	91	45	61	62	60	81	62	68	.548	.566	.537	3.66	.96	.0	5.8	5.7	6.0	5.8
September	29.55	30.00	28.26	52.6	60.3	57.4	64.3	46.3	55.3	78	34	48	50	49	86	71	76	.347	.378	.363	6.87	2.91	.0	5.6	6.7	5.1	5.9
October	29.66	30.07	29.04	45.3	55.1	51.5	58.6	40.5	49.6	77	28	41	46	45	86	71	79	.269	.321	.306	1.37	.76	.0	6.8	5.4	4.8	6.1
November	29.65	30.13	28.98	35.4	42.0	40.0	46.0	30.5	38.2	74	−3	31	33	33	82	71	77	.194	.214	.216	1.71	.49	7.3	7.4	6.7	5.6	7.2
December	29.57	30.20	28.81	24.6	28.4	26.7	32.4	19.6	26.0	49	1	19	22	21	79	75	77	.117	.128	.121	3.64	1.43	7.6	7.7	7.4	7.2	7.6
Year	29.56	30.36	28.26	42.5	49.8	47.0	54.3	36.5	45.4	94	−24	36	38	38	80	65	72	.270	.283	.279	34.14	2.91	44.4	6.6	6.4	6.1	6.5

CAIRO, ILL.

[=37°00′ N.; λ=89°10′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.69	30.35	28.82	33.6	39.5	38.8	45.5	29.1	37.3	62	12	28	28	28	78	63	66	0.172	0.167	0.167	4.27	1.54	1.1	6.2	5.9	6.5	6.1
February	29.80	30.23	29.26	42.7	48.7	50.2	55.5	40.2	47.8	74	19	38	39	39	85	70	67	.251	.259	.259	2.88	1.64	.1	7.8	8.3	7.4	7.7
March	29.57	30.10	29.08	51.4	58.7	59.6	65.9	47.0	56.4	80	29	44	44	46	76	62	63	.307	.317	.335	12.40	5.40	.0	7.7	7.3	6.7	7.0
April	29.63	29.90	29.13	54.0	64.7	65.4	69.5	52.5	61.0	83	34	47	46	46	78	52	53	.344	.327	.336	1.27	.62	T	6.5	5.7	5.8	6.1
May	29.54	29.81	29.18	62.9	73.0	71.9	77.4	60.1	68.8	87	47	56	55	56	79	56	62	.473	.462	.481	2.71	.79	.0	6.5	7.1	6.5	6.4
June	29.63	29.91	29.40	68.1	78.1	78.1	82.4	65.9	74.2	92	60	62	61	62	82	58	59	.565	.548	.559	3.32	.90	.0	6.8	7.0	6.7	6.6
July	29.58	29.79	29.44	73.9	84.1	84.7	88.8	72.2	80.5	98	68	69	67	68	84	59	60	.705	.676	.696	7.47	4.56	.0	5.7	6.0	5.9	5.7
August	29.64	29.78	29.46	74.0	85.9	84.6	89.8	72.5	81.2	98	66	71	72	73	90	63	69	.762	.779	.820	1.56	.98	.0	5.6	4.9	4.5	5.2
September	29.63	29.81	29.26	64.7	79.5	76.0	83.1	63.2	73.2	96	48	61	61	62	88	53	62	.558	.554	.578	.99	.43	.0	4.1	4.3	4.3	4.2
October	29.72	29.98	29.32	53.7	71.8	69.0	76.8	52.3	64.6	93	35	47	45	48	79	40	48	.334	.316	.346	1.16	1.13	.0	2.6	2.5	2.7	2.4
November	29.72	30.14	29.06	44.2	54.3	52.3	60.2	40.1	50.2	78	17	35	36	35	72	52	54	.229	.235	.223	3.25	2.28	.4	4.6	4.9	4.1	4.4
December	29.73	30.25	29.29	34.7	42.6	42.7	47.3	31.7	39.5	64	17	28	28	29	76	57	59	.160	.165	.166	1.35	.46	T	6.0	6.0	4.9	6.0
Year	29.66	30.25	28.82	54.8	65.1	64.4	70.2	52.2	61.2	98	12	49	48	49	81	57	60	.405	.400	.414	42.63	5.40	1.6	5.8	5.8	5.5	5.6

CANTON, N. Y.

[ϕ=44°36′ N.; λ=75°10′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.52	29.93	28.47	12.8	19.1	16.7	24.4	5.3	14.8	52	−23	12	14	14	95	79	89	0.086	0.085	0.087	1.73	0.59	12.5	7.2	6.8	5.5	7.0
February	29.69	30.28	28.78	17.9	23.9	22.1	29.1	11.9	20.5	45	−9	16	19	19	92	80	89	.099	.111	.113	3.28	1.00	10.7	7.5	7.8	6.0	7.4
March	29.46	29.87	28.89	27.2	34.8	33.3	40.0	21.1	30.6	74	−30	23	25	26	84	69	77	.141	.156	.162	2.71	.50	11.5	6.5	6.7	6.3	6.7
April	29.51	30.00	28.78	42.5	49.9	47.1	54.2	34.7	44.4	79	15	35	35	36	74	58	65	.220	.218	.224	2.93	.79	10.1	6.8	7.0	5.9	6.8
May	29.44	29.88	28.99	51.8	61.2	57.4	66.1	44.3	55.2	76	32	43	43	44	74	55	63	.286	.292	.296	1.96	.90	.0	7.4	5.7	6.6	5.3
June	29.49	29.84	29.14	64.7	75.0	69.1	78.4	54.1	66.2	92	43	53	53	54	67	48	61	.414	.415	.433	2.14	1.14	.0	3.6	5.7	5.6	4.9
July	29.46	29.62	29.10	67.3	76.3	72.4	79.6	60.1	69.8	89	45	61	60	61	80	60	68	.535	.536	.541	4.53	1.81	.0	6.0	7.3	5.7	6.5
August	29.48	29.71	29.10	66.7	77.3	72.2	81.3	59.8	70.6	91	43	60	60	61	80	57	70	.534	.531	.554	3.55	.94	.0	5.3	5.7	5.9	5.8
September	29.52	29.98	28.54	52.7	61.9	56.8	65.3	44.5	54.9	78	31	47	48	48	82	62	73	.335	.342	.342	5.80	2.45	.0	6.3	6.4	4.9	6.2
October	29.62	30.03	29.02	44.5	56.8	49.8	59.7	38.6	49.2	78	23	40	42	42	84	60	75	.255	.280	.275	.87	.35	.0	5.4	5.6	3.3	5.2
November	29.60	30.04	28.94	34.4	43.5	37.5	46.9	27.4	37.2	75	−5	29	32	31	82	66	79	.180	.202	.193	2.35	.77	6.9	5.8	7.9	4.6	6.9
December	29.53	30.14	28.86	23.1	28.8	25.4	32.5	16.5	24.5	54	−12	19	22	22	85	77	86	.117	.133	.127	2.32	.59	11.6	8.2	7.4	7.2	7.7
Year	29.52	30.28	28.47	42.1	50.7	46.6	54.8	34.9	44.8	92	−30	36	38	38	82	64	75	.267	.275	.279	34.17	2.45	63.3	6.3	6.7	5.6	6.4

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

BUFFALO, N. Y.

[H=603 ft.; H_b=768 ft.; h_t=243 ft.; h_r=238 ft.; h_a=280 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	16.8	W.	50	SW.	11	0	5	10	5	6	15	17	4	0	2	6	23	20	12	25	18	0	5	1	17	0	30	1	0
February	15.2	SW.	35	SW.	11	3	5	8	1	10	10	10	9	0	3	4	21	18	14	16	11	0	9	0	10	0	24	1	0
March	17.6	SW.	52	SW.	16	2	6	3	6	16	16	9	4	0	5	7	19	14	11	11	7	1	8	0	6	0	16	0	0
April	16.7	SW.	40	SW.	14	4	8	7	1	5	18	11	5	1	8	8	14	16	8	7	7	1	4	0	1	0	10	2	0
May	13.2	SW.	54	SW.	5	0	5	13	5	9	13	10	7	0	5	10	16	13	12	1	0	0	1	0	0	0	0	5	0
June	12.3	SW.	59	SW.	4	1	6	0	2	13	27	6	3	2	11	8	11	12	8	0	0	1	2	0	0	0	0	4	0
July	11.4	SW.	35	W.	3	1	9	4	0	17	23	7	1	0	9	14	8	9	7	0	0	0	2	0	0	0	0	7	1
August	13.3	SW.	47	NW.	9	5	3	2	0	11	25	10	6	0	11	13	7	9	5	0	0	0	2	0	0	0	0	7	4
September	13.3	NW.	54	SW.	6	4	13	7	7	6	6	8	9	0	7	13	10	12	8	0	0	0	4	0	0	0	0	1	1
October	12.8	S.	43	W.	3	3	10	10	5	11	10	8	4	1	11	10	10	7	3	0	0	0	5	0	0	0	0	0	0
November	16.6	S.	49	W.	12	1	3	6	8	15	8	11	5	3	7	10	13	12	9	10	6	0	5	1	4	0	12	3	0
December	17.6	W.	66	SW.	15	1	5	2	8	11	8	16	10	1	1	5	25	17	13	22	12	0	3	0	7	0	22	0	0
Year	14.7	SW.	66	SW.	109	25	78	72	48	130	179	123	67	8	80	108	177	159	110	92	61	3	50	2	45	0	114	31	6

BURLINGTON, VT.

[H=398 ft.; H_b=403 ft.; h_t= 11 ft.; h_r= 3 ft.; h_a= 48 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.0	S.	36	S.	2	8	4	4	9	19	4	5	9	0	7	4	20	14	9	23	10	0	9	0	25	0	30	0	0
February	11.2	S.	40	S.	3	13	3	1	3	17	1	2	16	0	3	10	15	15	11	15	11	0	11	3	15	0	27	0	2
March	10.5	S.	34	S.	2	9	2	2	5	24	2	5	13	0	11	5	15	15	8	14	10	0	16	0	9	0	22	0	4
April	10.3	S.	40	S.	3	8	3	4	7	16	6	5	11	0	4	9	17	12	7	8	3	0	13	5	0	0	14	4	4
May	8.0	S.	33	S.	2	12	2	1	5	19	6	7	10	0	7	9	15	13	10	0	0	0	5	0	0	0	0	1	3
June	8.0	S.	27	S.	0	11	3	1	4	22	3	4	12	0	8	12	10	8	6	0	0	0	8	0	0	3	0	4	0
July	8.3	S.	23	S.	0	5	2	1	9	29	7	4	5	0	4	9	18	17	12	0	0	1	11	1	0	0	0	11	1
August	7.4	S.	24	S.	0	6	3	6	8	24	1	6	7	1	7	13	11	14	13	0	0	0	9	1	0	3	0	8	4
September	9.1	S.	47	S.	2	10	3	7	7	20	1	2	10	0	9	4	17	13	13	0	0	0	13	1	0	0	0	1	3
October	8.4	S.	29	S.	0	13	0	9	3	20	0	7	10	0	7	12	12	7	6	0	0	0	15	4	0	0	3	0	4
November	11.8	S.	34	S.	4	10	2	6	5	26	2	6	3	0	5	8	17	14	11	12	8	0	13	0	5	0	16	0	1
December	10.9	S.	35	S.	2	3	7	8	5	18	1	10	10	0	5	4	22	14	7	21	7	0	9	3	15	0	26	0	1
Year	9.4	S.	47	S.	20	108	34	50	70	254	34	63	116	1	77	99	189	156	113	93	49	1	132	18	69	6	138	29	27

CAIRO, ILL.

[H=315 ft.; H_b= 358 ft.; h_t= 87 ft.; h_r= 80 ft.; h_a= 93 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.0	S.	32	SW.	1	11	6	3	3	15	8	7	9	0	11	3	17	7	6	3	1	0	4	1	6	0	17	1	0
February	10.9	S.	27	SW.	0	9	7	3	5	13	9	2	8	0	3	7	18	10	10	3	1	0	3	1	0	0	6	0	0
March	11.3	S.	34	SW.	2	5	3	5	10	23	7	3	6	0	6	7	18	14	12	0	0	1	1	0	0	0	1	8	0
April	10.2	S.	28	S.	0	8	3	3	7	22	8	1	8	0	8	8	14	10	5	1	0	0	1	0	0	0	0	4	0
May	8.7	S.	26	N.W	0	1	7	11	7	18	6	6	6	0	4	15	12	15	11	0	0	0	1	0	0	0	0	12	0
June	7.6	N.	30	NW.	0	15	5	5	7	12	9	4	3	0	7	5	18	9	8	0	0	0	0	0	0	2	0	8	0
July	6.1	N.	21	SE.	0	12	16	5	7	11	6	3	2	0	12	6	13	7	5	0	0	0	0	0	0	16	0	12	0
August	6.5	S.	28	SW.	0	7	2	5	11	23	5	5	4	0	11	11	9	5	4	0	0	0	1	0	0	14	0	10	0
September	6.8	S.	23	E.	0	10	4	5	6	20	4	2	9	0	15	9	6	6	4	0	0	1	0	0	0	7	0	4	0
October	6.5	NE.	19	N.	0	12	18	6	7	10	4	1	3	1	24	5	2	5	1	0	0	0	0	0	0	1	0	0	0
November	10.0	S.	33	SE.	1	6	1	1	13	19	12	3	5	0	14	5	11	9	6	2	2	0	2	2	1	0	7	2	0
December	8.8	SW.	27	SE.	0	8	6	1	4	18	15	6	4	0	10	6	15	8	7	2	0	0	2	2	1	0	19	0	0
Year	8.6	S.	34	SW.	4	104	78	53	87	204	93	43	67	1	125	87	153	105	79	11	4	2	15	6	8	40	50	61	0

CANTON, N. Y.

[H=406 ft.; H_b=448 ft.; h_t= 10 ft.; h_r=4 ft.; h_a=61 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.3	W.	29	S.	0	0	8	11	0	2	19	20	2	0	5	11	15	15	10	18	14	0	7	1	25	0	31	0	3
February	8.3	W.	28	E.	0	12	8	11	0	1	7	12	5	0	4	7	17	17	16	15	9	0	5	2	16	0	27	0	1
March	9.1	W.	29	W.	0	5	9	9	2	5	10	19	2	1	6	9	16	13	9	9	5	0	6	1	11	0	22	1	4
April	10.7	W.	32	SW.	1	4	5	10	0	2	18	18	2	1	6	7	17	14	10	7	4	1	2	2	1	0	14	2	4
May	7.9	W.	30	E.	0	8	10	9	1	3	11	17	3	0	4	17	10	10	9	0	0	1	0	0	0	0	0	0	4
June	7.8	SW.	27	W.	0	6	5	3	1	2	25	17	0	1	9	14	7	9	8	0	0	0	2	1	0	2	0	3	1
July	6.9	W.	22	SW.	0	6	5	5	1	3	20	16	3	3	5	11	15	13	11	0	0	0	4	1	0	0	0	8	0
August	7.3	SW.	33	W.	1	7	3	0	0	3	17	22	8	2	7	14	10	13	10	0	0	0	2	2	0	2	0	7	4
September	7.1	SW.	38	SW.	2	11	6	3	3	4	16	8	6	3	10	5	15	13	12	0	0	0	8	0	0	0	1	1	4
October	7.5	W.	21	SW.	0	10	10	7	1	0	18	13	2	1	10	10	11	7	4	0	0	0	8	3	0	0	9	1	3
November	9.3	SW.	30	W.	0	9	5	4	2	3	20	16	1	0	4	13	13	11	7	7	5	0	3	0	6	0	17	1	0
December	8.9	SW.	35	W.	2	3	5	5	1	5	17	18	8	0	5	5	21	21	16	19	13	0	7	3	15	0	23	0	1
Year	8.3	W.	38	SW.	6	81	79	77	12	33	198	196	42	12	75	123	167	156	122	75	50	2	54	16	74	4	144	24	29

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CAPE HENRY, VA.

[ϕ=36°56′ N.; λ=76°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.06	30.48	29.41	38.0	43.9	40.4	46.6	33.5	40.0	68	20	31	32	33	74	64	74	0.181	0.193	0.196	2.50	1.72	T	7.0	6.3	5.3	6.7
February	30.19	30.68	29.45	43.2	48.4	45.9	53.5	38.8	46.2	75	24	36	38	38	77	69	75	.228	.250	.247	1.56	.82	T	6.5	6.2	4.8	6.6
March	30.02	30.40	29.47	49.1	57.3	53.7	61.9	43.8	52.8	85	28	42	44	43	79	64	69	.296	.305	.295	3.71	1.51	0.0	5.7	5.1	4.9	5.3
April	30.03	30.42	29.26	57.0	62.9	58.1	67.0	51.5	59.2	87	39	50	51	50	80	68	76	.386	.393	.370	5.00	2.71	.0	5.1	4.8	5.3	5.2
May	29.93	30.30	29.47	63.4	68.8	64.2	72.2	58.3	65.2	89	48	59	60	59	86	75	84	.512	.530	.508	5.45	2.69	.0	6.1	6.2	5.8	6.5
June	29.99	30.30	29.83	71.5	76.6	72.4	79.3	66.0	72.6	94	55	67	68	66	86	75	83	.668	.686	.657	6.23	2.69	.0	5.6	5.3	6.6	5.7
July	30.00	30.13	29.75	75.4	82.0	76.5	85.1	70.0	77.6	94	59	71	72	70	87	73	82	.763	.795	.744	5.97	1.50	.0	6.1	6.2	7.1	6.3
August	30.00	30.18	29.76	77.0	82.9	78.1	85.6	71.1	78.4	93	62	71	71	71	82	68	78	.764	.764	.758	2.23	1.19	.0	3.0	4.6	4.9	4.3
September	29.99	30.27	29.40	69.6	75.3	70.6	77.7	65.4	71.6	90	49	65	65	65	86	73	82	.630	.639	.625	8.38	4.87	.0	6.4	6.8	6.2	6.9
October	30.06	30.39	29.57	58.0	64.2	60.4	66.3	53.6	60.0	81	45	54	55	54	88	74	80	.429	.449	.430	2.79	1.08	.0	4.0	4.0	3.1	4.3
November	30.15	30.46	29.58	51.3	60.2	55.7	62.6	47.5	55.0	81	28	48	50	49	88	70	80	.360	.390	.382	2.86	1.32	T	4.7	3.9	2.2	4.2
December	30.08	30.56	29.55	42.2	48.7	45.4	50.8	38.5	44.6	68	27	38	40	39	86	73	79	.240	.258	.248	2.39	.93	.0	5.9	4.3	4.4	5.0
Year	30.04	30.68	29.26	58.0	64.3	60.1	67.4	53.2	60.3	94	20	53	54	53	83	70	78	.455	.471	.455	49.07	4.87	T	5.5	5.3	5.0	5.6

CHARLES CITY, IOWA

[ϕ=43°04′ N.; λ=92°38′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.93	29.50	28.37	13.4	20.5	17.9	24.2	7.5	15.8	41	−13	10	14	14	86	74	82	0.079	0.091	0.090	1.13	0.46	8.9	6.2	5.7	5.3	5.8
February	29.07	29.54	28.54	23.6	29.4	28.4	33.6	19.4	26.5	48	2	20	23	24	87	75	80	.117	.125	.130	.58	.18	2.9	7.5	7.8	6.8	7.4
March	28.79	29.28	28.18	32.8	46.1	44.4	50.2	30.2	40.2	81	6	28	32	33	83	61	67	.162	.190	.203	2.36	.63	3.6	5.9	6.4	5.7	6.2
April	28.90	29.33	28.38	41.3	53.1	52.8	57.6	38.9	48.2	80	21	36	36	37	80	53	56	.230	.236	.243	4.87	1.08	10.0	6.3	6.1	5.6	6.0
May	28.80	29.10	28.09	52.1	64.0	61.3	67.4	48.2	57.8	82	34	48	48	48	86	58	64	.353	.357	.355	8.69	2.16	T	6.3	7.4	6.8	6.6
June	28.91	29.22	28.59	61.8	73.5	71.3	77.1	57.3	67.2	91	45	56	56	56	83	57	62	.468	.468	.474	8.09	1.91	.0	5.3	6.8	5.1	5.3
July	28.88	29.03	28.58	67.5	81.5	79.8	85.0	64.0	74.5	97	56	63	64	64	86	57	60	.579	.605	.606	4.57	1.89	.0	3.7	5.4	4.1	4.2
August	28.92	29.12	28.61	64.9	81.0	79.1	83.7	61.7	72.7	92	51	61	63	65	88	56	64	.549	.592	.636	2.94	1.83	.0	3.9	3.8	2.9	3.4
September	28.94	29.20	28.60	55.4	71.5	67.5	75.1	53.3	64.2	90	41	52	54	58	91	58	71	.414	.451	.496	8.97	4.31	.0	4.9	4.3	4.1	4.3
October	28.96	29.34	28.38	46.9	64.4	58.8	67.8	44.7	56.2	86	29	42	44	46	83	51	63	.278	.303	.322	.64	.34	T	3.6	3.2	2.5	3.4
November	28.90	29.45	28.20	30.1	40.0	35.7	43.6	26.2	34.9	76	0	25	27	27	81	59	71	.155	.170	.160	3.53	1.57	5.1	4.9	4.9	4.9	5.1
December	28.93	29.38	28.49	21.4	26.7	23.9	30.5	15.5	23.0	40	−6	17	19	19	83	72	79	.102	.110	.108	1.13	.52	7.7	7.4	7.1	6.5	6.9
Year	28.91	29.54	28.09	42.6	54.3	51.7	58.0	38.9	48.4	97	−13	38	40	41	85	61	68	.290	.308	.319	47.50	4.31	38.2	5.5	5.7	5.0	5.4

CHARLESTON, S. C.

[ϕ=32°47′ N.; λ=79°56′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.06	30.52	29.60	46.0	54.1	51.2	57.4	43.2	50.3	75	23	39	40	42	78	60	71	0.262	0.270	0.287	1.12	0.32	0.0	6.1	6.6	6.1	6.7
February	30.18	30.56	29.59	50.8	59.1	56.0	62.5	48.1	55.3	79	34	45	46	47	82	64	74	.318	.333	.338	.76	.27	.0	7.5	5.6	5.2	6.0
March	30.04	30.40	29.62	58.1	68.5	63.0	70.9	55.6	63.2	83	35	53	52	54	83	59	75	.426	.421	.437	.33	.30	.0	5.7	5.9	4.8	5.8
April	30.05	30.36	29.58	62.8	71.8	66.9	74.3	58.3	66.3	87	41	55	53	56	77	54	70	.462	.439	.478	2.65	.90	.0	3.9	5.2	4.5	4.8
May	29.93	30.16	29.64	72.5	80.2	75.8	83.9	68.3	76.1	99	59	63	61	63	74	55	68	.593	.562	.601	3.94	2.18	.0	6.1	6.1	6.7	6.1
June	30.00	30.23	29.80	75.9	81.5	77.5	84.0	71.1	77.6	91	62	68	67	69	78	62	76	.699	.667	.718	3.10	.90	.0	6.5	6.1	7.3	6.9
July	30.00	30.12	29.75	78.0	84.5	80.1	85.9	74.0	80.0	93	68	71	70	72	80	62	76	.771	.733	.786	5.99	2.27	.0	6.1	6.4	6.8	6.8
August	30.01	30.20	29.81	79.7	87.4	81.9	89.6	76.3	83.0	99	72	73	72	74	81	62	76	.816	.788	.830	3.60	1.91	.0	5.2	5.1	4.8	5.3
September	29.96	30.17	29.29	73.6	82.3	77.4	84.6	70.7	77.6	94	58	68	67	69	83	62	76	.698	.680	.713	5.24	3.20	.0	5.2	6.3	6.1	6.4
October	30.03	30.35	29.58	60.8	71.4	66.9	73.1	58.4	65.8	82	48	55	53	57	81	55	72	.446	.430	.485	2.63	2.61	.0	3.8	3.9	2.3	3.5
November	30.11	30.47	29.72	56.5	66.2	62.1	68.2	53.6	60.9	81	29	51	53	54	82	64	76	.419	.449	.463	.60	.15	.0	4.6	5.3	5.1	5.2
December	30.08	30.54	29.67	46.0	56.3	52.1	58.8	43.0	50.9	72	34	39	41	44	77	58	74	.253	.275	.299	1.14	.42	.0	6.0	5.6	3.5	5.3
Year	30.04	30.56	29.29	63.4	71.9	67.6	74.4	60.0	67.2	99	23	57	56	58	80	60	74	.514	.504	.536	31.10	3.20	.0	5.6	5.7	5.3	5.7

CHARLOTTE, N. C.

[ϕ=35°13′ N.; λ=80°51′ W]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.23	29.62	28.55	37.4	46.1	45.4	50.3	34.5	42.4	70	15	31	31	33	77	58	63	0.184	0.195	0.208	1.94	0.88	T	6.2	6.5	5.4	6.5
February	29.38	29.81	28.73	42.9	52.8	52.7	58.2	40.2	49.2	76	28	35	36	37	73	56	57	.213	.233	.239	.66	.59	T	7.0	6.9	5.1	6.6
March	29.22	29.55	28.80	50.2	63.1	61.1	68.0	46.9	57.4	83	27	42	42	44	76	50	56	.296	.299	.309	2.84	1.36	0.0	7.0	6.4	5.6	6.6
April	29.24	29.60	28.65	54.9	67.6	64.5	71.6	50.9	61.2	87	35	47	44	48	75	47	56	.341	.316	.337	3.18	1.17	T	4.6	5.0	5.3	5.0
May	29.15	29.46	28.74	64.1	75.8	72.9	80.0	60.3	70.2	93	51	55	53	54	75	49	55	.454	.427	.438	4.35	1.04	.0	6.1	6.3	7.0	6.3
June	29.21	29.45	29.03	69.0	80.0	76.6	83.6	65.1	74.4	91	56	62	62	62	79	55	64	.556	.559	.576	5.14	2.52	.0	6.3	5.8	7.1	6.3
July	29.21	29.35	28.97	72.2	83.1	79.5	86.8	69.6	78.2	95	60	67	66	66	85	58	67	.678	.645	.656	4.82	1.48	.0	6.6	7.1	7.0	6.8
August	29.23	29.39	29.02	73.5	86.1	82.4	90.0	70.3	80.2	97	63	67	66	67	81	52	62	.676	.637	.668	2.58	.93	.0	5.5	5.0	5.2	4.9
September	29.20	29.43	28.88	66.2	78.9	74.5	82.1	63.9	73.0	93	49	61	60	61	84	53	64	.554	.530	.559	3.44	1.47	.0	7.3	6.7	5.5	6.7
October	29.28	29.58	28.84	52.8	70.4	66.3	74.3	51.3	62.8	87	42	46	46	47	80	42	51	.324	.316	.338	1.60	1.33	.0	2.4	1.9	1.5	2.3
November	29.33	29.62	28.88	48.5	60.7	56.9	64.5	44.9	54.7	79	22	42	42	42	78	53	59	.307	.313	.306	3.12	2.21	T	5.4	4.6	4.1	4.5
December	29.28	29.75	28.82	37.9	48.0	45.8	51.5	34.8	43.2	70	25	36	32	33	75	56	62	.180	.190	.196	3.65	1.70	T	5.3	5.0	3.3	5.1
Year	29.25	29.81	28.55	55.8	67.7	64.9	71.7	52.7	62.2	97	15	49	48	49	78	52	60	.398	.388	.402	37.32	2.52	T	5.8	5.6	5.2	5.6

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CAPE HENRY, VA.

[H=16 ft.; H_b=18 ft.; h_t=8 ft; h_r=3 ft.; h_a=54 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	11.6	N.	40	N.	1	14	10	2	4	12	9	2	9	0	7	8	16	12	8	6	0	0	4	2	2	0	14	1	1
February	14.3	SW.	43	NW.	3	8	12	2	5	6	11	4	8	0	4	12	12	7	4	1	0	0	2	1	0	0	6	0	0
March	12.4	SW.	40	N.	4	11	4	4	6	14	21	1	1	0	9	13	9	8	6	0	0	0	3	3	0	0	2	2	0
April	13.6	SW.	42	NW.	4	6	9	5	10	10	15	3	2	0	11	8	11	11	8	0	0	0	1	1	0	0	0	3	0
May	12.2	NE.	37	NE.	5	5	13	5	8	12	4	11	4	0	8	7	16	13	10	0	0	0	4	3	0	0	0	4	0
June	10.6	SW.	31	NW.	0	6	6	3	13	11	13	4	3	1	7	14	9	13	11	0	0	1	0	0	0	3	0	10	0
July	9.2	SW.	27	SE.	0	3	2	3	4	20	23	3	2	2	6	14	11	10	9	0	0	0	0	1	0	7	0	11	0
August	9.2	SW.	57	NW.	1	7	6	3	5	12	19	6	3	1	12	13	6	8	6	0	0	0	0	0	0	5	0	11	0
September	11.5	SW.	54	NW.	2	8	11	11	3	8	13	5	1	0	6	8	16	14	13	0	0	0	1	1	0	1	0	8	1
October	13.4	N.	43	N.	7	20	9	4	5	7	6	4	7	0	15	7	9	5	5	0	0	1	6	8	0	0	0	2	0
November	12.6	SW.	45	NW.	6	9	9	1	9	13	13	2	4	0	14	10	6	9	7	1	1	0	3	2	0	0	3	0	0
December	13.4	N.	40	NW.	4	17	7	4	3	7	14	4	6	0	13	7	11	11	9	0	0	0	4	2	0	0	6	0	0
Year	12.0	SW.	57	NW.	37	114	98	47	75	132	161	49	50	4	112	121	132	121	96	8	1	2	28	24	2	16	31	52	2

CHARLES CITY, IOWA

[H=1,013 ft.; H_b=1,015 ft.; h_t=10 ft.; h_r=4 ft.; h_a=51 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.1	NW.	25	NW.	0	6	7	1	13	5	2	12	16	0	9	10	12	12	5	14	10	0	12	2	22	0	31	0	1
February	7.2	SE.	18	NW.	0	8	8	6	14	1	2	6	11	0	6	2	20	8	4	11	4	0	9	4	11	0	25	1	0
March	7.8	W.	24	SW.	0	10	5	5	11	5	8	10	6	2	8	8	15	11	7	5	2	1	2	1	4	0	17	5	0
April	8.4	NW.	25	S.	0	7	7	3	9	12	3	9	8	2	8	9	13	11	10	4	2	0	2	0	1	0	11	6	0
May	6.7	SE.	28	SW.	0	7	6	8	16	4	2	6	11	2	5	12	14	17	13	1	1	0	7	0	0	0	0	8	0
June	6.0	SE.	22	S.	0	5	4	5	14	9	4	8	10	1	12	6	12	11	10	0	0	0	1	0	0	2	0	10	0
July	5.1	SE.	19	NW.	0	7	6	5	17	5	7	6	9	0	14	13	4	12	10	0	0	0	2	0	0	4	0	15	0
August	6.0	SE.	21	SE.	0	6	4	4	16	22	3	1	3	3	17	8	6	7	4	0	0	1	1	1	0	6	0	6	2
September	5.2	SE.	15	SE.	0	12	7	5	11	3	8	6	8	0	15	8	7	10	10	0	0	1	6	0	0	1	0	7	3
October	6.5	SE.	19	SW.	0	4	3	5	31	2	2	10	5	0	18	8	5	5	3	2	1	0	3	0	0	0	4	4	0
November	7.9	SE.	25	SW.	0	10	2	2	13	7	4	8	13	1	10	11	9	7	7	7	3	0	0	0	6	0	22	1	0
December	7.2	NW.	21	NW.	0	9	1	1	20	2	3	14	12	0	6	8	17	9	4	17	8	0	5	1	16	0	30	0	0
Year	6.8	SE.	28	SW.	0	91	60	50	185	77	48	96	112	11	128	103	134	120	87	61	31	3	50	9	60	13	140	63	6

CHARLESTON, S. C.

[H=9 ft.; H_b=48 ft.; h_t=11 ft.; h_r=11 ft.; h_a=92 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.3	N	28	W.	0	12	8	6	1	8	9	8	10	0	7	8	16	8	6	0	0	0	6	2	0	0	2	1	1
February	10.6	NE.	24	NE.	0	7	15	7	3	4	8	5	7	0	9	5	14	8	6	0	0	0	10	0	0	0	0	0	0
March	10.7	SW.	28	NE.	0	3	8	4	12	7	20	1	7	0	8	11	12	2	1	0	0	1	6	3	0	0	0	2	0
April	10.1	S.	29	W.	0	13	2	5	2	15	13	4	5	1	14	5	11	7	5	0	0	0	6	1	0	0	0	3	0
May	9.7	SW.	25	NW.	0	3	5	4	2	11	20	10	7	0	6	15	10	7	7	0	0	0	0	0	0	4	0	7	0
June	9.3	S.	22	SW.	0	7	6	3	2	15	13	12	2	0	3	12	15	9	8	0	0	0	2	0	0	1	0	11	0
July	9.5	S	26	NE.	0	7	3	3	6	21	13	7	2	0	6	9	16	13	11	0	0	0	0	0	0	2	0	9	0
August	8.9	S	25	N	0	3	8	6	4	18	11	9	3	0	7	15	9	7	5	0	0	0	6	2	0	13	0	15	0
September	8.5	S.	43	SW.	1	11	10	1	3	9	8	9	9	0	7	9	14	11	8	0	0	0	7	1	0	5	0	11	0
October	10.1	N.	27	NE.	0	21	17	5	0	3	3	5	8	0	17	9	5	3	2	0	0	0	7	0	0	0	0	0	0
November	10.2	N.	33	W.	1	15	13	7	4	7	3	4	7	0	12	8	10	11	6	0	0	0	6	0	0	0	2	1	0
December	9.4	N.	32	SW.	1	14	6	5	5	6	8	11	7	0	11	11	9	8	6	0	0	0	6	0	0	0	0	0	0
Year	9.7	S.	43	SW.	3	116	101	56	44	124	129	85	74	1	107	117	141	94	71	0	0	1	62	9	0	25	4	60	1

CHARLOTTE, N. C.

[H=740 ft.; H_b=779 ft.; h_t=63 ft.; h_r=55 ft.; h_a=86 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.7	SW.	33	SW.	1	10	13	4	3	16	12	2	2	0	10	4	17	11	9	2	0	0	13	6	0	0	10	0	1
February	7.8	NE.	30	SW.	0	7	20	4	2	7	8	2	6	0	5	9	14	5	2	1	0	0	9	3	0	0	4	0	0
March	8.4	SW.	24	SW.	0	7	9	2	6	16	15	4	3	0	6	10	15	11	9	0	0	0	9	0	0	0	1	4	0
April	7.9	SW.	30	SW.	0	4	6	1	0	22	19	3	5	0	12	5	13	10	9	1	0	0	8	2	0	0	0	2	1
May	7.2	SW.	27	SW.	0	4	22	0	4	8	13	6	5	0	5	14	12	13	11	0	0	0	4	0	0	7	0	9	0
June	6.5	S.	21	SW.	0	10	11	4	3	11	16	1	3	1	6	11	13	10	9	0	0	0	9	0	0	2	0	13	0
July	6.6	S.	24	NW.	0	0	5	5	8	24	12	6	2	0	4	12	15	14	10	0	0	0	3	0	0	11	0	11	1
August	6.2	SW.	30	NW.	0	7	10	5	5	8	23	0	3	1	8	18	5	10	7	0	0	0	9	1	0	16	0	8	0
September	6.0	SW.	21	NE.	0	8	17	3	8	5	14	2	3	0	5	13	12	5	4	0	0	0	13	2	0	4	0	3	0
October	6.1	NE.	21	NE.	0	12	23	4	5	8	1	1	8	0	25	1	5	5	4	0	0	1	7	0	0	0	0	1	0
November	7.0	S.	21	SW.	0	12	11	5	7	12	6	1	5	1	15	3	12	8	5	1	0	0	13	4	0	0	6	1	0
December	6.9	SW.	28	SW.	0	5	14	3	7	8	14	3	7	1	12	8	11	11	8	1	0	0	11	5	1	0	9	1	0
Year	7.0	SW.	33	SW.	1	86	161	40	58	145	153	31	52	4	113	108	144	113	87	6	0	1	108	23	1	40	30	53	3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CHATTANOOGA, TENN.

[ϕ=35°.04′ N.; λ=85°18′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.27	29.76	28.62	38.4	45.9	45.3	50.8	34.9	42.8	69	17	32	32	32	78	59	61	0.199	0.196	0.201	4.11	1.27	0.1	6.4	6.6	5.2	6.4
February	29.40	29.74	28.91	46.4	55.4	55.0	60.3	43.3	51.8	76	28	39	40	40	74	58	59	.249	.261	.267	1.43	.64	T	6.8	6.5	5.5	6.4
March	29.22	29.66	28.86	52.2	63.3	63.2	68.4	49.3	58.8	83	29	45	44	46	76	52	55	.318	.319	.328	6.08	1.81	.0	7.3	6.1	6.7	6.8
April	29.25	29.55	28.79	55.2	67.3	67.3	72.3	51.7	62.0	86	33	47	46	47	74	50	51	.343	.337	.341	8.45	3.44	.0	5.6	5.5	4.4	5.1
May	29.17	29.38	28.90	63.9	76.8	75.2	80.5	60.5	70.5	90	49	56	56	57	76	51	56	.462	.467	.485	4.24	.93	.0	5.7	6.6	6.4	6.3
June	29.23	29.43	29.08	69.0	80.6	79.0	84.3	65.1	74.7	91	59	62	62	63	79	55	61	.563	.576	.592	7.83	2.30	.0	5.7	6.5	6.0	6.1
July	29.20	29.37	29.04	73.2	85.0	81.9	88.6	70.3	79.4	95	63	68	68	70	85	59	68	.695	.697	.724	6.85	1.61	.0	6.3	6.5	6.7	6.5
August	29.25	29.42	29.09	73.9	87.8	84.3	91.3	71.0	81.2	97	66	69	68	70	84	53	62	.704	.685	.729	2.40	1.13	.0	4.8	5.0	5.1	4.9
September	29.22	29.44	28.92	65.9	81.1	76.8	84.6	63.7	74.2	96	46	60	60	60	81	49	58	.535	.531	.546	.32	.19	.0	4.9	5.1	5.1	5.3
October	29.30	29.58	29.00	53.3	74.7	71.1	79.0	51.2	65.1	90	38	46	45	45	76	36	40	.318	.315	.308	.08	.05	.0	2.4	1.1	1.2	1.4
November	29.34	29.73	28.92	45.1	58.9	56.2	63.8	41.8	52.8	78	20	39	39	40	78	50	56	.260	.269	.277	5.21	2.38	T	3.8	3.5	3.8	3.8
December	29.31	29.76	28.85	39.2	47.8	47.0	52.3	35.3	43.8	63	20	30	30	31	70	52	54	.175	.175	.180	2.30	1.03	T	5.9	4.9	5.2	5.1
Year	29.26	29.76	28.62	56.3	68.7	66.9	73.0	52.2	63.1	97	17	49	49	50	78	52	57	.402	.402	.415	49.30	3.44	.1	5.5	5.3	5.1	5.3

CHEYENNE, WYO.[1]

[ϕ=41°08′ N.; λ= 104°48′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	23.89	24.19	23.54	25.5	34.4	29.5	37.9	16.9	27.4	54	−9	16	19	18	66	53	62	0.087	0.100	0.098	0.37	0.24	4.3	4.0	6.1	5.2	5.7
February	23.92	24.17	23.56	24.2	39.7	34.8	42.9	17.4	30.2	60	−8	15	20	20	66	45	54	.085	.106	.106	.28	.25	3.3	4.4	5.5	5.4	5.6
March	23.77	24.16	23.22	29.7	42.8	41.6	46.9	26.3	36.6	64	17	21	25	24	71	50	51	.116	.132	.128	1.33	.30	12.9	4.8	5.4	6.1	5.8
April	23.89	24.29	23.44	33.5	50.9	50.8	55.6	29.4	42.5	76	5	27	30	30	78	49	50	.157	.171	.169	2.11	.60	10.0	6.2	6.5	6.0	6.0
May	23.90	24.24	23.53	41.4	57.3	55.9	61.8	38.0	49.9	84	23	37	40	38	84	53	56	.222	.246	.241	2.31	.70	3.6	6.4	7.1	7.7	7.0
June	24.01	24.28	23.69	50.8	71.7	68.0	75.5	48.0	61.8	84	39	45	48	49	82	45	53	.305	.336	.353	2.02	.77	.0	4.6	5.9	7.4	6.3
July	24.09	24.28	23.89	55.0	79.2	76.5	83.4	52.7	68.0	95	45	47	48	47	77	36	38	.329	.345	.329	1.32	.31	.0	3.6	5.2	6.5	4.9
August	24.06	24.30	23.81	56.7	80.1	75.5	83.5	53.8	68.6	96	41	44	46	47	67	34	43	.305	.324	.336	2.26	.58	.0	3.7	4.2	6.6	4.8
September	24.10	24.26	23.92	49.0	71.4	67.2	73.6	46.4	60.0	83	36	43	44	45	80	43	50	.283	.294	.307	3.33	1.10	.0	2.8	4.0	4.3	3.5
October	24.02	24.24	23.64	40.7	60.8	55.2	63.9	35.5	49.7	78	18	31	32	33	70	36	45	.177	.188	.192	.54	.33	2.2	3.8	5.6	4.9	4.6
November	23.90	24.29	23.46	26.8	38.9	32.9	42.0	20.8	31.4	59	−1	16	19	18	65	48	55	.092	.104	.100	.63	.22	7.7	3.9	4.7	4.5	4.6
December	23.90	24.10	23.53	24.9	35.0	28.8	38.2	16.7	27.4	56	−8	16	22	20	70	58	69	.092	.114	.107	.97	.36	11.7	3.6	5.9	5.4	5.8
Year	23.95	24.30	23.22	38.2	55.2	51.4	58.8	33.5	46.1	96	−9	30	33	32	73	46	52	.188	.205	.206	17.47	1.10	55.7	4.3	5.5	5.8	5.4

CHICAGO, ILL. (UNIVERSITY OBSERVATORY)

[ϕ=41°47′ N.; λ=87°35′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.26	29.94	28.10	23.8	27.2	27.0	31.4	19.3	25.4	52	0	19	19	20	81	71	74	0.116	0.116	0.116	2.02	1.21	6.3	7.7	7.5	7.7	8.0
February	29.44	29.94	28.78	33.7	36.2	35.8	40.2	29.0	34.6	63	11	28	29	28	80	74	73	.166	.172	.163	2.11	.65	5.4	8.9	8.9	8.6	8.9
March	29.19	29.64	28.73	39.5	47.5	46.1	53.4	36.7	45.0	79	10	34	34	36	80	62	69	.208	.214	.229	3.51	1.21	2.8	6.0	5.5	5.6	5.9
April	29.28	29.65	28.78	45.5	53.3	52.8	58.1	42.4	50.2	83	27	37	37	38	72	56	58	.238	.241	.247	2.20	1.14	13.6	6.1	6.3	6.0	6.3
May	29.20	29.50	28.72	54.4	61.7	60.0	66.6	50.0	58.3	88	36	48	49	48	79	66	67	.355	.371	.361	3.98	1.22	.0	5.9	5.9	5.9	6.2
June	29.28	29.60	28.96	63.6	71.1	69.6	74.6	60.5	67.6	88	54	57	56	56	79	62	65	.469	.467	.468	6.78	1.45	.0	5.2	5.3	4.7	5.2
July	29.25	29.40	29.00	68.8	77.2	75.4	81.4	66.2	73.8	92	61	63	63	64	83	64	70	.585	.586	.607	3.90	1.14	.0	5.1	4.9	5.1	5.0
August	29.30	29.49	29.04	69.8	79.5	77.2	82.5	67.5	75.0	95	59	64	65	66	83	62	69	.616	.622	.648	2.12	.79	.0	5.0	4.5	3.4	4.2
September	29.29	29.51	28.83	60.0	68.7	65.6	71.5	58.6	65.0	89	42	55	56	57	85	66	76	.450	.469	.487	5.29	1.63	.0	5.2	4.9	5.8	5.4
October	29.37	29.73	28.73	51.6	64.1	59.9	67.5	50.0	58.8	85	35	44	44	46	74	50	62	.292	.293	.320	.77	.49	T	3.4	3.3	3.4	3.4
November	29.30	29.72	28.73	39.1	47.6	45.4	51.4	35.7	43.6	76	16	30	31	34	70	53	64	.178	.190	.210	.95	.59	.2	6.2	5.0	4.5	5.4
December	29.30	29.84	28.82	26.9	32.1	31.6	34.9	23.4	29.2	53	2	22	22	23	78	65	70	.123	.127	.131	1.18	.73	3.5	6.3	7.6	6.9	7.5
Year	29.29	29.94	28.10	48.1	55.5	53.9	59.5	44.9	52.2	95	0	42	42	43	79	63	66	.216	.322	.332	34.81	1.63	31.8	5.9	5.8	5.6	6.0

CINCINNATI, OHIO

[ϕ=39°09′ N.; λ=84°31′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.36	29.94	28.57	28.8	35.4	33.9	39.8	25.0	32.4	60	5	24	26	25	80	68	70	0.134	0.152	0.145	1.68	0.80	3.6	6.9	6.9	6.5	6.7
February	29.51	30.00	28.87	36.7	43.6	43.3	48.2	32.8	40.5	71	15	32	35	35	83	74	73	.194	.224	.219	2.25	.63	1.1	9.0	8.2	7.4	8.4
March	29.30	29.69	28.86	43.7	53.3	51.0	59.1	39.1	49.1	82	24	38	40	39	81	63	65	.255	.265	.251	6.54	1.91	T	7.4	6.5	6.0	6.8
April	29.36	29.66	28.80	49.1	61.7	60.1	66.2	46.7	56.4	84	30	42	43	42	76	53	54	.283	.303	.291	2.07	.91	.4	4.9	5.5	6.6	5.9
May	29.28	29.56	28.77	57.6	71.0	66.2	74.7	52.5	63.6	87	34	52	54	53	83	56	66	.416	.436	.433	6.57	1.90	.0	4.9	6.7	7.4	6.3
June	29.35	29.61	29.07	65.2	77.3	74.2	80.8	60.6	70.7	91	53	59	60	59	81	58	61	.511	.538	.510	2.29	1.06	.0	5.7	6.2	6.6	6.1
July	29.31	29.45	29.12	69.8	82.0	78.7	85.9	66.4	76.2	94	59	66	66	65	88	62	66	.635	.648	.628	6.98	2.50	.0	5.1	5.2	5.5	5.2
August	29.38	29.55	29.19	68.6	82.7	78.6	86.5	66.0	76.2	92	58	66	67	66	91	61	67	.643	.662	.658	4.02	1.26	.0	3.9	4.7	5.2	4.6
September	29.35	29.57	28.90	61.0	74.3	70.1	77.9	59.4	68.6	92	46	58	60	59	89	63	70	.492	.535	.520	3.80	1.24	.0	7.1	5.1	5.2	5.8
October	29.46	29.77	29.05	47.0	67.2	62.1	71.0	45.1	58.0	86	35	42	44	44	85	46	52	.280	.305	.293	.31	.21	.0	2.7	2.8	2.7	2.7
November	29.44	29.77	28.95	39.7	52.6	49.4	57.9	36.7	47.3	78	13	34	36	34	80	55	58	.212	.224	.214	4.03	2.60	3.5	4.8	5.0	3.9	5.0
December	29.41	29.99	28.94	31.7	39.0	38.3	44.3	28.6	36.4	62	10	25	28	27	76	63	64	.142	.156	.158	1.41	.71	.2	6.8	5.9	5.6	6.5
Year	29.38	30.00	28.57	49.9	61.7	58.8	66.0	46.6	56.3	94	5	45	47	46	83	60	64	.350	.372	.360	41.95	2.60	8.8	5.8	5.7	5.7	5.8

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CHATTANOOGA, TENN.

[H=689 ft.; H_b=762 ft.; h_i=71 ft.; h_r=64 ft.; h_a=214 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		Mi.																										
January	8.4	W.	35	SE.	2	6	7	1	5	9	6	10	14	4	8	8	15	12	8	2	1	0	2	0	2	0	12	1	1
February	9.3	S.	30	SW.	0	6	10	1	11	8	7	8	5	0	7	8	13	8	5	0	0	0	4	0	0	0	1	0	0
March	8.4	S.	29	NW.	0	3	7	3	7	18	7	6	5	6	6	6	19	15	13	0	0	1	3	1	0	0	2	8	0
April	7.1	S.	34	W.	1	4	3	1	13	14	7	4	7	7	11	8	11	11	10	0	0	0	1	0	0	0	0	6	0
May	7.0	W.	36	W.	1	5	7	3	11	6	7	15	7	1	4	16	11	14	11	0	0	0	0	0	0	0	0	13	0
June	6.8	W.	31	W.	0	6	9	3	8	4	3	19	6	2	7	12	11	13	10	0	0	1	4	0	0	2	0	10	0
July	6.5	W.	38	NW.	1	5	6	2	11	9	3	20	6	0	5	12	14	18	15	0	0	0	4	1	0	14	0	14	0
August	6.8	W.	36	N.	1	4	5	5	9	2	11	22	4	0	11	15	5	11	9	0	0	0	3	0	0	23	0	9	0
September	6.6	W.	26	W.	0	8	5	5	11	1	4	13	11	2	9	11	10	5	2	0	0	0	1	1	0	6	0	6	1
October	5.9	NE.	22	N.	0	12	11	9	4	5	2	10	8	1	27	1	3	2	1	0	0	0	0	0	0	0	0	0	0
November	7.9	SE.	31	SE.	0	8	13	6	10	4	4	10	5	0	18	3	9	7	7	3	1	0	2	1	0	0	6	2	0
December	7.5	W.	28	W.	0	7	11	3	8	6	3	15	9	0	11	9	11	7	5	2	1	0	5	4	0	0	9	0	0
Year	7.3	W.	38	NW.	6	74	94	42	108	86	64	152	87	23	124	109	132	123	96	7	3	2	29	8	2	45	30	69	2

CHEYENNE, WYO.[1]

[H=6,139 ft.; H_b=6,144 ft.; h_i=5 ft.; h_r=15 ft.; h_a=44 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	16.0	NW.	45	NW.	15	4	2	2	0	6	7	15	26	0	7	13	11	3	3	12	3	0	4	1	9	0	31	0	2
February	11.5	NW.	47	NW.	6	5	1	5	1	5	8	16	15	0	10	6	12	3	1	5	3	0	3	0	3	0	28	0	0
March	16.2	NW.	53	W.	15	7	1	1	4	5	4	22	18	0	7	14	10	12	7	14	8	0	11	3	3	0	23	0	1
April	13.6	NW.	35	NW.	7	10	4	1	4	7	4	15	15	0	7	11	12	12	10	8	6	0	12	5	3	0	14	3	1
May	10.9	NW.	42	W.	3	7	7	2	7	4	9	15	9	2	3	12	16	15	10	4	3	4	8	0	0	0	8	8	1
June	10.2	W.	38	SW.	4	1	3	8	3	7	14	15	9	0	4	15	11	14	7	0	0	2	4	0	0	0	0	15	0
July	9.0	NW.	31	NW.	0	6	7	6	3	5	5	16	14	0	11	18	2	13	9	0	0	1	3	2	0	4	0	17	2
August	9.7	W.	35	NW.	3	5	4	2	2	17	6	17	9	0	9	16	6	13	10	0	0	1	4	2	0	8	0	11	0
September	8.7	W.	34	SW.	1	3	9	4	6	9	3	18	8	0	17	7	6	8	6	0	0	0	6	3	0	0	0	2	3
October	11.0	W.	34	W.	2	9	4	1	5	6	7	22	8	0	13	9	9	6	3	3	2	0	6	4	0	0	10	1	0
November	16.3	W.	57	NW.	14	5	3	1	2	2	4	23	20	0	14	8	8	7	5	10	7	0	5	1	7	0	26	0	0
December	15.8	NW.	52	NW.	15	6	2	0	1	2	5	7	39	0	11	8	12	9	8	14	9	0	10	3	6	0	29	0	0
Year	12.4	NW.	57	NW.	85	68	47	33	38	75	76	201	190	2	113	137	115	115	79	70	41	8	76	24	31	12	169	57	10

CHICAGO, ILL. (UNIVERSITY OBSERVATORY)

[H=594 ft.; H_b=673 ft.; h_i=7 ft.; h_r=3 ft.; h_a=131ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.9	W.	32	SW.	1	2	3	8	7	11	5	14	12	0	4	4	23	10	9	17	5	0	3	2	14	0	28	0	0
February	12.0	NE.	28	NE.	0	3	11	6	6	9	6	8	7	0	1	4	23	15	9	11	4	0	6	0	7	0	21	1	0
March	12.2	SW.	28	W.	0	3	7	4	8	16	10	10	4	0	8	10	13	11	8	6	1	0	10	1	2	0	10	4	0
April	12.6	SW.	34	NE.	2	2	15	3	6	9	10	7	8	0	9	6	15	10	4	5	3	0	1	0	0	0	7	1	0
May	9.8	NE.	30	SW.	0	4	16	7	7	9	11	3	5	0	9	10	12	16	14	0	0	1	14	1	0	0	0	7	0
June	9.1	NE.	25	SW.	0	6	11	7	5	9	6	12	4	0	9	10	11	12	11	0	0	0	2	0	0	0	0	8	0
July	7.6	SW.	30	NW.	0	4	13	8	3	8	15	6	5	0	13	9	9	14	11	0	0	2	13	0	0	2	0	12	0
August	8.4	S.W.	28	SW.	0	3	11	5	6	12	16	5	4	0	15	12	4	9	5	0	0	0	10	0	0	4	0	6	0
September	9.3	NE.	25	NW.	0	4	13	7	7	4	11	7	6	1	11	6	13	13	11	0	0	0	17	1	0	0	0	6	0
October	9.5	S.	27	NW.	0	2	9	4	8	16	11	7	5	0	16	10	5	5	4	1	0	0	4	1	0	0	0	0	0
November	12.2	SW.	28	SW.	0	6	4	1	4	16	12	14	3	0	11	6	13	5	3	7	1	0	1	0	3	0	13	0	0
December	10.4	W.	28	W.	0	2	0	1	7	14	8	17	13	0	6	3	22	9	7	11	6	0	5	0	8	0	26	0	0
Year	10.3	S.	34	NE.	3	41	113	61	74	133	121	110	76	1	112	90	163	129	96	58	20	3	86	6	34	6	104	45	0

CINCINNATI, OHIO

[H=761 ft.; H_b=627 ft.; h_i=11 ft.; h_r=3 ft.; h_a=51 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.0	SW.	30	S.	0	4	5	3	2	14	17	6	11	0	7	5	19	8	6	12	4	0	2	1	5	0	23	1	0
February	9.3	SW.	24	NW.	0	8	10	4	4	8	10	6	6	0	2	4	22	14	8	6	4	0	3	1	3	0	14	0	0
March	9.7	SW.	32	SE.	1	6	2	8	3	17	12	8	6	0	6	9	16	20	18	2	0	1	4	0	0	0	6	13	0
April	8.8	SW.	24	SW.	0	5	9	8	1	17	12	8	5	0	10	7	13	13	8	2	2	1	2	1	0	0	4	3	1
May	6.9	S.	24	SW.	0	7	5	7	5	14	10	13	9	1	6	13	12	18	15	0	0	2	2	0	0	0	0	10	0
June	6.7	SW.	25	NW.	0	9	7	4	2	9	16	7	5	1	8	8	14	12	9	0	0	0	0	0	0	2	0	8	0
July	5.4	SW.	21	NW.	0	7	6	6	5	10	10	9	8	1	12	8	11	12	11	0	0	0	3	1	0	8	0	10	1
August	5.3	SW.	21	NW.	0	12	9	5	6	13	12	4	1	0	11	12	8	10	8	0	0	0	5	0	0	8	0	7	0
September	6.3	SW.	21	SW.	0	7	14	1	3	10	16	4	5	0	10	9	11	9	7	0	0	0	3	0	0	3	0	4	0
October	5.9	NE.	20	W.	0	7	20	5	3	9	9	3	4	2	20	7	4	5	2	0	0	0	8	0	0	0	0	2	0
November	8.9	S.	32	SW.	1	2	3	3	11	17	17	4	2	1	12	7	11	10	9	4	3	0	2	0	2	0	11	2	0
December	8.4	SW.	30	SW.	0	1	6	4	7	14	14	10	6	0	6	6	19	7	5	11	1	0	1	0	1	0	21	0	0
Year	7.5	SW.	32	SW.	2	75	96	53	52	152	155	82	59	6	110	95	160	138	106	37	14	4	35	4	11	21	79	60	2

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CLEVELAND, OHIO

[ϕ=41°30′ N.; λ=81°42′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.16	29.78	28.35	26.6	30.6	29.5	35.9	22.0	29.0	60	6	22	22	22	83	70	74	0.122	0.123	0.124	1.07	0.25	8.9	8.1	7.9	7.7	8.1
February	29.33	29.88	28.57	32.4	35.8	35.4	41.3	26.4	33.8	68	9	28	29	30	82	77	79	.165	.173	.176	3.01	1.10	2.0	9.0	8.3	7.6	8.5
March	29.12	29.53	28.61	40.2	47.5	45.4	53.4	33.8	43.6	83	8	33	36	34	76	65	68	.212	.232	.214	3.52	.90	.6	7.0	6.1	5.9	6.3
April	29.19	29.56	28.64	46.4	52.3	53.0	58.3	42.3	50.3	84	26	37	38	39	71	60	61	.234	.237	.255	2.70	1.18	8.4	4.9	5.4	7.0	5.6
May	29.12	29.45	28.55	54.7	61.0	62.8	67.5	51.3	59.4	83	39	46	47	46	74	62	57	.327	.341	.325	2.69	.98	.0	6.0	5.5	5.2	5.4
June	29.19	29.47	28.90	64.1	68.9	72.0	75.6	60.3	68.0	89	54	54	55	54	71	63	56	.430	.444	.432	2.45	1.10	.0	4.7	5.3	4.6	4.9
July	29.15	29.32	28.91	69.3	75.0	76.9	80.4	66.9	73.6	91	60	61	62	61	76	66	60	.546	.571	.550	3.28	1.17	.0	5.5	5.1	4.0	4.7
August	29.21	29.40	28.98	70.8	77.0	77.8	82.1	68.0	75.0	90	59	62	62	62	74	62	60	.567	.578	.577	.81	.29	.0	4.6	4.2	3.6	4.0
September	29.19	29.52	28.70	59.4	66.0	65.0	70.0	56.7	63.4	83	46	51	53	53	75	65	66	.390	.419	.416	6.17	3.35	.0	6.3	6.3	5.5	5.9
October	29.29	29.68	28.76	52.0	60.3	58.9	63.7	49.2	56.4	82	38	41	43	44	68	56	60	.263	.287	.294	.70	.20	.0	3.7	4.1	2.9	3.7
November	29.26	29.57	28.77	41.9	49.2	47.5	55.0	38.2	46.6	79	19	33	33	32	71	57	56	.204	.202	.191	3.31	1.74	6.7	6.0	7.0	5.6	5.9
December	29.20	29.75	28.71	31.3	34.6	34.0	38.8	28.2	33.5	56	10	24	25	27	74	66	74	.134	.138	.149	1.72	.65	7.8	9.3	8.3	7.5	8.7
Year	29.20	29.88	28.35	49.1	54.8	54.8	60.2	45.3	52.7	91	6	41	42	42	75	64	64	.300	.312	.309	31.43	3.35	34.4	6.3	6.1	5.6	6.0

COLUMBIA, MO.

[ϕ=38°57′ N.; λ=92°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.20	29.82	28.44	26.8	34.7	----	41.3	23.4	32.4	62	1	22	25	---	82	67	---	0.125	0.141	----	3.34	2.19	0.3	4.8	6.6	----	6.1
February	29.30	29.72	28.93	36.4	53.2	----	48.1	32.5	40.3	73	15	31	34	---	82	70	---	.191	.212	----	2.50	1.13	12.9	6.6	7.5	----	7.2
March	29.06	29.55	28.60	45.1	58.4	----	64.0	41.5	52.8	86	24	38	42	---	78	57	---	.245	.284	----	5.59	3.20	T	5.3	5.9	----	5.7
April	29.14	29.52	28.76	49.1	61.8	----	65.7	46.8	56.2	85	23	42	44	---	76	53	---	.286	.303	----	4.74	1.41	5.8	4.8	5.5	----	5.4
May	29.06	29.38	28.51	58.6	69.3	----	73.8	55.5	64.6	88	41	53	55	---	83	63	---	.426	.455	----	7.14	2.00	.0	6.2	6.3	----	6.2
June	29.16	29.45	28.86	66.1	79.2	----	82.9	62.6	72.8	94	55	60	62	---	82	56	---	.528	.567	----	8.46	2.61	.0	5.3	5.6	----	5.2
July	29.12	29.26	28.90	72.9	87.5	----	91.9	70.1	81.0	100	61	66	67	---	80	52	---	.652	.680	----	2.60	2.39	.0	3.1	4.6	----	4.1
August	29.17	29.35	28.94	72.1	87.5	----	92.4	70.2	81.3	101	63	67	68	---	83	53	---	.657	.678	----	1.77	.54	.0	3.5	3.4	----	3.5
September	29.18	29.43	28.83	61.0	79.3	----	83.3	60.0	71.6	99	40	57	57	---	86	50	---	.490	.505	----	1.49	.82	.0	3.5	4.5	----	4.1
October	29.26	29.51	28.71	53.3	74.8	----	78.5	51.7	65.1	92	30	43	44	---	69	35	---	.288	.309	----	.59	.45	.0	2.2	1.8	----	2.0
November	29.20	29.67	28.44	39.5	51.9	----	56.7	35.4	46.0	84	13	31	31	---	71	49	---	.187	.190	----	4.57	2.92	.3	3.5	4.5	----	5.1
December	29.22	29.72	28.82	30.5	40.0	----	43.9	27.2	35.6	61	10	24	28	---	77	62	---	.136	.159	----	3.22	2.61	T	4.3	5.5	----	5.7
Year	29.17	29.82	28.44	51.0	64.8	----	68.5	48.1	58.3	101	1	44	46	---	79	56	---	.351	.374	----	46.01	3.20	19.3	4.4	5.1	----	5.1

COLUMBIA, S. C.

[ϕ=34°00′ N.; λ=81°03′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.72	30.14	29.14	40.5	50.0	49.5	55.1	38.2	46.6	75	20	34	34	35	76	56	59	0.211	0.217	0.226	1.17	0.69	T	5.9	5.5	5.4	5.9
February	29.85	30.28	29.24	46.4	58.2	57.7	64.0	43.9	54.0	78	33	37	38	40	72	50	54	.240	.257	.269	.49	.42	T	5.7	5.0	4.4	5.1
March	29.69	30.06	29.32	53.0	67.4	65.9	72.4	50.8	61.6	85	29	46	43	44	77	44	48	.332	.305	.315	1.09	.59	0.0	5.9	4.4	3.8	4.9
April	29.71	30.04	29.22	57.2	70.3	67.2	74.9	53.0	64.0	87	36	49	47	49	76	46	55	.375	.345	.362	7.34	2.79	.0	3.7	4.1	4.3	4.3
May	29.60	29.88	29.26	66.8	79.0	75.7	83.7	63.2	73.4	95	55	58	57	58	75	49	57	.499	.484	.493	4.21	1.32	.0	4.2	5.3	5.5	5.0
June	29.67	29.91	29.48	70.4	81.9	77.9	86.5	67.3	76.9	94	60	64	64	65	81	55	66	.599	.602	.621	6.63	3.22	.0	4.8	4.5	5.6	4.8
July	29.67	29.82	29.45	73.1	84.1	80.7	88.1	70.5	79.3	93	62	68	67	68	84	58	66	.685	.664	.683	7.91	4.02	.0	5.6	4.7	5.2	5.2
August	29.69	29.85	29.50	75.3	88.1	83.3	92.2	72.5	82.4	100	67	69	67	69	82	50	63	.721	.664	.706	.91	.28	.0	3.5	3.3	3.7	3.4
September	29.65	29.88	29.35	67.9	81.1	76.7	84.9	65.8	75.4	93	49	63	62	62	84	54	63	.592	.570	.584	3.03	.71	.0	4.6	5.1	5.1	5.2
October	29.73	30.04	29.26	54.8	71.8	68.0	75.7	52.9	64.3	87	42	48	47	50	80	43	53	.348	.338	.365	1.30	1.27	.0	2.8	1.8	1.2	2.1
November	29.79	30.13	29.36	50.6	63.5	59.6	67.0	47.9	57.4	80	23	44	47	46	80	56	63	.339	.366	.356	2.44	1.30	T	3.8	4.3	3.5	4.4
December	29.75	30.22	29.28	40.4	51.9	50.1	57.1	37.8	47.4	72	27	32	34	36	72	55	59	.190	.213	.223	2.46	1.16	.0	5.0	4.4	3.9	4.6
Year	29.71	30.28	29.14	58.0	70.6	67.7	75.1	55.3	65.2	100	20	51	51	52	78	51	59	.428	.419	.434	38.98	4.02	T	4.6	4.4	4.3	4.6

COLUMBUS, OHIO

[ϕ=39°58′ N.; λ=83°0′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.14	29.73	28.38	28.0	33.2	32.8	38.4	24.1	31.2	63	7	23	25	24	79	70	69	0.127	0.139	0.137	1.11	0.40	2.9	7.2	6.5	5.9	6.6
February	29.30	29.82	28.65	34.9	39.7	40.3	45.6	30.6	38.1	68	13	30	32	32	81	75	74	.175	.200	.198	2.73	.66	3.4	8.8	8.5	6.5	7.9
March	29.10	29.48	28.63	41.8	51.0	49.4	56.8	37.2	47.0	82	17	36	39	38	79	64	66	.232	.256	.244	4.32	1.31	2.1	6.9	6.9	6.0	6.5
April	29.15	29.49	28.58	47.6	59.1	58.3	63.8	45.0	54.4	84	30	39	38	42	72	49	56	.253	.249	.283	3.07	1.10	T	4.7	5.3	5.7	5.2
May	29.07	29.38	28.55	56.9	69.6	67.2	73.8	52.6	63.2	87	36	49	49	49	76	50	56	.364	.372	.368	4.82	1.14	.0	5.4	5.5	5.3	5.8
June	29.14	29.41	28.90	65.3	76.6	75.4	80.5	60.1	70.3	92	53	56	54	56	73	48	52	.463	.440	.453	1.98	.75	.0	5.8	6.2	6.2	5.9
July	29.11	29.26	28.93	70.3	82.1	81.0	86.2	66.8	76.5	95	57	64	63	63	81	54	57	.600	.577	.591	5.22	3.10	.0	4.7	6.1	5.4	5.4
August	29.18	29.36	29.00	69.8	83.2	80.9	87.0	66.6	76.8	93	57	64	63	64	84	52	58	.617	.599	.619	3.32	.54	.0	4.3	5.4	4.8	4.9
September	29.15	29.40	28.70	60.2	72.7	70.3	76.8	58.1	67.4	91	46	55	54	55	83	55	58	.444	.439	.431	5.40	3.91	.0	6.5	6.8	5.8	6.1
October	29.25	29.57	28.83	47.1	65.2	62.0	69.5	44.7	57.1	84	31	42	42	42	84	44	51	.275	.276	.282	.70	.44	.0	3.0	2.6	2.5	2.8
November	29.24	29.54	28.74	38.7	49.9	48.8	55.7	35.1	45.4	78	12	33	36	34	79	60	59	.203	.224	.210	1.94	.95	1.7	4.7	6.1	4.9	5.3
December	29.19	29.76	28.71	31.2	36.7	36.4	41.2	28.5	34.8	57	8	24	27	27	74	67	67	.136	.152	.152	1.04	.52	.3	7.5	7.6	6.6	7.2
Year	29.17	29.82	28.38	49.3	59.9	58.6	64.6	45.8	55.2	95	7	43	44	44	79	57	60	.324	.327	.331	35.65	3.91	10.4	5.8	6.1	5.5	5.8

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CLEVELAND, OHIO

[H=651 ft.; H_b=762 ft.; h_t=267 ft.; h_r=264 ft.; h_a=318 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	15.9	S.	47	S.	8	2	7	0	9	17	7	13	7	0	2	7	22	17	10	21	15	0	3	1	14	0	29	0	0
February	17.0	S.	47	NW.	9	5	4	6	10	8	5	8	10	0	4	1	23	14	10	14	6	0	2	0	7	0	24	2	0
March	17.1	S.	41	W.	14	1	9	2	9	14	9	11	7	0	7	12	12	15	11	9	5	1	5	0	2	0	13	5	1
April	16.2	SW.	51	W.	14	2	11	3	5	8	15	5	11	0	9	10	11	14	9	5	5	0	2	0	0	0	7	2	0
May	14.0	SE.	49	W.	7	6	9	6	12	7	8	8	6	0	11	9	11	9	7	0	0	0	0	0	0	0	0	2	4
June	12.3	S.	41	NE.	6	8	8	1	5	14	7	6	11	0	11	9	10	11	6	0	0	0	0	0	0	0	0	2	0
July	10.9	S.	54	W.	3	2	10	2	3	17	8	7	12	1	11	12	8	8	7	0	0	0	2	0	0	2	0	8	1
August	11.9	S.	45	NW.	2	7	3	5	3	19	11	5	8	1	13	13	5	6	5	0	0	0	0	0	0	1	0	4	0
September	14.2	SE.	44	W.	2	8	9	4	10	10	10	4	5	0	8	9	13	10	7	0	0	1	1	0	0	0	0	3	2
October	13.5	S.	41	NW.	2	5	7	7	9	20	9	1	4	0	19	4	8	7	5	0	0	0	1	0	0	0	0	2	0
November	17.1	S.	51	NW.	8	3	3	1	10	24	15	2	2	0	10	6	14	10	10	7	6	0	1	0	3	0	9	0	0
December	16.3	SW.	49	SW.	9	3	1	2	9	14	13	9	11	0	0	8	23	15	11	18	11	0	2	0	5	0	21	0	0
Year	14.7	S.	54	W.	84	52	81	39	94	172	117	79	94	2	105	100	160	136	98	74	48	2	19	1	31	3	103	30	8

COLUMBIA, MO.

[H=740 ft.; H_b=784 ft.; h_t=6 ft.; h_r=3 ft.; h_a=66 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.2	W.	30	NW.	0	4	0	2	4	6	2	6	7	0	10	4	17	7	5	8	2	1	7	4	6	0	25	2	0
February	9.5	S.	21	SW.	0	4	1	6	2	6	3	5	1	0	5	7	16	11	7	5	4	0	4	1	4	0	14	1	0
March	9.8	S.	28	SW.	0	1	4	1	6	10	2	2	5	0	9	8	14	11	9	1	0	0	1	0	0	0	4	7	0
April	9.6	S.	30	N.	0	2	2	3	4	7	7	2	3	0	8	14	8	9	7	2	1	0	0	0	0	0	4	7	0
May	8.2	S.	27	SW.	0	4	2	5	3	9	0	6	1	1	5	15	11	16	13	0	0	0	0	0	0	0	0	11	0
June	6.8	S.	26	W.	0	4	2	5	4	8	4	2	1	0	9	16	5	13	12	0	0	0	0	0	0	2	0	7	0
July	6.1	SW.	25	NW.	0	2	0	3	5	12	7	1	0	1	14	12	5	5	3	0	0	0	1	0	0	20	0	8	1
August	7.5	S.	32	NW.	1	6	1	3	3	10	7	0	1	0	18	11	2	8	6	0	0	0	1	1	0	22	0	9	0
September	5.8	S.	28	NW.	0	6	1	1	3	10	0	3	3	3	16	6	8	7	5	0	0	0	0	0	0	8	0	5	0
October	7.1	S.	21	NW.	0	0	2	5	8	6	2	3	4	1	21	8	2	2	2	0	0	0	0	0	0	3	1	2	0
November	9.4	S.	25	S.	0	4	0	0	2	14	5	1	4	0	12	8	10	5	5	5	1	0	0	0	2	0	12	0	0
December	8.2	W.	25	NW.	0	4	0	1	7	7	2	3	7	0	10	9	12	7	5	2	0	1	0	0	3	0	23	1	0
Year	8.1	S.	32	NW.	1	41	15	35	51	105	41	34	37	6	137	118	110	101	79	23	8	2	14	6	15	55	83	60	1

COLUMBIA, S. C.

[H=332 ft.; H_b=347 ft.; h_t=70 ft.; h_r=68 ft.; h_a=91 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.7	SW.	35	SW.	1	6	12	2	5	10	12	9	6	0	10	6	15	7	5	1	0	0	3	1	0	0	7	0	1
February	8.8	NE.	24	S.	0	11	13	5	4	3	8	2	10	0	12	5	11	4	2	1	0	0	4	2	0	0	0	0	0
March	9.4	S.	27	NW.	0	6	7	4	4	13	7	9	7	0	11	14	6	8	5	0	0	0	1	0	0	0	1	4	0
April	8.2	S.	30	SW.	0	0	8	1	5	14	19	8	5	0	15	4	11	10	9	0	0	0	0	0	0	0	0	5	1
May	8.0	NE.	29	W.	0	4	14	1	6	7	9	13	8	0	12	8	11	11	9	0	0	1	1	0	0	8	0	7	0
June	7.3	S.	26	SW.	0	5	13	3	3	20	9	2	5	0	9	19	2	16	14	0	0	0	1	0	0	6	0	14	0
July	7.6	S.	24	S.	0	3	8	1	10	24	10	3	2	1	10	12	9	11	10	0	0	0	1	0	0	10	0	12	0
August	7.3	S.	30	SW.	0	7	7	4	10	12	11	3	8	0	17	13	1	11	10	0	0	0	1	0	0	21	0	8	0
September	7.0	NE.	25	NE.	0	6	13	10	5	7	8	5	6	0	7	18	5	8	8	0	0	0	2	2	0	7	0	6	0
October	7.4	NE.	23	NE.	0	11	23	6	4	2	6	4	6	0	23	5	3	3	2	0	0	0	1	1	0	0	0	0	0
November	7.8	NE.	24	SW.	0	12	12	6	7	8	9	1	5	0	15	4	11	10	6	1	0	0	8	5	0	0	4	0	0
December	8.0	NE.	27	SW.	0	9	17	2	5	7	10	4	8	0	13	9	9	6	6	0	0	0	4	1	0	0	6	0	0
Year	8.0	S.	35	SW.	1	80	147	45	68	132	118	63	76	1	154	117	94	105	86	3	0	1	27	12	0	52	18	56	2

COLUMBUS, OHIO

[H=724 ft.; H_b=822 ft.; h_t=90 ft.; h_r=88 ft.; h_a=110 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.2	S.	50	S.	4	8	2	5	1	25	9	5	7	0	4	14	13	9	5	14	6	0	3	2	6	0	26	0	0
February	10.9	S.	29	W.	0	12	8	6	5	13	3	5	4	0	2	8	18	14	10	7	5	0	4	0	5	0	18	0	0
March	11.5	S.	37	SW.	4	3	8	3	7	20	9	7	5	0	7	9	15	16	13	5	4	1	1	0	0	0	9	5	0
April	10.8	S.	35	SW.	5	9	8	7	0	20	7	5	4	0	11	7	12	10	6	2	1	0	0	0	0	0	4	4	0
May	9.2	S.	32	SW.	1	4	5	9	4	20	4	9	5	2	7	14	10	13	12	0	0	0	2	0	0	0	0	10	0
June	8.9	S.	32	SW.	1	12	11	1	3	20	5	6	2	0	10	10	10	9	5	0	0	0	0	0	0	1	0	6	0
July	7.2	S.	27	NW.	0	12	4	2	2	24	7	9	2	0	11	13	7	11	10	0	0	0	4	2	0	9	0	7	0
August	7.4	S.	31	N.	0	17	2	2	1	28	8	2	2	0	7	19	5	5	5	0	0	0	2	2	0	10	0	5	0
September	8.1	S.	33	W.	1	17	7	5	2	20	3	6	0	0	6	10	14	7	5	0	0	0	1	0	0	1	0	3	0
October	7.4	S.	31	SW.	0	17	6	2	8	19	2	1	3	4	23	3	5	5	3	0	0	0	6	4	0	0	1	1	0
November	10.8	S.	37	SE.	6	4	4	3	8	31	6	3	1	0	11	7	12	11	8	5	4	0	2	1	3	0	11	1	0
December	10.4	S.	37	W.	1	6	3	4	8	21	2	11	6	1	5	6	20	6	4	6	1	0	2	1	2	0	21	0	0
Year	9.5	S.	50	S.	23	121	68	49	49	261	65	69	41	7	104	120	141	116	86	39	21	1	27	12	16	21	90	42	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CONCORD, N. H.

[ϕ=43°12′ N.; λ=71°32′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.71	30.11	28.89	15.6	25.6	----	32.3	9.8	21.0	55	−18	13	17	---	88	68	---	0.091	0.102	----	3.94	1.19	20.4	5.0	5.3	---	5.2
February	29.84	30.56	28.89	22.8	30.3	----	36.2	17.3	26.8	49	3	18	19	---	81	62	---	.108	.112	----	2.11	.52	9.5	5.3	6.8	---	5.4
March	29.67	30.11	28.96	30.3	40.4	----	46.5	24.6	35.6	80	−2	25	22	---	80	50	---	.145	.129	----	2.07	.93	4.1	5.7	5.9	---	4.6
April	29.71	30.18	28.76	41.8	55.2	----	59.3	35.9	47.6	87	19	36	34	---	81	47	---	.226	.217	----	2.18	.79	1.8	6.2	6.0	---	5.0
May	29.61	30.14	28.87	50.2	61.2	----	65.9	43.0	54.4	80	31	43	41	---	79	52	---	.288	.275	----	3.11	1.72	.0	6.5	7.3	---	5.4
June	29.68	30.09	29.32	62.9	75.5	----	79.8	54.9	67.4	95	42	57	55	---	83	52	---	.482	.448	----	5.12	1.60	.0	4.7	6.3	---	4.5
July	29.65	29.84	29.35	67.3	76.6	----	80.5	61.7	71.1	90	49	62	61	---	83	62	---	.563	.556	----	7.57	2.57	.0	5.8	7.3	---	5.6
August	29.65	29.89	29.29	65.4	78.6	----	82.7	60.3	71.5	94	45	61	61	---	87	57	---	.553	.553	----	2.58	.76	.0	4.9	5.2	---	4.1
September	29.71	30.06	28.62	52.2	65.9	----	69.2	47.7	58.4	79	37	49	49	---	90	58	---	.363	.374	----	10.68	4.88	.0	4.5	5.1	---	4.8
October	29.78	30.21	29.12	45.6	61.4	----	65.9	41.9	53.9	86	28	43	44	---	91	55	---	.287	.305	----	2.07	1.26	.0	3.5	4.3	---	4.6
November	29.81	30.33	29.14	34.8	45.7	----	51.3	31.0	41.2	78	−2	32	35	---	90	68	---	.203	.227	----	2.96	1.12	18.4	6.0	5.6	---	6.4
December	29.71	30.28	28.83	25.0	31.6	----	35.7	21.3	28.5	55	0	21	21	---	84	67	---	.124	.130	----	4.04	1.51	6.8	6.1	6.4	---	7.3
Year	29.71	30.56	28.62	42.8	54.0	----	58.8	37.4	48.1	95	−18	38	38	---	85	58	---	.286	.286	----	48.43	4.88	61.0	5.4	6.0	---	5.2

CONCORDIA, KANS.

[ϕ=39°35′ N.; λ=97°41′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	28.57	29.06	28.07	24.4	35.6	35.5	41.9	20.8	31.4	67	−2	18	21	21	74	56	55	0.103	0.119	0.117	0.16	0.14	0.2	3.1	4.9	4.2	4.5
February	28.65	29.06	28.17	27.6	36.4	37.0	43.5	23.4	33.4	73	0	22	25	26	81	66	65	.130	.145	.149	1.48	1.82	1.6	5.1	6.7	5.8	5.6
March	28.38	28.91	27.83	41.2	51.8	52.8	58.8	37.3	48.0	85	24	36	36	37	81	59	59	.215	.220	.225	1.17	.88	.0	5.4	6.1	5.1	5.3
April	28.48	28.94	28.08	45.9	60.0	60.4	64.2	42.8	53.5	87	22	40	41	42	79	53	53	.268	.283	.293	1.61	.53	6.0	4.5	4.9	5.2	4.6
May	28.41	28.72	27.97	55.4	65.1	66.5	70.5	52.1	61.3	84	32	52	52	54	88	66	67	.402	.407	.441	7.76	1.91	.0	6.2	6.9	6.1	6.1
June	28.51	28.82	28.16	65.5	78.8	78.7	83.1	62.5	72.8	96	53	60	61	61	83	55	56	.533	.549	.544	5.17	1.52	.0	6.0	5.3	3.9	4.7
July	28.49	28.69	28.19	72.0	88.6	89.4	93.4	69.2	81.3	103	62	64	62	62	76	44	42	.595	.569	.561	2.86	1.19	.0	3.9	2.7	4.0	3.3
August	28.48	28.79	28.19	72.6	89.1	88.3	93.5	70.5	82.0	104	63	63	64	63	74	46	46	.577	.598	.577	3.70	3.66	.0	3.3	2.5	2.8	2.8
September	28.56	28.85	28.32	60.4	80.9	78.6	85.0	59.3	72.2	98	36	53	54	54	79	43	46	.438	.449	.447	1.52	.64	.0	3.1	3.1	2.6	2.9
October	28.57	28.88	28.15	53.8	75.3	71.2	79.7	50.9	65.3	96	25	41	43	42	63	33	36	.276	.289	.280	.10	.08	.0	2.7	1.8	2.3	2.2
November	28.54	29.10	28.04	33.8	47.5	43.6	53.5	29.6	41.6	75	6	25	26	27	69	44	52	.146	.152	.161	1.72	1.58	.8	3.6	3.9	3.4	3.7
December	28.58	29.08	28.14	27.0	40.4	38.4	45.8	23.2	34.5	62	3	19	21	21	70	44	48	.105	.113	.116	.02	.02	T	2.7	3.9	4.7	3.7
Year	28.52	29.10	27.83	48.3	62.5	61.8	67.7	45.1	56.4	104	−2	41	42	42	76	51	52	.316	.324	.326	27.27	3.66	8.6	4.1	4.4	4.2	4.1

CORPUS CHRISTI, TEX.

[ϕ=27°49′ N.; λ=97°25′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	30.07	30.62	29.71	56.7	62.7	60.6	65.0	53.3	59.2	77	33	51	50	52	83	68	75	0.400	0.403	0.413	1.39	0.73	0.0	5.5	6.1	4.9	5.9
February	30.11	30.42	29.78	60.3	66.6	65.0	69.2	58.4	63.8	76	40	57	57	58	89	73	81	.494	.496	.518	1.74	1.53	.0	6.2	6.9	5.8	6.8
March	29.88	30.35	29.59	68.1	74.9	72.6	77.1	66.9	72.0	88	52	65	63	66	90	71	82	.631	.605	.659	.48	.24	.0	8.3	7.2	7.3	7.4
April	29.94	30.31	29.44	66.8	73.3	71.7	76.1	65.2	70.6	83	42	61	62	63	83	70	76	.590	.605	.618	1.81	1.04	.0	7.7	6.2	6.1	6.3
May	29.86	30.13	29.52	73.8	80.8	78.7	83.0	72.3	77.6	88	57	69	68	70	86	68	76	.726	.713	.749	1.20	.86	.0	6.7	5.9	5.7	6.0
June	29.94	30.12	29.73	78.4	85.6	83.4	87.9	77.3	82.6	92	71	74	73	74	87	67	74	.848	.813	.851	.66	.24	.0	3.9	4.6	4.8	4.3
July	29.93	30.09	29.78	78.4	87.5	84.7	90.2	78.0	84.1	94	76	75	74	75	90	65	74	.877	.842	.873	.12	.09	.0	3.1	2.9	3.8	3.4
August	29.96	30.12	29.77	79.8	88.0	85.2	90.2	79.1	84.6	93	73	75	74	75	85	65	72	.863	.850	.867	4.51	3.38	.0	3.4	3.4	3.4	3.4
September	29.96	30.17	29.75	74.7	85.0	82.7	87.4	73.9	80.6	93	66	70	69	70	86	60	66	.750	.722	.744	1.44	.74	.0	3.6	3.9	4.0	4.2
October	30.01	30.22	29.78	68.7	80.9	77.8	83.5	67.8	75.6	91	51	63	63	64	83	56	65	.593	.604	.625	.20	.10	.0	2.1	2.3	1.8	2.1
November	30.08	30.64	29.58	59.3	69.3	65.5	71.0	55.5	63.2	88	37	52	52	54	78	56	70	.451	.450	.480	1.55	.87	.0	5.6	5.9	4.3	5.5
December	30.08	30.60	29.76	55.1	64.4	62.4	67.6	52.7	60.2	80	36	49	50	52	80	62	73	.371	.386	.417	6.44	4.20	.0	4.9	6.4	5.0	5.8
Year	29.98	30.64	29.44	68.3	76.6	74.2	79.0	66.7	72.8	94	33	63	63	64	85	65	74	.633	.624	.651	21.54	4.20	.0	5.1	5.1	4.7	5.1

DALLAS, TEX.

[ϕ=32°46′ N.; λ=96°47′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.55	30.05	29.00	44.6	50.5	51.9	56.3	41.3	48.8	75	19	35	35	37	71	58	60	0.225	0.225	0.241	6.34	3.37	T	5.4	5.9	4.2	5.4
February	29.60	29.89	29.27	49.6	56.2	59.0	62.1	46.4	54.2	76	27	44	44	44	83	66	63	.329	.324	.325	4.73	3.31	2.9	6.2	7.7	6.9	7.2
March	29.36	29.90	29.00	57.1	67.9	69.6	73.6	54.0	63.8	86	34	48	49	49	74	54	52	.362	.378	.377	4.40	2.29	.0	5.4	4.5	4.6	4.8
April	29.43	29.81	28.93	56.5	66.8	68.7	72.1	53.8	63.0	85	32	52	52	53	85	61	58	.420	.424	.428	3.07	1.06	.1	4.7	6.0	5.5	5.5
May	29.34	29.68	29.01	65.5	76.0	79.6	81.6	64.0	72.8	92	44	59	58	58	81	56	50	.520	.498	.498	2.29	1.09	.0	6.1	5.9	4.3	4.9
June	29.42	29.64	29.20	73.0	84.5	86.1	89.1	71.6	80.4	94	64	68	66	66	84	55	53	.688	.636	.635	2.45	1.65	.0	6.2	6.1	4.3	5.8
July	29.40	29.54	29.26	75.3	86.9	87.8	91.4	74.6	83.0	99	68	69	68	66	81	55	52	.711	.677	.652	1.79	.97	.0	5.0	5.2	4.6	5.2
August	29.45	29.63	29.23	76.4	90.6	92.3	94.8	76.3	85.6	99	73	68	64	62	77	44	38	.695	.609	.568	.31	.26	.0	2.9	3.9	2.8	3.5
September	29.45	29.72	29.27	69.3	85.8	87.3	90.0	68.4	79.2	97	50	58	55	53	68	37	34	.517	.485	.442	.51	.50	.0	2.4	3.8	2.4	3.3
October	29.50	29.71	29.23	63.3	79.5	80.3	83.8	61.5	72.6	100	40	49	49	47	62	36	33	.376	.368	.335	.13	.09	.0	1.4	2.4	1.3	2.4
November	29.55	30.07	28.95	46.9	58.7	59.8	65.1	43.1	54.1	84	22	36	35	36	65	44	43	.255	.241	.244	1.14	1.02	.0	2.9	4.2	2.8	4.0
December	29.56	30.17	29.18	42.6	53.3	53.0	58.0	39.1	48.6	80	22	31	34	32	66	50	49	.194	.210	.192	1.00	.48	.0	4.7	5.9	4.1	5.2
Year	29.47	30.17	28.93	60.0	71.4	73.0	76.5	57.8	67.2	100	19	51	51	50	75	51	49	.441	.421	.411	28.17	3.37	3.0	4.4	5.1	3.9	4.8

[1]Estimated.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

CONCORD, N. H.

[H=270 ft.; H_b=288 ft.; h_t=54 ft.; h_r=56 ft.; h_a=72 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)																
January	4.6	N.	19	S.	0	7	7	2	4	0	3	3	4	1	11	10	10	11	9	14	8	0	11	1	17	0	30	0	0
February	5.7	NW.	25	NW.	0	6	2	3	5	0	1	1	10	0	12	5	11	15	12	8	8	0	6	3	6	0	27	0	1
March	6.2	NW.	20	NW.	0	4	7	2	8	0	3	0	7	0	16	6	9	11	7	11	6	0	9	1	2	0	25	0	1
April	6.4	SE.	21	SW.	0	2	9	4	5	2	1	4	3	0	12	10	8	12	10	4	2	0	14	3	0	0	11	3	0
May	6.1	SE.	26	NE.	0	3	8	3	9	1	1	0	6	0	11	11	9	15	10	0	0	0	6	0	0	0	1	5	0
June	5.0	SE.	18	SW.	0	3	8	1	5	7	2	3	1	0	11	14	5	13	11	0	0	0	9	1	0	5	0	4	0
July	5.1	S.	19	S.	0	2	4	3	8	7	2	1	4	0	10	11	10	14	13	0	0	0	11	5	0	0	0	7	0
August	4.8	S.	20	NW.	0	2	14	3	4	2	1	2	3	0	13	14	4	8	7	0	0	0	6	4	0	7	0	10	0
September	5.6	N.	56	SE.	1	7	4	6	4	3	1	1	4	0	13	6	11	14	11	0	0	0	19	7	0	0	0	3	1
October	5.1	N.	21	W.	0	10	5	6	2	1	3	1	3	0	13	11	7	4	4	0	0	0	17	7	0	0	4	0	0
November	5.2	N.	24	NW.	0	7	5	0	6	3	1	3	5	0	8	8	14	12	9	7	7	0	16	7	4	0	18	0	0
December	6.0	N.	24	SW.	0	6	3	5	3	3	0	3	8	0	7	4	20	15	12	15	7	0	11	2	12	0	27	0	0
Year	5.5	N.	56	SE.	1	59	76	38	63	29	19	22	58	1	137	110	118	144	115	59	38	0	135	41	41	12	143	32	3

CONCORDIA, KANS.

[H=1,375 ft.; H_b=1,392 ft.; h_t=50 ft.; h_r=42 ft.; h_a=58 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.7	N.	33	N.	2	14	2	3	4	7	8	11	12	1	13	13	5	3	1	5	2	0	1	1	7	0	28	0	3
February	8.7	N.	24	SW.	0	13	8	5	3	8	7	3	8	1	5	15	8	3	3	6	2	0	4	2	8	0	20	0	0
March	10.4	N.	26	N.	0	10	9	5	4	10	10	2	8	4	13	7	11	7	3	0	0	0	2	0	0	0	7	0	0
April	11.5	S.	29	SW.	0	6	9	4	4	15	7	7	7	1	12	13	5	11	8	2	2	0	3	1	1	0	7	6	0
May	8.5	S.	30	NW.	0	9	10	7	5	13	8	2	7	1	6	15	10	19	17	0	0	1	0	0	0	0	0	14	0
June	8.7	S.	24	SW.	0	9	5	4	17	13	5	2	4	1	9	17	4	9	7	0	0	1	0	0	0	5	0	9	0
July	7.4	S.	28	NW.	0	4	10	1	14	12	14	3	4	0	17	12	2	9	7	0	0	0	9	0	0	22	0	12	0
August	9.4	S.	24	NW.	0	3	12	8	9	20	6	1	1	2	18	12	1	3	2	0	0	0	1	1	0	21	0	6	0
September	7.5	S.	21	S.	0	7	6	10	8	11	8	2	6	2	18	9	3	7	5	0	0	0	0	0	0	12	0	3	2
October	9.0	S.	25	N.	0	6	2	3	2	23	11	5	8	2	22	9	0	2	1	0	0	0	0	0	0	5	3	1	0
November	10.0	SW.	30	SW.	0	11	3	2	1	14	9	10	7	3	17	7	6	5	3	1	1	1	0	0	3	0	16	2	0
December	8.9	W.	35	NW.	1	6	4	0	5	9	6	12	15	5	16	8	7	1	0	1	0	0	0	0	2	0	27	0	0
Year	9.1	S.	35	NW.	3	98	80	52	76	155	99	60	87	23	166	137	62	79	57	15	7	3	11	5	21	65	108	53	5

CORPUS CHRISTI, TEX.

[H=19 ft.; H_b=20 ft.; h_t=11 ft.; h_r=63 ft.; h_a=78 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.4	N.	38	N.	3	16	8	6	9	10	2	6	5	0	12	4	15	6	3	0	0	0	9	3	0	0	0	2	0
February	11.9	SE.	34	E.	1	6	6	8	22	11	1	2	0	0	4	10	14	5	3	0	0	0	5	2	0	0	0	1	0
March	13.0	S.	50	S.	1	4	3	10	19	22	1	2	1	0	3	10	18	5	2	0	0	0	8	2	0	0	0	3	0
April	13.4	SE.	33	N.	1	4	4	8	28	11	0	0	5	0	7	11	12	3	2	0	0	1	2	0	0	0	0	3	0
May	13.7	SE.	50	E.	2	3	6	12	21	19	1	0	0	0	7	10	14	4	2	0	0	0	0	0	0	0	0	5	0
June	12.3	SE.	27	SE.	0	1	0	6	30	20	3	0	0	0	10	16	4	7	6	0	0	0	1	1	0	2	0	2	0
July	12.4	S.	26	SE.	0	0	0	1	28	31	0	1	1	0	18	12	1	2	1	0	0	0	0	0	0	20	0	1	0
August	10.8	SE.	31	NE.	0	0	3	7	23	17	5	2	2	0	18	10	3	3	3	0	0	0	0	0	0	23	0	5	0
September	8.7	SE.	25	SE.	0	8	4	11	14	6	8	8	1	0	12	12	6	8	7	0	0	0	2	1	0	7	0	6	0
October	9.1	E.	27	E.	0	7	2	12	16	9	8	7	1	0	24	4	3	3	2	0	0	0	3	0	0	3	0	3	0
November	11.7	S.	34	N.	2	7	12	6	10	18	1	2	4	0	7	12	11	7	6	0	0	0	4	1	0	0	0	3	0
December	10.9	S.	30	S.	0	18	8	3	8	16	2	2	5	0	9	9	13	7	5	0	0	0	1	1	0	0	0	1	0
Year	11.6	SE.	50	S.	10	74	56	90	231	190	32	32	25	0	131	120	114	60	42	0	0	1	35	11	0	55	0	35	0

DALLAS, TEX.

[H=459 ft.; H_b=512 ft.; h_t=220 ft.; h_r=194 ft.; h_a=227 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	12.3	N.	42	W.	2	14	7	4	10	12	2	12	1	0	11	9	11	8	7	1	0	2	4	0	0	0	4	4	0
February	12.4	SE.	38	W.	1	7	4	5	13	9	4	8	6	0	3	10	15	7	4	1	1	0	2	1	0	0	6	2	0
March	13.9	S.	54	W.	2	7	7	3	18	16	3	5	3	0	12	12	7	6	6	0	0	0	4	0	0	0	0	4	0
April	13.0	SE.	42	N.	4	7	6	10	15	12	2	4	3	1	10	5	15	10	9	2	1	1	2	1	0	0	1	8	0
May	12.9	S.	34	E.	2	3	6	6	16	22	3	3	3	0	9	15	7	8	5	0	0	0	0	0	0	5	0	8	0
June	10.7	S.	38	NE.	3	4	2	21	16	12	3	1	1	0	4	20	6	7	5	0	0	0	0	0	0	17	0	9	0
July	8.4	S.	47	NE.	1	2	9	4	16	22	7	0	2	0	12	9	10	10	7	0	0	0	0	0	0	23	0	6	0
August	9.7	SE.	30	S.	0	0	0	6	32	15	8	1	0	0	19	8	4	2	2	0	0	0	0	0	0	30	0	4	0
September	9.7	S.	29	NW.	0	7	4	6	13	16	6	2	6	0	17	8	5	2	1	0	0	0	0	0	0	21	0	3	0
October	10.0	SE.	28	NE.	0	5	5	19	16	6	3	5	2	1	21	9	1	3	1	0	0	0	1	0	0	3	0	3	0
November	13.9	SE.	36	SE.	3	2	2	1	25	9	6	3	11	1	16	5	9	3	2	0	0	0	0	0	0	0	5	1	0
December	11.4	N.	33	S.	2	13	3	2	13	8	1	14	7	1	10	10	11	4	4	0	0	0	3	1	0	0	7	0	0
Year	11.5	S.	54	W.	20	71	55	87	203	159	48	58	45	4	144	120	101	70	53	4	2	3	16	3	0	99	23	52	0

[1] Taken from 7:30 a. m. observations—7:30 p. m. observations not available.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DAVENPORT, IOWA

[ϕ=41°30′ N.; λ=90°38′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.37	30.02	28.49	20.7	25.7	25.6	30.8	16.4	23.6	44	−3	17	20	20	84	78	78	0.102	0.115	0.116	2.70	1.57	5.3	5.9	6.6	5.7	6.3
February	29.51	29.98	28.96	32.0	36.1	36.6	41.7	27.9	34.8	66	10	28	28	29	83	72	74	.160	.161	.170	1.99	.63	1.7	7.9	9.0	8.2	8.5
March	29.24	29.73	28.71	40.0	50.2	50.4	55.0	36.0	45.8	81	17	34	34	36	79	55	60	.206	.205	.224	3.09	1.27	1.0	6.2	5.3	6.2	5.6
April	29.34	29.72	28.90	45.6	56.8	57.6	61.3	43.8	52.6	82	27	37	39	37	71	52	48	.238	.258	.240	3.23	1.54	1.6	6.3	6.5	5.9	6.0
May	29.24	29.55	28.69	55.5	65.9	66.3	70.7	52.8	61.8	85	38	48	50	50	78	59	59	.365	.380	.397	7.72	2.13	.0	5.9	7.2	6.6	6.7
June	29.34	29.67	29.03	64.2	75.5	75.5	79.3	60.8	70.0	92	54	57	57	58	78	54	56	.476	.484	.493	6.43	2.36	.0	5.1	6.3	5.0	5.5
July	29.30	29.46	29.03	70.2	83.2	83.4	87.9	67.8	77.8	97	60	64	64	64	80	55	54	.591	.613	.609	4.83	1.30	.0	5.1	4.4	4.1	4.4
August	29.35	29.54	29.10	70.4	82.5	82.0	86.8	68.1	77.4	96	58	64	65	66	81	57	60	.612	.628	.656	2.98	1.47	.0	4.0	4.0	4.6	4.1
September	29.36	29.57	28.91	60.1	73.1	71.9	78.4	58.3	68.4	94	41	56	57	58	86	58	65	.469	.487	.522	5.74	3.63	.0	4.2	5.1	4.7	4.9
October	29.42	29.78	28.77	51.8	65.8	63.5	70.5	49.5	60.0	87	34	44	45	46	76	49	56	.299	.310	.331	1.59	.91	T	2.9	3.5	2.9	3.4
November	29.36	29.85	28.52	37.1	46.0	43.7	49.9	33.5	41.7	78	11	30	30	30	73	55	59	.179	.188	.185	2.71	1.48	1.0	5.0	4.4	4.1	4.8
December	29.39	29.90	28.96	26.3	32.0	30.4	35.5	21.9	28.7	49	0	20	22	21	77	64	68	.117	.123	.122	.74	.32	2.7	7.1	7.0	4.5	6.5
Year	29.35	30.02	28.49	47.8	57.7	57.2	62.3	44.8	53.6	97	−3	42	43	43	79	59	61	.318	.329	.339	43.75	3.63	13.3	5.5	5.8	5.2	5.6

DAYTON, OHIO

[ϕ=39°46′ N.; λ=84°12′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.04	29.63	28.22	28.1	31.6	32.5	38.2	24.2	31.2	60	3	23	23	---	78	69	---	0.127	0.132	-----	1.18	0.36	3.2	6.8	6.9	----	6.9
February	29.20	29.72	28.56	35.8	41.8	40.7	46.1	31.4	38.8	70	13	30	32	---	80	70	---	.178	.200	-----	2.75	1.07	3.7	8.9	8.7	----	8.5
March	29.00	29.40	28.54	42.7	51.4	49.0	57.5	37.5	47.5	82	19	37	38	---	80	62	---	.242	.249	-----	6.23	1.71	.2	7.5	6.4	----	6.5
April	29.07	29.38	28.55	48.2	60.0	57.9	64.3	45.3	54.8	82	30	40	40	---	73	49	---	.260	.266	-----	2.78	1.60	T	5.2	5.6	----	5.5
May	28.98	29.26	28.42	57.0	69.1	66.5	72.5	52.5	62.5	85	35	50	50	51	79	52	61	.382	.386	.403	9.01	2.13	.0	4.8	6.0	6.6	5.7
June	29.06	29.34	28.76	65.2	75.1	75.0	79.0	60.5	69.8	89	53	57	55	56	76	52	54	.478	.450	.465	4.82	2.01	.0	5.7	6.6	5.9	5.9
July	29.03	29.17	28.82	69.7	81.3	80.2	84.6	65.7	75.2	93	58	63	63	63	80	55	57	.584	.574	.574	5.87	1.86	.0	4.5	5.4	4.5	5.0
August	29.10	29.28	28.93	69.4	81.9	80.4	85.3	66.0	75.6	91	56	64	63	64	84	55	59	.608	.585	.611	1.63	.50	.0	3.7	4.9	4.0	4.5
September	29.06	29.30	28.50	60.5	70.3	71.0	76.3	58.5	67.4	90	46	56	56	55	84	59	60	.456	.469	.459	4.00	1.90	.0	5.8	6.1	4.6	5.8
October	29.17	29.48	28.74	47.6	65.0	62.1	68.8	44.8	56.8	84	31	42	42	42	80	46	50	.269	.280	.277	.86	.43	.0	2.4	2.5	2.7	2.6
November	29.14	29.44	28.62	39.5	50.2	48.4	55.5	36.4	46.0	76	12	33	34	34	78	56	59	.207	.210	.207	4.68	3.18	3.3	4.8	5.6	4.5	4.7
December	29.10	29.68	28.65	30.9	37.1	37.0	41.6	28.4	35.0	57	7	25	26	27	77	63	66	.150	.146	.154	1.31	.62	2.1	7.1	6.8	6.6	7.0
Year	29.08	29.72	28.22	49.6	59.6	58.4	64.1	45.9	55.0	93	3	43	44	---	79	57	---	.328	.329	-----	45.17	3.18	12.5	5.6	6.0	----	5.7

DEL RIO, TEX.

[ϕ=29°20′ N.; λ=100°53′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.07	29.66	28.67	47.2	56.4	58.3	61.9	44.3	53.1	85	28	41	41	42	81	60	57	0.276	0.280	0.280	1.38	0.95	0.0	5.0	5.7	5.3	5.6
February	29.08	29.41	28.72	53.9	62.2	66.4	68.0	52.6	60.3	81	32	49	50	49	85	66	55	.378	.387	.373	.30	.15	.0	6.9	7.6	6.3	7.2
March	28.87	29.35	28.52	59.6	73.0	77.8	79.9	57.5	68.7	92	47	50	52	50	73	52	42	.391	.411	.384	.35	.22	.0	5.2	4.1	3.7	4.8
April	28.93	29.37	28.36	59.2	72.6	76.4	78.9	57.8	68.4	91	38	52	52	51	78	52	45	.428	.441	.424	1.10	.61	.0	5.7	4.6	3.9	4.7
May	28.83	29.20	28.46	69.5	81.1	86.4	88.0	68.2	78.1	98	55	62	60	57	78	52	40	.579	.553	.493	.55	.28	.0	5.8	3.0	3.8	5.0
June	28.90	29.12	28.67	75.6	88.4	92.0	93.8	74.9	84.4	100	72	67	64	60	76	46	37	.665	.600	.534	.60	.21	.0	4.6	4.4	3.9	4.6
July	28.91	29.08	28.75	76.8	88.9	92.3	95.2	76.0	85.6	100	71	68	66	61	76	48	39	.695	.635	.555	2.78	1.94	.0	3.9	4.0	4.3	4.1
August	28.95	29.12	28.71	76.0	88.6	91.1	93.5	75.5	84.5	98	68	68	66	61	77	47	39	.690	.630	.546	.37	.33	.0	3.1	2.9	2.8	2.8
September	28.96	29.21	28.77	70.4	86.3	87.8	91.3	69.6	80.4	98	60	62	58	56	75	40	35	.568	.496	.456	.36	.34	.0	3.4	4.0	3.6	3.7
October	29.01	29.26	28.74	63.1	80.8	81.9	85.5	62.1	73.8	95	44	51	52	48	66	38	32	.397	.399	.347	.23	.22	.0	3.5	2.3	1.9	2.6
November	29.07	29.70	38.53	49.5	63.5	65.1	69.8	46.9	58.4	89	30	36	35	35	60	37	34	.259	.249	.242	T	T	.0	4.9	4.0	2.9	4.0
December	29.08	29.64	28.83	44.5	57.8	60.2	64.0	42.2	53.1	80	32	33	34	34	65	46	42	.202	.215	.208	.89	.58	.0	4.1	4.5	3.5	4.3
Year	28.97	29.70	28.36	62.1	75.0	78.0	80.8	60.6	70.7	100	28	53	52	50	74	49	41	.461	.441	.404	8.91	1.94	.0	4.7	4.3	3.8	4.4

DENVER, COLO.

[ϕ=39°45′ N.; λ=105°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	24.70	25.05	24.32	30.3	40.7	37.9	46.2	23.6	34.9	67	−3	14	15	17	50	38	45	0.082	0.086	0.094	0.77	0.29	10.4	3.3	5.1	3.8	5.0
February	24.72	25.00	24.30	29.1	44.9	42.9	48.9	25.5	37.2	66	2	15	13	16	56	32	36	.085	.075	.090	.43	.26	6.7	3.5	5.1	5.9	5.1
March	24.55	24.98	24.01	35.8	48.6	50.0	53.7	31.4	42.6	72	21	23	20	19	61	37	34	.122	.109	.108	2.12	.36	16.4	4.5	5.8	6.2	5.7
April	24.66	25.11	24.12	39.0	55.2	57.4	62.1	36.1	49.1	83	12	28	26	27	67	38	38	.160	.148	.152	2.66	.96	7.3	5.2	5.8	6.5	6.0
May	24.67	25.03	24.25	48.0	61.7	62.0	66.7	45.3	56.0	86	29	38	35	34	70	43	41	.236	.209	.206	4.88	1.66	2.7	4.8	6.4	6.7	6.1
June	24.76	24.98	24.45	57.8	75.1	72.9	79.3	56.2	67.8	91	49	46	45	46	67	37	41	.320	.302	.315	1.65	.57	.0	5.2	5.7	8.0	6.2
July	24.84	25.07	24.59	61.1	80.7	80.5	84.9	59.8	72.4	95	54	48	43	42	63	29	30	.324	.286	.285	.56	.19	.0	2.4	3.2	6.0	4.0
August	24.81	25.07	24.54	64.3	82.0	81.3	86.5	62.8	74.6	100	55	47	42	44	56	30	33	.330	.289	.309	.95	.69	.0	3.8	3.6	6.5	4.5
September	24.86	25.04	24.65	55.2	72.7	71.9	76.4	54.3	65.4	86	48	45	40	42	70	37	39	.305	.266	.283	3.42	1.79	.0	2.5	3.0	5.0	3.7
October	24.79	25.07	24.41	46.4	64.1	62.5	68.5	43.3	55.9	82	27	30	29	31	54	29	33	.170	.163	.180	.12	.06	.5	3.5	4.4	6.5	4.8
November	24.70	25.20	24.24	30.5	42.9	41.0	48.6	25.6	37.1	65	9	17	18	20	59	40	44	.095	.097	.108	1.27	.54	15.3	3.3	4.7	4.8	4.4
December	24.71	24.95	24.30	29.8	38.7	37.4	44.1	23.7	33.9	63	3	17	19	20	61	48	51	.094	.101	.104	.62	.17	9.3	4.1	5.1	4.8	5.2
Year	24.73	25.20	24.01	43.9	58.9	58.1	63.8	40.6	52.2	100	−3	31	29	30	61	36	39	.194	.178	.186	19.46	1.79	68.6	3.8	4.8	5.9	5.1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DAVENPORT, IOWA

[H=619 ft.; H_b=606 ft.; h_t=66 ft.; h_r=60 ft.; h_a=161 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	10.5	NW.	33	NW.	1	9	9	2	3	6	8	6	19	0	10	6	15	10	6	10	5	0	6	3	12	0	28	0	1
February	11.1	NE.	27	W.	0	4	11	8	5	4	8	5	11	0	2	3	23	10	9	4	3	0	6	0	4	0	22	3	0
March	11.7	SW.	33	SW.	1	6	9	2	4	10	12	9	10	0	11	9	11	13	10	4	1	0	6	2	2	0	11	5	0
April	12.5	SW.	34	W.	1	4	9	0	7	6	14	5	15	0	6	12	12	8	7	3	2	0	2	0	0	0	9	4	1
May	10.4	S.	34	SW.	2	2	14	3	10	9	8	7	9	0	4	14	13	15	14	0	0	1	6	1	0	0	0	12	0
June	9.5	SW.	34	SW.	1	4	11	1	6	8	14	4	12	0	8	12	10	14	13	0	0	0	2	0	0	1	0	8	0
July	8.0	SW.	32	NE.	2	4	12	4	7	6	17	3	9	0	12	12	7	13	11	0	0	0	8	1	0	12	0	13	0
August	8.6	S.	31	NW.	0	12	3	5	6	14	13	3	5	1	15	8	8	6	6	0	0	0	7	0	0	10	0	7	1
September	8.3	NE.	32	N.	1	9	13	3	7	3	9	5	9	2	12	10	8	12	10	0	0	0	13	1	0	3	0	7	0
October	9.2	SW.	29	NW.	0	3	5	6	6	11	16	10	5	0	18	8	5	3	2	1	0	0	7	1	0	0	0	2	0
November	11.4	SW.	35	SE.	1	8	3	3	5	13	11	11	6	0	11	10	9	5	5	5	2	0	5	0	3	0	14	1	0
December	10.0	NW.	32	NW.	1	6	3	2	7	6	8	11	19	0	6	7	18	7	5	7	4	0	7	1	8	0	26	0	0
Year	10.1	SW.	35	SE.	11	71	102	39	73	96	138	79	129	3	115	111	139	116	98	34	17	1	75	10	29	26	110	62	3

DAYTON, OHIO

[H=742 ft.; H_b=900 ft.; h_t=186 ft.; h_r=179 ft.; h_a= 213 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
						(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)															
January	10.2	SW.	36	SW.	2	1	2	5	1	3	10	5	4	0	4	10	17	9	6	13	5	0	3	0	6	0	25	0	0
February	10.1	SW.	27	SW.	0	3	5	2	4	3	6	1	4	0	1	6	21	10	9	8	2	0	6	1	5	0	14	1	0
March	10.9	SW.	32	S.	1	1	3	6	0	5	11	8	2	0	8	8	15	18	15	4	1	1	5	0	0	0	8	7	2
April	10.9	SW.	39	SW.	1	5	4	3	0	5	10	1	2	0	8	12	10	10	6	2	1	0	3	0	0	0	4	4	1
May	9.9	SW.	42	SW.	4	3	8	4	9	14	8	14	2	0	6	18	7	14	12	0	0	2	3	0	0	0	0	8	0
June	9.1	SW.	30	NW.	0	9	8	2	2	10	16	6	4	3	9	9	12	9	8	0	0	0	1	0	0	0	0	3	0
July	7.6	SW.	32	SW.	1	10	11	2	2	13	13	5	3	3	13	11	7	15	12	0	0	0	5	0	0	4	0	10	1
August	7.2	SW.	29	SW.	0	19	5	1	4	15	12	4	1	1	13	12	6	9	7	0	0	0	5	1	0	5	0	8	0
September	8.8	SW.	27	SW.	0	10	11	5	2	8	16	3	5	0	8	11	11	6	6	0	0	0	6	1	0	1	0	4	0
October	7.7	N.	28	S.	0	16	10	0	4	11	12	2	4	3	22	5	4	4	3	0	0	0	8	2	0	0	1	2	0
November	12.2	S.	38	SE.	2	5	3	2	8	19	16	5	2	0	12	7	11	10	9	5	2	0	3	0	4	0	11	2	0
December	10.7	SW.	37	W.	2	5	4	5	8	12	9	13	0	0	8	4	19	7	5	6	2	0	4	1	3	0	20	0	0
Year	9.6	SW.	42	SW.	13	87	74	37	44	118	139	62	39	10	112	113	140	121	98	38	13	3	52	6	18	10	83	49	4

DEL RIO, TEX.

[H=957 ft.; H_b=960 ft.; h_t=63 ft.; h_r=56 ft.; h_a=71 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.4	SE.	35	NW.	1	8	3	12	10	7	1	10	10	1	9	9	13	5	5	0	0	0	2	1	0	0	1	2	0
February	9.2	SE.	32	NW.	1	7	3	6	29	6	0	1	2	2	4	6	18	7	2	0	0	0	2	1	0	0	1	2	0
March	10.3	SE.	31	NW.	0	3	0	14	23	4	0	2	12	4	13	10	8	5	2	0	0	0	3	1	0	2	0	5	0
April	11.6	SE.	40	NW.	4	5	1	18	22	3	0	1	8	2	12	11	7	5	5	0	0	0	0	0	0	2	0	4	0
May	11.7	SE.	28	NW.	0	2	3	23	30	1	0	0	2	1	10	14	7	7	3	0	0	1	0	0	0	16	0	11	0
June	11.6	SE.	30	SE.	0	0	0	19	39	2	0	0	0	0	13	11	6	8	5	0	0	0	0	0	0	28	0	1	0
July	9.2	SE.	27	E.	0	4	2	27	21	4	0	0	3	1	17	8	6	7	5	0	0	0	0	0	0	27	0	7	0
August	9.9	SE.	23	E.	0	0	3	31	26	1	1	0	0	0	20	8	3	2	2	0	0	0	0	0	0	28	0	2	0
September	8.1	SE.	24	N.	0	1	3	23	19	10	0	0	1	3	14	11	5	3	1	0	0	0	0	0	0	19	0	0	0
October	8.5	SE.	27	NW.	0	2	2	21	23	8	1	0	2	3	17	12	2	2	1	0	0	0	0	0	0	7	0	1	0
November	9.6	SE.	32	NW.	2	6	1	14	24	2	1	1	10	1	13	11	6	0	0	0	0	0	0	0	0	0	3	0	0
December	7.6	SE.	30	W.	0	15	0	6	16	2	0	3	14	6	17	4	10	2	2	0	0	0	7	4	0	0	3	1	0
Year	9.6	SE.	40	NW.	8	53	21	214	282	50	4	18	64	24	159	115	91	53	33	0	0	1	14	7	0	129	8	36	0

DENVER, COLO.

[H=5,221 ft.; H_b=5,292 ft.; h_t=106 ft.; h_r=98 ft.; h_a=113 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.0	S.	30	NE.	0	9	7	2	3	15	8	5	13	0	9	15	7	6	4	9	6	0	1	0	3	0	25	0	0
February	7.7	S.	25	SW.	0	13	9	2	3	17	3	2	6	1	11	6	11	4	3	5	4	0	0	0	3	0	19	0	0
March	9.1	S.	32	NE.	2	7	8	3	6	16	6	6	10	0	7	16	8	16	11	14	11	0	2	0	0	0	16	0	0
April	9.3	S.	41	N.	2	12	8	1	6	17	6	3	7	0	6	13	11	10	7	4	3	0	0	0	3	0	9	1	0
May	8.2	S.	25	NW.	0	8	5	3	4	14	5	8	15	0	4	16	11	13	7	2	2	3	0	0	0	0	2	12	0
June	7.9	S.	30	S.	0	7	6	3	5	22	7	4	6	0	5	16	9	15	9	0	0	3	0	0	0	1	0	15	0
July	7.4	S.	23	NE.	1	11	7	3	8	21	7	4	1	0	11	17	3	9	5	0	0	0	9	0	0	6	0	15	0
August	7.6	S.	28	SE.	0	4	4	1	8	30	7	3	5	0	11	14	6	8	5	0	0	0	1	0	0	11	0	16	1
September	7.0	S.	24	N.	0	9	4	5	3	22	4	5	6	2	18	5	7	8	7	0	0	0	5	1	0	0	0	5	0
October	7.6	S.	23	S.	0	9	8	0	5	26	7	0	6	1	10	12	9	5	1	2	1	0	1	0	0	0	2	3	0
November	8.4	S.	26	N.	0	10	5	1	3	17	7	8	9	0	15	9	6	8	6	9	7	0	0	0	4	0	23	0	0
December	8.0	S.	27	NE.	0	10	5	2	5	21	6	7	6	0	8	15	8	7	5	10	6	0	4	2	4	0	24	0	0
Year	8.0	S.	41	N.	5	109	76	26	59	238	73	55	90	4	115	154	96	109	70	55	40	6	14	3	17	18	120	67	1

[1] Taken from 7:30 a. m. observation, Jan. to April, incl.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DES MOINES, IOWA

[ϕ=41°35′ N.; λ=93°37′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.12	29.71	28.57	19.7	26.7	25.8	31.2	14.1	22.6	50	−6	15	17	17	82	66	68	0.097	0.105	0.104	0.83	0.33	9.0	5.6	5.7	6.8	6.2
February	29.24	29.69	28.75	27.3	33.9	35.2	40.2	23.5	31.8	63	6	24	26	29	85	72	77	.133	.148	.170	.46	.21	2.0	6.8	7.4	8.6	7.8
March	28.96	29.46	28.39	38.1	50.6	50.3	56.2	35.3	45.8	86	18	32	34	34	80	58	57	.188	.210	.204	2.24	.59	T	5.8	6.4	6.2	6.1
April	29.07	29.45	28.63	45.0	56.5	56.7	60.2	43.0	51.6	81	25	38	38	40	76	52	56	.250	.261	.277	4.21	[1] 1.95	1.9	6.3	7.1	6.0	6.2
May	28.97	29.29	28.35	54.4	66.1	66.7	70.4	51.7	61.0	84	35	49	49	50	83	58	58	.368	.384	.392	5.21	1.40	T	6.7	7.7	7.3	7.3
June	29.07	29.38	28.71	64.4	77.1	78.2	81.3	61.1	71.2	97	51	57	58	58	79	54	51	.483	.500	.490	2.33	.53	.0	6.2	5.7	4.7	5.7
July	29.03	29.21	28.73	70.8	85.7	86.9	89.8	68.0	78.9	100	61	63	64	64	78	51	48	.587	.617	.609	2.49	1.42	.0	4.1	4.1	3.4	3.6
August	29.07	29.30	28.77	69.3	84.8	83.9	88.5	66.8	77.6	101	58	64	64	65	82	52	55	.592	.616	.631	3.08	1.08	.0	3.6	3.8	3.6	3.9
September	29.11	29.37	28.74	59.2	76.9	75.3	80.6	57.3	69.0	97	39	55	56	57	86	50	54	.455	.469	.487	2.55	1.06	.0	3.4	4.3	3.4	3.6
October	29.14	29.47	28.60	50.9	70.1	66.6	74.8	48.3	61.6	92	31	44	44	45	77	42	47	.305	.308	.315	1.33	.53	.8	3.7	3.3	2.5	3.1
November	29.09	29.62	28.41	34.0	44.5	41.9	48.9	29.5	39.2	82	8	27	30	29	76	56	61	.164	.181	.166	2.14	1.47	2.0	4.5	5.3	4.7	5.0
December	29.13	29.59	28.68	25.5	32.2	31.0	36.8	20.2	28.5	53	−1	21	22	21	83	64	66	.121	.122	.121	.74	.30	4.8	4.5	5.2	5.9	5.2
Year	29.08	29.71	28.35	46.6	58.8	58.2	63.2	43.2	53.2	101	−6	41	42	42	81	56	58	.312	.327	.330	27.61	[1] 1.95	20.5	5.1	5.5	5.3	5.3

DETROIT, MICH.[2]

[ϕ=42°24′ N.; λ=83°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.29	29.96	28.32	22.5	26.4	24.8	30.4	18.2	24.3	52	0	18	19	19	81	70	76	0.102	0.106	0.106	0.87	0.31	4.4	8.6	8.4	7.0	8.6
February	29.48	30.07	28.67	29.1	33.7	32.8	38.2	24.2	31.2	63	4	25	26	26	83	73	76	.145	.156	.157	4.95	1.46	4.8	8.6	8.5	8.7	8.6
March	29.25	29.66	28.74	36.8	46.4	42.8	51.2	32.0	41.6	81	9	31	34	33	80	63	68	.197	.219	.205	4.40	1.11	2.4	6.4	6.4	5.5	6.2
April	29.32	29.72	28.83	43.5	53.0	50.7	57.3	39.0	48.2	84	23	36	37	37	74	56	60	.226	.239	.237	1.86	.58	3.9	7.0	7.0	6.6	6.9
May	29.25	29.60	28.65	53.7	63.2	61.1	67.8	49.1	58.4	82	34	46	48	48	77	60	64	.331	.356	.352	4.42	1.14	.0	6.4	7.1	6.6	6.8
June	29.32	29.61	29.02	63.7	73.8	71.8	77.4	57.7	67.6	92	48	55	54	54	75	52	55	.448	.436	.430	2.28	1.32	.0	5.8	6.9	6.4	6.2
July	29.28	29.46	29.00	69.4	79.8	78.1	83.5	64.4	74.0	92	55	62	61	61	79	55	58	.569	.548	.547	4.26	1.66	.0	5.6	6.5	5.2	5.9
August	29.34	29.50	29.04	69.3	80.4	79.2	84.7	65.0	74.8	92	55	63	62	63	81	55	58	.591	.570	.589	2.48	1.16	.0	3.6	5.1	4.1	4.9
September	29.34	29.68	28.85	56.3	67.7	63.4	70.7	52.8	61.8	87	42	52	52	52	86	60	68	.401	.405	.406	1.51	.64	.0	5.6	6.1	5.3	5.9
October	29.43	29.82	28.88	47.6	62.8	56.4	66.4	43.7	55.0	85	33	43	45	44	84	54	66	.283	.303	.298	.94	.38	.0	4.5	3.4	2.5	4.1
November	29.38	29.74	28.90	37.4	47.0	44.0	51.7	33.6	42.6	75	12	32	33	33	82	59	64	.198	.200	.201	1.22	.67	2.7	6.5	6.8	5.8	6.8
December	29.34	29.89	28.78	28.0	32.0	31.2	35.6	24.9	30.2	47	7	23	24	25	82	70	76	.132	.133	.140	1.54	.61	6.1	7.6	8.9	7.6	8.8
Year	29.33	30.07	28.32	46.4	55.5	53.0	59.6	42.0	50.8	92	0	40	41	41	80	61	66	.302	.306	.306	30.73	1.66	24.3	6.4	6.8	5.9	6.6

DEVILS LAKE, N. DAK.

[ϕ=48°07′ N.; λ=98°52′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.43	28.89	27.88	2.7	8.0	7.3	13.4	−4.1	4.6	34	−31	−1	5	5	86	85	89	0.049	0.059	0.060	0.27	0.08	2.5	5.5	7.5	6.0	6.9
February	28.58	29.18	28.15	1.5	9.8	8.6	14.1	−3.5	5.3	40	−22	−1	6	7	87	84	92	.048	.065	.067	.47	.15	5.0	5.6	6.2	6.7	6.2
March	28.25	28.71	27.58	25.6	39.4	37.2	43.1	22.9	33.0	65	−1	21	24	25	84	56	63	.121	.135	.137	.51	.48	.1	3.9	5.3	6.3	5.8
April	28.40	29.05	27.85	32.0	48.9	49.1	53.6	29.3	41.4	74	11	26	27	28	79	46	48	.152	.162	.166	2.79	2.43	.1	4.8	5.4	5.4	6.2
May	28.35	28.60	27.76	43.4	56.6	57.3	60.3	40.8	50.6	77	27	39	40	39	85	56	54	.245	.257	.245	2.21	.51	T	6.7	7.7	6.6	7.1
June	28.38	28.65	27.98	54.3	70.5	69.9	75.1	50.7	62.9	95	37	49	49	50	84	52	53	.364	.375	.378	1.36	.67	.0	5.9	6.5	6.4	6.1
July	28.38	28.60	28.03	59.7	76.0	77.3	80.9	56.9	68.9	95	46	56	55	56	86	52	50	.447	.449	.459	4.78	1.58	.0	5.7	6.0	4.2	5.2
August	24.34	28.78	27.92	57.2	79.1	79.0	83.5	54.7	69.1	93	42	51	48	49	82	36	37	.386	.350	.355	1.74	1.13	.0	3.6	3.4	3.9	3.5
September	28.47	28.72	28.21	48.1	70.6	69.4	74.4	46.5	60.5	94	29	41	43	42	77	40	41	.268	.287	.285	.02	.02	.0	3.4	5.0	4.4	4.5
October	28.42	28.80	27.97	40.7	57.6	53.5	60.9	38.0	49.4	84	20	33	36	34	76	48	52	.198	.221	.209	.38	.20	T	4.1	4.5	4.0	4.5
November	28.37	28.99	27.78	18.4	27.5	23.4	30.9	11.4	21.2	58	−14	16	20	18	89	74	80	.098	.115	.107	.59	.27	7.4	6.8	7.1	4.8	6.7
December	28.36	28.78	27.87	12.6	19.1	17.2	22.8	7.6	15.2	41	−31	10	14	14	88	79	85	.077	.091	.092	.43	.13	5.6	6.1	6.7	6.1	6.7
Year	28.39	29.18	27.58	33.0	46.9	45.8	51.1	29.3	40.2	95	−31	28	31	31	84	59	62	.204	.214	.213	15.55	2.43	20.7	5.2	6.0	5.4	5.8

DODGE CITY, KANS.

[ϕ=37°45′ N.; λ=100°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.41	27.80	27.00	26.2	43.1	41.3	48.5	23.0	35.8	67	1	16	21	17	64	41	37	0.093	0.114	0.098	0.01	0.01	0.1	3.7	3.0	2.7	4.1
February	27.46	27.81	27.08	30.4	43.2	43.7	49.2	26.4	37.8	78	6	20	24	24	69	52	53	.118	.136	.139	1.08	(3) .61	4.1	4.9	6.8	6.2	6.6
March	27.22	27.68	26.68	41.0	55.6	56.1	61.8	37.3	49.6	83	21	32	32	32	72	45	47	.186	.186	.193	1.63	1.00	.1	5.3	4.3	4.2	5.2
April	27.33	27.68	26.82	45.0	58.7	59.7	64.4	41.8	53.1	86	21	40	41	40	84	55	53	.271	.279	.275	3.20	1.24	14.3	4.0	6.2	4.8	5.2
May	27.27	27.58	26.91	54.6	69.5	69.7	73.5	52.7	63.1	91	33	50	49	51	86	52	54	.375	.368	.390	4.30	2.01	.0	6.3	4.8	4.8	5.3
June	27.38	27.66	27.02	64.4	81.3	81.0	85.0	61.6	73.3	96	52	59	57	58	82	46	48	.503	.483	.490	1.50	.61	.0	5.7	4.7	4.8	4.8
July	27.38	27.57	27.11	70.3	89.9	88.0	93.4	68.3	80.8	103	61	61	56	56	73	35	37	.532	.464	.459	1.71	.98	.0	3.9	3.9	4.3	3.7
August	27.37	27.66	27.13	71.8	92.5	91.5	96.4	70.7	83.6	103	60	58	56	55	63	32	32	.487	.448	.436	2.96	2.73	.0	2.6	1.5	2.5	1.9
September	27.44	27.68	27.20	61.4	82.2	79.0	86.0	60.0	73.0	94	43	53	51	51	74	37	41	.422	.398	.401	2.73	1.52	.0	3.3	3.0	3.0	3.0
October	27.45	27.76	27.10	52.0	75.0	69.9	77.9	49.3	63.6	94	22	40	38	39	64	29	35	.265	.243	.251	.18	.15	.0	2.2	2.4	2.2	2.5
November	27.39	27.91	26.88	31.5	51.8	46.8	56.4	26.6	41.5	78	5	18	22	18	57	33	33	.110	.124	.106	.07	.03	.2	3.0	3.1	3.3	3.5
December	27.43	27.85	27.02	28.6	44.7	41.0	49.3	24.0	36.6	63	2	17	21	22	60	39	46	.097	.113	.117	.06	.06	1.2	3.8	3.6	3.8	3.9
Year	27.33	27.91	26.68	48.1	65.6	64.0	70.2	45.1	57.6	103	1	39	39	39	71	41	43	.288	.280	.280	19.43	2.73	20.0	4.1	3.9	3.9	4.1

[1] From defective record. [2] Observations taken at airport. [3] Estimated.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DES MOINES, IOWA

[H=800 ft.; H_b=860 ft.; H_t = 5 ft.; h_r= 3 ft.; h_a= 99 ft.]

Month	Wind: By self-register: Average hourly velocity	Wind: By self-register: Prevailing direction	Wind: By self-register: Maximum velocity	Wind: By self-register: Direction at time of maximum velocity	Wind: By self-register: Days with 32 miles or over	Wind: Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	Precipitation: 0.04 inch or over	Snow: T or more	Snow: 0.01 inch or more melted	Hail	Fog: Light	Fog: Dense	Maximum temp.: 32° or below	Maximum temp.: 90° or above	32° Minimum temperature or below	Electricity: Thunderstorm	Electricity: Aurora
	Mi.		*Mi.*																										
January	10.5	NW.	37	NW.	2	11	1	11	11	3	6	1	18	0	8	8	15	10	6	17	9	0	6	2	15	0	30	0	0
February	10.3	NW.	25	NW.	0	10	3	11	8	4	3	4	12	1	4	5	19	10	3	10	4	0	10	3	9	0	23	1	0
March	11.4	S.	36	NW.	1	7	5	10	3	13	8	3	12	1	9	10	12	11	9	3	0	2	5	1	1	0	13	7	0
April	11.6	S.	30	N.	0	7	5	7	7	13	5	4	11	1	7	11	12	12	10	5	3	0	2	0	0	0	9	9	0
May	9.7	NW.	33	SW.	1	10	2	11	12	7	2	5	11	2	2	12	17	15	11	1	0	3	8	2	0	0	0	7	0
June	9.0	SE.	25	S.	0	7	2	6	13	13	5	2	11	1	8	11	11	10	10	0	0	0	0	0	0	5	0	8	0
July	8.0	E.	40	SW.	2	8	3	7	14	8	7	4	10	1	17	9	5	10	5	0	0	0	4	0	0	18	0	8	0
August	8.6	S.	30	S.	0	11	1	8	16	18	2	1	3	2	14	10	7	7	6	0	0	1	7	0	0	14	0	7	0
September	7.7	SW.	29	SW.	0	9	4	2	10	9	6	3	12	5	15	11	4	7	6	0	0	0	4	0	0	5	0	5	2
October	9.4	SE.	26	NW.	0	5	3	6	16	13	7	4	8	0	20	6	5	6	5	2	2	0	1	0	0	1	1	5	0
November	10.8	N.	27	S.	0	19	0	2	7	8	7	4	13	0	10	12	8	6	5	6	2	1	0	0	4	0	19	1	0
December	10.1	NW.	30	NW.	0	7	3	2	16	2	9	4	19	0	10	13	8	5	4	7	2	0	7	3	6	0	29	0	0
Year	9.7	NW.	40	SW.	6	111	32	83	133	111	67	39	140	14	124	118	123	109	80	51	22	7	54	11	35	43	124	58	2

DETROIT, MICH.[1]

[H=619 ft.; H_b=626 ft.; h_t= 5 ft.; h_r= 4 ft.; h_a= 78 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.1	SW.	34	SW.	2	3	6	6	6	5	13	10	13	0	0	6	25	12	7	23	9	0	9	0	18	0	30	0	0
February	11.1	NW.	29	W.	0	6	8	7	8	2	10	8	7	0	2	2	24	15	10	14	7	0	11	0	9	0	25	3	0
March	12.5	SW.	37	SW.	1	2	8	3	3	14	17	8	7	0	6	12	13	16	12	7	3	0	15	1	2	0	18	4	2
April	12.4	SW.	34	SW.	1	6	11	2	6	4	19	3	9	0	2	14	14	10	8	7	4	0	10	0	0	0	9	3	0
May	9.6	SE.	32	SW.	1	4	4	9	12	8	9	9	7	0	5	12	14	12	9	0	0	0	12	0	0	0	0	5	1
June	9.5	NW.	30	SW.	0	7	7	0	7	9	7	12	11	0	7	10	13	9	8	0	0	0	5	0	0	1	0	2	0
July	7.8	SW.	26	SW.	0	2	11	1	6	8	15	7	12	0	5	18	8	10	9	0	0	0	10	0	0	2	0	10	1
August	8.5	NW.	29	SW.	0	4	5	1	5	5	17	4	20	1	10	14	7	5	5	0	0	0	8	0	0	4	0	4	1
September	8.6	NW	24	SW.	0	9	8	10	5	1	13	2	11	1	10	5	15	8	7	0	0	0	11	1	0	0	0	2	1
October	8.2	SW.	29	NW.	0	5	8	3	10	12	12	7	5	0	15	9	7	5	4	0	0	0	14	3	0	0	0	1	2
November	11.2	SW.	33	SW.	1	8	1	1	10	15	16	5	4	0	5	9	16	10	6	9	3	0	11	1	4	0	15	0	0
December	11.2	SW.	42	SW.	1	3	1	2	13	5	17	5	16	0	1	2	28	14	9	20	11	0	20	0	9	0	23	0	0
Year	10.1	SW.	42	SW.	7	59	78	45	91	88	165	80	122	2	68	113	184	126	94	80	37	0	136	6	42	7	120	34	8

DEVILS LAKE, N. DAK.

[H=1,472 ft.; H_b=1,478 ft.; h_t= 11 ft.; h_r= 4 ft.; h_a=44 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.3	NW.	25	N.	0	12	5	1	8	8	8	6	14	0	7	6	18	9	3	19	9	0	6	1	30	0	31	0	9
February	9.0	NW.	29	NE.	0	11	8	2	11	4	9	2	8	1	7	8	13	5	5	15	5	0	9	6	25	0	28	0	4
March	10.2	NW.	26	NW.	0	6	4	3	9	6	11	13	10	0	6	16	9	4	2	12	2	0	5	1	7	0	26	0	10
April	10.4	NW.	35	NW.	1	8	9	5	3	7	6	4	17	1	9	8	13	10	5	5	1	1	0	0	3	0	16	1	3
May	10.5	NW.	31	NW.	0	10	4	10	8	6	6	3	14	1	5	10	16	15	8	2	1	1	2	1	0	0	4	2	6
June	9.0	SE.	30	NW.	0	3	9	5	10	8	6	3	14	2	8	9	13	9	7	0	0	0	1	1	0	2	0	5	2
July	7.3	NW.	27	NW.	0	8	6	5	4	9	10	12	7	1	8	14	9	11	10	0	0	0	0	0	0	2	0	9	6
August	8.8	SW.	26	SE.	0	8	7	4	4	11	9	10	7	2	18	8	5	8	6	0	0	1	1	0	0	7	0	11	11
September	8.0	E.	20	SW.	0	11	7	9	5	6	6	6	7	3	14	10	6	1	0	0	0	0	4	1	0	2	2	0	8
October	10.6	NW.	28	NW.	0	6	10	6	8	7	5	12	8	0	14	8	9	6	3	1	0	0	2	0	0	0	7	1	5
November	10.0	NW.	30	NW.	0	3	0	4	5	8	7	8	19	0	5	10	15	8	5	19	7	0	4	2	15	0	29	0	10
December	9.5	NW.	34	N.	1	4	4	2	7	10	7	12	15	1	9	4	18	9	5	22	9	0	4	0	23	0	31	0	10
Year	9.3	NW.	35	NW.	2	90	79	56	82	90	90	91	140	12	110	111	144	95	59	95	34	3	38	13	103	13	174	29	84

DODGE CITY, KANS.

[H=2,522 ft.; H_b=2,509 ft.; h_t=10 ft.; h_r=3 ft.; h_a=86 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.8	NW.	38	NW.	4	19	4	1	4	7	7	8	12	0	16	7	8	1	0	5	1	0	1	0	3	0	27	0	1
February	11.6	N.	35	S.	2	11	8	4	6	3	8	8	8	0	4	12	12	6	3	5	3	0	8	0	6	0	19	1	0
March	13.9	SW.	35	NW.	4	11	8	2	8	12	9	5	7	0	14	7	10	6	5	3	1	0	6	2	0	0	6	0	0
April	15.2	S.	37	N.	7	11	9	1	9	14	7	3	6	0	9	12	9	10	7	3	2	0	3	3	1	0	7	4	0
May	12.6	S.	35	E.	4	10	8	4	11	13	6	7	3	0	11	10	10	13	10	0	0	2	4	1	0	1	0	8	0
June	12.6	S.	44	NW.	4	6	4	3	14	21	9	1	1	1	10	15	5	10	8	0	0	0	0	0	0	9	0	8	0
July	10.6	S.	34	SW.	2	3	7	3	7	21	14	5	2	0	18	11	2	7	5	0	0	0	1	0	0	21	0	13	1
August	12.8	S.	33	S.	1	3	5	1	6	29	14	2	2	0	25	5	1	5	5	0	0	0	1	0	0	26	0	7	0
September	10.0	S.	33	SW.	1	2	10	2	7	16	12	3	8	0	20	4	6	8	7	0	0	0	1	0	0	12	0	5	1
October	12.0	S.	28	S.	0	7	2	1	2	24	11	13	2	0	19	9	3	2	1	0	0	0	0	0	0	4	3	1	0
November	12.3	N.	33	S.	2	13	2	3	0	10	10	12	10	0	16	8	6	3	0	3	1	0	0	0	3	0	21	1	0
December	11.2	NW.	32	NW.	2	11	6	2	3	11	5	10	14	0	18	5	8	1	1	3	1	0	2	0	1	0	28	0	0
Year	12.2	S.	44	NW.	33	107	73	27	77	181	112	77	75	1	180	105	80	72	52	22	9	2	27	6	14	73	111	48	3

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DUBUQUE, IOWA

[ϕ=42°30′ N.; λ=90°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.26	29.90	28.45	17.7	23.0	22.8	26.9	13.1	20.0	46	−7	13	15	16	81	70	74	0.089	0.096	0.100	2.05	1.28	6.2	6.8	7.0	5.0	6.5
February	29.41	29.89	28.82	28.8	33.0	33.0	38.0	25.2	31.6	57	6	24	25	26	81	71	75	.140	.139	.146	1.66	.48	1.6	7.9	8.2	8.0	8.5
March	29.14	29.63	28.58	36.2	48.3	47.3	52.5	33.0	42.8	81	8	30	32	33	78	55	60	.178	.193	.204	3.73	1.14	5.6	5.6	5.9	7.4	6.4
April	29.24	29.62	28.76	43.7	55.3	54.8	59.8	41.8	50.8	82	25	35	35	36	71	49	50	.222	.237	.236	2.01	.74	5.7	5.3	6.7	6.1	6.4
May	29.14	29.45	28.52	54.4	64.4	64.2	68.8	50.8	59.8	83	37	49	49	50	81	61	62	.361	.377	.389	6.90	2.51	T	5.9	7.7	7.4	7.2
June	29.24	29.57	28.94	63.2	74.0	73.5	78.2	59.8	69.0	91	50	56	56	57	79	55	59	.467	.471	.484	7.65	3.78	.0	5.4	5.9	4.7	5.6
July	29.20	29.38	28.92	69.0	81.1	81.7	85.4	66.4	75.9	91	59	63	64	65	82	57	58	.586	.601	.624	2.96	.78	.0	5.2	5.1	4.1	5.3
August	29.25	29.44	28.99	68.0	80.8	79.8	84.8	65.3	75.0	93	55	64	64	66	86	58	65	.599	.612	.660	6.10	2.88	.0	4.6	4.2	3.5	4.5
September	29.26	29.50	28.82	57.6	70.4	67.7	74.3	56.0	65.2	92	44	54	54	57	87	60	71	.429	.450	.495	9.09	2.47	.0	4.7	5.0	5.4	5.1
October	29.31	29.71	28.63	49.4	64.1	60.1	68.5	47.2	57.8	85	32	42	45	47	79	53	64	.280	.315	.342	.95	.63	T	3.4	3.7	2.6	3.6
November	29.25	29.76	28.49	34.6	42.7	40.7	47.0	30.7	38.8	77	7	29	29	30	78	58	66	.173	.180	.186	3.56	1.47	5.7	5.7	5.1	3.9	5.2
December	29.28	29.79	28.85	24.3	29.8	26.9	32.9	19.2	26.0	48	−7	19	21	20	80	69	74	.110	.119	.114	.97	.28	7.3	7.2	7.3	6.0	7.1
Year	29.25	29.90	28.45	45.6	55.6	54.4	59.8	42.4	51.1	93	−7	40	41	42	80	60	65	.303	.316	.332	47.63	3.78	32.1	5.6	6.0	5.3	6.0

DULUTH, MINN.

[ϕ=46°47′ N.; λ=92°06′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.74	29.31	28.31	5.8	11.9	9.6	16.0	1.3	8.6	40	−24	3	5	4	86	72	78	0.059	0.063	0.062	1.55	0.31	19.5	5.7	6.5	5.8	6.4
February	28.93	29.47	28.25	14.3	21.7	20.6	26.4	10.0	18.2	46	−19	12	16	17	89	78	85	.078	.094	.096	.63	.23	5.6	7.1	7.0	7.0	6.9
March	28.61	29.06	27.87	26.2	37.6	34.0	41.8	23.7	32.8	64	1	22	24	24	82	60	67	.121	.139	.132	2.91	1.12	6.1	4.9	4.2	5.4	5.0
April	28.73	29.36	28.13	33.3	44.3	41.5	48.6	29.4	39.0	71	10	29	30	29	82	60	62	.171	.182	.171	4.48	1.25	T	6.3	5.9	6.8	6.2
May	28.68	29.02	27.93	43.9	50.8	48.6	55.2	39.4	47.3	71	27	39	39	38	85	69	71	.246	.246	.238	5.60	1.39	.6	7.5	7.8	7.5	7.6
June	28.73	29.09	28.33	55.9	66.1	64.3	69.6	50.8	60.2	91	41	50	50	50	82	60	63	.372	.380	.375	3.21	.71	.0	5.9	6.0	5.0	5.6
July	28.72	28.94	28.52	58.9	70.8	68.3	73.8	55.1	64.4	86	48	55	58	58	89	67	71	.440	.489	.482	2.23	1.00	.0	6.5	6.3	6.7	6.7
August	28.72	29.04	28.27	61.5	75.0	70.9	77.9	58.2	68.0	93	50	56	59	59	83	60	67	.460	.512	.503	1.56	.72	.0	4.1	4.3	4.0	4.3
September	28.80	29.08	28.50	51.6	64.3	58.9	66.9	48.9	57.9	83	38	47	49	49	84	61	71	.325	.356	.351	2.85	1.45	.0	5.1	5.3	4.3	5.1
October	28.79	29.28	28.24	44.3	55.0	50.4	57.4	41.5	49.4	82	30	40	42	40	84	64	70	.254	.275	.254	.64	.44	.3	4.3	5.0	5.1	5.5
November	28.70	29.28	28.10	24.7	30.4	28.6	33.8	20.2	27.0	64	−5	22	22	23	88	72	78	.129	.133	.137	2.25	.73	6.7	7.5	6.7	6.6	7.4
December	28.71	29.10	28.32	13.8	19.5	17.3	23.0	8.6	15.8	38	−26	11	14	13	88	79	83	.083	.091	.086	1.10	.43	12.3	5.5	7.0	5.8	6.6
Year	28.74	29.47	27.87	36.2	45.6	42.8	49.2	32.3	40.7	93	−26	32	34	34	85	67	72	.228	.247	.241	29.01	1.45	51.1	5.9	6.0	5.8	6.1

EASTPORT, MAINE

[ϕ=44°54′ N.; λ=66°59′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.96	30.50	29.34	20.9	25.3	25.1	30.2	15.5	22.8	50	−6	15	17	17	77	69	70	0.102	0.110	0.108	2.07	0.83	6.4	6.2	5.6	5.7	5.7
February	30.06	30.83	29.04	19.9	24.2	23.2	29.0	13.6	21.3	41	−2	16	17	17	82	72	76	.102	.106	.102	1.99	1.09	12.4	6.2	6.4	7.2	6.6
March	29.89	30.44	29.11	26.7	31.3	30.9	35.9	22.3	29.1	52	1	22	23	24	80	72	75	.129	.137	.138	1.55	.51	9.3	6.2	6.1	6.0	6.2
April	29.93	30.42	28.91	37.6	43.8	39.8	47.3	33.4	40.4	81	16	33	36	35	84	76	83	.196	.219	.206	2.49	1.11	6.5	6.5	7.4	6.1	7.5
May	29.83	30.41	29.19	45.3	50.2	47.5	54.2	40.1	47.2	65	33	39	41	39	81	74	75	.245	.262	.243	2.12	.55	.0	5.5	6.8	5.6	6.7
June	29.88	30.24	29.52	54.9	60.6	56.6	65.5	48.2	56.8	83	44	51	54	52	89	80	85	.382	.416	.388	3.77	.91	.0	6.2	7.8	6.2	7.5
July	29.88	30.10	29.61	57.5	62.3	58.3	66.5	52.4	59.4	85	48	56	58	56	95	86	92	.453	.484	.444	4.70	1.25	.0	5.4	6.3	6.1	7.5
August	29.86	30.14	29.45	60.5	66.9	61.7	71.1	55.5	63.3	83	49	57	59	57	88	76	85	.468	.500	.467	2.27	.98	.0	6.0	5.6	4.6	6.1
September	29.94	30.23	29.51	53.2	59.5	55.8	62.7	49.3	56.0	72	43	49	50	51	86	72	84	.355	.366	.377	5.44	2.51	.0	4.3	4.8	5.8	6.0
October	29.99	30.43	29.17	47.2	53.3	50.2	56.3	43.8	50.0	75	36	44	45	45	88	75	84	.291	.313	.307	2.08	1.74	.0	5.0	6.7	5.3	6.3
November	30.00	30.54	29.13	37.9	42.3	40.4	47.2	32.7	40.0	67	12	34	36	35	86	76	81	.212	.225	.222	2.77	.76	11.1	6.0	5.4	4.0	6.3
December	29.91	30.51	28.96	27.5	31.8	30.8	36.7	22.4	29.6	56	3	23	24	25	81	73	79	.145	.151	.152	2.53	.81	7.8	6.3	6.9	6.8	6.8
Year	29.93	30.83	28.91	40.8	46.0	43.4	50.2	35.8	43.0	85	−6	37	38	38	85	75	81	.257	.274	.263	33.78	2.51	53.5	5.8	6.3	5.8	6.6

ELKINS, W. VA.

[ϕ=38°54′ N.; λ=79°51′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.95	28.44	27.26	28.2	34.3	32.6	40.4	21.9	31.2	61	5	23	24	25	82	69	73	0.133	0.140	0.143	2.25	0.59	10.1	7.9	7.7	6.9	7.4
February	28.11	28.54	27.47	34.8	43.4	42.2	49.0	29.2	39.1	68	11	30	32	32	85	68	70	.183	.191	.195	3.48	1.12	13.4	9.0	8.6	7.8	8.5
March	27.96	28.30	27.57	40.2	51.3	49.9	57.6	36.8	47.2	79	15	35	35	36	83	59	62	.219	.223	.228	4.39	1.33	.8	7.1	7.6	8.3	7.9
April	28.01	28.34	27.21	45.2	58.5	56.3	64.9	39.9	52.4	83	25	39	38	38	80	50	54	.254	.240	.247	2.62	.90	3.4	5.0	6.9	5.8	6.1
May	27.96	28.24	27.48	51.5	64.0	62.9	69.3	46.7	58.0	85	28	48	49	50	87	61	66	.343	.369	.381	7.10	1.39	.0	6.3	6.6	6.7	6.8
June	28.04	28.27	27.82	58.7	71.0	68.1	75.8	53.1	64.4	84	41	55	59	61	93	68	79	.467	.512	.540	5.77	1.78	.0	7.4	7.9	6.8	7.4
July	28.03	28.16	27.85	63.6	77.3	73.4	81.1	60.3	70.7	89	50	61	61	64	93	58	74	.548	.539	.598	6.09	1.25	.0	4.6	6.9	6.6	6.3
August	28.08	28.25	27.92	61.7	77.9	73.2	82.7	58.8	70.8	89	47	60	59	64	95	53	72	.531	.519	.596	1.39	.39	.0	5.1	5.8	4.6	5.5
September	28.03	28.28	27.69	57.4	69.8	63.3	73.4	53.6	63.5	85	43	54	55	57	91	61	81	.434	.442	.475	4.64	1.87	.0	7.1	7.9	6.8	7.4
October	28.11	28.42	27.71	40.8	62.0	53.3	67.5	37.6	52.6	86	28	39	39	42	93	46	66	.242	.244	.268	1.08	.76	.0	2.9	3.5	2.7	4.3
November	28.11	28.37	27.72	34.8	51.8	43.0	57.0	29.6	43.3	75	1	30	32	32	86	52	67	.190	.203	.194	4.28	1.26	13.3	4.9	4.8	4.2	4.8
December	28.01	28.46	27.57	29.8	37.0	34.6	42.9	24.5	33.7	61	9	25	26	26	81	64	69	.138	.145	.147	1.09	.32	1.2	7.5	7.4	5.9	7.3
Year	28.03	28.54	27.21	45.6	58.2	54.4	63.5	41.0	52.2	89	1	42	42	44	87	59	69	.307	.314	.334	44.78	1.87	42.2	6.2	6.8	6.1	6.6

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

DUBUQUE, IOWA

[H=641 ft.; H_b=699 ft.; h_t=60 ft.; h_r=53 ft.; h_a=79 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: 1" or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	6.9	NW.	24	NW.	0	5	5	3	6	11	5	1	25	1	7	8	16	13	9	15	10	0	8	2	18	0	30	0	0
February	7.0	NW.	19	NW.	0	2	10	4	7	9	5	1	18	0	2	3	23	12	7	10	3	1	7	2	8	0	24	3	0
March	7.3	NW.	21	SW.	0	2	6	7	5	8	8	5	19	2	8	7	16	10	8	5	2	1	4	1	4	0	12	3	0
April	8.0	NW.	21	NE.	0	2	8	3	7	6	12	2	17	3	8	8	14	11	7	4	3	1	0	0	1	0	9	3	0
May	6.3	NW.	19	NW.	0	1	12	4	13	13	4	3	10	2	3	11	17	16	15	1	0	1	3	2	0	0	0	7	0
June	6.0	NW.	21	NW.	0	2	4	4	12	14	5	3	15	1	11	6	13	13	11	0	0	0	2	1	0	2	0	7	0
July	5.1	NW.	20	NE.	0	3	4	5	10	14	6	2	17	1	8	14	9	11	10	0	0	0	2	0	0	5	0	14	0
August	5.4	S.	17	SE.	0	2	3	4	9	23	7	2	10	2	13	9	9	7	4	0	0	0	6	6	0	7	0	10	1
September	5.4	NW.	18	NW.	0	5	6	7	9	3	5	4	16	5	13	7	10	11	11	0	0	0	8	2	0	1	0	6	0
October	5.5	S.	21	NW.	0	4	3	3	4	23	10	2	9	4	18	6	7	5	3	1	1	0	10	4	0	0	1	1	0
November	7.2	NW.	23	SE.	0	3	1	4	9	13	7	2	20	1	8	15	7	8	5	6	3	0	3	0	6	0	19	0	0
December	6.8	NW.	22	NW.	0	0	2	1	11	10	4	3	29	2	7	5	19	10	7	13	9	0	4	0	13	0	28	0	0
Year	6.4	NW.	24	NW.	0	31	64	49	102	147	78	30	205	24	106	99	160	127	97	55	31	4	57	20	30	15	123	54	1

DULUTH, MINN.

[H=1,128 ft.; H_b=1,133 ft.; h_t=5 ft.; h_r=3 ft.; h_a=47 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	1" or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.3	NW.	54	NW.	6	7	2	8	1	0	9	11	24	0	9	5	17	12	11	20	12	0	1	1	28	0	31	0	0
February	11.3	NE.	35	NW.	2	6	17	10	0	2	4	6	11	0	8	3	17	12	5	13	9	0	7	4	21	0	28	1	0
March	12.7	NE.	41	W.	4	1	24	1	2	0	4	14	16	0	13	10	8	11	9	9	7	0	2	2	7	0	24	0	4
April	13.0	NE.	39	W.	3	2	24	2	1	0	5	6	20	0	5	14	11	14	11	5	0	0	5	9	4	0	15	4	1
May	13.2	NE.	40	NE.	5	2	36	6	0	0	1	7	10	0	5	7	19	18	16	1	1	1	11	7	0	0	4	3	3
June	10.1	NE.	32	W.	1	5	19	5	1	1	6	7	16	0	10	11	9	12	8	0	0	1	6	5	0	1	0	6	2
July	9.7	NE.	35	NW.	1	3	23	4	2	1	3	11	15	0	6	10	15	13	8	0	0	0	9	11	0	0	0	5	1
August	11.3	W.	31	SW.	0	3	17	3	2	1	13	15	8	0	13	12	6	7	5	0	0	0	6	3	0	2	0	7	6
September	12.5	NE.	28	NW.	0	8	16	2	1	0	4	12	17	0	11	6	13	6	4	0	0	0	5	6	0	0	0	2	3
October	13.6	NE.	43	NW.	3	6	22	3	0	2	9	13	7	0	11	8	12	4	3	3	1	0	4	2	0	0	3	2	0
November	13.4	NW.	36	NW.	5	1	6	3	4	1	7	12	26	0	6	6	18	11	9	13	6	0	3	3	12	0	23	2	3
December	12.4	NW.	50	NW.	4	2	1	1	7	3	9	17	22	0	10	3	18	9	5	16	8	0	6	2	23	0	31	0	1
Year	12.3	NE.	54	NW.	34	46	207	48	21	11	74	131	192	0	107	95	163	129	94	80	44	2	65	55	95	3	159	32	24

EASTPORT, MAINE

[H=33 ft.; H_b=75 ft.; h_t=07 ft.; h_r=62 ft.; h_a=85 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	1" or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	12.6	NW.	45	S.	4	6	2	4	5	2	11	14	17	1	11	6	14	8	7	9	3	0	7	3	20	0	29	0	0
February	12.5	NW.	32	E.	1	11	8	3	7	1	8	3	15	0	10	1	17	13	10	15	10	0	7	2	16	0	27	0	0
March	11.9	NW.	36	E.	2	8	6	5	2	10	13	4	14	0	8	8	15	15	10	15	10	0	8	2	9	0	25	1	1
April	11.0	SW.	35	E.	2	5	6	7	1	6	18	6	11	0	3	6	21	15	8	6	3	0	17	11	0	0	9	1	2
May	9.9	SW.	41	E.	1	5	6	6	0	7	22	4	9	3	8	5	18	16	11	0	0	0	15	10	0	0	0	3	0
June	7.5	SW.	27	SW.	0	3	6	4	2	8	22	4	7	4	5	6	19	17	17	0	0	0	23	13	0	0	0	2	0
July	8.3	S.	24	SW.	0	6	6	1	1	20	21	2	4	1	4	7	20	19	15	0	0	0	25	19	0	0	0	5	0
August	7.8	S.	25	W.	0	5	5	3	0	15	20	5	7	2	6	12	13	13	9	0	0	1	21	12	0	0	0	6	0
September	10.5	SW.	32	SE.	2	8	2	3	1	7	17	6	13	3	10	7	13	15	12	0	0	0	17	7	0	0	0	0	0
October	9.9	SW.	40	S.	2	7	9	0	3	8	17	5	12	1	8	8	15	7	7	0	0	0	15	4	0	0	0	0	0
November	11.6	SW.	42	N.	3	9	7	0	2	5	14	12	10	1	9	6	15	12	7	7	4	0	14	2	4	0	15	0	0
December	13.4	NW.	44	S.	4	7	7	3	5	3	11	7	19	0	6	8	17	16	12	13	8	0	8	0	9	0	23	0	2
Year	10.6	SW.	45	S.	21	80	70	39	20	92	194	72	138	16	88	80	197	166	125	65	38	1	177	85	58	0	128	18	5

ELKINS, W. VA.

[H=1,927 ft.; H_b=1,947 ft.; h_t=65 ft.; h_r=58 ft.; h_a=83 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	1" or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.0	W.	30	SE.	0	7	7	1	4	9	17	11	4	2	4	9	18	17	12	16	12	0	12	3	7	0	24	1	0
February	7.3	W.	30	W.	0	10	0	2	5	8	9	14	7	1	1	6	21	16	16	8	7	1	7	1	3	0	19	1	0
March	7.2	W.	30	W.	0	9	6	4	7	8	5	10	9	4	3	6	22	20	13	7	5	1	9	3	0	0	14	6	0
April	7.4	W.	34	W.	1	11	4	3	6	7	4	12	10	3	6	12	12	14	9	6	4	0	3	0	0	0	7	3	0
May	6.4	W.	31	SW.	0	6	3	4	4	3	8	20	11	3	5	11	15	16	16	0	0	1	10	4	0	0	2	5	0
June	4.8	SE.	21	W.	0	8	3	3	15	10	6	5	6	4	4	10	16	17	16	0	0	0	18	5	0	0	0	9	0
July	4.5	SE.	21	SW.	0	8	6	3	14	14	3	8	5	1	6	13	12	18	17	0	0	0	19	17	0	0	0	14	0
August	4.5	NW.	23	W.	0	6	5	2	7	5	8	8	11	10	7	16	8	10	7	0	0	0	18	15	0	0	0	10	0
September	4.8	SE.	19	NW.	0	10	6	3	18	2	6	4	5	6	6	4	20	15	11	0	0	0	13	7	0	0	0	5	0
October	4.4	N.	21	W.	0	11	9	11	9	3	1	1	6	11	19	5	7	7	4	0	0	0	18	18	0	0	5	0	0
November	6.2	SE.	27	SW.	0	7	8	7	10	5	5	8	4	6	13	7	10	11	8	5	3	0	10	2	4	0	18	0	0
December	7.1	W.	28	W.	0	3	6	7	11	4	7	18	4	2	6	8	17	14	10	9	3	0	8	3	2	0	27	0	0
Year	6.0	W.	34	W.	1	96	63	50	110	78	79	119	82	53	80	107	178	175	130	51	34	3	145	78	16	0	116	54	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

EL PASO, TEX.

[ϕ=31°47′ N.; λ=106°30′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	26.25	26.68	25.88	38.7	52.3	54.7	57.9	36.4	47.2	71	25	27	26	27	62	39	37	0.149	0.151	0.155	1.22	0.66	0.0	3.5	4.0	3.8	3.5
February	26.23	26.54	25.93	44.2	60.7	63.1	66.6	41.0	53.8	78	28	29	28	28	56	31	30	.164	.163	.168	.17	.12	.0	4.8	3.6	4.8	4.6
March	26.11	26.38	25.83	47.5	64.7	68.0	70.6	44.2	57.4	84	33	25	28	25	44	27	21	.141	.160	.136	.49	.25	.0	2.2	2.6	2.5	3.0
April	26.13	26.48	25.84	52.3	71.9	75.6	78.1	49.6	63.8	90	30	22	22	21	33	16	14	.133	.127	.119	T	T	.0	2.2	1.6	2.6	2.5
May	26.08	26.39	25.83	61.5	80.8	84.5	86.3	59.9	73.1	98	48	29	26	24	32	14	12	.168	.143	.131	.02	.02	.0	1.3	1.7	1.7	2.0
June	26.13	26.32	25.95	70.9	87.9	90.9	93.2	69.1	81.2	100	63	48	42	41	48	26	23	.353	.294	.286	2.82	1.21	.0	3.6	2.5	4.1	3.9
July	26.20	26.34	26.04	70.2	86.3	87.0	91.9	69.3	80.6	99	63	57	53	51	65	34	34	.476	.414	.396	.60	.25	.0	4.1	2.3	4.7	3.5
August	26.20	26.35	26.05	70.9	88.4	88.9	92.6	69.3	81.0	100	62	54	51	50	56	29	29	.416	.384	.376	.20	.15	.0	1.9	2.1	2.8	2.1
September	26.23	26.45	26.06	62.7	81.6	81.3	86.0	61.5	73.8	91	55	52	51	51	69	37	38	.403	.391	.389	2.31	1.29	.0	2.2	1.4	2.3	2.1
October	26.22	26.42	26.01	57.1	77.1	77.3	82.0	55.1	68.6	92	44	40	43	44	55	30	32	.254	.277	.284	.19	.07	.0	2.6	1.7	2.0	1.8
November	26.25	26.69	25.83	39.0	58.5	59.6	64.4	35.3	49.8	78	20	18	24	22	42	27	24	.105	.133	.122	T	T	.0	0.7	1.3	0.9	1.3
December	26.25	26.50	26.03	38.9	55.8	57.3	61.4	35.4	48.4	74	23	23	26	26	52	33	32	.125	.145	.145	.28	.11	.0	1.8	2.3	2.8	2.4
Year	26.19	26.69	25.83	54.5	72.2	74.0	77.6	52.2	64.9	100	20	35	35	34	51	29	27	.241	.232	.226	8.30	1.29	.0	2.6	2.3	2.9	2.7

ERIE, PA.

[ϕ=80°05′ N.; λ=42°07′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.21	29.80	28.43	25.4	28.4	27.8	33.4	20.3	26.8	50	5	20	20	21	79	71	75	0.112	0.113	0.119	1.46	0.46	10.2	8.4	8.5	8.1	8.4
February	29.39	29.97	28.57	29.8	34.0	33.5	39.2	23.8	31.5	62	5	25	27	28	80	75	78	.146	.162	.164	4.12	1.81	2.0	8.7	7.8	7.7	8.1
March	29.18	29.57	28.64	37.7	45.2	42.4	49.7	31.8	40.8	82	1	30	34	32	75	68	70	.188	.223	.198	2.96	.85	1.1	7.1	6.5	6.2	6.5
April	29.25	29.62	28.63	45.2	51.5	50.8	56.6	41.3	49.0	83	27	38	38	39	76	62	65	.241	.245	.249	3.61	1.17	5.9	5.7	5.5	6.7	6.0
May	29.17	29.56	28.64	53.9	60.7	59.4	65.1	49.4	57.2	86	37	45	46	47	73	61	66	.308	.332	.342	3.10	1.14	.0	6.2	5.9	5.3	5.8
June	29.24	29.54	28.94	64.6	70.1	69.7	74.8	58.7	66.8	87	52	56	57	57	74	65	65	.451	.477	.473	3.38	1.64	.0	4.3	4.6	4.8	4.7
July	29.20	29.38	28.94	70.3	78.0	75.9	81.1	66.0	73.6	93	56	63	66	62	78	67	64	.576	.642	.570	2.21	.78	.0	5.2	4.2	3.2	3.9
August	29.25	29.43	28.98	71.1	79.9	75.5	82.9	67.1	75.0	94	56	63	66	64	76	63	68	.585	.646	.604	3.68	1.34	.0	3.5	3.8	3.9	3.5
September	29.24	29.59	28.74	57.9	67.2	62.5	69.9	53.7	61.8	82	47	51	57	56	80	70	78	.390	.470	.450	7.42	1.98	.0	5.6	5.5	5.6	5.6
October	29.34	29.74	28.77	50.8	61.4	55.8	63.9	48.0	56.0	82	35	43	46	47	75	60	74	.280	.322	.332	1.72	.54	.0	5.0	4.4	3.4	4.3
November	29.31	29.63	28.82	41.7	48.6	45.1	52.8	37.6	45.2	77	21	34	36	34	75	64	67	.212	.227	.214	3.89	1.22	8.7	6.2	5.7	5.2	5.7
December	29.26	29.76	28.73	31.4	34.0	33.1	37.5	27.8	32.6	55	13	26	26	26	77	72	75	.140	.143	.145	1.93	.60	10.2	9.4	9.2	8.8	9.1
Year	29.25	29.97	28.43	48.3	54.9	52.6	58.9	43.8	51.4	94	1	41	43	43	76	66	70	.302	.334	.322	39.48	1.98	38.1	6.3	6.0	5.7	6.0

ESCANABA, MICH.

[ϕ=45°48′ N.; λ=87°05′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.30	29.98	28.31	12.5	19.9	17.3	22.4	7.6	15.0	37	−14	8	13	10	81	72	72	0.072	0.084	0.078	1.80	0.65	24.5	8.8	7.8	6.8	7.6
February	29.53	30.04	28.67	19.0	25.0	23.5	29.6	14.8	22.2	41	−23	16	18	17	87	75	76	.097	.107	.099	2.23	.94	22.7	8.8	8.4	7.2	8.4
March	29.23	29.69	28.54	24.8	33.8	31.9	38.6	21.5	30.0	54	−8	21	25	23	84	69	70	.127	.145	.139	2.57	1.08	5.5	6.2	5.8	5.4	5.5
April	29.33	29.93	28.65	35.4	43.7	42.0	48.3	32.6	40.4	66	19	30	32	32	79	54	68	.179	.195	.197	1.65	.70	.5	7.1	7.8	5.4	7.4
May	29.27	29.55	28.71	48.2	55.2	53.9	59.9	44.0	52.0	73	29	42	45	45	79	69	74	.273	.305	.313	3.09	.79	.0	6.5	7.3	6.1	7.0
June	29.31	29.67	28.89	57.6	64.0	64.4	68.9	52.5	60.7	80	42	52	53	53	81	70	68	.391	.412	.413	2.18	.57	.0	6.2	7.4	5.8	6.9
July	29.30	29.50	28.99	63.6	71.5	70.4	74.9	59.0	67.0	85	46	58	60	61	84	68	72	.500	.526	.538	2.09	.68	.0	7.0	7.2	6.1	6.7
August	29.32	29.54	29.00	64.3	73.2	71.7	76.6	59.8	68.2	88	41	59	61	61	84	67	71	.520	.543	.553	4.89	1.92	.0	4.1	6.0	4.8	5.5
September	29.36	29.73	28.89	52.8	62.1	59.8	65.7	49.2	57.4	80	42	49	51	52	86	68	76	.350	.377	.395	2.68	1.30	.0	6.0	6.6	5.3	6.3
October	29.40	29.94	28.77	46.8	54.7	53.0	57.9	44.6	51.2	71	33	42	46	47	85	74	81	.280	.319	.329	2.97	1.56	1.0	5.9	6.7	5.1	6.1
November	29.30	29.88	28.75	32.8	38.2	36.9	41.5	29.6	35.6	61	7	27	29	29	77	70	73	.164	.180	.181	1.34	.50	4.8	6.9	8.2	7.0	8.1
December	29.30	29.79	28.63	21.9	26.3	25.8	30.4	18.4	24.4	40	−13	17	18	20	79	70	76	.104	.109	.116	2.01	.54	13.3	7.8	8.6	7.1	8.4
Year	29.33	30.04	28.31	40.0	47.3	45.9	51.2	36.1	43.7	88	−23	35	38	38	82	70	73	.255	.275	.279	29.50	1.92	72.3	6.8	7.3	6.0	7.0

EUREKA, CALIF.

[ϕ=40°48′ N.; λ=124°11′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.07	30.59	29.35	46.9	52.4	53.2	56.2	43.6	49.9	65	36	43	44	45	87	73	76	0.279	0.286	0.302	6.28	1.14	0.0	6.8	6.6	6.3	6.4
February	29.88	30.28	29.27	45.6	51.2	52.1	54.2	42.8	48.5	72	35	41	42	41	84	73	71	.258	.268	.265	13.94	2.75	.0	8.3	7.4	8.0	7.7
March	29.97	30.35	29.32	45.4	51.2	51.4	53.8	42.5	48.2	62	35	41	42	42	85	71	73	.259	.267	.274	13.97	2.51	.0	7.9	7.6	8.3	8.0
April	30.04	30.27	29.68	48.6	54.2	54.1	56.6	47.3	52.0	65	39	45	45	46	86	71	73	.298	.299	.306	2.23	.09	.0	8.8	8.2	7.6	8.1
May	30.04	30.30	29.77	48.3	53.7	54.1	56.1	47.2	51.6	60	43	45	46	47	90	75	77	.304	.308	.322	.31	.13	.0	7.2	6.1	4.6	6.1
June	29.97	30.18	29.77	50.1	54.7	55.3	57.2	49.2	53.2	61	47	48	48	49	93	79	80	.335	.337	.351	.01	.01	.0	8.2	6.6	6.2	6.9
July	29.97	30.16	29.78	52.3	57.1	57.3	59.3	51.3	55.3	65	48	50	51	51	94	80	81	.367	.376	.378	T	T	.0	8.7	5.5	5.5	6.7
August	29.99	30.16	29.80	52.8	57.5	58.6	60.0	51.8	55.9	65	49	50	51	51	91	79	78	.362	.371	.380	T	T	.0	7.9	6.0	3.2	5.8
September	29.96	30.12	29.74	53.6	58.8	59.0	61.7	52.3	57.0	68	48	52	53	54	95	83	84	.389	.408	.418	1.74	.90	.0	6.0	7.1	6.6	7.4
October	29.97	30.19	29.62	52.0	58.9	58.2	62.2	49.1	55.6	68	41	48	50	51	88	73	77	.344	.360	.375	3.34	1.56	.0	5.9	5.4	5.4	5.4
November	30.13	30.40	29.57	45.5	53.5	53.1	55.5	42.2	48.8	63	34	41	42	45	84	68	75	.259	.274	.300	3.12	.77	.0	5.3	5.2	4.4	4.9
December	30.11	30.44	29.73	45.6	52.3	52.4	54.9	42.5	48.7	66	32	42	44	45	89	75	79	.276	.291	.309	5.97	3.64	.0	5.3	6.3	6.0	6.5
Year	30.01	30.59	29.27	48.9	54.6	54.9	57.3	46.8	52.1	72	32	46	46	47	89	75	77	.311	.320	.332	50.91	3.64	.0	7.2	6.5	6.0	6.7

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

EL PASO, TEX.

[H=3,710 ft.; H_b=3,778 ft.; h_t=82 ft.; h_r=76 ft.; h_a=101 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	7.6	NW.	27	W.	0	2	4	18	2	0	2	10	24	0	16	9	6	5	5	0	0	1	0	0	0	0	8	0	0
February	6.9	E.	23	NW.	0	2	2	15	5	1	3	12	15	1	14	7	7	4	3	0	0	0	0	0	0	0	3	0	0
March	9.5	W.	27	W.	0	0	5	6	5	1	4	20	21	0	18	11	2	2	2	0	0	0	0	0	0	0	0	1	0
April	9.1	NW.	26	SW.	0	2	3	12	10	0	3	18	12	0	20	10	0	0	0	0	0	0	0	0	0	1	1	2	1
May	9.5	NW.	30	SW.	0	1	5	15	2	0	2	17	20	0	23	8	0	1	0	0	0	0	0	0	0	11	0	2	0
June	8.6	E.	27	SE.	0	1	7	23	7	1	3	13	5	0	15	9	6	7	5	0	0	0	0	0	0	24	0	6	0
July	7.3	E.	26	SE.	0	4	12	20	12	0	2	8	4	0	19	6	6	11	5	0	0	0	0	0	0	22	0	11	0
August	8.1	E.	27	E.	0	1	6	27	14	0	1	6	7	0	22	9	0	3	2	0	0	0	0	0	0	25	0	6	0
September	6.2	E.	26	E.	0	1	8	34	10	2	0	0	4	1	23	6	1	7	5	0	0	0	0	0	0	6	0	6	0
October	6.8	E.	26	NE.	0	1	4	34	3	3	6	5	6	0	25	4	2	5	3	0	0	0	0	0	0	2	0	4	0
November	7.5	W.	26	NW.	0	4	7	8	3	1	3	19	14	1	26	4	0	0	0	0	0	0	0	0	0	0	14	0	0
December	7.0	W.	23	NW.	0	4	5	11	3	0	2	21	16	0	22	7	2	5	3	0	0	0	0	0	0	0	7	0	0
Year	7.9	E.	30	SW.	0	23	68	223	76	9	31	149	148	3	243	90	32	50	33	0	0	1	0	0	0	91	33	38	1

ERIE, PA.

[H=670 ft.; H_b=714 ft.; h_t=57 ft.; h_r=50 ft.; h_a=81 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.1	SW.	52	SE.	6	1	7	7	4	6	13	19	5	0	3	4	24	17	8	22	15	0	1	1	14	0	30	1	0
February	14.1	W.	38	SE.	7	9	7	4	4	11	6	9	6	0	2	7	19	15	11	13	5	0	2	2	10	0	25	2	0
March	15.5	W.	38	W.	10	3	9	0	2	16	11	14	7	0	6	10	15	17	11	7	3	0	0	1	3	0	16	3	0
April	14.2	W.	38	SE.	5	7	7	2	3	6	9	16	10	0	6	14	10	14	10	5	5	0	1	1	0	0	8	4	0
May	11.9	W.	41	SE.	4	10	5	3	7	6	6	14	11	0	9	12	10	13	10	0	0	0	0	0	0	0	0	6	0
June	11.1	NW.	32	SW.	1	10	4	1	3	9	10	9	14	0	11	12	7	13	9	0	0	0	0	0	0	0	0	5	0
July	6.5	SW.	22	W.	0	4	6	8	2	9	13	15	5	0	14	15	2	12	8	0	0	0	2	0	0	2	0	7	0
August	7.2	SW.	21	SW.	0	7	2	3	5	11	22	7	4	1	16	12	3	9	9	0	0	1	0	0	0	1	0	5	1
September	8.2	SE.	20	SE.	0	4	2	12	12	8	13	3	4	2	9	11	10	14	12	0	0	0	0	0	0	0	0	4	1
October	7.7	S.	23	SW.	0	1	4	11	10	16	12	5	2	1	16	7	8	9	8	0	0	0	1	0	0	0	0	3	0
November	10.6	SW.	28	W.	0	2	2	5	15	10	20	3	3	0	12	4	14	11	11	9	7	0	0	0	6	0	9	0	0
December	10.4	SW.	30	W.	0	3	1	2	12	10	13	7	14	0	1	3	27	16	11	20	9	0	0	0	7	0	22	0	0
Year	10.9	SW.	52	SE.	33	61	56	58	79	118	148	121	85	4	105	111	149	160	118	76	44	1	7	5	40	3	110	40	2

ESCANABA, MICH.

[H=601 ft.; H_b=612 ft.; h_t=41 ft.; h_r=34 ft.; h_a=49 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.0	NW.	34	NW.	1	11	6	1	1	8	10	10	15	0	5	5	21	13	8	25	13	0	5	0	26	0	31	0	1
February	10.9	N.	42	N.	1	18	5	5	2	7	6	3	9	1	2	4	22	13	11	23	10	0	10	1	17	0	27	0	0
March	10.8	S.	32	N.	1	16	6	4	1	15	6	5	9	0	11	7	13	13	11	9	4	2	13	3	10	0	23	3	4
April	11.6	S.	29	NE.	0	15	7	3	4	13	2	5	11	0	4	7	19	13	8	6	1	1	10	1	2	0	14	2	0
May	11.0	S.	31	NE.	0	9	12	12	5	11	3	2	8	0	3	12	16	13	9	0	0	0	2	1	0	0	2	3	2
June	9.9	S.	26	NW.	0	14	0	0	1	19	4	8	12	2	4	12	14	14	11	0	0	1	7	0	0	0	0	7	3
July	8.7	S.	30	NE.	0	14	5	4	4	14	7	4	10	0	4	10	17	15	9	0	0	0	4	0	0	0	0	9	1
August	10.0	S.	41	NE.	1	10	6	1	3	17	8	5	12	0	11	10	10	9	9	0	0	2	3	0	0	0	0	8	5
September	10.8	N.	30	N.	0	18	2	2	8	8	9	2	11	0	8	8	14	11	8	0	0	0	13	1	0	0	0	0	4
October	11.7	S.	38	NE.	2	8	5	2	3	23	8	4	9	0	10	5	16	11	7	1	1	0	9	1	0	0	0	3	1
November	12.7	NW.	37	N.	3	5	4	0	4	13	12	5	17	0	2	8	20	11	11	15	5	0	10	0	7	0	20	0	2
December	10.9	NW.	31	NW.	0	5	2	3	2	8	15	10	17	0	2	6	23	16	9	17	11	0	10	0	17	0	27	0	2
Year	10.7	S.	42	N.	9	143	60	37	38	156	90	63	140	3	66	94	205	152	111	96	45	6	96	8	79	0	144	35	25

EUREKA, CALIF.

[H=43 ft.; H_b=60 ft.; h_t=72 ft.; h_r=65 ft.; h_a=88 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.9	SE.	27	SE.	0	10	7	5	19	4	9	5	3	0	8	7	16	18	15	0	0	0	4	3	0	0	0	3	0
February	7.9	SE.	35	SW.	1	4	2	5	15	13	8	3	4	2	4	3	21	20	19	0	0	5	5	1	0	0	0	6	0
March	9.3	SE.	32	N.	1	10	4	2	12	13	8	5	6	2	4	4	23	23	22	0	0	8	1	0	0	0	0	4	0
April	7.7	N.	22	N.	0	17	4	0	10	6	9	4	8	2	2	7	21	16	11	0	0	0	5	0	0	0	0	1	0
May	8.5	N.	32	N.	1	33	2	2	5	5	7	2	4	2	8	9	14	6	5	0	0	1	10	3	0	0	0	0	0
June	8.1	N.	27	N.	0	21	2	0	1	5	12	3	14	2	5	9	16	1	0	0	0	0	11	3	0	0	0	0	0
July	6.3	NW.	18	N.	0	11	3	2	4	6	7	12	17	0	3	11	17	0	0	0	0	0	20	1	0	0	0	0	0
August	6.5	NW.	24	SW.	0	17	0	3	0	7	10	5	15	5	8	13	10	0	0	0	0	0	11	2	0	0	0	0	0
September	5.4	N.	18	N.	0	20	3	1	7	3	8	4	8	6	3	10	17	7	5	0	0	0	25	12	0	0	0	2	0
October	6.4	SE.	24	SW.	0	12	7	4	9	7	7	2	9	5	11	6	14	9	8	0	0	1	12	5	0	0	0	0	0
November	6.8	SE.	27	NW.	0	16	4	2	10	4	9	7	5	3	12	8	10	9	8	0	0	1	8	3	0	0	0	1	0
December	5.8	SE.	30	SW.	0	17	7	4	8	7	11	5	3	0	8	4	19	7	5	0	0	0	18	8	0	0	0	1	0
Year	7.1	N.	35	SW.	3	188	45	30	100	80	105	57	96	29	76	91	198	116	98	0	0	16	130	41	0	0	0	18	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

EVANSVILLE, IND.

[ϕ=37°58′ N.; λ=87°33′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.60	30.17	28.72	31.4	36.8	36.0	42.5	27.0	34.8	59	9	26	26	26	78	66	68	0.151	0.156	0.152	3.54	1.28	6.7	5.5	5.7	6.4	6.2
February	29.72	30.10	29.14	41.7	47.5	47.8	53.1	37.7	45.4	72	18	36	37	37	80	68	68	.224	.236	.239	2.71	1.10	.1	7.5	6.9	7.9	7.5
March	29.50	30.00	29.06	48.2	55.5	57.2	63.0	43.9	53.4	78	27	42	41	43	79	62	61	.286	.278	.296	4.69	1.63	T	7.5	6.7	6.1	6.7
April	29.55	29.82	29.05	52.3	64.0	63.9	68.9	50.1	59.5	87	33	44	43	44	73	48	50	.303	.296	.299	.81	.39	T	5.6	5.5	5.6	5.5
May	29.47	29.73	29.12	61.6	72.4	70.7	76.7	58.0	67.4	89	45	53	52	54	75	52	57	.428	.428	.435	3.95	1.24	.0	5.7	7.2	5.8	6.0
June	29.55	29.82	29.31	68.0	78.1	78.3	82.2	64.7	73.4	89	57	60	58	59	76	53	54	.529	.503	.523	3.14	1.15	.0	5.4	6.2	6.8	6.2
July	29.51	29.67	29.37	73.4	83.5	83.5	87.6	70.6	79.1	98	65	67	66	66	81	57	59	.664	.638	.653	5.28	1.86	.0	5.5	6.5	4.8	5.5
August	29.57	29.74	29.39	73.4	84.6	83.4	88.8	70.8	79.8	98	63	68	69	69	84	61	63	.691	.719	.716	4.11	1.31	.0	4.5	5.2	4.4	4.7
September	29.55	29.73	29.14	64.1	78.8	75.0	82.7	62.5	72.6	95	47	59	58	59	82	50	58	.515	.508	.518	1.81	.63	.0	4.6	5.2	4.3	5.0
October	29.65	29.92	29.23	52.9	71.2	68.0	76.0	51.1	63.6	89	37	44	43	44	73	38	43	.305	.291	.294	.35	.31	.0	2.4	2.5	2.9	2.6
November	29.64	30.01	29.02	43.0	54.5	51.4	59.3	38.9	49.1	77	16	35	35	34	73	50	54	.217	.227	.213	2.33	1.23	.5	4.9	4.8	4.4	4.9
December	29.64	30.17	29.20	33.4	40.4	40.2	45.4	30.3	37.8	59	15	26	29	29	75	63	64	.149	.168	.169	1.54	.46	.9	5.2	6.4	5.2	6.6
Year	29.58	30.17	28.72	53.6	63.9	63.0	68.8	50.5	59.7	98	9	47	46	47	77	56	58	.372	.371	.376	34.26	1.86	8.2	5.4	5.7	5.4	5.6

FORT SMITH, ARK.

[ϕ=35°22′ N.; λ=94°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.63	30.16	28.91	36.5	44.5	46.5	51.9	33.1	42.5	74	14	29	30	30	72	56	54	0.170	0.176	0.184	3.51	2.02	T	4.6	5.1	4.5	4.7
February	29.70	30.06	29.36	44.2	53.2	54.0	57.8	41.5	49.6	75	22	39	41	41	82	65	65	.264	.278	.283	9.21	3.14	0.4	6.8	6.7	6.9	6.7
March	29.45	30.00	29.06	51.7	64.8	66.4	71.2	49.1	60.2	84	31	44	44	45	75	50	48	.295	.305	.315	3.38	1.24	.0	4.8	4.9	5.5	5.1
April	29.52	29.86	29.10	54.8	66.8	69.3	72.5	52.6	62.6	88	35	47	48	48	75	54	50	.340	.367	.362	4.79	1.90	T	4.8	5.0	5.3	5.3
May	29.44	29.78	29.08	73.8	75.2	77.1	80.3	61.2	70.8	92	44	57	57	58	80	55	54	.371	.489	.498	6.65	2.32	.0	6.3	5.8	4.7	5.7
June	29.53	29.80	29.27	70.4	81.9	84.6	87.3	69.0	78.2	94	62	65	65	65	84	58	53	.625	.621	.620	4.63	1.86	.0	5.6	5.5	4.4	5.3
July	29.49	29.64	29.35	74.4	89.4	89.6	94.5	73.1	83.8	100	70	69	68	67	83	50	50	.706	.683	.663	1.34	.51	.0	3.8	4.3	4.7	4.5
August	29.54	29.72	29.33	74.9	90.8	91.4	96.7	74.4	85.6	101	69	70	69	68	84	49	48	.725	.711	.680	3.03	2.93	.0	2.6	2.8	3.6	3.3
September	29.55	29.83	29.34	66.5	83.7	83.6	89.4	65.4	77.4	100	46	59	60	58	77	46	45	.532	.542	.518	2.13	1.87	.0	3.1	3.2	4.5	3.8
October	29.62	29.85	29.27	56.8	76.6	80.1	82.4	55.8	69.1	96	32	46	46	46	69	36	34	.328	.339	.323	1.96	1.76	.0	2.5	2.3	2.4	2.4
November	29.63	30.16	29.04	42.4	55.4	54.7	61.2	38.7	50.0	81	18	34	38	36	71	54	50	.209	.255	.233	4.42	2.55	T	3.3	4.7	3.3	3.9
December	29.65	30.20	29.28	37.1	47.6	47.3	53.2	33.9	43.6	71	17	30	33	31	74	56	55	.169	.196	.184	1.18	.44	T	4.3	4.8	4.5	4.7
Year	29.56	30.20	28.91	57.0	69.2	70.4	74.9	54.0	64.4	101	14	49	50	49	77	52	50	.395	.414	.405	46.23	3.14	.4	4.4	4.6	4.5	4.6

FORT WAYNE, IND.

[ϕ=41°05′ N.; λ=85°10′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.07	29.71	28.07	23.2	29.4	27.8	33.2	19.5	26.4	56	5	20	22	23	88	74	81	0.115	0.130	0.127	0.88	0.34	5.3	6.7	7.6	7.2	7.5
February	29.24	29.73	28.54	32.1	36.8	36.0	41.0	26.8	33.9	65	11	28	30	30	85	75	79	.166	.179	.182	2.77	.79	6.2	8.9	8.1	7.8	8.4
March	29.02	29.44	28.56	39.1	48.1	46.8	53.1	34.8	44.0	81	16	34	36	36	81	64	68	.216	.227	.225	4.73	1.99	.4	6.9	6.2	6.4	6.0
April	29.10	29.46	28.68	44.0	55.3	55.6	59.9	41.3	50.6	82	26	38	38	39	79	55	55	.241	.256	.257	3.60	1.49	1.6	4.7	6.3	6.6	6.3
May	29.01	29.32	28.43	55.0	66.2	65.2	69.8	50.9	60.4	86	36	48	49	49	78	57	58	.358	.378	.370	5.10	1.28	.0	5.4	6.6	6.2	6.2
June	29.10	29.38	28.81	63.1	74.7	73.5	77.9	58.8	68.4	90	52	55	55	56	75	52	56	.440	.444	.466	5.48	3.87	.0	5.0	6.7	6.3	6.1
July	29.06	29.21	28.83	68.2	79.6	79.3	83.4	64.7	74.0	90	59	62	61	62	80	55	57	.551	.547	.560	3.21	1.07	.0	4.6	5.5	4.5	5.1
August	29.12	29.30	28.91	68.2	81.6	80.4	85.3	65.0	75.2	92	56	62	62	64	80	53	57	.565	.574	.596	2.14	.89	.0	4.3	5.3	3.9	4.8
September	29.10	29.34	28.62	57.8	70.7	68.7	75.0	55.7	65.4	90	43	53	53	54	84	55	61	.416	.425	.436	2.15	1.61	.0	6.1	5.4	5.3	5.3
October	29.20	29.56	28.71	47.8	64.2	60.8	68.4	45.2	56.8	84	33	42	41	42	80	46	51	.273	.269	.273	.66	.31	.0	4.1	3.2	2.2	3.5
November	29.14	29.48	28.65	36.4	48.0	45.7	52.5	33.2	42.8	75	10	30	33	32	79	58	61	.178	.202	.196	1.37	.66	3.8	5.8	5.8	4.3	5.7
December	29.12	29.68	28.64	27.5	33.1	32.5	37.0	24.6	30.8	51	3	24	26	26	85	72	75	.133	.143	.144	1.98	1.06	5.0	7.1	7.7	7.6	7.3
Year	29.11	29.73	28.07	46.9	57.3	56.0	61.4	43.4	52.4	92	3	41	42	43	81	60	63	.304	.314	.319	34.07	3.87	22.3	5.8	6.2	5.7	6.0

FORT WORTH, TEX.

[ϕ=32°45′ N.; λ=97°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.39	29.90	28.79	43.1	52.1	----	57.7	40.6	49.2	78	18	35	35	---	75	55	---	0.218	0.222	----	2.74	1.63	0.0	5.0	5.1	----	4.6
February	29.44	29.75	29.05	48.3	57.1	----	63.1	45.5	54.3	77	26	44	43	---	86	63	---	.318	.314	----	4.57	3.30	3.1	5.4	6.7	----	6.0
March	29.20	29.73	28.76	56.2	69.4	----	75.0	53.3	64.2	87	34	48	48	---	76	50	---	.363	.360	----	3.89	2.60	.0	3.8	3.5	----	3.2
April	29.27	29.68	28.69	56.0	68.0	----	73.1	53.2	63.2	88	32	51	52	---	84	59	---	.410	.425	----	3.03	1.17	T	4.6	4.7	----	4.3
May	29.19	29.53	28.82	65.8	76.8	----	82.0	63.8	72.9	93	44	59	59	---	80	55	---	.524	.511	----	2.80	1.24	.0	5.3	5.2	----	4.2
June	29.27	29.48	28.98	73.7	86.7	----	90.7	71.9	81.3	94	67	68	65	---	83	50	---	.689	.624	----	1.61	1.00	.0	5.3	4.5	----	3.6
July	29.25	29.41	29.07	75.7	88.7	----	92.6	74.7	83.6	100	70	69	66	---	80	51	---	.705	.656	----	2.16	.70	.0	4.0	4.4	----	3.3
August	29.30	29.47	29.01	76.3	92.4	----	96.0	75.8	85.9	100	73	68	64	---	75	40	---	.673	.597	----	.11	.11	.0	2.5	2.6	----	1.7
September	29.30	29.57	29.06	69.8	88.0	----	91.7	68.9	80.3	97	50	58	55	---	67	34	---	.512	.458	----	.78	.57	.0	2.3	2.6	----	2.0
October	29.36	29.57	29.06	61.9	81.6	----	85.7	60.3	73.0	101	37	49	49	---	63	36	---	.375	.366	----	.11	.11	.0	2.3	2.0	----	2.2
November	29.39	29.90	28.76	46.1	60.1	----	66.4	42.6	54.5	87	21	36	35	---	67	42	---	.254	.237	----	1.17	.68	.0	2.9	3.9	----	3.1
December	29.40	29.99	29.02	42.0	54.4	----	59.3	38.5	48.9	84	22	32	32	---	69	46	---	.202	.193	----	1.26	.62	.0	4.9	5.1	----	4.7
Year	29.31	29.99	28.69	59.6	72.9	----	77.8	57.4	67.6	101	18	51	50	---	75	48	---	.437	.414	----	24.23	3.30	3.1	4.0	4.2	----	3.6

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

EVANSVILLE, IND.

[H=387 ft.; H_b=431 ft.; h_t=76 ft.; h_r=74 ft.; h_a=116 ft.]

	Wind														Number of days														
	By self-register					Number of winds, 7:30 a. m. and 7:30 p. m.												Precipitation		Snow				Fog		Maximum temp.		32°	Electricity	
	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	1" or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature or below	Thunderstorm	Aurora
	Mi.		*Mi.*																										
...	10.1	NW.	43	SW.	1	14	2	2	4	12	9	8	11	0	11	4	16	11	5	9	4	0	7	3	6	0	18	0	0
...	11.1	N.	32	SW.	1	9	4	9	3	12	7	5	7	0	3	6	19	12	9	5	1	0	11	1	0	0	8	0	0
...	11.1	S.	40	SW.	6	8	3	3	8	15	13	8	4	0	8	5	18	13	12	1	0	0	13	1	0	0	3	8	0
...	10.6	SW.	36	SW.	1	7	8	5	3	16	11	1	9	0	9	10	11	10	5	2	1	0	4	0	0	0	0	4	0
...	9.2	SW.	34	NW.	3	4	3	9	3	15	16	5	6	1	7	11	13	13	10	0	0	1	4	0	0	0	0	8	0
...	8.1	SW.	36	SW.	2	14	7	5	2	17	9	3	3	0	6	11	13	12	10	0	0	0	3	0	0	0	0	8	0
...	6.2	SW.	30	NE.	0	9	8	4	4	11	13	7	1	5	10	9	12	9	9	0	0	1	3	1	0	10	0	8	0
...	6.8	S.	36	N.	1	4	9	7	8	16	10	2	3	3	13	9	9	8	7	0	0	0	1	0	0	16	0	11	0
er..	7.3	SW.	25	N.	0	10	6	4	4	15	10	3	7	1	12	10	8	8	6	0	0	0	2	0	0	8	0	6	0
...	6.8	E.	28	SW.	0	7	9	15	6	7	8	7	1	2	21	6	4	3	1	0	0	0	3	0	0	0	0	1	0
r..	11.0	S.	44	SW.	2	5	3	1	6	22	11	6	6	0	13	6	11	8	7	2	1	0	7	0	1	0	7	3	0
r..	8.9	S.	30	NW.	0	7	2	2	6	16	9	11	9	0	7	7	17	8	7	4	1	0	4	0	1	0	19	0	0
...	8.9	SW.	44	SW.	17	98	64	66	57	174	126	66	67	12	120	94	151	115	88	23	8	2	62	6	8	34	55	57	0

FORT SMITH, ARK.

[H=449 ft.; H_b=463 ft.; h_t=57 ft.; h_r=48 ft.; h_a=82 ft.]

...	8.6	E.	30	NW.	0	4	2	24	1	5	4	9	12	1	14	8	9	6	4	3	0	0	3	1	1	0	14	4	0
/...	9.7	E.	31	E.	0	4	2	18	5	10	1	13	3	0	6	8	14	9	8	4	1	0	1	0	1	0	6	4	0
...	7.4	E.	29	SW.	0	2	2	23	4	10	6	9	6	0	11	10	10	11	8	0	0	0	2	2	0	0	2	9	0
...	8.3	E.	28	S.	0	5	5	14	7	10	6	8	5	0	11	7	12	7	7	1	0	1	1	0	0	0	0	5	0
...	7.9	E.	30	NW.	0	4	3	17	5	13	3	10	6	1	5	18	8	14	11	0	0	0	2	0	0	2	0	13	0
...	7.1	E.	21	S.	0	3	3	26	8	7	3	5	5	0	8	16	6	9	8	0	0	0	0	0	0	12	0	4	0
...	5.5	E.	31	SW.	0	5	5	32	5	1	4	8	1	1	13	13	5	7	5	0	0	1	0	0	0	25	0	11	0
...	6.1	E.	21	W.	0	3	5	27	4	8	5	8	1	1	16	14	1	4	3	0	0	0	0	0	0	30	0	8	0
er..	6.3	E.	21	S.	0	6	6	25	8	4	1	4	5	1	13	14	3	5	4	0	0	0	1	0	0	19	0	5	0
...	6.0	E.	17	N.	0	5	2	37	3	2	3	5	1	4	25	3	3	4	3	0	0	0	0	0	0	6	1	4	0
er..	8.3	E.	22	SW.	0	4	3	19	8	10	1	7	8	0	14	10	6	4	4	2	0	0	0	0	0	0	9	3	0
er..	7.6	E.	24	N.	0	6	2	24	1	5	6	11	7	0	11	13	7	6	5	2	0	0	2	0	1	0	11	1	0
...	7.4	E.	31	E.	0	51	40	286	59	85	43	97	60	9	147	134	84	86	70	12	1	2	12	3	3	94	43	71	0

FORT WAYNE, IND.

[H=777 ft.; H_b=857 ft.; h_t=69 ft.; h_r=63 ft.; h_a=84 ft.]

...	10.6	W.	44	SW.	1	4	9	5	2	5	12	19	5	1	2	11	18	13	10	16	8	0	6	2	12	0	28	0	0
y...	10.5	NW.	30	W.	0	4	11	7	6	6	6	8	8	0	1	6	21	15	12	9	5	0	10	1	7	0	24	1	0
...	11.2	W.	28	W.	0	0	3	8	6	10	13	15	7	0	9	8	14	14	12	4	1	1	14	2	2	0	15	4	2
...	11.2	SW.	32	W.	1	5	7	5	2	9	11	9	12	0	4	14	12	14	8	4	3	1	4	0	1	0	9	3	1
...	8.7	NW.	29	SW.	0	5	5	8	6	14	5	7	12	0	5	17	9	11	10	0	0	0	5	0	0	0	0	5	0
...	8.6	NW.	32	W.	1	11	7	1	3	9	7	7	13	0	4	16	10	10	8	0	0	0	0	0	0	0	0	3	0
...	7.1	SW.	23	NW.	0	8	5	2	3	10	12	7	14	1	10	15	6	10	9	0	0	0	2	1	0	1	0	7	0
...	7.5	NW.	28	NW.	0	5	3	3	0	9	14	9	16	3	9	19	3	9	7	0	0	0	2	0	0	4	0	6	0
er..	8.0	SW.	24	SW.	0	9	9	7	4	2	14	10	4	1	7	15	8	9	5	0	0	0	8	0	0	0	0	1	1
...	7.3	SW.	27	SW.	0	8	7	6	5	12	7	7	7	3	17	9	5	5	5	0	0	1	5	2	0	0	0	2	0
er..	10.7	S.	30	SW.	0	5	2	3	10	12	14	11	3	0	9	9	12	9	7	6	3	0	3	0	4	0	15	1	0
er..	10.1	W.	35	W.	1	1	1	7	10	10	6	14	13	0	4	9	18	14	8	14	9	0	5	1	7	0	24	0	0
...	9.3	SW.	44	SW.	4	65	69	62	57	108	121	123	116	9	81	148	136	133	101	53	29	3	64	9	33	5	115	33	4

FORT WORTH, TEX.

[H=616 ft.; H_b=679 ft.; h_t=92 ft.; h_r=85 ft.; h_a=110 ft.]

...	9.7	N.	39	N.	3	12	1	1	2	7	2	6	0	0	15	6	10	9	8	0	0	0	3	1	0	0	2	4	0
y...	10.0	S.	25	N.	0	9	1	0	3	10	3	2	0	0	9	7	12	5	4	1	1	0	4	0	0	0	6	3	0
...	12.0	S.	36	S.	1	7	0	4	3	9	4	3	0	1	21	5	5	7	6	0	0	0	2	1	0	0	0	4	0
...	11.7	S.	43	N.	3	5	0	3	7	8	3	3	1	0	11	10	9	11	9	2	0	1	1	0	0	0	0	6	1
...	11.4	S.	27	W.	0	3	0	5	3	14	3	3	0	0	15	8	8	8	5	0	0	0	0	0	0	4	0	9	0
...	9.6	S	37	S.	1	4	0	5	7	12	2	0	0	0	16	12	2	7	6	0	0	0	1	0	0	21	0	8	0
...	7.9	S.	21	E.	0	2	0	4	1	13	8	3	0	0	17	7	7	9	9	0	0	0	0	0	0	25	0	8	0
...	9.1	S.	28	S.	0	1	0	1	3	19	5	2	0	0	24	6	1	1	1	0	0	0	0	0	0	31	0	4	0
ver..	8.1	S.	24	N.	0	4	2	1	3	9	6	4	1	0	21	6	3	3	2	0	0	0	0	0	0	22	0	4	0
...	7.8	SE.	23	N.	0	7	0	2	5	6	6	2	0	3	23	6	2	1	1	0	0	0	0	0	0	8	0	1	0
ver..	12.5	S.	36	N.	2	8	0	1	1	11	5	3	1	0	18	6	6	3	2	0	0	0	0	0	0	0	7	0	0
er..	9.8	N.	31	N.	0	9	0	1	3	8	5	4	1	0	11	11	9	5	4	0	0	0	4	2	0	0	8	0	0
...	10.0	S.	39	N.	10	71	4	28	41	126	52	35	4	4	201	90	74	69	57	3	1	1	15	4	0	111	23	51	1

n from 7:30 a. m. observation.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

FRESNO, CALIF.

[ϕ=36°43′ N.; λ=119°49′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.81	30.23	29.32	42.9	49.2	51.8	53.6	39.6	46.6	65	32	41	42	43	92	79	75	0.258	0.275	0.284	2.14	0.75	0.0	4.7	7.8	6.9	7.5
February	29.71	30.02	29.24	47.5	56.6	58.8	60.5	44.4	52.4	74	36	43	43	42	84	62	55	.276	.281	.269	3.98	1.74	.0	5.5	7.0	5.7	6.3
March	29.69	29.92	29.25	46.1	56.5	59.1	61.2	43.5	52.4	72	36	42	40	39	86	55	50	.271	.248	.244	5.19	2.14	.0	4.6	6.6	6.1	6.2
April	29.67	29.93	29.40	51.4	66.7	69.6	72.1	49.6	60.8	86	41	46	44	44	83	46	43	.317	.297	.293	1.32	.50	.0	2.8	6.0	5.9	5.8
May	29.57	29.86	29.33	57.4	76.6	81.7	83.2	55.6	69.4	99	42	48	46	41	71	35	26	.338	.317	.269	.01	.01	.0	2.5	4.2	4.3	4.0
June	29.48	29.73	29.24	64.9	85.1	90.4	92.1	63.2	77.6	102	54	49	48	42	57	28	21	.349	.334	.279	.05	.05	.0	2.3	2.1	2.7	2.2
July	29.53	29.73	29.33	68.5	90.5	97.2	98.6	66.1	82.4	109	56	52	51	45	56	27	18	.385	.380	.310	T	T	.0	1.2	.9	1.2	1.1
August	29.52	29.70	29.33	66.5	87.4	94.5	95.9	64.0	80.0	107	57	49	50	44	56	29	19	.356	.360	.295	.00	.00	.0	0.5	1.0	1.0	.8
September	29.54	29.78	29.34	64.7	84.1	89.9	91.5	62.1	76.8	102	55	51	51	47	63	34	25	.379	.376	.332	.13	.13	.0	1.6	2.2	2.5	2.4
October	29.64	29.82	29.42	55.1	71.6	74.5	77.3	51.8	64.6	89	44	47	47	43	75	43	36	.327	.322	.288	.69	.56	.0	3.2	3.5	4.5	4.4
November	29.78	30.04	29.55	45.3	60.5	64.4	66.4	40.9	53.6	76	29	35	34	30	69	39	30	.209	.202	.177	.10	.06	.0	1.9	3.0	2.7	2.6
December	29.77	30.15	29.36	45.1	52.8	55.1	57.0	41.8	49.4	69	33	43	45	44	92	76	67	.279	.297	.284	1.47	1.07	.0	4.1	7.6	6.3	7.4
Year	29.64	30.23	29.24	54.6	69.8	73.9	75.8	51.9	63.8	109	29	46	45	42	74	46	39	.312	.307	.277	15.08	2.14	.0	2.9	4.3	4.2	4.2

GALVESTON, TEX.

[ϕ=29°18′ N.; λ=94°50′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.05	30.49	29.59	53.6	57.4	56.8	60.2	50.5	55.4	68	35	48	48	48	83	73	74	0.365	0.366	0.358	3.63	1.35	0.0	5.6	6.5	4.8	5.7
February	30.12	30.40	29.77	56.2	61.3	59.7	64.6	54.2	59.4	72	37	54	54	55	92	78	85	.437	.441	.440	1.91	1.59	.0	5.5	6.2	5.4	6.1
March	29.90	30.37	29.64	65.0	69.2	68.6	72.2	63.3	67.8	79	51	62	61	63	90	78	83	.567	.568	.585	1.82	.95	.0	5.8	7.0	6.6	6.4
April	29.95	30.26	29.47	64.7	68.4	67.8	72.0	62.8	67.4	80	38	61	61	61	88	78	80	.573	.570	.578	4.41	3.81	.0	6.1	6.1	5.5	6.2
May	29.88	30.11	29.59	72.8	77.2	76.4	79.5	71.6	75.6	84	62	68	68	68	85	73	76	.698	.688	.692	5.03	3.18	.0	5.8	5.1	4.1	4.7
June	29.95	30.14	29.80	79.6	83.6	82.8	86.2	77.8	82.0	90	71	73	73	73	81	71	72	.821	.809	.807	1.29	.72	.0	3.7	4.2	4.6	4.7
July	29.92	30.09	29.79	80.1	84.6	83.7	87.7	78.6	83.2	91	71	75	73	73	83	70	71	.855	.822	.814	4.00	1.45	.0	4.3	5.1	4.8	4.7
August	29.96	30.13	29.73	81.1	86.1	84.8	88.5	79.5	84.0	92	70	74	73	74	80	66	70	.844	.816	.826	6.03	1.95	.0	4.1	4.8	4.8	4.8
September	29.94	30.14	29.76	76.9	82.9	81.2	85.3	75.2	80.2	90	67	68	67	68	76	60	65	.711	.685	.696	7.13	4.08	.0	3.5	4.0	3.8	4.1
October	29.99	30.18	29.62	71.1	77.9	75.8	80.8	69.8	75.3	94	51	64	62	63	80	59	65	.627	.576	.598	1.26	1.05	.0	2.7	2.5	2.7	2.6
November	30.07	30.54	29.65	58.9	64.2	62.5	67.8	55.8	61.8	81	36	51	52	52	75	65	70	.424	.433	.439	3.78	1.84	.0	4.5	4.1	4.6	4.4
December	30.06	30.52	29.60	55.4	59.9	58.8	63.3	52.7	58.0	71	37	50	50	50	82	72	76	.376	.385	.387	2.71	1.70	.0	4.9	5.3	5.1	5.0
Year	29.98	30.54	29.47	68.0	72.7	71.6	75.7	66.0	70.8	94	35	62	62	62	83	70	74	.608	.597	.602	43.00	4.08	.0	4.7	5.1	4.7	5.0

GRAND JUNCTION, COLO.

[ϕ=39°04′ N.; λ=108°34′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	25.47	25.94	25.01	26.0	36.4	37.0	41.4	23.4	32.4	49	15	22	23	24	82	57	58	0.115	0.123	0.129	0.58	0.23	4.0	4.4	4.7	4.8	5.3
February	25.40	25.79	25.02	33.3	43.2	44.5	48.0	28.5	38.2	60	15	23	23	24	65	45	45	.122	.124	.131	.31	.22	.1	5.6	5.1	5.8	6.1
March	25.26	25.60	24.77	36.2	47.2	48.4	53.3	32.7	43.0	67	23	28	28	28	72	50	48	.157	.160	.158	1.10	.37	1.4	5.0	6.7	7.8	6.8
April	25.31	25.74	24.83	44.3	60.5	62.2	65.7	40.7	53.2	81	23	29	30	31	57	34	34	.164	.171	.183	.74	.38	.6	4.1	5.2	6.0	5.6
May	25.29	25.56	24.98	49.4	67.1	69.6	72.6	47.6	60.1	91	35	38	38	33	66	36	30	.231	.230	.191	.81	.38	.0	4.4	5.2	6.2	5.5
June	25.33	25.57	25.07	62.1	81.5	81.8	86.3	60.0	73.2	94	48	42	44	45	51	29	30	.278	.300	.309	.98	.26	.0	4.1	5.2	6.6	5.3
July	25.42	25.59	25.23	64.3	85.1	88.1	91.8	63.6	77.7	101	58	44	42	38	48	23	19	.287	.275	.239	.14	.08	.0	1.6	2.1	4.1	2.5
August	25.41	25.61	25.20	65.6	84.3	86.6	90.3	63.7	77.0	102	51	46	45	44	52	28	27	.322	.318	.307	.69	.27	.0	2.5	3.4	4.9	3.9
September	25.47	25.66	25.23	57.5	74.8	77.3	80.7	55.8	68.2	87	49	46	46	46	67	39	38	.322	.319	.325	2.41	1.56	.0	2.5	3.5	5.1	3.8
October	25.43	25.73	25.02	47.2	63.9	63.7	69.0	43.8	56.4	81	32	33	32	34	59	31	35	.196	.185	.205	.30	.19	.0	2.4	3.7	4.5	3.7
November	25.48	25.91	24.88	25.5	41.1	40.5	45.1	21.6	33.4	59	10	17	17	18	69	35	39	.095	.092	.100	.07	.03	T	2.8	4.1	3.2	3.8
December	25.50	25.79	25.11	23.0	34.3	34.6	38.6	19.8	29.2	53	5	20	22	24	87	60	66	.106	.117	.127	1.12	.55	9.2	5.3	6.9	5.3	6.2
Year	25.40	25.94	24.77	44.5	60.0	61.2	65.2	41.8	53.5	102	5	32	32	32	65	39	39	.200	.201	.200	9.25	1.56	15.3	3.7	4.6	5.4	4.9

GRAND RAPIDS, MICH.

[ϕ=42°58′ N.; λ=85°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.19	29.87	28.04	22.3	25.0	24.1	29.3	18.2	23.8	49	3	18	20	20	82	79	81	0.103	0.112	0.109	2.39	0.88	10.2	8.6	9.1	8.3	8.8
February	29.40	29.93	28.64	28.7	32.2	31.6	37.0	24.2	30.6	58	5	25	25	26	84	75	77	.144	.144	.143	5.30	2.38	6.9	8.6	9.0	7.6	8.5
March	29.15	29.59	28.68	36.9	45.5	43.7	50.7	33.5	42.1	82	14	33	34	33	85	64	68	.204	.211	.206	3.35	.91	2.9	6.4	6.5	7.4	6.3
April	29.24	29.61	28.73	42.6	53.2	51.1	56.7	39.6	48.2	82	23	36	37	38	79	55	62	.234	.245	.255	1.49	.47	8.7	7.0	6.8	6.5	6.8
May	29.16	29.46	28.70	52.7	64.2	62.2	68.4	49.0	58.7	87	33	47	48	49	83	59	66	.344	.360	.375	6.25	2.88	.0	6.0	7.0	6.6	6.6
June	29.23	29.54	28.89	62.4	73.0	71.5	76.9	58.3	67.6	92	51	55	55	56	78	55	60	.448	.449	.459	3.22	1.77	.0	5.7	6.1	5.9	5.8
July	29.20	29.38	28.94	67.4	78.8	78.3	82.5	64.3	73.4	90	55	62	62	62	82	58	58	.555	.568	.562	2.60	1.12	.0	5.3	6.1	5.4	5.3
August	29.25	29.43	29.06	67.9	80.8	77.3	84.1	64.8	74.4	94	52	64	63	63	87	57	63	.595	.596	.592	3.87	1.44	.0	4.2	5.2	2.9	4.9
September	29.25	29.54	28.81	55.5	67.8	63.5	70.6	52.8	61.7	82	45	53	54	55	92	62	74	.416	.424	.438	2.21	.83	.0	5.5	5.5	5.6	5.8
October	29.33	29.72	28.78	48.4	63.7	58.4	66.9	46.3	56.6	83	35	44	45	45	86	52	62	.295	.304	.304	1.49	.84	.0	4.5	4.0	3.6	4.4
November	29.25	29.71	28.76	38.2	46.7	44.1	50.8	35.3	43.0	77	19	33	34	34	80	62	68	.192	.207	.210	1.46	1.03	5.6	7.7	7.3	4.8	7.4
December	29.23	29.77	28.69	28.5	31.6	30.6	35.5	25.2	30.4	49	10	24	25	25	82	76	78	.135	.141	.140	1.80	.89	10.8	9.3	9.3	8.1	8.9
Year	29.24	29.93	28.04	46.0	55.2	53.0	59.1	42.6	50.9	94	3	41	42	42	83	63	68	.305	.313	.316	35.43	2.88	45.1	6.6	6.8	6.1	6.6

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

FRESNO, CALIF.

[H=287 ft.; H_b=327 ft.; h_t= 97 ft.; h_r=89 ft.; h_a=105 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	5.2	NW.	22	E.	0	6	2	8	8	5	9	6	16	2	4	6	21	9	9	0	0	1	19	10	0	0	0	1	1
February	7.1	SE.	35	SE.	2	7	4	15	14	4	2	1	8	1	7	10	11	10	10	0	0	0	6	2	0	0	0	0	0
March	7.0	NW.	26	W.	0	8	4	14	4	4	7	2	19	0	6	14	11	14	11	0	0	1	0	0	0	0	0	1	0
April	6.5	NW.	26	SW.	0	6	3	6	1	2	1	6	33	2	6	15	9	7	7	0	0	0	0	0	0	0	0	1	1
May	6.7	NW.	18	NW.	0	12	5	1	2	0	4	4	33	1	14	11	6	1	0	0	0	0	0	0	0	8	0	0	0
June	7.4	NW.	21	W.	0	8	1	1	1	1	1	6	40	1	22	6	2	1	1	0	0	0	0	0	0	19	0	1	0
July	7.1	NW.	17	NW.	0	8	0	0	0	2	1	7	44	0	28	3	0	0	0	0	0	0	0	0	0	28	0	0	0
August	7.0	NW.	15	NW.	0	12	1	0	0	1	2	5	41	0	28	3	0	0	0	0	0	0	0	0	0	28	0	0	0
September	6.2	NW.	16	NW.	0	9	5	3	1	2	3	4	33	0	22	2	6	1	1	0	0	0	1	1	0	19	0	0	0
October	5.2	NW.	18	NW.	0	13	3	10	2	1	3	11	14	5	11	15	5	4	2	0	0	0	3	0	0	0	0	0	0
November	4.7	NW.	18	NW.	0	7	8	10	2	4	2	3	19	5	18	10	2	4	1	0	0	0	2	0	0	0	2	0	0
December	4.3	NW.	14	NW.	0	8	10	3	4	5	6	7	13	6	3	11	17	5	4	0	0	0	17	10	0	0	0	0	0
Year	6.2	NW.	35	SE.	2	104	46	71	39	31	41	62	313	23	169	106	90	56	46	0	0	2	48	23	0	102	2	4	2

GALVESTON, TEX.

[H=6 ft.; H_b=54 ft.; h_t=106 ft.; h_r=98 ft.; h_a=114 ft.]

January	11.7	N.	38	NW.	3	12	8	7	10	7	8	2	8	0	11	5	15	12	8	0	0	0	12	9	0	0	0	3	0
February	11.2	SE.	30	SE.	0	8	4	5	23	7	2	3	4	0	8	8	12	6	2	0	0	0	14	13	0	0	0	3	0
March	11.8	S.	30	S.	0	7	2	6	11	32	1	0	2	1	7	8	16	8	7	0	0	0	16	3	0	0	0	4	0
April	12.6	SE.	38	NW.	2	8	0	3	26	15	1	2	4	1	7	10	13	6	4	0	0	0	15	0	0	0	0	4	0
May	12.4	S.	37	NW.	3	7	4	4	13	31	1	0	2	0	11	14	6	6	5	0	0	1	3	0	0	0	0	5	0
June	10.5	S.	23	S.	0	1	0	2	8	42	3	2	2	0	13	12	5	8	6	0	0	0	0	0	0	1	0	6	0
July	8.5	S.	28	NW.	0	1	0	0	1	39	9	11	0	1	10	15	6	10	8	0	0	0	0	0	0	1	0	13	0
August	9.3	S.	38	SE.	1	7	0	3	13	34	2	0	3	0	11	15	5	9	6	0	0	0	0	0	0	5	0	5	0
September	8.4	S.	28	SE.	0	12	3	6	8	21	3	4	3	0	12	13	5	9	9	0	0	0	0	0	0	0	0	7	0
October	9.1	S.	30	NE.	0	11	3	10	9	18	3	1	6	1	21	6	4	6	3	0	0	0	3	0	0	2	0	2	0
November	11.9	S.	34	NW.	3	14	4	5	12	16	1	1	7	0	15	6	9	6	5	0	0	0	4	0	0	0	0	1	0
December	10.6	N.	26	N.	0	15	3	3	9	17	3	1	10	1	14	6	11	11	7	0	0	0	3	1	0	0	0	1	0
Year	10.7	S.	38	NW.	12	103	31	54	143	279	37	27	51	5	140	118	107	97	70	0	0	1	70	26	0	9	0	54	0

GRAND JUNCTION, COLO.

[H=4,587 ft.; H_b=4,602 ft.; h_t= 60 ft.; h_r=52 ft.; h_a=68 ft.]

January	5.0	SE.	27	S.	0	15	3	4	12	10	1	5	11	1	9	13	9	6	6	8	5	0	3	1	0	0	31	0	2
February	7.1	SE.	25	S.	0	9	5	4	13	13	1	2	9	0	6	10	12	5	2	7	1	0	0	0	0	0	20	0	0
March	7.3	NW.	30	S.	0	15	1	3	13	8	1	4	17	0	4	11	16	11	7	7	5	0	2	0	0	0	14	0	0
April	7.6	SE.	34	S.	1	8	8	4	16	8	1	4	9	2	10	9	11	6	3	3	3	0	0	0	0	0	7	2	0
May	7.1	N.	42	SW.	2	16	4	5	16	3	2	2	14	0	7	13	11	8	5	0	0	0	0	0	0	1	0	5	0
June	8.4	SE.	36	S.	4	4	3	7	23	9	4	6	4	0	8	15	7	11	8	0	0	1	0	0	0	6	0	9	0
July	6.9	SE.	31	SE.	0	13	2	4	22	9	4	1	7	0	22	8	1	4	1	0	0	0	0	0	0	22	0	5	0
August	6.3	SE.	26	SW.	0	5	6	4	23	11	6	1	6	0	16	10	5	7	4	0	0	0	0	0	0	15	0	7	0
September	5.9	SE.	27	NW.	0	15	1	6	26	6	1	2	3	0	14	11	5	6	4	0	0	0	0	0	0	0	0	5	1
October	6.9	SE.	31	S.	0	16	3	7	13	15	1	0	7	0	16	9	6	5	1	0	0	0	0	0	0	0	1	5	0
November	5.5	N.	26	SW.	0	15	2	3	9	6	1	8	15	1	15	9	6	4	0	4	2	0	0	0	1	0	26	0	0
December	4.1	SE.	27	S.	0	11	4	5	10	3	5	7	17	0	9	5	17	6	5	10	6	0	1	0	6	0	31	0	0
Year	6.5	SE.	42	SW.	7	142	42	56	196	101	28	42	119	4	136	123	106	79	46	39	22	1	6	1	7	44	130	38	3

GRAND RAPIDS, MICH.

[H=638 ft.; H_b=707 ft.; h_t=70 ft.; h_r=70 ft.; h_a=244 ft.]

January	11.8	NW.	49	SW.	2	8	5	10	9	7	9	7	7	0	1	4	26	19	7	26	15	0	5	3	18	0	31	0	0
February	12.0	NE.	35	SW.	3	8	12	8	8	3	10	4	3	0	1	6	21	13	13	14	4	0	6	3	10	0	24	3	1
March	13.8	SW.	43	SW.	4	7	7	4	8	13	12	8	3	0	8	10	13	13	13	6	1	0	11	3	3	0	13	2	0
April	14.2	SW.	53	SW.	7	8	6	6	6	5	12	8	9	0	6	10	14	14	6	5	3	0	3	0	0	0	10	1	1
May	10.4	SE.	43	SW.	2	10	3	4	13	8	9	9	6	0	5	14	12	14	11	0	0	0	8	1	0	0	0	5	0
June	10.0	W.	38	SW.	2	2	6	6	1	11	11	14	9	0	11	6	13	8	5	0	0	0	2	0	0	2	0	5	0
July	8.5	SW.	31	SW.	0	8	5	10	2	5	15	11	5	1	10	12	9	13	10	0	0	0	5	0	0	3	0	12	0
August	9.4	SW.	36	NW.	4	7	2	3	4	9	20	8	9	0	11	14	6	8	7	0	0	0	4	2	0	5	0	8	0
September	10.0	E.	30	SW.	1	9	8	10	9	8	8	4	4	0	10	7	13	12	9	0	0	0	10	1	0	0	0	3	1
October	10.0	S.	37	SW.	2	3	8	3	12	13	10	9	4	0	13	12	6	5	4	0	0	0	6	0	0	0	0	1	1
November	13.6	S.	47	SW.	7	5	5	2	13	18	10	5	2	0	4	8	18	9	6	9	4	0	2	0	2	0	16	2	0
December	11.1	SW.	36	SW.	2	3	0	2	16	11	9	13	8	0	1	3	27	17	12	18	13	0	3	0	8	0	23	0	0
Year	11.2	SW.	53	SW.	36	78	67	68	101	111	135	100	69	1	81	106	178	145	103	78	40	0	65	13	41	10	117	42	4

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

GREEN BAY, WIS.

[ϕ=44°31′ N.; λ=88°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.30	29.98	28.31	13.3	19.0	18.6	22.8	8.0	15.4	39	−14	10	12	13	85	72	77	0.077	0.082	0.086	2.06	1.20	17.2	7.4	8.4	6.5	7.7
February	29.50	30.05	28.73	22.0	26.1	27.0	31.6	18.3	25.0	41	−20	19	20	22	87	77	78	.110	.114	.118	3.16	.88	9.2	8.7	8.7	7.0	8.1
March	29.21	29.68	28.58	30.8	39.7	38.3	44.9	27.3	36.1	69	3	26	28	29	82	63	69	.156	.170	.174	2.32	.68	4.4	5.4	6.1	4.9	5.9
April	29.31	29.82	28.70	40.5	50.3	50.7	54.6	37.2	45.9	80	22	32	32	32	73	50	51	.199	.204	.205	1.68	1.06	.1	7.4	7.6	6.7	7.7
May	29.23	29.56	28.66	50.3	59.6	59.3	64.0	46.5	55.2	78	33	44	44	44	80	59	60	.302	.307	.310	2.32	1.12	.0	7.0	8.1	7.1	7.7
June	29.30	29.67	28.92	61.0	70.7	70.6	74.5	56.8	65.6	89	48	53	51	52	77	54	55	.421	.395	.414	2.03	1.07	.0	5.5	7.2	6.2	6.7
July	29.28	29.48	29.03	65.8	75.4	75.4	79.8	62.1	71.0	87	50	59	59	61	80	59	62	.510	.511	.543	1.84	.64	.0	6.6	8.2	6.4	7.1
August	29.32	29.51	29.03	66.2	78.1	76.8	82.0	62.9	72.4	95	48	61	59	61	83	53	60	.543	.512	.555	3.75	1.91	.0	4.6	5.5	4.6	4.8
September	29.35	29.63	28.92	54.3	63.9	62.5	67.6	52.2	59.9	80	44	50	51	53	87	65	72	.370	.382	.406	6.31	2.00	.0	6.1	6.0	5.8	6.2
October	29.39	29.89	28.77	48.7	59.4	55.7	63.3	46.4	54.8	82	34	41	43	45	78	50	69	.266	.286	.315	.75	.30	.0	6.5	5.7	4.7	5.6
November	29.30	29.88	28.68	34.5	40.0	38.0	43.4	31.2	37.3	72	10	28	28	29	76	60	68	.163	.169	.174	1.50	.76	1.0	8.2	6.9	6.0	6.9
December	29.31	29.84	28.70	21.2	25.8	25.2	29.9	16.8	23.4	45	−14	17	18	18	82	70	74	.102	.106	.110	1.33	.53	7.5	8.1	8.4	6.4	8.1
Year	29.32	30.05	28.31	42.4	50.7	49.8	54.9	38.8	46.8	95	−20	37	37	38	81	62	66	.268	.270	.284	29.05	2.00	39.4	6.8	7.2	6.0	6.9

GREENSBORO, N. C.

[ϕ=36°05′ N.; λ=79°57′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.12	29.50	28.42	33.0	42.6	39.1	47.2	29.4	38.3	64	11	26	31	32	83	65	76	0.165	0.187	0.195	2.82	0.85	1.8	6.0	6.5	5.9	6.3
February	29.28	29.72	28.59	38.2	49.7	46.4	54.4	34.7	44.6	74	22	33	36	37	82	62	70	.201	.229	.237	.98	.72	T	6.9	6.8	5.4	7.3
March	29.10	29.44	28.65	45.7	60.2	56.7	65.7	41.4	53.6	83	25	41	41	41	83	52	59	.278	.276	.277	2.28	1.11	.0	5.9	6.7	6.1	6.4
April	29.14	29.49	28.51	50.4	66.1	61.3	70.6	45.2	57.9	85	29	46	44	46	84	48	60	.326	.304	.330	2.14	.56	.0	5.0	4.7	4.8	4.8
May	29.05	29.38	28.57	61.3	73.2	69.2	78.4	56.2	67.3	92	46	54	53	54	80	52	62	.439	.417	.441	3.37	1.05	.0	5.9	5.6	7.3	6.3
June	29.11	29.33	28.93	67.1	77.6	73.5	81.8	61.5	71.6	89	48	62	61	64	83	59	73	.559	.554	.599	4.06	1.33	.0	6.1	6.0	7.3	6.3
July	29.11	29.24	28.90	70.8	81.3	76.7	85.0	67.2	76.1	92	55	67	68	68	89	65	77	.671	.682	.700	6.53	2.20	.0	6.7	7.2	7.0	7.1
August	29.13	29.31	28.93	71.2	85.2	79.2	89.0	67.3	78.2	96	59	66	66	68	86	53	70	.656	.644	.689	1.65	.66	.0	4.9	5.3	4.6	4.9
September	29.11	29.35	28.76	63.4	76.1	70.0	80.0	60.0	70.0	92	41	60	59	61	88	57	75	.528	.512	.554	.89	.35	.0	6.8	7.6	6.3	7.1
October	29.18	29.49	28.74	48.1	69.2	59.6	73.5	44.6	59.0	89	33	44	45	48	88	44	66	.300	.311	.339	.96	.68	.0	2.4	3.0	1.5	2.6
November	29.23	29.49	28.78	43.3	50.9	50.5	63.5	38.6	51.0	78	17	40	42	42	87	54	74	.282	.306	.298	4.91	3.02	T	4.7	4.5	3.0	4.3
December	29.17	29.65	28.68	32.3	46.2	39.2	49.7	28.5	39.1	67	17	29	31	32	87	56	75	.167	.185	.184	3.24	1.31	T	4.8	5.2	4.1	4.9
Year	29.14	29.72	28.42	52.1	65.6	60.1	69.9	47.9	58.9	96	11	47	48	49	85	56	70	.381	.384	.404	33.83	3.02	1.8	5.5	5.8	5.3	5.7

GREENVILLE, S. C.

[ϕ=34°50′ N.; λ=82°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.96	29.34	28.34	37.9	46.6	44.5	50.0	34.7	42.4	72	14	32	33	34	79	62	67	0.191	0.206	0.209	2.49	0.84	T	6.2	5.9	4.4	6.2
February	29.11	29.54	28.49	43.0	53.3	52.0	56.9	40.3	48.6	78	29	36	38	38	78	58	62	.227	.245	.246	1.15	.77	0.0	6.9	6.4	4.4	6.2
March	28.95	29.30	28.58	50.3	62.5	59.9	66.0	46.9	56.4	82	30	43	43	44	77	53	60	.296	.307	.314	4.14	1.43	.0	7.3	6.0	5.3	6.4
April	28.98	29.33	28.46	54.9	67.3	64.2	70.2	49.3	59.8	86	34	46	45	46	74	50	56	.336	.328	.335	2.14	.80	.0	4.5	5.7	4.7	5.0
May	28.89	29.17	28.53	64.6	76.3	72.5	80.4	59.1	69.8	94	50	55	53	53	74	48	54	.452	.421	.424	3.83	1.33	.0	6.4	6.4	7.2	6.5
June	28.95	29.19	28.75	70.0	80.8	76.7	84.6	64.5	74.6	92	59	62	60	62	77	52	63	.567	.536	.569	1.75	.74	.0	6.0	5.6	6.1	5.9
July	28.94	29.08	28.77	72.6	82.7	80.1	86.4	68.0	77.2	93	60	67	66	67	84	59	66	.666	.640	.656	4.26	1.13	.0	6.0	6.9	7.4	6.8
August	28.97	29.12	28.81	74.4	85.8	81.7	90.0	70.0	80.0	100	66	67	66	67	79	53	62	.672	.649	.660	3.01	1.41	.0	5.9	5.6	5.8	5.5
September	28.94	29.15	28.62	65.4	79.2	74.6	82.9	62.5	72.7	93	46	60	58	60	84	51	62	.538	.510	.542	2.77	1.75	.0	6.1	6.0	5.3	6.1
October	29.01	29.31	28.59	54.2	71.0	66.1	75.2	50.9	63.0	88	41	46	45	47	74	41	50	.312	.307	.325	.41	.23	.0	2.5	1.9	1.6	2.1
November	29.05	29.34	28.65	47.9	60.9	55.7	64.0	44.0	54.0	79	21	41	39	41	78	48	60	.295	.278	.294	3.11	1.82	.0	4.7	3.9	3.4	4.4
December	29.00	29.44	28.57	37.8	48.5	45.7	52.1	34.6	43.4	69	25	29	33	32	72	57	62	.173	.197	.194	2.58	1.68	0	4.8	5.1	4.6	5.0
Year	28.98	29.54	28.34	56.1	67.9	64.5	71.6	52.1	61.8	100	14	49	48	49	78	53	60	.394	.385	.397	31.64	1.82	.0	5.6	5.4	5.0	5.5

HARRISBURG, PA.

[ϕ=40°16′ N.; λ=76°52′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.64	30.09	28.72	28.3	33.1	32.9	37.6	24.4	31.0	58	7	21	22	21	73	62	61	0.124	0.122	0.122	2.07	0.66	2.5	7.9	7.0	6.2	7.2
February	29.79	30.35	28.99	31.0	36.1	37.0	41.9	28.1	35.0	62	13	23	24	26	72	61	64	.135	.137	.153	2.03	1.16	1.7	6.9	6.8	5.5	6.8
March	29.60	29.98	29.09	39.2	46.8	47.1	53.3	35.9	44.6	80	13	30	31	34	70	58	64	.177	.191	.214	2.83	1.22	2.3	5.6	6.7	5.9	6.8
April	29.64	30.02	28.74	47.7	57.1	57.5	62.5	44.4	53.4	87	28	37	37	39	66	50	51	.236	.235	.256	2.19	1.03	T	5.5	5.0	5.3	5.7
May	29.55	30.00	28.95	56.4	64.6	64.8	69.9	52.1	61.0	81	40	46	45	48	70	53	57	.327	.324	.350	3.45	1.41	.0	6.0	6.8	5.8	6.3
June	29.60	29.92	29.31	65.3	76.2	74.2	80.0	60.5	70.2	91	47	56	55	57	73	49	56	.463	.445	.478	2.92	1.19	.0	5.5	5.9	6.6	6.1
July	29.57	29.71	29.32	70.1	80.5	79.2	84.7	66.7	75.7	93	57	63	62	64	80	56	61	.595	.574	.606	2.65	.61	.0	5.8	5.6	5.9	6.0
August	29.60	29.77	29.33	71.3	82.5	80.2	87.2	67.2	77.2	95	57	64	61	64	77	50	58	.597	.559	.601	4.28	1.64	.0	4.0	4.2	3.4	3.9
September	29.62	29.98	29.06	58.6	68.2	66.7	72.0	56.2	64.1	90	44	52	52	54	79	59	66	.402	.407	.431	4.41	1.58	.0	6.5	5.7	5.2	5.9
October	29.71	30.04	29.23	49.9	62.4	59.6	66.6	46.9	56.8	84	37	44	44	46	81	53	62	.298	.302	.322	2.42	1.02	.0	3.5	4.2	2.7	3.7
November	29.76	30.12	29.25	39.8	48.7	46.6	53.6	36.1	44.8	75	13	34	35	36	79	62	68	.226	.243	.241	3.83	1.26	10.2	5.1	5.2	4.1	5.1
December	29.68	30.19	29.07	31.6	36.2	35.3	39.7	28.5	34.1	52	17	24	24	25	73	60	65	.135	.134	.141	3.65	1.56	3.2	7.1	6.3	5.1	6.5
Year	29.65	30.35	28.72	49.1	57.7	56.8	62.4	45.6	54.0	95	7	41	41	43	74	56	61	.310	.306	.326	36.73	1.64	19.9	5.8	5.8	5.1	5.8

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

GREEN BAY, WIS.

[H=589 ft.; H_b=617 ft.; h_t=109 ft.; h_r=101 ft.; h_a=141 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	10.7	W.	34	NW	1	6	9	1	3	10	12	8	12	1	6	5	20	13	6	20	13	0	2	0	23	0	31	0	0
February	10.6	N.	31	NE.	0	8	13	4	6	4	6	7	8	0	2	7	19	14	11	16	9	0	7	2	15	0	26	2	0
March	12.4	SW.	35	NE.	2	8	8	1	11	8	13	7	6	0	12	5	14	11	9	6	1	0	4	2	6	0	15	2	1
April	13.0	S.	31	NE.	0	1	12	2	6	14	9	10	6	0	5	2	23	9	7	2	0	0	1	0	0	0	11	2	0
May	10.7	SE.	34	NW	1	8	7	6	13	11	5	5	7	0	3	6	22	12	8	0	0	1	0	0	0	0	0	3	0
June	10.2	S.	30	NE.	0	7	5	5	5	12	9	8	7	2	7	6	17	13	8	0	0	0	0	0	0	0	0	4	0
July	8.6	S.	30	SW.	0	8	9	3	8	10	11	7	4	2	3	12	16	11	9	0	0	1	0	0	0	0	0	11	0
August	10.2	S.	37	NE.	2	4	5	2	6	14	18	5	7	1	12	10	9	9	8	0	0	0	1	1	0	4	0	7	2
September	9.4	NE.	30	N.	0	10	8	10	5	6	9	7	4	1	10	5	15	15	10	0	0	0	5	1	0	0	0	4	2
October	10.7	S.	30	NW	0	5	8	2	6	24	7	7	2	1	11	7	13	6	3	0	0	0	2	0	0	0	0	2	0
November	12.3	S.	34	W.	2	8	1	1	12	7	16	8	7	0	8	6	16	9	6	10	1	0	0	0	8	0	19	0	0
December	10.1	SW.	31	NW	0	4	1	2	8	9	19	13	5	1	3	7	21	12	8	16	9	0	3	0	15	0	29	0	0
Year	10.7	S.	37	NE.	8	77	86	39	89	120	134	92	75	9	82	78	205	104	93	70	33	2	25	6	67	4	131	37	5

GREENSBORO, N. C.

[H=891 ft.; H_b=886 ft.; h_t=6 ft.; h_r=3 ft.; h_a=56 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.9	SW.	34	SW.	1	11	6	4	3	12	15	6	4	1	9	5	17	12	8	5	3	0	13	5	4	0	22	0	0
February	8.4	NE.	28	SW.	0	12	13	0	1	2	15	4	8	1	4	7	17	9	4	2	0	0	12	6	0	0	10	1	0
March	9.2	SW.	26	SW.	0	7	8	3	1	8	23	7	4	1	8	7	16	9	6	0	0	0	10	2	0	0	5	0	0
April	8.6	SW.	29	SW.	0	4	9	2	0	16	20	3	5	1	15	2	13	10	8	0	0	0	8	2	0	0	2	3	0
May	8.3	NE.	32	SW.	1	6	14	3	3	5	11	15	4	1	6	12	13	12	9	0	0	0	10	2	0	3	0	6	0
June	7.5	S.	26	W.	0	13	6	2	2	15	15	7	0	0	6	12	12	15	12	0	0	0	10	0	0	0	0	13	0
July	6.8	S.	32	NW.	1	4	2	5	8	18	19	4	1	1	5	8	18	18	15	0	0	0	11	0	0	8	0	7	0
August	6.4	SW.	26	NW.	0	10	6	2	3	16	11	7	5	2	10	16	5	10	6	0	0	0	8	0	0	11	0	9	0
September	7.1	NE.	24	NE.	0	3	17	9	5	4	9	10	3	0	5	7	18	5	4	0	0	0	13	3	0	2	0	3	0
October	6.8	NE.	24	N.	0	15	12	7	2	5	8	4	6	3	21	6	4	4	3	0	0	0	16	2	0	0	0	1	0
November	7.6	SW.	24	SW.	0	4	10	4	6	7	14	7	5	3	14	6	10	6	5	2	1	0	10	6	0	0	9	1	0
December	7.0	SW.	24	SW.	0	10	12	3	0	8	11	10	4	4	15	4	12	11	7	1	1	0	16	2	1	0	26	2	0
Year	7.6	SW.	34	SW.	3	99	115	44	34	116	171	84	49	18	118	92	155	121	87	10	5	0	137	30	5	24	74	46	0

GREENVILLE, S. C.

[H=970 ft.; H_b=1,040 ft.; h_t=70 ft.; h_r=69 ft.; h_a=78 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	----	----	----	----	----	5	15	2	1	16	13	4	6	0	9	6	16	11	6	2	0	0	10	5	1	0	10	0	1
February	----	----	----	----	----	7	27	0	0	6	8	6	1	1	8	7	13	7	3	0	0	0	9	2	0	0	5	0	0
March	17.1	[1] SW.	[1] 23	[1] SW.	0	5	15	5	2	8	18	3	5	1	5	13	13	14	10	0	0	0	7	0	0	0	1	9	0
April	7.4	SW.	27	SW.	0	4	5	1	3	14	18	5	7	3	12	7	11	10	6	0	0	0	10	1	0	0	0	2	0
May	7.1	SW.	26	SW.	0	12	16	3	2	2	15	4	7	1	6	11	14	13	8	0	0	0	1	0	0	5	0	8	0
June	5.9	SW.	23	SW.	0	6	12	7	3	8	12	5	6	1	8	13	9	10	8	0	0	0	2	0	0	3	0	11	0
July	6.1	S.	28	N.	0	0	5	4	1	20	19	6	6	1	3	14	14	13	10	0	0	0	3	0	0	12	0	9	0
August	5.8	NE.	27	NW.	0	10	14	4	3	5	18	1	6	1	9	12	10	11	9	0	0	0	1	0	0	17	0	9	0
September	5.7	SW.	18	N.	0	7	14	8	2	3	9	9	6	2	5	16	9	9	5	0	0	0	4	0	0	3	0	3	0
October	5.7	NE.	17	N.	0	8	18	7	5	5	3	3	11	2	24	2	5	3	2	0	0	0	0	0	0	0	0	1	0
November	6.7	NE.	26	SW.	0	3	18	5	6	12	7	0	8	1	15	3	12	9	8	0	0	0	9	1	0	0	7	0	0
December	6.6	NE.	26	SW.	0	6	18	2	3	5	15	9	3	1	12	7	12	8	7	0	0	0	8	2	0	0	11	1	0
Year	6.4	SW.	28	N.	0	73	177	48	31	104	155	55	72	15	116	111	138	118	82	2	0	0	64	11	1	40	34	53	1

HARRISBURG, PA.

[H=337 ft.; H_b=374 ft.; h_t=94 ft.; h_r=42 ft.; h_a=104 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.9	W.	32	SW.	1	2	11	7	5	3	4	15	15	0	4	8	19	11	9	8	3	0	9	0	10	0	29	0	0
February	7.8	NW.	30	NW.	0	4	13	9	4	6	2	6	12	0	7	6	15	10	9	7	3	0	14	3	5	0	19	1	0
March	8.3	W.	27	W.	0	1	12	7	4	9	5	15	9	0	5	10	16	12	10	4	1	0	11	2	1	0	8	1	0
April	7.9	W.	24	NW.	0	2	11	5	9	10	1	9	13	0	11	6	13	8	7	2	0	0	7	0	0	0	2	3	0
May	7.2	W.	23	NW.	0	2	12	9	12	3	2	10	12	0	6	12	13	18	13	0	0	1	11	0	0	0	0	7	0
June	6.7	S.	24	W.	0	4	11	2	7	11	7	11	7	0	4	17	9	11	9	0	0	1	3	0	0	2	0	6	0
July	6.1	W.	27	W.	0	3	9	1	7	10	14	15	3	0	6	14	11	15	12	0	0	0	6	0	0	3	0	7	0
August	5.8	W.	25	NW.	0	4	4	5	5	10	8	17	9	0	13	14	4	7	6	0	0	0	3	0	0	9	0	10	0
September	6.8	NE.	22	NW	0	8	16	5	6	6	9	2	8	0	9	9	12	14	10	0	0	0	10	2	0	0	0	2	0
October	6.4	N.	21	NE.	0	9	13	3	6	6	3	13	7	2	19	5	7	6	4	0	0	0	11	2	0	0	0	1	0
November	6.9	W.	29	NW	0	6	10	3	7	4	8	15	5	2	14	5	11	11	8	4	2	0	9	0	5	0	9	0	0
December	7.6	W.	27	W.	0	7	9	3	4	2	7	16	14	0	8	8	15	11	7	7	3	0	13	3	4	0	22	0	0
Year	7.1	W.	32	SW.	1	52	131	50	76	80	70	144	114	4	106	114	145	134	104	32	12	2	107	12	25	14	89	38	0

[1] For 17 days; 15th to 31st.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

HARTFORD, CONN.

[ϕ=41°46′ N.; λ=72°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.88	30.24	29.10	23.2	29.2	----	34.2	19.0	26.6	58	−5	17	17	---	75	60	---	0.106	0.104	----	5.62	1.94	23.6	4.4	5.7	----	5.7
February	30.02	30.70	29.10	28.6	33.5	----	38.7	24.4	31.6	50	6	21	20	---	70	58	---	.124	.119	----	2.20	.60	7.9	5.9	6.4	----	6.0
March	29.83	30.23	29.24	36.1	44.3	----	50.0	31.6	40.8	75	6	27	27	---	70	54	---	.160	.161	----	1.93	.64	1.6	6.3	5.3	----	5.8
April	29.87	30.32	28.93	45.8	57.0	----	61.3	40.7	51.0	91	24	37	35	---	70	46	---	.233	.224	----	3.14	1.11	3.3	5.2	5.3	----	5.0
May	29.76	30.24	28.91	53.6	63.1	----	67.8	47.3	57.6	78	38	43	42	---	69	49	---	.292	.286	----	4.66	2.35	.0	5.6	5.9	----	5.7
June	29.82	30.23	29.53	64.1	74.0	----	77.8	58.4	68.1	90	46	57	56	---	78	56	---	.476	.469	----	6.18	11.93	.0	6.2	5.8	----	5.6
July	29.79	29.97	29.55	70.0	78.4	----	81.7	65.3	73.5	90	54	64	63	---	82	62	---	.609	.591	----	11.24	12.28	.0	6.7	7.5	----	6.6
August	29.79	30.00	29.46	69.8	80.1	----	83.9	64.4	74.2	94	54	63	62	---	78	55	---	.581	.568	----	3.21	1.68	.0	4.8	5.3	----	4.9
September	29.85	30.21	27.89	56.2	67.4	----	71.2	52.2	61.7	83	40	50	51	---	81	58	---	.378	.395	----	14.59	6.72	.0	5.5	5.4	----	5.4
October	29.92	30.29	29.34	50.3	62.8	----	66.4	46.7	56.6	87	34	44	44	---	80	52	---	.303	.303	----	1.56	.80	.0	4.0	4.4	----	4.1
November	29.98	30.46	29.42	39.6	48.9	----	52.9	35.5	44.2	73	7	34	34	---	78	58	---	.217	.234	----	3.44	1.34	15.6	5.7	4.8	----	5.7
December	29.88	30.46	29.19	30.8	34.5	----	38.3	26.5	32.4	55	10	23	22	---	71	61	---	.136	.134	----	3.86	1.59	4.4	6.2	6.6	----	6.6
Year	29.87	30.70	27.89	47.3	56.2	----	60.4	42.7	51.6	94	−5	40	39	---	75	56	---	.301	.299	----	61.63	6.72	56.4	5.5	5.7	----	5.6

HATTERAS, N. C.

[ϕ=35°15′ N.; λ=75°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.07	30.54	29.57	43.2	48.7	45.8	51.6	39.7	45.6	66	27	39	41	41	86	76	84	0.257	0.273	0.275	3.00	1.07	0.0	6.6	5.5	5.7	5.9
February	30.20	30.63	29.51	47.6	53.9	49.2	56.5	43.6	50.0	71	34	43	45	44	84	74	84	.287	.321	.306	1.81	1.02	.0	5.8	5.2	5.4	5.3
March	30.05	30.39	29.53	53.9	60.4	55.5	63.0	49.5	56.2	75	32	49	50	50	84	71	83	.366	.390	.381	3.30	1.17	.0	5.0	4.8	4.6	4.9
April	30.06	30.44	29.42	61.2	66.3	60.7	68.3	55.9	62.1	76	44	56	59	57	85	78	87	.467	.518	.469	4.30	1.76	.0	5.0	3.6	4.6	4.4
May	29.94	30.22	29.57	69.2	72.9	68.3	75.7	63.7	69.7	84	53	64	64	63	83	75	84	.597	.613	.594	6.20	1.60	.0	6.2	5.3	5.9	5.4
June	30.02	30.29	29.83	74.2	77.6	73.7	79.7	70.0	74.8	85	59	68	71	69	83	80	85	.703	.755	.710	3.72	1.38	.0	6.1	4.4	5.6	4.9
July	30.05	30.20	29.80	77.8	81.3	76.9	82.6	73.4	78.0	86	66	72	73	72	83	77	86	.785	.829	.803	1.90	.77	.0	4.6	4.9	6.0	5.0
August	30.03	30.23	29.78	79.1	84.1	78.1	85.5	74.6	80.0	91	65	72	73	72	80	69	82	.795	.809	.794	.85	.39	.0	5.0	3.2	4.5	3.9
September	29.99	30.25	29.25	74.5	79.1	74.3	80.9	70.1	75.5	87	61	69	69	68	85	72	82	.735	.728	.702	10.17	5.36	.0	5.0	4.9	4.4	5.1
October	30.05	30.38	29.52	62.2	67.1	61.7	68.6	58.0	63.3	80	50	57	58	56	85	74	83	.481	.501	.466	2.08	.72	.0	4.8	4.0	3.4	4.3
November	30.15	30.45	29.58	56.9	63.0	59.3	66.4	53.7	60.0	77	33	52	54	53	85	72	81	.424	.447	.435	2.32	.59	.0	5.3	4.6	3.3	4.6
December	30.09	30.55	29.59	47.5	53.1	50.5	55.7	44.3	50.0	67	34	43	46	45	84	76	81	.290	.318	.310	8.98	4.06	.0	6.3	4.8	4.1	5.5
Year	30.06	30.63	29.25	62.3	67.3	62.8	69.5	58.0	63.8	91	27	57	59	58	84	74	84	.516	.542	.520	48.63	5.36	.0	5.5	4.6	4.8	4.9

HAVRE, MONT.

[ϕ=48°34′ N.; λ=109°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.36	27.91	26.80	20.2	31.4	28.1	36.1	12.5	24.3	58	−27	13	19	18	72	61	67	0.082	0.105	0.105	0.38	0.32	7.5	6.6	6.4	6.4	6.3
February	27.45	27.98	27.01	2.0	12.3	13.2	17.9	−2.6	7.6	49	−27	0	5	8	88	71	79	.049	.064	.072	.62	.21	8.9	5.7	7.3	6.4	6.6
March	27.19	27.75	26.62	25.7	38.0	38.1	42.8	21.6	32.2	66	−6	18	22	22	75	55	56	.104	.119	.121	1.40	.89	17.7	5.8	6.1	6.2	5.8
April	27.34	27.92	27.03	35.2	51.9	54.0	56.9	32.3	44.6	79	1	28	29	28	76	45	41	.159	.160	.154	.29	.25	.1	5.8	6.8	6.6	6.1
May	27.31	27.61	26.69	44.1	58.4	60.6	63.6	42.3	53.0	90	30	38	37	36	79	49	44	.233	.228	.219	2.46	.80	1.0	5.8	7.4	7.5	6.8
June	27.32	27.62	26.85	54.0	71.5	73.6	76.8	52.2	64.5	90	36	47	47	45	78	45	41	.339	.347	.330	3.59	2.08	.0	6.1	6.0	6.9	5.9
July	27.38	27.64	27.11	58.8	78.2	81.3	84.1	57.6	70.8	97	53	52	51	49	79	42	36	.388	.382	.350	2.43	1.04	.0	4.5	3.8	4.5	4.3
August	27.34	27.62	27.00	53.7	75.5	79.7	82.3	52.3	67.3	95	43	44	44	42	72	36	29	.294	.300	.270	1.40	.54	.0	4.5	3.6	3.5	3.9
September	27.40	27.67	27.07	50.9	77.0	78.2	82.4	48.7	65.6	92	42	43	46	44	77	35	33	.284	.315	.291	1.34	.58	.0	2.2	2.5	2.6	2.5
October	27.37	27.71	26.90	41.1	56.8	56.6	62.5	37.6	50.1	82	26	35	37	38	79	52	53	.205	.226	.234	1.80	.80	T	4.0	6.0	4.9	5.4
November	27.34	28.02	26.69	28.0	36.0	33.5	39.6	21.3	30.4	58	−2	21	25	24	75	66	68	.116	.138	.132	.61	.42	5.2	6.6	7.8	6.4	7.2
December	27.33	27.80	26.78	23.0	29.7	28.7	36.7	16.2	26.4	54	−13	16	20	19	74	66	66	.095	.115	.110	.78	.34	12.7	4.9	6.4	6.2	6.1
Year	27.34	28.02	26.62	36.4	51.4	52.1	56.8	32.7	44.7	97	−27	30	32	31	77	52	51	.196	.208	.199	17.10	2.08	53.1	5.2	5.8	5.7	5.6

HELENA, MONT.

[ϕ=46°35′ N.; λ=112°02′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	25.83	26.30	25.38	24.9	29.5	28.8	34.2	18.9	26.6	49	−21	15	17	17	64	57	60	0.091	0.098	0.100	0.54	0.24	11.1	5.4	6.8	7.5	7.3
February	25.79	26.14	25.38	15.0	21.7	23.7	27.2	11.1	19.2	47	−14	9	12	14	76	66	65	.075	.088	.095	.37	.10	7.8	6.2	7.0	7.4	7.2
March	25.64	26.10	25.15	29.7	36.0	37.5	40.9	25.2	33.0	58	10	20	21	22	68	54	53	.109	.111	.118	.94	.39	14.0	6.8	7.7	8.2	8.0
April	25.78	26.29	25.49	35.8	50.2	51.2	54.6	33.3	44.0	75	5	28	29	30	72	46	47	.154	.160	.168	.61	.28	4.0	6.0	7.6	7.8	7.4
May	25.77	26.03	25.40	43.3	54.7	56.7	59.4	40.9	50.2	79	30	32	33	34	68	47	47	.186	.197	.199	3.65	1.04	4.9	7.3	7.8	7.7	7.9
June	25.80	26.04	25.39	52.3	66.8	67.6	71.8	49.9	60.8	83	36	42	44	44	71	47	47	.286	.302	.300	3.36	.81	.0	6.4	7.6	7.3	7.5
July	25.88	26.08	25.59	57.2	73.9	76.6	79.1	55.3	67.2	91	47	46	50	47	69	45	39	.316	.359	.328	1.91	.68	.0	4.0	4.7	6.0	4.9
August	25.83	26.06	25.54	55.2	72.2	76.8	78.9	53.3	66.1	93	42	40	42	40	59	36	29	.252	.275	.254	1.24	.50	.0	4.3	3.8	4.3	4.3
September	25.88	26.10	25.57	53.4	71.5	75.7	77.8	50.5	64.2	86	44	39	41	38	60	35	27	.240	.263	.227	.72	.36	.0	2.9	3.3	4.0	3.3
October	25.85	26.28	25.48	39.7	48.1	49.4	53.9	36.6	45.2	78	22	34	36	36	80	66	62	.196	.217	.212	2.27	1.19	11.7	5.2	7.5	7.0	7.5
November	25.82	26.39	25.32	29.1	33.3	33.2	37.7	24.0	30.8	52	1	18	21	20	63	58	58	.100	.111	.109	.25	.15	1.4	7.6	7.5	7.6	8.0
December	25.80	26.09	25.34	26.4	30.2	31.5	36.6	20.4	28.5	59	−10	15	17	17	61	58	55	.091	.100	.099	.23	.15	4.4	5.3	8.2	7.5	8.0
Year	25.81	26.39	25.15	38.5	49.0	50.7	54.3	35.0	44.6	93	−21	28	30	30	68	51	49	.175	.190	.184	16.09	1.19	59.3	5.6	6.6	6.9	6.8

[1] Estimated.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

HARTFORD, CONN.

[H=62 ft.; H_b=159 ft.; h_t=66 ft.; h_r=58 ft.; h_a=100 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)															
January	7.7	N.	34	S.	1	11	3	0	1	3	6	3	4	0	11	9	11	11	10	10	8	0	11	2	13	0	29	0	1
February	9.2	NW.	30	NW.	0	8	3	0	0	5	2	0	10	0	9	6	13	10	9	7	3	0	13	5	4	0	22	0	0
March	9.7	S.	29	NW.	0	10	1	1	1	7	5	1	5	0	8	10	13	12	7	5	1	0	10	0	1	0	14	1	1
April	9.0	S.	26	NW.	0	9	4	0	0	11	1	1	4	0	10	12	8	14	11	7	2	0	5	1	0	1	6	3	2
May	8.1	S.	29	NW.	0	9	6	1	0	5	2	1	7	0	7	16	8	10	10	0	0	0	11	0	0	0	0	3	1
June	8.2	S.	25	S.	0	11	3	0	0	11	4	0	1	0	9	10	11	10	10	0	0	0	13	0	0	1	0	4	0
July	7.7	S.	25	SW.	0	7	1	1	1	12	5	1	3	0	4	12	15	14	13	0	0	0	19	3	0	0	0	8	0
August	6.9	S.	26	NW.	0	11	2	1	0	11	2	1	3	0	11	11	9	7	6	0	0	0	14	2	0	5	0	6	0
September	7.7	N.	46	NE.	1	12	2	1	1	4	4	0	6	0	13	4	13	13	12	0	0	0	10	1	0	0	0	2	1
October	7.9	N.	23	NE.	0	15	2	2	1	2	3	2	4	0	18	5	8	6	6	0	0	0	12	0	0	0	0	0	1
November	8.4	S.	29	N.	0	7	1	2	0	9	3	3	5	0	8	11	11	11	10	5	4	0	14	3	3	0	9	0	0
December	8.5	N.	35	NW.	1	7	3	3	0	5	3	4	6	0	7	8	16	14	10	11	5	0	13	3	8	0	21	0	0
Year	8.2	S.	46	NE.	3	117	31	12	5	85	40	17	58	0	115	114	136	132	114	45	23	0	145	20	29	7	101	27	7

HATTERAS, N. C.

[H=7 ft.; H_b=11 ft.; h_t=5 ft.; h_r=4 ft.; h_a=50 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.1	N.	41	W.	4	22	10	0	3	6	9	3	7	2	9	9	13	11	10	0	0	0	1	1	0	0	4	0	1
February	14.9	N.	40	W.	4	13	15	2	1	3	10	7	5	0	9	10	9	6	4	0	0	0	4	2	0	0	0	0	0
March	14.0	SW.	42	W.	3	11	9	2	2	7	24	2	5	0	12	8	11	9	9	0	0	0	1	1	0	0	0	4	0
April	13.4	SW.	38	SW	5	10	7	3	4	6	20	7	3	0	14	10	6	10	9	0	0	0	1	0	0	0	0	5	0
May	13.0	SW.	39	W.	3	3	12	8	2	4	18	7	8	0	11	9	11	12	12	0	0	0	1	0	0	0	0	10	0
June	12.1	SW.	33	W.	2	8	3	5	0	13	24	5	2	0	9	15	6	14	8	0	0	0	0	0	0	0	0	8	0
July	11.7	SW.	26	SW.	0	1	8	6	1	11	33	2	0	0	12	13	6	10	7	0	0	0	0	0	0	0	0	5	0
August	11.5	SW.	26	SW.	0	10	7	5	2	4	26	5	3	0	13	15	3	7	4	0	0	0	0	0	0	1	0	5	0
September	11.9	SW.	61	NW.	2	2	14	5	1	10	14	11	3	0	9	15	6	12	12	0	0	0	0	0	0	0	0	8	0
October	14.2	N.	42	SE.	3	28	14	2	2	2	3	3	8	0	15	8	8	6	5	0	0	0	0	0	0	0	0	3	0
November	13.1	N.	52	W.	5	17	8	7	5	9	6	1	7	0	14	8	8	10	8	0	0	0	0	0	0	0	0	0	0
December	14.9	N.	43	S.	8	24	6	1	3	2	8	10	7	1	13	5	13	10	10	0	0	0	2	2	0	0	0	3	0
Year	13.2	SW.	61	NW.	39	149	113	46	26	77	195	63	58	3	140	125	100	117	98	0	0	0	10	6	0	1	4	51	1

HAVRE, MONT.

[H=2,488 ft.; H_b=2,507 ft.; h_t=11 ft.; h_r=3 ft.; h_a= 67 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.8	W.	30	W.	0	3	3	8	0	1	17	17	10	3	8	8	15	6	4	13	6	0	2	0	8	0	31	0	4
February	7.0	E.	25	SW.	0	0	5	21	0	1	4	20	5	0	6	10	12	10	6	16	9	0	10	1	21	0	28	0	2
March	11.0	SW.	34	W.	4	3	5	6	0	1	21	14	12	0	8	12	11	6	4	11	6	0	2	1	9	0	26	0	3
April	10.3	E.	29	W.	0	1	2	14	3	3	7	18	12	0	7	9	14	3	1	5	1	0	0	0	1	0	13	0	2
May	10.0	W.	35	W.	2	1	8	10	3	1	11	14	13	1	6	11	14	19	14	3	2	2	1	0	0	0	1	2	1
June	8.4	E.	37	SW.	1	4	8	10	8	1	11	11	6	1	6	13	11	10	9	0	0	0	0	0	0	1	0	9	0
July	6.6	W.	35	SW.	1	0	10	9	4	1	11	15	11	1	13	13	5	9	7	0	0	0	0	0	0	8	0	7	2
August	7.9	W.	29	W	0	2	3	11	1	3	13	9	16	4	17	8	6	11	8	0	0	1	0	0	0	4	0	6	5
September	7.2	E.	28	E.	0	3	9	12	4	1	6	10	9	6	21	7	2	6	4	0	0	1	0	0	0	6	0	5	8
October	8.7	E.	32	W.	1	0	5	14	5	2	10	19	6	1	9	9	13	8	4	2	2	0	4	1	0	0	6	2	6
November	10.9	SW.	30	SW.	0	1	4	8	1	0	20	17	8	1	2	12	16	6	3	11	5	0	0	0	7	0	24	0	3
December	10.2	SW.	32	SW.	1	3	4	8	0	1	26	15	4	1	8	11	12	6	5	8	6	0	0	0	7	0	27	0	8
Year	9.0	W.	37	SW.	10	21	66	131	29	16	157	179	112	19	111	123	131	100	69	69	37	4	19	3	53	19	156	31	44

HELENA, MONT.

[H=4,090 ft.; H_b=4,124 ft.; h_t=85 ft.; h_r=78 ft.; h_a=111 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.6	SW.	35	SW.	1	4	3	1	1	3	19	18	12	1	6	4	21	6	4	16	6	0	0	0	9	0	29	0	5
February	5.6	NW.	39	S.	1	11	1	3	0	4	16	4	16	1	5	4	19	8	5	16	8	0	2	0	14	0	28	0	2
March	8.6	SW.	34	S.	1	3	2	2	1	4	25	11	14	0	2	9	20	10	5	19	9	0	0	0	7	0	22	0	3
April	8.0	SW.	31	W.	0	5	1	3	1	3	27	12	7	1	5	5	20	9	3	5	5	0	0	0	0	0	12	0	2
May	9.4	SW.	33	SW.	2	5	2	2	2	2	23	14	12	0	4	4	23	11	11	5	4	0	0	0	0	0	3	6	1
June	7.9	SW.	31	SW.	0	7	6	3	2	3	22	9	8	0	3	9	18	12	10	0	0	3	1	0	0	0	0	12	0
July	7.3	SW.	25	SW.	0	4	4	4	2	8	27	6	7	0	13	9	9	11	10	0	0	3	0	0	0	1	0	12	1
August	8.0	SW.	24	S.	0	3	4	1	2	3	28	7	14	0	13	13	5	6	6	0	0	2	0	0	0	1	0	7	0
September	7.2	SW.	41	S.	1	6	4	5	1	4	25	7	8	0	18	6	6	5	2	0	0	1	0	0	0	0	0	4	6
October	6.8	SW.	28	S.	0	3	1	0	0	6	31	12	8	1	1	12	18	10	9	4	4	0	6	5	0	0	10	2	5
November	8.1	SW.	36	SW.	2	3	3	0	0	2	29	16	7	0	1	8	21	6	2	16	5	0	0	0	8	0	22	0	1
December	8.0	SW.	34	SW.	1	5	1	1	0	3	27	16	6	3	3	8	20	6	1	13	5	0	0	0	9	0	25	0	1
Year	7.8	SW.	41	S.	9	59	32	25	12	45	299	132	119	7	74	91	200	100	68	94	46	9	9	5	47	2	151	43	27

[1] Taken from the 7:30 a. m. observation.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

HONOLULU, T. H.

[ϕ=21°19′ N.; λ=157°52′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	° (1)	°	° (1)	°	°	°	°	°	° (1)	°	° (1)	% (1)	%	% (1)	In. (1)	In.	In. (1)	In.	In.	In.	(1)		(1)	
January	29.96	30.15	29.73	72.1	75.9	72.6	77.6	68.1	72.8	81	63	63	64	63	73	66	72	0.572	0.589	0.577	2.15	0.88	0.0	4.9	4.8	4.6	5.1
February	29.89	30.06	29.72	72.4	76.2	73.2	78.3	68.6	73.4	81	65	66	68	67	81	75	82	.638	.673	.669	5.05	2.02	.0	4.6	6.7	4.9	5.9
March	30.00	30.15	29.79	72.9	75.9	72.8	77.4	69.2	73.3	81	66	64	63	64	73	65	74	.593	.584	.594	3.77	1.94	.0	5.9	6.8	6.1	6.7
April	30.00	30.13	29.90	74.0	76.7	73.4	78.4	70.0	74.2	83	66	62	62	63	67	61	69	.560	.559	.570	1.44	1.01	.0	5.8	5.3	5.0	5.6
May	29.96	30.08	29.86	74.6	76.9	73.6	78.7	70.3	74.5	83	64	64	65	64	71	66	73	.601	.610	.604	1.33	.49	.0	5.3	6.1	6.0	5.7
June	29.99	30.09	29.90	76.3	79.4	75.7	81.1	72.1	76.6	84	68	66	65	66	71	62	72	.640	.626	.635	1.00	.60	.0	5.1	5.4	4.8	5.1
July	29.98	30.07	29.90	77.4	80.6	77.3	82.3	73.5	77.9	86	68	66	66	66	70	63	69	.652	.651	.645	2.35	1.22	.0	4.4	4.6	4.0	4.6
August	29.94	30.07	29.73	78.0	81.2	77.6	82.8	74.1	78.4	85	71	68	68	68	73	65	73	.692	.685	.685	3.93	1.39	.0	5.1	5.4	4.7	4.8
September	29.93	30.03	29.84	78.8	81.4	77.6	83.4	73.9	78.6	85	71	67	68	67	68	63	70	.664	.674	.665	.33	.12	.0	3.3	4.4	3.6	3.8
October	29.97	30.10	29.83	78.1	80.8	76.7	82.4	72.9	77.6	85	67	68	68	67	71	66	73	.677	.681	.671	1.33	1.01	.0	3.4	5.7	4.1	4.9
November	29.95	30.11	29.80	75.0	77.8	74.5	79.5	70.8	75.2	85	64	65	65	64	71	65	71	.617	.621	.609	.77	.23	.0	5.3	6.1	5.2	6.1
December	29.98	30.13	29.75	73.0	76.5	73.5	78.4	69.7	74.0	84	67	65	65	64	75	68	74	.609	.617	.608	2.10	.96	.0	4.7	5.9	4.7	5.2
Year	29.96	30.15	29.72	75.2	78.3	74.9	80.0	71.1	75.5	86	63	65	66	65	72	65	73	.626	.631	.628	25.55	2.02	.0	4.8	5.6	4.8	5.3

HOUSTON, TEX.

[ϕ=29°47′ N.; λ=95°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.97	30.39	29.49	51.9	58.6	----	62.4	47.6	55.0	78	28	45	43	---	78	59	---	0.335	0.319	---	3.34	0.96	0.0	5.5	5.8	----	6.0
February	30.03	30.30	29.67	55.5	64.3	----	68.8	53.1	61.0	78	29	51	51	---	87	64	---	.414	.405	----	3.74	2.48	.0	7.5	6.5	----	6.7
March	29.81	30.28	29.52	63.2	72.9	----	76.5	60.6	68.6	82	44	58	57	---	84	60	---	.518	.493	----	1.71	.49	.0	7.2	7.0	---	6.6
April	29.86	30.16	29.37	61.7	70.7	----	75.0	59.9	67.4	86	37	58	56	---	86	62	---	.518	.496	----	2.41	1.74	.0	7.4	7.0	----	6.9
May	29.79	30.06	29.49	69.7	79.6	----	82.6	67.7	75.2	90	57	65	62	---	85	57	---	.627	.582	----	10.27	7.06	.0	5.5	5.7	----	5.5
June	29.86	30.04	29.68	75.3	85.1	----	88.9	73.8	81.4	95	66	72	69	---	88	59	---	.773	.706	----	3.67	2.19	.0	4.1	6.5	----	5.8
July	29.84	29.99	29.69	76.8	88.1	----	91.8	74.9	83.4	96	70	74	69	---	89	54	---	.824	.703	----	7.37	2.65	.0	4.0	5.7	----	5.5
August	29.88	30.05	29.68	76.8	87.9	----	91.6	75.6	83.6	96	72	73	70	---	89	57	---	.817	.747	----	1.60	.63	.0	3.9	6.5	----	6.0
September	29.86	30.07	29.66	71.0	83.9	----	87.7	70.2	79.0	94	58	66	63	---	84	53	---	.653	.603	---	4.25	2.66	.0	2.3	4.7	----	4.6
October	29.91	30.09	29.68	65.1	80.7	----	84.1	63.8	74.0	97	44	60	56	---	83	44	---	.536	.468	----	1.83	.95	.0	3.5	3.5	----	3.2
November	29.99	30.47	29.55	53.5	66.5	----	69.3	49.6	59.4	84	30	46	45	---	76	48	---	.371	.361	----	1.89	.85	.0	4.9	5.1	----	4.6
December	29.98	30.46	29.61	51.0	61.8	----	64.9	47.9	56.4	79	31	44	45	---	79	58	---	.315	.328	----	3.31	1.45	.0	5.3	5.5	----	5.8
Year	29.90	30.47	29.37	64.3	75.0	---	78.6	62.1	70.4	97	28	59	57	---	84	56	---	.558	.518	----	45.45	7.06	.0	5.1	5.8	----	5.6

HURON, S. DAK.[2]

[ϕ=44°21′ N.; λ=98°14′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.65	29.12	28.08	11.1	16.6	16.4	22.7	4.7	13.7	41	−19	7	8	12	81	69	82	0.071	0.075	0.083	0.43	0.14	8.1	4.9	5.4	5.1	6.0
February	28.76	29.28	28.33	10.8	20.3	20.6	24.9	6.9	15.9	47	−21	7	13	15	84	72	81	.071	.090	.101	.65	.38	11.0	5.6	5.3	6.4	5.8
March	28.48	29.00	27.81	29.3	42.6	43.5	47.0	26.5	36.8	69	4	25	26	28	83	55	58	.142	.147	.161	1.47	.78	11.8	4.2	5.3	5.4	5.4
April	28.57	29.22	28.05	39.7	53.0	55.5	58.9	37.3	48.1	85	17	34	35	36	78	53	51	.209	.227	.236	5.78	2.67	12.4	6.4	5.3	5.7	6.0
May	28.52	28.79	28.08	48.9	60.8	62.7	65.6	47.0	56.3	83	34	43	42	42	80	54	52	.283	.292	.296	3.29	1.12	.0	6.3	5.9	6.0	6.1
June	28.56	28.88	28.18	60.8	76.2	78.5	80.8	57.7	69.2	96	45	54	55	54	80	49	45	.441	.456	.447	1.28	.37	.0	5.1	4.1	4.1	4.7
July	28.56	28.78	28.23	65.0	83.5	85.0	88.6	63.3	76.0	101	54	58	57	56	78	42	40	.498	.471	.469	2.99	1.58	.0	3.9	4.2	3.8	4.5
August	28.54	28.90	28.05	64.9	85.9	88.5	91.7	63.0	77.4	106	51	55	52	51	71	33	30	.445	.412	.397	.63	.47	.0	3.4	2.1	2.2	2.9
September	28.65	28.91	28.37	54.2	74.0	73.4	78.3	53.1	65.7	92	33	49	49	49	82	44	46	.364	.371	.381	2.95	1.19	.0	3.0	2.8	3.3	3.5
October	28.61	28.93	28.21	46.5	65.1	61.7	69.6	43.6	56.6	94	20	37	38	38	70	39	44	.238	.246	.249	.14	.11	T	3.4	3.3	2.8	3.5
November	28.60	29.24	28.03	23.5	36.8	34.8	42.0	18.9	30.4	68	0	18	22	22	79	55	59	.109	.125	.124	.22	.16	.7	4.5	5.6	5.1	6.0
December	28.61	29.09	28.01	19.5	29.2	27.8	35.1	15.7	25.4	52	−12	14	17	16	77	58	60	.088	.102	.100	.22	.15	2.6	3.9	4.2	4.8	5.1
Year	28.59	29.28	27.81	39.6	53.7	54.0	58.8	36.5	47.6	106	−21	33	34	35	79	52	54	.247	.251	.254	20.05	2.67	46.6	4.6	4.5	4.6	5.0

INDIANAPOLIS, IND.

[ϕ=39°46′ N.; λ=86°10′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.14	29.75	28.22	26.7	32.1	31.4	36.5	22.4	29.4	54	5	21	22	22	79	65	66	0.125	0.129	0.125	1.00	0.35	2.2	5.7	7.1	7.0	7.4
February	29.29	29.76	28.66	36.1	41.0	40.9	45.1	30.3	37.7	67	13	31	30	32	80	67	71	.186	.184	.197	2.52	.93	2.0	8.7	8.5	9.3	8.6
March	29.07	29.47	28.66	42.8	50.1	50.5	56.8	38.1	47.4	79	25	37	36	36	79	61	61	.239	.227	.228	7.93	1.99	T	7.5	6.5	6.4	6.7
April	29.14	29.44	28.69	47.8	59.4	59.1	63.2	44.9	54.0	84	27	39	36	38	71	45	47	.250	.231	.241	3.24	1.78	1.6	6.4	5.6	7.6	6.5
May	29.06	29.36	28.56	57.0	68.0	66.7	71.9	53.0	62.4	85	37	49	49	49	77	54	56	.376	.376	.373	5.14	1.42	.0	4.8	6.9	7.5	6.9
June	29.14	29.43	28.86	65.0	76.0	74.6	79.1	61.5	70.3	89	53	56	54	54	75	49	53	.468	.441	.441	6.49	3.16	.0	6.0	6.2	7.0	6.5
July	29.10	29.26	28.86	71.0	82.0	81.3	86.1	67.9	77.0	94	60	62	60	61	75	49	53	.567	.522	.545	7.15	4.51	.0	4.5	4.8	4.6	4.7
August	29.17	29.35	29.00	70.0	82.1	82.3	86.4	67.7	77.0	94	56	64	62	64	82	53	55	.604	.576	.599	2.53	1.01	.0	4.6	5.6	4.5	5.1
September	29.14	29.34	28.70	61.1	75.0	73.2	78.3	59.4	68.8	91	45	56	54	56	84	49	55	.466	.441	.466	1.74	.90	.0	5.7	5.2	4.6	5.5
October	29.24	29.56	28.78	50.0	66.8	64.5	71.1	47.6	59.4	86	34	40	40	40	71	40	43	.260	.255	.257	1.06	.98	.0	2.8	3.0	2.9	3.1
November	29.21	29.54	28.65	39.4	50.9	48.6	55.6	35.8	45.7	77	11	31	33	33	72	52	56	.187	.207	.204	3.03	1.67	4.9	5.7	4.1	4.4	5.1
December	29.18	29.74	28.78	30.6	36.7	36.2	40.9	27.7	34.3	55	9	24	26	26	74	65	65	.136	.150	.146	1.46	.62	.6	6.5	6.6	6.8	7.3
Year	29.16	29.76	28.22	49.8	60.0	59.1	64.2	46.4	55.3	94	5	42	42	43	77	54	57	.322	.312	.318	43.29	4.51	11.3	5.7	5.8	6.0	6.1

[1] Observations taken at 8:00 a. m. and 8:00 p. m.
[2] Observations taken at airport beginning Mar. 8, 1938.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

HONOLULU, T. H.

[H=12 ft.; H_b=38 ft.; h_t=86 ft.; h_r=68 ft.; h_a=100 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		Mi.			(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)																
January	9.1	E.	30	E.	0	6	20	27	3	1	2	0	2	1	11	12	8	13	8	0	0	0	0	0	0	0	0	0	0	0
February	7.8	E.	30	W.	0	6	11	20	3	0	4	8	3	1	7	13	8	14	9	0	0	0	0	0	0	0	0	0	3	0
March	10.5	E.	30	NE.	0	2	21	31	2	3	1	0	1	1	4	11	16	20	14	0	0	0	0	0	0	0	0	0	0	0
April	10.6	E.	28	NE.	0	1	14	39	2	2	0	0	0	2	7	14	9	12	5	0	0	0	0	0	0	0	0	0	0	0
May	10.0	E.	25	NE.	0	4	18	35	1	1	0	0	3	0	7	15	9	17	8	0	0	0	0	0	0	0	0	0	0	0
June	8.9	E.	25	E.	0	1	10	42	1	1	1	2	2	0	13	8	9	12	6	0	0	0	0	0	0	0	0	0	0	0
July	9.2	E.	22	E.	0	2	6	52	1	0	1	0	0	0	12	16	3	15	11	0	0	0	0	0	0	0	0	0	0	0
August	8.6	E.	23	S.	0	1	7	50	2	1	1	0	0	0	14	10	7	17	8	0	0	0	0	0	0	0	0	0	1	0
September	8.8	E.	22	E.	0	1	10	43	0	1	1	2	0	2	13	15	2	12	2	0	0	0	0	0	0	0	0	0	0	0
October	8.7	E.	28	NE.	0	1	19	29	3	0	0	1	0	9	8	19	4	12	6	0	0	0	0	0	0	0	0	0	1	0
November	9.7	E.	28	E.	0	4	20	30	1	0	1	2	0	2	5	15	10	10	7	0	0	0	0	0	0	0	0	0	2	0
December	10.2	E.	27	E.	0	8	10	39	1	0	1	1	0	2	8	16	7	13	7	0	0	0	0	0	0	0	0	0	2	0
Year	9.3	E.	30	NE.	0	37	166	437	20	10	13	16	11	20	109	164	92	167	91	0	0	0	0	0	0	0	0	0	9	0

HOUSTON, TEX.

[H=41 ft.; H_b=138 ft.; h_t=157 ft.; h_r=149 ft.; h_a=190 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
						(2)	(1)	(2)	(1)	(1)	(2)	(2)	(2)	(2)															
January	12.8	SE.	35	NW.	3	4	1	7	5	4	3	2	5	0	9	7	15	11	7	0	0	0	15	2	0	0	1	2	0
February	12.3	SE.	30	S.	0	3	4	3	11	3	1	2	1	0	5	8	15	7	6	0	0	1	17	2	0	0	1	3	0
March	13.2	S.	38	SE.	3	3	1	4	9	9	0	4	1	0	7	8	16	10	6	0	0	0	18	1	0	0	0	7	0
April	13.6	SE.	35	NW.	4	3	3	2	12	6	1	0	3	0	5	10	15	12	9	0	0	0	20	2	0	0	0	4	0
May	12.5	S.	43	N.	2	2	6	2	6	13	1	0	0	1	9	12	10	7	5	0	0	0	10	0	0	1	0	6	0
June	10.1	S.	27	NW.	0	0	2	1	6	12	4	1	4	0	3	21	6	11	5	0	0	0	4	0	0	11	0	11	0
July	8.3	S.	32	N.	2	0	1	2	2	13	8	5	0	0	7	14	10	10	9	0	0	0	4	0	0	25	0	16	0
August	9.1	S.	35	SE.	1	3	4	1	3	12	2	2	2	2	4	17	10	7	3	0	0	0	13	0	0	22	0	10	0
September	7.8	S.	22	SE.	0	6	6	4	0	3	0	7	3	1	12	11	7	8	7	0	0	0	10	3	0	11	0	9	0
October	8.7	SE.	27	N.	0	8	0	2	3	2	0	6	4	0	19	8	4	4	3	0	0	0	14	1	0	3	0	2	0
November	11.4	SE.	30	SE.	0	4	5	6	6	5	0	1	3	0	12	12	6	6	5	0	0	0	5	1	0	0	3	2	0
December	10.5	N.	27	SE.	0	8	1	4	7	5	0	1	5	0	12	3	16	13	9	0	0	0	11	1	0	0	1	0	0
Year	10.9	S.	43	N.	15	44	40	38	70	87	20	31	31	4	104	131	130	106	74	0	0	1	141	13	0	73	6	72	0

HURON, S. DAK.[3]

[H=1,282 ft.; H_b=1,289 ft.; h_t=27 ft.; h_r=3 ft.; h_a=41 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.2	NW.	33	NW.	1	12	3	2	14	7	4	4	16	0	9	7	15	8	3	20	8	0	13	3	24	0	31	0	2
February	8.4	NW.	25	W.	0	6	4	3	12	8	1	3	18	1	9	8	11	4	4	14	4	0	19	2	18	0	28	0	1
March	10.2	W.	35	W.	1	12	5	4	9	7	7	9	9	0	10	13	8	9	5	8	3	0	8	2	5	0	17	1	2
April	11.1	NW.	33	NW.	1	6	4	6	10	6	5	7	16	0	8	11	11	9	7	4	1	1	3	0	3	0	10	4	0
May	10.1	N.	34	S.	1	11	6	4	9	6	2	7	17	0	9	8	14	8	7	0	0	0	4	1	0	0	0	5	1
June	10.0	SE.	34	S.	1	6	6	3	16	10	3	7	9	0	11	13	6	13	8	0	0	1	2	0	0	3	0	10	0
July	7.7	N.	29	NW.	0	10	5	6	8	9	8	6	10	0	14	12	5	11	9	0	0	1	4	1	0	15	0	11	3
August	9.8	S.	32	NW.	1	8	2	1	11	21	6	7	6	0	21	10	0	6	3	0	0	1	1	0	0	17	0	8	1
September	7.5	N.	36	W.	1	11	8	2	12	7	4	5	11	0	16	10	4	6	6	0	0	0	5	1	0	3	0	3	5
October	10.4	S.	27	N.	0	7	6	2	13	12	2	8	12	0	18	8	5	4	1	1	0	0	4	0	0	1	5	2	1
November	9.2	NW.	30	N.	0	13	2	7	4	7	5	12	10	0	9	6	15	5	1	5	1	0	3	0	5	0	26	0	0
December	9.7	NW.	32	NW.	1	3	2	1	15	5	5	8	23	0	9	13	9	6	2	9	4	0	3	2	11	0	30	0	2
Year	9.4	SE.	36	W.	8	105	53	41	133	105	52	83	157	1	143	119	103	89	56	61	21	4	69	12	66	39	147	44	18

INDIANAPOLIS, IND.

[H=718 ft.; H_b=823 ft.; h_t=98 ft.; h_r=96 ft.; h_a=129 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.3	W.	43	SW.	2	3	4	4	6	14	8	18	5	0	6	6	19	11	7	13	4	0	6	2	8	0	29	0	0
February	12.6	S.	36	W.	1	7	6	9	5	10	6	7	6	0	1	6	21	12	10	8	5	0	6	0	3	0	19	1	0
March	12.4	S.	31	S.	0	2	8	7	7	17	13	7	6	0	5	10	16	16	14	4	0	1	10	0	0	0	8	7	0
April	12.7	S.	32	N.	1	6	7	4	4	15	9	11	4	0	4	17	9	9	6	2	1	1	3	0	0	0	7	4	1
May	10.4	S.	35	W.	4	5	4	6	10	13	6	12	6	0	4	11	16	20	15	0	0	1	4	1	0	0	0	9	0
June	10.0	S.	30	SW.	0	6	12	1	5	14	7	9	6	0	3	18	9	8	7	0	0	0	0	0	0	0	0	8	0
July	7.7	S.	32	N.	1	4	5	6	2	17	12	8	5	0	12	14	5	7	5	0	0	0	0	0	0	6	0	8	2
August	8.2	S.	29	W.	0	7	7	5	4	18	9	9	3	0	9	15	7	10	8	0	0	0	0	0	0	9	0	10	0
September	9.7	SW.	25	NW.	0	9	7	4	2	9	16	10	3	0	9	10	11	6	5	0	0	0	1	0	0	2	0	5	0
October	9.0	S	30	W.	0	4	11	4	9	17	8	8	1	0	18	9	4	3	2	0	0	0	3	0	0	0	0	2	0
November	8.7	S.	27	SE.	0	3	4	0	12	14	17	7	3	0	11	11	8	10	8	4	3	0	2	1	4	0	10	1	0
December	8.1	W.	27	W.	0	4	1	6	7	12	13	12	7	0	4	10	17	11	7	9	4	0	9	2	3	0	20	0	0
Year	10.1	S.	43	SW.	9	60	74	56	73	170	124	118	55	0	86	137	142	123	94	40	17	3	44	6	18	17	93	55	3

[1] Observation taken at 8:00 a. m. and 8:00 p. m.
[2] Taken from 7:30 a. m. observation.
[3] Observations taken at Airport beginning Mar. 8, 1938.

313225—42——7

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

ITHACA, N. Y.

[ϕ=42°27′ N.; λ=76°29′ W.]

Month	Pressure: Monthly mean	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.08	29.57	28.21	23.7	28.8	26.3	32.8	17.6	25.2	54	−9	18	19	19	79	66	73	0.109	0.107	0.109	1.72	0.52	9.3	8.9	9.3	6.9	8.8
February	29.25	29.79	28.39	25.8	31.6	30.3	37.7	20.1	28.9	57	2	21	23	24	82	70	75	.120	.132	.138	2.16	.47	18.2	8.9	9.1	8.0	8.8
March	29.05	29.45	28.54	34.5	44.7	42.4	50.5	29.9	40.2	82	−3	27	29	31	73	57	65	.158	.175	.191	1.12	.34	1.1	7.7	7.6	7.4	7.4
April	29.11	29.49	28.29	44.9	54.6	49.4	58.3	38.1	48.2	88	19	36	34	36	70	49	63	.221	.210	.227	2.52	.80	7.1	7.9	6.6	6.1	6.9
May	29.04	29.49	28.46	52.8	63.1	59.6	67.1	45.4	56.2	86	32	43	45	44	70	54	59	.288	.311	.305	2.43	.98	T	7.3	6.6	6.2	6.8
June	29.10	29.42	28.77	63.6	75.3	69.5	78.8	53.9	66.4	91	47	54	53	54	72	47	61	.425	.404	.436	2.25	.65	.0	5.3	7.9	7.9	7.1
July	29.07	29.21	28.76	68.9	80.4	75.2	83.9	61.1	72.5	94	46	62	60	61	78	52	63	.554	.529	.547	2.31	1.35	.0	5.6	7.9	7.1	6.8
August	29.10	29.28	28.76	68.8	81.9	75.0	85.3	61.2	73.2	96	48	60	58	61	75	47	62	.536	.503	.542	3.59	2.09	.0	5.5	7.1	5.0	6.1
September	29.12	29.49	28.50	54.4	64.1	59.1	67.5	48.1	57.8	82	38	49	52	51	83	67	77	.362	.398	.384	6.71	1.80	.0	6.2	7.5	6.7	7.2
October	29.21	29.56	28.66	47.0	61.1	53.5	64.2	42.2	53.2	83	28	42	43	44	84	54	70	.278	.282	.293	.59	.22	.0	5.9	6.7	3.4	6.2
November	29.21	29.54	28.67	37.3	47.1	42.2	50.7	31.9	41.3	77	5	32	35	34	80	64	73	.196	.230	.217	2.22	.86	6.6	6.1	7.3	5.2	7.3
December	29.12	29.66	28.64	28.5	33.4	30.8	36.6	24.3	30.4	56	8	24	25	26	81	71	80	.136	.139	.144	2.42	.81	8.3	8.8	9.1	7.6	9.1
Year	29.12	29.79	28.21	45.8	55.5	51.1	59.4	39.5	49.5	96	−9	39	40	40	77	58	68	.282	.285	.294	30.04	2.09	45.6	7.0	7.7	6.5	7.4

JACKSONVILLE, FLA.

[ϕ=30°20′ N.; λ=81°39′ W.]

Month	Pressure: Monthly mean	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.08	30.54	29.75	49.3	59.7	55.9	64.4	46.7	55.6	78	27	44	46	46	83	61	70	0.320	0.340	0.337	5.21	2.23	0.0	4.7	5.9	4.2	5.3
February	30.17	30.48	29.71	54.6	66.2	61.9	70.4	52.9	61.6	81	37	52	51	52	90	60	72	.396	.391	.405	1.41	1.26	.0	5.1	4.9	4.5	5.1
March	30.05	30.40	29.74	60.7	74.6	69.7	79.3	59.2	69.2	87	43	56	54	58	86	50	67	.472	.432	.489	1.55	1.39	.0	4.7	4.2	3.0	4.1
April	30.05	30.29	29.69	62.6	74.9	69.7	78.1	59.1	68.6	92	41	57	54	56	83	48	64	.496	.432	.475	1.81	1.21	.0	4.1	5.2	3.6	4.8
May	29.95	30.15	29.76	71.0	82.7	77.4	87.4	67.8	77.6	99	59	63	62	63	77	52	63	.593	.559	.583	7.04	2.86	.0	5.5	5.0	6.9	5.7
June	30.00	30.21	29.81	74.5	83.6	78.0	87.0	70.4	78.7	93	65	69	65	68	84	57	73	.716	.630	.693	7.57	2.26	.0	6.5	5.7	6.2	5.6
July	30.00	30.14	29.81	76.2	85.3	78.3	88.1	72.0	80.0	93	66	72	69	70	86	59	77	.771	.714	.743	9.99	2.84	.0	5.8	5.9	7.2	6.1
August	30.02	30.23	29.84	76.7	88.7	83.0	92.4	73.5	83.0	98	69	72	69	72	85	53	70	.781	.716	.777	9.15	4.27	.0	4.3	4.0	5.2	4.4
September	29.96	30.15	29.72	73.2	82.8	77.2	85.7	70.1	77.9	91	58	69	67	69	87	61	78	.719	.678	.726	5.91	2.18	.0	5.3	5.9	5.7	5.7
October	30.00	30.29	29.67	62.0	73.9	68.4	76.4	59.9	68.2	84	48	58	57	60	86	58	75	.499	.488	.530	11.21	5.79	.0	4.9	5.0	3.8	4.8
November	30.08	30.44	29.77	58.4	70.0	64.6	72.5	55.7	64.1	85	28	54	56	58	87	63	80	.471	.490	.516	.47	.16	.0	5.4	5.8	4.4	5.6
December	30.08	30.42	29.72	47.7	61.2	56.6	65.4	44.9	55.2	78	34	42	44	46	82	56	70	.284	.301	.328	.68	.33	.0	5.0	5.3	4.5	5.2
Year	30.04	30.54	29.67	63.9	75.3	70.1	78.9	61.0	70.0	99	27	59	58	60	85	56	72	.543	.514	.550	62.00	5.79	.0	5.1	5.2	4.9	5.2

KALISPELL, MONT.

[ϕ=48°10′ N.; λ=114°25′ W.]

Month	Pressure: Monthly mean	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.02	27.52	26.60	22.7	27.6	28.3	31.2	19.2	25.2	43	−11	20	22	22	91	78	77	0.112	0.119	0.122	0.71	0.16	8.6	7.9	8.0	7.5	7.8
February	26.92	27.38	26.44	19.1	26.6	27.9	31.1	15.7	23.4	40	−4	17	21	22	92	77	78	.098	.115	.122	1.07	.33	17.2	8.4	7.6	7.6	7.4
March	26.79	27.28	26.32	29.5	37.7	39.1	42.2	26.5	34.4	56	14	25	28	29	82	70	68	.134	.157	.159	.94	.27	10.0	6.6	8.7	8.6	8.1
April	26.92	27.40	26.60	36.3	52.0	54.8	56.8	34.1	45.4	76	24	30	34	31	78	51	42	.169	.194	.176	.37	.13	T	6.1	7.5	7.6	7.1
May	26.92	27.17	26.57	42.6	57.4	59.8	62.0	41.0	51.5	85	34	36	47	36	78	50	45	.214	.224	.215	1.72	.54	T	6.7	7.0	7.5	6.8
June	26.92	27.14	26.56	51.1	68.6	70.6	74.0	48.8	61.4	84	38	44	46	44	79	48	43	.309	.332	.309	1.17	.51	.0	6.6	7.4	7.2	7.0
July	26.97	27.20	26.71	54.9	76.4	79.8	82.3	53.6	68.0	97	46	47	50	47	76	42	35	.323	.364	.330	1.06	.39	.0	4.4	4.2	4.6	4.2
August	26.94	27.16	26.69	51.1	73.4	76.7	79.3	49.4	64.4	90	39	41	44	41	69	38	32	.257	.294	.267	.56	.35	.0	3.2	4.0	5.2	4.3
September	27.00	27.28	26.62	50.5	71.4	74.2	76.8	48.1	62.4	91	36	43	46	45	76	44	39	.275	.318	.303	1.14	.51	.0	3.3	3.3	3.9	3.3
October	26.99	27.40	26.60	40.3	52.1	52.9	56.0	36.1	46.0	71	27	36	38	40	86	61	62	.221	.239	.250	.80	.48	.0	5.0	6.0	5.4	6.2
November	27.03	27.65	26.40	28.3	34.0	32.7	36.1	24.8	30.4	49	4	24	25	26	83	69	77	.130	.132	.144	1.27	.48	8.1	8.1	8.8	9.1	8.6
December	27.00	27.36	26.47	26.0	30.3	29.7	33.6	21.4	27.5	55	2	21	24	23	82	75	77	.120	.130	.128	1.13	.53	16.8	8.6	8.7	7.8	8.7
Year	26.95	27.65	26.32	37.7	50.6	52.2	55.1	34.9	45.0	97	−11	32	35	34	81	59	56	.196	.218	.210	11.94	.54	60.7	6.2	6.8	6.8	6.6

KANSAS CITY, MO.[1]

[ϕ=39°5′ N.; λ=94°37′ W.]

Month	Pressure: Monthly mean	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.25	29.83	28.66	27.8	34.5	35.1	40.6	23.5	32.0	60	2	21	23	23	75	62	62	0.124	0.135	0.133	1.89	1.77	0.2	5.1	5.8	5.2	5.8
February	29.33	29.73	28.92	34.9	40.5	42.2	47.0	29.2	38.1	71	14	30	31	32	81	70	69	.182	.191	.199	.90	.40	4.9	6.4	6.8	7.6	7.2
March	29.05	29.53	28.56	45.1	56.3	57.8	63.4	40.9	52.2	81	25	38	39	40	77	55	53	.237	.258	.255	3.06	1.33	.1	5.7	6.1	6.3	6.0
April	29.16	29.57	28.76	48.6	60.5	61.7	66.1	46.6	56.4	86	27	42	42	42	78	53	52	.287	.298	.294	1.87	1.16	7.0	5.3	6.0	5.7	5.8
May	29.07	29.43	28.40	58.7	70.0	68.5	74.8	55.7	65.2	88	39	54	54	54	84	58	63	.431	.435	.434	7.64	2.03	.0	6.9	7.3	6.9	6.9
June	29.18	29.49	28.76	67.1	79.1	79.5	83.8	64.3	74.0	97	54	61	61	62	82	56	58	.548	.549	.573	5.22	1.17	.0	7.2	6.8	5.6	6.4
July	29.14	29.30	28.88	73.7	88.4	89.2	93.3	71.6	82.4	102	64	66	64	62	77	46	44	.636	.602	.573	3.82	3.10	.0	4.0	4.0	3.4	3.8
August	29.17	29.38	28.94	73.1	89.4	89.6	94.4	71.7	83.0	103	63	66	66	66	79	47	48	.638	.641	.651	6.78	4.41	.0	4.0	3.2	2.7	3.3
September	29.21	29.50	28.89	61.9	79.5	78.3	84.3	60.3	72.3	99	40	56	57	57	84	49	50	.484	.499	.494	1.84	.72	.0	3.3	4.0	2.6	3.5
October	29.25	29.51	28.74	55.7	74.6	72.9	80.0	52.9	66.4	93	33	45	45	45	69	37	39	.312	.324	.319	.70	.57	.0	2.8	3.0	2.2	3.2
November	29.22	29.72	28.65	38.8	49.6	48.9	55.4	34.9	45.2	82	13	29	30	30	67	48	49	.177	.188	.182	2.70	1.74	2.0	3.4	5.1	4.2	4.8
December	29.26	29.77	28.82	30.8	39.9	39.4	45.8	26.4	36.1	61	9	24	25	25	74	54	56	.135	.140	.142	.55	.35	T	3.8	4.3	4.5	4.7
Year	29.19	29.83	28.40	51.4	63.5	63.6	69.1	48.2	58.6	103	2	44	45	45	77	53	54	.349	.355	.354	36.97	4.41	14.2	4.8	5.2	4.7	5.1

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

ITHACA, N. Y.

[H=872 ft.; H_b=836 ft.; h_t=77 ft.; h_r=76 ft.; h_a=100 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	9.5	SE.	47	SE.	1	3	3	6	18	6	6	2	17	1	1	4	26	16	12	21	12	0	7	2	16	0	30	1	0
February	11.7	NW.	34	SE.	3	5	2	1	13	11	1	1	22	0	1	5	22	19	14	16	10	0	4	1	8	0	25	0	0
March	10.8	NW.	34	S.	2	2	0	1	20	6	4	6	23	0	3	10	18	14	8	12	4	0	4	1	2	0	17	1	0
April	9.9	NW.	31	SE.	0	7	1	3	13	7	6	3	20	0	5	9	16	15	10	8	7	0	3	3	2	0	11	4	0
May	8.3	NW.	28	SE.	0	3	6	3	9	8	4	1	28	0	4	11	16	12	9	1	0	0	3	0	0	0	0	4	2
June	7.3	NW.	25	S.	0	7	7	2	5	12	5	0	19	3	0	15	15	11	9	0	0	0	3	0	0	4	0	3	0
July	6.9	NW.	26	NW.	0	8	4	1	10	16	8	2	12	1	2	18	11	11	7	0	0	0	6	0	0	2	0	8	1
August	7.2	NW.	21	NW.	0	9	3	5	7	9	4	3	22	0	6	16	9	8	5	0	0	0	4	0	0	11	0	7	0
September	8.6	NW.	29	NW.	0	5	6	6	20	7	2	1	13	0	3	11	16	15	13	0	0	0	10	0	0	0	0	3	1
October	7.6	NW.	29	SE.	0	8	4	9	9	6	0	1	21	4	8	6	17	6	4	0	0	0	10	1	0	0	3	0	0
November	9.4	SE.	33	S.	1	4	0	4	22	9	6	5	10	0	6	4	20	12	8	9	5	0	4	3	5	0	16	0	0
December	9.5	NW.	36	SE.	2	7	2	4	15	10	6	1	16	1	1	3	27	12	9	22	5	0	2	1	10	0	23	0	0
Year	8.9	NW.	47	SE.	9	68	38	45	161	107	52	26	223	10	40	112	213	151	108	89	43	0	60	12	43	17	125	31	4

JACKSONVILLE, FLA.

[H=18 ft.; H_b=43 ft.; h_t=86 ft.; h_r=78 ft.; h_a=110 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.8	W.	30	SW.	0	6	9	7	5	5	11	11	8	0	11	6	14	10	8	0	0	0	3	2	0	0	2	3	0
February	8.6	NE.	26	SW.	0	9	14	5	5	3	8	6	4	2	12	7	9	7	5	0	0	0	6	1	0	0	0	0	0
March	7.8	S.	23	W.	0	6	6	6	13	9	15	3	3	1	11	17	3	6	4	0	0	0	2	0	0	0	0	3	0
April	8.2	S.	26	SW.	0	4	8	12	11	11	8	2	4	0	12	12	6	4	4	0	0	0	1	0	0	1	0	3	1
May	7.3	S.	29	SW.	0	2	1	7	16	9	9	8	9	1	5	18	8	11	9	0	0	0	2	0	0	9	0	11	0
June	7.8	SW.	26	W.	0	2	4	6	11	10	20	4	3	0	10	8	12	14	13	0	0	1	0	0	0	8	0	12	0
July	7.3	S.	28	S.	0	3	5	5	10	18	14	4	3	0	7	13	11	14	13	0	0	0	0	0	0	9	0	20	0
August	6.7	S.	25	S.	0	2	3	8	11	12	16	5	3	2	16	10	5	9	7	0	0	0	1	0	0	23	0	10	0
September	6.7	E.	21	SW.	0	5	11	15	4	9	7	5	4	0	7	12	11	14	12	0	0	0	1	0	0	5	0	10	0
October	8.1	NE.	23	NW	0	17	20	8	0	0	1	5	11	0	13	10	8	8	7	0	0	0	0	0	0	0	0	2	0
November	8.4	NE.	27	NE.	0	14	14	11	5	5	1	1	9	0	8	11	11	9	6	0	0	0	1	0	0	0	1	0	0
December	7.5	N.	31	NW.	0	16	5	5	7	5	5	9	9	1	11	9	11	6	4	0	0	0	1	1	0	0	0	0	0
Year	7.7	S.	31	NW.	0	86	100	95	98	96	115	63	70	7	123	133	109	112	92	0	0	1	18	4	0	55	3	74	1

KALISPELL, MONT.

[H=2,956 ft.; H_b=2,973 ft.; h_t=48 ft.; h_r=40 ft.; h_a=56 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	4.6	W.	29	N.	0	9	2	2	3	5	4	25	11	1	3	7	21	14	8	20	11	0	13	4	17	0	28	0	2
February	5.1	W.	24	N.	0	5	1	1	5	8	5	18	10	3	6	1	21	14	9	23	14	0	14	4	11	0	28	0	1
March	5.7	W.	24	W.	0	6	0	2	10	10	4	26	4	0	1	5	25	10	5	16	6	1	8	4	0	0	26	2	2
April	6.4	W.	24	NW.	0	3	2	5	4	5	5	20	15	1	3	10	17	8	4	1	0	0	2	0	0	0	9	0	2
May	6.5	W.	26	W.	0	2	5	3	8	6	5	13	17	3	6	5	20	13	7	1	0	0	3	0	0	0	0	3	2
June	6.1	NW.	26	W.	0	5	3	3	10	3	2	17	16	1	2	12	16	9	7	0	0	1	2	0	0	0	0	10	3
July	5.7	NW.	20	NE.	0	3	3	6	6	4	1	21	18	0	15	8	8	8	7	0	0	0	1	0	0	5	0	9	1
August	6.2	NW.	20	W.	0	4	2	7	6	2	1	17	23	0	16	6	9	7	2	0	0	0	0	0	0	1	0	4	2
September	5.3	NW.	27	SW.	0	3	1	5	11	4	3	8	22	3	19	4	7	8	7	0	0	0	0	0	0	2	0	3	7
October	5.6	NW.	23	SW.	0	6	1	2	11	5	6	11	16	4	9	8	14	10	4	0	0	0	6	2	0	0	11	0	2
November	5.3	NW.	24	SW.	0	5	0	0	6	7	7	14	15	6	1	6	23	15	9	16	9	0	4	0	11	0	21	0	0
December	4.7	NW.	28	NE.	0	9	2	0	3	8	6	12	16	6	2	5	24	13	9	13	10	0	9	0	18	0	26	0	0
Year	5.6	W.	29	N.	0	60	22	36	83	67	49	202	183	28	83	77	205	129	78	90	50	2	62	14	57	8	149	31	24

KANSAS CITY, MO.[1]

[H=741 ft.; H_b=750 ft.; h_t=32 ft.; h_r=3 ft.; h_a=45 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.3	SW.	39	NW.	2	9	8	5	1	1	17	5	16	0	10	7	14	5	4	7	1	0	8	3	7	0	25	1	0
February	11.4	SW.	34	SW.	1	8	9	6	1	4	15	3	10	0	5	5	18	8	7	6	4	0	12	2	5	0	19	1	0
March	12.3	SW.	35	SW.	3	3	6	5	5	9	13	7	13	1	7	12	12	11	7	1	1	0	10	2	0	0	6	5	0
April	12.3	SW.	33	W.	2	7	8	6	3	11	13	3	6	3	9	9	12	8	7	2	1	0	7	0	0	0	5	4	0
May	10.3	SW.	34	SW.	2	5	7	6	5	9	12	7	11	0	5	9	17	16	14	0	0	0	4	1	0	0	0	12	0
June	8.9	SW.	34	SW.	2	8	8	4	7	10	15	3	3	2	5	12	13	13	9	0	0	0	5	2	0	4	0	10	0
July	8.0	SW.	25	NW.	0	8	7	8	1	6	24	3	2	3	18	8	5	7	5	0	0	0	2	0	0	21	0	7	0
August	9.6	SW.	57	NW.	1	8	14	7	2	5	24	2	0	0	15	12	4	9	7	0	0	1	2	0	0	22	0	9	0
September	7.2	SW.	35	W.	1	5	17	3	2	10	10	4	5	4	17	8	5	9	6	0	0	0	7	2	0	10	0	4	0
October	8.7	SW.	27	NW.	0	5	5	8	8	11	18	4	3	0	19	8	4	2	2	0	0	0	2	2	0	6	0	2	0
November	11.4	SW.	32	S.	1	8	2	3	1	12	18	6	8	2	14	6	10	4	3	1	1	1	5	1	3	0	14	1	0
December	8.9	SW.	33	NW.	1	7	2	6	3	6	15	11	8	4	13	10	8	4	3	2	0	0	4	0	2	0	25	1	0
Year	10.0	SW.	57	NW.	16	81	93	67	39	94	194	58	85	19	137	106	122	96	74	19	8	2	68	15	17	63	94	57	0

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

KEOKUK, IOWA

[ϕ=40°22′ N.; λ=91°26′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.38	29.98	28.59	22.9	30.3	29.4	36.4	18.7	27.6	54	−2	17	18	19	75	61	65	0.103	0.115	0.116	3.73	2.87	2.1	6.3	6.4	5.0	6.3
February	29.50	29.95	29.01	34.0	38.8	39.4	44.5	29.7	37.1	71	10	28	29	30	78	68	68	.164	.171	.175	1.86	.59	10.7	8.0	8.0	8.0	8.7
March	29.24	29.73	28.75	41.7	52.6	53.6	58.5	38.3	48.4	83	23	35	36	37	78	56	56	.214	.224	.232	4.58	1.75	T	6.4	5.9	6.6	6.2
April	29.34	29.72	28.95	47.5	58.9	57.9	62.9	45.3	54.1	82	27	38	38	39	71	48	51	.250	.255	.261	3.17	1.51	2.8	6.2	6.6	6.3	6.9
May	29.24	29.57	28.72	56.9	68.2	67.9	72.5	53.8	63.2	86	40	50	50	52	78	55	58	.379	.398	.414	4.24	1.01	.0	7.0	7.3	7.6	7.5
June	29.34	29.64	29.06	65.6	77.0	77.1	81.0	61.4	71.2	94	55	58	58	59	78	53	56	.492	.503	.524	3.70	1.14	.0	6.1	7.3	6.1	6.6
July	29.30	29.44	29.05	72.4	85.2	84.6	89.4	69.5	79.4	98	63	66	65	66	79	53	56	.635	.630	.654	1.63	.74	.0	5.0	4.4	4.1	4.7
August	29.34	29.53	29.13	71.3	85.3	84.7	89.8	69.2	79.5	99	61	66	64	66	83	51	54	.635	.616	.639	2.30	.70	.0	3.4	2.9	4.6	3.6
September	29.35	29.59	28.96	61.8	76.4	74.1	80.5	60.3	70.4	96	40	58	57	58	86	52	60	.499	.493	.517	3.49	1.57	.0	4.1	4.9	3.7	4.6
October	29.42	29.73	28.82	53.1	70.0	66.7	74.6	51.0	62.8	90	33	43	44	45	71	42	47	.294	.303	.315	1.04	.68	.0	3.4	3.3	2.5	3.2
November	29.36	29.83	28.40	38.4	48.3	45.6	53.1	34.5	43.8	81	13	30	31	32	71	52	59	.180	.194	.197	3.57	1.68	.7	4.7	4.4	4.1	5.1
December	29.40	29.90	28.99	27.8	35.0	33.7	39.0	23.8	31.4	56	4	22	24	23	79	62	64	.126	.134	.134	1.15	.42	2.6	6.4	6.5	4.1	6.4
Year	29.35	29.98	28.40	49.4	60.5	59.6	65.2	46.3	55.7	99	−2	43	43	44	77	54	58	.331	.336	.348	34.46	2.87	18.9	5.6	5.7	5.2	5.8

KEY WEST, FLA.

[ϕ=24°33′ N.; λ=81°48′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	30.07	30.47	29.86	66.5	73.2	67.9	75.1	63.6	69.4	82	51	61	62	61	83	68	79	0.544	0.572	0.557	0.30	0.21	0.0	5.0	4.5	3.2	4.4
February	30.12	30.31	29.89	68.2	74.8	70.0	77.0	67.2	72.1	82	60	63	62	63	83	66	78	.578	.570	.572	.25	.22	.0	3.5	2.2	2.2	3.0
March	30.04	30.25	29.90	72.7	79.3	74.3	81.4	70.4	75.9	86	60	66	67	66	81	67	77	.649	.671	.649	1.50	1.00	.0	2.0	2.3	2.3	2.6
April	30.01	30.16	29.85	74.6	79.3	75.2	81.9	71.8	76.8	86	66	66	67	66	77	66	72	.657	.663	.632	.81	.29	.0	4.2	3.6	3.1	4.0
May	29.96	30.12	29.83	79.5	83.4	79.4	86.3	75.4	80.8	89	69	71	72	70	75	68	74	.764	.777	.743	1.24	.51	.0	5.2	4.9	4.5	5.0
June	30.01	30.11	29.85	81.6	84.6	81.0	87.6	76.7	82.2	91	71	73	74	72	76	70	76	.822	.830	.799	3.33	1.17	.0	5.6	6.3	6.4	6.2
July	30.00	30.12	29.87	82.4	86.0	82.7	88.6	78.3	83.4	92	72	74	74	73	75	68	73	.831	.844	.813	3.25	1.71	.0	5.2	5.5	6.4	6.0
August	29.99	30.12	29.87	82.1	86.8	82.2	88.9	78.6	83.8	90	71	74	74	74	77	67	75	.846	.851	.824	2.16	.73	.0	4.3	4.2	4.7	4.6
September	29.92	30.10	29.77	80.9	85.7	81.6	88.2	77.3	82.8	91	74	75	77	74	84	75	78	.877	.923	.841	3.72	.68	.0	5.5	5.0	4.1	5.0
October	29.92	30.12	29.68	76.3	82.3	77.4	83.7	74.2	79.0	89	64	69	70	68	78	66	74	.718	.736	.707	2.63	.68	.0	3.8	3.4	3.9	4.0
November	29.98	30.24	29.72	73.8	79.0	75.4	80.8	72.1	76.4	86	60	69	69	69	84	73	80	.709	.729	.711	3.13	.93	.0	4.1	3.8	3.6	4.2
December	30.04	30.24	29.82	66.1	73.4	68.8	75.1	65.0	70.0	81	57	62	62	62	86	69	80	.554	.573	.566	.26	.10	.0	3.4	2.3	1.8	2.4
Year	30.01	30.47	29.68	75.4	80.6	76.3	82.9	72.6	77.7	92	51	69	69	68	80	69	76	.712	.728	.701	22.58	1.71	.0	4.3	4.0	3.8	4.3

KNOXVILLE, TENN.

[ϕ=35°58′ N.; λ=83°55′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.01	29.46	28.31	35.6	43.8	43.1	48.6	32.0	40.3	70	14	31	32	32	83	63	65	0.190	0.192	0.191	4.30	1.16	2.8	6.3	5.5	5.4	6.1
February	29.14	29.48	28.57	43.2	52.9	52.4	57.9	40.6	49.2	74	26	38	41	40	82	64	63	.243	.273	.262	2.55	.67	T	6.8	5.9	5.8	6.2
March	28.96	29.37	28.58	49.5	61.7	60.9	67.3	46.8	57.0	82	24	43	43	44	80	53	56	.301	.301	.304	5.78	1.44	.0	6.9	6.1	6.0	6.1
April	29.00	29.34	28.47	52.7	66.0	65.7	71.9	50.3	61.1	86	32	46	46	47	80	52	53	.335	.337	.341	6.52	2.28	T	5.0	5.1	3.8	4.5
May	28.93	29.13	28.60	61.3	74.1	71.2	78.1	58.4	68.2	90	48	56	55	57	83	54	63	.457	.453	.479	8.81	3.12	.0	5.2	5.1	5.5	5.4
June	28.99	29.18	28.79	67.3	78.7	76.8	82.5	64.0	73.2	90	58	62	62	62	83	59	62	.557	.571	.559	4.99	1.53	.0	4.2	4.8	4.8	5.1
July	28.96	29.12	28.83	71.7	83.8	81.7	88.0	68.8	78.4	94	63	67	68	68	86	61	64	.667	.694	.686	4.83	1.38	.0	4.8	5.6	4.5	4.9
August	29.02	29.17	28.85	72.2	86.6	82.2	89.9	69.1	79.5	95	62	68	68	68	87	55	64	.684	.691	.692	2.19	.72	.0	3.9	3.8	3.8	3.9
September	28.99	29.20	28.68	63.6	78.4	73.7	81.8	62.0	71.9	92	47	60	61	61	90	56	66	.541	.554	.555	3.13	.98	.0	3.9	4.7	4.0	4.5
October	29.07	29.35	28.75	49.7	71.2	66.8	76.1	48.0	62.0	86	34	46	46	46	88	41	48	.318	.320	.317	.50	.49	.0	1.9	.7	.9	1.2
November	29.09	29.45	28.67	41.2	57.0	53.4	62.4	38.4	50.4	78	18	37	40	39	85	54	60	.237	.270	.264	4.68	2.35	1.3	3.5	3.4	2.7	3.3
December	29.06	29.56	28.58	33.9	44.2	42.7	48.6	31.1	39.8	61	19	30	32	30	83	63	63	.168	.187	.178	2.71	.93	.3	4.8	4.7	3.8	4.9
Year	29.02	29.56	28.31	53.5	66.5	64.2	71.1	50.8	60.9	95	14	49	50	50	84	56	61	.392	.404	.402	50.99	3.12	4.4	4.8	4.6	4.2	4.7

LA CROSSE, WIS.

[ϕ=43°49′ N.; λ=91°15′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.25	29.86	28.59	15.5	21.0	19.6	24.6	11.3	18.0	47	−9	10	13	12	78	68	71	0.080	0.087	0.086	1.18	0.56	9.2	7.3	6.4	5.6	6.7
February	29.40	29.91	28.81	24.4	30.4	30.1	33.9	20.4	27.2	47	−5	20	23	24	86	72	75	.119	.128	.129	1.00	.46	2.7	7.7	8.4	7.2	8.2
March	29.11	29.60	28.47	33.2	45.8	44.5	49.9	30.9	40.4	74	11	28	31	32	83	58	63	.165	.185	.193	3.20	.80	4.8	6.1	5.6	6.0	5.5
April	29.21	29.71	28.64	42.6	53.4	52.7	57.7	39.7	48.7	80	23	34	31	35	72	50	53	.223	.228	.232	3.01	.93	.6	6.9	6.7	6.4	6.7
May	29.11	29.44	28.43	53.0	63.8	62.3	67.2	49.3	58.2	81	37	49	49	50	87	61	65	.363	.370	.377	4.86	1.46	.0	7.2	6.8	6.7	7.1
June	29.21	29.57	28.91	61.9	74.3	72.4	77.4	58.7	68.0	93	48	57	57	57	85	57	61	.480	.485	.481	4.03	.87	.0	5.5	5.4	5.4	5.5
July	29.18	29.35	28.92	67.0	79.4	77.9	82.6	64.1	73.4	88	56	64	66	66	89	65	67	.594	.644	.633	7.08	2.15	.0	5.9	4.8	4.9	5.4
August	29.22	29.42	28.89	66.4	79.7	78.2	82.9	63.4	73.2	93	53	64	65	65	91	62	66	.593	.628	.638	5.14	2.61	.0	5.0	4.2	3.2	4.3
September	29.25	29.50	28.91	55.7	68.2	64.9	71.5	53.7	62.6	87	43	53	56	57	92	66	77	.420	.462	.486	7.60	2.54	.0	4.8	5.6	5.3	5.7
October	29.27	29.71	28.66	48.7	62.8	58.4	66.3	46.3	56.3	82	30	44	47	47	86	68	68	.309	.331	.338	1.35	.52	.1	4.4	3.5	2.8	4.0
November	29.22	29.77	28.49	32.2	39.2	37.1	43.0	28.6	35.8	75	4	27	28	30	79	65	74	.167	.176	.181	2.87	1.29	9.1	5.6	5.2	6.4	6.0
December	29.24	29.73	28.83	22.0	26.6	24.3	30.5	16.6	23.6	43	−8	17	19	18	81	73	77	.103	.112	.108	1.10	.43	8.2	7.5	7.2	6.7	7.2
Year	29.22	29.91	28.43	43.6	53.7	51.9	57.3	40.2	48.8	93	−9	39	41	41	84	63	68	.301	.320	.324	42.37	2.61	34.7	6.2	5.8	5.6	6.0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

KEOKUK, IOWA

[H=574 ft.; H_b=614 ft.; h_t=64 ft.; h_r=56 ft.; h_a=78 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	8.6	NW.	30	NW.	0	7	4	5	6	6	9	3	22	0	10	4	17	10	7	8	5	0	5	3	6	0	27	0	0
February	9.1	E.	26	W.	0	8	7	9	4	6	7	5	6	4	3	5	20	9	8	6	4	1	5	3	3	0	19	2	0
March	9.3	SW.	26	SW.	0	6	5	7	9	4	17	4	9	1	10	6	15	14	12	1	1	2	5	2	0	0	8	6	0
April	10.1	SW.	27	NW.	0	10	6	6	8	4	15	6	5	0	5	8	17	11	8	3	1	1	0	0	0	0	7	4	0
May	8.1	SW.	31	W.	0	3	8	5	9	10	10	6	8	3	4	6	21	16	13	0	0	3	0	0	0	0	0	9	1
June	7.2	SW.	21	W.	0	6	8	5	6	4	14	8	6	3	6	9	15	12	12	0	0	0	0	0	0	2	0	8	0
July	6.0	SW.	23	NW.	0	4	8	6	6	7	22	2	5	2	12	10	9	9	7	0	0	0	2	1	0	15	0	8	0
August	7.1	SW.	29	SW.	0	6	8	5	7	15	11	5	3	2	16	7	8	7	6	0	0	0	3	3	0	14	0	11	0
September	5.8	SW.	18	NW.	0	9	7	3	2	2	14	3	9	11	14	6	10	6	5	0	0	0	6	1	0	6	0	4	1
October	7.0	SW.	22	NW.	0	1	4	6	10	13	11	11	3	3	19	7	5	3	2	0	0	0	2	1	0	1	0	3	0
November	9.6	SW.	38	S.	1	9	2	6	4	7	18	3	10	1	11	6	13	6	4	5	2	0	2	0	3	0	14	2	0
December	7.6	NW.	29	W.	0	5	3	4	7	8	9	12	14	0	8	8	15	6	5	7	4	0	2	0	4	0	26	0	0
Year	7.9	SW.	38	S.	1	74	70	67	78	86	157	68	100	30	118	82	165	109	89	30	17	7	32	14	16	38	101	57	2

KEY WEST, FLA.

[H=5 ft.; H_b=21 ft.; h_t=10 ft.; h_r=3 ft.; h_a=64 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.6	N.	33	NW.	1	17	9	15	7	4	2	0	6	2	12	15	4	3	2	0	0	0	2	0	0	0	0	1	0
February	11.6	E.	24	NW.	0	13	5	24	2	0	2	7	1	1	18	9	1	3	1	0	0	0	1	0	0	0	0	1	0
March	9.8	E.	18	SE.	0	3	4	29	15	5	1	2	3	0	20	10	1	2	2	0	0	0	0	0	0	0	0	0	0
April	11.1	E.	25	W.	0	4	11	26	9	5	0	2	3	0	16	9	5	7	4	0	0	0	0	0	0	0	0	0	0
May	8.3	SE.	22	W.	0	11	4	20	18	8	0	1	0	0	12	11	8	7	6	0	0	0	0	0	0	0	0	5	0
June	8.3	E.	22	W.	0	1	4	24	17	2	2	7	3	0	4	16	10	11	11	0	0	0	0	0	0	5	0	11	0
July	8.8	E.	24	W.	0	3	2	23	16	9	6	2	1	0	6	16	9	9	8	0	0	0	0	0	0	6	0	16	0
August	10.5	E.	28	E.	0	0	5	50	7	0	0	0	0	0	12	13	6	11	6	0	0	0	0	0	0	2	0	5	0
September	8.9	E.	32	S.	1	8	7	24	10	5	1	1	3	1	10	15	5	18	16	0	0	0	0	0	0	6	0	11	0
October	11.0	NE.	24	E.	0	12	17	15	5	5	0	2	6	0	15	9	7	9	8	0	0	0	0	0	0	0	0	6	0
November	10.8	NE.	27	N.	0	10	28	18	3	0	0	0	1	0	15	9	6	12	8	0	0	0	0	0	0	0	0	0	0
December	9.0	NE.	24	N.	0	14	28	10	5	1	0	1	2	1	24	5	2	8	2	0	0	0	0	0	0	0	0	0	0
Year	9.8	E.	33	NW.	2	96	124	278	114	46	12	20	35	5	164	137	64	100	74	0	0	0	3	0	0	19	0	56	0

KNOXVILLE, TENN.

[H=921 ft.; H_b=995 ft.; h_t=66 ft.; h_r=57 ft.; h_a=84 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.0	W.	27	W.	0	4	8	11	3	0	12	17	5	2	9	10	12	14	11	6	4	0	10	3	2	0	26	1	0
February	6.5	W.	27	SW.	0	2	10	8	1	2	14	9	6	4	6	8	14	12	11	4	0	0	10	2	0	0	5	0	0
March	6.8	SW.	21	NW.	0	1	8	11	0	2	22	13	3	2	9	9	13	16	13	0	0	0	7	1	0	0	3	7	0
April	5.7	SW.	23	W.	0	1	7	11	4	7	18	9	1	2	14	7	9	13	11	1	0	1	7	1	0	0	0	6	0
May	5.3	W.	28	W.	0	4	8	14	5	1	10	13	3	4	11	11	9	16	16	0	0	0	15	3	0	0	0	10	0
June	5.3	SW.	24	W.	0	2	11	9	3	5	14	12	3	1	10	13	7	16	14	0	0	0	11	1	0	0	0	11	0
July	4.6	W.	18	N.	0	3	6	10	5	8	12	17	1	0	12	8	11	15	13	0	0	0	17	2	0	11	0	7	0
August	4.8	W.	18	N.	0	3	15	14	1	6	12	9	2	0	15	13	3	13	9	0	0	0	22	2	0	18	0	11	0
September	4.5	NE.	17	W.	0	5	15	9	1	7	8	9	6	2	14	9	7	9	7	0	0	0	25	5	0	3	0	6	0
October	4.3	NE.	15	NE.	0	4	15	20	1	6	3	7	3	8	27	2	2	2	1	0	0	0	10	3	0	0	0	0	0
November	4.9	E.	25	W.	0	3	21	13	0	2	5	6	4	6	18	5	7	8	5	1	1	0	15	3	0	0	2	0	0
December	5.2	E.	24	W.	0	4	7	16	4	6	6	10	4	5	9	13	9	10	7	2	1	0	13	5	0	0	19	0	0
Year	5.3	W.	28	W.	0	36	131	146	28	52	134	126	41	36	154	108	103	144	118	14	6	1	162	31	2	32	56	59	0

LA CROSSE, WIS.

[H=674 ft.; H_b=714 ft.; h_t=11 ft.; h_r=3 ft.; h_a=48 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.4	NW.	21	NW.	0	11	4	1	5	10	6	9	16	0	6	9	16	9	5	19	8	0	4	0	23	0	30	0	1
February	5.9	N.	18	N.	0	13	8	6	2	9	2	4	11	1	2	5	21	11	7	12	5	0	12	3	11	0	25	1	0
March	6.5	S.	21	W.	0	8	4	4	6	12	7	14	7	0	11	8	12	12	9	5	1	1	9	3	4	0	16	4	0
April	7.3	S.	19	SW.	0	8	8	2	8	13	5	9	7	0	6	11	13	11	9	4	2	0	3	0	0	0	10	5	0
May	5.5	S.	21	W.	0	8	6	7	6	11	5	11	8	0	4	12	15	18	17	0	0	1	9	1	0	0	0	9	1
June	5.2	S.	17	W.	0	8	1	3	4	16	9	7	11	1	12	7	11	11	9	0	0	0	11	0	0	2	0	8	0
July	4.3	W.	18	W.	0	9	1	5	7	14	7	12	7	0	8	14	9	15	11	0	0	1	10	0	0	0	0	16	0
August	5.0	S.	18	W.	0	9	1	1	7	22	12	2	8	0	15	7	9	10	6	0	0	0	13	7	0	1	0	9	1
September	4.5	N.	12	N.	0	17	1	8	5	7	9	3	10	0	12	4	14	13	11	0	0	0	19	5	0	0	0	7	2
October	5.7	S.	16	W.	0	4	3	2	6	28	5	8	6	0	17	6	8	6	6	2	1	0	9	2	0	0	1	2	0
November	7.1	S.	19	W.	0	12	1	2	7	17	2	13	6	0	8	12	10	10	8	11	3	0	12	0	7	0	20	1	0
December	6.3	S.	18	NW.	0	4	2	2	9	14	4	11	16	0	6	6	19	12	6	21	11	0	14	2	15	0	29	0	0
Year	5.8	S.	21	NW.	0	111	40	43	72	173	73	103	113	2	107	101	157	138	104	74	31	3	125	23	60	3	131	62	5

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

LANDER, WYO.

[ϕ=42°50′ N.; λ=108°45′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Dew point: 7:30 a. m.	Dew point: Noon, local time	Dew point: 7:30 p. m.	Relative humidity: 7:30 a. m.	Relative humidity: Noon, local time	Relative humidity: 7:30 p. m.	Vapor pressure: 7:30 a. m.	Vapor pressure: Noon, local time	Vapor pressure: 7:30 p. m.	Precipitation: Total	Precipitation: Maximum in 24 hours	Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	24.63	25.04	24.22	16.0	27.9	27.4	35.0	9.2	22.1	52	−12	8	14	13	69	54	52	0.062	0.083	0.077	0.63	0.25	9.0	4.6	5.6	4.9	5.3
February	24.61	24.95	24.15	21.9	35.2	36.0	39.9	17.3	28.6	60	−9	13	16	16	67	44	42	.079	.088	.088	.14	.08	1.2	3.9	4.4	4.9	4.5
March	24.46	24.90	23.90	25.4	40.5	42.4	46.5	21.5	34.0	64	5	16	19	19	66	42	40	.091	.107	.104	1.66	1.46	15.7	3.6	6.0	6.4	5.6
April	24.60	25.09	24.21	34.5	50.3	53.9	57.0	31.4	44.2	80	10	25	25	23	67	40	34	.139	.138	.127	2.88	1.30	18.1	5.8	6.5	6.0	6.3
May	24.59	24.94	24.21	41.1	58.1	59.3	63.1	38.8	51.0	85	26	32	31	30	70	38	35	.184	.177	.166	1.79	.79	7.9	6.0	7.4	7.3	6.8
June	24.65	24.98	24.29	51.4	73.5	74.6	79.2	49.5	64.4	87	38	39	38	37	62	30	27	.241	.240	.225	.14	.06	.0	4.9	5.0	6.6	5.0
July	24.76	24.96	24.50	55.2	79.6	78.6	83.7	53.3	68.5	96	43	42	41	41	62	27	29	.265	.265	.265	.78	.44	.0	2.5	4.3	6.8	4.3
August	24.72	24.98	24.39	54.4	78.9	77.6	82.8	50.9	66.8	93	40	38	38	38	57	26	30	.239	.244	.249	.56	.27	.0	2.4	3.8	5.3	3.8
September	24.78	24.97	24.50	50.3	71.8	72.3	76.7	47.7	62.2	84	40	39	40	38	66	35	33	.244	.253	.239	.65	.26	.0	3.7	4.1	5.0	4.1
October	24.70	25.02	24.29	38.4	57.2	55.2	61.8	35.7	48.8	77	25	30	32	32	72	42	44	.170	.182	.183	1.23	.64	5.9	4.4	5.0	5.1	5.0
November	24.64	25.14	24.13	17.7	32.4	20.0	36.1	12.5	24.3	53	−4	13	19	19	82	57	64	.081	.102	.102	1.80	.97	19.4	4.6	5.4	5.8	5.2
December	24.64	24.90	24.27	17.8	30.7	27.6	36.6	11.5	24.0	55	−9	12	17	16	77	58	61	.075	.096	.088	.44	.25	6.0	3.9	5.3	4.8	4.8
Year	24.65	25.14	23.90	35.3	53.0	52.8	58.2	31.6	44.9	96	−12	26	28	27	68	41	41	.156	.165	.159	12.70	1.46	83.2	4.2	5.2	5.7	5.1

LANSING MICH.

[ϕ=42°44′ N.; λ=84°26′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Dew point: 7:30 a. m.	Dew point: Noon, local time	Dew point: 7:30 p. m.	Relative humidity: 7:30 a. m.	Relative humidity: Noon, local time	Relative humidity: 7:30 p. m.	Vapor pressure: 7:30 a. m.	Vapor pressure: Noon, local time	Vapor pressure: 7:30 p. m.	Precipitation: Total	Precipitation: Maximum in 24 hours	Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	29.01	29.67	27.98	19.8	25.6	23.3	28.8	16.1	22.4	48	−10	18	21	20	90	80	88	0.102	0.115	0.112	1.31	0.43	9.9	8.6	9.1	8.1	8.4
February	29.21	29.76	28.43	27.3	32.9	31.0	36.4	22.6	29.5	57	3	25	27	26	90	78	82	.142	.160	.148	7.47	4.33	10.5	8.8	8.7	7.6	8.8
March	28.97	29.39	28.50	35.2	46.1	41.8	50.2	30.9	40.6	81	12	32	34	34	88	63	73	.200	.212	.209	3.36	.72	3.3	6.0	6.5	5.4	5.6
April	29.06	29.43	28.55	41.9	53.0	50.2	56.4	37.9	47.2	83	21	36	38	39	80	58	66	.228	.249	.255	1.42	.91	9.3	6.5	7.2	6.4	6.7
May	28.98	29.28	28.48	52.0	64.2	61.5	67.0	47.3	57.2	85	30	46	49	50	82	60	68	.335	.375	.383	5.73	1.30	.0	6.0	7.5	7.3	6.9
June	29.06	29.35	28.74	60.6	73.0	69.6	75.0	55.4	65.2	91	47	55	55	57	83	56	65	.445	.457	.473	2.89	1.05	.0	5.7	6.2	6.2	5.8
July	29.03	29.21	28.77	65.1	78.6	76.1	80.7	61.6	71.2	89	52	61	63	64	88	60	66	.549	.577	.595	1.50	.36	.0	5.1	5.6	4.8	5.5
August	29.08	29.25	28.82	65.5	79.7	76.0	82.1	62.3	72.2	91	51	62	64	65	89	60	69	.569	.610	.627	4.24	1.73	.0	4.4	4.5	4.2	4.7
September	29.08	29.38	28.62	53.6	66.6	61.7	68.7	50.4	59.6	83	40	51	53	53	91	63	74	.383	.421	.413	1.64	.44	.0	5.9	5.9	5.1	5.8
October	29.16	29.54	28.62	44.6	63.2	54.8	65.4	41.7	53.6	85	27	41	45	44	88	54	67	.266	.306	.294	.37	.28	T	3.5	3.5	3.1	3.9
November	29.09	29.50	28.62	35.2	47.8	42.3	51.4	30.9	41.2	76	13	30	32	32	81	56	68	.172	.196	.194	.39	.16	T	6.8	6.3	5.2	6.6
December	29.06	29.59	28.51	26.1	30.9	29.5	33.8	22.5	28.2	46	4	23	24	24	88	76	82	.130	.136	.138	2.07	.75	11.7	8.9	8.9	7.9	8.6
Year	29.06	29.76	27.98	43.9	55.1	51.5	58.0	40.0	49.0	91	−10	40	42	42	86	64	72	2.93	.318	.320	32.39	4.33	44.7	6.4	6.7	5.9	6.4

LINCOLN, NEBR.

[ϕ=40°49′ N.; λ=96°45′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Dew point: 7:30 a. m.	Dew point: Noon, local time	Dew point: 7:30 p. m.	Relative humidity: 7:30 a. m.	Relative humidity: Noon, local time	Relative humidity: 7:30 p. m.	Vapor pressure: 7:30 a. m.	Vapor pressure: Noon, local time	Vapor pressure: 7:30 p. m.	Precipitation: Total	Precipitation: Maximum in 24 hours	Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	28.77	29.28	28.23	22.6	32.0	31.5	37.1	17.3	27.2	59	−5	15	16	18	72	53	56	0.092	0.099	0.107	0.87	0.64	6.9	4.8	5.8	4.8	5.4
February	28.86	29.29	28.34	23.9	32.6	33.9	39.7	19.8	29.8	70	−2	19	22	24	82	68	68	.112	.133	.140	1.21	.57	11.5	6.2	6.8	6.2	6.5
March	28.59	29.12	28.07	39.4	50.7	51.1	55.7	36.2	46.0	80	20	32	33	34	75	54	56	.187	.193	.199	1.70	.89	T	5.2	6.2	6.0	5.9
April	28.68	29.07	28.29	45.6	60.1	59.9	64.5	43.7	54.1	87	23	38	38	38	75	52	49	.251	.255	.263	3.63	.87	.4	5.5	5.8	5.2	5.3
May	28.62	28.91	28.15	54.5	65.6	66.0	69.8	52.1	61.0	83	34	49	49	51	83	58	62	.369	.370	.395	5.64	1.94	T	5.2	7.4	6.1	6.7
June	28.70	29.01	28.33	64.8	79.4	80.6	83.9	62.5	73.2	99	51	58	58	58	80	50	47	.500	.500	.500	2.89	1.27	.0	6.3	5.2	3.7	5.2
July	28.68	28.88	28.36	70.6	89.0	89.8	93.5	68.2	80.8	105	60	62	60	58	74	39	38	.550	.519	.498	2.20	1.17	.0	3.8	3.1	3.3	3.6
August	28.69	29.02	28.39	71.0	86.2	86.8	91.5	69.0	80.2	103	57	62	62	62	74	47	48	.563	.563	.573	4.63	2.31	.0	4.0	3.5	3.6	4.0
September	28.75	29.04	28.43	60.6	79.0	76.6	83.0	59.6	71.3	98	38	54	54	54	80	45	48	.446	.450	.438	2.94	1.24	.0	4.5	3.8	3.3	4.0
October	28.76	29.06	28.29	52.9	73.5	70.3	78.1	50.7	64.4	96	31	40	42	41	63	33	36	.271	.279	.275	.40	.40	.0	2.1	2.9	3.1	3.0
November	28.73	29.32	28.22	33.0	45.6	43.2	51.3	28.3	39.8	76	6	25	26	26	73	46	50	.150	.150	.154	1.98	1.79	.5	2.9	4.3	3.6	4.1
December	28.77	29.29	28.31	25.8	37.8	35.7	43.0	22.6	32.8	60	3	18	21	21	72	50	53	.103	.116	.115	.26	.16	1.4	3.4	4.1	3.8	4.5
Year	28.72	29.32	28.07	47.1	61.0	60.4	65.9	44.2	55.0	105	−5	39	40	40	75	50	51	.300	.302	.305	28.35	2.31	20.7	4.5	4.9	4.4	4.8

LITTLE ROCK, ARK.

[ϕ=34°45′ N.; λ=92°16′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Dew point: 7:30 a. m.	Dew point: Noon, local time	Dew point: 7:30 p. m.	Relative humidity: 7:30 a. m.	Relative humidity: Noon, local time	Relative humidity: 7:30 p. m.	Vapor pressure: 7:30 a. m.	Vapor pressure: Noon, local time	Vapor pressure: 7:30 p. m.	Precipitation: Total	Precipitation: Maximum in 24 hours	Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	29.73	30.27	28.97	38.7	46.1	46.8	51.5	34.6	43.0	69	18	32	32	32	77	60	57	0.202	0.213	0.204	9.80	5.01	T	4.8	5.4	4.4	5.8
February	29.81	30.19	29.36	45.7	53.5	55.2	59.1	42.8	51.0	77	21	41	42	42	84	68	63	.284	.296	.285	4.87	3.61	T	5.7	6.8	6.8	7.0
March	29.57	30.13	29.19	54.1	64.0	66.4	70.2	50.9	60.6	84	33	48	47	46	81	56	52	.356	.339	.339	7.18	3.00	0.0	5.7	5.7	5.9	5.7
April	29.63	29.90	29.22	55.6	68.2	68.0	72.2	53.5	62.8	87	34	49	49	50	79	53	55	.374	.380	.387	4.04	1.56	.0	4.3	5.4	6.1	5.3
May	29.55	29.84	29.22	64.3	74.8	77.0	79.9	62.0	71.0	90	48	58	57	58	81	57	54	.503	.487	.500	3.42	1.42	.0	5.7	5.9	4.9	5.6
June	29.63	29.86	29.48	71.0	81.0	82.1	84.9	68.2	76.6	93	63	65	64	64	82	57	56	.623	.598	.598	2.92	2.18	.0	5.7	5.7	4.8	5.8
July	29.58	29.72	29.42	75.5	89.1	87.2	92.5	73.2	82.8	100	70	70	68	69	85	50	56	.743	.676	.707	2.50	1.09	.0	5.5	4.7	5.4	5.4
August	29.64	29.85	29.42	75.1	90.4	87.7	94.2	73.7	84.0	102	70	70	68	69	84	50	56	.733	.699	.710	3.46	2.24	.0	2.5	4.0	3.5	3.7
September	29.64	29.88	29.34	67.2	82.9	82.0	87.3	66.0	76.6	99	49	60	59	58	80	46	47	.555	.525	.522	.99	.48	.0	4.3	4.5	4.4	4.4
October	29.72	29.97	29.39	57.5	76.2	74.6	80.2	55.8	68.0	93	36	47	46	47	68	36	39	.341	.332	.337	1.37	1.18	.0	2.4	2.2	2.4	2.4
November	29.74	30.21	29.19	44.4	56.6	56.4	62.2	40.7	51.4	80	22	37	39	37	76	54	50	.251	.272	.253	6.07	2.76	T	3.6	4.5	3.8	4.3
December	29.75	30.24	29.37	39.1	47.7	48.9	52.7	36.6	44.6	72	21	31	34	33	72	60	56	.182	.202	.201	3.34	1.14	T	5.5	5.1	4.6	5.4
Year	29.67	30.27	28.97	57.4	69.2	69.4	73.9	54.8	64.4	102	18	51	50	50	79	54	53	.429	.418	.420	49.96	5.01	T	4.6	5.0	4.7	5.1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

LANDER, WYO.

[H=5,351 ft.; H_b=5,362 ft.; h_t=60 ft.; h_r=54 ft.; h_a=68 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	4.9	SW.	27	W.	0	2	8	9	3	12	13	9	6	0	9	13	9	6	4	7	6	0	0	0	13	0	31	0	3
February	6.6	SW.	38	SW.	2	1	5	10	4	10	10	11	5	0	10	12	6	4	2	6	3	0	0	0	5	0	25	0	1
March	5.8	SW.	36	SW.	4	4	4	8	3	9	18	10	5	1	7	14	10	5	3	5	3	0	0	0	1	0	29	0	2
April	6.0	SW.	34	SW.	1	2	6	4	4	8	13	13	10	0	4	13	13	8	5	6	4	1	0	0	3	0	14	1	0
May	5.9	NW.	50	SW.	1	5	8	8	1	6	15	13	6	0	5	10	16	12	9	2	2	3	0	0	0	0	6	4	0
June	5.8	SW.	41	SW.	3	5	6	5	6	5	14	12	7	0	8	16	6	7	1	0	0	0	0	0	0	0	0	9	0
July	5.5	SW.	25	SE.	0	3	4	2	1	6	25	16	5	0	13	16	2	10	4	0	0	0	0	0	0	6	0	9	2
August	5.9	SW.	34	SW.	1	6	4	0	3	4	18	22	5	0	18	8	5	9	3	0	0	0	0	0	0	7	0	6	0
September	4.6	SW.	25	SW.	0	4	2	6	3	7	22	10	4	2	16	8	6	5	4	0	0	0	0	0	0	0	0	3	2
October	4.5	SW.	24	SW.	0	2	0	3	4	13	15	19	6	0	10	9	12	6	5	2	2	0	1	1	0	0	12	2	0
November	4.7	SW.	41	SW.	1	2	3	6	7	14	13	9	6	0	10	11	9	7	6	9	7	0	0	0	13	0	30	0	0
December	4.6	SW.	32	W.	1	1	7	6	4	8	20	7	8	1	11	13	7	4	4	7	4	0	0	0	12	0	31	0	0
Year	5.5	SW.	50	SW.	14	37	57	67	43	102	196	151	73	4	121	143	101	83	50	44	31	4	1	1	47	13	178	34	10

LANSING, MICH.

[H=856 ft.; H_b=878 ft.; h_t=5 ft.; h_r=3 ft.; h_a=90 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.5	SW.	37	S.	1	0	5	6	8	9	14	5	15	0	1	8	22	15	8	24	13	0	3	0	19	0	31	0	0
February	9.9	NW.	26	NW.	0	3	10	4	12	4	6	8	9	0	2	4	22	15	14	13	6	0	5	2	10	0	25	2	0
March	10.5	SW.	27	SW.	0	2	6	4	5	12	15	10	8	0	7	12	12	12	9	6	3	0	4	1	2	0	20	3	0
April	10.7	SW.	26	SW.	0	4	8	4	7	6	14	6	11	0	4	13	13	8	4	5	3	0	0	0	1	0	11	2	0
May	8.5	SE.	28	S.	0	5	1	2	18	9	10	9	8	0	4	11	16	14	11	0	0	0	1	0	0	0	1	5	0
June	7.8	S.	22	SW.	0	5	8	2	4	13	6	9	12	1	6	14	10	11	8	0	0	0	0	0	0	1	0	4	0
July	6.4	SW.	19	W.	0	8	9	3	2	10	17	3	8	2	7	14	10	10	9	0	0	0	3	0	0	0	0	7	0
August	7.1	NW.	20	W.	0	7	1	3	1	11	17	8	13	1	12	13	6	8	5	0	0	0	2	1	0	3	0	8	0
September	7.4	N.	25	SW.	0	8	11	8	8	3	8	5	8	1	11	5	14	10	7	0	0	0	5	2	0	0	0	4	1
October	7.6	S.	25	SE.	0	5	4	8	5	18	13	4	5	0	12	4	5	4	2	1	0	0	6	2	0	0	4	1	0
November	10.4	S.	28	S.	0	7	0	1	10	18	14	7	8	0	5	10	15	7	4	7	0	0	5	0	3	0	18	0	0
December	9.2	SW.	25	W.	0	1	0	2	12	9	16	11	11	0	2	3	26	19	13	20	15	0	5	0	12	0	25	0	0
Year	8.7	SW.	37	S.	1	55	63	47	92	122	150	85	111	5	73	121	171	133	94	76	40	0	39	8	47	4	135	36	1

LINCOLN, NEBR.

[H=1,180 ft.; H_b=1,189 ft.; h_t=11 ft.; h_r=4 ft.; h_a=81 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.3	NW.	43	NW.	3	14	3	5	5	10	5	7	13	0	10	9	12	6	5	12	5	0	3	2	10	0	29	0	1
February	9.4	N.	27	S.	0	12	5	6	3	11	3	5	11	0	5	8	15	6	3	8	6	0	9	2	11	0	23	0	0
March	11.2	S.	44	W.	2	13	7	4	6	12	5	6	9	0	8	9	14	8	5	1	0	3	3	1	1	0	8	4	0
April	12.3	S.	35	N.	2	9	2	5	6	17	3	10	8	0	9	13	8	11	9	2	2	3	1	0	1	0	6	7	0
May	9.5	N.	37	NW.	1	13	1	6	9	14	5	7	7	0	5	8	18	19	17	1	0	1	0	0	0	0	0	10	0
June	9.6	S.	42	SW.	2	7	1	1	18	19	4	5	3	2	8	17	5	14	9	0	0	0	1	0	0	5	0	11	0
July	8.3	S.	43	NW.	1	9	8	7	2	23	2	7	3	1	17	10	4	9	7	0	0	0	0	0	0	21	0	11	0
August	9.9	S.	43	N.	2	5	7	10	14	21	1	4	0	0	15	9	7	10	9	0	0	1	3	2	0	18	0	8	1
September	7.9	S.	32	S.	1	9	7	5	6	18	4	4	6	1	15	10	5	6	6	0	0	0	0	0	0	9	0	4	0
October	9.8	S.	38	NW.	1	4	5	2	13	17	4	7	8	2	20	7	4	1	1	0	0	0	0	0	0	4	1	2	0
November	10.3	S.	33	NW.	1	11	1	2	2	15	11	10	6	2	14	10	6	6	4	3	2	0	0	0	0	4	0	19	2
December	9.3	W.	38	NW.	1	7	0	5	9	10	7	7	15	2	14	10	7	3	2	4	2	0	2	2	3	0	29	0	0
Year	9.9	S.	44	W.	17	113	47	58	93	187	54	79	89	10	140	120	105	99	77	31	17	8	22	9	30	57	115	59	2

LITTLE ROCK, ARK.

[H=324 ft.; H_b=357 ft.; h_t=94 ft.; h_r=87 ft.; h_a=102 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.1	NW.	30	SW.	0	8	7	8	4	10	8	8	8	1	11	5	15	8	6	2	0	0	9	1	2	0	14	4	0
February	9.1	S.	24	SW.	0	3	5	9	3	16	8	5	7	0	5	7	16	8	6	1	0	0	12	1	0	0	5	1	0
March	9.7	S.	31	W.	0	8	2	3	7	17	12	7	6	0	9	9	13	11	9	0	0	1	7	1	0	0	0	8	0
April	8.4	S.	27	E.	0	5	6	5	5	14	15	4	5	1	9	10	11	7	7	0	0	0	2	0	0	0	0	7	0
May	8.3	S.	30	W.	0	1	1	2	3	21	14	12	8	0	10	9	12	8	6	0	0	0	1	0	0	1	0	7	0
June	7.3	E.	24	S.	0	6	5	12	7	11	10	5	3	1	9	7	14	10	7	0	0	0	2	0	0	7	0	7	0
July	6.4	E.	27	E.	0	3	3	9	5	17	13	3	6	3	11	9	11	9	7	0	0	0	0	0	0	23	0	10	0
August	7.0	SW.	30	N.	0	1	1	4	7	18	16	10	4	1	15	13	3	5	4	0	0	0	0	0	0	27	0	6	0
September	7.0	SW.	22	NE.	0	3	4	9	4	14	14	2	7	3	11	14	5	7	5	0	0	0	0	0	0	11	0	5	0
October	6.8	E.	22	SW.	0	5	9	15	7	6	7	6	6	1	23	5	3	4	3	0	0	0	1	0	0	3	0	1	0
November	8.6	S.	22	W.	0	8	2	2	5	15	12	5	10	1	14	5	11	7	6	2	0	1	9	1	0	0	6	3	0
December	8.4	NW.	27	NW.	0	8	6	6	3	11	12	6	10	0	13	4	14	10	8	1	0	0	11	4	1	0	9	0	0
Year	8.0	S.	31	W.	0	59	51	84	60	170	141	73	80	12	140	97	128	94	74	6	0	2	54	8	3	72	34	59	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

LOS ANGELES, CALIF.

[ϕ=34°03′ N.; λ=118°15′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.71	30.13	29.47	54.7	67.3	65.6	70.4	52.0	61.2	82	44	36	36	41	54	37	46	0.226	0.224	0.271	1.63	0.89	0.0	2.1	3.5	4.7	4.0
February	29.70	29.94	29.43	51.9	61.7	60.6	64.2	49.3	56.8	76	42	42	40	44	71	52	58	.272	.264	.295	9.81	2.92	.0	4.4	5.0	4.9	4.8
March	29.65	29.91	29.29	52.0	63.0	61.7	65.5	50.0	57.8	77	44	42	40	42	71	46	51	.280	.262	.276	7.94	6.28	.0	4.2	4.8	4.2	4.5
April	29.63	29.80	29.45	55.0	67.3	65.7	69.8	53.3	61.6	90	48	46	45	46	74	50	53	.317	.309	.324	.48	.24	.0	5.2	3.9	4.3	4.6
May	29.59	29.76	29.36	56.3	69.7	67.0	71.6	55.0	63.3	82	50	50	50	50	81	52	57	.363	.367	.369	.02	.02	.0	5.1	3.8	3.3	4.1
June	29.55	29.68	29.37	59.1	69.9	68.8	73.0	57.7	65.4	82	55	55	56	56	87	61	63	.438	.443	.444	T	T	.0	8.2	3.3	1.9	4.8
July	29.59	29.77	29.42	61.5	76.2	74.2	78.7	60.4	69.6	85	56	58	59	59	89	56	59	.485	.505	.497	0	0	.0	7.4	.7	0.5	2.7
August	29.56	29.69	29.37	65.2	81.5	76.8	83.6	64.2	73.9	95	59	60	59	59	83	47	56	.516	.501	.508	T	T	.0	4.9	2.0	1.6	2.9
September	29.53	29.75	29.40	65.1	82.0	77.8	84.3	63.8	74.0	94	57	59	57	58	81	45	52	.497	.475	.485	.01	.01	.0	4.7	1.8	2.3	2.7
October	29.62	29.74	29.47	59.2	74.2	68.7	76.1	57.3	66.7	89	51	49	48	50	71	42	55	.357	.345	.377	.01	.01	.0	3.0	2.6	2.5	2.7
November	29.70	29.93	29.47	54.8	70.6	66.6	73.4	52.0	62.7	84	44	28	26	32	41	24	33	.171	.160	.202	T	T	.0	1.7	1.5	1.4	1.5
December	29.68	29.97	29.33	56.2	68.4	65.0	71.3	53.3	62.3	92	45	40	40	43	61	40	51	.261	.251	.291	7.26	2.86	.0	4.5	3.8	4.0	4.1
Year	29.63	30.13	29.29	57.6	71.0	68.2	73.5	55.7	64.6	95	42	47	46	48	72	46	53	.349	.342	.362	27.16	6.28	.0	4.6	3.1	3.0	3.6

LOUISVILLE, KY.

[ϕ=38°15′ N.; λ=85°45′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.50	30.07	28.70	31.7	37.0	36.5	41.5	27.1	34.3	60	7	26	26	26	78	64	67	0.153	0.158	0.153	2.47	1.37	0.6	6.5	6.5	5.1	6.1
February	29.62	30.08	29.05	40.0	46.9	47.4	51.8	36.5	44.2	73	18	35	37	36	83	69	67	.220	.240	.230	2.16	.47	T	9.1	7.9	6.0	7.7
March	29.41	29.83	28.99	47.1	55.2	55.9	62.4	42.5	52.4	81	26	41	42	43	80	64	63	.280	.282	.293	6.76	2.77	T	7.1	6.8	4.9	6.4
April	29.46	29.75	28.93	52.0	64.3	64.1	68.0	50.3	59.2	85	31	43	46	45	73	54	51	.296	.327	.312	2.01	.75	T	6.0	6.3	4.7	5.7
May	29.38	29.65	28.95	59.8	72.0	69.7	75.9	56.5	66.2	87	41	53	53	54	80	53	58	.428	.421	.434	4.66	1.50	.0	5.2	6.6	5.7	5.6
June	29.45	29.72	29.19	67.2	76.8	76.9	80.8	64.4	72.6	89	57	59	58	60	77	55	58	.516	.494	.539	2.23	.66	.0	5.7	6.1	5.2	5.7
July	29.42	29.57	29.23	72.1	83.0	81.8	86.5	70.7	78.6	97	65	66	64	66	81	56	62	.635	.611	.652	6.95	2.61	.0	5.5	5.9	4.9	5.4
August	29.48	29.66	29.29	71.4	83.5	81.4	87.5	69.3	78.4	93	64	68	66	68	88	58	66	.679	.660	.704	3.79	1.98	.0	3.7	5.4	3.9	4.3
September	29.45	29.66	29.04	64.0	76.5	74.1	79.8	62.6	71.2	92	48	59	59	60	83	56	63	.513	.518	.541	2.99	1.40	.0	4.4	5.4	2.6	4.2
October	29.56	29.87	29.14	51.0	68.8	66.5	72.4	49.3	60.8	84	38	43	46	44	76	45	46	.287	.318	.301	.49	.30	.0	2.9	2.6	1.7	2.4
November	29.55	29.90	29.02	42.0	53.8	51.8	58.6	38.5	48.6	78	13	35	36	37	77	54	60	.225	.240	.242	3.13	1.35	1.5	4.3	4.1	3.4	4.2
December	29.53	30.09	29.07	33.2	40.5	40.7	45.5	30.4	38.0	62	14	26	27	29	75	58	62	.150	.150	.164	1.38	.68	T	5.9	5.5	3.9	5.5
Year	29.48	30.09	28.70	52.6	63.2	62.2	67.6	49.8	58.7	97	7	46	47	47	79	57	60	.365	.368	.380	39.02	2.77	2.1	5.5	5.8	4.3	5.3

LYNCHBURG, VA.

[ϕ=37°25′ N.; λ=79°09′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.32	29.72	28.54	33.0	41.3	39.5	47.0	29.2	38.1	67	13	26	27	27	75	59	62	0.150	0.157	0.162	2.99	1.03	1.2	5.9	6.5	5.5	6.1
February	29.48	29.97	28.78	39.6	49.2	47.3	54.0	36.3	45.2	74	20	32	34	33	74	58	59	.192	.214	.205	1.16	.50	T	7.2	6.5	5.7	7.0
March	29.30	29.66	28.86	45.4	58.9	57.0	64.9	42.3	53.6	86	26	38	38	38	76	49	52	.240	.249	.243	3.16	.84	T	6.1	5.6	6.3	5.9
April	29.32	29.67	28.60	51.2	65.1	62.7	69.7	47.4	58.6	87	34	42	41	42	72	45	51	.291	.273	.288	1.60	.49	.0	5.7	5.2	5.0	5.3
May	29.24	29.63	28.79	59.8	71.5	69.7	75.9	55.8	65.8	94	47	51	51	52	75	52	57	.391	.389	.411	4.13	1.50	.0	7.0	5.8	7.0	6.3
June	29.30	29.58	29.09	66.1	78.1	74.1	81.6	61.0	71.3	89	44	60	60	62	81	56	58	.526	.529	.568	8.25	2.23	.0	6.6	6.3	6.5	6.4
July	29.29	29.44	29.10	71.6	82.8	78.0	86.6	68.0	77.3	95	60	66	65	67	84	58	72	.647	.616	.668	5.73	2.37	.0	6.2	6.9	6.8	6.5
August	29.32	29.52	29.10	71.1	85.3	81.3	89.4	67.2	78.3	96	58	65	64	68	82	50	64	.629	.606	.686	3.24	1.53	.0	4.4	5.5	5.5	4.8
September	29.31	29.59	28.92	63.0	72.1	69.7	77.4	60.4	68.9	92	48	58	58	60	85	62	73	.497	.493	.532	1.87	.85	.0	7.5	7.9	7.8	7.5
October	29.39	29.71	28.91	48.4	69.0	61.3	73.2	45.8	59.5	91	36	42	44	47	81	42	60	.278	.294	.329	.77	.62	.0	2.8	2.9	2.3	2.9
November	29.44	29.72	29.00	42.3	57.5	51.8	62.4	38.7	50.6	80	19	36	38	40	80	53	66	.247	.273	.277	2.70	1.33	3.0	4.6	4.8	2.5	4.3
December	29.37	29.85	28.86	34.9	44.6	41.1	48.5	31.5	40.0	62	14	27	27	28	73	52	61	.152	.160	.162	4.18	1.61	1.0	4.5	5.6	4.6	5.3
Year	29.34	29.97	28.54	52.2	64.7	61.1	69.2	48.6	58.9	96	13	45	46	47	78	53	62	.353	.354	.378	39.78	2.37	5.2	5.7	5.8	5.5	5.7

MACON, GA.

[ϕ=32°50′ N.; λ =83°38′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.71	30.17	29.17	41.8	52.4	51.2	56.7	38.7	47.7	75	21	38	42	42	88	69	72	0.253	0.291	0.282	1.68	0.94	T	6.1	6.5	4.8	6.1
February	29.82	30.17	29.30	46.5	61.1	59.9	66.5	44.0	55.2	79	30	41	44	45	82	56	60	.271	.313	.323	.86	.57	0.0	5.2	4.2	4.5	4.7
March	29.67	30.06	29.38	53.3	69.6	68.3	74.5	50.3	62.4	86	30	49	51	52	85	53	59	.367	.398	.415	4.02	1.76	.0	6.2	6.0	4.7	5.6
April	29.69	29.99	29.24	56.2	70.7	68.3	74.8	52.6	63.7	88	36	52	51	53	84	53	61	.403	.396	.422	10.25	3.77	.0	4.4	5.1	4.6	4.8
May	29.59	29.83	29.34	66.6	78.5	77.7	83.5	62.9	73.2	96	53	60	59	60	80	55	57	.529	.522	.534	5.03	1.79	.0	5.3	6.0	6.0	5.5
June	29.64	29.86	29.46	71.2	82.8	81.2	86.9	67.3	77.1	93	62	66	64	65	83	55	60	.636	.613	.622	3.17	1.14	.0	5.4	6.3	5.9	6.1
July	29.63	29.75	29.43	73.1	83.8	81.2	88.9	70.4	79.6	95	62	69	69	70	89	62	70	.719	.716	.725	8.48	2.73	.0	7.2	6.8	7.3	7.0
August	29.66	29.85	29.64	75.5	88.6	85.8	92.5	72.1	82.3	102	69	70	69	70	85	54	62	.742	.718	.745	3.26	.91	.0	4.4	5.0	5.2	4.9
September	29.62	29.83	29.34	67.2	82.1	78.0	86.1	64.9	75.5	94	47	62	60	61	84	50	59	.576	.552	.569	.82	.54	.0	5.1	5.9	5.1	5.6
October	29.70	29.99	29.33	53.3	74.9	70.4	78.9	51.6	65.2	91	38	48	46	48	82	38	48	.342	.324	.355	.47	.47	.0	2.5	2.5	0.7	2.0
November	29.76	30.13	29.44	49.7	64.6	60.2	68.7	45.5	57.1	82	22	46	42	43	85	48	55	.347	.315	.319	2.58	1.03	.0	5.1	4.0	3.8	4.3
December	29.74	30.16	29.33	40.0	54.1	51.5	58.7	36.7	47.7	72	24	34	34	35	77	49	54	.203	.215	.218	2.36	.78	.0	5.2	6.0	3.5	5.9
Year	29.68	30.17	29.17	57.9	71.9	69.5	76.4	54.8	65.6	102	21	53	53	54	84	54	60	.449	.449	.461	42.98	3.77	T	5.2	5.4	4.7	5.2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

LOS ANGELES, CALIF.

[H=261 ft.; H_b=338 ft.; h_t=159 ft.; h_r=151 ft.; h_a=192 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	5.8	NE.	21	NW.	0	12	13	4	4	4	12	10	3	0	17	6	8	7	6	0	0	1	1	1	0	0	0	0	1
February	7.5	NE.	26	E.	0	3	18	8	6	1	14	3	3	0	14	3	11	14	14	0	0	0	3	0	0	0	0	1	0
March	7.3	SW.	23	NW.	0	5	10	7	3	4	20	6	7	0	11	14	6	9	6	0	0	0	1	0	0	0	0	1	0
April	6.2	SW.	22	NW.	0	3	9	8	7	4	21	6	2	0	13	10	7	6	2	0	0	0	6	0	0	0	0	1	1
May	5.7	SW.	21	NW.	0	0	6	3	13	13	15	9	3	0	16	8	7	1	0	0	0	0	8	2	0	0	0	0	0
June	5.7	SW.	14	SE.	0	0	3	8	13	5	31	0	0	0	18	15	7	0	0	0	0	0	12	1	0	0	0	0	0
July	5.4	SW.	14	W.	0	0	1	3	14	9	30	4	1	0	18	13	0	0	0	0	0	0	13	1	0	0	0	0	0
August	5.4	SW.	13	W.	0	0	2	6	14	2	26	9	3	0	18	12	1	0	0	0	0	0	3	1	0	6	0	0	0
September	5.2	SW.	18	W.	0	2	2	7	9	3	25	11	1	0	21	5	4	1	0	0	0	0	10	3	0	4	0	2	0
October	5.4	SW.	15	N.	0	4	9	9	1	2	27	6	4	0	21	7	3	1	0	0	0	0	2	2	0	0	0	0	0
November	6.1	NE.	22	NW.	0	13	8	4	1	1	15	10	8	0	26	2	2	0	0	0	0	0	1	0	0	0	0	0	0
December	6.6	NE.	24	NW.	0	9	21	3	6	1	12	7	3	0	14	11	6	8	6	0	0	0	1	1	0	1	0	5	0
Year	6.0	SW.	26	E.	0	51	102	70	91	49	248	81	38	0	197	106	62	47	34	0	0	1	61	12	0	11	0	10	2

LOUISVILLE, KY.

[H=466 ft.; H_b=525 ft.; h_t=188 ft.; h_r=183 ft.; h_a=234 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.3	S.	37	SE.	3	8	1	1	9	14	8	14	7	0	10	8	13	10	7	9	2	0	3	0	6	0	20	0	0
February	12.2	S.	30	NW.	0	8	8	5	4	12	8	5	0	0	3	8	17	14	9	7	0	0	7	2	0	0	9	0	0
March	12.4	S.	35	SW.	1	6	5	7	10	15	9	6	4	0	6	11	14	16	15	1	0	0	1	0	0	0	5	8	0
April	11.6	S.	28	W.	0	7	5	4	6	17	7	8	6	0	9	8	13	10	9	1	0	1	0	0	0	0	1	4	0
May	10.3	S.	43	NW.	4	5	4	7	10	11	13	7	5	0	7	12	12	13	11	0	0	0	2	0	0	0	0	9	0
June	9.3	N.	36	NW.	1	14	1	4	7	10	12	3	9	0	9	13	8	12	8	0	0	0	0	0	0	0	0	4	0
July	7.6	SW.	43	SW.	1	14	5	3	6	15	10	6	2	1	13	8	10	10	9	0	0	0	1	0	0	8	0	4	0
August	7.7	S.	35	N.	1	12	3	5	14	12	7	5	4	0	13	13	5	11	10	0	0	0	1	1	0	7	0	10	0
September	9.0	SW.	20	SW.	0	11	6	2	6	15	10	7	3	0	15	9	6	8	6	0	0	0	0	0	0	2	0	3	1
October	8.4	N.	27	E.	0	19	9	4	3	9	8	4	5	1	23	4	4	3	3	0	0	0	0	0	0	0	0	0	0
November	11.9	S.	45	SE.	4	6	0	1	20	16	8	4	5	0	15	7	8	9	9	3	2	0	1	0	1	0	6	1	0
December	10.3	S.	34	W.	2	4	3	5	11	7	16	8	8	0	11	8	12	9	6	3	0	0	0	0	1	0	18	0	0
Year	10.1	S.	45	SE.	17	114	50	48	106	153	116	77	64	2	134	109	122	125	102	24	4	1	16	3	8	17	59	43	1

LYNCHBURG, VA.

[H=631 ft.; H_b=686 ft.; h_t=144 ft.; h_r=142 ft.; h_a=184 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.2	NW.	40	NW.	2	4	2	8	4	5	9	14	16	0	9	7	15	12	9	3	2	1	12	4	4	0	20	0	2
February	8.5	SW.	31	NW.	0	3	3	10	3	5	14	7	11	0	5	6	17	5	3	1	0	0	5	0	0	0	8	1	0
March	8.5	SW.	31	SW.	0	1	7	6	1	7	17	11	12	0	10	7	14	9	8	1	0	1	8	4	0	0	4	4	0
April	7.9	SW.	26	NW.	0	3	8	7	3	6	13	12	8	0	12	5	13	9	5	0	0	0	2	0	0	0	0	1	0
May	7.1	NW.	31	W.	0	4	8	12	3	5	6	14	10	0	7	9	15	9	8	0	0	0	5	0	0	2	0	5	0
June	6.2	W.	37	NW.	3	11	3	6	1	3	8	16	7	0	4	11	15	15	14	0	0	0	0	0	0	0	0	13	0
July	6.0	SW.	26	SW.	0	6	5	8	3	13	17	6	4	0	7	12	12	15	11	0	0	0	7	2	0	12	0	10	0
August	5.6	NW.	25	NW.	0	8	2	9	3	5	10	9	16	0	12	11	8	7	6	0	0	0	8	0	0	12	0	6	0
September	6.2	W.	30	NW.	0	15	7	7	4	4	7	12	4	0	3	9	18	13	6	0	0	0	13	4	0	1	0	1	0
October	5.7	NW.	26	NW.	0	4	5	11	5	5	4	10	16	2	20	6	5	5	3	0	0	0	15	2	0	1	0	0	0
November	6.7	NW.	29	SW.	0	7	2	13	4	8	12	4	9	1	13	8	9	7	7	1	1	0	11	3	0	0	9	0	0
December	7.0	SW.	36	NW.	1	5	7	7	4	5	16	5	13	0	11	7	13	8	5	3	1	0	8	2	1	0	17	2	0
Year	6.9	SW.	40	NW.	6	71	59	104	38	76	133	120	126	3	113	98	154	116	85	9	4	2	94	21	5	28	58	43	2

MACON, GA.

[H=330 ft.; H_b=370 ft.; h_t=79 ft.; h_r=73 ft.; h_a=87 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.3	NW.	24	SW.	0	8	4	5	1	11	4	11	17	1	8	8	15	9	6	1	0	0	11	2	0	0	7	0	1
February	7.6	NW.	22	S.	0	9	9	4	1	2	5	5	15	6	9	13	6	5	4	0	0	0	8	1	0	0	1	0	0
March	7.5	S.	24	NW.	0	7	2	5	3	18	4	3	17	3	7	13	11	8	6	0	0	0	12	1	0	0	2	6	0
April	6.3	NW.	24	NW.	0	5	5	7	9	9	1	6	14	4	12	9	9	11	10	0	0	0	4	0	0	0	0	7	0
May	6.3	NW.	21	NW.	0	11	6	1	6	13	6	7	11	1	9	14	8	13	11	0	0	0	1	0	0	5	0	8	0
June	5.8	S.	18	NW.	0	3	10	5	4	13	5	6	14	0	5	15	10	11	7	0	0	0	1	0	0	7	0	12	0
July	5.7	S.	23	S.	0	5	4	7	15	15	7	3	5	1	4	12	15	14	13	0	0	0	6	1	0	14	0	13	0
August	5.7	NW.	26	N.	0	9	5	7	4	10	9	4	11	3	11	12	8	9	8	0	0	0	1	0	0	23	0	8	0
September	5.6	NW.	19	NE.	0	8	6	8	5	8	3	0	16	6	9	9	12	4	4	0	0	0	0	0	0	10	0	3	0
October	6.0	NW.	21	E.	0	11	12	5	2	7	1	3	15	6	24	5	2	2	2	0	0	0	8	1	0	1	0	0	0
November	6.8	NW.	21	SE.	0	11	4	10	4	5	1	2	21	2	16	4	10	6	4	0	0	0	12	0	0	0	5	0	0
December	6.5	NW.	20	S.	0	6	6	4	0	11	3	5	23	4	8	10	13	7	7	0	0	0	10	1	0	0	8	0	0
Year	6.4	NW.	26	N.	0	93	73	68	54	122	49	55	179	37	122	124	119	99	82	1	0	0	74	7	0	60	22	57	1

62431

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MADISON, WIS.

[ϕ=43°05′ N.; λ=89°23′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	28.92	29.56	27.97	15.8	19.9	19.7	24.3	11.4	17.8	41	−10	12	15	15	84	79	79	0.085	0.093	0.093	2.81	1.82	11.8	7.8	7.0	5.5	7.5
February	29.09	29.58	28.46	26.2	29.0	29.2	33.8	22.1	28.0	47	0	23	24	24	85	82	79	.130	.136	.131	2.85	.86	4.3	8.5	8.7	7.6	8.7
March	28.83	29.29	28.29	34.9	44.3	44.0	49.9	31.6	40.8	74	12	30	31	32	82	62	65	.179	.191	.199	2.09	.70	2.9	5.8	5.8	6.1	5.9
April	28.93	29.32	28.43	41.6	50.4	52.6	56.1	39.3	47.7	80	23	34	35	36	75	58	54	.215	.232	.234	1.65	.72	1.3	6.3	7.3	7.2	7.2
May	28.85	29.15	28.27	51.8	61.6	61.0	66.2	48.5	57.4	84	36	46	49	49	82	66	67	.327	.369	.369	3.81	.95	.0	6.7	8.1	7.4	7.6
June	28.94	29.29	28.66	62.0	71.2	71.4	75.0	58.5	66.8	91	52	55	55	56	79	59	61	.447	.455	.469	4.24	2.03	.0	6.6	6.8	5.8	6.6
July	28.92	29.10	28.66	67.0	76.9	77.6	81.3	64.2	72.8	88	57	61	63	64	81	63	64	.539	.579	.603	3.43	1.17	.0	5.8	6.2	5.7	6.2
August	28.96	29.15	28.72	67.2	77.4	77.1	81.2	64.5	72.8	92	57	62	63	65	85	63	68	.573	.591	.629	4.36	1.66	.0	5.2	4.7	3.7	4.6
September	28.97	29.21	28.54	56.8	65.8	64.4	69.2	54.8	62.0	87	44	53	54	56	87	69	75	.414	.430	.459	10.29	3.11	.0	5.3	5.7	5.9	5.7
October	29.01	29.42	28.33	48.7	60.5	58.0	64.8	46.9	55.8	84	33	43	45	46	81	58	66	.280	.307	.326	.76	.42	T	4.7	5.2	3.8	4.7
November	28.93	29.44	28.24	34.1	40.3	39.5	45.0	30.6	37.8	75	10	29	29	30	81	65	68	.172	.176	.182	2.16	1.31	1.9	7.8	6.2	4.8	6.4
December	28.94	29.43	28.50	22.5	26.7	25.6	30.2	18.3	24.2	44	−7	18	20	20	83	76	78	.107	.116	.115	.89	.32	5.6	8.2	7.7	6.5	7.8
Year	28.94	29.58	27.97	44.0	52.0	51.7	56.4	40.9	48.7	92	−10	39	40	41	82	67	69	.289	.306	.317	39.34	3.11	27.8	6.6	6.6	5.8	6.6

MARQUETTE, MICH.

[ϕ=46°34′ N.; λ=87°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	29.15	29.79	28.36	15.2	19.3	16.5	21.8	10.4	16.1	43	−12	12	16	13	87	84	85	0.081	0.091	0.082	3.93	1.39	40.5	8.5	8.5	8.0	8.5
February	29.39	29.89	28.51	20.0	24.9	23.8	29.4	15.9	22.6	45	−12	17	20	20	87	82	86	.098	.111	.110	1.52	.33	12.2	8.8	9.5	8.5	8.7
March	29.07	29.51	28.28	28.8	35.6	33.0	41.6	24.5	33.0	67	−1	24	28	26	81	73	75	.142	.163	.149	1.95	.52	7.9	6.9	6.2	6.1	5.6
April	29.18	29.82	28.49	37.2	42.6	40.0	47.1	31.8	39.4	86	16	31	34	32	79	73	74	.183	.208	.190	3.31	1.24	3.6	7.3	7.8	7.3	7.2
May	29.13	29.41	28.50	47.8	53.6	52.0	58.3	42.0	50.2	77	34	41	44	43	80	73	72	.267	.303	.284	2.66	1.03	T	6.8	7.4	6.1	6.2
June	29.16	29.53	28.70	58.9	63.6	62.5	67.6	51.1	59.4	87	43	55	58	56	87	83	79	.443	.495	.450	3.99	2.14	T	5.3	6.7	7.0	5.8
July	29.16	29.39	28.80	62.9	68.7	67.1	73.3	57.3	65.3	88	45	58	61	60	86	80	79	.496	.557	.526	1.54	1.06	.0	5.9	7.0	5.4	6.1
August	29.16	29.40	28.77	65.2	72.9	70.8	77.1	60.3	68.7	95	43	57	58	59	76	62	68	.484	.495	.517	4.72	1.48	.6	5.2	6.2	5.5	5.5
September	29.22	29.59	28.82	53.1	60.9	57.5	63.5	48.5	56.0	86	42	47	50	50	81	69	77	.327	.366	.360	1.87	1.07	.0	6.0	6.9	6.1	6.3
October	29.24	29.80	28.60	47.1	56.0	51.7	58.8	44.2	51.5	85	32	40	43	43	79	64	74	.256	.284	.284	3.43	2.41	6.0	5.9	6.6	5.8	6.3
November	29.13	29.71	28.55	32.0	37.0	34.9	40.5	28.4	34.4	68	10	28	31	30	84	78	82	.164	.187	.178	2.96	1.19	21.4	8.5	8.9	7.5	8.8
December	29.13	29.60	28.58	22.1	26.3	24.6	28.8	18.8	23.8	37	−9	18	22	21	84	80	85	.106	.123	.120	2.97	.85	19.7	8.4	8.9	7.6	8.6
Year	29.18	29.89	28.28	40.9	46.8	44.5	50.6	36.1	43.4	95	−12	36	39	38	83	75	78	.254	.282	.271	34.85	2.41	111.3	7.0	7.6	6.7	7.0

MEDFORD, OREG.

[ϕ=42°23′ N.; λ=122°52′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	28.73	29.27	27.97	35.1	----	42.7	44.1	32.8	38.4	57	25	34	---	37	98	---	82	0.200	----	0.223	2.83	0.71	T	6.0	----	7.4	8.7
February	28.51	28.97	27.89	36.2	----	47.4	50.0	33.0	41.5	69	24	34	---	35	91	---	66	.196	----	.205	4.65	1.44	8.2	7.6	----	7.2	7.9
March	28.56	29.08	27.99	37.7	----	50.9	53.7	35.3	44.5	63	26	35	---	34	90	---	56	.204	----	.202	3.34	1.45	4.1	8.2	----	8.5	8.0
April	28.64	28.97	28.27	42.7	----	60.6	64.2	40.7	52.4	79	29	40	---	40	90	---	51	.252	----	.258	1.32	.32	T	6.5	----	7.4	7.2
May	28.65	28.91	28.29	46.0	----	72.9	75.3	44.5	59.9	92	33	41	---	39	84	---	32	.264	----	.240	.23	.17	.0	3.9	----	5.9	5.3
June	28.58	28.81	28.39	53.0	----	82.4	84.5	51.2	67.8	99	41	44	---	42	74	---	26	.295	----	.271	.01	.01	.0	2.8	----	3.3	3.1
July	28.58	28.79	28.32	60.4	----	92.1	93.9	58.8	76.4	108	46	50	---	46	68	---	22	.360	----	.318	.03	.02	.0	2.0	----	2.0	1.5
August	28.60	28.83	28.38	53.9	----	87.3	88.6	51.5	70.0	96	46	44	---	40	70	---	19	.288	----	.249	T	T	.0	.6	----	.7	.8
September	28.59	28.81	28.35	53.6	----	83.0	85.0	50.8	67.9	102	44	47	---	44	79	---	30	.324	----	.300	.58	.32	.0	2.6	----	3.1	3.5
October	28.62	28.89	28.23	44.3	----	65.0	67.5	41.0	54.2	80	27	41	---	42	88	---	48	.261	----	.275	.79	.30	.0	4.1	----	5.8	5.5
November	28.80	29.11	28.28	35.3	----	49.1	52.0	31.9	42.0	63	20	32	---	34	90	---	60	.187	----	.204	2.25	.89	.5	5.4	----	5.6	6.7
December	28.80	29.16	28.42	35.9	----	44.5	46.5	33.5	40.0	61	24	34	---	37	94	---	77	.303	----	.227	2.18	.69	2.2	7.3	----	7.1	8.4
Year	28.64	29.27	27.89	44.5	----	64.8	67.1	42.1	54.6	108	20	40	---	39	85	---	47	.253	----	.248	18.21	1.45	15.0	4.8	----	5.3	5.6

MEMPHIS, TENN.

[ϕ=35°09′ N.; λ=90°03′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Cloudiness: 7:30 a. m.	Cloudiness: Noon, local time	Cloudiness: 7:30 p. m.	Cloudiness: Daylight
January	29.67	30.16	28.95	38.6	44.4	45.0	49.4	34.3	41.8	69	19	31	31	30	72	59	58	0.190	0.195	0.190	5.61	2.74	0.0	4.1	6.0	5.2	5.3
February	29.76	30.14	29.30	46.6	53.0	55.5	58.9	44.3	51.6	76	23	41	42	41	80	68	60	.276	.296	.278	5.88	4.57	T	6.0	6.9	6.4	6.6
March	29.54	30.10	29.18	55.0	62.1	65.0	69.1	52.0	60.6	82	31	47	48	48	76	62	57	.349	.361	.365	6.90	2.10	.0	6.1	7.1	6.1	6.1
April	29.60	29.85	29.07	57.1	65.7	67.7	70.9	55.6	63.2	83	37	49	49	50	74	58	55	.368	.380	.383	5.90	1.86	.0	6.1	6.0	5.7	5.7
May	29.51	29.76	29.17	66.1	75.0	76.8	80.1	64.2	72.2	91	53	58	58	58	77	58	55	.506	.509	.509	2.86	1.35	.0	5.3	7.0	5.8	6.1
June	29.60	29.85	29.38	71.0	80.6	80.2	84.3	68.8	76.6	92	63	64	63	63	78	56	58	.595	.587	.590	3.03	.99	.0	5.1	5.3	5.8	5.2
July	29.54	29.76	29.38	76.5	86.7	86.0	91.3	74.8	83.0	97	71	70	70	70	80	58	61	.730	.732	.739	1.78	.58	.0	5.1	5.5	5.6	5.5
August	29.60	29.79	29.44	76.6	87.6	87.4	92.5	75.8	84.2	100	72	70	70	72	82	58	60	.745	.745	.779	.97	.52	.0	3.4	4.4	3.7	4.2
September	29.59	29.81	29.29	68.0	81.0	80.3	85.1	67.1	76.1	96	49	61	60	63	79	49	57	.554	.535	.588	1.28	1.23	.0	4.0	4.2	3.6	4.3
October	29.67	29.94	29.35	58.9	74.7	73.3	79.1	57.0	68.0	90	37	47	47	49	66	40	45	.338	.342	.365	.38	.25	.0	2.3	2.7	2.2	2.3
November	29.69	30.14	29.02	47.4	56.9	56.0	62.4	43.4	52.9	81	20	38	38	38	70	52	54	.261	.257	.258	2.72	1.38	.6	3.3	4.3	3.8	4.0
December	29.70	30.18	29.25	39.2	47.5	47.9	51.7	35.9	43.8	71	21	30	30	33	69	53	59	.172	.174	.193	2.36	1.23	.0	5.4	5.4	5.3	5.6
Year	29.62	30.18	28.95	58.4	67.9	68.4	72.9	56.1	64.5	100	19	50	50	51	75	56	57	.424	.425	.436	39.77	4.57	.6	4.7	5.4	4.9	5.1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MADISON, WIS.

[H=938 ft.; H_b=974 ft.; h_t=70 ft.; h_r=62 ft.; h_a=78 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	9.0	NW.	31	NW.	0	11	5	1	8	7	5	10	15	0	2	12	17	16	9	19	11	0	18	3	22	0	31	0	5
February	9.1	SE.	30	NE.	0	10	6	5	10	6	4	7	8	0	2	4	22	13	10	13	6	0	14	6	13	0	26	4	2
March	10.4	SW.	27	N.	0	6	6	6	6	7	10	12	8	1	10	7	14	10	8	4	1	0	12	3	5	0	15	4	7
April	11.1	NW.	34	NE.	1	6	8	2	9	10	8	3	13	1	6	6	18	9	5	2	1	1	5	1	1	0	10	3	0
May	7.8	SE.	27	NW.	0	6	8	4	11	15	6	6	6	0	4	6	21	12	11	0	0	1	15	3	0	0	0	7	4
June	7.6	S.	21	SE.	0	6	6	2	3	17	5	10	9	2	7	9	14	13	8	0	0	0	9	0	0	1	0	11	0
July	6.5	NW.	24	NE	0	6	8	1	8	11	10	8	9	1	6	15	10	13	9	0	0	0	8	1	0	0	0	12	0
August	7.2	S.	24	NW.	0	6	6	0	7	17	13	7	6	0	14	8	9	9	8	0	0	0	11	1	0	1	0	9	4
September	7.8	N.	29	NE.	0	8	8	10	4	7	9	8	6	0	11	5	14	13	13	0	0	0	16	1	0	0	0	7	5
October	8.3	S.	21	NE.	0	2	5	1	10	26	7	6	5	0	13	9	9	6	2	2	2	0	12	1	0	0	0	3	2
November	10.4	S.	25	NW.	0	11	1	1	6	13	12	9	7	0	5	13	12	8	7	8	3	0	6	0	7	0	18	1	0
December	9.1	NW.	23	NW.	0	2	1	4	10	6	5	15	19	0	5	4	22	12	8	15	8	0	16	1	16	0	30	0	3
Year	8.7	S.	34	NE.	1	80	68	37	92	142	94	101	111	5	85	98	182	134	98	63	32	2	142	21	64	2	130	61	32

MARQUETTE, MICH.

[H=734 ft.; H_b=45 ft.; h_t=44 ft.; h_r=42 ft.; h_a=69 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.5	NW.	37	NW.	1	4	4	0	5	11	7	8	22	1	2	4	25	17	13	22	17	0	0	0	25	0	31	0	0
February	8.2	NW.	27	SW.	0	3	5	3	7	7	3	9	18	1	0	6	22	16	10	20	15	0	2	0	20	0	28	1	0
March	8.6	NW.	34	SW.	1	7	2	0	11	9	8	8	14	3	8	13	10	12	10	7	5	0	3	0	8	0	22	2	0
April	8.9	NW.	26	NW.	0	6	5	2	6	8	5	7	20	1	4	9	17	15	13	7	6	0	4	3	6	0	14	2	1
May	7.3	NW.	31	SE.	0	7	4	5	8	9	3	1	18	5	4	16	11	10	9	1	0	0	2	1	0	0	0	2	0
June	7.2	NW.	26	SW.	0	2	0	2	4	12	7	10	16	7	9	12	9	16	11	1	0	0	9	4	0	0	0	8	0
July	5.7	NW.	19	SW.	0	5	0	6	14	2	7	1	19	8	6	14	11	11	8	0	0	0	8	5	0	0	0	4	0
August	8.4	SW.	29	SW.	0	5	2	3	2	12	11	11	14	2	7	16	8	11	9	0	0	1	5	0	0	1	0	7	0
September	7.6	W.	26	SW.	0	6	2	3	6	8	4	14	16	1	6	11	13	8	5	0	0	0	3	0	0	0	0	0	1
October	8.8	S.	26	S.	0	5	4	3	7	14	8	12	7	2	6	13	12	9	7	1	1	0	2	0	0	0	0	3	0
November	8.9	S.	26	SW.	.0	4	0	2	4	12	8	15	11	4	0	4	26	15	10	14	8	0	4	0	9	0	22	0	0
December	8.9	W.	32	SW.	.2	4	0	0	3	14	11	16	13	1	2	4	25	18	12	23	15	0	2	0	17	0	30	0	0
Year	8.1	NW.	.37	NW.	.4	58	28	29	77	118	84	112	188	36	54	122	189	158	117	96	67	1	44	13	85	1	147	29	2

MEDFORD, OREG.

[H=1,314 ft.; H_b=1,329 ft.; h_t=29 ft., h_r=26 ft.; h_a=58 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	----	W.	----	------	----	8	3	4	9	6	4	14	11	3	1	4	26	16	14	2	0	0	26	13	1	0	15	0	0
February	----	N.	----	------	----	15	3	0	10	7	2	7	11	1	3	3	22	16	10	11	5	0	15	4	0	0	11	0	0
March	----	SW.	----	------	----	12	3	4	5	7	13	7	9	2	2	8	21	18	13	8	5	1	5	2	0	0	7	0	0
April	----	NW.	----	------	----	9	5	2	3	8	3	8	18	4	2	14	14	15	8	1	0	0	1	1	0	0	1	3	0
May	----	NW.	----	------	----	8	4	0	5	6	5	8	24	2	9	10	12	3	2	0	0	0	1	0	0	3	0	1	0
June	----	NW.	----	------	----	3	1	2	2	5	5	13	28	1	18	9	3	1	0	0	0	0	1	0	0	11	0	0	0
July	----	W.	----	------	----	8	2	0	3	4	8	20	16	1	24	5	2	2	0	0	0	0	0	0	0	21	0	4	2
August	----	NW.	----	------	----	5	1	1	1	8	6	16	24	0	29	2	0	0	0	0	0	0	0	0	0	13	0	1	0
September	----	NW.	----	------	----	4	1	0	6	12	5	9	22	1	19	4	7	5	4	0	0	0	2	0	0	10	0	3	1
October	----	NW.	----	------	----	5	2	2	7	4	4	7	25	6	12	5	14	6	4	0	0	0	2	2	0	0	3	0	1
November	----	NW.	----	------	----	6	6	2	7	10	5	6	12	6	4	11	15	10	7	2	1	0	17	11	0	0	19	0	0
December	----	N.	----	------	----	14	4	3	4	12	8	4	9	4	2	5	24	10	7	3	2	0	23	13	0	0	14	0	0
Year	----	NW.	----	------	----	97	35	20	62	89	68	119	209	31	125	80	160	102	69	27	13	1	93	46	1	58	70	12	4

MEMPHIS, TENN.

[H=270 ft.; H_b=399 ft.; h_t=78 ft.; h_r=70 ft.; h_a=86 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.0	NW.	27	W.	0	11	3	9	4	6	12	5	12	0	12	8	11	7	6	0	0	0	4	2	3	0	12	2	0
February	9.1	S.	26	SW.	0	10	7	7	9	8	10	1	4	0	6	7	15	8	7	2	0	0	5	0	0	0	4	1	0
March	9.7	SW.	30	SW.	0	4	3	6	4	15	17	8	5	0	7	12	12	10	9	0	0	0	3	0	0	0	1	6	0
April	9.0	SW.	24	N.	0	8	1	4	16	12	13	2	4	0	8	10	12	8	8	0	0	0	1	0	0	0	0	7	0
May	8.1	SW.	25	SW.	0	3	2	8	10	11	10	10	7	1	6	12	13	10	8	0	0	0	0	0	0	1	0	10	0
June	7.1	SW.	27	W.	0	9	6	9	6	3	14	4	7	2	10	12	8	8	7	0	0	1	0	0	0	4	0	10	0
July	6.1	SW.	36	SW.	1	5	4	16	4	7	17	6	1	2	10	12	9	6	5	0	0	0	0	0	0	22	0	11	0
August	6.7	SW.	26	SW.	0	5	1	7	7	9	19	6	5	3	11	16	4	6	5	0	0	0	1	0	0	22	0	6	1
September	6.7	SW.	18	N.	0	11	4	9	8	6	13	1	5	3	13	13	4	3	3	0	0	0	1	0	0	10	0	5	1
October	6.2	E.	21	SW.	0	9	8	16	5	6	8	2	4	4	22	6	3	3	3	0	0	0	0	0	0	1	0	0	0
November	8.9	S.	32	SW.	1	7	1	6	12	15	8	2	7	2	16	6	8	7	5	2	2	0	4	1	0	0	7	2	0
December	8.0	SW.	22	NW.	0	9	5	6	10	5	10	4	9	4	10	8	13	10	6	0	0	0	3	1	1	0	10	0	0
Year	7.9	SW.	36	SW.	2	91	45	103	95	103	151	51	70	21	131	122	112	86	72	4	2	1	22	4	4	60	34	60	2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MERIDIAN, MISS.

[ϕ=32°21′ N.; λ=88°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.71	30.14	29.16	41.7	52.2	50.6	57.5	38.8	48.2	77	21	38	37	37	87	58	61	0.260	0.249	0.252	4.42	1.36	0.0	5.2	5.8	3.6	5.5
February	29.81	30.07	29.43	48.2	61.1	59.8	65.9	46.4	56.2	78	24	44	44	45	86	58	59	.313	.318	.315	2.27	1.69	.0	5.9	5.0	3.6	5.3
March	29.61	30.09	29.35	57.2	70.3	69.7	75.3	54.9	65.1	85	34	53	52	52	87	55	57	.435	.417	.421	9.69	3.78	.0	6.5	5.8	5.5	5.7
April	29.66	29.92	29.19	56.2	69.4	67.9	74.5	53.8	64.2	88	33	53	51	52	90	55	60	.430	.405	.419	16.44	5.78	.0	5.4	6.5	3.9	5.2
May	29.58	29.76	29.32	65.9	80.7	78.8	84.5	63.4	74.0	92	50	62	57	59	86	45	53	.561	.482	.501	2.35	.80	.0	4.2	6.1	4.5	5.0
June	29.64	29.84	29.50	71.1	84.7	82.3	89.2	68.0	78.6	95	60	66	63	65	85	50	58	.649	.583	.628	9.12	3.12	.0	4.7	5.5	5.9	5.2
July	29.60	29.75	29.45	74.1	87.3	83.0	91.6	72.4	82.0	98	68	70	69	71	89	56	68	.746	.714	.749	3.68	1.48	.0	6.3	5.9	7.3	6.5
August	29.66	29.86	29.51	73.7	89.7	84.3	93.2	71.9	82.6	101	68	71	68	70	91	51	65	.754	.699	.746	3.66	1.35	.0	4.8	4.6	5.8	5.0
September	29.63	29.81	29.36	65.3	83.6	79.3	87.6	64.2	75.9	95	47	62	61	64	91	48	61	.587	.560	.612	.89	.62	.0	3.3	4.1	3.9	3.7
October	29.69	29.98	29.47	55.1	76.4	71.4	80.1	54.0	67.0	92	36	51	50	53	88	41	54	.392	.379	.420	1.42	1.40	.0	2.7	3.5	3.2	2.9
November	29.75	30.17	29.32	46.2	63.7	57.9	67.6	43.0	55.3	82	19	42	41	44	86	46	61	.311	.307	.328	3.63	1.64	.4	3.7	3.8	2.2	3.3
December	29.74	30.15	29.25	40.6	53.2	50.3	57.7	37.5	47.6	75	24	36	37	37	84	56	62	.222	.240	.229	4.06	1.31	.0	5.5	5.5	5.0	5.7
Year	29.67	30.17	29.16	57.9	72.7	69.6	77.1	55.7	66.4	101	19	54	52	54	88	52	60	.472	.446	.468	61.63	5.78	.4	4.8	5.2	4.5	4.9

MIAMI, FLA.

[ϕ=25°48′ N.; λ=80°12′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	30.08	30.48	29.86	63.1	72.2	68.4	73.9	60.7	67.3	80	44	57	57	58	80	60	70	0.481	0.493	0.508	2.42	2.30	0.0	4.2	4.0	4.0	4.5
February	30.13	30.37	29.85	66.8	73.5	70.3	75.8	65.0	70.2	80	45	59	59	60	76	61	71	.508	.509	.530	1.15	.62	.0	3.2	3.6	2.7	3.6
March	30.06	30.29	29.86	70.9	78.0	74.1	79.4	69.2	74.3	83	55	64	64	65	78	62	73	.589	.594	.617	.34	.14	.0	2.8	2.7	2.9	2.9
April	30.04	30.22	29.81	73.0	77.3	74.2	78.8	69.8	74.3	83	57	63	62	63	71	61	68	.578	.570	.574	.23	.16	.0	3.3	3.8	3.7	3.7
May	29.98	30.13	29.84	76.9	81.8	78.2	83.3	73.0	78.2	80	66	68	69	69	75	65	73	.692	.704	.704	5.58	3.23	.0	4.0	4.5	4.9	5.0
June	30.03	30.16	29.84	79.3	82.4	79.0	85.5	73.7	79.6	88	68	72	72	71	77	72	76	.770	.779	.757	5.65	1.44	.0	5.1	6.4	6.9	6.1
July	30.02	30.15	29.84	80.5	84.1	81.6	86.6	75.5	81.0	92	70	73	72	72	78	68	74	.812	.788	.787	6.15	1.29	.0	6.2	5.8	5.8	6.2
August	30.02	30.16	29.90	81.8	85.5	82.6	87.3	79.1	83.2	90	73	73	73	73	74	66	73	.803	.800	.812	1.15	.74	.0	4.5	4.2	4.1	4.4
September	29.94	30.12	29.72	79.8	84.7	80.8	86.9	76.0	81.4	90	67	72	72	73	77	66	77	.790	.781	.803	11.30	5.39	.0	4.2	4.1	6.9	4.9
October	29.93	30.15	29.71	71.4	80.1	76.9	81.8	69.7	75.8	86	53	66	66	66	83	63	69	.652	.653	.648	5.28	2.60	.0	5.1	5.2	3.7	5.1
November	30.00	30.26	29.68	71.3	78.6	74.9	79.9	68.7	74.3	83	46	65	67	67	81	68	76	.643	.673	.666	1.76	.43	.0	4.9	4.7	4.0	4.7
December	30.05	30.25	29.79	62.9	74.0	69.8	75.7	61.0	68.4	81	50	56	59	60	81	60	70	.470	.506	.518	2.73	1.91	.0	4.8	3.5	3.5	3.8
Year	30.02	30.48	29.68	73.1	79.4	75.9	81.2	70.1	75.7	92	44	66	66	66	78	64	72	.649	.654	.660	43.74	5.39	.0	4.4	4.4	4.4	4.6

MILES CITY, MONT.

[ϕ=46°25′ N.; λ=105°49′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	27.49	28.03	26.91	20.2	27.2	27.9	33.5	14.1	23.8	47	−23	16	19	20	81	68	71	0.094	0.108	0.116	0.31	0.15	2.4	6.3	7.0	6.7	7.3
February	27.56	28.07	27.17	7.7	18.0	20.3	24.5	3.0	13.8	53	−24	3	9	12	78	66	69	.058	.076	.091	.26	.10	4.4	5.1	6.4	5.4	5.9
March	27.31	27.83	26.58	30.0	41.7	43.1	46.9	27.1	37.0	69	12	25	26	27	80	58	56	.134	.147	.148	1.00	.57	4.8	5.8	6.6	6.8	6.6
April	27.46	28.06	27.11	37.2	54.6	56.7	58.9	35.4	47.2	85	16	28	30	29	72	41	38	.162	.167	.165	.41	.17	T	5.8	6.7	6.6	6.5
May	27.42	27.74	26.78	47.6	61.4	62.1	65.4	45.5	55.4	88	29	40	39	38	78	46	45	.259	.252	.240	2.46	1.05	.0	6.3	7.0	6.9	6.7
June	27.43	27.80	26.83	58.6	75.8	77.7	80.8	56.6	68.7	97	42	49	48	47	73	39	38	.372	.352	.340	2.96	1.80	.0	6.1	4.9	6.3	5.5
July	27.50	27.75	27.20	62.6	82.0	83.8	86.0	61.5	73.8	97	54	54	51	50	75	36	34	.425	.377	.364	.89	.33	.0	3.6	4.1	4.5	3.9
August	27.45	27.81	27.09	60.4	81.9	83.9	87.0	58.5	72.8	101	47	45	44	42	60	29	26	.308	.291	.274	.95	.58	.0	2.8	2.8	3.4	3.1
September	27.54	27.77	27.25	56.1	77.2	79.3	81.4	53.9	67.6	95	46	46	46	45	69	36	33	.319	.330	.313	.34	.14	.0	3.5	4.1	3.5	3.6
October	27.51	27.87	27.10	44.2	60.7	60.4	64.8	41.9	53.4	84	26	35	37	38	74	46	46	.213	.227	.230	.76	.44	1.1	4.5	5.5	5.0	5.2
November	27.49	28.16	27.01	26.2	36.7	35.1	40.2	21.3	30.8	53	1	20	23	24	76	58	64	.111	.123	.131	.57	.39	6.0	6.7	7.6	7.2	7.4
December	27.49	27.93	26.96	23.3	32.6	30.1	37.8	17.9	27.8	54	−13	15	18	19	70	55	61	.097	.109	.112	.32	.25	6.9	5.1	5.7	5.2	6.1
Year	27.47	28.16	26.58	39.5	54.2	55.0	58.9	36.4	47.7	101	−24	31	32	33	74	48	48	.213	.213	.210	11.23	1.80	25.6	5.1	5.7	5.8	5.6

MILWAUKEE, WIS.

[ϕ=43°02′ N.; λ=87°54′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.23	29.90	28.11	20.9	23.7	23.1	27.7	15.8	21.8	41	−6	16	17	18	81	75	78	0.101	0.103	0.104	4.60	3.24	7.8	6.4	8.0	6.0	8.4
February	29.42	29.92	28.72	30.3	32.4	31.8	36.9	25.3	31.1	57	3	26	27	27	83	80	80	.150	.154	.147	3.33	1.31	2.9	8.0	8.8	8.0	8.7
March	29.16	29.60	28.65	36.4	42.9	42.1	49.7	32.9	41.3	77	16	31	34	33	81	70	72	.185	.205	.205	3.29	1.64	3.8	4.4	5.5	4.9	5.6
April	29.25	29.64	28.70	42.6	49.4	49.6	54.8	39.5	47.2	83	27	35	37	37	73	64	63	.219	.235	.235	.97	.42	.3	5.3	7.3	6.5	6.9
May	29.17	29.46	28.66	50.6	56.3	54.7	62.9	46.4	54.6	85	37	45	46	45	81	72	71	.308	.320	.305	3.73	1.68	.0	5.0	7.2	6.6	6.9
June	29.25	29.59	28.93	62.3	67.8	69.1	72.9	57.9	65.4	86	52	54	55	56	76	66	65	.433	.444	.457	6.93	2.42	.0	5.7	6.3	5.8	5.9
July	29.22	29.39	28.97	67.7	74.9	74.2	78.9	64.9	71.9	90	57	60	63	63	78	67	70	.531	.575	.581	2.70	.70	.0	5.0	6.0	5.9	5.8
August	29.26	29.44	29.01	68.8	77.5	76.2	81.6	65.3	73.4	94	56	62	64	64	80	65	67	.569	.605	.604	6.47	2.82	.0	4.3	5.0	3.5	4.2
September	29.28	29.52	28.77	58.5	65.8	63.7	69.1	56.4	62.8	86	45	53	55	56	83	70	77	.416	.442	.461	6.12	1.67	.0	5.9	6.3	5.7	5.8
October	29.34	29.76	28.67	51.7	61.0	57.4	63.9	49.4	56.6	84	35	44	46	48	76	60	71	.292	.324	.341	.76	.49	T	4.7	5.1	3.8	4.8
November	29.25	29.74	28.61	37.3	43.6	41.9	47.9	33.9	40.9	77	15	31	32	32	76	63	69	.181	.195	.201	1.86	.96	.9	5.7	6.3	4.7	6.0
December	29.26	29.78	28.74	26.0	29.8	29.1	33.3	21.4	27.4	46	−6	20	21	22	77	68	73	.119	.122	.127	1.10	.57	4.2	7.4	7.6	7.3	7.7
Year	29.26	29.92	28.11	46.1	52.1	51.1	56.6	42.4	49.5	94	−6	40	41	42	79	68	71	.292	.311	.314	41.86	3.24	19.9	5.6	6.6	5.7	6.4

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MERIDIAN, MISS.

[H=343 ft.; H_b=375 ft.; h_t=67 ft.; h_r=60 ft.; h_a=92 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	7.2	SW.	29	SW.	0	7	9	7	6	9	7	9	7	1	11	8	12	10	6	0	0	0	8	3	0	0	10	1	0
February	6.7	S.	21	SW.	0	10	5	7	7	9	7	4	5	2	9	12	7	6	3	0	0	0	7	2	0	0	3	1	0
March	7.8	S.	23	SW.	0	4	10	3	5	22	10	3	4	1	11	6	14	9	7	0	0	1	2	1	0	0	0	9	0
April	6.0	S.	20	S.	0	7	6	10	7	10	9	4	3	4	13	4	13	10	9	0	0	1	3	0	0	0	0	9	0
May	5.8	SW.	20	S.	0	4	5	4	4	12	20	3	5	5	8	16	7	4	4	0	0	0	5	2	0	5	0	6	0
June	5.0	SW.	20	SW.	0	10	6	4	3	7	19	6	1	4	8	15	7	12	10	0	0	0	1	0	0	14	0	11	0
July	4.7	SW.	22	SW.	0	8	4	4	2	16	17	6	0	5	5	13	13	13	11	0	0	0	2	0	0	20	0	15	0
August	4.1	S.	23	SE.	0	0	6	5	1	12	17	10	3	8	12	11	8	11	9	0	0	0	2	0	0	28	0	12	0
September	4.2	N.	18	NE.	0	12	5	13	4	2	6	4	6	8	12	16	2	8	3	0	0	0	4	3	0	13	0	3	0
October	4.3	NE.	17	E.	0	5	14	10	2	2	3	3	7	16	19	6	6	2	1	0	0	0	2	0	0	1	0	0	0
November	5.9	E.	24	SE.	0	8	3	15	9	7	1	4	5	8	17	9	4	6	6	1	1	0	2	1	0	0	7	1	0
December	5.5	SW.	20	SW.	0	10	8	12	5	5	5	7	4	6	10	8	13	14	13	0	0	0	5	2	0	0	7	0	0
Year	5.6	SW.	29	SW.	0	85	81	94	55	113	121	63	50	68	135	124	106	105	82	1	1	2	43	14	0	81	27	68	0

MIAMI, FLA.

[H=11 ft.; H_b=25 ft.; h_t=124 ft.; h_r=117 ft.; h_a=168 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.4	SE.	24	N.	0	11	2	3	17	6	4	5	13	1	12	13	6	5	2	0	0	0	3	1	0	0	0	2	0
February	10.3	NE.	25	NE.	0	5	17	19	3	2	2	6	2	0	14	12	2	9	7	0	0	0	1	0	0	0	0	0	0
March	9.6	SE.	24	NW.	0	3	6	12	22	11	0	4	4	0	22	7	2	6	3	0	0	0	4	2	0	0	0	2	0
April	11.2	NE.	24	S.	0	6	19	12	13	5	4	1	0	0	16	8	6	4	3	0	0	0	0	0	0	0	0	1	0
May	8.7	SE.	30	NW.	0	7	9	5	25	8	3	1	4	0	13	7	11	11	9	0	0	0	0	0	0	0	0	10	0
June	7.4	SE.	26	SE.	0	4	7	17	13	4	5	4	5	1	7	12	11	15	14	0	0	0	0	0	0	0	0	19	0
July	7.9	SE.	27	S.	0	3	2	17	22	9	5	3	1	0	7	14	10	21	19	0	0	0	0	0	0	1	0	19	0
August	8.9	E.	25	E.	0	2	16	26	15	1	1	1	0	0	11	16	4	5	4	0	0	0	0	0	0	0	0	3	0
September	8.7	E.	28	SE.	0	6	10	16	13	5	2	4	4	0	10	14	6	14	11	0	0	0	0	0	0	1	0	8	0
October	11.1	NE.	25	E.	0	15	20	8	6	2	1	5	5	0	12	10	9	13	10	0	0	0	1	1	0	0	0	3	0
November	10.3	NE.	29	N.	0	13	20	14	6	0	0	2	5	0	11	15	4	10	8	0	0	0	0	0	0	0	0	0	0
December	8.7	N.	25	N.	0	17	6	9	7	6	2	5	10	0	15	11	5	7	5	0	0	0	3	0	0	0	0	1	0
Year	9.3	SE.	30	NW.	0	92	134	158	162	59	29	41	53	2	150	139	76	120	95	0	0	0	12	4	0	2	0	68	0

MILES CITY, MONT.

[H=2,351 ft.; H_b=2,370 ft.; h_t=48 ft.; h_r=41 ft.; h_a=55 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.3	S.	31	NW.	0	8	6	3	2	20	4	8	5	6	4	9	18	5	2	16	5	0	2	0	10	0	31	0	2
February	5.3	NE.	19	NE.	0	4	14	9	1	9	0	5	10	4	5	13	10	7	2	9	7	0	0	0	17	0	27	0	0
March	7.9	W.	31	W.	0	3	9	2	3	12	8	12	13	0	7	7	17	12	6	5	8	1	1	1	6	0	22	1	0
April	7.6	S.	30	NW.	0	6	8	10	2	14	6	4	10	0	6	9	15	4	3	3	0	1	0	0	1	0	11	2	1
May	7.6	NW.	32	NW.	1	6	9	4	6	14	6	5	11	1	4	13	14	13	8	0	0	2	1	0	0	0	1	6	0
June	6.7	NE.	32	W.	1	6	12	5	5	8	8	7	8	1	9	11	10	9	7	0	0	2	0	0	0	4	0	16	0
July	5.8	S.	32	NW.	1	7	11	4	5	14	8	6	5	2	15	11	5	13	7	0	0	1	0	0	0	9	0	13	0
August	5.9	NE.	31	NW.	0	12	7	4	0	13	7	4	13	2	19	9	3	7	4	0	0	0	0	0	0	13	0	5	0
September	4.9	S.	22	NW.	0	10	5	11	8	10	4	1	7	4	16	10	4	5	3	0	0	0	0	0	0	4	0	4	2
October	6.3	S.	28	NW.	0	4	9	6	5	15	10	5	8	0	11	8	12	6	4	2	2	1	0	0	0	0	5	2	1
November	6.8	S.	26	NW.	0	5	2	5	3	17	10	5	12	1	3	11	16	6	2	11	6	0	0	0	8	0	26	0	0
December	6.9	S.	35	NW.	1	2	4	3	2	18	9	10	12	2	7	10	14	3	2	6	3	0	0	0	4	0	28	0	0
Year	6.5	S.	35	NW.	4	73	96	66	42	164	80	72	114	23	106	121	138	90	50	52	31	8	4	1	46	30	151	49	6

MILWAUKEE, WIS.

[H=619 ft.; H_b=681 ft.; h_t=97 ft.; h_r=88 ft.; h_a=221 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	12.5	NW.	35	NW.	1	8	6	3	2	7	6	13	17	0	2	4	25	12	10	16	9	0	5	1	17	0	30	0	0
February	13.7	N.	32	S.	2	19	3	5	9	3	3	6	8	0	3	2	23	13	9	11	4	0	7	3	8	0	24	3	0
March	14.4	W.	39	W.	4	7	6	4	8	8	9	13	7	0	11	6	14	12	9	5	1	1	5	1	4	0	13	2	1
April	14.6	SW.	37	SW.	3	7	8	5	6	6	12	9	7	0	7	7	16	7	5	5	2	0	3	2	0	0	9	2	2
May	11.3	SE.	38	W.	2	7	10	7	7	9	6	8	8	0	5	10	16	10	10	0	0	1	11	2	0	0	0	4	1
June	11.6	W.	30	N.	0	13	4	2	3	11	6	11	9	1	9	11	10	9	9	0	0	0	5	1	0	0	0	7	0
July	10.2	W.	35	SW.	1	7	10	9	6	4	7	13	6	0	7	13	11	10	8	0	0	2	3	1	0	0	0	8	0
August	11.3	SW.	38	N.	2	10	4	3	8	9	13	11	7	0	18	6	7	9	8	0	0	0	3	0	0	3	0	7	2
September	12.4	N.	32	SE.	1	12	9	6	7	5	5	11	5	0	12	2	16	13	12	0	0	0	5	0	0	0	0	6	1
October	12.5	SW.	32	N.	1	6	4	4	1	15	16	11	5	0	12	12	7	6	3	1	0	0	4	2	0	0	0	2	0
November	13.9	W.	38	S.	5	11	0	3	3	12	10	15	6	0	9	7	14	8	5	5	1	0	4	0	4	0	14	0	0
December	12.1	W.	34	S.	2	3	0	2	4	10	8	22	13	0	4	8	19	11	8	15	6	0	9	2	9	0	26	0	0
Year	12.5	W.	39	W.	24	110	64	53	61	99	101	143	98	1	99	88	178	120	96	58	23	4	64	15	42	3	116	41	7

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MINNEAPOLIS, MINN.[1]

[ϕ=44° 53′ N.; λ=93° 13′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.01	29.59	28.60	11.8	16.4	15.5	20.2	6.8	13.5	47	−14	8	9	10	82	71	76	0.071	0.073	0.076	0.87	0.30	9.3	5.7	6.1	5.6	6.1
February	29.16	29.67	28.60	19.7	25.5	26.0	29.4	14.1	21.8	44	−7	17	19	20	87	75	75	.100	.107	.109	.62	.34	7.4	7.1	7.9	6.0	7.5
March	28.86	29.35	28.33	32.2	43.1	42.5	46.8	29.3	38.0	76	5	25	26	27	76	53	56	.144	.152	.154	2.11	.53	6.2	5.3	5.4	5.6	5.3
April	29.02	29.62	28.47	39.3	51.1	51.6	56.0	36.0	46.0	80	17	33	32	33	78	50	52	.214	.211	.220	3.27	1.05	T	7.1	6.8	6.7	7.0
May	28.97	29.29	28.26	50.6	60.5	60.5	65.4	48.1	56.8	85	35	46	46	46	83	61	63	.326	.330	.327	6.97	1.91	T	7.7	7.7	7.5	7.7
June	29.05	29.39	28.72	61.5	73.5	74.4	78.2	57.6	67.9	94	45	55	54	54	80	53	52	.446	.438	.442	2.96	.99	.0	6.4	6.3	5.3	6.3
July	29.03	29.21	28.77	66.4	78.4	79.9	83.3	63.6	73.4	95	56	62	61	62	87	57	56	.568	.544	.563	3.36	1.30	.0	6.1	5.4	5.7	5.9
August	29.04	29.30	28.68	65.3	80.3	80.0	84.9	62.7	73.8	95	51	60	61	61	83	53	54	.527	.547	.554	3.45	.90	.0	4.9	3.8	3.9	4.2
September	29.11	29.39	28.81	53.6	68.4	66.9	72.3	52.2	62.2	89	40	50	53	54	89	59	64	.378	.415	.426	3.24	1.20	.0	5.1	5.3	4.6	5.1
October	29.10	29.51	28.56	46.3	62.6	57.7	66.9	43.9	55.4	86	26	41	43	44	81	52	62	.266	.295	.305	.84	.67	1.9	4.1	4.1	5.5	4.6
November	29.06	29.62	28.49	27.6	35.0	33.0	39.2	23.8	31.5	71	−1	23	25	25	82	66	71	.139	.151	.148	1.29	.58	.5	6.4	7.3	6.7	7.5
December	29.08	29.54	28.61	18.5	22.1	20.6	27.7	13.0	20.4	45	−16	15	16	16	84	76	82	.093	.097	.097	.77	.19	9.1	6.2	7.8	7.1	7.9
Year	29.04	29.67	28.26	41.1	51.4	50.7	55.9	37.6	46.7	95	−16	36	37	38	83	60	64	.273	.280	.285	29.75	1.91	34.4	6.0	6.2	5.8	6.3

MISSOULA, MONT.

[ϕ=46°52′ N.; λ=114° 00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	26.75	27.24	26.26	22.3	28.0	----	31.5	19.5	25.5	47	−4	20	22	---	58	78	---	0.110	0.124	----	0.59	0.09	7.8	7.4	7.9	----	8.2
February	26.61	27.07	26.00	22.3	29.7	----	35.4	18.7	27.0	47	−7	17	21	---	80	69	---	.101	.117	----	1.35	.81	14.3	7.0	7.1	----	6.7
March	26.57	27.04	26.02	31.7	40.6	----	44.9	29.2	37.0	62	21	26	28	---	80	61	---	.142	.152	----	.76	.17	3.5	7.6	8.5	----	8.5
April	26.65	27.12	26.28	38.2	53.7	----	59.1	35.9	47.5	81	23	31	32	---	76	46	---	.178	.184	----	.74	.51	T	6.4	7.6	----	7.2
May	26.64	26.87	26.26	44.2	60.0	----	64.6	42.5	53.6	86	35	36	35	---	74	42	---	.216	.210	----	2.69	.69	T	7.4	7.1	----	6.6
June	26.65	26.87	26.34	52.0	71.4	----	76.9	50.7	63.8	87	35	44	45	---	76	42	---	.304	.319	----	3.13	1.69	.0	7.1	5.7	----	6.0
July	26.72	26.92	26.43	57.7	79.7	----	85.4	56.7	71.0	100	51	49	49	---	74	36	---	.345	.353	----	.66	.13	.0	4.8	3.5	----	2.9
August	26.69	26.86	26.42	54.1	76.3	----	83.1	51.9	67.5	93	42	43	42	---	67	32	---	.281	.279	----	.63	.21	.0	3.0	3.8	----	3.8
September	26.73	27.00	26.36	52.8	74.6	----	81.9	50.6	66.2	93	41	43	42	---	70	33	---	.278	.275	----	.66	.37	.0	3.0	2.6	----	3.0
October	26.71	27.14	26.35	41.7	53.6	----	59.0	38.4	48.7	79	29	38	38	---	86	56	---	.230	.229	----	.91	.24	T	6.3	6.1	----	6.8
November	26.73	27.40	26.11	29.2	35.2	----	38.3	25.6	32.0	51	5	23	25	---	77	65	---	.123	.134	----	.50	.19	3.5	7.8	8.3	----	8.3
December	26.71	27.05	26.24	28.2	34.1	----	37.9	24.8	31.4	60	7	23	24	---	81	66	---	.128	.130	----	.40	.24	2.6	7.8	7.9	----	8.2
Year	26.68	27.40	26.00	39.5	53.1	----	58.2	37.0	47.6	100	−7	33	34	---	77	52	---	.203	.209	----	13.02	1.69	31.7	6.3	6.3	----	6.4

MOBILE, ALA.

[ϕ=30°42′ N.; λ=88°02′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.07	30.54	29.56	47.1	55.4	54.2	59.8	43.7	51.8	74	28	42	41	42	84	61	66	0.302	0.299	0.306	2.87	1.29	0.0	5.5	6.6	5.1	6.4
February	30.16	30.43	29.78	50.7	63.4	61.1	68.0	49.2	58.6	77	28	47	49	51	87	62	72	.340	.371	.400	1.88	.97	.0	5.0	5.2	4.2	5.3
March	29.98	30.41	29.73	62.0	71.2	68.8	74.6	59.8	67.2	81	41	59	58	59	90	66	74	.530	.517	.536	2.15	1.76	.0	6.4	6.0	5.8	6.2
April	30.00	30.25	29.54	60.1	72.4	68.5	75.5	57.3	66.4	86	38	57	57	57	91	59	68	.494	.497	.496	2.37	.66	.0	6.0	5.7	4.7	5.7
May	29.92	30.09	29.69	69.2	79.8	77.0	82.5	67.3	74.9	89	55	64	63	64	85	58	66	.618	.590	.616	2.02	.81	.0	5.5	6.0	5.8	6.0
June	29.87	30.16	29.80	74.5	85.8	82.4	88.6	71.9	80.2	94	66	69	67	68	84	55	65	.721	.674	.697	4.62	1.89	.0	5.0	6.2	6.3	5.9
July	29.93	30.07	29.76	77.0	85.5	82.2	88.5	74.5	81.5	99	72	72	72	72	87	65	74	.797	.778	.798	12.83	3.16	.0	7.2	6.7	7.1	7.3
August	29.98	30.20	29.83	76.5	88.9	84.9	92.0	74.7	83.4	100	69	72	70	72	86	55	66	.779	.736	.784	2.04	1.27	.0	5.0	4.0	5.5	5.3
September	29.94	30.15	29.71	69.2	83.8	79.1	86.9	68.1	77.5	94	52	65	63	66	86	51	65	.632	.602	.655	.97	.47	.0	4.3	4.7	4.8	5.0
October	30.00	30.26	29.80	60.5	77.6	72.6	80.0	58.7	69.4	88	42	54	52	56	80	44	59	.440	.421	.475	.48	.30	.0	3.9	3.7	2.8	3.8
November	30.08	30.54	29.73	51.4	64.9	62.0	69.0	48.7	58.8	81	25	47	46	49	86	54	64	.373	.378	.409	1.72	.62	.0	5.2	5.2	2.4	4.9
December	30.08	30.47	29.59	44.9	57.1	54.2	60.6	41.7	51.2	70	20	41	42	43	85	60	68	.267	.289	.295	3.20	1.68	.0	4.1	6.1	3.4	5.4
Year	30.01	30.54	29.54	61.9	73.8	70.6	77.2	59.6	68.4	100	25	57	57	58	86	58	67	.524	.513	.539	37.15	3.16	.0	5.3	5.5	4.8	5.6

MODENA, UTAH

[ϕ=37°48′ N.; λ=113°54′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	24.68	25.14	24.24	22.5	37.2	36.6	40.7	18.6	29.6	56	0	18	24	25	84	60	64	0.103	0.128	0.136	1.38	0.50	10.4	4.0	5.3	5.4	5.5
February	24.60	24.86	24.20	27.2	38.2	38.9	41.6	24.2	32.9	52	9	22	25	25	78	59	58	.117	.133	.135	1.16	.36	6.8	5.4	6.6	6.0	6.2
March	24.49	24.77	24.11	30.4	44.5	45.3	49.8	25.9	37.8	60	15	23	26	25	75	49	47	.127	.140	.136	2.20	1.11	5.9	4.9	6.4	7.0	6.6
April	24.55	24.87	24.20	35.3	57.2	58.8	62.7	31.6	47.2	79	19	26	28	25	69	34	30	.143	.154	.138	.63	.36	4.6	3.4	6.5	6.2	5.8
May	24.56	24.79	24.24	40.1	63.9	64.2	68.8	37.5	53.2	88	22	32	33	30	73	35	33	.181	.191	.165	1.82	1.03	4.6	3.7	5.2	5.8	5.0
June	24.57	24.76	24.35	48.5	76.7	78.5	81.8	46.6	64.2	92	37	32	35	32	54	23	20	.185	.209	.184	.23	.21	.0	3.8	4.8	4.3	4.1
July	24.68	24.82	24.50	55.7	82.7	83.8	86.8	53.5	70.2	94	40	38	39	36	54	23	20	.243	.245	.219	2.22	1.60	.0	2.3	3.0	3.3	2.3
August	24.67	24.82	24.51	55.3	80.9	80.7	84.6	53.4	69.0	95	42	42	44	42	63	30	30	.279	.303	.286	1.74	.71	.0	2.9	4.4	4.5	4.0
September	24.69	24.87	24.48	47.3	76.9	76.8	80.4	45.0	63.0	85	40	37	41	38	69	28	26	.226	.258	.236	1.17	.46	.0	2.5	4.3	4.8	4.2
October	24.65	24.85	24.34	36.8	59.9	59.2	63.5	34.1	48.8	74	26	30	34	32	78	40	40	.171	.196	.186	1.54	.54	T	2.8	4.4	4.3	3.8
November	24.70	25.08	24.19	20.2	41.1	39.4	45.0	17.3	31.2	58	1	15	21	21	79	44	47	.086	.111	.112	.35	.22	4.1	1.6	3.0	3.0	2.9
December	24.69	24.96	24.34	23.9	39.9	37.8	42.9	19.7	31.3	60	7	20	27	26	84	60	62	.106	.145	.137	.76	.30	5.9	5.4	6.1	6.5	6.5
Year	24.63	25.14	24.11	36.9	58.3	58.3	62.4	34.0	48.2	95	0	28	31	30	72	40	40	.164	.184	.172	15.20	1.69	42.3	3.6	5.0	5.1	4.7

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MINNEAPOLIS, MINN.[1]

[H=830 ft.; H_b=838 ft.; h_t=32 ft.; h_r=29 ft.; h_a=61 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	11.0	NW.	35	NW.	2	7	3	5	6	10	2	14	15	0	8	8	15	11	6	16	11	0	13	0	24	0	31	0	4
February	10.7	E.	[2] 25	W.	0	8	4	7	13	5	2	8	9	0	6	2	20	8	5	14	5	0	20	0	15	0	27	2	3
March	11.5	W.	35	NW.	1	6	5	3	8	9	5	17	9	0	12	9	10	10	7	7	4	0	10	3	7	0	17	2	3
April	12.9	NW.	39	NW.	3	8	6	6	5	10	3	4	18	0	6	9	15	10	9	2	0	0	7	1	2	0	11	3	1
May	11.3	NW.	45	S.	3	8	7	8	11	5	5	5	12	1	3	11	17	20	14	1	0	1	17	0	0	0	0	9	3
June	10.3	SE.	34	W.	2	4	5	5	9	12	8	4	12	1	8	9	13	10	8	0	0	0	7	0	0	3	0	9	2
July	8.5	SE.	31	NW.	0	7	5	5	16	6	5	7	11	0	6	18	7	11	9	0	0	0	13	2	0	2	0	11	1
August	10.2	S.	42	N.	4	6	2	3	11	15	10	7	6	2	14	12	5	10	8	0	0	0	6	1	0	7	0	10	6
September	9.0	N.	25	SE.	0	12	11	7	8	1	9	5	5	2	12	5	13	8	6	0	0	0	16	2	0	0	0	6	6
October	11.5	S.	30	N.	0	12	2	7	13	10	8	7	3	0	14	7	10	5	2	2	2	0	7	0	0	0	3	3	8
November	11.8	NW.	34	W.	3	9	1	5	8	11	2	14	10	0	5	6	19	6	5	8	1	0	5	0	9	0	21	2	2
December	10.8	NW.	34	NW.	1	7	1	1	12	8	6	13	13	1	2	11	18	9	5	20	9	0	17	1	17	0	30	0	1
Year	10.8	NW.	45	S.	19	94	52	62	120	102	65	105	123	7	96	107	162	118	84	70	32	1	138	10	74	12	140	57	40

MISSOULA, MONT.

[H=3,200 ft.; H_b=3,263 ft.; h_t=80 ft.; h_r=77 ft.; h_a=91 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.8	SE.	39	E.	2	[3] 0	[3] 1	[3] 9	[3] 10	[3] 1	[3] 2	[3] 1	[3] 7	[3] 0	4	1	26	16	8	19	14	0	4	3	14	0	29	0	0
February	6.5	SE.	53	E.	1	2	0	4	10	4	1	3	3	1	7	4	17	9	6	14	9	0	2	1	9	0	27	0	0
March	6.8	SE.	34	NW.	1	1	1	2	14	1	2	5	5	0	1	3	27	10	7	19	7	0	3	2	1	0	22	0	0
April	7.2	SE.	32	E.	1	0	1	5	13	2	1	3	3	2	3	10	17	8	5	1	0	0	0	0	0	0	6	0	0
May	6.8	NW.	25	NW.	0	0	0	10	7	3	4	5	1	1	6	10	15	15	11	4	0	1	0	0	0	0	0	5	0
June	6.8	E.	38	SW.	1	0	4	10	8	2	2	4	0	0	10	5	15	12	10	0	0	1	0	0	0	0	0	8	0
July	6.8	SE.	26	E.	0	2	2	3	18	3	3	0	0	0	18	3	10	9	7	0	0	1	0	0	0	12	0	7	2
August	6.8	NW.	29	W.	0	0	0	12	9	8	0	1	0	1	16	9	6	9	4	0	0	0	0	0	0	9	0	3	1
September	6.1	S.	38	SW.	1	1	1	9	5	11	3	0	0	0	18	9	3	7	4	0	0	0	0	0	0	8	0	3	4
October	5.5	S.	27	W.	0	2	2	6	6	6	6	2	1	0	6	7	18	14	6	1	0	0	6	1	0	0	8	0	0
November	5.3	W.	25	W.	0	0	0	4	2	5	5	8	2	4	2	6	22	9	4	18	4	0	4	1	9	0	20	0	0
December	5.5	W.	32	SW.	1	0	2	4	5	4	2	6	2	6	1	9	21	10	1	13	7	0	2	0	9	0	25	0	0
Year	6.3	SE.	53	E.	8	8	14	78	107	50	31	38	24	15	92	76	197	128	73	89	41	3	21	8	42	29	137	26	7

MOBILE, ALA.

[H=10 ft.; H_b=57 ft.; h_t=86 ft.; h_r=78 ft.; h_a=161 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.1	NW.	30	W.	0	10	3	3	8	12	4	7	15	0	7	8	16	10	9	0	0	0	11	4	0	0	5	2	0
February	9.4	S.	24	W.	0	5	1	7	6	17	2	3	15	0	9	10	9	4	3	0	0	0	13	5	0	0	1	1	0
March	10.4	S.	26	S.	0	4	1	2	17	25	4	2	7	0	7	11	13	9	4	0	0	0	10	4	0	0	0	6	0
April	9.6	S.	35	S.	1	3	4	4	14	18	4	4	9	0	8	11	11	7	6	0	0	0	6	2	0	0	0	6	0
May	9.0	S.	26	W.	0	7	1	5	9	19	9	6	6	0	8	11	12	9	8	0	0	0	4	0	0	0	0	11	0
June	8.3	S.	28	S.	0	7	3	2	6	14	11	9	8	0	6	14	10	9	8	0	0	0	0	0	0	10	0	15	0
July	8.2	S.	30	NE.	0	3	4	3	7	23	10	7	5	0	2	11	18	17	16	0	0	0	1	0	0	11	0	16	0
August	7.8	S.	41	SE.	1	5	2	0	7	18	7	17	6	0	11	12	8	6	4	0	0	0	0	0	0	22	0	13	0
September	7.9	N.	34	E.	2	14	12	4	2	8	7	4	9	0	11	11	8	7	3	0	0	0	0	0	0	10	0	12	0
October	9.0	N.	22	E.	0	15	10	6	4	8	4	4	11	0	18	4	9	3	2	0	0	0	1	1	0	0	0	0	0
November	10.2	N.	31	SE.	0	14	7	3	11	8	1	2	14	0	11	9	10	8	7	0	0	0	4	0	0	0	5	1	0
December	9.1	N.	37	SE.	1	17	3	2	6	11	3	7	13	0	11	7	13	9	9	0	0	0	9	3	0	0	2	1	0
Year	9.1	S.	41	SE.	5	104	51	41	97	181	66	72	118	0	109	119	137	98	79	0	0	0	59	19	0	53	13	84	0

MODENA, UTAH

[H=5,460 ft.; H_b=5,473 ft.; h_t=10 ft.; h_r=3 ft.; h_a=46 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.0	W.	31	SW.	0	3	9	11	2	4	12	18	2	1	11	6	14	7	6	6	6	0	5	1	5	0	31	0	1
February	9.4	SW.	36	S.	2	2	7	5	0	8	17	15	2	0	10	4	14	11	8	13	8	0	0	0	2	0	23	0	0
March	11.2	SW.	49	S.	6	4	3	4	2	5	23	13	8	0	7	8	16	11	9	12	8	0	0	0	0	0	28	3	0
April	10.9	SW.	41	S.	5	6	6	5	0	7	17	13	6	0	8	13	9	5	3	4	3	0	0	0	0	0	14	0	0
May	9.8	W.	35	S.	4	4	2	4	1	3	15	25	8	0	12	10	9	7	6	5	2	3	0	0	0	0	9	4	0
June	10.5	SW.	37	W.	2	2	0	2	1	6	22	21	5	1	15	9	6	2	1	0	0	0	0	0	0	1	0	4	0
July	9.8	SW.	32	SW.	1	1	11	2	0	3	22	19	2	2	23	6	2	5	3	0	0	0	0	0	0	12	0	7	2
August	9.8	SW.	30	E.	0	0	1	1	0	2	32	19	7	0	14	13	4	11	10	0	0	1	0	0	0	5	0	11	0
September	9.0	W.	32	S.	1	1	1	3	2	8	22	22	1	0	13	10	7	6	4	0	0	2	0	0	0	0	0	8	0
October	9.4	SW	35	SW.	1	1	6	4	2	6	26	14	1	2	14	11	6	7	6	2	1	0	1	0	0	0	12	2	0
November	9.0	W.	38	W.	1	4	10	9	3	2	11	17	3	1	19	7	4	3	3	6	2	0	0	0	3	0	29	1	0
December	7.4	W.	26	W.	0	4	9	11	1	4	8	18	5	2	6	12	13	6	5	7	6	0	2	0	2	0	31	0	0
Year	9.5	SW.	49	S.	23	32	65	61	14	58	227	214	50	9	152	109	104	81	64	55	36	6	8	1	12	18	177	40	3

[1] Observations taken at airport.

[2] For 663 hours only.

[3] Taken from the 7:30 a. m. observation.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MONTGOMERY, ALA.

[ϕ=32°23′ N.; λ=86°18′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.87	30.34	29.30	43.6	52.5	51.6	57.0	40.3	48.6	76	24	38	37	37	80	58	60	0.259	0.252	0.250	2.39	1.14	0.0	5.8	6.6	6.1	6.2
February	29.98	30.26	29.53	48.9	61.8	61.5	67.2	46.6	56.9	77	29	44	44	44	82	54	56	.302	.309	.310	1.32	.88	.0	5.0	4.6	4.2	4.9
March	29.81	30.25	29.54	56.7	70.3	68.5	65.5	54.8	65.2	84	35	51	51	52	83	52	58	.407	.401	.416	5.97	4.05	.0	6.1	6.1	4.9	6.0
April	29.82	30.08	29.38	58.5	70.0	69.0	74.2	55.4	64.8	88	37	54	52	52	85	55	58	.437	.413	.412	9.60	3.02	.0	5.2	5.7	4.6	5.4
May	29.74	29.91	29.52	67.3	79.8	78.9	83.7	64.8	74.2	93	54	62	59	59	83	51	52	.564	.514	.512	1.41	.50	.0	5.3	6.8	6.6	6.3
June	29.79	30.00	29.62	72.6	84.7	82.3	88.8	69.8	79.3	94	63	67	64	64	82	52	57	.658	.611	.611	4.31	1.88	.0	4.5	4.8	6.9	5.2
July	29.76	29.91	29.61	74.7	85.7	82.8	89.2	72.4	80.8	96	68	71	70	70	88	61	68	.755	.733	.746	8.84	2.23	.0	7.7	7.1	7.3	7.2
August	29.82	30.01	29.65	75.5	88.9	85.8	92.4	73.5	83.0	102	68	71	70	70	87	55	62	.765	.730	.742	3.08	.92	.0	3.7	5.0	4.1	4.4
September	29.78	29.96	29.53	68.2	83.3	79.3	87.0	66.8	76.9	95	54	64	61	62	86	48	56	.605	.558	.568	.18	.09	.0	3.7	5.3	4.4	4.8
October	29.85	30.14	29.61	57.2	75.8	73.1	80.1	56.2	68.2	93	42	51	49	48	79	40	42	.380	.364	.344	.15	.15	.0	2.7	2.4	3.1	2.7
November	29.91	30.34	29.55	50.0	63.1	61.8	68.9	47.0	58.0	83	24	44	43	43	82	50	51	.326	.323	.316	2.28	1.66	.0	4.8	4.7	4.5	4.9
December	29.90	30.31	29.48	42.2	53.5	52.8	58.4	39.0	48.7	74	27	37	37	36	81	56	55	.228	.238	.229	2.48	1.37	.0	5.3	5.9	5.4	6.0
Year	29.84	30.34	29.30	59.6	72.4	70.6	76.9	57.2	67.0	102	24	54	53	53	83	53	56	.474	.454	.455	42.01	4.05	.0	5.0	5.4	5.2	5.3

MOORHEAD, MINN.

[ϕ=46°52′ N.; λ=96°44′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.03	29.54	28.47	4.4	8.7	9.1	14.6	−2.0	6.3	37	−21	3	5	7	92	83	88	0.053	0.058	0.062	0.48	0.16	5.8	5.8	7.6	7.7	7.0
February	29.17	29.76	28.65	7.3	13.6	14.0	18.9	0.8	9.8	41	−21	6	10	12	96	87	93	.065	.075	.085	.51	.30	8.5	5.6	7.2	6.1	7.2
March	28.83	29.33	28.19	27.2	40.0	40.7	45.2	24.4	34.8	65	0	23	25	25	85	56	57	.130	.139	.140	.46	.31	.7	5.0	6.4	6.4	5.9
April	28.95	29.64	28.35	33.8	49.0	52.6	55.9	31.4	43.6	82	12	28	29	30	79	49	45	.170	.186	.191	2.07	.71	.1	7.6	7.2	6.1	7.1
May	28.89	29.17	28.41	46.3	56.3	57.9	61.2	43.8	52.5	75	30	40	41	42	81	60	60	.261	.271	.284	3.60	.73	.5	7.3	8.5	7.4	7.4
June	28.93	29.22	28.46	57.5	70.9	71.5	75.3	54.2	64.8	93	40	51	53	54	81	56	57	.390	.426	.439	1.04	.47	.0	6.6	6.6	5.8	6.1
July	28.92	29.12	28.61	62.5	78.5	79.1	82.7	59.6	71.2	98	52	58	57	59	84	50	53	.483	.486	.518	1.96	1.06	.0	4.2	6.2	4.7	5.4
August	28.89	29.28	28.34	62.0	80.5	81.0	85.6	59.4	72.5	99	48	54	54	53	75	43	41	.426	.442	.418	2.59	1.21	.0	3.8	3.1	3.6	3.6
September	29.02	29.27	28.77	51.1	68.5	68.9	73.2	49.0	61.1	91	33	45	48	48	81	51	52	.313	.348	.354	1.97	.74	.0	4.5	4.7	3.9	3.9
October	28.97	29.34	28.53	43.4	59.6	57.9	64.0	40.2	52.1	85	20	36	38	37	76	48	49	.226	.243	.234	.15	.08	T	4.5	4.8	4.3	4.8
November	28.96	29.61	28.37	19.4	29.6	28.9	34.8	13.7	24.2	72	−10	16	21	23	88	71	78	.103	.124	.133	.86	.39	11.3	4.3	8.1	6.7	7.5
December	28.97	29.46	28.50	14.0	19.4	19.3	24.1	8.1	16.1	38	−23	12	15	16	90	82	85	.080	.094	.097	.52	.13	5.8	6.3	8.2	7.3	7.7
Year	28.96	29.76	28.19	35.7	47.9	48.4	53.0	31.9	42.4	99	−23	31	33	34	84	61	63	.225	.241	.246	16.21	1.21	32.7	5.5	6.6	5.8	6.1

NANTUCKET, MASS.

[ϕ=41°17′ N.; λ=70°06′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.02	30.43	29.40	31.4	35.5	32.6	38.4	27.5	33.0	54	19	28	28	27	85	74	78	0.158	0.166	0.154	4.39	1.34	11.3	6.0	5.6	4.7	6.3
February	30.13	30.82	29.18	32.7	35.6	32.8	38.9	27.9	33.4	49	12	29	31	29	86	83	85	.169	.183	.167	3.01	.62	3.8	6.2	6.5	4.9	7.4
March	29.96	30.36	29.42	38.2	42.9	38.7	45.8	32.9	39.4	63	11	33	35	35	81	74	86	.196	.208	.207	3.53	1.37	.2	6.0	5.5	5.9	6.2
April	30.02	30.46	29.09	45.4	50.1	44.4	52.2	40.0	46.1	65	30	40	43	41	84	77	89	.262	.285	.264	5.72	2.81	2.3	5.0	5.2	4.4	5.6
May	29.92	30.39	29.19	54.0	57.2	50.9	59.8	46.5	53.2	73	40	47	49	47	80	75	88	.332	.352	.331	2.91	.99	.0	4.2	5.4	4.3	6.0
June	29.98	30.39	29.79	62.0	65.9	59.4	68.5	56.3	62.4	78	45	59	60	58	91	84	95	.507	.530	.491	6.24	3.56	.0	5.5	6.0	6.4	7.0
July	29.99	30.20	29.74	68.5	72.5	66.9	74.8	63.9	69.4	81	55	65	66	65	90	82	94	.631	.661	.625	2.00	.57	.0	5.4	6.0	3.7	6.6
August	29.96	30.19	29.56	70.6	75.0	68.4	77.3	64.7	71.0	86	56	66	65	65	84	72	89	.634	.628	.623	3.02	1.45	.0	4.5	4.5	4.1	5.0
September	30.01	30.33	29.38	63.3	66.5	61.2	68.4	57.7	63.0	76	52	57	56	56	80	71	84	.477	.471	.468	9.55	4.05	.0	3.6	3.9	4.0	4.2
October	30.04	30.39	29.32	55.1	59.1	54.6	60.9	51.1	56.0	77	45	51	53	51	88	82	89	.385	.413	.383	3.79	1.07	.0	5.2	5.1	4.7	5.7
November	30.11	30.56	29.14	46.8	51.8	47.7	55.4	42.1	48.8	68	22	44	47	45	90	84	90	.305	.345	.315	3.84	1.04	.2	4.5	3.9	3.3	4.6
December	30.02	30.58	29.25	36.3	40.3	38.4	43.5	32.7	38.1	57	20	32	35	34	83	80	82	.194	.214	.203	5.60	1.88	1.1	5.5	6.1	5.4	6.3
Year	30.02	30.82	29.09	50.4	54.4	49.7	57.0	45.3	51.2	86	11	46	47	46	85	78	87	.354	.371	.353	53.60	4.05	18.9	5.1	5.3	4.5	5.9

NASHVILLE, TENN.

[ϕ=36°10′ N.; λ=86°47′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.52	30.01	28.80	35.5	42.9	42.2	47.3	30.5	38.9	65	15	30	31	31	81	66	65	0.180	0.187	0.186	5.81	2.24	0.1	5.6	6.4	5.8	6.6
February	29.63	30.00	29.11	45.6	52.0	52.4	57.3	42.1	49.7	74	20	39	40	41	78	65	66	.256	.270	.275	1.82	.42	T	6.8	6.7	5.9	7.3
March	29.43	29.93	29.05	51.4	60.8	60.9	67.3	47.0	57.2	80	26	45	46	45	81	61	59	.327	.335	.324	4.78	1.24	.0	6.5	6.2	5.8	6.5
April	29.47	29.76	28.94	55.0	66.4	67.1	71.2	51.9	61.6	83	31	48	48	48	78	55	53	.352	.358	.357	2.23	.69	T	6.0	5.2	5.0	5.2
May	29.40	29.61	29.07	62.5	74.5	71.8	77.8	59.4	68.6	90	46	57	58	57	82	57	61	.474	.493	.473	4.35	1.08	.0	4.8	6.4	5.5	5.9
June	29.46	29.70	29.26	68.2	78.9	78.3	82.4	65.1	73.8	89	56	62	62	63	82	57	61	.568	.558	.581	4.98	1.52	.0	5.6	6.6	5.6	6.2
July	29.43	29.57	29.30	72.5	85.1	81.7	88.5	69.8	79.2	95	66	68	67	69	86	58	68	.685	.676	.714	5.93	1.54	.0	4.7	6.1	5.3	6.1
August	29.49	29.64	29.32	73.2	86.2	83.8	89.8	70.9	80.4	96	64	69	70	70	88	59	65	.714	.731	.745	2.38	1.53	.0	3.4	5.2	4.1	4.7
September	29.47	29.65	29.13	63.7	78.7	75.7	81.7	61.9	71.8	93	46	60	60	61	88	54	62	.537	.534	.551	3.40	1.63	.0	4.0	5.5	4.6	5.0
October	29.55	29.80	29.22	51.9	72.6	69.8	76.3	50.3	63.3	87	36	46	45	46	81	38	44	.314	.313	.320	.47	.46	.0	1.7	1.9	1.7	1.8
November	29.57	29.98	29.03	43.4	56.1	54.1	61.0	38.9	50.0	78	18	37	38	38	80	55	58	.245	.259	.255	3.06	1.22	1.5	3.6	3.8	3.2	3.8
December	29.56	30.06	29.06	35.5	44.9	45.3	50.7	32.5	41.6	64	16	29	31	30	78	60	57	.167	.181	.177	2.00	.87	T	4.9	6.1	5.1	5.6
Year	29.50	30.06	28.80	54.9	66.5	65.3	70.9	51.7	61.3	96	15	49	50	50	82	57	60	.402	.408	.413	41.21	2.24	1.6	4.8	5.5	4.8	5.4

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

MONTGOMERY, ALA.

[H=201 ft.; H_b=218 ft.; h_t=92 ft.; h_r=90 ft.; H_a=105 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	7.9	N.	27	W.	0	13	4	7	11	9	5	10	3	0	9	7	15	12	5	0	0	0	7	3	0	0	7	0	0
February	7.8	E.	28	NW	0	7	4	16	4	6	6	6	6	1	13	6	9	4	4	0	0	0	7	2	0	0	1	1	0
March	8.0	S.	29	N.	0	8	8	8	14	10	5	6	3	0	9	9	13	8	7	0	0	1	2	1	0	0	0	6	0
April	7.0	SE.	18	W.	0	4	4	16	9	11	1	9	5	1	11	6	13	9	9	0	0	0	3	1	0	0	0	5	0
May	6.7	SW.	24	SW.	0	5	1	9	8	13	11	9	5	1	8	11	12	7	5	0	0	0	2	0	0	5	0	4	0
June	6.6	SW.	22	NW.	0	9	4	7	10	5	8	10	6	1	10	13	7	7	7	0	0	0	1	0	0	15	0	10	0
July	6.4	SE.	21	N.	0	1	5	13	11	11	9	8	3	1	3	11	17	16	13	0	0	0	1	0	0	16	0	13	0
August	5.5	W.	31	NE.	0	9	4	6	4	11	5	13	6	4	15	8	8	9	7	0	0	0	1	0	0	25	0	8	0
September	5.7	N.	17	E.	0	12	12	17	6	1	5	1	5	1	11	10	9	3	2	0	0	0	1	0	0	11	0	6	0
October	5.9	E.	18	NE.	0	9	10	18	2	4	2	8	7	2	23	1	7	1	1	0	0	0	0	0	0	1	0	0	0
November	7.1	N.	26	SE.	0	11	10	13	5	7	3	1	9	1	12	5	13	7	5	0	0	0	3	1	0	0	6	1	0
December	6.6	N.	21	W.	0	13	6	11	9	2	4	9	7	1	10	6	15	10	8	0	0	0	8	2	0	0	4	0	0
Year	6.8	E.	31	NE.	0	101	72	141	93	90	64	90	65	14	134	93	138	93	73	0	0	1	36	10	0	73	18	54	0

MOORHEAD, MINN.

[H=904 ft.; H_b=940 ft.; h_t=50 ft.; h_r=43 ft.; h_a=58 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.1	S.	28	N.	0	14	2	6	4	16	4	5	11	0	6	8	17	8	5	19	8	0	5	1	29	0	31	0	4
February	8.6	N.	21	NW.	0	19	1	3	4	11	4	3	10	1	5	5	18	8	5	16	7	0	9	4	22	0	28	0	2
March	10.0	S.	20	NW.	0	14	0	1	9	14	8	8	8	0	7	15	9	7	4	6	1	0	2	2	6	0	22	0	1
April	9.6	N.	30	NW.	0	15	9	2	3	13	7	1	10	0	5	7	18	11	9	3	0	1	5	1	2	0	14	5	0
May	9.6	N.	32	N.	1	17	10	6	6	10	2	4	7	0	6	6	19	13	12	2	2	0	2	0	0	0	2	3	3
June	8.5	S.	33	NW.	1	10	5	2	10	15	1	6	10	1	7	12	11	9	6	0	0	1	3	0	0	1	0	6	0
July	7.1	S.	24	W.	0	6	4	1	11	13	3	7	13	4	8	12	11	9	8	0	0	0	4	2	0	4	0	11	4
August	8.4	S.	23	SE.	0	9	4	5	7	19	6	6	5	1	17	12	2	6	5	0	0	0	4	0	0	8	0	9	2
September	7.4	N.	20	N.	0	14	6	4	5	15	5	3	8	0	20	2	8	7	6	0	0	0	4	0	0	1	0	5	2
October	9.5	S.	23	S.	0	6	8	1	5	20	2	6	14	0	13	8	10	2	2	1	0	0	2	1	0	0	6	0	5
November	8.9	NW.	26	N.	0	7	5	3	3	14	5	11	11	1	5	5	20	10	6	14	7	0	1	0	12	0	28	1	3
December	8.8	S.	24	N.	0	12	2	2	4	20	4	10	8	0	3	8	20	9	6	21	9	0	3	0	22	0	31	0	0
Year	8.8	S.	33	NW.	2	143	56	36	71	180	51	70	115	8	102	100	163	99	74	82	34	2	44	11	93	14	162	40	26

NANTUCKET, MASS.

[H=35 ft.; H_b=12 ft.; h_t=14 ft.; h_r=4 ft.; h_a=90 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	13.2	NW.	41	SE.	6	9	3	4	8	4	3	13	18	0	11	4	16	12	9	14	7	0	8	4	8	0	25	0	2
February	14.6	N.	51	NE.	6	14	8	3	1	8	8	3	10	1	5	6	17	17	13	11	7	0	16	7	6	0	20	0	0
March	16.7	SW.	36	NE.	7	8	7	7	2	8	12	12	6	0	12	4	15	11	8	4	1	0	16	6	1	0	12	0	2
April	15.9	SW.	39	SE.	3	4	10	4	2	9	15	8	8	0	11	7	12	11	10	3	2	1	20	8	0	0	5	2	0
May	13.7	SW.	42	E.	2	5	10	6	7	10	11	10	3	0	12	6	13	10	9	0	0	0	20	8	0	0	0	3	0
June	15.0	SW.	34	NE.	2	7	8	1	4	11	23	3	3	0	7	6	17	11	9	0	0	0	24	16	0	0	0	5	0
July	13.2	S.	28	S.	0	5	1	1	3	28	16	7	1	0	7	8	16	13	11	0	0	0	27	19	0	0	0	6	0
August	12.0	SW.	27	NW.	0	8	5	5	5	8	18	8	5	0	12	9	10	6	6	0	0	0	24	7	0	0	0	7	0
September	14.9	S.	52	SE.	4	12	5	5	5	17	10	5	1	0	16	7	7	14	12	0	0	0	19	6	0	0	0	4	0
October	17.2	N.	46	N.	9	11	16	3	8	5	8	5	6	0	12	5	14	10	8	0	0	0	15	6	0	0	0	0	0
November	15.5	N.	51	N.	8	13	3	2	2	12	11	8	9	0	15	6	9	13	9	3	2	0	19	3	0	0	4	1	0
December	15.4	NW.	41	N.	7	8	4	5	3	4	7	14	17	0	7	9	15	17	15	5	3	0	16	6	1	0	15	0	0
Year	14.8	SW.	52	SE.	54	104	80	46	50	124	142	96	87	1	127	77	161	145	119	40	22	1	224	96	16	0	81	28	4

NASHVILLE, TENN.

[H=485 ft.; H_b=546 ft.; h_t=168 ft.; h_r=161 ft.; h_a=188 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.5	W.	33	S.	2	2	3	5	8	11	11	9	13	0	9	5	17	10	9	5	1	0	11	7	5	0	16	1	0
February	10.6	SW.	34	SW.	1	8	5	7	5	11	10	3	7	0	5	4	19	11	8	3	0	0	7	1	0	0	4	0	0
March	11.7	S.	38	SE.	4	2	3	4	10	21	5	8	8	1	7	8	16	14	11	0	0	0	9	3	0	0	3	10	0
April	9.5	S.	33	SE.	1	5	0	5	8	18	9	9	6	0	8	13	9	10	10	1	0	1	2	0	0	0	1	5	0
May	8.4	SW.	33	NW.	1	2	7	8	13	7	10	9	6	0	6	15	10	17	10	0	0	0	5	0	0	0	0	10	0
June	7.6	SW.	30	SE.	0	9	7	3	5	9	9	13	5	0	6	12	12	11	9	0	0	0	5	0	0	0	0	8	0
July	6.0	W.	50	N.	1	4	6	7	4	11	6	17	3	4	8	11	12	11	11	0	0	0	8	1	0	13	0	18	0
August	6.3	W.	33	NE.	1	8	7	0	4	10	12	12	9	0	8	18	5	10	7	0	0	0	8	2	0	19	0	10	0
September	6.3	NW.	31	N.	0	4	5	0	5	6	16	9	15	0	10	11	9	9	8	0	0	0	9	0	0	3	0	6	0
October	6.1	NE.	25	SW.	0	12	11	5	3	4	3	7	11	6	24	4	3	3	1	0	0	0	7	2	0	0	0	0	0
November	9.3	S.	51	SE.	1	2	4	6	11	18	6	4	9	0	17	5	8	10	8	3	1	0	7	2	1	0	6	1	0
December	8.6	NW.	31	SE.	0	3	1	4	11	7	11	9	16	0	10	7	14	8	6	2	1	0	4	3	0	0	17	0	0
Year	8.3	S.	51	SE.	12	61	59	54	87	133	108	109	108	11	118	113	134	124	98	14	3	1	82	21	6	35	47	69	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

NEW HAVEN, CONN.

[ϕ=41°18′ N.; λ=72°56′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.94	30.31	29.17	26.3	31.8	31.1	35.8	22.1	29.0	55	−1	19	18	20	72	58	61	0.118	0.114	0.117	4.23	1.27	15.3	6.5	5.9	5.1	6.1
February	30.08	30.74	29.18	29.9	34.8	34.5	40.1	26.4	33.2	55	8	22	22	22	71	59	63	.130	.131	.138	2.91	.75	2.0	6.7	6.9	6.3	6.8
March	29.89	30.26	29.34	37.3	44.7	43.5	49.7	33.1	41.4	72	8	29	30	31	72	58	63	.173	.175	.189	2.57	.68	1.5	6.4	6.3	5.3	6.1
April	29.93	30.38	28.97	46.1	54.7	51.3	59.0	41.5	50.2	84	25	38	39	40	73	57	66	.243	.254	.260	2.98	1.18	4.3	6.0	6.2	5.8	5.8
May	29.83	30.31	28.97	54.5	62.2	59.0	66.3	48.8	57.6	78	40	44	45	46	71	56	65	.302	.315	.323	4.28	1.82	.0	6.8	6.9	5.6	6.4
June	29.88	30.31	29.64	64.8	72.0	69.0	76.0	59.4	67.7	90	46	59	59	60	82	67	73	.506	.521	.520	6.66	2.93	.0	7.4	6.3	6.5	6.6
July	29.87	30.05	29.61	71.1	77.3	75.0	80.5	66.5	73.5	90	56	65	66	66	82	69	76	.635	.646	.660	7.05	2.36	.0	6.6	6.4	6.2	6.3
August	29.86	30.06	29.50	71.2	79.2	76.3	83.1	65.6	74.4	95	56	64	64	65	77	62	70	.603	.624	.636	2.64	2.12	.0	5.1	4.8	4.5	4.8
September	29.91	30.28	28.00	58.1	67.7	64.4	70.9	53.7	62.3	83	43	52	53	55	81	62	73	.403	.426	.446	14.52	6.40	.0	5.7	5.4	5.2	5.6
October	29.98	30.32	29.38	51.6	62.9	58.4	66.2	48.3	57.2	86	35	46	48	49	81	60	72	.322	.352	.362	2.16	.92	.0	4.2	4.5	4.3	4.3
November	30.04	30.51	29.42	41.6	50.3	47.8	53.7	37.7	45.7	74	11	36	39	40	81	65	75	.239	.270	.280	4.24	1.32	13.2	6.5	4.9	5.1	5.6
December	29.95	30.50	29.24	32.1	36.9	35.3	40.5	27.9	34.2	56	14	25	26	26	73	64	69	.147	.153	.152	3.53	1.67	2.0	6.3	6.7	4.8	6.4
Year	29.93	30.74	28.00	48.7	56.2	53.8	60.2	44.2	52.2	95	−1	42	42	43	76	61	69	.318	.332	.340	57.77	6.40	38.3	6.2	5.9	5.4	5.9

NEW ORLEANS, LA.

[ϕ=29°57′ N.; λ=90°04′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.07	30.52	29.67	50.2	58.5	56.5	62.7	47.3	55.0	80	32	45	44	45	82	61	68	0.332	0.327	0.339	5.27	1.12	0.0	6.2	5.8	4.9	5.8
February	30.16	30.40	29.81	54.1	65.1	63.3	69.1	52.4	60.8	81	31	50	52	53	88	63	70	.393	.411	.417	1.50	.77	.0	3.7	5.1	5.5	5.8
March	29.97	30.42	29.75	64.3	75.7	72.3	78.3	62.6	70.4	85	45	61	59	60	88	57	68	.556	.523	.547	.91	.46	.0	6.9	5.7	6.4	6.3
April	30.00	30.27	29.51	63.4	72.8	70.0	76.4	60.7	68.6	86	42	59	58	58	86	60	68	.531	.504	.522	2.93	1.00	.0	5.4	6.3	5.0	5.9
May	29.93	30.10	29.63	71.3	80.4	78.8	83.8	69.3	76.6	91	63	66	64	65	84	58	64	.650	.604	.622	3.60	1.60	.0	5.4	6.7	5.2	6.0
June	29.98	30.16	29.80	77.3	86.1	83.6	90.1	74.7	82.4	94	71	71	68	70	82	55	64	.766	.683	.729	2.57	.94	.0	4.1	6.1	6.5	5.7
July	29.94	30.12	29.76	77.8	86.5	82.2	90.3	75.3	82.8	99	71	74	72	73	87	63	76	.831	.783	.821	7.85	1.61	.0	3.6	6.7	7.2	6.3
August	29.99	30.18	29.84	79.1	88.8	85.6	92.1	77.0	84.6	100	71	74	71	72	86	58	65	.850	.755	.789	3.35	.76	.0	3.9	5.5	6.5	5.4
September	29.95	30.14	29.76	73.6	83.2	80.4	86.7	72.0	79.4	93	61	68	64	66	82	55	62	.697	.629	.650	4.54	2.44	.0	3.4	6.3	5.4	5.0
October	30.01	30.23	29.85	67.1	78.0	74.6	80.3	65.3	72.8	91	55	59	56	58	76	50	56	.527	.487	.502	.96	.37	.0	3.3	4.1	3.6	3.8
November	30.09	30.56	29.72	56.3	67.5	62.9	70.5	53.7	62.1	86	32	51	50	50	82	53	64	.415	.405	.405	2.10	.90	.0	4.3	4.7	2.2	4.4
December	30.09	30.48	29.57	50.6	60.2	57.0	63.9	47.3	55.6	79	33	45	45	46	82	59	67	.313	.312	.323	4.59	3.79	.0	5.5	5.1	3.7	4.9
Year	30.01	30.56	29.51	65.4	75.2	72.2	78.7	63.1	70.9	100	31	60	59	60	84	58	66	.572	.535	.556	40.17	3.79	.0	4.6	5.6	5.2	5.4

NEW YORK, N. Y.

[ϕ=40°43′ N.; λ=74°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.71	30.10	28.92	30.1	34.0	33.0	38.8	25.3	32.0	56	5	22	22	24	72	61	68	0.133	0.127	0.136	3.37	1.37	6.1	6.9	6.4	5.4	6.6
February	29.84	30.45	29.00	32.7	36.9	36.3	43.0	28.2	35.6	59	10	24	24	26	70	60	65	.144	.144	.155	2.24	.92	T	6.8	6.9	5.8	6.9
March	29.66	30.01	29.11	40.5	46.1	46.1	53.1	35.4	44.2	74	8	31	31	32	68	57	59	.184	.183	.194	2.34	.75	1.1	5.8	6.2	4.4	6.1
April	29.69	30.09	28.75	48.4	57.0	54.5	61.5	45.2	53.4	85	29	38	38	38	68	50	57	.244	.240	.249	3.02	1.02	5.2	5.8	6.1	4.6	5.7
May	29.60	30.06	28.83	55.8	63.4	59.7	67.6	51.3	59.4	78	38	45	45	44	69	53	61	.318	.311	.307	3.49	1.88	.0	7.1	7.2	5.5	6.7
June	29.66	30.05	29.42	65.5	73.3	68.7	76.9	61.1	69.0	87	47	57	57	59	77	60	74	.490	.493	.511	7.59	2.04	.0	6.5	6.3	7.0	6.7
July	29.64	29.82	29.40	71.4	78.2	75.4	82.1	68.1	75.1	90	57	64	64	65	79	65	72	.614	.618	.624	6.41	2.53	.0	5.8	6.6	7.1	6.7
August	29.65	29.83	29.28	71.5	81.1	76.3	84.4	68.2	76.3	93	60	64	64	63	79	57	66	.617	.616	.596	1.99	1.21	.0	5.2	4.8	3.8	4.9
September	29.68	30.05	28.39	60.8	67.4	65.1	71.9	57.9	64.9	82	49	54	54	53	79	64	67	.430	.436	.420	8.77	4.99	.0	5.4	6.1	5.6	5.9
October	29.74	30.07	29.20	53.7	62.8	60.3	66.8	50.4	58.6	87	40	45	44	45	73	53	60	.313	.311	.320	1.63	.67	.0	3.5	4.2	3.1	3.8
November	29.81	30.22	29.25	44.5	51.1	48.9	55.0	40.4	47.7	75	18	37	37	39	76	60	70	.264	.267	.268	3.37	1.11	11.5	6.5	5.0	4.0	5.3
December	29.72	30.26	29.06	35.5	38.8	38.6	43.5	30.8	37.2	58	18	27	26	27	70	59	62	.162	.152	.158	2.18	.99	1.1	6.1	6.5	5.5	6.6
Year	29.70	30.45	28.39	50.9	57.5	55.2	62.0	46.9	54.4	93	5	42	42	43	73	58	65	.325	.324	.328	46.46	4.99	25.0	6.0	6.0	5.2	6.0

NORFOLK, VA.

[ϕ=36°51′ N.; λ=76°17′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.00	30.42	29.43	37.2	44.1	41.4	48.5	33.8	41.2	69	20	31	30	32	78	60	70	0.185	0.183	0.195	2.80	1.95	0.7	7.1	6.5	5.7	6.8
February	30.13	30.61	29.39	41.9	49.2	46.6	54.3	39.2	46.8	76	29	35	36	37	77	62	70	.217	.236	.241	1.10	.50	T	7.1	7.2	5.1	7.5
March	29.95	30.33	29.43	48.5	58.3	56.1	64.7	44.5	54.6	85	26	42	41	42	78	56	63	.287	.284	.295	3.73	1.40	.0	5.6	6.0	5.4	6.3
April	29.97	30.36	29.21	56.8	65.5	60.2	70.1	51.5	60.8	86	40	47	46	49	72	53	68	.348	.328	.356	5.78	2.71	.0	5.8	5.7	5.5	5.9
May	29.87	30.23	29.38	63.2	71.2	66.5	75.4	58.9	67.2	90	48	57	55	56	79	60	72	.471	.457	.465	5.06	1.49	.0	7.0	7.3	7.2	7.2
June	29.92	30.21	29.71	70.7	79.1	74.0	82.6	66.4	74.5	92	53	64	63	64	80	59	73	.609	.588	.612	7.25	2.20	.0	6.4	6.6	6.8	6.7
July	29.93	30.08	29.69	75.1	83.3	78.7	86.9	71.0	79.0	95	63	69	67	68	81	60	71	.707	.675	.693	5.28	2.13	.0	6.9	8.1	7.6	7.7
August	29.93	30.12	29.70	76.0	84.9	80.2	88.4	72.3	80.4	97	66	70	66	68	80	54	68	.723	.633	.705	2.78	1.22	.0	4.2	5.2	4.9	5.2
September	29.92	30.22	29.39	68.0	75.9	71.1	79.0	64.6	71.8	93	50	63	61	63	84	63	77	.589	.564	.593	7.76	1.85	.0	6.7	7.4	6.9	7.5
October	30.00	30.33	29.49	56.2	66.1	60.9	68.7	53.7	61.2	86	46	51	49	51	83	58	71	.384	.366	.387	2.09	1.11	.0	4.9	4.2	3.5	4.7
November	30.09	30.40	29.52	49.8	60.6	55.9	64.3	47.0	55.6	82	27	45	44	47	85	57	74	.338	.325	.360	3.19	1.23	.4	4.9	4.7	2.2	4.5
December	30.02	30.51	29.49	40.9	48.8	45.9	52.1	38.3	45.2	68	27	35	35	35	80	59	66	.214	.216	.216	2.45	.94	.0	6.0	4.9	4.5	5.8
Year	29.98	30.61	29.21	57.0	65.6	61.5	69.6	53.4	61.5	97	20	51	49	51	80	58	70	.423	.405	.426	49.27	2.71	1.1	6.0	6.2	5.4	6.3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

NEW HAVEN, CONN.

[H=22 ft.; H_b=106 ft.; h_t=74 ft.; h_r=68 ft.; h_a=153 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	9.1	N.	35	SE.	1	17	6	1	4	2	11	7	14	0	10	6	15	13	11	13	7	0	14	2	12	0	27	0	1
February	9.5	N.	35	NW.	1	13	5	2	6	11	4	0	15	0	8	4	16	12	11	9	3	0	16	4	3	0	19	0	0
March	9.9	N.	29	SW.	0	12	7	2	2	11	11	7	10	0	8	10	13	12	10	5	3	0	13	1	1	0	12	0	2
April	9.4	S.	29	NW.	0	12	6	3	8	13	8	3	7	0	8	11	11	14	9	5	2	0	10	1	0	0	5	3	1
May	8.5	N.	25	NW.	0	13	6	3	11	8	5	4	12	0	3	17	11	10	9	0	0	0	10	4	0	0	0	2	0
June	8.6	S.	22	NE.	0	13	2	0	8	21	11	3	2	0	3	15	12	14	11	0	0	0	18	0	0	1	0	4	0
July	7.9	S.	24	SW.	0	10	1	0	6	31	8	2	4	0	7	11	13	15	12	0	0	0	19	0	0	2	0	14	0
August	7.5	S.	24	NW.	0	11	2	1	3	21	9	4	11	0	15	4	12	8	7	0	0	0	13	0	0	3	0	6	0
September	9.5	N.	38	NE.	1	22	3	1	1	14	8	3	7	1	10	6	14	14	13	0	0	0	13	0	0	0	0	4	1
October	7.4	N.	21	NE.	0	26	1	1	4	7	4	6	8	5	14	10	7	7	6	0	0	0	11	5	0	0	0	0	1
November	9.2	N.	32	N.	1	17	2	2	3	12	13	5	6	0	9	11	10	13	8	5	4	0	13	4	2	0	7	0	0
December	9.6	N.	32	E.	1	22	7	2	0	5	11	5	10	0	8	5	18	15	12	9	5	0	14	3	6	0	20	1	0
Year	8.8	N.	38	NE.	5	188	48	18	56	156	103	49	106	6	103	110	152	147	119	46	24	0	164	24	24	6	90	34	6

NEW ORLEANS, LA.

[H=9 ft.; H_b=53 ft.; h_t=76 ft.; h_r=71 ft.; h_a=84 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.7	SE.	27	SW.	0	8	11	5	16	1	7	4	9	1	8	10	13	11	8	0	0	0	5	3	0	0	0	1	0
February	7.4	SE.	18	E.	0	4	8	13	18	3	3	4	3	0	6	12	10	6	4	0	0	0	13	8	0	0	1	1	0
March	8.1	SE.	28	SW.	0	4	5	3	16	15	14	4	1	0	7	10	14	6	5	0	0	0	4	0	0	0	0	5	0
April	7.5	SE.	20	S.	0	5	4	7	22	8	5	5	3	1	6	12	12	9	8	0	0	0	2	0	0	0	0	7	0
May	6.6	SE.	26	SE.	0	2	7	2	20	13	8	4	3	3	6	16	9	8	7	0	0	1	2	0	0	1	0	5	0
June	6.2	SW.	19	NE.	0	0	7	0	11	10	16	8	7	1	5	17	8	11	8	0	0	0	0	0	0	18	0	13	0
July	5.4	SW.	23	NW.	0	0	2	2	11	6	25	8	2	6	2	17	12	18	14	0	0	0	0	0	0	19	0	19	0
August	5.7	SE.	21	NE.	0	7	4	7	19	6	9	4	4	2	11	9	11	10	9	0	0	0	0	0	0	21	0	8	0
September	5.9	NE.	16	SE.	0	5	9	10	9	3	7	10	5	2	11	8	11	8	7	0	0	0	2	0	0	7	0	12	0
October	6.8	NE.	24	E.	0	5	18	14	11	2	3	5	2	2	18	6	7	7	5	0	0	0	1	0	0	1	0	2	0
November	7.5	SE.	22	NW.	0	8	11	10	11	3	7	3	7	0	10	14	6	5	5	0	0	0	4	2	0	0	1	0	0
December	7.0	NE.	21	E.	0	8	16	7	9	5	4	5	6	2	11	11	9	9	7	0	0	0	2	0	0	0	0	0	0
Year	6.8	SE.	28	SW.	0	56	102	80	173	75	108	64	52	20	101	142	122	106	87	0	0	1	35	13	0	67	2	73	0

NEW YORK, N. Y.

[H=10 ft.; H_b=314 ft.; h_t=415 ft.; h_r=398 ft.; h_a=454 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.3	NW.	59	S.	8	10	7	4	5	3	7	10	16	0	7	10	14	15	11	13	8	0	17	0	8	0	26	0	0
February	15.6	NW.	60	NW.	7	9	3	5	5	5	10	3	16	0	6	6	16	11	8	6	1	0	13	4	2	0	17	0	0
March	15.7	NW.	43	NW.	8	7	6	4	3	8	11	9	14	0	6	13	12	12	11	7	3	0	14	1	0	0	10	1	0
April	14.4	SW.	46	NW.	11	8	9	3	5	10	7	8	10	0	9	13	8	10	8	4	2	0	10	2	0	0	3	2	0
May	12.5	NW.	45	NW.	8	9	5	12	9	3	6	5	13	0	6	10	15	11	9	0	0	0	13	2	0	0	0	4	0
June	11.5	S.	44	NW.	3	9	7	3	8	13	9	6	5	0	4	11	15	14	12	0	0	0	17	1	0	0	0	10	0
July	11.6	S.	43	W.	6	10	2	1	5	14	16	9	5	0	6	10	15	16	15	0	0	0	21	0	0	0	0	16	0
August	12.1	SW.	41	NW.	2	12	3	1	6	6	13	7	14	0	11	12	8	8	5	0	0	0	10	0	0	5	0	9	1
September	13.5	N.	70	NW.	4	18	10	2	3	10	9	5	3	0	9	7	14	11	9	0	0	0	15	1	0	0	0	5	0
October	12.8	N.	38	NW.	4	17	8	1	6	5	5	6	14	0	16	9	6	6	4	0	0	0	12	0	0	0	0	2	0
November	14.9	S.	52	NW.	13	11	3	1	5	14	8	8	10	0	12	6	12	11	10	5	4	0	13	1	2	0	7	2	0
December	15.7	NW.	52	NW.	15	10	7	5	5	0	10	8	17	0	7	8	16	14	9	6	4	0	14	2	1	0	20	1	0
Year	13.7	N.	70	NW.	89	130	70	42	65	91	111	84	137	0	99	115	151	139	111	41	22	0	169	14	13	5	83	52	1

NORFOLK, VA.

[H=11 ft.; H_b=91 ft.; h_t=80 ft.; h_r=73 ft.; h_a=125 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.5	N.	44	S.	2	9	10	5	5	10	11	8	4	0	8	5	18	14	9	6	3	0	19	0	1	0	12	1	1
February	11.3	NE.	34	W.	1	14	10	5	2	4	12	7	2	0	3	7	18	7	4	1	0	0	15	0	0	0	6	0	0
March	10.9	SW.	29	E.	0	8	7	6	7	10	17	6	1	0	7	9	15	9	6	0	0	1	11	1	0	0	2	3	0
April	11.0	SW.	32	NW.	2	2	11	5	13	4	17	2	5	0	8	9	13	9	9	0	0	0	9	0	0	0	0	3	1
May	9.8	NE.	37	NW.	4	6	12	11	7	4	7	14	1	0	6	6	19	14	11	0	0	0	12	9	0	0	0	5	0
June	9.2	SW.	32	NW.	1	9	4	6	10	11	7	9	4	0	5	11	14	16	12	0	0	0	5	0	0	4	0	9	0
July	9.0	SW.	29	SE.	0	2	2	3	5	14	27	7	2	0	3	8	20	12	10	0	0	0	6	0	0	12	0	11	0
August	7.9	SW.	35	NW.	1	4	7	6	3	11	17	10	4	0	11	12	8	8	4	0	0	0	3	0	0	14	0	8	0
September	8.7	SW.	34	NW.	1	7	10	11	7	7	12	6	0	0	6	5	19	15	14	0	0	0	12	1	0	2	0	9	0
October	9.4	N.	26	N.	0	15	16	4	6	4	4	8	5	0	14	6	11	8	6	0	0	0	19	6	0	0	0	1	0
November	10.0	S.	38	N.	1	8	8	3	9	16	9	5	2	1	12	9	9	10	6	4	2	0	16	3	0	0	4	1	0
December	10.1	SW.	30	NW.	0	12	11	4	2	7	12	9	5	0	13	4	14	10	9	0	0	0	10	0	0	0	4	0	0
Year	9.7	SW.	44	S.	13	96	108	70	76	101	152	91	35	1	96	91	178	132	100	11	5	1	138	11	1	32	28	51	2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

NORTHFIELD, VT.

[ϕ=44°10′ N.; λ=72°41′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.05	29.37	28.12	10.4	19.8	16.1	26.5	3.0	14.8	55	−25	8	13	12	89	72	84	0.074	0.084	0.081	2.73	0.92	17.4	6.4	6.0	5.3	6.4
February	29.20	29.82	28.33	16.6	24.4	23.1	31.4	10.5	21.0	49	−8	14	15	17	87	65	76	.088	.092	.104	1.49	.51	3.4	7.0	7.2	6.5	7.1
March	29.00	29.39	28.35	24.9	34.9	32.0	40.8	19.6	30.2	71	−20	20	22	24	82	60	72	.120	.127	.137	1.72	.39	7.3	6.5	6.2	5.8	6.5
April	28.06	29.51	28.20	40.2	50.3	45.6	55.0	31.2	43.1	84	8	32	32	33	74	53	64	.196	.202	.209	2.01	.58	5.0	6.6	7.4	6.7	7.3
May	28.98	29.47	28.33	48.6	59.3	54.5	63.7	38.5	51.1	75	25	40	54	42	74	52	65	.261	.263	.277	2.01	.77	.0	6.5	6.6	5.6	6.5
June	29.05	29.45	28.69	61.2	73.5	66.6	77.2	48.5	62.8	91	37	53	51	54	74	47	66	.409	.386	.436	2.23	1.21	.0	4.7	6.5	6.1	5.8
July	29.02	29.18	28.69	64.9	74.2	69.1	77.4	56.3	66.8	87	43	60	60	61	84	63	78	.521	.531	.560	5.59	1.11	.0	5.9	7.6	6.6	7.1
August	29.03	29.23	28.73	62.9	75.5	67.9	79.0	54.9	67.0	91	38	59	59	62	87	58	81	.511	.511	.559	3.78	1.53	.0	5.1	5.7	4.5	5.4
September	29.07	29.46	27.86	48.2	59.9	54.3	64.3	41.6	53.0	76	28	45	48	49	88	66	83	.310	.344	.356	7.56	3.16	.0	5.7	6.3	4.5	6.6
October	29.15	29.57	28.57	40.4	57.6	48.2	61.5	34.1	47.8	82	20	38	41	41	91	56	78	.239	.271	.270	.91	.58	.0	5.3	4.9	4.3	5.9
November	29.15	29.63	28.51	30.4	41.6	36.8	46.7	24.5	35.6	74	−13	27	32	32	90	70	82	.164	.198	.200	2.05	.80	12.7	6.6	6.3	5.3	6.6
December	29.06	29.62	28.29	21.2	27.4	24.4	31.5	15.9	23.7	50	−10	18	20	19	86	72	80	.109	.117	.112	3.78	1.42	7.6	6.9	6.8	6.7	7.4
Year	29.07	29.82	27.86	39.2	49.9	44.9	54.6	31.6	43.1	91	−25	34	37	37	84	61	76	2.50	.260	.275	35.86	3.16	53.4	6.1	6.5	5.6	6.6

NORTH HEAD, WASH.

[ϕ=46°16′ N.; λ=124°.04′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.87	30.46	29.11	44.5	46.4	47.0	49.7	41.0	45.4	61	34	40	41	41	85	84	82	0.250	0.261	0.261	5.28	1.40	0.0	6.4	7.8	8.0	7.5
February	29.63	30.14	29.00	42.9	47.0	47.3	49.6	40.0	44.8	67	34	38	40	40	84	80	78	.229	.248	.247	6.09	1.09	T	6.6	7.2	6.8	7.0
March	29.68	30.35	29.06	43.3	47.5	47.0	50.2	40.5	45.4	61	33	40	41	41	87	80	81	.246	.260	.261	5.51	.88	T	6.4	7.8	7.2	7.2
April	29.86	30.19	29.54	47.2	52.1	51.5	54.4	45.1	49.8	72	41	43	44	44	87	77	77	.283	.296	.288	5.37	1.66	.0	7.2	7.0	7.6	7.3
May	29.91	30.19	29.60	48.4	52.2	52.2	54.4	46.9	50.6	63	41	46	47	46	91	82	81	.310	.321	.315	1.98	.75	.0	6.9	5.6	5.4	6.1
June	29.88	30.12	29.69	52.0	55.5	55.5	57.3	51.1	54.2	72	47	49	50	50	91	83	83	.350	.362	.367	.31	.15	.0	7.6	7.0	6.5	7.1
July	29.87	30.07	29.62	53.1	57.3	57.7	59.9	52.0	56.0	76	49	52	53	53	96	86	84	.386	.404	.401	.44	.37	.0	6.9	5.5	4.6	5.7
August	29.90	30.07	29.66	54.9	58.8	58.9	60.7	54.0	57.4	66	50	53	54	54	94	84	85	.404	.416	.423	.64	.42	.0	7.3	6.6	4.7	6.8
September	29.82	30.06	29.61	55.5	59.3	58.0	61.8	53.8	57.8	74	49	54	56	55	97	90	92	.425	.448	.440	3.12	1.98	.0	5.5	5.4	5.8	7.1
October	29.77	30.08	29.25	53.8	57.5	56.8	60.6	50.4	55.5	78	44	49	50	50	86	81	82	.354	.370	.371	6.65	1.10	.0	5.2	6.5	6.1	6.4
November	29.92	30.30	29.22	45.9	49.5	49.2	51.9	43.2	47.6	57	33	38	39	39	77	70	71	.239	.247	.246	6.51	1.56	.0	6.8	7.3	8.0	7.5
December	29.91	30.27	29.29	43.8	46.6	46.1	48.5	40.8	44.6	53	34	39	41	41	85	84	84	.252	.269	.265	6.55	1.50	.0	6.7	7.4	8.3	7.6
Year	29.83	30.46	29.00	48.8	52.5	52.3	54.9	46.6	50.8	78	33	45	46	46	88	82	82	.311	.325	.324	48.45	1.98	T	6.6	6.8	6.6	6.9

NORTH PLATTE, NEBR.

[ϕ=41°08′ N.; λ=100°45′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.07	27.41	26.59	22.1	36.9	33.6	41.7	18.7	30.2	62	−7	18	22	21	83	56	60	0.101	0.118	0.116	0.07	.03	1.1	3.6	6.2	4.5	5.7
February	27.13	27.43	26.62	20.4	37.4	37.7	43.9	17.9	30.9	67	−5	16	21	22	83	55	56	.094	.119	.124	.25	.17	3.6	3.7	5.6	5.7	5.7
March	26.92	27.45	26.33	33.8	49.3	50.9	55.0	31.6	43.3	74	17	28	27	27	80	49	45	.157	.154	.153	.79	.46	.7	5.5	6.5	5.0	6.1
April	27.01	27.50	26.65	39.6	56.4	59.0	62.7	37.7	50.2	83	16	35	36	36	85	50	46	.228	.236	.235	3.60	1.20	3.3	4.2	5.5	5.6	5.5
May	26.98	27.28	26.52	49.8	65.9	65.2	69.8	47.7	58.8	91	33	46	44	45	87	49	52	.321	.308	.315	3.70	1.26	T	6.2	5.6	7.0	6.6
June	27.05	27.30	26.70	60.8	78.7	79.8	83.0	59.0	71.0	99	48	57	56	56	86	47	45	.469	.456	.457	2.62	.96	.0	6.1	4.2	5.4	5.8
July	27.08	27.29	26.86	65.7	85.8	85.2	89.9	64.3	77.1	103	57	59	58	58	80	40	43	.498	.487	.496	3.15	1.44	.0	5.1	3.3	4.3	4.7
August	27.06	27.39	26.71	65.8	86.2	88.2	91.7	64.7	78.2	106	55	56	56	56	74	37	35	.462	.456	.453	1.80	1.20	.0	4.1	2.8	2.9	4.3
September	27.14	27.35	26.91	55.4	76.0	75.2	81.0	54.4	67.7	94	37	51	52	53	86	49	50	.390	.416	.421	5.41	2.54	.0	3.4	3.8	3.6	4.2
October	27.11	27.42	26.67	45.4	69.1	65.4	74.8	42.6	58.7	92	16	36	37	38	71	34	37	.231	.244	.241	.03	.02	T	2.6	3.2	4.0	3.7
November	27.06	27.64	26.51	25.7	43.5	40.4	48.9	21.7	35.3	74	4	20	23	22	78	48	52	.111	.126	.120	.23	.19	2.0	3.2	4.3	3.6	4.5
December	27.08	27.42	26.63	21.3	37.1	34.7	42.9	17.1	30.0	61	−2	16	21	22	80	53	61	.091	.114	.118	.16	.16	1.8	2.7	5.2	4.7	5.5
Year	27.06	27.64	26.33	42.2	60.2	59.6	65.4	39.8	52.6	106	−7	36	38	38	81	47	48	.263	.270	.271	21.81	2.54	12.5	4.2	4.7	4.7	5.2

OKLAHOMA CITY, OKLA.

[ϕ=35°26′ N.; λ=97°33′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.78	29.25	28.24	34.6	46.1	46.1	50.9	31.1	41.0	73	9	26	27	28	71	48	51	0.154	0.161	0.169	0.92	0.72	T	2.8	4.9	5.8	4.7
February	28.83	29.16	28.55	39.7	49.8	49.9	55.0	36.2	45.6	75	14	34	36	38	82	66	68	.221	.249	.256	3.66	1.69	2.2	6.5	7.4	7.8	7.3
March	28.58	29.10	28.15	50.1	62.3	63.2	68.6	46.3	57.4	85	27	42	41	42	77	50	49	.288	.271	.275	5.51	2.85	.0	4.7	5.4	5.0	5.1
April	28.68	29.06	28.22	51.1	64.3	64.9	69.5	48.8	59.2	88	27	47	48	47	85	57	56	.344	.356	.354	3.06	.78	[1] 4.1	4.9	4.9	4.8	4.9
May	28.59	28.97	28.13	61.4	74.5	73.6	78.5	59.2	68.8	90	38	56	58	58	84	58	61	.470	.504	.513	5.92	2.00	.0	7.1	7.1	5.1	6.5
June	28.69	28.96	28.35	69.4	82.4	81.6	86.4	67.3	76.8	94	60	65	66	65	86	59	59	.621	.635	.621	5.45	1.46	.0	6.1	6.2	5.0	5.7
July	28.68	28.82	28.50	72.8	89.5	88.0	92.7	71.5	82.1	99	67	66	67	66	80	48	49	.642	.657	.639	2.75	1.51	.0	4.1	4.7	4.2	4.4
August	28.70	28.91	28.43	74.2	93.5	91.3	97.1	73.6	85.4	101	68	65	64	63	73	39	41	.620	.604	.585	.84	.84	.0	2.7	2.5	2.6	2.5
September	28.73	29.03	28.52	65.5	84.8	81.0	88.5	64.8	76.6	99	47	56	55	55	73	39	45	.477	.467	.466	1.23	.79	.0	2.4	4.5	3.5	3.4
October	28.78	29.00	28.44	58.9	78.9	74.4	82.6	56.9	69.8	97	31	44	47	45	59	34	37	.311	.351	.321	.21	.13	.0	1.9	3.1	2.5	2.6
November	28.77	29.26	28.18	39.9	54.8	51.2	59.8	37.3	48.6	78	16	31	30	32	70	43	48	.196	.194	.204	1.94	1.34	1.9	3.2	3.8	3.0	3.4
December	28.80	29.34	28.40	36.1	47.6	44.3	52.1	31.9	42.0	69	15	27	26	26	68	43	51	.152	.144	.150	.38	.12	.9	3.8	5.1	4.6	4.6
Year	28.22	29.34	28.13	54.5	69.0	67.5	73.5	52.1	62.8	101	9	47	47	47	76	49	51	.375	.383	.379	31.87	2.85	9.1	4.2	5.0	4.5	4.6

[1] Estimated.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

NORTHFIELD, VT.

[H=840 ft.; H_b=876 ft.; h_t=12 ft.; h_r=3 ft.; h_a=60 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	6.3	S.	32	SW.	1	13	2	0	1	22	17	0	1	6	7	10	14	12	9	18	11	0	1	0	23	0	30	0	0
February	8.9	N.	27	S.	0	22	4	0	2	20	5	1	0	2	5	5	18	12	9	14	6	0	2	1	15	0	28	0	0
March	8.5	S.	30	S.	0	16	5	0	1	22	11	1	3	3	10	6	15	13	10	11	8	0	3	0	6	0	27	0	1
April	8.5	S.	27	N.	0	13	3	1	1	25	10	0	5	2	4	9	17	13	10	7	4	0	4	3	2	0	17	3	0
May	7.4	S.	24	S.	0	15	9	1	2	18	12	0	3	2	6	11	14	13	8	0	0	0	0	0	0	0	5	1	1
June	6.5	S.	32	SW.	1	15	6	0	1	22	8	2	1	5	8	12	10	10	6	0	0	0	3	2	0	2	0	3	0
July	6.8	S.	20	N.	0	14	5	0	2	21	14	0	2	4	4	12	15	19	14	0	0	0	11	3	0	0	0	13	0
August	6.3	S.	20	S.	0	15	2	1	3	27	10	1	2	1	10	10	11	11	9	0	0	0	5	4	0	4	0	5	0
September	7.3	S.	47	S.	2	14	2	0	1	16	23	0	1	3	8	5	17	14	12	0	0	0	14	8	0	0	6	2	2
October	6.3	SW.	21	S.	0	9	2	0	1	10	28	1	4	7	6	16	9	6	3	0	0	0	12	7	0	0	14	0	1
November	7.3	SW.	26	SW.	0	10	2	0	1	12	27	3	1	4	7	7	16	14	11	12	9	0	5	3	5	0	23	0	0
December	7.3	SW.	28	S.	0	14	4	0	1	15	22	1	3	2	5	6	20	19	8	21	14	0	6	3	14	0	26	0	1
Year	7.3	S.	47	S.	4	170	46	3	17	230	187	10	26	41	80	109	176	156	109	83	52	0	66	34	65	6	176	27	6

NORTH HEAD, WASH.

[H=194 ft.; H_b=211 ft.; h_t=8 ft.; h_r=3 ft.; h_a=56 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	13.5	E.	61	S.	10	4	0	35	6	3	5	4	4	1	3	12	16	21	19	0	0	2	3	0	0	0	0	0	0
February	15.7	E.	66	S.	11	1	1	30	8	7	4	4	1	0	7	3	18	21	20	1	0	6	1	0	0	0	0	1	0
March	16.0	E.	66	S.	13	3	2	15	6	9	7	10	9	1	6	8	17	22	20	3	0	4	1	0	0	0	0	0	0
April	14.2	NW.	42	S.	7	3	2	6	5	13	6	8	17	0	3	12	15	15	13	0	0	0	3	0	0	0	0	0	0
May	15.7	NW.	47	S.	10	7	1	1	3	9	3	5	33	0	9	6	16	9	8	0	0	2	7	0	0	0	0	0	0
June	15.6	NW.	34	NW.	4	3	0	1	1	3	2	8	42	0	5	7	18	6	3	0	0	0	5	0	0	0	0	0	0
July	13.3	NW.	35	NW.	4	10	0	0	2	3	3	5	38	1	11	9	11	5	2	0	0	0	11	0	0	0	0	0	3
August	12.3	NW.	33	NW.	1	9	0	2	2	3	1	7	38	0	6	11	14	6	3	0	0	0	10	6	0	0	0	0	0
September	11.9	N.	39	S.	3	17	3	0	4	18	2	2	14	0	5	8	17	13	7	0	0	0	20	13	0	0	0	2	0
October	13.5	S.	48	S.	9	14	3	9	10	15	8	1	2	0	8	6	17	17	14	0	0	0	11	4	0	0	0	3	0
November	15.7	E.	58	S.	14	3	3	18	8	5	7	6	10	0	4	8	18	20	17	0	0	3	2	0	0	0	0	1	0
December	15.6	S.	67	S.	13	8	1	16	6	18	7	2	3	1	4	7	20	20	19	0	0	3	13	5	0	0	0	1	0
Year	14.4	NW.	67	S.	99	82	16	133	61	106	55	62	211	4	71	97	197	175	145	4	0	20	87	28	0	0	0	8	3

NORTH PLATTE, NEBR.

[H=2,807 ft.; H_b=2,821 ft.; h_t=11 ft.; h_r=3 ft.; h_a=51 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.7	W.	30	N.	0	9	2	2	6	5	10	12	14	2	8	13	10	3	0	13	2	0	6	4	6	0	31	0	1
February	7.1	W.	28	N.	0	8	4	5	5	8	2	14	9	1	9	10	9	3	3	6	3	0	6	2	7	0	26	0	0
March	9.2	N.	27	N.	0	12	5	4	6	12	4	8	9	2	7	10	14	8	6	5	3	0	6	0	1	0	13	1	1
April	9.5	N.	37	NE.	1	12	2	5	11	8	5	7	7	3	9	9	12	11	9	2	2	1	3	0	2	0	9	5	0
May	8.2	N.	28	S.	0	15	7	10	7	7	3	9	3	1	7	11	13	15	13	2	2	0	1	0	0	1	0	11	0
June	8.3	SE.	29	SW.	0	4	2	4	21	9	1	7	8	4	9	14	7	9	6	0	0	0	0	0	0	7	0	9	0
July	6.4	E.	27	NW.	0	6	9	14	8	3	4	5	4	9	14	7	10	12	8	0	0	2	0	0	0	14	0	15	0
August	7.3	S.	24	N.	0	7	12	8	8	13	2	4	2	6	14	11	6	6	5	0	0	1	0	0	0	17	0	7	0
September	6.0	W.	20	SW.	0	7	6	6	9	10	7	8	6	1	17	4	9	10	9	0	0	0	1	0	0	8	0	7	0
October	7.4	S.	26	NE.	0	9	2	8	7	11	4	15	5	1	18	6	7	2	0	1	0	0	0	0	0	3	6	1	0
November	7.7	W.	30	NW.	0	13	3	1	1	3	5	26	8	0	15	4	11	3	1	4	1	0	0	0	3	0	28	1	0
December	7.9	W.	30	NW.	0	5	2	1	5	4	8	26	11	0	11	8	12	2	5	5	2	0	0	0	5	0	30	0	0
Year	7.8	W.	37	N.	1	107	56	68	94	93	55	141	86	30	138	107	120	63	38	38	15	4	23	6	24	50	143	57	2

OKLAHOMA CITY, OKLA.

[H=1,254 ft.; H_b=1,214 ft.; h_t=10 ft.; h_r=3 ft.; h_a=47 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.6	S.	30	NW.	0	18	2	2	1	21	3	3	12	0	14	9	8	3	2	2	0	0	6	1	2	0	17	0	0
February	11.5	S.	28	S.	0	17	4	1	1	19	4	4	6	0	3	11	14	6	6	3	2	0	10	1	4	0	10	3	0
March	11.5	S.	26	W.	0	9	2	4	4	28	4	3	8	0	9	12	10	8	7	0	0	1	5	1	0	0	2	5	0
April	12.3	S.	32	N.	1	8	2	0	5	32	2	6	5	0	12	8	10	9	7	4	2	0	1	0	0	0	5	6	1
May	10.3	S.	28	S.	0	8	3	4	10	27	3	2	5	0	2	18	11	10	8	0	0	1	3	0	0	1	0	12	0
June	8.4	S.	29	W.	0	5	5	4	15	27	0	1	3	0	5	15	10	11	9	0	0	1	2	0	0	10	0	10	0
July	7.6	S.	20	W.	0	6	10	5	3	34	3	0	1	0	15	10	6	6	5	0	0	0	2	0	0	23	0	4	0
August	9.0	S.	21	N.	0	0	0	3	8	45	6	0	0	0	21	9	1	2	2	0	0	0	0	0	0	31	0	3	1
September	7.5	S.	26	S.	0	7	5	5	5	23	7	2	6	0	18	6	6	3	2	0	0	0	0	0	0	16	0	7	1
October	8.5	S.	23	N.	0	5	3	1	15	28	5	2	3	0	21	8	2	2	2	0	0	0	0	0	0	6	1	0	0
November	11.5	S.	28	S.	0	13	0	0	0	30	6	1	10	0	16	10	4	4	3	2	1	1	0	0	0	0	12	3	0
December	9.6	S.	28	N.	0	18	1	2	1	17	9	5	9	0	14	8	9	5	4	2	1	0	2	0	1	0	14	0	0
Year	9.8	S.	32	N.	1	114	37	31	68	331	52	29	68	0	150	124	91	69	57	13	6	4	31	3	7	87	61	53	3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

OMAHA, NEBRASKA[1]

[ϕ=41°18′ N.; λ=95°54′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	28.99	29.53	28.41	20.3	28.3	27.0	33.7	15.3	24.5	55	−8	15	17	18	81	62	67	0.094	0.103	0.105	0.68	0.36	8.7	4.8	5.6	5.6	6.1
February	29.10	29.55	28.58	22.7	31.1	31.7	38.0	19.0	28.5	64	−6	19	24	25	86	74	75	.112	.138	.143	.91	.63	5.1	5.5	7.4	6.2	7.4
March	28.81	29.38	28.29	37.6	49.9	50.3	55.0	35.1	45.0	82	20	31	33	33	79	56	56	.181	.197	.195	.51	.17	T	5.0	6.4	6.0	6.5
April	28.91	29.32	28.49	45.1	58.4	59.5	63.9	42.9	53.4	85	24	38	39	39	76	49	50	.252	.266	.276	5.19	2.56	T	6.4	6.1	5.9	6.3
May	28.84	29.13	28.32	55.2	65.4	66.1	70.5	52.2	61.4	84	34	49	50	49	81	59	58	.369	.379	.375	2.68	.71	T	6.8	8.0	7.0	7.4
June	28.92	29.23	28.51	65.2	78.4	80.3	83.7	62.0	72.8	98	49	58	58	58	79	51	48	.503	.499	.504	2.03	.88	.0	6.4	6.1	4.8	6.2
July	28.89	29.09	28.57	71.2	86.9	87.8	92.7	68.1	80.4	107	62	64	64	63	79	48	46	.597	.597	.587	6.84	2.14	.0	4.6	4.3	3.7	3.9
August	28.91	29.22	28.58	70.8	84.2	83.6	89.2	67.8	78.5	103	57	63	65	66	78	55	57	.590	.627	.653	3.99	.186	.0	4.5	4.5	3.4	4.4
September	28.97	29.27	28.54	59.3	77.6	75.1	82.6	58.1	70.4	98	38	55	57	59	86	50	58	.466	.489	.522	4.84	3.20	.0	5.0	3.6	3.0	3.9
October	28.98	29.25	28.49	51.0	70.6	68.1	76.9	49.1	63.0	96	30	43	44	44	75	40	43	.295	.309	.306	1.52	1.17	.0	2.1	2.9	2.7	2.7
November	28.95	29.53	28.44	32.5	43.8	41.7	49.8	27.9	38.8	78	8	27	29	29	81	56	59	.164	.170	.171	1.53	1.40	.3	3.6	4.6	4.1	4.8
December	29.00	29.49	28.53	24.7	34.3	32.8	40.1	21.1	30.6	55	3	20	23	22	82	55	65	.112	.125	.123	.15	.11	.6	3.2	5.1	4.5	5.1
Year	28.94	29.55	28.29	46.3	59.1	58.7	64.7	43.2	53.9	107	−8	40	42	42	80	55	57	.311	.325	.330	30.87	3.20	14.7	4.8	5.4	4.7	5.4

OSWEGO, N. Y.

[ϕ=43°29′ N.; λ=76°35′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.63	30.11	28.70	21.4	25.1	24.3	30.5	16.5	23.5	52	−8	15	16	16	75	68	71	0.093	0.096	0.098	2.67	0.50	25.9	9.2	9.1	8.5	9.1
February	29.80	30.36	28.93	25.4	28.8	30.0	34.9	20.9	27.9	53	0	19	21	22	75	69	72	.112	.122	.131	3.33	.97	7.5	8.6	8.8	7.6	8.6
March	29.58	29.99	28.99	33.2	39.7	39.4	45.9	29.1	37.5	82	−6	26	29	30	74	67	71	.156	.181	.187	2.29	.58	4.1	7.6	7.6	8.3	7.7
April	29.64	30.06	28.89	43.6	48.2	47.4	54.1	37.9	46.0	82	22	34	34	36	70	60	67	.215	.216	.230	2.60	.89	6.8	7.8	6.5	6.8	7.1
May	29.56	30.00	29.03	50.8	55.5	55.7	61.6	45.5	53.6	77	36	42	43	42	74	65	62	.280	.290	.278	2.38	.89	.0	7.4	5.8	6.9	6.5
June	29.61	29.92	29.23	62.8	69.7	67.8	75.1	55.9	65.5	89	50	54	54	54	74	60	64	.423	.435	.433	2.18	1.12	.0	4.9	5.0	5.6	5.3
July	29.58	29.74	29.23	68.6	74.6	73.1	78.6	63.9	71.2	94	55	62	62	62	80	66	70	.563	.569	.559	2.91	.70	.0	6.1	5.9	6.1	6.5
August	29.60	29.81	29.23	68.9	76.8	74.4	80.6	63.9	72.2	93	50	62	62	63	80	61	68	.575	.570	.584	2.72	1.29	.0	6.0	4.5	6.0	5.6
September	29.63	30.05	28.99	56.0	62.1	59.6	65.5	51.0	58.2	77	42	49	50	50	77	66	73	.355	.372	.374	4.91	1.39	.0	6.0	6.8	6.0	6.5
October	29.74	30.14	29.13	48.4	56.7	53.8	60.1	44.5	52.3	82	30	43	44	44	82	63	71	.283	.292	.298	.80	.42	T	7.2	6.1	4.2	6.3
November	29.73	30.10	29.17	38.5	46.0	42.8	50.7	33.8	42.2	78	11	32	34	34	76	65	72	.196	.219	.219	2.34	.57	5.6	7.5	7.5	6.7	7.7
December	29.66	30.22	29.09	29.8	32.1	31.7	36.8	25.4	31.1	56	12	23	24	24	74	71	72	.129	.138	.136	1.54	.36	8.6	9.6	9.1	8.7	9.8
Year	29.65	30.36	28.70	45.6	51.3	50.0	56.2	40.7	48.4	94	−8	38	39	40	76	65	69	.282	.292	.294	30.67	1.39	58.5	7.3	6.9	6.8	7.2

PALESTINE, TEX.

[ϕ=31°45′ N.; λ=95°40′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.58	30.04	29.00	46.2	53.5	53.6	58.5	42.6	50.6	78	22	38	37	37	74	58	56	0.258	0.256	0.246	4.26	2.80	T	5.6	6.4	5.9	6.3
February	29.64	29.95	29.29	51.8	60.3	61.4	66.0	49.1	57.6	77	25	47	46	46	84	61	59	.354	.341	.342	1.93	.89	0.0	6.7	6.3	6.8	6.8
March	29.41	29.94	29.06	58.7	70.2	71.2	75.2	56.3	65.8	87	38	53	50	52	82	52	55	.428	.391	.423	5.67	2.67	.0	5.5	5.0	4.6	5.1
April	29.48	29.80	29.00	57.9	68.6	69.5	73.8	56.3	65.0	85	34	53	53	54	86	60	60	.447	.438	.459	3.78	1.82	T	6.7	5.6	6.2	5.9
May	29.40	29.67	29.08	66.1	78.1	79.1	82.0	64.5	73.2	89	48	62	60	60	86	55	53	.564	.531	.530	2.54	1.14	.0	7.2	4.3	3.2	4.8
June	29.47	29.69	29.26	73.0	85.0	84.5	89.2	71.1	80.2	92	65	69	67	67	88	55	58	.717	.655	.668	2.68	1.32	.0	7.0	6.0	4.0	5.5
July	29.45	29.59	29.29	74.0	86.3	85.8	90.4	72.6	81.5	98	70	71	68	69	91	57	60	.761	.700	.710	6.15	3.12	.0	5.6	5.2	5.3	5.5
August	29.50	29.68	29.32	74.3	89.1	87.8	93.3	73.5	83.4	98	70	71	67	68	90	49	54	.757	.658	.689	1.67	1.55	.0	2.8	3.2	3.4	3.3
September	29.49	29.73	29.30	67.8	85.2	83.5	89.6	66.8	78.2	96	55	62	59	58	82	43	45	.581	.531	.510	1.29	.77	.0	2.1	3.1	2.7	2.6
October	29.54	29.74	29.30	61.4	80.1	77.3	84.2	59.9	72.0	98	40	52	51	50	73	38	40	.416	.397	.382	.17	.10	.0	2.2	2.0	2.0	2.3
November	29.60	30.10	29.07	49.2	60.9	58.9	66.5	45.3	55.9	84	23	39	38	37	69	45	47	.292	.278	.261	2.71	1.74	.0	4.7	3.7	2.9	4.2
December	29.60	30.13	29.19	44.5	54.8	54.7	59.6	41.9	50.8	77	25	36	37	38	74	55	57	.233	.242	.253	3.14	1.73	.0	5.3	5.3	5.3	5.6
Year	29.51	30.13	29.00	60.4	72.7	72.3	77.4	58.3	67.8	98	22	54	53	53	82	52	54	.484	.452	.456	35.99	3.12	T	5.1	4.7	4.4	4.8

PARKERSBURG, W. VA.

[ϕ=39°16′ N.; λ=81°36′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.35	29.94	28.58	30.3	36.3	35.1	41.5	26.0	33.8	69	8	25	27	27	82	71	72	0.140	0.157	0.155	1.77	0.68	2.7	7.6	7.8	5.6	7.0
February	29.50	30.03	28.80	36.4	43.7	44.1	49.5	32.5	41.0	70	14	31	34	35	83	70	71	.184	.211	.218	2.45	.53	1.1	8.6	8.9	6.9	8.2
March	29.30	29.68	28.84	42.9	54.1	53.1	59.6	39.2	49.4	83	22	38	39	40	84	59	63	.247	.264	.263	3.42	.75	T	7.0	7.1	6.6	6.6
April	29.35	29.67	28.63	49.1	62.7	61.5	67.6	45.2	56.4	87	31	43	40	41	79	46	49	.290	.262	.269	3.43	1.30	T	4.4	5.4	3.8	4.6
May	29.28	29.58	28.78	56.2	69.9	67.3	74.3	51.5	62.9	89	31	51	50	52	84	52	61	.396	.391	.403	4.81	1.22	.0	4.9	5.6	5.5	5.2
June	29.34	29.61	29.11	64.7	75.9	74.0	80.0	59.7	69.8	88	50	58	58	59	80	56	63	.497	.503	.522	4.70	1.85	.0	5.3	6.3	5.2	6.0
July	29.31	29.45	29.12	70.0	81.4	79.4	85.0	65.7	75.4	93	57	66	65	66	88	59	66	.643	.626	.645	3.08	1.23	.0	4.1	6.1	5.1	5.3
August	29.37	29.55	29.20	68.0	83.1	79.9	86.4	64.7	75.6	92	55	64	64	66	89	54	64	.615	.610	.652	1.97	.67	.0	4.0	4.8	4.5	4.5
September	29.34	29.60	28.94	61.1	73.6	70.6	77.4	58.5	68.0	90	44	56	57	58	85	58	67	.467	.479	.500	3.61	1.83	.0	5.7	6.1	5.3	5.6
October	29.45	29.77	29.02	45.9	64.9	59.8	69.8	43.9	56.8	85	32	43	43	45	90	47	60	.282	.289	.314	.73	.36	.0	2.7	2.8	2.2	2.7
November	29.45	29.78	29.05	38.7	52.3	48.0	58.3	34.4	46.4	82	15	34	35	36	86	56	64	.217	.220	.223	2.92	1.03	8.5	4.4	4.5	4.0	4.5
December	29.40	29.96	28.94	32.0	39.2	37.5	43.3	28.6	36.0	60	12	27	29	29	81	66	72	.143	.152	.167	1.15	.47	T	6.4	7.0	5.6	6.7
Year	29.37	30.03	28.58	49.6	61.4	59.2	66.1	45.8	56.0	93	8	45	45	46	84	58	64	.344	.348	.361	34.04	1.85	12.3	5.4	6.0	5.0	5.6

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

OMAHA, NEBR.[1]

[H=978 ft.; H_b=982 ft.; h_t=31 ft.; h_r=3 ft.; h_a=44 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	12.2	NW.	45	NW.	5	15	3	4	11	7	0	3	19	0	11	7	13	5	3	17	5	0	6	2	13	0	31	0	2
February	11.0	N.	30	NW.	0	17	3	3	10	5	1	3	14	0	4	8	16	8	5	7	5	0	13	5	11	0	22	0	0
March	12.6	S.	38	NW.	7	8	6	6	5	17	1	5	13	1	7	9	15	8	4	1	0	2	12	3	1	0	11	3	0
April	14.4	S.	36	N.	5	6	4	8	2	18	4	6	11	1	6	12	12	9	7	4	0	2	9	1	0	0	7	5	0
May	11.3	NW.	34	NW.	4	11	1	7	10	11	3	5	13	1	4	8	19	15	9	1	0	0	8	2	0	0	0	10	0
June	10.9	S.	49	SW.	3	10	3	2	14	21	3	3	4	0	7	11	12	10	6	0	0	0	4	0	0	6	0	6	0
July	8.2	S.	52	W.	5	14	3	6	18	14	1	3	1	2	15	11	5	11	8	0	0	1	5	1	0	20	0	11	1
August	9.7	S.	43	SW.	3	8	4	10	15	21	2	0	2	0	14	12	5	10	8	0	0	0	6	1	0	12	0	12	0
September	7.8	S.	32	SW.	2	17	0	8	10	13	3	1	6	2	16	6	8	8	7	0	0	1	5	1	0	6	0	5	0
October	10.2	S.	36	NW.	2	5	2	4	19	14	1	3	10	4	21	9	1	3	2	0	0	0	1	0	0	2	1	3	0
November	11.7	S.	42	SE.	1	11	1	4	7	16	1	3	13	4	13	8	9	4	4	4	1	0	6	0	4	0	21	1	0
December	10.6	NW.	42	NW.	3	10	3	2	10	12	2	6	16	1	12	7	12	3	2	4	2	0	7	2	3	0	30	0	0
Year	10.9	S.	52	W.	40	132	33	64	131	169	22	41	122	16	130	108	127	94	65	38	13	6	82	18	32	46	123	56	3

OSWEGO, N. Y.

[H=292 ft.; H_b=335 ft.; h_t=71 ft.; h_r=69 ft.; h_a=85 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.8	SE.	34	SE.	2	1	3	4	23	12	10	3	6	0	2	2	27	21	18	25	17	0	9	1	20	0	31	0	0
February	11.4	SE.	34	N.	1	11	3	3	18	5	2	5	9	0	2	3	23	16	13	14	8	0	7	1	10	0	25	2	0
March	11.2	SE.	27	N.	0	2	4	2	22	4	10	11	6	1	5	5	21	19	11	10	8	0	7	1	4	0	16	3	0
April	9.8	W.	32	N.	1	4	4	4	7	14	8	14	5	0	7	5	18	12	9	6	5	0	1	1	1	0	10	3	0
May	8.5	W.	26	N.	0	5	6	5	14	3	6	21	2	0	7	11	13	13	10	0	0	0	2	0	0	0	0	1	1
June	7.2	S.	27	N.	0	5	3	1	7	17	13	12	2	0	12	8	10	7	6	0	0	0	0	0	0	0	0	2	0
July	6.6	S.	22	N.	0	11	2	3	10	15	9	10	2	0	10	5	16	13	10	0	0	1	7	2	0	1	0	9	0
August	7.6	S.	22	N.	0	5	3	2	9	15	11	10	7	0	7	15	9	10	8	0	0	0	1	0	0	4	0	7	0
September	9.2	SE.	30	NW	0	9	7	6	13	12	4	4	5	0	7	8	15	13	10	0	0	1	5	2	0	0	0	1	1
October	8.9	N.	25	N.	0	9	7	4	13	13	6	5	5	0	5	11	15	8	5	1	0	0	15	2	0	0	1	0	0
November	11.2	S.	31	W.	0	4	2	5	16	16	5	8	4	0	6	3	21	13	9	8	5	0	6	1	3	0	12	0	0
December	11.7	SE.	36	W.	1	6	1	1	22	12	3	5	12	0	1	0	30	20	15	21	14	0	4	0	12	0	22	1	0
Year	9.5	SE.	36	W.	5	72	45	40	174	138	87	108	65	1	71	76	218	165	124	85	57	2	64	11	50	5	117	29	2

PALESTINE, TEX.

[H=491 ft.; H_b=510 ft.; h_t=64 ft.; h_r= 54 ft.; h_a=72 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.2	N.	27	NW.	0	14	13	1	6	13	3	4	8	0	8	9	14	9	7	1	0	0	4	0	0	0	4	2	0
February	8.9	S.	25	S.	0	7	8	2	3	27	0	7	2	0	4	11	13	6	5	0	0	0	2	2	0	0	4	2	0
March	9.2	S.	25	S.	0	5	5	6	5	28	3	4	6	0	13	7	11	10	8	0	0	2	7	2	0	0	0	5	0
April	8.6	S.	29	NW.	0	3	6	7	10	23	4	1	5	1	9	7	14	7	6	1	0	1	11	0	0	0	0	7	0
May	8.5	S.	22	S.	0	7	6	1	7	35	2	4	0	0	8	19	4	6	6	0	0	0	3	0	0	0	0	6	0
June	6.7	S.	22	SE.	0	1	4	11	4	30	5	4	1	0	6	16	8	6	4	0	0	0	7	1	0	17	0	10	0
July	5.8	S.	25	E.	0	3	7	3	6	19	20	3	0	1	10	11	10	12	10	0	0	0	9	1	0	20	0	14	0
August	6.0	S.	21	S.	0	1	5	9	8	29	7	1	0	2	20	8	3	4	4	0	0	0	16	0	0	26	0	9	0
September	5.9	S.	22	NE.	0	9	7	9	5	19	5	3	1	2	20	7	3	3	3	0	0	0	8	0	0	17	0	4	0
October	5.7	E.	19	N.	0	4	16	13	6	9	5	5	2	2	21	6	4	4	2	0	0	0	6	1	0	3	0	1	0
November	6.6	S.	25	W.	0	5	3	2	13	16	3	3	13	2	15	7	8	5	3	0	0	0	5	0	0	0	4	2	0
December	7.6	S.	25	SW.	0	18	4	3	7	15	2	6	7	0	9	9	13	7	5	0	0	0	5	1	0	0	2	1	0
Year	7.5	S.	29	NW.	0	77	84	67	80	263	59	45	45	10	143	117	105	79	63	2	0	3	83	8	0	83	14	63	0

PARKERSBURG, W. VA.

[H=615 ft.; H_b=637 ft.; h_t=77 ft.; h_r=70 ft.; h_a=84 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.0	SW.	29	SW.	0	3	2	2	18	5	17	4	11	0	5	10	16	13	10	14	7	0	9	2	5	0	23	1	0
February	7.4	NW.	25	W.	0	6	5	2	13	3	8	3	16	0	2	5	21	15	9	5	2	0	13	0	2	0	17	1	0
March	7.1	SE.	21	NW.	0	7	5	1	14	7	9	11	5	3	6	10	15	19	14	3	0	1	17	3	0	0	8	7	0
April	6.9	SW.	30	NW.	0	5	5	0	8	11	13	6	11	1	13	8	9	9	6	3	0	0	8	0	0	0	2	4	0
May	5.9	SE.	25	W.	0	2	6	8	16	7	9	6	7	1	14	7	10	11	9	0	0	1	14	3	0	0	1	7	0
June	5.6	SE.	21	NW.	0	6	2	3	22	8	7	3	9	0	9	8	13	15	12	0	0	0	16	4	0	0	0	12	0
July	4.9	SE.	25	NW.	0	4	2	2	28	10	8	2	5	1	11	10	10	11	9	0	0	0	20	1	0	6	0	10	0
August	4.9	SE.	22	N.	0	4	5	0	20	12	7	0	10	4	13	13	5	7	7	0	0	0	18	5	0	9	0	6	0
September	5.6	SE.	21	NW.	0	15	4	4	13	8	4	7	5	0	9	8	13	9	8	0	0	0	11	2	0	1	0	3	0
October	5.0	NW.	18	SE.	0	10	3	2	13	7	5	4	16	2	23	1	7	5	4	0	0	0	23	7	0	0	0	1	0
November	6.8	SE.	30	NW.	0	2	2	3	25	12	7	3	6	0	15	7	8	10	8	4	2	0	15	2	4	0	15	0	0
December	5.6	SE.	24	W.	0	3	7	1	17	6	9	11	8	0	9	3	19	10	4	6	0	0	13	1	1	0	19	0	0
Year	6.1	SE.	30	NW.	0	67	48	28	207	96	103	60	109	12	129	90	146	134	100	35	11	2	177	30	12	16	86	52	0

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PENSACOLA, FLA.

[ϕ=30°25′ N.; λ=87°13′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.06	30.52	29.60	49.5	54.9	54.2	58.8	45.5	52.2	70	28	43	42	45	78	66	74	0.315	0.320	0.336	2.10	0.55	0.0	5.0	5.5	5.2	5.6
February	30.16	30.41	29.81	53.1	60.3	60.2	63.9	50.6	57.2	74	28	49	50	52	86	70	78	.369	.377	.415	1.72	1.11	.0	4.4	4.4	3.7	4.5
March	30.00	30.38	29.77	63.3	68.4	67.7	71.2	61.3	66.2	77	41	59	58	61	88	73	81	.537	.524	.559	1.62	1.29	.0	5.1	5.1	5.2	5.3
April	30.01	30.26	29.59	62.8	69.4	68.1	72.8	60.6	66.7	83	39	58	58	60	85	70	75	.518	.522	.539	2.80	1.45	.0	5.2	3.5	4.1	4.2
May	29.94	30.09	29.71	71.3	77.2	75.5	79.8	69.5	74.6	85	59	65	64	65	82	66	72	.637	.614	.638	5.46	2.66	.0	5.0	4.0	5.6	5.2
June	29.98	30.16	29.82	76.3	82.2	81.2	85.1	73.6	79.4	90	68	70	69	70	80	66	69	.724	.714	.733	4.46	1.83	.0	3.7	4.7	6.2	5.0
July	29.95	30.10	29.77	77.6	81.8	80.9	84.0	75.1	79.6	96	71	73	72	73	87	74	76	.819	.792	.802	10.85	3.11	.0	5.6	5.2	6.9	5.9
August	30.00	30.19	29.85	78.7	85.7	83.9	88.2	76.2	82.2	95	70	73	72	72	82	65	68	.806	.781	.787	4.11	2.34	.0	3.4	3.9	5.3	4.2
September	29.94	30.14	29.74	71.9	81.5	78.8	83.7	70.3	77.0	88	56	65	65	66	80	59	66	.638	.648	.660	.54	.33	.0	4.0	3.7	7.5	4.2
October	30.00	30.27	29.77	63.4	74.1	72.4	76.9	62.4	69.6	89	47	54	55	56	74	54	58	.445	.451	.471	.48	.47	.0	3.6	3.2	3.5	3.4
November	30.08	30.51	29.76	55.2	63.2	62.4	67.9	52.3	60.1	79	26	47	48	50	76	61	67	.381	.397	.426	.95	.56	.0	4.2	4.4	3.2	4.6
December	30.08	30.44	29.68	49.6	57.3	55.6	61.0	45.5	53.2	70	29	43	42	45	79	60	69	.301	.295	.320	2.45	1.07	.0	4.4	5.1	4.2	4.8
Year	30.02	30.52	29.59	64.4	71.3	70.1	74.4	61.9	68.2	96	26	58	58	60	81	65	71	.541	.536	.557	37.54	3.11	.0	4.5	4.4	5.0	4.7

PEORIA, ILL.

[ϕ=40°43′ N.; λ=89°36′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.36	29.99	28.39	22.5	28.8	27.7	33.8	18.5	26.2	53	−1	20	21	22	88	71	79	0.117	0.127	0.129	4.32	3.15	6.3	6.0	6.5	5.3	6.4
February	29.51	29.96	28.93	33.7	39.0	37.9	42.8	29.6	36.2	69	11	30	32	32	85	76	80	.176	.194	.192	2.21	.91	7.0	8.2	8.3	7.9	7.9
March	29.25	29.70	28.79	40.3	51.6	47.5	57.2	37.7	47.4	80	23	36	37	37	83	59	62	.220	.235	.240	4.42	.88	T	5.0	4.3	5.0	5.0
April	29.34	29.72	28.92	45.6	58.9	57.1	62.8	43.8	53.3	84	23	39	41	39	77	53	53	.255	.278	.259	3.80	1.39	6.2	5.2	5.4	5.1	5.2
May	29.25	29.56	28.76	55.3	67.2	67.0	72.1	52.3	62.2	86	37	49	53	53	82	62	62	.376	.428	.426	5.72	1.06	.0	5.9	6.5	5.7	6.1
June	29.34	29.65	29.00	63.5	76.7	75.1	80.2	59.6	69.9	94	50	58	58	59	83	56	59	.493	.509	.510	6.76	3.50	.0	4.5	5.5	5.1	4.5
July	29.31	29.44	29.07	69.0	83.5	81.5	87.5	65.5	76.5	96	56	65	66	67	87	57	62	.619	.638	.665	6.34	1.94	.0	3.2	2.9	3.7	2.9
August	29.36	29.54	29.16	69.2	83.8	81.2	87.6	66.9	77.2	97	55	65	66	67	87	56	62	.625	.645	.664	3.01	1.70	.0	4.0	2.8	3.0	2.7
September	29.35	29.53	28.92	59.4	75.5	70.3	79.2	57.0	68.1	94	38	56	62	59	90	55	69	.475	.501	.525	2.12	1.38	.0	4.6	3.4	3.4	3.5
October	29.44	29.76	28.85	49.1	69.5	62.2	73.0	47.6	60.3	88	31	43	46	46	80	44	56	.283	.319	.326	.84	.55	T	2.3	2.1	1.9	1.7
November	29.38	29.80	28.66	37.2	49.4	45.2	52.8	33.3	43.0	79	12	30	35	33	76	59	62	.179	.218	.204	1.65	.71	.6	3.9	4.2	2.9	3.4
December	29.40	29.93	28.97	26.8	34.3	31.5	37.1	22.8	30.0	54	4	23	25	25	84	69	77	.129	.143	.142	1.43	1.02	.9	5.6	6.3	4.9	6.1
Year	29.36	29.99	28.39	47.6	59.8	57.0	63.8	44.6	54.2	97	−1	43	45	45	84	60	65	.329	.353	.357	42.62	3.50	21.0	4.9	4.9	4.5	4.6

PHILADELPHIA, PA.

[ϕ=39°57′ N.; λ=75°09′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.95	30.35	29.13	31.3	35.9	35.4	40.2	26.9	33.6	58	11	21	26	26	74	67	67	0.144	0.148	0.149	2.32	0.72	2.3	6.5	7.4	6.4	6.7
February	30.09	30.68	29.30	34.0	38.6	38.8	44.9	30.0	37.4	65	15	25	25	27	69	60	64	.149	.152	.166	2.54	1.54	4.1	6.6	6.1	5.8	6.6
March	29.90	30.27	29.37	40.9	48.4	48.4	55.1	36.5	45.8	79	13	31	33	34	69	58	59	.190	.204	.211	1.83	.51	1.9	5.6	6.0	5.2	6.0
April	29.93	30.31	29.00	49.4	59.6	57.5	64.4	46.0	55.2	86	31	40	39	39	70	49	52	.261	.261	.257	1.92	1.04	T	5.6	6.0	4.8	5.4
May	29.83	30.29	29.17	57.5	65.3	64.0	69.5	53.5	61.5	82	42	48	46	47	71	52	58	.343	.323	.338	2.86	1.01	.0	6.8	6.5	5.4	6.2
June	29.88	30.25	29.65	67.0	76.1	73.0	80.1	62.5	71.3	91	47	60	57	59	78	55	64	.526	.489	.518	10.06	4.59	.0	6.3	6.7	7.3	6.4
July	29.87	30.02	29.63	73.2	81.4	79.3	85.1	69.4	77.2	94	61	66	65	65	79	60	65	.647	.637	.636	6.52	2.95	.0	6.3	6.1	6.8	6.2
August	29.88	30.06	29.58	74.5	83.0	78.9	86.4	70.3	78.4	95	63	65	64	66	74	54	65	.641	.610	.645	4.10	1.63	.0	4.9	4.8	4.5	4.6
September	29.91	30.26	29.06	61.9	70.4	67.2	73.7	58.9	66.3	85	51	55	54	56	79	58	68	.451	.431	.459	7.35	3.94	.0	6.2	6.2	6.3	6.1
October	29.98	30.30	29.44	53.0	64.7	60.3	68.4	50.2	59.3	89	42	46	48	46	79	56	63	.330	.345	.332	2.09	.83	.0	3.4	4.2	2.9	3.9
November	30.04	30.43	29.54	43.9	52.7	50.2	56.8	40.5	48.6	76	18	39	43	41	81	70	73	.266	.317	.293	3.11	.80	11.5	5.0	5.3	3.9	5.1
December	29.97	30.49	29.34	34.7	40.3	38.7	44.0	31.1	37.6	59	20	27	29	28	73	63	66	.160	.170	.166	2.22	.88	.2	6.5	6.7	5.2	6.4
Year	29.94	30.68	29.00	51.8	59.7	57.6	64.0	48.0	56.0	95	11	44	44	44	75	58	64	.342	.341	.348	46.92	4.59	20.0	5.8	6.0	5.4	5.8

PHOENIX, ARIZ.

[ϕ=33°28′ N.; λ=112°00′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.88	29.42	28.57	44.5	62.7	65.9	68.8	41.2	55.0	77	31	33	32	32	65	34	30	0.198	0.194	0.188	0.52	0.30	0.0	2.7	2.5	2.7	2.9
February	28.87	29.09	28.66	47.6	63.4	65.5	67.9	44.8	56.4	77	34	38	35	34	70	39	34	.236	.220	.207	.55	.28	.0	4.3	6.1	6.0	5.8
March	28.77	29.08	28.44	49.0	66.8	69.2	71.9	46.8	59.4	84	36	37	33	31	65	32	27	.231	.207	.185	.89	.86	.0	2.4	4.1	4.8	4.6
April	28.72	29.03	28.47	55.3	78.9	81.7	84.4	53.6	69.0	99	38	33	30	30	45	18	16	.194	.174	.171	T	T	.0	1.9	3.2	3.6	3.1
May	28.66	28.87	28.43	61.9	86.4	89.5	91.5	60.7	76.1	108	48	37	36	35	40	18	16	.220	.217	.211	T	T	.0	2.4	2.0	2.6	2.5
June	28.61	28.78	28.42	71.3	96.5	99.4	101.4	70.2	85.8	112	63	41	38	37	36	16	13	.282	.253	.237	.28	.26	.0	2.4	2.2	2.4	2.3
July	28.69	28.84	28.54	78.1	98.2	102.1	103.8	76.7	90.2	112	67	57	54	50	50	25	19	.490	.445	.388	.25	.17	.0	3.8	1.6	2.8	2.4
August	28.68	28.90	28.47	78.6	97.5	100.8	103.0	76.8	89.9	111	67	59	56	52	54	27	22	.525	.463	.416	1.11	.51	.0	4.4	2.4	3.1	3.2
September	28.69	28.91	28.50	74.4	96.0	98.1	101.2	72.4	86.8	107	67	55	55	53	52	26	23	.441	.435	.412	T	T	.0	2.9	3.1	3.1	2.9
October	28.76	28.96	28.57	58.6	82.5	82.8	87.2	56.1	71.6	98	42	41	40	42	53	23	24	.264	.258	.274	T	T	.0	1.7	3.8	4.0	3.5
November	28.88	29.21	28.47	43.1	67.3	67.4	71.9	40.1	56.0	79	31	25	26	27	48	22	23	.135	.147	.154	T	T	.0	0.4	1.3	2.3	1.5
December	28.88	29.12	28.62	45.4	64.5	64.0	69.0	42.8	55.9	82	35	34	35	38	67	36	42	.205	.210	.240	1.14	.51	.0	3.1	4.1	4.7	4.8
Year	28.76	29.42	28.42	59.0	80.1	82.2	85.2	56.8	71.0	112	31	41	39	38	54	26	24	.285	.269	.257	4.74	.86	.0	2.7	3.0	3.5	3.3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PENSACOLA, FLA.

[H=11 ft.; H_b=56 ft.; h_t=149 ft.; h_r=131 ft.; h_a=185 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	12.3	N.	43	NW.	4	9	9	6	9	2	8	5	14	0	9	9	13	11	9	0	0	0	7	6	0	0	4	0	0
February	11.2	SE.	30	W.	0	7	7	11	9	5	1	5	11	0	12	10	6	4	4	0	0	0	11	8	0	0	1	2	0
March	12.7	SE.	40	S.	2	2	6	5	17	15	9	3	4	1	9	15	7	6	4	0	0	0	8	4	0	0	0	3	0
April	12.8	SE.	40	SW.	3	4	8	2	16	12	7	3	8	0	10	16	4	4	4	0	0	0	2	2	0	0	0	3	0
May	11.9	S.	32	SE.	1	8	6	2	4	11	18	7	6	0	11	12	8	8	7	0	0	0	0	0	0	0	0	9	0
June	10.8	S.	33	NW.	2	6	3	4	2	12	13	13	7	0	6	20	4	9	8	0	0	0	0	0	0	0	0	10	0
July	10.6	S.	34	S.	1	4	6	4	6	12	18	9	3	0	9	11	11	16	12	0	0	0	0	0	0	2	0	9	0
August	9.9	S.	40	SE.	3	6	9	3	6	10	12	8	7	1	15	10	6	11	6	0	0	0	0	0	0	10	0	8	0
September	10.3	N.	28	NE.	0	15	17	4	4	4	4	6	6	0	15	7	8	5	3	0	0	0	0	0	0	0	0	5	0
October	11.6	NE.	26	NE.	0	8	25	6	5	1	4	3	10	0	17	7	7	2	1	0	0	0	1	1	0	0	0	0	0
November	12.6	NE.	38	SE.	2	12	15	7	5	4	7	3	7	0	10	11	9	6	6	0	0	0	4	1	0	0	3	0	0
December	11.4	N.	43	S.	2	15	14	5	4	5	5	7	7	0	15	4	12	9	7	0	0	0	3	2	0	0	2	0	0
Year	11.4	S.	43	NW.	20	96	125	59	87	93	106	72	90	2	138	132	95	91	71	0	0	0	36	24	0	12	10	49	0

PEORIA, ILL.

[H=602 ft.; H_b=609 ft.; h_t=11 ft.; h_r=4 ft.; h_a=45 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.9	W.	24	W.	0	5	4	3	10	6	5	12	16	1	9	4	18	10	8	11	5	0	14	4	10	0	28	0	1
February	8.6	NE.	21	W.	0	7	12	6	8	7	4	5	7	0	3	7	18	12	10	6	4	0	12	2	4	0	20	2	0
March	8.9	S.	24	W.	0	6	8	6	6	14	6	8	7	1	14	7	10	15	11	2	0	0	13	0	1	0	10	5	1
April	9.1	S.	27	NE.	0	6	7	3	6	15	4	12	7	0	9	12	9	10	7	2	2	0	3	1	0	0	8	4	0
May	6.7	S.	24	W.	0	8	8	4	6	16	8	6	6	0	5	15	11	15	13	0	0	0	9	0	0	0	0	8	0
June	5.9	S.	19	NW.	0	5	8	3	6	10	8	11	9	0	14	8	8	11	11	0	0	1	0	0	0	3	0	8	0
July	4.7	SW.	21	NW.	0	7	10	6	6	10	11	3	8	1	19	10	2	10	9	0	0	1	9	1	0	10	0	8	1
August	5.3	S.	18	SW.	0	9	6	2	12	15	5	3	3	7	21	8	2	7	6	0	0	0	11	0	0	12	0	8	0
September	4.7	W.	17	NW.	0	5	11	4	4	4	12	8	9	3	17	8	5	9	7	0	0	1	11	1	0	5	0	5	2
October	5.2	S.	19	W.	0	2	6	5	13	13	10	5	7	1	25	4	2	2	2	1	0	0	6	1	0	0	1	0	0
November	8.0	S.	26	SE.	0	5	5	3	5	19	8	11	3	1	19	7	4	6	4	4	1	0	3	0	3	0	17	1	0
December	6.8	W.	23	W.	0	5	1	4	13	5	10	11	13	0	9	9	13	5	4	4	3	0	10	0	6	0	27	0	0
Year	6.8	S.	27	NE.	0	70	86	49	95	134	91	95	95	15	164	99	102	112	92	30	15	3	101	10	24	30	111	49	5

PHILADELPHIA, PA.

[H=26 ft.; H_b=114 ft.; h_t=174 ft.; h_r=166 ft.; h_a=367 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	12.3	NW.	49	S.	3	11	9	2	1	7	13	7	12	0	7	8	16	11	8	7	2	0	8	0	6	0	21	0	0
February	13.6	SW.	39	NW.	4	13	9	5	2	4	11	1	11	0	6	8	14	10	7	5	3	0	8	3	2	0	15	0	0
March	13.6	SW.	34	S.	1	8	10	4	1	7	17	8	7	0	8	9	14	13	11	3	2	1	9	4	1	0	8	1	0
April	13.3	SW.	39	SW.	2	6	10	5	3	10	12	7	7	0	12	7	11	6	6	2	0	0	8	2	0	0	2	1	0
May	11.2	E.	31	NW.	0	7	13	6	8	5	9	8	6	0	5	13	13	10	9	0	0	0	6	0	0	0	0	4	0
June	11.4	SW.	38	NW.	2	10	9	7	4	14	8	4	4	0	6	11	13	10	10	0	0	0	4	0	0	2	0	7	0
July	11.2	SW.	37	NW.	3	7	2	2	4	17	19	8	3	0	6	13	12	16	12	0	0	0	5	0	0	5	0	10	0
August	10.8	SW.	33	S.	3	11	2	3	1	12	17	6	10	0	12	10	9	12	9	0	0	0	4	0	0	3	0	9	1
September	12.1	N.	37	NW.	1	13	14	4	4	7	12	5	1	0	8	8	14	15	9	0	0	0	8	1	0	0	0	2	0
October	12.5	N.	37	N.	2	17	8	3	2	5	10	6	11	0	16	8	7	5	5	0	0	0	8	3	0	0	0	1	0
November	12.7	S.	34	NW.	2	10	3	3	5	13	10	7	9	0	10	9	11	12	12	4	4	0	9	4	1	0	6	0	0
December	12.2	NW.	37	S.	2	12	10	3	5	3	11	9	9	0	7	10	14	10	8	5	1	0	9	4	2	0	18	1	0
Year	12.2	SW.	49	S.	25	125	99	47	40	104	149	76	90	0	103	114	148	130	106	26	12	1	86	21	12	10	70	36	1

PHOENIX, ARIZ.

[H=1,083 ft.; H_b=1,107 ft.; h_t=39 ft.; h_r=37 ft.; h_a=51 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.2	E.	23	W.	0	3	2	17	8	5	3	16	6	2	20	6	5	4	2	0	0	0	1	1	0	0	1	0	1
February	5.2	E.	15	W.	0	2	2	14	8	1	2	12	10	5	9	8	11	6	3	0	0	0	1	1	0	0	0	0	0
March	6.7	W.	24	S.	0	3	6	12	5	2	4	17	12	1	11	13	7	3	1	0	0	0	0	0	0	0	0	0	0
April	7.4	E.	23	SW.	0	1	1	20	4	1	9	11	12	1	19	8	3	0	0	0	0	0	0	0	0	10	0	0	0
May	6.8	W.	21	NW.	0	2	2	19	2	2	3	20	10	2	21	8	2	0	0	0	0	0	0	0	0	17	0	0	0
June	6.6	E.	30	E.	0	3	2	26	2	1	0	11	15	0	21	8	1	2	1	0	0	0	0	0	0	29	0	2	0
July	6.5	W.	27	NW.	0	5	1	20	3	1	3	16	10	3	24	5	2	3	2	0	0	0	0	0	0	31	0	3	0
August	6.4	E.	32	SE.	1	5	3	13	5	5	3	9	14	5	16	15	0	6	4	0	0	0	0	0	0	31	0	7	0
September	5.5	E.	30	NW.	0	5	2	24	6	3	2	6	11	1	20	6	4	0	0	0	0	0	0	0	0	30	0	2	1
October	4.7	E.	18	W.	0	5	1	20	3	4	1	14	12	2	17	10	4	0	0	0	0	0	0	0	0	10	0	0	0
November	5.5	E.	20	NW.	0	4	5	16	2	5	4	12	6	6	25	4	1	0	0	0	0	0	0	0	0	0	1	0	0
December	4.7	E.	18	SE.	0	4	0	21	2	0	6	16	8	5	13	8	10	5	5	0	0	0	4	0	0	0	0	0	0
Year	5.9	E.	32	SE.	1	42	27	222	50	30	40	160	126	33	216	99	50	29	18	0	0	0	6	2	0	158	2	14	2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PITTSBURGH, PA.[1]

[ϕ=40°21′ N.; λ=79°56′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	28.63	29.17	27.89	26.8	31.5	30.5	36.7	22.6	29.6	60	5	22	23	23	82	71	74	0.123	0.128	0.129	1.98	0.58	6.7	7.8	7.6	6.1	7.8
February	28.79	29.29	28.07	31.7	38.4	38.4	44.5	27.9	36.2	66	11	27	29	31	81	68	74	.153	.170	.188	2.82	1.17	3.4	8.8	8.8	7.7	8.4
March	28.61	28.99	28.15	39.6	49.2	47.7	54.9	35.8	45.4	82	16	33	35	36	78	61	65	.208	.229	.227	3.21	.74	.8	6.3	8.0	6.7	7.2
April	28.67	29.01	27.91	46.1	57.1	54.7	62.2	42.1	52.2	86	27	38	38	38	74	51	57	.247	.242	.245	3.27	.90	2.0	5.3	6.4	6.9	6.3
May	28.61	28.96	28.06	53.8	66.1	64.7	70.8	50.0	60.4	86	33	46	45	46	75	51	54	.320	.332	.337	4.10	1.19	.0	6.2	7.0	6.6	6.2
June	28.68	28.95	28.44	62.8	74.0	70.7	77.8	57.3	67.6	87	51	54	54	55	74	53	60	.447	.441	.441	3.99	.95	.0	6.5	7.7	7.0	7.0
July	28.65	28.78	28.45	68.6	80.1	78.7	84.3	64.7	74.5	93	55	63	60	62	83	54	58	.587	.540	.557	2.06	.58	.0	6.0	6.7	7.0	6.5
August	28.70	28.89	28.50	67.9	81.2	77.7	85.5	63.9	74.7	94	54	62	60	60	82	49	57	.571	.530	.542	2.86	1.14	.0	4.3	5.6	4.5	5.1
September	28.67	28.97	28.26	58.9	69.6	65.4	73.2	53.9	63.6	86	44	52	52	51	85	55	63	.399	.402	.388	4.30	1.65	.0	6.0	6.7	5.8	6.5
October	28.77	29.09	28.30	45.4	61.7	59.0	66.8	43.4	55.1	83	30	40	40	40	82	46	52	.251	.250	.253	1.10	.49	.0	3.4	4.3	3.1	4.2
November	28.76	29.03	28.36	38.1	48.8	45.0	54.4	33.6	44.0	78	15	31	32	31	76	56	60	.189	.198	.186	2.64	.72	8.3	5.4	5.0	4.3	5.1
December	28.68	29.18	28.24	30.2	35.0	33.3	38.9	26.6	32.8	56	8	24	25	25	78	66	70	.134	.138	.140	.89	.23	2.3	8.4	8.0	7.1	7.7
Year	28.69	29.29	27.89	47.3	57.7	55.5	62.5	43.5	53.0	94	5	41	41	42	79	57	62	.302	.300	.303	33.22	1.65	23.5	6.2	6.8	6.1	6.5

POCATELLO, IDAHO

[ϕ=42°52′ N.; λ=112°29′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	(2)	(2)	(2)	(2)	(2)	(2)						(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)				(2)	(2)	(2)	(2)
January	30.18	26.07	25.10	28.6	34.9	34.7	38.0	24.8	31.4	53	13	22	25	25	78	66	67	0.118	0.131	0.132	1.08	0.70	3.4	5.9	7.0	7.0	6.8
February	30.05	25.82	24.90	31.3	36.8	37.8	40.9	27.9	34.4	55	6	22	25	26	71	62	62	.119	.133	.136	1.32	.32	9.6	6.6	7.8	7.0	7.5
March	29.92	25.67	24.81	32.9	39.8	40.5	44.5	29.2	36.8	56	12	26	27	26	75	60	59	.144	.146	.145	3.11	.58	15.1	6.3	8.2	7.9	7.4
April	29.94	25.84	25.00	41.2	55.0	56.9	59.5	38.0	48.8	80	22	29	30	30	64	41	38	.163	.169	.166	1.22	.60	2.7	6.3	6.7	7.0	6.1
May	29.93	25.68	25.13	44.0	59.5	61.0	65.0	41.0	53.0	83	28	35	33	32	71	39	39	.204	.189	.187	1.64	.60	5.8	6.6	6.5	6.5	6.8
June	29.88	25.68	25.18	52.7	73.8	73.4	78.6	50.5	64.6	92	37	41	40	38	65	32	33	.266	.257	.245	1.12	.43	.0	4.1	4.9	6.3	5.4
July	29.96	25.68	25.27	57.8	79.5	80.9	84.3	55.6	70.0	96	46	45	44	42	65	32	30	.303	.292	.274	.81	.47	.0	2.7	3.3	5.2	3.8
August	29.92	25.67	25.27	58.9	79.3	81.1	84.4	55.2	69.8	94	40	39	39	38	49	26	24	.246	.251	.242	.68	.46	.0	2.0	3.1	3.4	3.2
September	29.99	25.76	25.28	51.5	77.7	79.7	81.1	51.1	66.1	87	41	36	40	35	57	27	21	.217	.253	.213	.02	.02	.0	1.2	2.3	3.5	2.5
October	30.03	25.86	25.12	42.8	56.9	57.3	61.9	41.2	51.6	77	27	36	40	38	79	58	52	.213	.253	.233	2.05	.52	.1	3.8	5.4	5.8	5.4
November	30.23	26.12	25.04	26.8	36.4	34.4	40.3	23.8	32.0	51	8	21	23	22	80	56	60	.116	.122	.119	1.38	.64	2.4	5.3	6.2	6.1	6.1
December	30.22	25.86	25.24	27.3	34.0	32.5	38.6	25.2	31.9	54	5	24	27	26	88	75	76	.135	.149	.143	.67	.20	4.7	6.1	7.4	7.5	7.5
Year	30.02	26.12	24.81	41.3	55.3	55.8	59.8	38.6	49.2	96	5	31	33	32	70	48	46	.187	.195	.186	15.10	.70	43.8	4.7	5.7	6.1	5.7

PORT ARTHUR, TEX.

[ϕ=29°53′ N.; λ=93°55′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.08	30.50	29.60	51.3	58.0	-----	61.0	47.3	54.2	73	33	45	45	---	81	64	---	0.335	0.335	-----	5.50	2.44	0.0	5.9	6.1	----	6.1
February	30.15	30.45	29.81	54.9	63.5	-----	67.2	52.9	60.0	77	30	52	53	---	90	70	---	.415	.434	-----	1.94	1.16	.0	6.5	6.9	----	6.3
March	29.94	30.41	29.64	63.7	72.8	-----	75.4	61.3	68.4	83	45	59	58	---	86	64	---	.528	.530	-----	1.95	.77	.0	6.8	6.6	----	6.5
April	29.98	30.29	29.53	62.9	71.8	-----	74.9	60.7	67.8	85	37	59	59	---	88	65	---	.544	.532	-----	4.17	3.41	.0	6.8	6.9	----	6.1
May	29.90	30.12	29.59	71.6	80.0	-----	82.5	69.5	76.0	89	56	66	64	---	82	59	---	.650	.615	-----	2.67	1.82	.0	5.7	5.6	----	5.3
June	29.97	30.17	29.80	77.5	85.8	83.6	88.8	75.1	82.0	94	70	72	70	72	84	61	68	.789	.743	0.781	8.64	2.72	.0	4.1	6.5	6.0	6.0
July	29.95	30.11	29.78	77.5	85.5	83.6	89.7	75.3	82.5	97	71	74	72	73	88	66	71	.833	.788	.806	8.43	2.42	.0	4.9	7.0	6.7	6.5
August	29.99	30.16	29.69	78.2	88.3	85.8	91.4	76.8	84.1	97	73	74	73	73	86	61	66	.829	.805	.814	2.89	1.54	.0	5.2	4.8	5.8	5.2
September	29.96	30.15	29.77	72.6	84.0	80.0	87.0	71.1	79.0	94	58	67	65	67	84	55	67	.690	.645	.687	5.61	3.35	.0	3.2	4.3	4.8	4.3
October	30.02	30.20	29.78	66.5	79.5	75.3	82.4	64.7	73.6	95	43	61	59	62	84	51	65	.563	.523	.576	1.37	1.14	.0	2.8	3.0	2.9	3.0
November	30.10	30.58	29.67	53.7	65.1	60.9	69.1	50.3	59.7	84	29	48	47	50	80	54	68	.389	.385	.417	1.61	.99	.0	3.7	4.8	4.3	4.5
December	30.09	30.54	29.71	50.4	59.9	-----	62.8	47.6	55.2	74	33	46	46	---	84	62	---	.325	.335	-----	2.61	1.34	.0	4.9	5.8	----	5.7
Year	30.01	30.58	29.53	65.1	74.5	-----	77.7	62.7	70.2	97	29	60	59	---	85	61	---	.574	.556	-----	47.39	3.41	.0	5.0	5.7	----	5.5

PORTLAND, MAINE

[ϕ=43°39′ N.; λ=70°15′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.92	30.35	29.19	20.1	26.9	26.5	31.7	15.9	23.8	49	−1	16	20	18	82	72	69	.100	.117	.105	4.13	1.11	16.2	5.1	4.8	3.9	4.8
February	30.04	30.78	29.08	24.0	29.7	28.2	34.1	19.1	26.6	46	5	18	20	20	76	65	71	.112	.109	.119	4.11	1.14	12.1	4.7	5.2	5.9	5.4
March	29.86	30.34	29.15	30.4	36.9	34.5	41.0	26.6	33.8	68	0	24	25	23	76	61	63	.142	.076	.132	3.17	.85	2.9	5.0	5.5	3.7	4.6
April	29.90	30.39	28.96	41.7	49.2	44.8	51.9	37.3	44.6	88	24	34	35	34	75	61	68	.207	.219	.208	2.57	1.25	2.5	4.3	5.0	6.1	5.3
May	29.81	30.37	29.13	50.0	56.7	52.7	60.2	44.7	52.4	71	38	40	40	41	70	58	66	.253	.259	.262	4.00	1.81	.0	5.1	5.8	4.7	5.4
June	29.85	30.29	29.48	62.5	68.9	64.2	72.4	56.8	64.6	91	50	54	54	54	75	63	72	.424	.437	.436	3.71	1.11	.0	4.1	4.9	5.0	4.9
July	29.83	30.04	29.53	65.8	71.9	67.7	75.6	61.0	68.3	90	54	60	62	61	83	73	80	.531	.553	.538	5.67	1.16	.0	4.8	5.9	5.6	5.9
August	29.83	30.07	29.41	67.6	75.5	70.1	79.3	63.0	71.2	92	50	59	60	61	75	60	74	.515	.525	.548	1.69	.60	.0	3.5	3.7	4.2	4.0
September	29.89	30.24	29.27	54.8	63.4	59.0	66.1	51.3	58.7	80	44	47	50	51	76	64	76	.337	.376	.383	6.47	1.48	.0	4.2	4.3	3.4	4.4
October	29.97	30.39	29.26	48.4	58.2	53.5	60.5	46.0	53.2	83	36	40	43	42	74	62	68	.262	.291	.286	2.74	1.93	.0	3.6	4.0	3.1	4.1
November	29.99	30.53	29.36	37.8	45.8	42.6	50.0	34.0	42.0	74	10	31	34	32	76	65	68	.192	.218	.204	3.69	1.43	16.5	4.4	5.2	3.3	4.7
December	29.91	30.49	28.94	28.0	33.6	31.5	37.4	24.6	31.0	57	8	22	23	22	76	65	66	.130	.139	.127	4.29	1.60	2.3	5.1	5.6	5.4	5.6
Year	29.90	30.78	28.94	44.3	51.4	47.9	55.0	40.0	47.5	92	−1	37	39	38	76	64	70	.267	.277	.279	46.24	1.93	52.5	4.5	5.0	4.5	4.9

[1] Observations taken at airport.
[2] Data taken from observations at airport from September to December, inclusive.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PITTSBURGH, PA.[1]

[H=1,249 ft.; H_b=1,273 ft.; h_t=39 ft.; h_r=38 ft.; h_a=54 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	11.1	SW.	36	SE.	2	1	5	1	5	10	21	10	9	0	2	7	22	18	12	16	12	0	7	4	10	0	25	1	0
February	11.5	NW.	33	W.	3	6	8	2	5	10	8	1	16	0	1	7	20	16	11	14	7	0	11	4	6	0	22	1	0
March	12.2	SW.	34	NW.	5	2	5	4	7	14	18	5	7	0	4	11	16	17	13	7	2	0	9	4	0	0	13	4	0
April	11.9	SW.	34	NW.	1	2	6	2	6	12	15	7	10	0	8	9	13	13	9	5	3	0	4	1	0	0	7	2	0
May	10.2	SW.	33	NW.	1	1	3	6	10	8	10	10	14	0	8	8	15	13	12	0	0	0	8	1	0	0	0	5	1
June	9.0	SW.	34	NW.	2	8	5	2	6	14	10	4	11	0	4	9	17	11	9	0	0	0	11	3	0	0	0	9	0
July	7.9	SW.	22	S.	0	4	4	1	3	19	17	5	9	0	5	10	16	9	8	0	0	0	11	1	0	4	0	9	1
August	8.1	SW.	36	W.	1	4	2	1	2	16	14	9	12	2	10	15	6	9	7	0	0	0	12	1	0	4	0	7	0
September	9.6	SW.	29	W.	0	6	10	1	10	6	12	3	12	0	6	8	16	9	8	0	0	0	11	2	0	0	0	2	0
October	8.8	S.	34	NW.	1	12	7	1	3	16	6	6	11	0	17	6	8	5	4	0	0	0	12	6	0	0	2	1	1
November	11.6	SW.	40	NW.	3	3	3	3	14	10	16	6	5	0	10	11	9	10	7	7	5	0	7	2	4	0	14	1	0
December	11.4	SW.	36	W.	2	4	6	3	7	9	18	7	8	0	3	9	19	12	8	17	6	0	9	4	6	0	24	0	0
Year	10.3	SW.	40	NW.	21	53	64	27	78	144	165	73	124	2	78	110	177	142	108	66	35	0	112	33	26	8	107	42	3

POCATELLO, IDAHO

[H=4,468 ft.; H_b=4,478 ft.; h_t=5 ft.; h_r=4 ft.; h_a=31 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	(2) 9.5	(2) SE.	(2) 32	(2) SW.	(2) 1	(2) 2	(2) 0	(2) 1	(2) 19	(2) 9	(2) 8	(2) 12	(2) 7	(2) 4	(2) 5	(2) 13	(2) 13	8	5	10	6	0	0	0	4	0	24	0	0
February	10.0	S.	37	S.	3	2	0	1	9	21	6	11	6	0	4	6	18	12	9	13	10	0	0	0	3	0	21	0	0
March	10.5	SW.	31	SW.	0	2	0	1	16	10	19	9	5	0	4	7	20	20	17	21	17	4	0	0	1	0	21	1	0
April	9.2	SE.	32	S.	1	1	0	1	21	11	15	7	4	0	4	14	12	6	4	3	1	2	0	0	0	0	6	1	2
May	8.5	W.	30	SW.	0	1	2	2	15	16	14	13	8	1	4	14	13	15	9	5	5	1	0	0	0	0	4	7	0
June	8.0	SE.	34	SW.	1	2	0	1	22	11	5	10	7	2	11	10	9	9	7	0	0	1	0	0	0	1	0	8	0
July	8.0	SE.	27	S.	0	4	1	1	30	9	3	3	11	0	16	10	5	8	3	0	0	1	0	0	0	10	0	7	0
August	8.2	SE.	28	SW.	0	3	1	2	28	4	5	8	11	0	21	6	4	6	2	0	0	1	0	0	0	7	0	8	0
September	7.3	SW.	26	SW.	0	5	8	4	5	11	15	7	5	0	23	5	2	1	0	0	0	0	0	0	0	0	0	4	1
October	7.3	W.	31	W.	0	6	2	7	6	10	16	13	2	0	13	4	14	11	11	1	1	1	0	1	0	0	4	5	1
November	9.8	W.	34	W.	3	5	3	4	2	9	32	3	0	2	7	10	13	8	8	13	8	1	0	0	4	0	26	0	0
December	9.8	W.	37	W.	1	2	2	8	0	14	25	8	1	2	5	5	21	9	9	13	7	0	4	3	7	0	25	0	0
Year	8.8	SE.	37	S.	10	35	19	33	173	135	163	104	67	11	117	104	144	113	80	79	35	12	4	4	19	18	131	41	4

PORT ARTHUR, TEX.

[H=6 ft.; H_b=34 ft.; h_t=59 ft.; h_r=52 ft.; h_a=134 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.1	N.	41	S.	5	(2) 7	(2) 7	(2) 3	(2) 5	(2) 2	(2) 3	(2) 2	(2) 2	(2) 0	9	7	15	10	7	0	0	0	10	2	0	0	0	1	0
February	13.2	SE.	38	S.	2	6	3	3	4	8	0	3	1	0	7	8	13	5	3	0	0	0	12	5	0	0	1	3	0
March	14.4	S.	38	S.	5	3	3	4	1	18	0	2	0	0	5	13	13	9	7	0	0	0	12	1	0	0	0	6	0
April	14.9	S.	35	SE.	5	3	2	4	8	6	2	2	3	0	9	9	12	6	3	0	0	0	3	0	0	0	0	3	0
May	14.4	S.	53	SE.	4	7	2	2	0	15	5	0	0	0	7	15	9	7	4	0	0	0	0	0	0	0	0	5	0
June	11.1	S.	34	E.	2	1	7	2	4	27	8	7	4	0	6	13	11	10	9	0	0	0	0	0	0	12	0	13	0
July	8.3	SW.	40	NE.	1	9	3	0	2	9	21	13	5	0	4	17	10	16	16	0	0	0	0	0	0	18	0	23	0
August	9.6	S.	34	SE.	3	10	1	7	8	25	6	1	4	0	12	11	8	13	11	0	0	0	0	0	0	23	0	12	0
September	9.5	E.	42	E.	2	16	12	9	4	11	5	2	1	0	13	10	7	10	8	0	0	0	4	1	0	12	0	12	0
October	10.5	E.	43	E.	2	10	11	12	8	10	5	3	3	0	18	10	3	7	4	0	0	0	9	0	0	2	0	6	0
November	13.1	N.	35	S.	1	14	5	11	14	8	3	2	3	0	13	8	9	6	5	0	0	0	7	2	0	0	2	2	0
December	12.7	N.	31	NE.	0	7	3	6	1	9	0	2	3	0	11	5	15	9	7	0	0	0	4	3	0	0	0	3	0
Year	12.2	S.	53	SE.	32	93	59	63	59	148	58	39	29	0	114	126	125	108	84	0	0	0	61	14	0	67	3	89	0

PORTLAND, MAINE

[H=47 ft.; H_b=103 ft.; h_t=82 ft.; h_r=75 ft.; h_a=117 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.8	N.	41	S.	1	17	7	0	1	4	7	13	10	3	14	7	10	9	8	13	7	0	2	2	17	0	30	0	4
February	8.8	N.	30	N.	0	20	8	2	1	6	7	2	5	5	11	5	12	14	12	14	7	0	6	4	10	0	26	0	6
March	8.4	N.	15	N.	0	14	7	2	4	6	12	7	9	1	16	5	10	11	11	9	6	0	8	5	4	0	19	0	12
April	8.5	N.	25	NE.	0	8	12	2	3	9	14	4	6	2	11	8	11	13	8	5	5	1	7	6	0	0	9	3	7
May	8.6	S.	32	NE.	1	10	3	6	1	13	11	6	9	3	10	11	10	14	10	0	0	0	5	10	0	0	0	3	10
June	7.4	S.	24	N.	0	9	3	7	3	5	15	8	3	7	12	10	8	17	15	0	0	1	4	7	0	1	0	11	2
July	7.7	SW.	25	S.	0	4	3	8	0	7	20	7	5	8	10	9	12	18	15	0	0	0	12	14	0	2	0	18	2
August	7.5	S.	24	S.	0	7	1	3	3	5	20	9	6	8	17	7	7	12	6	0	0	0	1	3	0	2	0	10	7
September	9.3	N.	43	S.	1	17	3	2	3	8	11	3	6	7	14	6	10	11	11	0	0	0	6	7	0	0	0	5	5
October	8.0	N.	29	S.	0	17	5	2	2	4	13	6	7	6	16	9	6	5	4	0	0	0	4	5	0	0	0	6	5
November	9.1	N.	34	NW.	1	11	5	0	0	4	22	7	7	4	13	8	9	14	8	0	5	0	2	6	4	0	11	1	6
December	9.1	N.	32	S.	1	18	1	1	2	5	9	11	14	1	12	6	13	18	11	13	8	0	4	1	13	0	21	0	6
Year	8.4	N.	43	S.	5	152	58	35	23	76	161	83	87	55	156	91	118	156	119	60	38	2	61	70	48	5	116	51	72

[1] Observations taken at airport.
[2] Data taken from observations at airport from September to December, inclusive.
[3] From 7:30 a. m. observation January to May, inclusive.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PORTLAND, OREG.

[ϕ=45°32′ N.; λ=122°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.98	30.55	29.26	39.5	43.2	44.1	46.5	36.3	41.4	56	26	35	36	36	84	77	74	0.207	0.219	0.216	5.06	1.73	0.9	6.6	7.8	7.5	8.1
February	29.75	30.22	29.16	40.3	45.1	46.4	48.1	38.6	43.4	57	31	35	36	36	82	72	69	.203	.213	.216	7.83	2.29	1.4	6.8	7.6	6.9	7.6
March	29.76	30.40	29.13	42.5	49.1	51.7	53.4	40.5	47.0	69	34	38	38	38	83	67	63	.226	.233	.235	6.42	1.28	.7	7.5	7.7	7.8	7.8
April	29.90	30.26	29.51	47.2	58.5	62.0	63.3	45.4	54.4	75	38	41	40	40	81	52	46	.265	.252	.250	2.02	.61	.0	6.3	7.1	7.3	7.3
May	29.93	30.23	29.57	50.7	64.2	68.7	69.8	49.0	59.4	89	40	43	41	42	76	46	42	.282	.262	.273	.65	.35	.0	5.3	5.8	5.2	5.2
June	29.88	30.17	29.64	55.4	68.0	73.9	75.3	54.5	64.9	92	46	48	49	50	77	51	45	.338	.347	.362	.45	.29	.0	5.2	4.0	4.0	4.8
July	29.86	30.11	29.56	60.3	75.1	82.0	82.8	59.2	71.0	101	50	52	53	54	75	48	40	.393	.402	.414	.25	.19	.0	3.5	2.4	2.5	3.0
August	29.91	30.09	29.66	57.0	68.8	75.7	76.7	55.8	66.2	86	49	51	50	50	81	52	42	.379	.362	.361	.35	.33	.0	3.5	3.9	2.6	3.8
September	29.84	30.08	29.54	59.0	70.2	76.2	77.6	57.4	67.5	95	53	55	54	54	86	58	48	.429	.423	.414	1.38	.79	.0	5.0	3.6	3.3	4.7
October	29.85	30.16	29.37	51.7	60.8	62.2	64.6	49.9	57.2	78	39	47	46	46	85	62	59	.326	.322	.321	2.87	.77	.0	5.4	6.0	6.4	6.8
November	30.04	30.45	29.39	41.9	47.0	47.4	49.6	40.1	44.8	57	32	35	36	36	79	67	65	.212	.217	.216	4.83	1.53	T	7.7	7.6	7.3	7.7
December	30.03	30.35	29.50	41.4	45.9	46.2	48.1	39.2	43.6	61	29	37	38	37	83	73	72	.227	.236	.231	4.16	1.66	.6	7.1	7.7	8.2	7.9
Year	29.89	30.55	29.13	48.9	58.0	61.4	63.0	47.2	55.1	101	26	43	43	43	81	60	55	.291	.291	.292	36.27	2.29	3.6	5.8	5.9	5.8	6.2

PROVIDENCE, R. I.

[ϕ=41°50′ N.; λ=71°25′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.87	30.23	29.19	24.8	31.6	30.5	35.8	21.0	28.4	57	2	19	20	22	77	63	68	0.116	0.128	0.125	4.37	1.31	19.7	5.8	5.4	3.9	5.1
February	29.98	30.68	29.06	29.3	34.9	33.5	39.6	24.1	31.8	53	7	23	24	25	76	63	70	.134	.138	.144	2.34	.65	11.6	6.2	6.1	5.7	5.9
March	29.81	30.19	29.23	36.0	43.4	41.1	49.0	31.3	40.2	77	7	29	28	31	75	58	69	.169	.166	.186	2.39	.74	.8	6.1	5.0	4.5	5.7
April	29.86	30.30	28.91	45.4	55.4	49.0	59.1	40.3	49.7	91	25	37	37	37	72	52	66	.236	.230	.237	2.22	1.19	1.1	5.9	5.8	5.8	5.4
May	29.76	30.25	29.00	53.7	62.1	58.0	66.6	47.3	57.0	81	39	43	42	44	70	51	63	.290	.279	.302	4.49	1.96	.0	5.9	5.6	5.1	5.7
June	29.82	30.24	29.56	65.6	72.7	67.4	76.0	58.1	67.0	88	47	57	58	57	76	62	72	.482	.491	.476	7.21	2.71	.0	6.3	6.1	5.0	5.7
July	29.81	29.99	29.58	69.9	77.5	74.1	81.3	65.2	73.2	90	53	64	64	65	82	66	74	.604	.620	.626	6.92	2.71	.0	7.2	6.1	6.5	6.5
August	29.80	30.00	29.44	70.9	79.8	74.7	83.4	65.8	74.6	95	55	62	62	65	75	57	73	.577	.588	.636	2.21	.66	.0	4.3	5.5	5.8	5.1
September	29.85	30.19	28.74	59.1	68.2	62.9	71.6	53.7	62.6	85	44	52	53	54	78	61	75	.408	.425	.435	5.16	1.11	.0	5.0	5.6	4.7	5.3
October	29.90	30.25	29.27	51.7	62.2	56.5	64.5	48.7	56.6	86	38	45	45	47	80	55	72	.315	.315	.338	3.01	2.17	.0	3.7	4.4	4.3	4.5
November	29.96	30.42	29.24	41.5	50.3	47.2	54.2	37.8	46.0	74	10	36	37	38	79	61	73	.234	.248	.265	3.40	1.48	8.4	4.9	4.9	3.7	5.3
December	29.88	30.42	29.06	31.6	37.1	35.9	40.7	27.7	34.2	57	13	26	28	28	77	68	72	.155	.167	.168	3.31	1.57	2.4	5.8	5.7	5.2	5.7
Year	29.86	30.68	28.74	48.3	56.3	52.6	60.2	43.4	51.8	95	2	41	42	43	76	60	71	.310	.316	.328	47.03	2.71	44.0	5.6	5.5	5.0	5.5

PUEBLO, COLO.

[ϕ=38°18′ N.; λ=104°36′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	25.29	25.65	24.81	25.8	41.9	40.9	47.3	20.4	33.8	67	4	17	20	21	69	47	49	0.090	0.110	0.111	0.62	0.42	7.3	3.3	3.9	4.4	4.3
February	25.30	25.62	24.95	29.1	46.0	48.1	51.4	25.5	38.4	71	13	19	18	18	66	37	35	.101	.097	.098	.70	.28	9.1	3.9	4.7	6.1	5.2
March	25.13	25.57	24.63	36.7	53.0	54.9	58.5	32.7	45.6	75	18	24	20	21	62	32	31	.128	.109	.110	1.32	.48	8.3	4.4	4.7	5.5	4.9
April	25.22	25.64	24.70	38.6	59.7	63.4	66.7	35.7	51.2	87	18	30	28	25	71	35	27	.172	.159	.139	1.63	1.23	3.7	3.4	4.9	6.0	4.8
May	25.22	25.51	24.88	48.3	66.8	68.7	71.6	46.7	59.2	92	32	40	36	34	74	37	33	.248	.223	.206	1.77	.94	1.5	4.6	5.7	6.3	5.6
June	25.31	25.63	24.97	58.8	78.9	78.6	84.1	57.0	70.6	94	47	48	46	46	70	34	35	.343	.316	.319	.79	.21	.0	4.7	4.5	6.8	5.4
July	25.37	25.56	25.15	62.6	85.5	85.7	89.7	61.8	75.8	100	55	50	45	45	68	28	28	.374	.320	.316	1.61	.64	.0	2.4	2.8	4.7	3.6
August	25.34	25.65	25.05	64.4	86.1	87.1	90.9	62.6	76.8	103	54	51	52	48	64	34	29	.384	.408	.352	2.03	1.28	.0	3.4	2.8	4.9	3.9
September	25.40	25.58	25.18	55.3	77.0	77.0	80.9	53.9	67.4	89	44	48	44	44	78	36	34	.350	.302	.298	1.80	1.06	.0	2.8	2.9	4.6	3.5
October	25.35	25.63	24.98	44.4	68.6	68.4	72.9	41.4	57.2	88	27	32	30	30	64	27	26	.187	.176	.176	.17	.17	.0	2.4	3.8	4.3	3.8
November	25.29	25.78	24.75	27.0	46.4	44.9	51.8	21.4	36.6	68	−1	18	21	22	69	41	44	.100	.112	.116	.41	.33	5.1	1.9	4.0	3.8	3.9
December	25.29	25.54	24.90	28.4	43.8	42.5	48.5	21.5	35.0	72	4	19	22	22	68	46	48	.102	.117	.118	.47	.16	5.2	3.5	4.5	4.4	4.2
Year	25.29	25.78	24.63	43.3	62.8	63.4	67.9	40.0	54.0	103	−1	33	32	31	69	36	35	.215	.204	.197	13.32	1.28	40.2	3.4	4.1	5.2	4.4

RALEIGH, N. C.

[ϕ=35°45′ N.; λ=78°37′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.67	30.07	29.03	36.4	45.2	43.9	50.1	33.8	42.0	70	16	31	34	34	79	66	69	0.181	0.211	0.215	2.46	1.12	1.1	6.4	6.3	5.2	6.3
February	29.81	30.25	29.12	42.2	52.1	51.4	58.2	40.0	49.1	78	26	35	38	40	76	62	68	.220	.257	.274	.87	.50	T	5.9	5.6	5.2	5.9
March	29.64	29.94	29.15	49.5	62.3	61.6	68.7	45.6	57.2	84	28	43	44	46	78	56	59	.303	.316	.330	1.39	.96	.0	5.2	4.4	4.8	4.9
April	29.65	30.02	29.05	55.8	67.6	65.2	73.3	50.7	62.0	86	36	48	47	48	76	50	58	.353	.346	.357	2.94	.92	.0	4.6	4.6	4.9	4.3
May	29.56	29.88	29.09	63.5	74.2	71.8	79.0	59.6	69.3	94	49	56	54	56	78	54	62	.464	.439	.472	4.60	1.39	.0	5.1	5.4	5.5	5.0
June	29.62	29.86	29.41	69.3	78.6	75.9	83.2	64.9	74.0	92	48	64	64	65	84	62	70	.607	.607	.625	8.16	2.17	.0	5.4	6.4	6.0	5.3
July	29.62	29.75	29.40	73.0	82.0	78.4	86.2	68.9	77.6	94	60	68	67	68	85	62	73	.686	.667	.694	5.01	1.21	.0	6.5	6.1	6.3	5.7
August	29.64	29.81	29.42	73.9	86.4	82.3	90.6	70.8	80.7	98	65	67	66	69	81	52	65	.675	.644	.706	1.31	.59	.0	4.4	5.2	3.9	3.7
September	29.62	29.89	29.27	65.9	76.4	72.7	80.1	63.0	71.6	93	51	62	62	63	87	64	73	.569	.565	.588	4.85	2.56	.0	5.8	6.6	5.0	5.3
October	29.69	30.01	29.26	53.4	67.7	63.7	71.6	51.0	61.3	86	42	48	48	52	83	52	67	.346	.353	.394	1.52	.78	.0	3.1	2.9	2.0	2.9
November	29.76	30.04	29.25	47.9	60.4	57.4	64.7	44.5	54.6	79	21	43	48	48	84	66	74	.318	.381	.374	3.57	2.01	2.5	4.3	3.7	3.2	4.5
December	29.71	30.18	29.16	38.1	48.4	46.1	53.9	35.1	44.0	70	24	33	37	38	81	65	74	1.98	.230	.235	2.93	.95	.0	4.7	4.7	4.1	4.6
Year	29.67	30.25	29.03	55.7	66.8	64.2	71.6	52.3	62.0	98	16	50	51	52	81	59	68	.410	.418	.439	39.61	2.56	3.6	5.0	5.2	4.7	4.9

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

PORTLAND, OREG.

[H=30 ft.; H_b=154 ft.; h_t=68 ft.; h_r=63 ft.; h_a=106 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		Mi.																										
January	6.0	SE.	19	NE.	0	0	1	13	20	7	7	3	7	4	1	9	21	18	15	3	2	1	12	2	0	0	9	0	1
February	6.8	E.	23	SE.	0	0	6	20	9	7	7	0	7	0	5	4	19	18	16	3	3	2	7	0	0	0	1	0	0
March	6.6	SE.	24	S.	0	0	1	6	14	9	12	7	13	0	2	6	23	20	17	5	2	3	5	2	0	0	0	2	0
April	6.7	NW.	21	NE.	0	0	1	5	10	9	10	3	19	3	3	10	17	11	9	0	0	2	2	1	0	0	0	0	0
May	6.7	NW.	24	W.	0	0	1	2	7	4	10	8	30	0	11	7	13	8	6	0	0	1	1	0	0	0	0	1	0
June	7.1	NW.	17	NW.	0	2	3	0	6	1	3	5	39	1	10	12	8	4	4	0	0	0	0	0	0	2	0	0	0
July	6.3	NW.	17	NW.	0	5	0	0	4	1	2	4	45	1	19	7	5	3	2	0	0	0	0	0	0	6	0	1	1
August	6.0	NW.	15	NW.	0	3	0	1	9	1	1	6	38	3	15	11	5	3	1	0	0	0	0	0	0	0	0	0	0
September	5.4	NW.	15	S.	0	1	0	1	6	5	4	6	35	2	10	13	7	8	7	0	0	0	8	1	0	2	0	4	0
October	6.1	SE.	22	S.	0	0	2	3	21	6	6	8	15	1	5	10	16	16	14	0	0	0	12	3	0	0	0	0	0
November	7.0	SE.	21	SW.	0	1	3	9	12	9	8	11	6	1	3	9	18	18	15	1	1	0	11	1	0	0	0	0	0
December	6.7	SE.	26	S.	0	1	3	8	25	10	3	7		1	4	5	22	16	13	2	2	0	11	8	0	0	4	0	0
Year	6.4	NW.	26	S.	0	13	21	68	143	69	73	68	258	17	88	103	174	143	119	14	10	9	69	18	0	10	14	8	2

PROVIDENCE, R. I.

[H=8 ft.; H_b=159 ft.; h_t=215 ft.; h_r=211 ft.; h_a=251 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	16.8	NW.	46	S.	3	6	2	2	1	2	9	11	29	0	15	4	12	12	11	11	8	0	4	1	13	0	29	0	1
February	11.9	NW.	41	NW.	4	6	3	6	0	9	5	6	21	0	11	2	15	15	11	8	5	0	9	1	5	0	22	0	0
March	12.3	NW.	37	NW.	5	6	3	7	6	10	4	8	18	0	12	5	14	12	9	4	1	0	8	4	1	0	16	0	0
April	11.8	NW.	38	NW.	3	7	5	3	4	7	9	6	19	0	13	7	10	13	7	5	3	1	10	1	0	1	6	2	1
May	10.9	NW.	34	NW.	2	8	6	3	2	14	6	5	18	0	10	6	15	13	10	0	0	1	7	0	0	0	0	2	0
June	9.9	S.	27	NW.	0	8	6	3	4	15	10	6	6	2	11	6	13	13	10	0	0	1	3	0	0	0	0	3	0
July	9.6	S.	27	NW.	0	5	3	2	0	28	8	7	9	0	6	14	11	15	11	0	0	0	9	1	0	1	0	9	0
August	9.3	NW.	38	NW.	1	3	0	3	0	14	14	8	20	0	9	15	7	8	6	0	0	0	2	0	0	5	0	9	0
September	11.6	NW.	87	SW.	1	10	3	2	2	18	7	3	15	0	13	4	13	11	10	0	0	0	3	0	0	0	0	3	0
October	10.9	NW.	31	NW.	0	17	4	2	5	12	3	8	11	0	14	9	8	7	5	0	0	0	11	3	0	0	0	0	0
November	11.2	NW.	43	NW.	3	8	1	2	3	5	17	4	19	1	11	7	12	11	10	3	3	0	7	4	3	0	7	0	0
December	12.0	NW.	54	NW.	7	11	2	1	7	5	9	3	24	0	12	4	15	13	9	10	4	0	12	3	6	0	21	0	0
Year	11.0	NW.	87	SW.	29	95	38	36	34	139	101	75	209	3	137	83	145	143	109	41	24	3	85	18	28	7	101	28	2

PUEBLO, COLO.

[H=4,668 ft.; H_b=4,690 ft.; h_t=79 ft.; h_r=72 ft.; h_a=86 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.4	NW.	40	W.	2	3	4	6	12	2	1	9	24	1	16	9	6	4	3	6	4	0	1	1	2	0	30	0	1
February	7.3	NW.	34	NW.	1	4	3	9	5	2	5	11	17	0	11	9	8	6	5	6	6	0	0	0	3	0	23	0	0
March	8.8	NW.	41	W.	2	5	6	5	10	4	6	8	18	0	14	9	8	10	8	9	7	0	0	1	0	0	14	0	0
April	8.1	NW.	35	NW.	1	9	9	6	6	4	4	3	19	0	11	12	7	6	5	2	1	1	0	0	0	0	9	2	1
May	7.7	NW.	28	SW.	0	5	5	9	8	7	3	9	16	0	6	17	8	7	5	2	2	1	1	0	0	1	1	4	0
June	7.7	E.	37	SW.	1	4	6	9	12	5	1	6	17	0	7	17	6	11	7	0	0	1	0	0	0	5	0	11	0
July	6.9	NW.	27	S.	0	7	4	14	8	2	2	5	19	1	17	13	1	10	6	0	0	1	0	0	0	17	0	8	0
August	7.3	NW.	24	W.	0	2	3	15	5	5	3	7	22	0	13	15	3	5	4	0	0	0	0	0	0	16	0	5	0
September	6.1	NW.	28	W.	0	4	5	18	3	2	1	5	22	0	17	8	5	5	4	0	0	0	0	0	0	0	0	7	1
October	6.5	NW.	24	S.	0	2	1	16	1	7	3	8	24	0	15	12	4	1	1	0	0	0	0	0	0	0	4	1	0
November	7.7	NW.	32	NW.	1	3	7	13	4	1	5	14	13	0	15	10	5	3	2	4	3	0	0	0	4	0	26	0	0
December	6.9	NW.	37	NW.	2	4	4	14	9	1	3	9	18	0	16	9	6	5	5	6	4	0	1	1	4	0	29	0	0
Year	7.4	NW.	41	W.	10	52	57	134	83	42	37	94	229	2	158	140	67	73	55	35	27	4	3	3	13	39	136	38	3

RALEIGH, N. C.

[H=345 ft.; H_b=376 ft.; h_t=103 ft.; h_r=94 ft.; h_a=146 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.4	SW.	27	SW.	0	11	6	2	8	6	13	7	9	0	7	10	14	11	9	3	2	0	9	3	2	0	12	0	1
February	9.6	SW.	28	NW.	0	7	13	2	3	5	10	8	8	0	7	8	13	9	5	1	0	0	6	3	0	0	3	0	0
March	9.8	SW.	27	NW.	0	9	7	1	2	8	19	14	2	0	11	12	8	8	4	0	0	0	5	3	0	0	1	2	0
April	8.6	SW.	29	W.	0	7	5	3	3	9	16	12	5	0	16	6	8	12	9	0	0	0	4	0	0	0	0	1	0
May	8.7	W.	32	NW.	1	9	10	6	1	5	9	14	8	0	11	11	9	15	9	0	0	1	3	2	0	6	0	6	0
June	7.7	SW.	27	SW.	0	14	3	0	3	12	15	7	3	3	7	16	7	15	13	0	0	0	4	0	0	2	0	11	0
July	7.7	SW.	26	W.	0	2	4	4	8	16	21	4	2	1	8	11	12	13	12	0	0	1	2	1	0	8	0	8	0
August	7.5	SW.	22	SW.	0	9	5	5	5	10	11	13	4	0	15	16	0	9	6	0	0	0	1	0	0	15	0	7	0
September	7.6	NE.	27	NW.	0	9	14	6	2	6	10	10	3	0	10	11	9	10	9	0	0	0	6	3	0	3	0	1	0
October	8.4	N.	25	N.	0	20	10	5	3	4	7	4	9	0	19	8	4	6	5	0	0	0	9	1	0	0	0	1	0
November	8.6	SW.	29	NW.	0	8	7	3	5	14	6	8	7	2	13	9	8	8	6	1	1	0	8	5	0	0	6	0	0
December	8.3	SW.	23	SW.	0	12	5	5	6	3	13	9	9	0	13	9	9	10	7	0	0	1	9	2	0	0	11	1	0
Year	8.4	SW.	32	NW.	1	117	69	42	49	98	150	110	69	6	137	127	101	126	94	5	3	3	66	23	2	34	33	38	1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

RAPID CITY, S. DAK.

[ϕ=44°04′ N.; λ=103°12′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	26.59	27.01	26.07	25.3	32.5	29.3	39.1	18.9	29.0	60	−13	18	22	23	76	68	79	0.102	0.123	0.130	0.35	0.12	4.2	4.2	6.4	5.6	5.7
February	26.65	27.06	26.26	20.4	33.1	31.6	37.9	15.1	26.5	67	−10	15	20	20	80	62	67	.091	.116	.116	.20	.18	2.2	4.5	4.6	3.8	4.6
March	26.45	26.96	25.77	33.1	44.9	44.2	50.0	28.6	39.3	66	16	25	28	30	72	55	59	.135	.157	.162	.83	.54	1.4	5.7	6.4	5.5	5.6
April	26.58	27.15	26.24	39.3	51.4	53.8	56.7	35.4	46.0	86	12	29	34	34	69	54	51	.172	.204	.211	3.07	1.66	9.8	5.7	5.5	6.0	5.4
May	26.55	26.84	26.02	48.0	60.0	59.0	63.8	44.5	54.2	85	28	40	42	43	75	54	59	.256	.275	.286	3.24	.70	1.2	5.3	6.0	6.4	5.7
June	26.60	26.91	26.07	58.1	73.0	75.6	78.9	55.0	67.0	92	44	49	52	51	74	50	45	.364	.404	.402	3.57	1.43	.0	4.1	4.8	5.1	4.7
July	26.66	26.91	26.40	64.1	81.3	82.2	86.1	61.1	73.6	99	56	53	52	52	68	38	39	.404	.400	.402	1.56	.61	.0	3.7	4.0	3.9	3.6
August	26.62	26.95	26.23	63.1	84.1	85.7	88.6	60.3	74.5	102	50	47	47	48	58	30	30	.327	.336	.352	.66	.22	.0	2.5	2.9	3.6	2.9
September	26.71	26.91	26.47	57.7	73.9	74.0	78.1	53.7	65.9	90	39	44	47	47	65	45	44	.306	.345	.346	1.29	.60	.0	3.5	3.5	3.7	3.5
October	26.65	26.96	26.26	48.8	63.5	61.8	67.1	43.7	55.4	86	23	32	33	35	55	36	41	.190	.194	.218	.24	.16	.0	4.1	4.3	4.0	4.0
November	26.59	27.17	26.09	29.0	40.7	35.7	43.2	24.0	33.6	65	4	19	20	23	67	46	61	.106	.112	.124	.62	.36	6.1	5.0	6.0	4.1	5.6
December	26.58	26.90	26.07	26.4	36.4	32.9	40.8	18.5	29.6	59	−5	14	18	18	60	47	52	.085	.101	.099	.08	.05	.8	3.8	5.8	5.2	5.6
Year	26.60	27.17	25.77	42.8	56.2	55.5	60.9	38.2	49.6	102	−13	32	35	35	68	49	52	.212	.231	.237	15.71	1.66	25.7	4.3	5.0	4.7	4.7

READING, PA.

[ϕ=40°20′N.; λ=75°58′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.70	30.13	28.81	29.4	34.2	33.9	39.4	24.9	32.2	63	5	23	22	22	75	61	62	0.134	0.126	0.127	2.19	0.46	5.3	7.2	7.2	6.8	7.1
February	29.85	30.43	29.05	32.0	37.4	37.6	43.6	28.1	35.8	66	12	25	26	26	75	62	64	.148	.148	.154	1.77	.88	3.2	7.1	7.1	6.5	7.0
March	29.66	30.04	29.16	40.4	48.3	47.8	54.9	36.2	45.6	83	10	32	32	33	71	57	59	.190	.195	.202	2.45	1.01	2.1	6.2	5.8	6.3	6.1
April	29.69	30.08	28.78	49.3	58.7	57.0	63.4	45.3	54.4	88	29	38	37	38	66	47	52	.247	.238	.252	2.25	.78	T	6.1	5.1	5.4	5.5
May	29.60	30.05	28.99	57.5	64.8	64.2	69.9	52.9	61.4	82	41	46	45	47	69	52	57	.330	.320	.342	2.24	.73	.0	6.3	6.5	5.5	6.0
June	29.65	30.00	29.37	65.9	76.2	72.5	79.4	60.4	69.9	90	47	58	56	58	75	52	62	.491	.466	.493	5.54	1.75	.0	5.5	6.0	6.9	6.1
July	29.63	29.78	29.39	71.4	80.9	77.9	84.4	66.5	75.4	92	56	64	64	65	79	58	66	.613	.608	.624	7.78	2.05	.0	5.8	6.5	6.3	6.0
August	29.65	29.83	29.36	72.4	83.0	78.3	86.5	67.7	77.1	95	57	64	64	65	77	52	64	.616	.603	.628	2.58	1.41	.0	4.5	4.6	4.1	4.0
September	29.68	30.02	29.07	59.2	69.1	66.0	72.3	55.9	64.1	86	43	53	54	54	80	62	68	.413	.434	.436	4.70	1.89	.0	5.5	5.6	5.1	5.7
October	29.76	30.10	29.29	51.4	63.7	60.2	68.0	47.5	57.8	86	35	45	46	45	78	55	59	.306	.324	.310	2.49	.83	.0	3.3	4.3	3.2	3.8
November	29.82	30.20	29.30	41.5	51.2	48.9	55.8	37.4	46.6	74	12	34	36	37	74	57	64	.226	.247	.249	3.14	1.37	13.4	6.1	5.2	5.1	5.4
December	29.74	30.25	29.12	32.8	38.2	36.5	41.8	29.0	35.4	58	17	24	24	25	69	58	64	.140	.144	.153	1.98	.90	.2	7.0	6.8	5.0	6.1
Year	29.70	30.43	28.78	50.3	58.8	56.7	63.3	46.0	54.6	95	5	42	42	43	74	56	62	.321	.321	.331	39.11	2.05	24.2	5.9	5.9	5.5	5.7

REDDING, CALIF.

[ϕ=40°35′ N.; λ=122°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	.....	29.84	28.73	43.7	52.5	55.4	57.7	40.7	49.2	74	28	37	38	38	81	62	58	0.227	0.228	0.236	6.81	2.81	0.0	6.1	6.0	6.4	6.7
February	.....	29.50	28.54	43.3	50.3	52.6	53.9	40.8	47.4	71	33	35	37	37	76	66	62	.210	.228	.225	10.28	1.94	2.6	7.0	8.2	7.3	7.9
March	.....	29.59	28.72	47.3	51.9	53.9	55.3	41.4	48.4	74	33	37	36	36	77	59	55	.226	.219	.219	12.27	4.28	1.2	6.9	8.1	7.8	7.9
April	.....	29.51	28.92	51.2	63.0	65.3	66.8	49.4	58.1	84	38	41	41	40	71	49	45	.264	.268	.259	2.99	1.78	.0	5.9	7.2	7.7	7.5
May	.....	29.42	28.91	58.2	75.3	79.0	80.2	56.7	68.4	97	42	40	40	37	53	30	25	.260	.258	.255	.53	.48	.0	4.1	5.4	4.9	5.3
June	.....	29.32	28.86	68.5	86.5	90.2	91.8	66.5	79.2	103	55	44	42	42	44	23	20	.295	.279	.278	T	T	.0	1.7	2.8	3.9	3.0
July	.....	29.32	28.91	72.5	91.6	95.4	96.9	70.4	83.6	103	56	50	49	45	46	25	20	.365	.354	.311	.00	.00	.0	1.8	1.4	2.5	1.9
August	.....	29.30	28.92	69.3	89.6	93.4	94.8	66.9	80.8	105	58	42	40	36	38	19	15	.267	.254	.220	.00	.00	.0	.1	.6	.9	.8
September	.....	29.39	28.94	67.5	84.2	87.1	88.4	65.0	76.7	105	56	42	43	42	42	27	25	.271	.285	.275	1.30	1.31	.0	2.8	3.2	2.8	3.1
October	.....	29.42	28.99	55.9	68.1	70.2	71.6	53.2	62.4	83	41	44	44	44	67	45	43	.298	.294	.292	3.68	1.11	.0	3.6	4.4	5.5	4.8
November	.....	29.65	29.98	46.7	59.2	61.1	63.2	43.6	53.4	76	32	28	29	30	52	36	35	.161	.168	.172	1.63	.88	.0	3.0	4.5	4.5	4.5
December	.....	29.62	29.01	46.5	55.5	57.4	59.6	42.9	51.2	77	32	33	35	36	63	50	49	.198	.214	.222	4.02	2.90	.0	3.6	6.3	6.2	6.5
Year	.....	29.84	28.54	55.9	69.0	71.8	73.4	53.1	63.2	113	28	39	40	39	59	41	38	.254	.254	.245	43.60	4.28	3.8	3.9	4.8	5.0	5.0

RENO, NEV.

[ϕ=39°32′ N.; λ=119°49′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	25.56	26.01	24.98	30.2	41.0	42.5	45.9	26.9	36.4	61	18	24	27	28	78	59	58	0.129	0.145	0.154	0.66	0.42	1.7	5.7	5.7	5.3	5.8
February	25.40	25.72	24.84	28.2	38.3	38.6	41.9	24.4	33.2	52	8	23	27	27	80	64	65	.123	.146	.148	3.87	1.17	32.4	5.2	6.1	6.2	5.9
March	25.38	25.66	25.01	33.1	42.7	43.9	47.8	29.5	38.6	56	19	26	28	28	74	57	55	.140	.156	.155	2.06	.55	1.5	5.0	7.1	7.1	6.5
April	25.44	25.74	25.11	39.1	56.5	58.2	61.1	37.0	49.0	77	24	30	30	29	68	38	35	.164	.167	.162	.31	.12	T	5.5	6.0	6.7	5.9
May	25.46	25.62	25.19	44.3	64.5	67.7	69.9	42.6	56.2	87	26	35	35	34	70	35	30	.206	.212	.196	.27	.17	2.2	3.0	4.7	5.0	4.1
June	25.43	25.59	25.23	53.3	73.7	75.9	79.3	51.4	65.4	92	37	43	42	41	69	36	32	.278	.271	.262	1.31	.46	.0	3.2	4.3	5.0	4.0
July	25.52	25.66	25.31	56.9	82.2	83.8	87.5	55.8	71.6	100	46	45	44	43	64	28	26	.300	.297	.284	.24	.22	.0	1.4	3.4	4.4	2.8
August	25.50	25.64	25.34	56.2	81.8	84.5	87.4	54.2	70.8	93	47	40	39	39	56	23	21	.254	.242	.248	T	T	.0	.7	1.3	2.1	1.7
September	25.50	25.67	25.34	51.1	76.6	78.7	81.9	48.6	65.2	91	40	39	39	38	64	27	24	.241	.242	.229	.07	.07	.0	.7	2.3	2.8	1.8
October	25.49	25.72	25.22	40.8	59.7	60.4	63.6	37.7	50.6	78	27	33	35	34	75	42	40	.193	.205	.201	.29	.14	T	3.7	4.9	5.2	4.5
November	25.60	25.94	25.17	28.3	45.1	47.1	50.8	24.3	37.6	64	11	20	24	24	71	43	41	.109	.126	.129	.19	.16	.4	2.5	3.2	3.1	2.9
December	25.58	25.92	25.24	28.5	42.8	46.3	49.0	24.9	37.0	62	16	21	27	28	73	54	49	.114	.147	.152	.11	.11	T	3.4	5.1	4.6	4.5
Year	25.49	26.01	24.84	40.8	58.7	60.6	63.8	38.1	51.0	100	8	32	33	33	70	42	40	.188	.196	.193	9.38	1.17	38.2	3.3	4.5	4.8	4.2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

RAPID CITY, S. DAK.

[H=3,242 ft.; H_b=3,259 ft.; h_t=50 ft.; h_r=43 ft.; h_a=58 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	8.8	N.	32	NW.	1	16	6	0	9	4	4	4	15	4	9	11	11	7	4	14	7	0	4	1	6	0	29	0	1
February	7.2	NE.	26	N.	0	7	12	5	8	3	3	4	14	0	12	10	6	2	1	7	2	0	1	0	11	0	24	0	1
March	9.0	N.	41	NW.	1	9	7	2	11	7	4	9	12	1	8	14	9	7	5	9	4	0	3	1	3	0	21	0	2
April	9.2	N.	31	N.	0	13	8	1	6	2	2	15	12	1	7	17	6	6	5	5	2	1	1	1	3	0	10	2	0
May	8.4	N.	28	NW.	0	14	6	2	7	9	2	13	9	0	7	16	8	19	14	1	1	2	2	1	0	0	2	9	0
June	7.9	N.	41	W.	1	10	3	3	11	10	0	12	9	2	13	13	4	14	12	0	0	4	0	0	0	2	0	15	0
July	7.3	W.	22	NE.	0	13	6	4	4	4	3	13	14	1	15	14	2	10	6	0	0	1	2	0	0	10	0	12	2
August	7.6	W.	24	NE.	0	6	6	6	4	5	6	16	13	0	19	12	0	7	6	0	0	0	0	0	0	16	0	6	0
September	6.7	W.	21	S.	0	7	4	7	7	7	2	16	8	2	18	5	7	8	7	0	0	0	4	4	0	3	0	5	2
October	7.7	W.	26	S.	0	10	3	2	12	6	3	15	9	2	16	9	6	3	3	0	0	1	4	1	0	0	4	4	0
November	7.8	N.	29	NW.	0	15	0	4	4	2	3	15	17	0	6	17	7	3	3	8	2	0	4	0	5	0	26	0	0
December	8.5	NW.	35	NW.	2	12	2	3	5	2	2	12	21	3	8	13	10	2	1	8	2	0	0	0	6	0	29	0	0
Year	8.0	N.	41	NW.	5	132	63	39	88	61	34	144	153	16	138	151	76	88	67	52	20	9	25	9	34	31	145	53	8

READING, PA.

[H=273 ft.; H_b=323 ft.; h_t=283 ft.; h_r=275 ft.; h_a=305 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.6	NW.	45	SW.	5	2	4	5	12	6	6	7	20	0	3	12	16	13	10	14	6	0	5	5	9	0	27	0	1
February	11.7	NW.	54	E.	7	12	5	1	10	8	5	3	12	0	5	8	15	13	9	8	4	0	7	4	4	0	19	0	0
March	12.1	NW.	37	NW.	7	7	6	5	7	11	8	5	13	0	8	9	14	14	9	5	3	0	6	5	0	0	9	1	0
April	12.0	NW.	41	N.	5	7	3	6	9	10	7	6	12	0	9	10	11	8	8	3	0	0	2	1	0	0	2	5	0
May	10.5	NW.	36	SE.	2	5	1	3	19	3	7	5	19	0	6	13	12	13	9	0	0	0	5	2	0	0	0	8	0
June	9.3	SE.	39	SW.	3	9	5	2	11	16	3	5	6	3	7	13	10	15	12	0	0	0	8	0	0	0	0	9	0
July	8.6	S.	33	NW.	2	10	2	1	7	16	10	5	8	3	7	12	12	14	13	0	0	1	6	0	0	4	0	10	0
August	8.1	NW.	38	SE.	2	12	3	0	7	14	12	2	12	0	13	14	4	8	7	0	0	0	1	0	0	6	0	6	0
September	9.7	N.	31	NW.	0	7	10	2	8	9	6	4	7	7	8	9	13	13	10	0	0	0	9	2	0	0	0	2	0
October	9.7	N.	34	NE.	1	10	12	6	5	8	2	7	11	1	17	6	8	6	4	0	0	0	2	3	0	0	0	0	0
November	10.5	NW.	44	NW.	8	8	5	4	9	13	3	4	14	0	10	11	9	12	11	5	4	0	6	0	3	0	9	1	0
December	11.6	NW.	57	S.	6	14	5	3	9	4	7	9	11	0	8	12	11	11	8	7	1	0	11	2	3	0	22	0	0
Year	10.4	NW.	57	S.	48	103	61	38	113	118	76	62	145	14	101	129	135	140	110	42	18	1	68	24	19	10	88	42	1

REDDING, CALIF.

[H=718 ft.; H_b=722 ft.; h_t=20 ft.; h_r=3 ft.; h_a=34 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.0	NW.	30	SE.	0	12	3	2	9	9	4	5	17	1	6	9	16	14	10	0	0	0	12	5	0	0	1	0	1
February	11.2	NW.	41	SE.	5	11	4	0	5	17	5	1	12	1	4	3	21	17	13	2	2	1	6	0	0	0	0	2	0
March	8.8	NW.	34	SE.	2	4	2	1	8	12	11	5	18	1	3	6	22	20	18	3	1	2	7	0	0	0	0	1	0
April	7.5	NW.	24	NW.	0	6	2	3	11	12	4	3	18	1	6	4	20	12	8	0	0	0	6	0	0	0	0	2	0
May	8.6	NW.	28	NW.	0	9	7	3	7	3	3	4	26	0	13	7	11	3	3	0	0	0	1	0	0	5	0	1	0
June	8.8	NW.	27	NW.	0	7	2	3	16	4	1	1	26	0	18	9	3	0	0	0	0	0	0	0	0	19	0	1	0
July	7.2	NW.	18	NW.	0	4	0	5	22	5	3	2	21	0	26	4	1	0	0	0	0	0	0	0	0	26	0	0	0
August	8.2	NW.	25	NW.	0	9	0	0	22	6	2	1	22	0	29	1	1	0	0	0	0	0	0	0	0	26	0	0	0
September	8.0	NW.	24	NW.	0	10	4	1	19	2	2	0	22	0	17	7	6	2	2	0	0	0	0	0	0	14	0	2	0
October	7.8	NW.	25	SE.	0	5	2	1	7	15	7	4	21	0	15	6	10	8	7	0	0	0	2	0	0	0	0	1	0
November	8.4	NW.	24	N.	0	17	2	3	4	8	3	5	18	0	13	8	9	6	3	0	0	0	0	0	0	0	1	0	0
December	8.3	NW.	23	N.	0	8	2	1	9	2	4	5	31	0	6	9	16	5	5	0	0	0	7	5	0	0	0	0	0
Year	8.3	NW.	41	SE.	7	102	30	23	139	95	49	36	252	4	156	73	136	87	69	5	3	3	41	10	0	90	2	10	1

RENO, NEV.

[H=4,493 ft.; H_b=4,527 ft.; h_t=61 ft.; h_r=53 ft.; h_a=76 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.5	SW.	32	S.	1	2	7	7	10	6	15	11	4	0	7	11	13	7	4	4	2	0	1	1	1	0	26	0	0
February	6.5	S.	28	SE.	0	10	1	1	6	12	12	9	5	0	4	16	8	12	11	14	11	0	1	0	3	0	27	0	0
March	8.2	W.	34	SW.	1	3	3	2	1	10	19	14	10	0	4	12	15	13	8	9	7	0	0	0	0	0	21	0	0
April	8.1	W.	30	W.	0	1	3	3	3	5	11	29	5	0	6	15	9	4	3	2	0	0	0	0	0	0	6	0	1
May	7.3	W.	25	W.	0	4	5	2	2	2	20	20	7	0	12	16	3	4	2	1	1	0	0	0	0	0	4	0	0
June	6.5	W.	25	NE.	0	4	4	0	6	5	17	20	4	0	16	7	7	8	5	0	0	0	0	0	0	3	0	8	0
July	6.3	W.	22	W.	0	2	2	2	2	0	22	31	1	0	22	7	2	2	1	0	0	0	0	0	0	12	0	5	0
August	6.5	W.	23	SW.	0	3	0	1	7	2	23	26	0	0	24	6	1	0	0	0	0	0	0	0	0	10	0	2	0
September	5.5	W.	23	W.	0	2	6	1	9	0	22	19	1	0	23	6	1	2	1	0	0	0	0	0	0	3	0	0	0
October	5.7	W.	25	SW.	0	2	8	5	6	4	13	17	7	0	13	9	9	6	3	1	0	1	0	0	0	0	5	1	0
November	5.9	W.	26	SW.	0	4	12	5	6	2	9	13	9	0	19	7	4	2	1	3	2	0	0	0	1	0	26	0	0
December	4.8	SW.	24	W.	0	2	5	8	5	7	19	12	4	0	12	9	10	1	1	3	1	0	0	0	0	0	28	0	0
Year	6.4	W.	34	SW.	2	39	56	37	63	55	202	221	57	0	162	121	82	61	40	37	24	1	2	1	5	28	143	16	1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

RICHMOND, VA.

[ϕ=37°32′ N.; λ=77°27′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.93	30.35	29.16	33.1	41.6	39.3	46.7	29.8	38.2	65	17	28	31	30	82	66	70	0.165	0.184	0.183	2.96	1.13	0.5	6.3	6.1	5.5	6.4
February	30.08	30.61	29.34	38.0	48.3	46.5	54.2	35.4	44.8	75	24	33	35	34	82	61	64	.204	.220	.220	1.89	.82	T	7.1	5.2	5.5	6.3
March	29.89	30.29	29.43	44.9	58.3	56.5	65.1	41.3	53.2	85	24	39	41	40	81	56	57	.260	.280	.269	3.57	1.16	.0	5.5	5.4	4.9	5.5
April	29.91	30.28	29.15	52.7	65.8	61.6	70.7	48.7	59.7	86	37	46	45	45	77	51	59	.326	.324	.321	2.80	.93	.0	5.5	4.7	5.2	4.7
May	29.82	30.22	29.33	60.1	71.2	68.1	75.4	55.7	65.6	90	46	55	54	55	84	58	66	.443	.444	.456	4.66	1.68	.0	5.3	5.2	5.3	5.6
June	29.87	30.16	29.68	67.9	78.0	74.2	81.2	62.7	72.0	91	43	63	63	65	86	62	74	.592	.588	.633	9.28	3.69	.0	5.2	5.4	6.1	5.8
July	29.87	29.99	29.65	72.5	82.4	77.0	86.0	68.2	77.1	93	59	68	69	69	87	65	77	.696	.778	.710	9.71	3.87	.0	5.5	5.1	5.8	5.3
August	29.88	30.08	29.65	72.7	85.7	79.5	89.0	69.0	79.0	95	58	67	67	69	84	55	72	.680	.678	.727	2.44	2.05	.0	3.1	3.3	3.2	3.8
September	29.88	30.17	29.47	63.6	74.4	69.2	77.7	60.2	69.0	90	46	60	61	61	89	65	77	.536	.548	.556	3.85	1.65	.0	7.1	6.0	5.7	6.2
October	29.96	30.27	29.47	49.9	67.1	60.2	71.0	47.5	59.2	87	37	47	48	50	89	52	70	.327	.348	.371	1.58	.94	.0	2.1	3.3	2.4	2.8
November	30.03	30.34	29.60	42.8	58.7	53.9	63.5	40.5	52.0	79	19	39	43	43	88	57	69	.272	.314	.313	3.61	1.81	9.2	3.8	3.4	2.8	3.6
December	29.97	30.46	29.40	35.0	45.3	41.7	49.4	32.3	40.8	68	18	30	31	32	83	59	68	.178	.187	.188	2.61	1.03	T	4.5	4.7	4.7	4.7
Year	29.92	30.61	29.15	52.8	64.7	60.6	69.2	49.3	59.2	95	17	48	49	49	84	59	69	.390	.408	.412	48.96	3.87	9.7	5.1	4.8	4.8	5.1

ROCHESTER, N. Y.

[ϕ=43°08′ N.; λ=77°42′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.43	29.94	28.58	23.6	26.0	25.7	31.6	17.9	24.8	53	−5	16	16	17	72	66	69	0.098	0.100	0.102	1.37	0.51	12.7	8.8	8.2	8.2	8.5
February	29.60	30.16	28.71	26.6	30.5	30.6	36.6	22.5	29.6	55	3	20	21	22	75	67	70	.117	.126	.130	3.05	.70	14.9	9.4	9.3	8.1	8.1
March	29.38	29.80	28.85	35.2	43.4	42.2	49.7	31.1	40.4	83	1	27	28	31	71	56	64	.155	.180	.192	1.33	.59	4.8	8.2	8.3	7.9	7.3
April	29.45	29.85	28.76	44.7	50.9	48.7	55.3	40.2	47.8	83	24	34	35	34	67	56	58	.212	.221	.211	2.39	1.15	8.3	7.3	7.6	6.4	6.7
May	29.38	29.81	28.91	53.1	61.4	59.2	65.5	48.3	56.9	81	35	31	42	42	65	50	54	.267	.277	.275	2.18	.54	.0	6.7	7.1	6.0	6.0
June	29.43	29.70	29.12	63.9	73.6	71.1	77.7	57.9	67.8	91	52	53	53	53	67	50	56	.406	.415	.418	1.56	.39	.0	4.8	6.9	4.7	4.9
July	29.40	29.56	29.07	68.6	78.0	75.7	82.0	65.2	73.6	94	57	60	60	62	77	55	63	.536	.523	.550	3.62	1.01	.0	6.0	7.2	4.6	5.2
August	29.43	29.61	29.11	69.6	79.4	75.8	82.2	65.0	73.6	93	53	61	60	61	74	53	62	.543	.522	.554	4.85	3.35	.0	5.2	5.8	4.4	4.6
September	29.45	29.83	28.95	56.3	64.7	60.3	67.1	51.9	59.5	80	42	48	48	50	75	56	69	.348	.346	.377	5.27	1.51	.0	6.2	6.7	5.2	6.0
October	29.55	29.94	28.93	49.3	59.0	54.6	62.3	46.5	54.4	84	37	41	42	44	75	56	68	.267	.279	.294	.14	.05	.0	6.1	5.9	4.0	5.6
November	29.53	29.85	28.89	38.8	46.4	42.9	51.2	34.2	42.7	77	11	30	33	33	70	63	70	.181	.206	.205	2.10	.49	7.2	6.4	6.6	5.4	6.6
December	29.46	29.96	28.96	30.0	33.0	31.6	36.7	26.8	31.8	59	11	24	24	24	78	69	73	.136	.135	.132	1.24	.40	8.3	9.3	8.5	9.0	8.9
Year	29.46	30.16	28.58	46.6	53.9	51.5	58.2	42.3	50.2	94	−5	38	38	40	72	58	65	.278	.378	.287	29.10	3.35	56.2	7.0	7.2	6.2	6.5

ROSEBURG, OREG.

[ϕ=43°13′ N.; λ=123°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.59	30.16	28.80	40.7	45.1	47.6	49.2	37.6	43.4	60	30	38	39	40	90	80	75	0.230	0.237	0.246	4.32	0.69	0.0	8.4	8.5	8.3	8.7
February	29.36	29.79	28.76	39.2	47.7	51.3	52.9	36.3	44.6	74	28	37	38	38	91	71	63	.222	.233	.233	9.04	2.25	1.0	7.4	7.7	7.7	8.0
March	29.41	29.94	28.78	41.0	50.0	52.7	54.5	38.0	46.2	67	31	37	38	38	86	65	60	.221	.232	.229	7.78	1.63	4.8	7.0	8.5	8.3	8.5
April	29.51	29.84	29.15	44.9	59.1	61.4	64.1	42.5	53.3	80	31	42	44	44	90	60	55	.273	.298	.292	1.90	.64	.0	6.7	6.9	6.8	7.7
May	29.54	29.82	29.24	47.1	66.7	70.8	72.6	44.8	58.7	95	36	43	43	42	86	44	38	.279	.283	.272	.23	.14	.0	5.1	4.9	4.9	5.6
June	29.48	29.72	29.28	52.1	72.4	77.5	78.8	51.0	64.9	96	42	47	48	47	82	43	37	.321	.337	.333	.12	.09	.0	3.0	3.5	2.7	3.7
July	29.46	29.70	29.20	59.1	80.7	86.6	88.2	57.1	72.6	104	47	51	53	51	76	39	32	.377	.401	.383	.05	.05	.0	2.7	1.6	1.2	2.1
August	29.50	29.73	29.26	53.7	74.8	81.4	82.6	52.2	67.4	91	47	47	48	47	78	40	31	.322	.334	.326	.00	.00	.0	1.4	1.4	.8	1.9
September	29.45	29.68	29.16	55.2	73.8	79.4	81.4	52.9	67.2	96	48	51	52	51	86	48	39	.373	.382	.372	1.64	.90	.0	4.5	3.3	2.9	4.0
October	29.48	29.76	29.04	47.8	60.7	63.8	66.2	44.8	55.5	80	31	46	47	47	92	63	57	.313	.330	.329	2.12	.54	.0	6.1	5.6	6.2	6.7
November	29.66	29.98	29.08	39.9	46.3	49.1	51.4	36.0	43.7	61	24	37	38	39	91	74	70	.224	.236	.246	4.40	1.50	.3	6.4	7.0	6.0	7.7
December	29.65	30.01	29.22	38.5	44.4	47.1	48.4	35.4	41.9	63	21	37	39	40	94	82	76	.228	.248	.252	2.28	.92	.0	6.7	8.5	6.5	8.5
Year	29.51	30.16	28.76	46.6	60.1	64.1	65.9	44.0	55.0	104	21	43	44	44	87	59	53	.282	.296	.293	33.88	2.25	6.1	5.4	5.6	5.2	6.1

ROSWELL, N. MEX.

[ϕ=33°24′ N.; λ=104°27′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	26.42	26.88	26.00	31.2	47.5	50.4	55.0	27.5	41.2	75	19	24	25	25	74	43	39	0.126	0.133	0.135	1.15	0.80	6.3	3.2	4.1	3.9	4.0
February	26.42	26.82	26.10	37.7	52.8	57.9	61.2	34.2	47.7	75	18	32	32	31	80	49	41	.186	.188	.178	.93	.65	.6	4.8	6.6	6.0	5.8
March	26.26	26.62	25.95	44.0	62.3	66.0	69.5	39.7	54.6	86	30	27	27	22	54	29	22	.152	.145	.122	.38	.37	.0	2.7	3.9	3.5	3.4
April	26.31	26.69	25.93	48.3	68.0	71.3	74.7	44.2	59.4	91	23	33	32	29	58	29	23	.209	.204	.175	.12	.10	.0	3.7	2.9	3.7	3.5
May	26.26	26.60	25.95	55.5	77.6	81.1	83.5	53.3	68.4	101	35	39	43	39	58	31	24	.250	.292	.250	.03	.03	.0	1.8	3.4	2.9	2.6
June	26.35	26.61	26.04	64.9	84.2	85.4	90.2	63.7	77.0	100	56	54	55	51	69	40	37	.426	.442	.391	1.76	.62	.0	3.6	3.4	5.5	4.2
July	26.39	26.56	26.21	66.8	84.6	85.4	89.4	65.4	77.4	99	57	59	57	56	78	41	41	.508	.466	.457	1.56	.73	.0	4.0	2.8	3.6	3.6
August	26.40	26.59	26.19	66.8	87.0	89.0	91.6	65.5	78.6	102	60	54	53	51	65	33	29	.428	.411	.379	.48	.34	.0	1.5	1.3	2.8	2.1
September	26.44	26.65	26.29	59.9	78.7	80.2	84.8	58.4	71.6	91	52	52	52	50	78	43	40	.415	.404	.381	1.45	.71	.0	2.8	2.8	3.9	3.3
October	26.43	26.72	26.17	50.5	70.9	72.4	76.7	47.7	62.2	86	32	40	40	40	69	36	35	.262	.263	.265	.96	.70	.0	2.5	2.9	2.7	3.1
November	26.42	26.91	25.98	33.9	54.8	55.4	61.9	28.1	45.0	78	7	16	15	18	51	23	25	.099	.092	.100	.02	.02	T	1.7	1.7	1.8	1.8
December	26.43	26.79	26.07	32.9	48.2	51.0	56.3	27.5	41.9	73	15	20	22	23	62	38	35	.112	.120	.125	.24	.19	.0	2.5	3.3	3.3	3.2
Year	26.38	26.91	25.93	49.4	68.0	70.5	74.6	46.3	60.4	102	7	38	38	36	66	36	33	.264	.263	.246	9.08	.80	6.9	2.9	3.3	3.6	3.4

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

RICHMOND, VA.

[H=162 ft.; H_b=144 ft.; h_t=11 ft.; h_r=3 ft.; h_a=52 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	8.1	SW.	32	SW.	1	3	11	6	8	4	17	8	5	0	8	10	13	14	11	4	2	0	5	2	3	0	21	0	1
February	9.1	NE.	31	NW.	0	7	9	7	7	3	13	4	6	0	8	6	14	9	6	4	1	0	4	1	0	0	11	2	0
March	9.6	SW.	31	W.	0	3	12	3	6	5	26	3	4	0	10	11	10	12	9	0	0	0	4	3	0	0	6	4	0
April	8.3	SW.	32	SW.	1	2	11	4	10	2	19	6	6	0	14	6	10	9	9	0	0	0	3	0	0	0	0	0	0
May	7.7	NW.	38	W.	3	1	12	8	9	8	10	4	10	0	10	10	11	13	11	0	0	0	5	2	0	1	0	7	0
June	7.3	SW.	30	NW.	0	5	10	5	9	4	17	4	6	0	10	8	12	13	11	0	0	1	0	0	0	1	0	8	0
July	7.1	SW.	31	NW.	0	0	4	3	3	7	35	6	4	0	11	10	10	15	14	0	0	0	0	0	0	7	0	10	0
August	6.5	SW.	18	SW.	0	4	11	3	8	4	21	5	6	0	15	12	4	6	5	0	0	0	0	0	0	11	0	5	0
September	6.9	NE.	28	N.	0	2	16	11	7	4	11	5	4	0	8	9	13	10	9	0	0	0	2	0	0	1	0	3	0
October	7.2	NE.	24	NE.	0	9	13	9	6	4	10	2	6	3	20	7	4	5	4	0	0	0	9	3	0	0	0	1	0
November	7.7	SW.	24	SW.	0	5	10	2	8	9	15	6	5	0	16	8	6	9	7	4	3	0	7	5	0	0	6	1	0
December	8.0	SW.	24	W.	0	3	14	7	4	2	13	12	7	0	15	5	11	10	8	1	0	0	5	2	0	0	17	0	0
Year	7.8	SW.	38	W.	5	44	133	68	85	56	207	65	69	3	145	102	118	125	104	13	6	1	44	18	3	21	61	41	1

ROCHESTER, N. Y.

[H=498 ft.; H_b=523 ft.; h_t=86 ft.; h_r=77 ft.; h_a=102 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.3	SW.	28	SW.	0	1	3	3	5	9	21	16	4	0	2	7	22	16	8	23	13	0	3	1	16	0	30	0	0
February	9.0	SW.	23	W.	0	2	6	2	7	7	9	14	9	0	4	3	21	18	15	13	11	0	3	2	10	0	24	1	0
March	10.0	W.	32	SW.	1	0	6	3	3	9	17	19	5	0	4	9	18	14	8	11	7	0	2	0	5	0	17	1	0
April	9.7	SW.	28	W.	0	2	5	7	2	3	21	10	10	0	8	6	16	11	7	6	5	0	2	0	1	0	10	2	0
May	8.3	W.	33	W.	1	3	8	6	7	3	14	19	2	0	9	8	14	12	8	0	0	0	1	0	0	0	0	5	0
June	7.5	SW.	28	W.	0	7	6	0	2	4	23	11	7	0	12	10	8	9	8	0	0	0	0	0	0	1	0	3	0
July	7.2	SW.	23	SW.	0	6	11	1	1	4	25	8	6	0	11	9	11	11	10	0	0	0	3	0	0	1	0	9	0
August	8.2	SW.	25	SW.	0	4	5	1	1	3	29	8	11	0	10	16	5	9	9	0	0	0	3	1	0	3	0	6	0
September	7.7	SW.	30	SW.	0	2	10	6	7	3	15	11	6	0	8	11	11	11	10	0	0	0	6	0	0	0	0	2	0
October	7.4	SW.	24	W.	0	10	11	3	0	4	17	14	2	1	11	7	13	3	3	0	0	0	6	1	0	0	0	0	0
November	9.1	SW.	31	W.	0	1	3	2	3	12	22	14	3	0	8	7	15	8	8	8	3	0	3	0	7	0	13	0	0
December	9.4	SW.	34	SW.	2	2	0	1	7	10	18	17	7	0	1	5	25	20	9	21	13	0	2	1	8	0	23	0	0
Year	8.6	SW.	34	SW.	4	40	74	35	45	71	231	161	72	1	88	98	179	142	103	82	52	0	34	6	47	5	117	29	0

ROSEBURG, OREG.

[H=479 ft.; H_b=510 ft.; h_t=45 ft.; h_r=41 ft.; h_a=76 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	3.9	S.	18	SW.	0	8	6	5	5	16	8	5	5	4	1	4	26	18	16	0	0	0	22	13	0	0	4	0	0
February	4.2	S.	18	S.	0	3	1	6	8	10	9	5	13	1	3	3	22	20	18	3	2	0	16	5	0	0	4	0	0
March	5.4	S.	23	S.	0	3	3	6	5	16	16	5	5	3	0	8	23	20	19	5	4	0	13	5	0	0	3	0	0
April	4.3	N.	15	N.	0	8	7	3	2	8	8	5	12	7	1	11	18	15	8	0	0	0	5	1	0	0	1	0	0
May	4.9	N.	18	NW.	0	23	8	1	3	3	2	8	12	2	9	10	12	5	2	0	0	0	2	0	0	3	0	0	0
June	5.7	N.	18	SW.	0	27	10	1	1	0	2	3	9	7	19	3	8	2	2	0	0	0	0	0	0	4	0	0	0
July	5.0	N.	18	N.	0	24	15	0	0	0	1	0	11	11	23	6	2	1	1	0	0	0	6	0	0	14	0	1	2
August	5.3	N.	18	N.	0	25	9	1	0	0	1	3	12	11	24	5	2	0	0	0	0	0	0	0	0	3	0	0	0
September	3.9	NW.	21	SW.	0	18	3	2	1	3	4	5	13	11	14	8	8	5	4	0	0	1	5	2	0	5	0	2	0
October	3.6	NW.	15	S.	0	13	8	9	2	9	8	3	9	1	7	7	17	10	9	0	0	0	22	17	0	0	1	2	0
November	3.9	S.	21	S.	0	9	1	7	3	10	7	6	13	4	2	10	18	15	8	2	1	0	26	18	0	0	10	0	0
December	3.3	N.	24	W.	0	9	5	9	2	8	6	3	13	7	1	6	24	9	7	0	0	0	27	17	0	0	13	0	0
Year	4.4	N.	24	W.	0	170	76	50	32	83	72	51	127	69	104	81	180	120	94	10	7	1	138	78	0	29	36	5	2

ROSWELL, N. MEX.

[H=3,563 ft.; H_b=3,566 ft.; h_t=75 ft.; h_r=69 ft.; h_a=85 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.6	S.	35	NW.	2	5	12	3	3	14	4	4	13	4	16	9	6	4	4	3	3	0	2	2	0	0	23	0	1
February	7.7	S.	28	S.	0	9	4	4	9	14	6	2	6	2	5	17	6	4	4	2	2	0	6	4	0	0	13	1	0
March	10.4	W.	37	W.	3	4	5	4	6	5	13	11	13	1	17	12	2	2	1	0	0	1	0	0	0	0	5	1	0
April	11.0	S.	38	SW.	3	7	7	4	6	18	6	6	4	2	15	12	3	2	1	0	0	0	0	0	0	1	7	2	1
May	9.6	S.	35	NE.	3	2	7	9	8	8	10	6	11	1	19	10	2	1	0	0	0	0	0	0	0	7	0	3	0
June	8.9	S.	38	NW.	4	4	4	11	14	11	5	7	3	1	12	14	4	12	9	0	0	0	0	0	0	19	0	13	0
July	6.7	S.	26	SW.	0	7	5	8	6	17	4	7	8	0	15	13	3	12	7	0	0	0	0	0	0	17	0	10	0
August	7.8	S.	26	NW.	0	1	1	4	11	24	10	4	7	0	22	8	1	4	2	0	0	0	0	0	0	21	0	8	0
September	6.0	S.	26	S.	0	6	2	7	14	11	3	6	11	0	18	6	6	8	6	0	0	0	1	1	0	1	0	6	0
October	7.2	S.	27	W.	0	8	2	5	9	19	4	2	12	1	19	8	4	6	5	0	0	1	1	0	0	0	0	7	0
November	8.0	S.	32	W.	1	4	6	2	4	16	8	8	13	0	25	4	1	1	0	0	0	0	0	0	0	0	19	0	0
December	6.4	S.	33	NW.	1	6	8	6	3	18	5	7	9	0	20	7	4	3	3	0	0	0	2	1	0	0	24	0	0
Year	8.1	S.	38	NW.	17	63	63	67	93	174	78	70	110	12	203	120	42	59	42	6	5	2	12	8	0	66	91	51	2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SACRAMENTO, CALIF.

[ϕ=38°35′ N.; λ=121°30′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.06	30.56	29.51	41.8	47.4	50.1	51.1	39.5	45.3	60	32	40	42	42	91	82	76	0.243	0.266	0.271	3.50	1.44	0.0	5.2	7.3	6.1	6.9
February	29.95	30.30	29.21	45.5	52.9	55.8	57.2	43.4	50.3	70	35	42	43	44	86	69	66	.264	.276	.287	3.24	1.55	.0	5.5	6.6	6.5	6.7
March	29.96	30.23	29.51	46.6	56.3	58.5	59.8	44.4	52.1	72	34	42	40	39	84	56	51	.272	.253	.248	3.92	1.48	.0	4.9	6.4	5.6	5.9
April	29.96	30.20	29.63	49.7	63.0	65.9	67.7	48.4	58.0	84	41	45	47	47	86	57	53	.306	.325	.326	1.51	.79	.0	3.7	5.2	6.2	5.8
May	29.87	30.15	29.63	53.9	73.4	78.5	80.0	52.5	66.2	95	44	47	46	45	79	39	34	.326	.321	.309	.04	.02	.0	2.6	2.2	2.9	2.4
June	29.76	30.01	29.56	58.4	79.6	84.8	86.5	56.9	71.7	99	51	49	51	50	72	39	32	.348	.388	.375	T	T	.0	2.0	1.8	2.4	2.1
July	29.82	30.03	29.62	59.9	83.7	90.5	91.6	59.1	75.4	106	51	52	55	53	76	39	30	.388	.444	.411	T	T	.0	.7	.6	.8	.8
August	29.81	29.98	29.60	59.6	82.7	88.9	90.5	58.0	74.2	103	52	49	52	48	70	35	26	.352	.382	.338	.00	.00	.0	.5	.7	.5	.5
September	29.83	30.07	29.61	61.0	80.7	86.3	87.5	58.7	73.1	101	54	51	52	50	70	39	32	.374	.394	.366	.30	.29	.0	1.2	1.8	2.3	2.0
October	29.92	30.09	29.71	54.4	67.9	71.5	72.9	51.4	62.2	84	42	48	48	47	80	52	44	.335	.341	.331	1.29	.39	.0	3.0	3.9	4.4	4.2
November	30.07	30.34	29.78	43.2	59.3	63.1	64.3	39.7	52.0	72	30	34	34	34	71	41	36	.204	.206	.206	.88	.50	.0	1.6	2.4	2.7	2.5
December	30.07	30.42	29.67	43.0	50.3	53.8	54.6	40.8	47.7	64	31	41	43	43	92	77	70	.260	.281	.285	.71	.45	.0	5.5	6.1	7.1	6.9
Year	29.92	30.56	29.21	51.4	66.4	70.6	72.0	49.4	60.7	106	30	45	46	45	80	52	46	.306	.323	.313	20.39	1.55	.0	3.0	3.8	4.0	3.9

ST. JOSEPH, MO.

[ϕ=39°49′ N.; λ=94°51′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.01	29.58	28.45	25.5	32.4	33.3	38.2	21.4	29.8	60	−1	20	20	20	79	59	57	0.118	0.116	0.116	1.22	0.99	T	5.0	4.8	4.4	5.2
February	29.10	29.52	28.65	32.0	39.5	40.4	45.7	26.7	36.2	69	12	28	29	31	84	66	68	.164	.174	.186	.46	.20	1.1	6.4	5.8	6.5	6.5
March	28.83	29.32	28.31	43.4	55.6	55.2	62.0	39.3	50.6	83	21	36	37	36	75	52	53	.219	.234	.229	1.69	.72	T	5.3	5.1	5.0	5.4
April	28.93	29.31	28.56	47.2	59.4	60.7	64.1	45.3	54.7	83	26	40	41	40	76	54	50	.266	.290	.271	3.18	1.26	4.0	5.5	5.0	4.2	5.4
May	28.85	29.18	28.23	56.7	69.5	68.4	73.6	53.8	63.7	88	37	52	53	53	85	58	60	.405	.430	.421	4.70	1.63	.0	5.8	6.5	5.3	6.5
June	28.95	29.27	28.63	65.6	78.8	80.1	83.4	63.1	73.2	97	53	60	60	60	84	54	52	.534	.535	.535	2.10	.82	.0	5.3	5.2	3.6	5.2
July	28.92	29.10	28.65	72.0	87.7	89.2	93.3	70.6	82.0	103	62	64	64	62	78	47	43	.611	.596	.570	2.85	1.90	.0	3.2	2.4	2.2	2.4
August	28.95	29.19	28.69	71.3	86.6	87.6	91.6	70.1	80.8	100	61	65	67	67	81	53	52	.624	.665	.662	6.85	2.81	.0	3.8	2.8	3.0	3.2
September	28.99	29.27	28.65	61.5	79.0	78.0	83.8	59.6	71.7	98	39	55	56	55	80	47	48	.461	.479	.471	1.24	.60	.0	3.0	3.1	2.2	2.9
October	29.02	29.26	28.52	54.6	74.6	71.5	79.8	52.4	66.1	94	32	43	44	44	65	35	38	.293	.310	.304	.14	.11	.0	2.3	1.8	1.8	2.2
November	28.98	29.46	28.44	37.0	48.3	46.2	53.3	32.8	43.0	82	11	28	28	28	70	48	49	.171	.173	.163	1.90	1.54	T	3.2	3.9	3.3	3.9
December	29.02	29.51	28.62	28.9	38.2	37.2	43.6	25.1	34.4	57	6	23	22	23	79	52	57	.131	.124	.131	.65	.53	T	2.9	3.2	3.7	3.7
Year	28.96	29.58	28.23	49.6	62.2	62.3	67.7	46.7	57.2	103	−1	43	43	43	78	52	52	.333	.344	.338	26.98	2.81	5.1	4.3	4.1	3.8	4.4

ST. LOUIS, MO.

[ϕ=38°38′ N.; λ=90°12′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.44	30.05	28.46	29.4	33.8	35.9	41.8	25.1	33.4	62	5	23	24	26	75	66	66	0.133	0.139	0.150	1.31	0.53	1.1	5.5	6.2	5.7	6.0
February	29.55	30.00	28.98	39.2	44.8	44.8	49.1	35.2	42.2	76	16	34	35	36	83	70	72	.214	.221	.230	3.51	1.37	1.6	7.1	7.3	7.4	7.1
March	29.31	29.81	28.78	46.0	55.7	57.5	63.7	43.7	53.7	82	27	40	40	42	79	60	60	.260	.265	.293	9.52	2.74	.0	6.1	5.4	6.2	5.5
April	29.38	29.72	29.03	50.9	62.4	62.5	66.9	48.7	57.8	88	31	43	42	42	74	49	50	.298	.283	.281	3.34	1.23	.3	5.2	5.1	5.3	4.8
May	29.30	29.61	28.87	59.9	70.2	69.6	74.2	57.5	65.8	87	44	52	52	54	75	55	60	.405	.418	.444	5.97	2.13	.0	5.7	5.5	5.2	5.5
June	29.40	29.71	29.12	68.3	77.8	78.7	83.0	65.5	74.2	94	58	60	58	59	76	52	54	.532	.497	.521	4.50	2.29	.0	5.3	4.4	5.4	4.9
July	29.36	29.51	29.15	74.7	86.6	85.3	90.7	72.4	81.6	101	67	65	64	64	72	48	52	.623	.599	.619	3.64	1.90	.0	4.1	3.1	4.1	3.6
August	29.40	29.58	29.24	74.5	86.3	87.0	91.0	72.5	81.8	100	64	67	66	68	78	53	54	.666	.650	.682	1.15	.55	.0	4.0	3.1	2.5	3.1
September	29.40	29.59	29.03	65.9	78.9	77.9	83.3	64.7	74.0	98	45	58	57	57	75	48	50	.503	.482	.487	1.01	.65	.0	3.1	3.7	3.5	3.3
October	29.49	29.77	28.95	56.2	72.3	70.0	76.5	54.5	65.5	90	36	42	43	43	61	36	40	.280	.290	.299	1.17	.74	.0	1.4	1.6	1.1	1.7
November	29.45	29.88	28.61	41.6	52.0	50.9	57.6	38.7	48.2	81	15	31	33	33	66	50	53	.186	.208	.210	4.04	2.08	2.4	4.0	3.5	3.6	3.7
December	29.47	30.00	29.04	32.5	38.9	38.7	43.2	29.6	36.4	62	13	24	25	27	70	57	62	.136	.143	.151	2.06	.90	.2	4.9	5.2	3.8	5.5
Year	29.41	30.05	28.46	53.3	63.3	63.2	68.4	50.7	59.6	101	5	45	45	46	74	54	56	.353	.350	.364	41.22	2.74	5.6	4.7	4.5	4.5	4.6

SALT LAKE CITY, UTAH[1]

[ϕ=40°46′ N.; λ=111°54′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	25.83	26.38	25.32	30.4	40.9	38.9	44.6	26.8	35.7	59	16	24	27	28	78	57	64	0.129	0.143	0.150	0.55	0.17	2.4	5.5	6.4	6.8	6.0
February	25.73	26.05	25.21	33.2	41.4	41.1	44.6	29.2	36.9	58	10	26	27	28	75	57	60	.140	.147	.153	.89	.41	12.5	7.9	6.9	7.6	7.3
March	25.62	25.93	25.07	36.1	44.7	44.9	49.4	30.6	40.0	64	17	28	28	28	71	53	53	.152	.154	.155	3.11	.90	13.9	6.7	7.1	7.1	6.9
April	25.68	26.09	25.25	43.4	57.7	58.8	62.4	37.6	50.0	82	22	30	30	30	62	41	38	.172	.171	.164	1.13	.70	T	6.2	6.3	6.9	6.3
May	25.68	25.89	25.37	46.5	63.2	64.5	67.7	42.7	55.2	87	29	38	35	34	75	40	37	.237	.206	.196	2.04	.84	.3	6.1	6.0	5.5	5.9
June	25.66	25.90	25.38	57.2	79.1	79.8	83.0	52.7	67.8	93	40	42	40	38	58	27	25	.270	.255	.239	.12	.07	.0	4.3	4.8	6.0	4.9
July	25.76	25.93	25.51	62.0	84.6	85.7	88.6	58.9	73.8	101	44	47	48	46	61	30	28	.330	.344	.313	.51	.33	.0	2.7	3.3	3.7	3.2
August	25.73	25.90	25.47	63.4	85.0	85.7	89.0	59.1	74.0	99	47	46	42	41	54	24	23	.318	.285	.274	.23	.21	.0	3.4	3.6	4.8	3.5
September	25.77	25.98	25.51	58.0	79.3	80.0	83.5	53.9	68.7	90	47	42	40	39	56	27	24	.273	.256	.241	.09	.04	.0	2.4	3.5	4.8	3.4
October	25.76	26.07	25.33	46.7	62.9	60.1	66.0	42.1	54.0	80	28	36	36	38	69	40	47	.217	.210	.220	1.49	1.14	T	4.3	4.6	5.3	4.5
November	25.86	26.38	25.31	27.1	38.1	35.3	41.6	23.1	32.4	56	13	22	25	25	78	57	66	.118	.133	.138	1.48	.63	1.5	3.0	5.0	5.4	4.6
December	25.85	26.11	25.46	30.3	38.5	36.3	41.3	26.9	34.1	56	17	26	29	30	84	68	76	.144	.162	.166	1.41	.65	2.8	6.2	7.4	7.8	7.2
Year	25.74	26.38	25.07	44.5	59.6	59.3	63.5	40.3	51.9	101	10	34	34	34	68	43	45	.208	.206	.202	13.05	1.14	33.4	4.9	5.4	6.0	5.3

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SACRAMENTO, CALIF.

[H=25 ft.; H_b=66 ft.; h_t=92 ft.; h_r=84 ft.; h_a=115 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	6.5	SE.	31	SE.	0	10	3	2	27	6	2	0	6	6	8	5	18	13	10	0	0	0	18	15	0	0	1	0	1
February	9.2	SE.	46	S.	1	12	0	2	18	12	4	2	4	2	5	8	15	16	15	0	0	0	5	4	0	0	0	3	0
March	8.8	S.	29	NW.	0	7	1	0	18	15	11	3	7	0	9	8	14	13	11	0	0	0	0	0	0	0	0	0	0
April	7.5	S.	24	NW.	0	3	2	0	13	12	12	6	10	2	8	10	12	6	4	0	0	0	0	0	0	0	0	0	2
May	7.7	SW.	26	NW.	0	4	1	2	7	14	13	3	17	1	23	6	2	3	0	0	0	0	0	0	0	5	0	1	0
June	8.4	S.	25	NW.	0	0	1	0	4	23	24	3	5	0	21	8	1	0	0	0	0	0	0	0	0	9	0	1	0
July	7.9	S.	22	SW.	0	0	0	0	11	23	27	1	0	0	27	4	0	0	0	0	0	0	0	0	0	17	0	0	0
August	7.4	S.	22	SW.	0	1	0	0	10	21	25	1	4	0	29	2	0	0	0	0	0	0	0	0	0	17	0	0	0
September	6.1	S.	17	S.	0	0	2	1	9	16	15	3	11	3	23	5	2	2	1	0	0	0	0	0	0	13	0	1	0
October	6.0	SE.	18	SW.	0	5	4	2	18	9	8	5	9	2	15	9	7	6	5	0	0	0	1	1	0	0	0	0	0
November	6.3	N.	28	NW.	0	17	4	3	6	5	3	3	17	2	21	6	3	4	2	0	0	0	2	1	0	0	3	0	0
December	5.4	N.	23	NW.	0	10	4	3	18	7	3	6	11	0	7	8	16	7	4	0	0	0	20	11	0	0	1	0	0
Year	7.3	S.	46	S.	1	69	22	15	159	163	147	36	101	18	196	79	90	70	52	0	0	0	46	32	0	61	5	6	3

ST. JOSEPH, MO.

[H=957 ft.; H_b=967 ft.; h_t=11 ft.; h_r=3 ft.; h_a=49 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.1	NW.	34	NW.	2	4	4	5	6	8	7	6	22	0	12	7	12	4	3	10	2	0	6	2	7	0	27	1	0
February	10.1	NW.	25	NW.	0	4	7	7	7	7	4	2	18	0	7	9	12	7	3	7	5	0	7	2	5	0	21	0	0
March	10.8	NW.	32	W.	1	3	4	9	6	10	10	5	15	0	9	12	10	10	5	1	0	0	5	3	0	0	6	3	0
April	11.1	S.	30	W.	0	7	5	7	7	17	5	1	11	0	11	6	13	10	10	2	2	2	4	1	1	0	6	6	0
May	9.1	S.	27	W.	0	4	5	9	4	15	7	8	10	0	4	13	14	18	14	0	0	0	3	1	0	0	0	10	0
June	8.0	SE.	28	NW.	0	2	3	9	14	15	8	2	7	0	9	13	8	11	9	0	0	0	2	2	0	5	0	10	0
July	7.1	S.	32	NW.	1	3	4	4	9	12	21	1	7	1	23	6	2	7	6	0	0	0	0	0	0	20	0	10	0
August	8.0	S.	22	E.	0	4	13	9	7	19	8	1	1	0	10	7	5	10	9	0	0	0	0	0	0	19	0	11	0
September	6.5	S.	21	NW.	0	4	8	5	6	16	3	3	10	5	19	8	3	9	6	0	0	0	4	0	0	9	0	4	1
October	8.0	S.	24	NW.	0	3	2	4	16	19	6	3	8	1	24	5	2	2	1	0	0	0	1	0	0	5	0	3	0
November	9.7	S.	27	S.	0	5	2	3	3	19	9	4	15	0	16	7	7	4	3	3	0	0	0	0	3	0	14	0	0
December	8.9	NW.	34	NW.	1	7	3	6	9	6	10	6	15	0	17	8	6	4	3	3	0	0	4	0	3	0	26	1	0
Year	9.0	S.	34	NW.	5	50	60	77	94	163	98	42	139	7	170	101	94	96	72	26	9	2	36	11	19	58	100	59	1

ST. LOUIS, MO.

[H=464 ft.; H_b=568 ft.; h_t=179 ft.; h_r=172 ft.; h_a=303 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	13.4	W.	35	SW.	5	2	0	7	4	8	12	24	5	0	9	7	15	8	7	10	4	0	7	2	6	0	21	1	0
February	14.0	SW.	39	SW.	3	5	7	6	4	8	9	7	10	0	5	5	18	11	8	6	4	0	7	3	0	0	12	3	0
March	14.2	S.	41	S.	4	5	4	5	8	13	13	3	11	0	12	5	14	13	13	0	0	3	7	1	0	0	4	9	0
April	13.5	SW.	34	SW.	2	1	9	6	3	12	13	2	14	0	11	13	6	13	12	3	1	0	3	0	0	0	3	4	0
May	11.7	S.	38	SW.	1	4	4	5	7	13	12	5	12	0	11	11	9	11	11	0	0	0	3	0	0	0	0	8	0
June	10.2	SW.	31	NW.	0	2	12	4	2	10	15	4	11	0	9	14	7	14	10	0	0	0	3	0	0	4	0	11	0
July	9.1	SW.	33	NW.	1	5	8	6	3	8	19	6	7	0	19	6	6	7	4	0	0	0	0	0	0	17	0	7	0
August	10.3	S.	30	SW.	0	1	7	5	9	17	12	3	8	0	18	10	3	9	5	0	0	0	2	0	0	18	0	6	0
September	9.1	SW.	24	NW.	0	4	4	2	7	7	18	4	14	0	17	8	5	6	4	0	0	0	0	0	0	7	0	4	0
October	10.3	SW.	26	SW.	0	0	3	9	13	10	11	8	8	0	25	4	2	4	4	0	0	0	0	0	0	0	0	2	0
November	14.1	S.	43	SW.	3	1	2	2	2	20	15	6	12	0	17	5	8	8	8	6	2	0	1	0	2	0	9	2	0
December	11.6	NW.	32	NW.	1	3	1	0	7	10	18	5	18	0	11	7	13	8	7	2	2	0	3	0	2	0	10	1	0
Year	11.8	SW.	43	SW.	20	33	61	57	69	136	167	77	130	0	164	95	106	112	93	27	13	3	36	6	10	46	68	58	0

SALT LAKE CITY, UTAH[1]

[H=4,222 ft.; H_b=4,227 ft.; h_t=32 ft.; h_r=31 ft.; h_a=46 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.0	SE.	38	NW.	4	5	0	4	18	11	4	3	15	2	8	8	15	6	6	10	4	0	2	0	1	0	24	0	1
February	10.5	SE.	35	W.	4	2	2	4	19	15	5	2	6	1	4	9	15	9	5	11	6	0	4	1	3	0	19	0	0
March	11.2	SE.	50	NW.	6	4	2	1	12	17	0	11	13	2	3	13	15	10	10	11	5	0	1	0	0	0	20	0	0
April	9.6	SE.	36	SE.	3	6	2	1	17	9	4	1	20	0	3	16	11	7	5	2	0	1	0	0	0	0	4	3	1
May	8.8	SE.	33	NW.	2	14	4	5	18	9	3	2	7	0	7	12	12	11	8	4	2	1	1	0	0	0	1	6	0
June	9.3	S.	45	W.	4	9	8	2	16	10	3	3	7	2	11	10	9	5	1	0	0	0	0	0	0	5	0	8	0
July	9.4	SE.	36	NE.	2	5	4	6	17	11	1	4	13	1	18	9	4	4	3	0	0	1	0	0	0	17	0	9	1
August	9.3	SE.	40	NW.	2	10	5	6	18	13	0	3	6	1	15	14	2	4	1	0	0	0	0	0	0	14	0	8	0
September	9.6	SE.	31	SW.	0	4	5	3	25	11	2	3	7	0	16	12	2	3	1	0	0	0	0	0	0	1	0	4	0
October	9.7	SE.	44	S.	3	6	0	5	16	17	1	3	12	2	14	9	8	6	4	1	0	0	1	0	0	0	2	3	0
November	8.0	SE.	41	NW.	3	4	2	1	19	8	3	5	16	2	14	8	8	8	5	9	3	0	0	0	3	0	28	1	0
December	6.6	SE.	22	S.	0	5	1	3	15	11	4	5	16	2	6	7	18	6	5	8	6	0	7	2	0	0	26	0	0
Year	9.2	SE.	50	NW.	33	74	35	41	210	142	30	45	138	15	119	127	119	79	54	56	26	3	16	3	7	37	124	42	3

[1] Observations taken at airport.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAN ANTONIO, TEX.

[ϕ=29°27′ N.; λ=98°28′W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.37	29.90	29.01	49.3	58.2	59.3	63.4	45.6	54.5	85	27	42	41	41	77	57	55	0.290	0.284	0.287	3.35	2.39	0.0	4.8	6.0	4.9	5.6
February	29.41	29.71	29.04	54.5	64.0	66.8	69.6	53.0	61.3	82	28	49	50	50	84	63	57	.388	.393	.390	.33	.16	.0	7.4	7.6	6.4	6.9
March	29.19	29.68	28.88	60.6	72.2	75.4	78.2	58.4	68.3	88	43	54	55	56	81	60	54	.444	.474	.478	3.82	2.52	.0	6.3	5.5	4.5	5.5
April	29.25	29.59	28.68	59.7	70.3	72.8	75.8	58.0	66.9	88	36	55	57	58	86	64	61	.480	.510	.521	6.06	2.75	.0	7.3	6.8	5.0	6.1
May	29.10	29.45	28.82	67.0	78.9	80.7	84.1	66.3	75.2	92	53	64	65	66	88	64	63	.613	.631	.656	3.88	2.15	.0	7.0	5.2	4.8	5.2
June	29.24	29.44	29.02	73.8	86.5	87.1	91.6	73.2	82.4	95	68	71	69	68	91	57	55	.756	.715	.686	.65	.30	.0	5.6	5.2	4.9	5.3
July	29.22	29.40	29.08	75.1	90.2	92.3	95.3	74.8	85.0	98	73	72	70	67	90	52	45	.782	.730	.659	.91	.89	.0	5.2	4.1	4.6	4.2
August	29.28	29.45	29.04	74.8	90.0	90.9	94.6	74.6	84.6	100	70	71	67	66	88	48	45	.763	.672	.633	.44	.20	.0	5.5	4.1	4.7	4.7
September	29.28	29.53	29.09	69.6	87.0	86.2	90.3	69.0	79.6	96	59	63	60	60	80	42	44	.601	.539	.542	1.82	1.02	.0	4.1	4.3	4.1	4.4
October	29.32	29.53	29.08	62.3	81.3	80.6	85.2	61.0	73.1	96	41	54	55	54	77	42	42	.440	.457	.433	.13	.07	.0	2.2	3.1	1.9	2.9
November	29.38	29.90	28.87	52.0	64.6	64.0	69.2	47.8	58.5	86	29	42	42	42	69	46	46	.323	.316	.309	.63	.49	.0	5.9	4.6	3.5	4.7
December	29.38	29.90	29.08	48.2	60.2	61.1	66.2	45.5	55.8	81	29	38	40	39	70	50	48	.257	.271	.254	1.24	1.05	.0	5.5	4.7	4.1	4.8
Year	29.29	29.90	28.68	62.3	75.3	76.4	80.3	60.6	70.4	100	27	56	56	56	82	54	51	.511	.499	.487	23.26	2.75	.0	5.6	5.1	4.4	5.0

SAN DIEGO, CALIF.

[ϕ=32°43′ N.; λ=117°10′W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.97	30.34	29.75	52.2	65.3	63.1	67.5	49.4	58.4	79	42	40	42	46	66	47	57	0.261	0.277	0.321	0.89	0.47	0.0	2.5	4.1	5.6	4.4
February	29.97	30.19	29.75	52.0	62.4	60.6	64.5	49.8	57.2	79	43	45	46	48	78	58	66	.304	.315	.343	3.26	1.02	.0	4.6	6.1	5.9	6.0
March	29.93	30.16	29.65	53.1	61.3	60.4	63.6	50.8	57.2	73	46	47	47	48	80	62	65	.322	.333	.341	3.73	1.69	.0	5.5	5.6	6.5	5.8
April	29.90	30.06	29.76	55.3	63.3	62.6	66.1	53.8	60.0	80	47	48	49	49	78	61	64	.344	.352	.355	.44	.28	.0	5.9	4.3	5.4	5.1
May	29.86	30.00	29.68	57.4	64.7	64.1	67.1	56.0	61.6	79	51	52	54	52	85	68	68	.398	.414	.398	.15	.06	.0	7.9	4.3	4.7	5.6
June	29.82	29.95	29.63	60.1	65.0	65.1	67.4	59.0	63.2	70	56	55	55	56	84	71	72	.438	.441	.447	.01	.01	.0	9.4	4.2	4.2	5.9
July	29.85	30.01	29.70	63.4	69.0	68.7	71.4	62.2	66.8	77	58	60	60	60	88	74	75	.513	.520	.522	T	T	.0	9.1	3.0	2.1	4.8
August	29.82	29.94	29.65	65.7	71.9	70.9	74.4	64.6	69.5	78	62	62	62	62	86	72	74	.547	.560	.559	.03	.03	.0	8.5	3.9	3.8	4.7
September	29.79	30.01	29.66	65.3	73.5	72.8	76.8	64.1	70.4	88	58	62	62	63	88	68	72	.546	.557	.573	.00	.00	.0	6.7	4.2	2.4	4.3
October	29.88	30.00	29.72	58.7	67.8	67.1	70.6	56.6	63.6	82	47	54	55	55	83	64	68	.414	.431	.444	.23	.15	.0	4.9	4.2	3.7	4.7
November	29.96	30.14	29.72	52.1	66.5	63.7	69.2	49.2	59.2	78	42	33	37	43	52	38	52	.201	.239	.298	.02	.02	.0	2.2	1.8	2.6	2.8
December	29.94	30.25	29.64	54.3	65.6	62.9	67.8	51.4	59.6	84	44	44	46	49	71	52	64	.300	.313	.358	4.25	2.50	.0	4.1	5.2	5.0	5.3
Year	29.89	30.34	29.63	57.5	66.4	65.2	68.9	55.6	62.2	88	42	50	51	53	78	61	66	.382	.396	.413	13.01	2.50	.0	5.9	4.2	4.3	5.0

SANDUSKY, OHIO

[ϕ=41°25′N.; λ=82°40′W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.30	29.96	28.44	25.6	30.9	----	34.9	21.5	28.2	60	6	21	23	---	82	70	---	0.117	0.128	----	0.91	0.19	5.9	7.7	7.8	----	8.1
February	29.49	30.04	28.74	32.7	37.6	----	41.4	27.6	34.5	68	12	28	31	---	82	76	---	.165	.183	----	3.25	1.15	2.9	9.0	8.6	----	8.4
March	29.26	29.70	28.76	39.5	49.5	----	54.2	35.0	44.6	84	13	34	37	---	82	63	---	.218	.240	----	3.11	.89	.7	7.5	6.7	----	6.6
April	29.34	29.71	28.81	45.9	55.3	----	58.8	41.4	50.1	87	25	38	38	---	74	55	---	.240	.248	----	2.11	1.05	4.4	5.8	6.1	----	6.1
May	29.25	29.58	28.65	55.7	66.4	----	69.7	50.1	59.9	87	36	48	49	---	76	56	---	.350	.378	----	5.38	3.83	.0	6.6	6.7	----	6.6
June	29.32	29.60	29.02	66.3	74.9	----	79.2	58.8	69.0	92	50	57	56	---	72	54	---	.471	.463	----	5.68	2.81	.0	5.9	6.1	----	5.8
July	29.29	29.45	29.03	70.9	80.4	----	84.2	66.0	75.1	95	58	63	64	---	77	59	---	.576	.607	----	4.27	1.56	.0	5.9	5.6	----	6.5
August	29.35	29.53	29.11	71.2	82.4	----	86.0	66.1	76.0	94	57	64	64	---	78	56	---	.603	.609	----	1.66	1.26	.0	5.2	5.0	--	5.0
September	29.33	29.63	28.81	60.1	69.2	----	72.8	56.8	64.8	92	44	53	55	---	78	62	---	.413	.445	----	4.42	3.29	.0	7.0	7.4	----	6.7
October	29.43	29.81	28.93	47.8	63.4	----	66.5	45.2	55.8	85	33	42	45	---	82	53	---	.278	.304	----	.75	.30	.0	3.5	3.9	----	3.6
November	29.39	29.71	28.90	38.3	49.6	----	54.7	34.8	44.8	78	11	33	34	---	80	58	---	.201	.212	----	3.26	1.58	8.6	5.3	5.8	----	5.9
December	29.36	29.93	28.86	29.8	34.9	----	38.1	26.6	32.4	53	7	24	25	---	78	66	---	.135	.139	----	1.71	.42	2.7	7.7	8.1	----	8.6
Year	29.34	30.04	28.44	48.6	57.9	----	61.7	44.2	52.9	95	6	42	43	---	78	61	---	.314	.330	----	36.51	3.83	25.2	6.4	6.5	----	6.4

SANDY HOOK, N. J.

[ϕ=40°28′N.; λ=74°01′W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	30.03	30.40	29.22	30.7	33.7	33.4	37.9	27.4	32.6	55	12	25	26	26	78	71	75	0.144	0.146	0.150	3.32	1.37	2.9	7.1	6.7	5.2	6.7
February	30.17	30.80	29.32	32.7	36.2	36.5	41.4	29.6	35.5	57	14	27	28	29	77	72	74	.154	.164	.170	2.22	1.26	.4	6.4	6.8	5.2	6.7
March	29.98	30.36	29.41	39.3	44.8	43.5	49.9	35.6	42.8	71	14	33	34	34	77	67	71	.195	.206	.209	1.89	.70	.7	6.0	6.2	4.4	5.8
April	30.01	30.41	29.07	47.5	55.3	52.2	59.2	44.6	51.9	84	30	40	41	42	75	60	68	.260	.274	.277	2.31	1.03	5.3	6.4	6.7	5.3	5.9
May	29.92	30.39	29.11	55.1	61.6	58.0	64.5	51.9	58.2	79	43	48	48	49	79	63	73	.346	.345	.352	3.32	1.23	.0	7.5	6.9	5.4	6.6
June	29.97	30.35	29.71	65.4	71.6	67.9	74.5	62.1	68.3	88	48	60	60	62	84	68	81	.528	.530	.557	7.00	2.85	.0	7.2	6.9	7.4	6.5
July	29.95	30.14	29.70	71.9	78.4	75.4	81.4	69.2	75.3	91	60	66	67	68	83	71	79	.655	.679	.696	7.27	2.43	.0	6.1	5.4	7.6	6.3
August	29.95	30.14	29.61	72.5	80.4	76.0	83.3	69.5	76.4	93	64	67	66	67	83	63	75	.663	.655	.677	3.56	1.55	.0	4.7	4.9	4.2	4.8
September	29.99	30.36	28.69	62.5	68.1	65.9	71.4	60.1	65.8	83	53	56	56	57	79	67	73	.457	.464	.474	11.15	5.14	.0	6.0	6.0	5.0	5.9
October	30.05	30.37	29.49	54.4	62.4	59.0	65.3	52.5	58.9	82	46	48	48	50	80	60	73	.348	.345	.372	2.09	.96	.0	3.5	3.7	3.0	3.7
November	30.12	30.55	29.54	45.5	50.6	48.8	54.1	42.6	48.4	73	22	39	39	41	79	66	76	.270	.272	.286	4.74	2.56	8.7	6.4	5.1	3.7	5.6
December	30.05	30.58	29.39	35.2	38.9	38.3	42.2	32.2	37.2	55	21	29	30	30	78	69	73	.173	.175	.179	2.07	1.09	.5	6.1	6.4	5.0	6.3
Year	30.02	30.80	28.69	51.1	56.8	54.6	60.4	48.1	54.3	93	12	45	45	46	79	66	74	.349	.355	.367	50.94	5.14	18.6	6.1	6.0	5.1	5.9

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAN ANTONIO, TEX.

[H=659 ft.; H_b=693 ft.; h_t=111 ft.; h_r=103 ft.; h_a=301 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	12.0	N.	34	NW.	1	12	8	14	9	4	4	8	3	0	11	10	10	7	6	0	0	0	9	1	0	0	1	3	0
February	12.7	SE.	36	SE.	1	3	6	16	19	4	0	7	1	0	5	6	17	6	2	0	0	0	6	1	0	0	1	3	0
March	11.8	E.	30	SE.	0	3	7	18	17	8	2	4	2	1	10	7	14	7	6	0	0	1	14	3	0	0	0	8	0
April	12.8	SE.	58	W.	7	1	4	23	21	3	1	3	4	0	4	17	9	10	10	0	0	3	13	0	0	0	0	8	0
May	12.4	SE.	38	W.	2	3	5	22	23	5	2	2	0	0	8	16	7	10	7	0	0	1	5	0	0	4	0	8	0
June	10.8	SE.	35	E.	1	0	0	26	21	10	1	1	0	1	4	24	2	6	6	0	0	1	1	0	0	26	0	8	0
July	9.4	SE.	31	E.	0	3	0	28	21	9	0	0	0	1	14	15	2	4	2	0	0	0	0	0	0	29	0	4	0
August	10.5	SE.	35	E.	2	0	0	24	26	3	0	4	1	4	8	19	4	3	3	0	0	0	0	0	0	30	0	3	0
September	9.5	E.	37	SE.	3	1	3	27	6	9	3	9	2	0	12	13	5	7	5	0	0	0	2	0	0	20	0	4	0
October	10.0	E.	37	SE.	2	5	3	22	12	5	2	10	2	1	18	12	1	2	2	0	0	0	4	0	0	4	0	3	0
November	12.5	S.	28	NW.	4	9	6	9	17	12	1	3	3	0	13	6	11	3	2	0	0	0	3	0	0	0	4	2	0
December	11.3	N.	32	NW.	1	14	15	6	6	10	5	4	2	0	15	5	11	5	3	0	0	0	3	0	0	0	2	0	0
Year	11.3	SE.	53	W.	24	54	57	235	198	82	21	55	20	8	122	150	93	71	54	0	0	6	65	5	0	113	8	54	0

SAN DIEGO, CALIF.

[H=26 ft.; H_b=87 ft.; h_t=62 ft.; h_r=55 ft.; h_a=70 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.5	NW.	27	W.	0	3	4	11	5	5	6	8	20	0	18	3	10	6	5	0	0	0	0	0	0	0	0	1	1
February	6.8	E.	34	S.	1	2	5	11	6	6	6	10	9	1	10	4	14	13	10	0	0	0	0	0	0	0	0	0	0
March	8.1	W.	30	S.	0	1	6	8	6	5	5	19	12	0	8	12	11	10	8	0	0	0	0	0	0	0	0	1	0
April	7.4	W.	22	W.	0	4	3	3	8	7	7	18	10	0	12	7	11	6	8	0	0	0	1	1	0	0	0	0	0
May	7.0	W.	24	W.	0	5	2	4	3	1	9	16	21	1	11	9	11	4	2	0	0	0	3	0	0	0	0	0	0
June	7.3	W.	16	W.	0	3	0	0	2	13	15	20	7	0	8	11	11	1	0	0	0	0	3	0	0	0	0	0	0
July	7.1	W.	15	W.	0	5	1	0	0	2	13	25	16	0	10	16	5	0	0	0	0	0	0	0	0	0	0	1	0
August	6.8	NW.	16	NW.	0	4	0	0	2	7	17	17	15	0	12	14	4	1	0	0	0	0	1	0	0	0	0	2	0
September	6.5	NW.	21	NW.	0	8	1	3	2	6	4	17	19	0	15	9	6	0	0	0	0	0	3	0	0	0	0	0	0
October	6.1	NW.	17	W.	0	3	6	8	2	3	7	11	22	0	12	12	7	2	2	0	0	0	8	3	0	0	0	0	0
November	5.6	NW.	16	W.	0	8	9	3	4	4	4	6	22	0	17	11	2	1	0	0	0	0	4	2	0	0	0	0	0
December	5.6	NW.	22	S.	0	3	10	6	5	6	8	3	21	0	11	6	14	8	8	0	0	1	3	1	0	0	0	0	0
Year	6.6	NW.	34	S.	1	49	47	57	45	65	101	170	194	2	145	114	106	52	38	0	0	1	26	7	0	0	0	5	1

SANDUSKY, OHIO

[H=603 ft.; H_b=629 ft.; h_t=5 ft.; h_r=3 ft.; h_a=67 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.3	SW.	32	SW.	1	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	2	9	20	12	7	17	9	0	3	1	14	0	28	0	0
February	10.5	SW.	26	NW.	0	4	3	3	3	3	6	2	4	0	1	7	20	14	11	12	7	1	2	1	7	0	23	1	0
March	11.4	SW.	29	NW.	0	0	3	2	1	10	10	3	2	0	6	11	14	17	14	6	3	1	0	0	2	0	14	4	0
April	11.4	SW.	27	W.	0	2	2	5	1	4	13	1	2	0	5	13	12	9	5	5	2	0	1	0	0	0	6	3	0
May	8.3	E.	29	SW.	0	1	4	3	4	6	6	4	3	0	5	12	14	10	9	0	0	0	0	0	0	0	0	4	0
June	8.0	S.	24	SW.	0	4	4	0	0	8	10	4	0	0	6	13	11	12	8	0	0	0	0	0	0	1	0	2	0
July	7.2	S.	24	SW.	0	1	1	5	0	5	13	8	3	0	9	11	11	10	9	0	0	1	0	0	0	6	0	8	1
August	7.3	SW.	21	NW.	0	4	1	0	0	12	9	2	3	0	10	12	9	5	4	0	0	0	1	0	0	9	0	4	2
September	8.1	SW.	18	NW.	0	5	3	2	4	5	8	2	1	0	6	7	17	10	6	0	0	0	1	0	0	1	0	3	1
October	7.7	S.	25	SW.	0	2	3	5	2	14	4	0	1	0	19	5	7	9	5	0	0	1	1	0	0	0	0	3	0
November	10.4	S.	27	NW.	0	1	1	1	2	13	9	3	0	0	8	9	13	11	9	6	4	0	2	1	2	0	14	2	0
December	9.9	SW.	31	SW.	0	2	0	2	2	6	10	5	4	0	0	8	23	13	7	13	8	0	5	0	5	0	22	0	0
Year	9.2	SW.	32	SW.	1	27	28	32	22	89	106	37	24	0	77	117	171	132	94	59	33	4	16	3	30	17	107	35	4

SANDY HOOK, N. J.

[H=15 ft.; H_b=22 ft.; h_t=10 ft.; h_r=3 ft.; h_a=57 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.3	NW.	55	S.	6	6	8	2	4	8	9	11	14	0	7	7	17	15	12	9	6	0	22	2	8	0	21	0	0
February	15.2	NW.	52	NW.	8	4	8	7	3	8	9	2	15	0	6	6	16	11	9	6	1	0	17	5	3	0	16	0	0
March	14.7	SW.	36	NW.	4	2	12	2	3	12	10	12	9	0	9	8	14	13	10	4	2	0	19	3	1	0	10	1	0
April	13.9	S.	39	NW.	5	6	10	4	3	10	9	13	5	0	7	12	11	11	8	4	2	0	14	2	0	0	2	2	0
May	12.0	W.	33	W.	3	5	10	10	8	7	6	8	8	0	4	11	16	11	9	0	0	1	16	3	0	0	0	4	0
June	11.5	S.	34	NW.	3	6	9	1	10	19	7	5	3	0	6	7	17	13	10	0	0	0	20	3	0	0	0	11	0
July	10.6	S.	41	W.	3	7	2	3	6	21	12	8	3	0	6	12	13	16	11	0	0	0	22	1	0	1	0	14	0
August	10.9	SW.	33	NW.	4	4	2	2	5	14	14	12	9	0	13	7	11	11	8	0	0	0	22	1	0	3	0	9	0
September	13.7	SW.	56	N.	5	10	11	2	9	9	12	1	6	0	9	7	14	14	10	0	0	0	16	0	0	0	0	3	0
October	13.8	N.	42	NE.	2	11	10	0	8	7	8	10	8	0	16	9	6	7	6	0	0	0	19	1	0	0	6	2	0
November	14.9	S.	44	W.	11	6	5	2	4	15	13	8	7	0	10	6	14	12	11	4	4	0	15	1	1	0	6	0	0
December	15.6	W.	44	W.	12	5	9	1	4	7	12	11	13	0	10	6	15	13	7	7	3	0	16	2	3	0	17	1	0
Year	13.4	S.	56	N.	66	72	96	36	67	137	121	101	100	0	103	98	164	147	111	34	18	1	218	24	16	4	72	47	0

[1] Taken from 7:30 a. m. observations.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAN FRANCISCO, CALIF.

[ϕ=37°47′ N.; λ=122°25′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.95	30.37	29.40	48.1	53.0	54.7	56.7	46.2	51.4	66	40	43	43	44	84	69	69	0.284	0.277	0.292	2.65	0.75	0.0	4.8	5.1	4.3	5.2
February	29.83	30.15	29.08	49.6	55.3	56.8	58.9	47.2	53.0	71	42	44	45	45	83	71	66	.293	.305	.300	8.49	1.57	.0	6.4	7.1	6.6	7.1
March	29.87	30.10	29.38	50.5	55.0	55.5	57.5	48.1	52.8	70	43	43	42	43	76	65	65	.280	.278	.283	5.73	.96	.0	6.0	7.0	6.1	6.6
April	29.89	30.10	29.56	50.8	57.8	57.8	60.3	49.5	54.9	75	46	46	47	48	85	68	69	.315	.327	.332	1.52	.84	.0	5.9	5.8	5.9	6.5
May	29.83	30.06	29.60	51.6	59.8	58.6	62.6	50.6	56.6	77	48	48	49	49	87	68	71	.330	.344	.353	T	T	.0	6.3	3.5	3.1	4.5
June	29.74	29.93	29.54	52.7	61.0	59.1	63.2	51.8	57.5	72	50	48	50	50	87	69	73	.341	.362	.365	.00	.00	.0	6.8	3.4	3.5	4.7
July	29.80	29.97	29.64	55.1	61.6	61.3	63.3	54.4	58.8	74	51	53	54	54	93	76	76	.401	.411	.411	.01	.01	.0	9.2	3.7	2.4	5.5
August	29.78	29.91	29.56	55.6	63.5	62.0	65.7	54.5	60.1	78	52	52	52	52	87	68	72	.383	.394	.395	.00	.00	.0	6.5	2.0	1.8	4.0
September	29.78	29.99	29.59	56.0	65.4	63.1	68.0	54.3	61.2	89	51	53	54	54	91	69	75	.408	.421	.425	.15	.15	.0	6.6	3.2	3.4	4.5
October	29.83	30.02	29.65	56.7	65.2	64.2	68.0	55.2	61.6	81	50	52	50	50	85	60	64	.391	.369	.371	1.33	.74	.0	4.8	4.8	5.1	5.2
November	29.96	30.20	29.69	51.3	60.8	61.4	63.7	49.9	56.8	73	44	42	36	39	71	43	49	.268	.226	.252	.88	.50	.0	2.1	2.8	3.2	3.1
December	29.94	30.30	29.54	50.1	55.6	56.7	59.0	48.2	53.6	67	43	44	45	46	82	70	69	.298	.307	.317	1.48	.70	.0	4.7	5.1	5.1	5.6
Year	29.85	30.37	29.08	52.3	59.5	59.3	62.2	50.8	56.5	89	40	47	47	48	84	66	68	.333	.335	.341	22.24	1.57	.0	5.8	4.5	4.2	5.2

SAN JUAN, P. R.

[ϕ=18°28′ N.; λ=66°.07′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.94	30.09	29.83	74.2	77.6	----	78.7	71.5	75.1	80	68	68	69	---	81	76	---	0.684	0.718	----	2.08	0.50	----	6.9	6.0	----	6.2
February	29.97	30.11	29.87	72.6	76.5	----	77.8	69.4	73.6	80	65	66	68	---	81	75	---	.650	.684	----	2.26	.65	----	5.1	3.7	----	4.1
March	29.96	30.07	29.88	74.1	76.8	----	78.2	70.9	74.6	84	67	67	68	---	80	76	---	.671	.698	----	4.09	2.61	----	5.4	4.2	----	3.7
April	29.93	30.06	29.83	74.9	77.0	----	78.2	71.2	74.7	81	67	68	68	---	78	75	---	.674	.694	----	1.72	.90	----	6.5	4.4	----	3.5
May	29.92	30.01	29.80	79.0	79.7	----	81.0	74.1	77.6	84	71	73	73	---	81	80	---	.800	.809	----	1.58	1.00	----	4.6	4.4	----	3.8
June	29.97	30.06	29.86	79.8	80.9	----	83.0	75.1	79.0	89	70	74	74	---	82	81	---	.830	.851	----	11.76	6.47	----	6.2	5.9	----	5.3
July	29.95	30.03	29.86	80.8	82.3	----	83.6	75.5	79.6	90	73	74	75	---	80	78	---	.839	.862	----	5.10	2.05	----	5.1	4.6	----	4.1
August	29.88	30.03	29.74	81.5	82.6	----	83.9	76.8	80.4	87	73	75	76	---	81	81	---	.871	.899	----	4.72	.93	----	5.6	5.2	----	4.5
September	29.86	29.99	29.72	80.9	83.5	----	85.3	75.7	80.5	91	71	75	75	---	81	77	---	.855	.872	----	5.57	1.80	----	4.5	5.5	----	4.9
October	29.82	29.98	29.67	79.5	82.3	----	84.0	74.7	79.4	87	69	74	75	---	84	79	---	.833	.867	----	5.69	1.12	----	4.2	4.8	----	4.2
November	29.83	29.97	29.66	77.4	80.6	----	81.7	73.2	77.4	88	69	72	73	---	84	79	---	.786	.815	----	6.86	1.69	----	6.7	5.6	----	5.0
December	29.87	30.06	29.70	75.9	79.2	----	80.8	72.7	76.8	90	70	71	72	---	85	78	---	.756	.777	----	5.46	1.76	----	5.5	5.3	----	5.8
Year	29.91	30.11	29.66	77.6	79.9	----	81.4	73.4	77.4	91	65	71	72	---	82	78	---	.771	.796	----	56.89	6.47	----	5.5	5.0	----	4.6

SANTA FE, N. MEX.

[ϕ=35°41′ N.; λ=105°57′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	23.23	23.50	22.96	25.1	37.6	37.1	41.7	21.7	31.7	56	7	16	18	17	67	44	44	0.090	0.098	0.094	0.03	0.03	0.4	3.9	4.9	4.3	4.8
February	23.24	23.52	22.93	29.3	41.0	41.3	45.1	26.0	35.6	59	11	20	20	21	67	44	46	.107	.107	.117	1.02	.41	7.3	5.1	7.3	7.9	7.1
March	23.12	23.37	22.79	33.9	45.3	47.7	51.2	30.5	40.8	67	15	23	20	20	64	39	34	.123	.111	.107	.81	.42	6.2	4.8	5.7	6.6	5.8
April	23.19	23.46	22.82	37.9	55.6	57.4	61.5	35.4	48.4	74	16	22	21	19	54	28	26	.123	.118	.110	.50	.24	3.4	3.4	5.6	5.1	4.9
May	23.20	23.46	22.93	43.8	62.8	65.2	68.7	42.5	55.6	83	27	28	27	26	57	28	25	.157	.149	.140	.80	.25	.5	4.5	3.4	7.6	6.4
June	23.32	23.49	23.09	55.8	72.0	74.0	78.1	54.8	66.4	84	45	41	42	38	60	38	31	.268	.280	.242	2.70	1.34	.0	4.1	2.1	7.8	6.2
July	23.39	23.49	23.25	58.1	76.4	74.5	81.2	56.6	68.9	90	49	44	43	42	63	33	36	.299	.290	.279	3.29	.94	.0	4.0	5.0	6.8	5.3
August	23.39	23.56	23.22	58.9	78.5	76.3	83.0	57.5	70.2	92	50	43	42	42	58	29	33	.287	.272	.280	1.81	.44	.0	2.5	5.1	6.9	4.8
September	23.40	23.56	23.24	51.8	68.4	67.9	72.7	50.7	61.7	79	44	42	41	40	71	40	40	.276	.269	.255	1.48	.67	.0	3.4	5.7	6.5	5.3
October	23.35	23.52	23.10	44.3	61.1	59.6	64.4	42.1	53.2	76	26	29	28	28	56	29	31	.164	.155	.155	1.60	1.44	.0	2.1	4.6	4.4	3.8
November	23.24	23.52	22.86	27.1	40.6	39.4	45.6	22.7	34.2	57	7	13	11	12	55	30	32	.080	.071	.074	1.09	.95	11.5	2.3	2.6	2.5	2.7
December	23.25	23.47	22.98	27.5	39.6	38.3	44.1	24.6	34.4	54	16	17	17	18	64	41	43	.095	.095	.099	.45	.29	3.4	2.6	4.0	4.4	4.1
Year	23.28	23.56	22.79	41.1	56.6	56.6	61.4	38.8	50.1	92	7	28	28	27	61	35	35	.172	.168	.163	15.58	1.44	32.7	3.6	4.7	5.9	5.1

SAULT STE. MARIE, MICH.

[ϕ=46°30′ N.; λ=84°21′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.27	29.83	28.10	10.2	(1)	14.5	14.1	18.7	5.2	12.0	37	−14	8	(1)	12	91	(1)	83	88	0.067	(1)	0.074	0.077	2.71	1.08	29.7	7.9	(1)	8.1	6.9	7.7
February	29.52	30.06	28.57	13.7	20.9	20.5	25.5	8.1	16.8	39	−15	11	14	16	88	75	82	.079	.089	.092	1.31	.54	18.6	6.8	7.1	7.8	7.2
March	29.22	29.71	28.53	22.2	31.4	29.3	35.8	18.5	27.2	58	−16	19	23	23	87	72	76	.127	.137	.135	3.33	.86	8.1	5.7	6.3	6.4	6.1
April	29.31	29.93	28.64	34.4	42.0	39.4	46.0	31.4	38.7	78	14	28	28	30	76	59	69	.166	.174	.179	2.64	1.10	1.2	7.4	6.9	6.8	7.2
May	29.28	29.57	28.76	47.1	58.0	54.4	61.1	42.1	51.6	74	34	39	39	38	74	52	56	.239	.249	.237	1.82	.70	.0	5.9	7.0	6.5	6.5
June	29.29	29.64	28.86	53.5	63.3	60.7	67.3	48.5	57.9	83	39	49	49	50	85	63	70	.352	.353	.374	5.14	1.31	.0	5.9	6.0	6.4	6.3
July	29.28	29.49	28.94	60.7	72.6	68.1	75.9	55.6	65.8	86	50	56	56	56	85	58	68	.453	.459	.469	1.78	.50	.0	5.1	4.5	6.0	5.3
August	29.30	29.52	29.00	62.0	73.5	68.9	76.3	57.7	67.0	90	45	59	58	58	90	60	80	.504	.487	.490	3.49	1.07	.0	5.9	5.0	5.6	5.6
September	29.35	29.81	28.95	50.2	60.5	55.9	62.6	47.2	54.9	78	39	47	48	49	89	65	78	.326	.342	.352	2.55	.94	.0	5.9	6.0	5.2	6.0
October	29.41	29.97	28.72	43.7	54.6	49.6	57.0	40.9	49.0	81	31	40	41	42	86	63	76	.253	.263	.275	2.17	.84	.3	6.5	5.3	6.0	6.0
November	29.28	29.80	28.69	32.1	38.3	35.7	43.0	28.2	35.6	74	10	28	30	30	84	73	78	.163	.178	.177	2.64	1.04	19.5	7.4	8.5	7.7	8.2
December	29.26	29.78	28.44	22.8	26.2	25.2	29.7	18.6	24.2	41	−5	20	20	21	86	76	81	.113	.113	.115	3.36	.84	29.3	8.2	8.6	8.5	8.7
Year	29.31	30.06	28.10	37.7	46.3	43.5	49.9	33.5	41.7	90	−16	34	35	35	85	67	74	.237	.244	.247	33.94	1.31	106.7	6.6	6.6	6.6	6.7

[1] 1:30 p. m. observation used for noon data beginning with September.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAN FRANCISCO, CALIF.

[H=52 ft.; H_b=155 ft.; h_t=112 ft.; h_r=104 ft.; h_a=134 ft.]

Month	Wind: By self-register: Average hourly velocity	Wind: By self-register: Prevailing direction	Wind: By self-register: Maximum velocity	Wind: By self-register: Direction at time of maximum velocity	Wind: By self-register: Days with 32 miles or over	Wind: Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	7.0	N.	26	SE.	0	16	5	2	6	3	4	5	18	3	10	11	10	12	9	0	0	0	5	3	0	0	0	0	0
February	8.2	E.	38	SW.	1	2	4	6	10	5	13	10	3	3	4	8	16	16	16	0	0	4	4	2	0	0	0	2	0
March	9.4	W.	26	SW.	0	6	1	8	6	7	11	14	8	1	6	9	16	18	15	0	0	2	4	0	0	0	0	0	0
April	9.3	W.	26	W.	0	0	1	0	3	6	6	34	7	3	4	13	13	5	4	0	0	0	2	1	0	0	0	0	0
May	9.9	W.	28	W.	0	0	0	2	0	4	19	34	3	0	11	13	7	0	0	0	0	0	2	0	0	0	0	0	0
June	10.7	W.	26	W.	0	0	0	0	0	1	21	37	1	0	12	12	6	0	0	0	0	0	0	0	0	0	0	0	0
July	11.0	W.	26	W.	0	0	0	0	0	1	17	44	0	0	7	15	9	1	0	0	0	0	6	0	0	0	0	0	0
August	10.2	W.	26	W.	0	0	0	0	0	0	15	46	0	1	13	14	4	0	0	0	0	0	1	0	0	0	0	0	0
September	9.0	W.	27	W.	0	0	0	0	1	2	8	46	1	2	8	19	3	1	1	0	0	0	5	0	0	0	0	0	0
October	7.3	W.	28	W.	0	5	1	1	2	5	8	32	2	6	10	12	9	5	5	0	0	0	1	0	0	0	0	0	0
November	6.1	W.	21	SE.	0	12	4	9	2	2	2	19	7	3	18	9	3	5	5	0	0	0	1	0	0	0	0	0	0
December	5.7	N.	20	W.	0	14	4	13	2	3	4	15	5	2	8	12	11	5	5	0	0	0	9	3	0	0	0	0	0
Year	8.7	W.	38	SW.	1	55	20	41	32	39	128	336	55	24	111	147	107	68	60	0	0	6	40	9	0	0	0	2	0

SAN JUAN, P. R.

[H=47 ft.; H_b=82 ft.; h_t=9 ft.; h_r=4 ft.; h_a=54 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	14.8	E.	35	NE.	1	(1) 0	(1) 8	(1) 10	(1) 7	(1) 5	(1) 1	(1) 0	(1) 0	(1) 0	0	25	6	17	10	0	0	0	0	0	0	0	0	0	0
February	15.8	E.	37	E.	3	0	8	8	7	5	0	0	0	0	11	16	1	16	10	0	0	0	0	0	0	0	0	0	0
March	15.3	E.	27	E.	0	0	8	16	1	6	0	0	0	0	15	16	0	16	10	0	0	0	0	0	0	0	0	2	0
April	14.6	E.	28	NE.	0	0	8	15	3	3	1	0	0	0	14	16	0	15	6	0	0	0	0	0	0	0	0	0	0
May	13.8	E.	26	E.	0	0	0	30	1	0	0	0	0	0	14	16	1	11	7	0	0	0	0	0	0	0	0	2	0
June	14.4	E.	33	E.	1	0	0	25	3	1	0	0	0	1	8	15	7	17	16	0	0	0	0	0	0	0	0	6	0
July	14.0	E.	36	E.	1	0	0	27	2	2	0	0	0	0	10	20	1	14	12	0	0	0	0	0	0	0	0	2	0
August	16.0	E.	32	E.	1	0	2	27	1	0	0	0	0	1	10	20	1	20	17	0	0	0	0	0	0	0	0	7	0
September	10.0	E.	26	E.	0	0	2	10	6	11	0	0	1	0	7	19	4	18	12	0	0	0	0	0	0	0	0	9	0
October	8.4	E.	29	E.	0	1	0	3	6	19	2	0	0	0	8	22	1	18	17	0	0	0	0	0	0	0	0	7	0
November	13.5	E.	33	E.	1	1	0	19	4	6	0	0	0	0	3	23	4	26	21	0	0	0	0	0	0	0	0	0	0
December	12.9	E.	32	E.	1	0	5	8	4	13	1	0	0	0	2	26	3	21	17	0	0	0	0	0	0	0	0	0	0
Year	13.6	E.	37	E.	9	2	41	198	45	71	5	0	1	2	102	234	29	209	155	0	0	0	0	0	0	0	0	35	0

SANTA FE, N. MEX.

[H=6,994 ft.; H_b=7,013 ft.; h_t=38 ft.; h_r=31 ft.; h_a=53 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.3	N.	24	W.	0	19	9	9	5	1	7	6	6	0	14	6	11	1	0	6	1	0	2	0	2	0	31	0	0
February	5.4	E.	22	SW.	0	9	5	7	10	10	9	3	3	0	4	8	16	10	7	9	8	0	0	0	3	0	23	1	0
March	8.1	N.	26	NW.	0	13	6	7	1	8	15	7	5	0	9	9	13	6	4	10	4	1	1	0	0	0	20	1	0
April	7.3	SE.	26	SW.	0	8	6	8	12	6	9	10	1	0	11	10	9	6	5	4	4	0	1	0	0	0	10	4	0
May	6.6	E.	20	N.	0	5	5	14	7	5	12	6	7	1	5	13	13	5	5	2	1	0	0	0	0	0	3	5	0
June	7.4	SE.	29	NE.	0	5	6	19	14	4	10	0	2	0	4	17	9	10	8	0	0	0	0	0	0	0	0	17	0
July	5.6	E.	29	S.	0	9	12	22	7	0	8	2	1	1	8	14	9	9	9	0	0	1	0	0	0	1	0	15	0
August	5.7	E.	20	N.	0	4	1	30	11	6	8	2	0	0	8	19	4	12	9	0	0	0	0	0	0	2	0	15	0
September	5.0	E.	15	NE.	0	4	5	19	10	9	6	4	2	1	12	9	9	11	6	0	0	0	0	0	0	0	0	4	0
October	6.4	E.	20	SE.	0	3	3	17	12	11	10	3	2	1	14	13	4	5	2	0	0	1	0	0	0	0	3	4	0
November	6.8	N.	25	NW.	0	15	8	7	11	6	4	4	4	1	23	2	5	4	4	6	3	0	0	0	3	0	26	0	0
December	6.0	N.	19	N.	0	19	13	5	7	6	3	5	4	0	15	7	9	5	3	8	5	0	2	0	0	0	30	0	0
Year	6.4	E.	29	NE.	0	113	79	164	107	72	101	52	37	5	127	127	111	84	62	45	26	3	6	0	8	3	146	66	0

SAULT STE. MARIE, MICH.

[H=607 ft.; H_b=614 ft.; h_t=11 ft.; h_r=3 ft.; h_a=52 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.8	E.	30	NE.	0	8	12	17	12	1	2	5	5	0	4	8	19	20	14	27	20	0	19	1	27	0	30	0	2
February	7.9	SE.	27	NE.	0	9	6	13	14	1	3	6	4	0	6	4	18	13	10	20	12	0	11	3	23	0	28	0	4
March	8.1	SE.	31	SW.	0	2	3	11	16	3	4	9	14	0	7	10	14	18	13	13	7	2	21	10	9	0	24	3	7
April	9.5	NW.	31	NW.	0	4	6	11	11	2	3	4	19	0	5	7	18	15	10	6	3	0	13	0	4	0	16	4	6
May	8.9	SE.	25	NW.	0	2	6	9	20	1	4	8	11	1	7	9	15	11	10	0	0	0	11	1	0	0	0	3	5
June	6.9	NW.	24	NW.	0	1	3	2	17	0	4	15	17	1	6	12	12	13	12	0	0	0	16	2	0	0	0	6	3
July	6.0	NW.	22	NW.	0	2	2	8	15	1	8	6	19	1	9	12	10	8	7	0	0	0	25	1	0	0	0	5	5
August	6.9	NW.	22	SW.	0	4	2	5	12	4	9	8	15	3	7	13	11	16	10	0	0	0	20	3	0	0	0	6	5
September	7.5	NW.	24	NW.	0	6	4	8	13	3	3	5	18	0	8	6	16	9	7	0	0	0	20	4	0	0	0	0	4
October	7.6	SE.	22	NW.	0	4	6	6	19	2	7	5	13	0	9	6	16	16	11	2	1	0	25	1	0	0	1	4	4
November	9.7	SE.	30	NW.	0	5	9	4	18	3	6	7	6	2	3	4	23	18	12	17	11	0	12	1	6	0	21	0	0
December	8.9	SE.	38	NW.	1	7	5	7	20	2	10	2	8	1	3	2	26	23	17	23	19	0	11	1	19	0	28	0	1
Year	8.0	SE.	38	NW.	1	54	64	101	187	23	63	80	149	9	74	93	198	180	133	108	73	2	204	28	88	0	148	31	45

[1] Taken from 7:30 a. m. observations.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAVANNAH, GA.

[ϕ=32°05′ N.; λ=81°05′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	30.04	30.51	29.61	46.2	56.6	52.9	60.8	43.7	52.2	77	24	40	43	42	80	62	68	0.274	0.304	0.295	0.68	0.23	0.0	5.1	5.7	5.9	5.9
February	30.15	30.51	29.62	51.4	62.6	58.5	67.3	49.2	58.2	80	32	46	48	48	83	61	71	.332	.355	.355	.54	.21	.0	6.4	5.4	3.5	5.5
March	30.01	30.38	29.65	57.7	71.8	65.6	75.6	55.8	65.7	87	37	53	54	55	85	56	70	.424	.439	.444	1.25	.94	.0	5.7	5.5	4.3	5.2
April	30.02	30.31	29.62	61.0	74.6	67.4	77.9	57.7	67.8	91	38	55	52	56	81	48	67	.460	.425	.469	2.30	.95	.0	4.9	4.9	4.4	4.6
May	29.92	30.11	29.66	70.1	83.7	76.1	86.7	67.0	76.8	99	57	62	60	62	76	47	65	.566	.536	.581	6.21	2.31	.0	5.2	5.4	6.2	5.3
June	29.97	30.20	29.78	78.6	83.9	77.3	87.3	70.2	78.8	94	64	67	66	68	81	57	74	.673	.653	.689	4.57	2.25	.0	5.3	5.2	6.7	5.6
July	29.96	30.10	29.74	76.0	85.3	79.7	88.3	72.4	80.4	93	67	71	70	71	85	62	76	.765	.746	.764	3.84	1.46	.0	5.3	6.5	6.3	6.1
August	29.98	30.17	29.80	77.0	90.7	83.2	94.1	74.6	84.4	102	72	72	71	72	85	53	70	.784	.757	.789	1.81	.81	.0	4.1	4.5	4.3	4.3
September	29.94	30.15	29.68	71.5	84.0	77.1	87.0	69.2	78.1	95	53	68	66	68	88	57	75	.690	.668	.700	4.25	1.95	.0	4.5	5.4	5.4	5.2
October	30.00	30.30	29.60	59.1	74.4	67.3	77.4	57.5	67.4	87	47	55	55	57	88	52	71	.451	.452	.483	1.67	1.66	.0	3.4	3.2	2.3	3.1
November	30.08	30.42	29.70	55.7	68.5	62.1	71.5	53.1	62.3	85	29	52	53	54	86	60	76	.425	.443	.461	1.09	.76	.0	4.0	4.7	3.7	4.3
December	30.05	30.48	29.64	44.8	57.9	53.0	62.3	42.7	52.5	78	34	40	42	43	83	59	71	.254	.284	.295	1.60	1.08	.0	5.2	5.2	3.9	5.3
Year	30.01	30.51	29.60	62.0	74.5	68.4	78.0	59.4	68.7	102	24	57	57	58	83	56	71	.508	.505	.527	29.81	2.31	.0	4.9	5.1	4.7	5.0

SCRANTON, PA.

[ϕ=41°24′ N.; λ=75°42′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.14	29.57	28.24	25.6	29.9	29.9	35.0	20.8	27.9	60	−2	19	19	20	73	64	64	0.112	0.111	0.113	2.41	0.75	8.4	7.5	7.9	6.5	7.5
February	29.31	29.86	28.48	27.9	33.0	33.0	38.6	23.4	31.0	58	7	21	22	23	72	64	66	.124	.135	.138	2.82	.60	3.3	7.3	8.2	6.5	7.5
March	29.12	29.50	28.61	35.8	44.7	44.2	51.4	32.1	41.8	82	5	27	29	30	69	55	58	.156	.171	.184	1.50	.54	2.0	6.4	6.9	6.5	7.1
April	29.16	29.54	28.20	44.8	56.2	54.0	60.5	40.5	50.5	87	22	36	35	36	70	47	51	.229	.221	.227	2.94	.73	11.3	6.2	5.9	5.6	6.1
May	29.08	29.54	28.44	53.1	62.6	61.6	67.7	48.5	58.1	84	34	43	42	44	69	49	55	.286	.276	.302	3.23	1.11	.0	6.9	7.1	5.7	6.5
June	29.14	29.49	28.85	62.8	75.0	72.1	78.5	56.3	67.4	90	42	54	52	56	73	48	58	.425	.405	.460	4.64	2.17	.0	5.6	6.3	6.3	5.8
July	29.12	29.27	28.85	67.7	80.1	76.7	83.7	62.9	73.3	92	50	61	61	62	80	53	63	.548	.540	.574	4.97	2.42	.0	6.3	6.4	6.0	5.9
August	29.14	29.33	28.83	66.6	81.1	77.7	84.8	62.5	73.6	93	53	60	60	62	79	49	58	.524	.524	.558	1.62	.98	.0	4.0	5.5	3.7	4.5
September	29.16	29.53	28.45	54.5	66.5	62.8	70.4	50.8	60.6	84	36	49	49	50	82	56	66	.363	.363	.378	5.42	2.01	.0	5.9	6.2	5.8	6.3
October	29.24	29.60	28.74	46.0	60.9	57.0	65.2	43.4	54.3	83	30	42	44	43	86	56	62	.275	.297	.293	1.61	.60	.0	4.3	5.5	4.1	4.6
November	29.27	29.64	28.76	38.6	47.3	44.3	51.7	33.9	42.8	74	6	34	34	35	82	62	71	.222	.236	.235	3.24	1.04	12.2	6.0	5.8	4.9	5.6
December	29.18	29.69	28.59	30.1	35.0	33.2	38.4	25.5	32.0	55	13	25	25	24	79	66	68	.141	.143	.139	3.51	1.51	4.2	8.2	8.5	6.3	7.7
Year	29.17	29.86	28.20	46.1	56.0	53.9	60.5	41.7	51.1	93	−2	40	39	40	76	56	62	.284	.285	.300	37.91	2.42	41.4	6.3	6.6	5.7	6.3

SEATTLE, WASH.

[ϕ=47°36′ N.; λ=122°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.96	30.56	29.25	40.6	44.1	45.0	47.1	37.9	42.5	53	30	36	36	38	83	75	76	0.212	0.219	0.227	3.81	1.38	1.3	6.3	7.9	7.4	7.8
February	29.75	30.27	29.15	41.2	47.2	49.3	50.7	38.1	44.4	70	32	35	36	36	80	66	63	.207	.212	.216	2.82	.53	T	7.1	7.4	7.2	7.4
March	29.75	30.39	29.19	42.8	48.6	50.9	52.9	40.0	46.4	61	34	37	38	36	82	68	59	.225	.231	.215	3.42	.87	T	7.0	7.4	6.9	7.4
April	29.91	30.27	29.59	47.0	56.3	59.7	61.6	45.3	53.4	75	36	41	41	38	82	58	48	.262	.259	.237	1.64	.52	.0	6.5	6.4	6.5	6.7
May	29.94	30.28	29.62	50.1	61.0	65.5	67.3	48.4	57.8	83	42	44	42	40	80	52	43	.290	.269	.251	1.04	.52	.0	5.5	4.8	4.2	5.1
June	29.91	30.17	29.71	54.0	64.5	70.6	72.4	53.0	62.7	85	46	47	48	48	79	57	46	.330	.340	.338	.39	.37	.0	6.0	5.4	4.5	5.4
July	29.91	30.12	29.63	57.9	69.1	76.3	78.0	56.6	67.3	92	51	51	52	50	79	56	43	.382	.387	.370	.18	.10	.0	3.6	3.2	2.1	3.3
August	29.94	30.12	29.72	55.6	64.7	71.2	72.4	54.2	63.3	81	50	51	51	50	86	62	49	.381	.375	.365	.48	.27	.0	5.2	4.1	3.0	4.4
September	29.89	30.15	29.57	56.8	65.7	70.4	71.9	55.0	63.4	87	50	54	54	54	89	68	57	.413	.420	.414	.48	.20	.0	4.7	5.2	3.5	5.2
October	29.86	30.20	29.36	50.6	57.7	59.6	61.9	48.2	55.0	74	38	47	48	47	89	72	65	.328	.341	.327	2.95	.55	.0	4.3	6.3	6.1	6.4
November	30.01	30.51	29.40	42.9	48.5	47.9	50.6	40.2	45.4	58	29	37	38	38	82	69	70	.229	.267	.334	2.87	.60	1.4	5.6	6.9	7.2	7.0
December	29.99	30.33	29.27	42.8	46.3	46.1	48.0	40.1	44.0	59	28	38	38	39	83	75	77	.233	.241	.245	2.95	.71	.0	7.2	8.1	8.3	7.7
Year	29.90	30.56	29.15	48.5	56.1	59.4	61.2	46.4	53.8	92	28	43	44	43	83	65	58	.291	.297	.287	23.03	1.38	2.7	5.8	6.1	5.6	6.2

SHERIDAN, WYO.

[ϕ=44°48′ N.; λ=106°57′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	26.09	26.56	25.61	19.7	30.8	29.1	36.0	13.5	24.8	48	−22	14	18	20	78	58	66	0.088	0.103	0.111	1.03	0.44	8.3	4.9	6.8	6.5	6.3
February	26.10	26.49	25.67	16.1	32.4	31.5	37.6	10.4	24.0	64	−12	10	16	18	77	50	55	.072	.095	.102	.31	.12	3.5	5.6	4.9	4.5	4.9
March	25.93	26.42	25.24	28.3	43.7	43.6	48.8	24.8	36.8	71	17	23	22	23	80	46	48	.124	.121	.126	1.00	.33	8.3	5.9	6.3	6.4	6.2
April	26.07	26.60	25.77	34.0	53.5	55.2	58.4	31.2	44.8	80	8	29	28	30	81	43	42	.166	.163	.175	1.34	.50	5.2	5.6	6.4	6.4	6.0
May	26.05	26.40	25.56	42.3	59.8	57.6	63.7	40.0	51.8	85	30	38	38	40	86	47	57	.238	.233	.257	6.82	1.94	.4	5.6	6.8	7.4	6.5
June	26.09	26.42	25.56	52.2	72.9	72.5	77.2	49.6	63.4	88	34	48	49	51	85	44	49	.342	.362	.388	2.29	1.11	.0	4.7	4.4	5.9	4.9
July	26.17	26.40	25.89	56.2	79.1	79.8	84.1	53.8	69.0	94	45	52	53	53	87	43	42	.393	.402	.402	1.36	.89	.0	2.1	3.7	4.5	3.5
August	26.11	26.40	25.77	52.1	81.1	80.0	85.8	50.3	68.0	101	41	45	42	45	79	28	32	.305	.272	.304	.30	.16	.0	2.9	3.2	4.6	3.4
September	26.18	26.40	25.86	46.7	77.2	74.2	80.9	44.3	62.6	92	33	41	42	44	82	32	36	.271	.278	.293	.04	.03	.0	3.2	3.9	4.0	3.8
October	26.13	26.47	25.74	37.7	63.0	58.9	65.6	34.6	50.1	84	20	32	33	33	81	36	42	.186	.194	.197	.41	.23	.2	3.9	5.1	4.4	5.0
November	26.09	26.66	25.60	23.9	38.5	33.6	42.1	18.2	30.2	60	−3	18	22	22	77	53	63	.102	.119	.122	1.23	.43	8.8	5.3	5.6	6.2	5.8
December	26.08	26.40	25.61	22.5	34.6	30.6	39.4	15.2	27.3	56	−5	13	19	18	72	52	59	.083	.105	.103	.85	.46	2.1	4.6	5.6	5.6	5.6
Year	26.09	26.66	25.24	36.0	55.6	53.9	60.0	32.2	46.1	101	−22	30	32	33	80	44	49	.198	.204	.215	16.98	1.94	36.8	4.5	5.2	5.5	5.2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SAVANNAH, GA.

[H=42 ft.; H_b=65 ft.; h_t=73 ft.; h_r=71 ft.; h_a=152 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		Mi.																										
January	10.6	NW.	35	NW.	1	6	6	8	4	9	6	14	9	0	11	5	15	11	5	0	0	0	6	3	0	0	3	1	1
February	11.2	E.	29	NW.	0	2	11	11	4	8	6	6	8	0	12	5	11	5	5	0	0	0	5	1	0	0	1	0	0
March	11.6	S.	44	S.	2	5	2	6	5	19	11	8	6	0	8	14	9	5	4	0	0	0	7	0	0	0	0	1	0
April	10.6	S.	30	NW.	0	5	7	2	6	20	10	3	7	0	15	5	10	7	7	0	0	0	1	0	0	2	0	2	0
May	10.2	SW.	32	NW.	1	4	2	4	4	10	17	11	10	0	10	12	9	15	9	0	0	0	2	0	0	9	0	8	0
June	9.2	SW.	30	SE.	0	2	6	5	4	10	13	17	2	1	7	16	7	11	9	0	0	1	2	1	0	6	0	12	0
July	9.1	SW.	32	NW.	1	1	5	2	11	14	20	5	4	0	7	10	14	16	11	0	0	0	1	0	0	8	0	11	0
August	9.2	SW.	32	E.	1	4	5	1	10	12	15	12	3	0	13	13	5	6	5	0	0	0	4	0	0	24	0	5	0
September	8.4	SW.	21	SW.	0	9	10	4	4	11	12	6	4	0	11	9	10	12	9	0	0	0	1	0	0	10	0	10	0
October	9.2	NE.	27	E.	0	11	21	9	3	2	4	5	7	0	20	4	7	3	2	0	0	0	3	0	0	0	0	0	0
November	10.4	NE.	32	NW.	1	7	20	8	6	6	4	4	5	0	15	7	8	7	4	0	0	0	5	3	0	0	2	0	0
December	10.2	W.	36	NW.	1	8	10	3	5	5	9	14	8	0	11	9	11	6	5	0	0	0	3	1	0	0	0	0	0
Year	10.0	SW.	44	S.	8	64	105	63	66	126	127	105	73	1	140	109	116	104	75	0	0	1	40	9	0	59	6	50	1

SCRANTON, PA.

[H=746 ft.; H_b=805 ft.; h_t=72 ft.; h_r=64 ft.; h_a=104 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.5	SW.	34	SE.	1	16	3	4	4	3	20	2	10	0	1	11	19	13	9	19	8	2	10	1	12	0	30	0	0
February	7.4	NW.	30	NW.	0	11	4	1	5	6	12	1	16	0	3	10	15	12	9	13	3	0	10	0	6	0	22	0	0
March	7.6	SW.	28	NW.	0	12	7	4	5	4	18	1	11	0	5	10	16	10	8	11	2	1	7	0	0	0	16	2	0
April	7.3	SW.	26	NW.	0	11	4	7	2	5	14	2	15	0	6	13	11	11	10	9	3	0	6	0	1	0	8	3	0
May	6.6	NW.	25	NW.	0	13	8	1	5	1	18	3	13	0	3	14	14	14	12	0	0	0	4	0	0	0	0	4	0
June	5.8	N.	32	NW.	1	17	9	1	1	6	13	0	13	0	6	16	8	13	11	0	0	0	4	0	0	1	0	5	0
July	5.5	SW.	19	NW.	0	14	3	1	4	7	21	5	7	0	6	16	9	11	8	0	0	0	8	0	0	1	0	6	0
August	5.7	N.	22	NW.	0	15	7	2	2	2	22	0	11	1	10	16	5	9	7	0	0	0	5	0	0	5	0	6	0
September	6.4	N.	24	NW.	0	17	12	2	3	1	16	2	7	0	7	12	11	14	14	0	0	0	8	0	0	0	0	2	0
October	5.6	N.	21	SW.	0	20	9	2	5	3	10	2	10	1	12	11	8	6	5	0	0	1	17	2	0	0	1	1	0
November	6.4	SW.	30	NW.	0	14	5	0	3	7	21	4	6	0	10	8	12	11	9	8	3	0	9	1	5	0	12	0	0
December	6.8	SW.	30	SW.	0	15	6	1	6	4	12	4	14	0	2	9	20	12	8	19	5	0	6	0	9	0	24	0	0
Year	6.5	SW.	34	SE.	2	175	77	26	45	49	197	26	133	2	71	146	148	136	110	79	24	4	94	4	33	7	113	29	0

SEATTLE, WASH.

[H=14 ft.; H_b=125 ft.; h_t=90 ft.; h_r=83 ft.; h_a=321 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.1	SE.	40	SW.	2	9	6	8	22	8	3	1	2	3	3	8	20	12	11	3	1	0	13	6	0	0	3	0	3
February	8.5	SE.	37	S.	2	8	2	6	21	8	3	4	4	0	5	5	18	17	11	2	2	0	10	2	0	0	0	0	0
March	10.8	SE.	48	SW.	5	7	2	2	20	17	5	1	8	0	4	7	20	17	12	3	0	2	9	2	0	0	0	1	0
April	9.1	SE.	34	SW.	1	10	6	0	13	5	12	3	10	1	4	12	14	14	9	0	0	0	5	0	0	0	0	0	0
May	9.1	N.	32	SW.	1	17	7	1	7	8	7	1	9	5	12	6	13	7	6	0	0	0	3	0	0	0	0	0	0
June	8.0	N.	23	S.	0	15	5	3	10	8	6	4	8	1	11	7	12	2	2	0	0	0	3	0	0	0	0	1	0
July	7.2	N.	20	N.	0	17	10	2	7	6	3	5	10	2	19	6	6	2	2	0	0	0	3	0	0	2	0	0	1
August	7.1	N.	18	S.	0	10	4	2	12	8	5	11	8	2	12	11	8	7	3	0	0	0	8	1	0	0	0	0	0
September	6.6	N.	21	SW.	0	23	5	1	14	3	3	6	4	1	11	8	11	7	4	0	0	0	22	3	0	0	0	1	0
October	8.5	SE.	34	SW.	2	16	2	4	16	8	3	2	10	1	7	11	13	14	12	0	0	0	16	8	0	0	0	1	0
November	10.0	S.	32	S.	2	10	4	9	13	15	1	5	2	1	6	8	16	14	11	3	2	1	5	1	0	0	2	2	0
December	11.3	S.	49	SW.	4	10	7	2	12	23	4	2	2	0	5	4	22	16	13	0	0	0	7	2	0	0	3	0	0
Year	8.7	N.	49	SW.	19	152	60	40	167	117	55	45	77	17	99	93	173	129	96	11	5	3	104	25	0	2	8	8	4

SHERIDAN, WYO.

[H=3,778 ft.; H_b=3,790 ft.; h_t=10 ft.; h_r=3 ft.; h_a=47 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.7	NW.	27	NW.	0	1	3	5	5	10	5	3	29	1	7	9	15	9	5	14	8	0	1	0	6	0	31	0	2
February	4.9	NW.	20	SW.	0	2	10	4	5	9	7	2	17	0	8	14	6	7	4	9	7	0	0	0	10	0	28	0	0
March	6.7	NW.	32	NW.	1	2	2	7	5	6	7	5	28	0	8	9	14	10	7	13	9	0	0	0	3	0	29	0	1
April	5.7	NW.	22	NW.	0	2	4	4	7	6	8	8	18	3	8	8	14	10	8	3	3	0	0	0	1	0	12	1	0
May	6.3	NW.	22	NW.	0	3	2	3	5	11	8	10	20	0	3	14	14	17	13	2	1	1	0	0	0	0	4	7	0
June	4.8	NW.	22	NW.	0	1	4	4	11	7	11	5	11	6	9	17	4	13	10	0	0	1	0	0	0	0	0	13	0
July	4.2	S.	22	NW.	0	2	3	3	4	11	7	10	13	9	21	5	5	8	3	0	0	0	0	0	0	7	0	10	1
August	4.5	NW.	21	W.	0	1	2	0	7	19	7	6	18	2	17	10	4	3	2	0	0	0	0	0	0	9	0	6	0
September	4.1	S.	16	SE.	0	1	4	3	8	18	4	9	11	2	15	10	5	2	0	0	0	0	0	0	0	3	0	2	3
October	4.9	S.	24	NW.	0	9	3	6	7	13	4	7	13	0	11	13	7	7	3	2	1	0	4	0	0	0	12	3	0
November	5.5	NW.	28	NW.	0	4	3	1	7	19	3	6	17	0	8	10	12	10	5	11	8	0	0	0	7	0	28	0	0
December	5.6	NW.	27	NW.	0	3	5	2	4	15	9	11	11	2	8	10	13	6	4	8	4	0	0	0	7	0	30	0	0
Year	5.3	NW.	32	NW.	1	31	45	42	75	144	80	82	206	25	123	129	113	102	64	62	41	2	5	0	34	19	174	42	7

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SHREVEPORT, LA.

[ϕ=32°30′ N.; λ=93°40′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.84	30.31	29.18	46.0	54.4	54.1	59.4	42.2	50.8	79	25	40	39	40	79	58	60	0.275	0.271	0.271	2.25	0.67	T	5.1	6.2	5.4	5.6
February	29.92	30.26	29.58	51.3	61.6	62.3	67.0	48.8	57.9	80	25	46	47	46	84	61	58	.347	.351	.341	2.38	1.64	0.0	6.5	6.1	6.5	6.4
March	29.68	30.24	29.37	58.8	70.8	71.5	75.9	56.7	66.3	86	39	53	52	52	82	53	53	.425	.412	.416	4.95	1.86	.0	6.2	5.3	4.9	5.5
April	29.74	30.07	29.28	57.9	70.0	70.3	74.9	56.1	65.5	89	36	54	55	55	87	61	60	.445	.460	.458	6.51	2.30	.0	4.2	5.9	5.5	5.4
May	29.66	29.98	29.37	66.8	79.9	80.6	84.7	65.0	74.8	93	51	62	60	60	83	54	52	.560	.543	.537	3.31	2.05	.0	5.9	4.3	3.7	4.7
June	29.74	29.98	29.57	73.8	84.9	84.9	90.2	71.0	80.6	96	66	70	70	68	87	63	60	.723	.756	.693	4.04	1.30	.0	5.4	5.9	4.5	5.4
July	29.71	29.85	29.54	75.8	89.0	85.1	93.4	73.7	83.6	101	71	72	70	71	87	55	65	.774	.749	.759	4.00	1.19	.0	5.5	5.5	7.1	6.0
August	29.76	29.97	29.54	76.4	90.3	88.3	94.8	75.2	85.0	101	71	72	70	70	86	54	56	.776	.753	.732	2.05	1.12	.0	3.2	3.9	3.9	3.7
September	29.75	29.99	29.53	69.4	86.6	83.3	90.4	68.4	79.4	98	54	63	63	62	82	47	51	.604	.601	.576	1.33	.71	.0	3.3	3.5	4.2	3.6
October	29.81	30.02	29.54	61.6	80.0	77.7	83.8	60.2	72.0	99	37	54	55	53	75	44	44	.433	.457	.412	.37	.28	.0	2.6	2.8	2.3	2.5
November	29.86	30.39	29.36	48.5	62.4	60.1	66.9	44.7	55.8	84	26	42	42	41	79	49	50	.307	.318	.294	5.82	2.83	.0	4.2	3.3	3.1	3.6
December	29.87	30.38	29.44	44.1	54.1	53.9	59.0	41.5	50.2	77	23	38	40	40	78	61	62	.237	.264	.266	3.15	1.26	.0	4.8	6.3	5.0	5.5
Year	29.78	30.39	29.18	60.9	73.7	72.7	78.4	58.6	68.5	101	23	56	55	55	82	55	56	.492	.494	.480	40.16	2.83	T	4.7	4.9	4.7	4.8

SIOUX CITY, IOWA

[ϕ=42°30′ N.; λ=96°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.82	29.32	28.24	18.0	24.5	22.9	29.1	11.5	20.3	52	−11	13	14	15	80	63	72	0.087	0.090	0.096	0.49	0.16	7.4	5.1	6.3	6.5	6.3
February	28.93	29.41	28.46	19.4	26.6	27.4	31.9	15.1	23.5	51	−12	15	19	21	84	71	76	.099	.110	.123	1.02	.74	11.0	6.6	7.4	7.4	7.2
March	28.65	29.20	28.09	36.6	47.7	47.0	52.2	33.0	42.6	72	15	30	29	31	78	52	57	.172	.166	.176	.97	.72	.6	6.0	6.0	6.5	6.1
April	28.74	29.24	28.24	44.0	55.3	58.1	61.7	41.5	51.6	82	23	36	37	37	74	51	50	.231	.248	.258	3.19	1.28	4.0	6.6	6.9	5.7	6.5
May	28.67	28.93	28.25	53.0	64.0	64.2	68.5	50.6	59.6	84	34	46	46	46	79	55	56	.332	.330	.338	5.20	1.69	3.0	6.8	7.7	6.7	7.2
June	28.74	29.06	28.35	63.8	76.1	79.8	82.7	61.1	71.9	98	50	56	57	57	78	53	48	.468	.480	.489	2.59	1.43	.0	6.6	6.7	4.2	5.9
July	28.72	28.92	28.37	69.7	85.5	85.6	89.9	66.7	78.3	100	59	62	62	62	78	46	47	.561	.563	.569	6.70	2.30	.0	3.4	4.0	3.6	3.6
August	28.73	29.07	28.43	69.2	85.1	86.4	90.2	66.0	78.1	102	50	60	60	60	74	44	42	.533	.536	.527	.59	.19	.0	3.7	4.0	4.2	3.9
September	28.80	29.10	28.46	58.9	75.9	75.0	80.1	56.5	68.3	97	35	54	53	54	82	48	50	.434	.437	.446	7.94	4.74	.0	4.6	4.0	3.6	4.1
October	28.80	29.08	28.32	50.9	67.9	66.6	73.5	47.6	60.6	96	26	41	42	42	70	41	42	.274	.283	.289	1.63	.93	T	3.1	3.1	3.5	3.5
November	28.77	29.38	28.27	30.4	40.0	39.4	46.6	25.5	36.0	74	5	24	26	25	76	57	57	.140	.150	.152	1.02	.45	2.3	4.2	5.0	4.0	4.9
December	28.81	29.26	28.30	22.9	30.8	31.5	37.1	18.8	28.0	55	−3	17	20	20	75	64	62	.097	.115	.113	.45	.25	3.9	4.1	6.7	4.8	6.0
Year	28.76	29.41	28.09	44.7	56.6	57.0	62.0	41.2	51.6	102	−12	38	39	39	77	54	55	.286	.292	.298	31.79	4.74	32.2	5.1	5.6	5.1	5.4

SPOKANE, WASH.

[ϕ=47°40′ N.; λ=117°25′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.09	28.64	27.49	30.4	33.6	34.1	36.0	27.0	31.5	47	9	27	27	27	86	77	75	0.149	0.150	0.150	1.44	0.41	6.2	8.2	8.1	8.2	8.4
February	27.92	28.44	27.24	29.6	35.4	37.8	40.0	27.1	33.6	51	19	27	27	26	90	71	69	.147	.147	.154	1.90	.55	21.1	7.0	7.6	7.5	7.8
March	27.82	28.35	27.37	35.4	44.9	46.4	48.7	33.5	41.1	58	27	30	32	31	82	60	57	.169	.180	.177	2.09	.44	3.6	5.2	8.0	7.3	7.6
April	27.95	28.42	27.61	40.6	57.0	59.5	60.7	38.8	49.8	77	28	35	34	34	80	44	40	.204	.198	.196	.35	.16	.0	4.8	6.2	5.8	5.7
May	27.94	28.21	27.64	45.8	64.4	67.1	68.9	44.8	56.8	87	34	37	34	33	72	34	30	.225	.199	.194	.47	.13	T	4.4	5.7	6.0	5.4
June	27.91	28.14	27.62	56.2	73.7	77.1	79.5	54.1	66.8	90	41	45	42	40	68	36	30	.312	.277	.261	.83	.61	.0	5.5	4.7	4.8	4.7
July	27.94	28.18	27.72	62.7	83.4	87.6	88.9	61.1	75.0	103	50	46	43	41	56	26	22	.314	.282	.257	.26	.17	.0	2.3	2.8	2.1	2.4
August	27.94	28.11	27.75	55.5	76.8	80.9	82.1	53.5	67.8	93	45	38	38	35	54	26	22	.233	.227	.211	.29	.19	.0	1.7	2.7	2.2	2.5
September	27.97	28.28	27.68	55.6	76.5	80.7	82.7	52.9	67.8	98	45	44	44	42	66	34	29	.292	.294	.267	.09	.04	.0	2.8	3.3	3.3	3.2
October	27.99	28.41	27.60	43.7	56.3	60.2	61.4	40.9	51.2	78	27	38	40	40	82	55	48	.240	.252	.251	.83	.49	.0	4.2	5.6	5.5	5.7
November	28.08	28.73	27.48	31.1	38.6	39.2	41.7	28.5	35.1	53	14	27	27	28	82	64	65	.147	.154	.157	.89	.29	1.2	6.1	6.5	6.5	6.5
December	28.07	28.44	27.48	30.4	34.9	36.0	38.6	27.1	32.8	56	12	26	27	28	81	73	71	.140	.150	.154	1.63	.56	9.2	5.4	7.0	7.3	7.5
Year	27.97	28.73	27.24	43.1	56.3	58.9	60.8	40.8	50.8	103	9	35	35	34	75	50	46	.214	.209	.202	11.07	.61	41.3	4.8	5.7	5.5	5.6

SPRINGFIELD, ILL.

[ϕ=39°48′ N.; λ=89°39′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.34	29.97	28.36	26.0	31.9	31.5	37.1	21.3	29.2	55	2	22	23	24	82	70	74	0.131	0.134	0.137	1.53	1.13	1.7	4.7	6.6	6.0	6.6
February	29.48	29.96	28.93	36.4	42.2	41.1	45.9	32.3	39.1	73	13	32	33	33	82	70	74	.190	.205	.195	2.12	1.02	2.4	7.6	8.1	8.8	8.4
March	29.24	29.71	28.81	43.0	53.5	54.0	60.3	40.7	50.5	80	26	37	38	40	80	59	62	.236	.245	.254	4.45	.98	.0	6.6	5.5	5.7	6.0
April	29.32	29.67	28.93	47.5	61.4	60.1	65.0	45.7	55.4	87	29	40	41	41	76	49	52	.270	.281	.275	3.32	1.31	.1	4.5	6.0	6.9	6.0
May	29.23	29.55	28.77	56.5	69.4	68.3	73.5	54.5	64.0	87	37	49	52	52	78	56	60	.374	.414	.400	7.34	1.56	.0	6.7	7.6	6.4	6.8
June	29.32	29.63	29.04	65.9	78.7	78.0	82.7	62.9	72.8	95	54	58	59	58	77	52	53	.499	.508	.503	4.23	1.63	.0	5.4	7.4	6.4	6.5
July	29.29	29.44	29.06	71.8	87.0	84.0	90.9	69.5	80.2	100	62	64	64	64	78	49	54	.608	.611	.609	2.83	.92	.0	4.2	3.7	5.1	4.3
August	29.34	29.52	29.16	70.7	85.6	84.6	89.7	69.0	79.4	100	60	66	66	67	85	54	56	.644	.656	.654	2.49	1.48	.0	5.3	4.2	3.2	4.4
September	29.33	29.52	28.93	62.4	79.6	75.6	82.6	61.2	71.9	99	43	57	56	57	83	46	56	.488	.479	.494	1.98	1.18	.0	4.2	4.7	4.3	4.5
October	29.42	29.70	28.82	52.2	72.0	66.1	74.8	50.5	62.6	88	34	43	43	45	71	37	49	.282	.293	.301	3.36	2.46	.0	2.6	2.9	2.5	3.3
November	29.37	29.77	28.58	39.5	51.6	47.8	54.6	36.1	45.4	79	13	30	34	33	70	52	57	.180	.206	.192	1.48	1.30	.3	3.7	4.4	3.8	4.7
December	29.38	29.90	28.95	29.5	36.7	34.7	39.0	26.4	32.7	56	9	24	26	26	78	64	69	.185	.145	.141	1.85	1.15	.5	5.4	6.5	4.5	6.6
Year	29.34	29.97	28.36	50.1	62.5	60.4	66.3	47.5	56.9	100	2	44	45	45	78	55	60	.336	.348	.346	36.98	2.46	5.0	5.1	5.6	5.3	5.7

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SHREVEPORT, LA.

[H=197 ft.; H_b=249 ft.; h_t=92 ft.; h_r=90 ft.; h_a=227 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	13.2	NE.	47	NW.	3	4	12	7	11	8	7	3	10	0	11	8	12	9	8	1	0	1	1	0	0	0	5	3	0
February	12.2	S.	34	S.	1	6	11	1	14	13	3	4	4	0	7	7	14	5	3	0	0	0	4	0	0	0	3	1	0
March	12.7	S.	43	W.	3	2	12	1	12	20	5	6	4	0	9	10	12	9	7	0	0	0	3	1	0	0	0	4	0
April	11.9	SE.	52	N.	4	2	10	2	19	15	6	2	4	0	11	10	9	9	9	0	0	0	7	2	0	0	0	8	0
May	11.4	S.	34	SE.	1	4	8	2	13	23	6	2	4	0	12	13	6	6	5	0	0	0	0	0	0	5	0	4	0
June	8.7	S.	34	N.	1	1	11	8	11	13	9	4	3	0	7	17	6	7	6	0	0	0	3	0	0	18	0	10	0
July	7.7	SW.	35	NW.	1	2	8	3	7	11	19	7	5	0	5	16	10	9	8	0	0	0	2	0	0	23	0	11	0
August	8.3	S.	48	NE.	2	1	2	1	18	15	14	6	4	1	17	10	4	7	6	0	0	0	4	0	0	27	0	5	0
September	8.7	S.	31	NW.	0	6	10	4	14	10	10	1	5	0	15	13	2	5	5	0	0	0	1	0	0	18	0	7	0
October	9.6	E.	25	SE.	0	3	14	9	13	5	8	4	6	0	23	5	3	5	2	0	0	0	8	0	0	4	0	1	0
November	12.2	S.	35	SW.	2	2	5	3	14	13	4	5	14	0	16	9	5	7	6	0	0	0	4	0	0	0	5	2	0
December	11.0	NE.	34	S.	1	8	12	2	12	9	7	4	8	0	12	5	14	9	6	0	0	0	10	0	0	0	2	0	0
Year	10.5	S.	52	N.	19	41	115	43	158	155	98	48	71	1	145	123	97	87	71	1	0	1	47	3	0	95	15	56	0

SIOUX CITY, IOWA

[H=1,111 ft.; H_b=1,138 ft.; h_t=64 ft.; h_r=57 ft.; h_a=106 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	11.0	NW.	45	NW.	3	5	5	4	9	9	3	1	26	0	8	10	13	7	5	16	7	0	8	2	17	0	30	0	1
February	9.9	NW.	31	NW.	0	9	3	8	9	5	0	1	21	0	4	5	19	4	4	11	4	1	12	2	14	0	25	0	0
March	10.4	NW.	31	NW.	0	9	8	3	5	11	7	4	14	1	10	8	13	7	4	7	2	0	7	0	3	0	16	3	0
April	12.3	NW.	32	NW.	1	6	6	8	10	8	5	0	17	0	7	7	16	10	9	5	2	1	0	0	1	0	8	3	0
May	10.1	NW.	37	N.	4	12	4	7	10	5	2	1	20	1	3	13	15	12	10	2	1	0	4	1	0	0	0	6	0
June	9.6	S.	35	SE.	1	8	3	5	15	14	2	0	11	2	6	15	9	13	9	0	0	1	1	0	0	6	0	12	0
July	7.2	S.	44	NW.	4	7	6	6	7	13	5	4	11	3	15	12	4	14	13	0	0	1	3	0	0	14	0	14	0
August	9.1	S.	28	SE.	0	6	7	6	10	24	4	0	5	0	16	9	6	6	5	0	0	0	3	0	0	14	0	9	0
September	7.2	S.	25	NW.	0	7	9	6	10	10	4	3	9	2	15	8	7	9	8	0	0	0	3	0	0	3	0	7	2
October	9.8	SE.	34	S.	1	3	6	5	21	10	2	3	12	0	19	6	6	3	3	1	0	1	0	0	0	2	2	2	0
November	10.1	NW.	33	NW.	1	12	5	4	6	11	4	0	18	0	11	9	10	6	4	5	2	0	0	0	5	0	21	1	0
December	10.1	NW.	43	NW.	1	9	2	3	12	8	4	2	22	0	9	7	15	4	2	9	2	0	4	0	5	0	31	0	0
Year	9.7	NW.	45	NW.	16	93	64	65	124	128	42	19	186	9	123	109	133	95	76	56	20	5	45	5	45	39	133	57	3

SPOKANE, WASH.

[H=1,878 ft.; H_b=1,929 ft.; h_t=101 ft.; h_r=94 ft.; h_a=110 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.2	S.	22	S.	0	16	10	4	0	18	7	2	5	0	4	4	23	15	11	10	7	0	6	1	10	0	23	0	4
February	6.2	S.	27	SE.	0	11	12	5	2	14	3	5	4	0	4	5	19	14	11	14	11	0	8	2	2	0	23	0	0
March	7.8	S.	24	SW.	0	4	5	4	1	29	6	9	4	0	1	11	19	13	12	12	6	0	2	3	0	0	13	0	2
April	6.6	S.	20	SW.	0	2	12	5	0	19	5	7	10	0	9	9	12	8	5	0	0	0	0	0	0	0	3	0	0
May	7.5	S.	27	SW.	0	4	15	0	5	19	10	5	3	1	9	12	10	7	6	1	0	1	0	0	0	0	0	2	0
June	6.6	S.	23	NE.	0	5	11	1	2	21	6	5	7	2	9	17	4	5	4	0	0	0	0	0	0	2	0	5	0
July	6.6	S.	21	SW.	0	4	10	2	1	25	8	6	5	1	20	8	3	2	2	0	0	0	0	0	0	15	0	3	2
August	6.5	S.	21	SW.	0	7	8	3	1	22	12	2	6	1	23	4	4	3	2	0	0	0	0	0	0	5	0	1	2
September	4.7	S.	21	SW.	0	7	12	4	3	15	8	0	5	6	20	3	7	6	0	0	0	0	0	0	0	10	0	5	5
October	6.0	S.	25	S.	0	8	13	8	4	16	5	1	5	2	11	8	12	10	6	0	0	0	6	5	0	0	3	1	1
November	7.2	S.	24	SW.	0	5	10	5	0	27	6	1	6	0	7	7	16	10	9	7	4	0	1	0	1	0	20	0	0
December	6.5	S.	26	SW.	0	14	2	3	1	26	9	2	5	0	6	5	20	11	7	11	8	0	11	2	9	0	19	0	0
Year	6.5	S.	27	SW.	0	87	120	44	20	251	85	45	65	13	123	93	149	104	75	55	36	1	34	13	22	32	104	18	16

SPRINGFIELD, ILL.

[H=63 ft.; H_b=636 ft.; h_t=5 ft.; h_r=3 ft.; h_a=191 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	12.5	NW.	32	NW.	1	5	1	3	5	16	5	10	17	0	9	4	18	8	7	10	4	0	5	4	8	0	26	0	0
February	12.9	S.	29	NW.	0	6	9	4	7	11	4	7	8	0	1	6	21	9	7	9	3	0	11	3	2	0	15	1	0
March	13.5	S.	32	S.	1	4	7	4	6	20	6	8	7	0	11	6	14	15	15	0	0	3	5	0	0	0	6	8	0
April	13.5	S.	40	SW.	1	3	9	3	7	16	6	6	10	0	8	10	12	13	11	3	1	0	0	0	0	0	6	5	0
May	11.4	S.	33	NW.	1	4	9	2	10	18	5	9	4	1	4	12	15	14	11	0	0	1	9	0	0	0	0	7	0
June	10.2	S.	32	S.	1	7	7	5	4	17	5	5	10	0	5	11	14	12	10	0	0	0	0	0	0	3	0	8	0
July	8.9	SW.	34	NW.	1	10	3	7	7	11	8	8	7	1	14	11	6	7	6	0	0	0	4	1	0	16	0	11	1
August	9.8	S.	37	NW.	1	4	4	10	8	23	2	6	5	0	13	10	8	11	6	0	0	0	6	3	0	15	0	6	1
September	9.4	W.	31	SE.	0	7	8	3	6	11	7	13	5	0	14	8	8	6	4	0	0	1	2	0	0	8	0	4	1
October	10.7	S.	30	NW.	0	1	3	8	10	19	6	10	5	0	20	6	5	4	3	0	0	0	1	1	0	0	0	5	0
November	13.2	S.	44	S.	2	0	1	3	6	23	7	10	4	0	12	8	10	5	4	5	1	0	0	0	3	0	10	0	0
December	11.6	W.	35	W.	2	5	1	5	9	11	10	12	9	0	7	6	18	6	6	2	2	0	2	1	4	0	22	1	0
Year	11.4	S.	44	S.	11	62	62	57	85	196	71	104	91	2	118	98	149	110	90	29	11	5	45	13	17	42	85	56	3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SPRINGFIELD, MO.

[ϕ=37°12′ N.; λ=93°18′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	28.63	29.15	27.89	30.1	37.0	37.8	44.6	26.9	35.8	68	3	25	26	26	79	64	65	0.141	0.151	0.161	3.14	1.52	T	5.1	4.9	4.6	5.6
February	28.72	29.08	28.30	39.0	46.6	46.9	51.6	36.1	43.8	73	18	34	37	35	84	70	69	.214	.239	.231	4.53	1.67	6.0	6.7	7.7	7.4	6.9
March	28.48	28.99	28.06	47.1	58.3	59.7	64.3	44.5	54.4	81	26	40	40	40	77	56	53	.253	.264	.265	2.76	.97	.0	4.8	5.6	6.6	5.2
April	28.57	28.88	28.19	50.2	62.0	63.3	67.1	48.3	57.7	84	26	42	44	44	76	54	54	.290	.309	.327	3.50	1.49	2.0	5.4	5.1	5.6	4.9
May	28.50	28.81	28.03	59.1	68.6	69.7	73.5	55.9	64.7	85	38	54	56	55	84	68	64	.438	.480	.473	6.46	2.21	.0	5.8	6.1	6.4	6.2
June	28.62	28.87	28.33	66.3	76.5	76.8	80.8	64.3	72.6	90	58	60	61	61	82	61	63	.528	.549	.567	5.61	3.00	.0	5.3	6.1	5.3	5.2
July	28.59	28.72	28.42	72.6	85.1	85.1	89.3	70.9	80.1	96	66	65	63	64	78	53	50	.625	.623	.585	2.34	1.07	.0	3.4	5.1	4.3	4.5
August	28.63	28.80	28.46	72.5	90.7	90.2	95.3	71.7	83.5	100	65	66	64	65	82	42	42	.656	.597	.582	.55	.47	.0	3.4	3.6	2.9	3.1
September	28.64	28.79	28.37	62.2	81.0	77.2	84.3	61.5	72.9	96	44	56	55	56	80	43	49	.470	.463	.471	1.81	1.10	.0	2.5	3.6	4.2	3.7
October	28.70	28.94	28.27	55.0	75.0	69.2	77.8	53.7	65.8	91	31	43	41	43	65	32	41	.200	.278	.299	2.86	1.78	.0	2.5	1.4	2.1	1.9
November	28.65	29.09	28.11	39.6	52.0	49.0	56.5	35.8	46.2	79	15	30	30	31	70	46	54	.185	.187	.197	5.30	3.21	.2	3.5	4.1	3.8	3.6
December	28.66	29.13	28.31	33.1	41.9	40.4	46.3	30.1	38.2	66	11	26	28	27	74	58	60	.146	.158	.158	1.28	.50	.3	4.5	5.0	3.8	4.5
Year	28.62	29.15	27.89	52.2	64.6	63.8	69.3	50.0	59.6	100	3	45	45	46	78	54	55	.353	.358	.360	40.14	3.21	8.5	4.4	4.9	4.8	4.6

SYRACUSE, N. Y.

[ϕ=43°03′ N.; λ=76°09′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.35	29.83	28.43	22.5	26.1	----	54	−10	25.0	32.4	17.5	16	18	---	76	70	---	0.102	0.103	----	2.01	0.48	15.0	8.2	8.6	----	8.4
February	29.54	30.10	28.64	26.7	31.1	----	57	−1	29.6	37.6	21.5	21	23	---	78	70	---	.123	.133	----	2.56	.51	11.7	8.2	8.5	----	8.4
March	29.33	29.72	28.74	34.4	42.6	----	82	−4	40.2	49.5	30.8	28	29	---	76	60	---	.167	.181	----	2.02	.35	9.1	7.8	8.0	----	7.8
April	29.38	29.77	28.57	45.7	52.8	----	86	23	48.8	57.6	40.1	36	36	---	68	55	---	.222	.228	----	3.09	.93	11.2	7.7	7.1	----	7.4
May	29.30	29.76	28.73	52.9	61.6	----	82	37	57.3	66.5	48.1	43	44	---	71	56	---	.286	.302	----	4.36	2.01	.0	6.8	6.8	----	6.5
June	29.37	29.68	28.97	65.2	74.1	----	91	51	68.2	78.6	57.7	53	53	---	66	50	---	.410	.413	----	2.56	.61	.0	5.2	6.3	----	6.0
July	29.32	29.47	28.97	70.6	79.3	----	94	51	74.0	82.7	65.3	61	59	---	72	52	---	.542	.520	----	4.02	2.26	.0	6.0	6.2	----	5.9
August	29.36	29.55	29.00	69.2	79.6	----	96	51	74.2	83.2	65.1	61	60	---	75	52	---	.542	.533	----	5.05	2.11	.0	5.4	5.7	----	5.3
September	29.37	29.77	28.72	55.7	63.9	----	80	40	58.9	67.2	50.6	50	50	---	80	63	---	.364	.368	----	4.90	1.57	.0	5.9	6.7	----	6.3
October	29.47	29.86	28.88	48.6	60.0	----	85	31	54.2	63.7	44.6	42	43	---	79	56	---	.281	.287	----	.56	.29	.0	5.2	5.7	----	5.1
November	29.47	29.83	28.90	38.7	47.4	----	79	6	43.0	51.5	34.4	31	34	---	75	62	---	.198	.222	----	2.74	.71	9.8	5.9	6.8	----	6.6
December	29.38	29.92	28.85	29.6	32.9	----	58	7	31.4	37.2	25.6	24	25	---	80	73	---	.137	.143	----	2.72	.57	27.1	9.1	8.3	----	8.7
Year	29.39	30.10	28.43	46.6	54.3	----	96	−10	50.4	59.0	41.8	39	40	---	75	60	---	.281	.286	----	36.59	2.26	83.9	6.8	7.1	----	6.9

TACOMA, WASH.

[ϕ=47°15′ N.; λ=122°26′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	----	----	----	----	----	----	(1) 46.0	(1) 36.0	(1) 41.0	(1) 53	(1) 29	---	---	---	---	---	---	----	----	----	(1) 4.40	(1) 1.45	(1) 3.5	----	----	----	----
February	----	----	----	----	----	----	50.9	36.2	43.6	73	29	---	---	---	---	---	---	----	----	----	2.26	.71	T	----	----	----	----
March	----	----	----	----	----	----	52.8	39.1	46.0	62	30	---	---	---	---	---	---	----	----	----	4.43	1.01	T	----	----	----	----
April	29.84	30.21	29.51	----	56.7	57.9	60.3	43.5	51.9	72	34	---	40	39	---	55	52	----	0.252	0.245	2.88	1.34	.0	----	6.3	6.3	6.6
May	29.89	30.24	29.54	----	60.6	63.3	65.2	47.7	56.4	80	41	---	43	42	---	54	49	----	.279	.276	.70	.44	.0	----	4.7	3.4	4.7
June	29.85	30.12	29.64	----	64.8	68.4	70.2	52.0	61.1	82	44	---	49	49	---	57	51	----	.349	.351	.10	.10	.0	----	4.4	3.9	5.5
July	29.85	30.07	29.56	----	70.4	74.4	75.8	55.7	65.8	87	50	---	50	50	---	51	44	----	.369	.363	.30	.28	.0	----	2.6	2.1	3.1
August	29.88	30.05	29.67	----	66.1	70.0	71.1	52.8	62.0	77	47	---	50	48	---	57	48	----	.359	.342	.09	.06	.0	----	3.8	2.5	4.8
September	29.83	30.07	29.50	----	65.6	68.9	69.9	53.5	61.7	86	47	---	54	53	---	60	57	----	.412	.398	.48	.22	.0	----	4.7	3.4	6.0
October	29.80	30.12	29.28	----	56.8	58.5	60.4	45.9	53.2	66	35	---	47	46	---	72	65	----	.330	.317	4.37	.98	.0	----	6.3	5.8	7.3
November	29.96	30.42	29.32	----	47.5	47.0	49.9	38.2	44.0	57	28	---	36	37	---	66	68	----	.216	.220	3.29	.79	T	----	6.1	6.2	6.6
December	29.93	30.26	29.21	----	45.0	45.1	47.0	37.6	42.3	60	25	---	38	38	---	78	77	----	.237	.237	3.82	1.26	.0	----	7.1	7.8	8.2
Year	----	----	----	----	----	----	60.0	44.8	52.4	87	25	---	---	---	---	---	---	----	----	----	27.12	1.45	3.5	----	----	----	----

TAMPA, FLA.

[ϕ=27°57′ N.; λ=82°27′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.08	30.52	29.82	55.0	65.6	61.5	69.8	52.2	61.0	80	36	50	50	52	83	59	71	0.385	0.393	0.407	1.20	0.43	0.0	3.5	5.1	3.6	4.5
February	30.15	30.43	29.78	58.9	72.1	67.0	75.3	57.4	66.4	83	43	55	54	55	88	54	67	.449	.420	.442	.85	.83	.0	4.9	3.4	3.0	3.1
March	30.04	30.33	29.82	64.1	77.5	72.9	81.3	62.3	71.8	87	52	61	58	60	89	51	65	.544	.488	.526	1.32	1.27	.0	4.4	3.8	2.5	3.5
April	30.04	30.26	29.78	64.8	78.3	74.5	81.6	61.7	71.6	87	48	59	56	59	82	47	60	.516	.461	.514	.85	.19	.0	3.4	2.3	3.8	4.2
May	29.96	30.12	29.81	72.3	84.2	77.9	87.7	69.5	78.6	94	63	66	61	65	81	48	66	.651	.558	.630	5.06	2.36	.0	3.9	4.0	5.3	4.5
June	30.02	30.19	29.84	75.2	83.7	79.5	87.6	71.5	79.6	94	67	70	68	69	85	60	71	.746	.680	.713	8.85	3.38	.0	5.2	6.6	5.9	6.0
July	30.01	30.15	29.80	76.1	85.2	78.8	88.6	73.2	80.9	92	70	72	70	71	88	62	78	.785	.745	.762	10.11	2.78	.0	3.8	5.9	8.0	6.0
August	30.03	30.18	29.90	77.4	88.7	83.0	91.7	74.5	83.1	95	70	73	70	71	87	54	69	.815	.728	.772	.78	.38	.0	3.2	5.0	4.6	4.9
September	29.94	30.14	29.75	74.3	84.9	78.4	87.8	71.8	79.8	94	63	70	69	70	88	59	77	.743	.711	.748	5.48	1.34	.0	3.6	5.4	5.5	5.1
October	29.96	30.22	29.73	65.7	77.6	72.4	80.3	63.7	72.0	89	54	62	60	62	88	58	71	.571	.542	.569	6.94	4.54	.0	4.6	4.7	3.7	4.5
November	30.05	30.38	29.82	61.8	74.3	69.2	77.0	60.1	68.6	86	34	59	60	61	89	62	76	.532	.553	.571	.70	.48	.0	3.2	4.6	3.2	4.3
December	30.08	30.35	29.87	54.2	67.6	62.6	70.6	51.8	61.2	79	40	49	52	53	84	59	71	.363	.402	.410	.29	.12	.0	3.7	3.7	3.2	4.1
Year	30.03	30.52	29.73	66.6	78.3	73.1	81.6	64.1	72.9	95	34	62	61	62	86	56	70	.592	.557	.589	41.93	4.54	.0	4.0	4.5	4.4	4.6

[1] Records for January to March, inclusive, by cooperative observer; instruments located on City Hall roof.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

SPRINGFIELD, MO.

[H=1,300 ft.; H_b=1,324 ft.; h_t=5 ft.; h_r=3 ft.; h_a=78 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	11.3	NW.	32	W.	1	4	3	2	14	7	5	7	18	2	8	13	10	6	6	4	1	1	7	1	6	0	19	2	0
February	11.5	S.	28	W.	0	9	4	7	8	12	3	5	8	0	5	9	14	10	10	5	3	0	3	0	3	0	9	3	0
March	12.2	S.	31	SW.	0	3	2	6	12	18	3	8	9	1	13	7	11	13	9	0	0	0	6	1	0	0	3	10	0
April	11.5	S.	31	S.	0	4	4	5	17	6	8	8	7	1	11	10	9	10	8	2	1	0	1	0	0	0	5	5	0
May	10.5	S.	32	S.	1	1	2	10	10	18	4	10	6	1	7	11	13	16	16	0	0	0	0	0	0	0	0	15	0
June	8.8	S.	25	SW.	0	3	7	8	9	19	4	2	6	2	12	10	8	13	12	0	0	1	1	0	0	0	0	9	0
July	7.2	S.	21	S.	0	0	12	3	11	19	10	2	5	0	14	9	8	7	6	0	0	0	1	1	0	17	0	10	0
August	7.7	S.	18	SW.	0	0	1	6	16	14	13	10	2	0	22	4	5	6	2	0	0	0	1	0	0	27	0	5	1
September	6.8	S.	22	W.	0	5	7	7	13	11	4	5	6	2	15	10	5	8	6	0	0	0	0	0	0	12	0	4	1
October	7.6	SE.	19	SW.	0	4	3	3	30	6	7	7	1	1	26	3	2	3	3	0	0	0	0	0	0	2	2	4	0
November	9.8	S.	25	NW.	0	5	1	2	11	16	11	9	5	0	21	1	8	6	6	4	1	0	0	0	2	0	12	1	0
December	9.0	W.	27	NW.	0	8	1	3	10	14	4	14	8	0	16	7	8	6	5	5	1	0	1	0	1	0	20	0	0
Year	9.5	S.	32	W.	2	46	47	62	161	160	76	87	81	10	170	94	101	104	89	20	7	2	21	3	12	58	70	68	2

SYRACUSE, N. Y.

[H=400 ft.; H_b=596 ft.; h_t=65 ft.; h_r=57 ft.; h_a=79 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	6.9	E.	25	S.	0	1	2	15	5	13	9	14	3	0	2	7	22	18	11	24	14	0	10	0	15	0	30	0	0
February	7.9	S.	24	NW.	0	7	0	9	8	9	3	11	9	0	2	5	21	20	13	16	11	0	4	0	10	0	24	0	0
March	7.9	W.	29	SW.	0	1	0	13	10	7	8	16	7	0	3	7	21	17	12	12	10	1	6	0	2	0	16	2	0
April	8.1	W.	27	S.	0	1	0	9	3	15	7	11	14	0	2	10	18	16	10	7	7	0	8	0	1	0	10	2	0
May	7.3	W.	24	SW.	0	5	1	13	4	8	4	18	9	0	7	8	16	15	10	0	0	1	7	0	0	0	0	4	0
June	6.6	S.	26	NW.	0	2	2	5	9	15	1	14	12	0	6	14	10	14	10	0	0	0	2	0	0	2	0	4	0
July	6.5	S.	23	W.	0	4	1	6	7	15	6	12	11	0	8	13	10	10	9	0	0	0	4	0	0	2	0	9	1
August	6.7	S.	20	W.	0	3	0	7	3	16	6	14	13	0	8	15	8	12	8	0	0	0	3	0	0	7	0	11	0
September	7.3	S.	23	NW.	0	10	0	12	6	12	4	9	7	0	8	10	12	14	12	0	0	0	11	0	0	0	0	1	2
October	6.4	S.	18	S.	0	2	1	3	11	17	1	19	8	0	12	8	11	6	4	0	0	1	5	0	0	0	1	0	0
November	8.3	S.	22	S.	0	4	0	11	7	18	11	6	3	0	8	6	16	12	10	11	6	0	6	0	4	0	13	0	0
December	8.3	W.	26	SW.	0	4	0	12	6	9	13	12	6	0	1	4	26	23	15	21	17	0	7	0	12	0	23	0	0
Year	7.3	S.	29	SW.	0	44	7	115	79	154	73	156	102	0	67	107	191	177	124	91	65	3	73	0	44	11	117	33	3

TACOMA, WASH.

[H=107 ft.; H_b=194 ft.; h_t=172 ft.; h_r=165 ft.; h_a=201 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January															(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
February															4	3	24	12	12	2	1	0	10	2	0	0	8	2	1
March															7	5	16	17	11	2	0	0	10	0	0	0	3	0	0
April	8.1	SW.	27	W.	0	12	0	0	0	2	7	7	2	0	6	6	19	19	15	6	0	3	6	0	0	0	3	0	0
May	9.1	N.	29	SW.	0	15	2	1	0	1	4	7	1	0	4	15	11	11	8	0	0	0	0	1	0	0	0	0	0
June	8.6	N.	29	SW.	0	16	2	0	0	0	4	5	3	0	11	13	7	8	4	0	0	0	2	0	0	0	0	0	0
July	7.2	N.	24	N.	0	21	0	0	0	1	1	7	1	0	7	11	12	1	1	0	0	0	0	0	0	0	0	0	0
August	7.3	N.	20	SW.	0	16	1	0	0	0	4	8	2	0	18	9	4	3	1	0	0	0	2	0	0	0	0	0	2
September	6.2	N.	23	SW.	0	19	0	1	0	2	1	4	2	1	10	16	5	3	1	0	0	0	6	3	0	0	0	0	0
October	6.6	S.	33	S.	1	13	1	1	0	6	8	0	1	1	6	13	11	9	3	0	0	0	18	6	0	0	0	2	0
November	8.9	S.	36	SW.	2	8	0	0	0	9	10	1	2	0	2	11	18	15	13	0	0	0	16	8	0	0	0	1	0
December	9.0	S.	39	SW.	2	5	0	1	1	10	9	4	0	1	9	5	16	14	13	3	0	0	6	1	0	0	4	0	0
Year															2	7	22	19	14	0	0	0	10	5	0	0	9	0	0
															86	114	165	131	96	13	1	3	86	26	0	0	27	5	3

TAMPA, FLA.

[H=23 ft.; H_b=35 ft.; h_t=88 ft.; h_r=81 ft.; h_a=197 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.5	N.	32	NW.	1	11	6	11	2	9	8	3	7	0	13	11	7	10	6	0	0	0	9	4	0	0	0	1	0
February	11.6	E.	25	NE.	0	12	10	16	4	2	1	4	7	0	16	9	3	3	1	0	0	0	4	0	0	0	0	0	0
March	10.3	S.	30	W.	0	5	5	5	14	6	5	10	12	0	15	13	3	2	2	0	0	0	4	1	0	0	0	1	0
April	12.0	E.	28	S.	0	5	7	18	6	7	2	7	7	1	11	16	3	3	3	0	0	0	2	0	0	0	0	1	0
May	9.1	NW.	35	NE.	1	6	5	13	8	6	2	5	16	1	13	12	6	7	6	0	0	1	5	0	0	9	0	9	0
June	9.1	W.	38	NW.	2	5	5	12	9	6	7	6	10	0	6	13	11	18	15	0	0	1	1	0	0	8	0	15	0
July	8.8	SE.	41	SE.	3	5	3	8	19	12	2	11	2	0	3	21	7	20	15	0	0	0	3	0	0	11	0	23	0
August	8.5	E.	32	S.	1	4	3	24	17	3	0	4	6	1	9	19	3	7	3	0	0	0	0	0	0	27	0	10	0
September	10.2	E.	32	E.	1	5	12	17	11	5	1	3	6	0	7	17	6	16	12	0	0	0	2	1	0	6	0	10	0
October	12.4	NE.	40	SW.	2	16	22	13	2	0	1	1	7	0	13	9	9	6	5	0	0	0	0	0	0	0	0	2	0
November	11.8	E.	29	E.	0	19	13	18	1	2	1	2	4	0	13	12	5	7	2	0	0	0	5	2	0	0	0	0	0
December	10.6	NE.	26	NW.	0	15	21	6	1	6	1	6	6	0	15	10	6	4	4	0	0	0	7	1	0	0	0	0	0
Year	10.4	E.	41	SE.	11	108	112	161	94	64	31	67	90	3	134	162	69	103	74	0	0	2	42	9	0	61	0	72	0

[1] Records for January to March, inclusive, by cooperative observer; instruments located on City Hall roof.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

TATOOSH ISLAND, WASH.

[ϕ=48°23′ N.; λ=124°44′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.96	30.56	29.20	44.3	44.7	44.7	46.8	41.3	44.0	50	31	39	39	39	81	80	80	0.237	0.238	0.238	6.62	2.21	0.5	9.0	8.0	9.6	8.2
February	29.73	30.28	29.08	42.1	44.5	44.4	46.1	40.0	43.0	56	34	37	37	38	84	77	78	.225	.226	.229	6.37	1.21	.2	7.9	7.4	7.5	7.5
March	29.75	30.43	29.00	43.8	46.2	46.0	48.5	41.0	44.8	55	35	39	39	38	82	78	76	.237	.243	.235	8.30	1.31	.1	7.7	7.2	7.3	7.2
April	29.96	30.29	29.65	47.2	50.9	49.9	53.0	44.9	49.0	64	41	42	43	43	82	76	77	.264	.281	.274	4.12	2.20	.0	7.0	6.7	6.9	7.3
May	30.01	30.34	29.67	47.4	51.5	51.7	53.8	45.9	49.8	66	40	43	45	44	85	78	78	.279	.295	.295	2.55	1.17	.0	5.5	5.5	4.0	5.5
June	29.99	30.26	29.80	50.3	53.7	53.5	55.6	48.9	52.2	70	44	48	49	49	91	85	84	.331	.345	.343	.63	.37	.0	6.4	4.8	4.9	6.4
July	29.99	30.19	29.70	51.8	55.5	55.4	58.3	49.8	54.0	72	47	49	51	51	92	86	86	.351	.375	.377	.72	.45	.0	4.9	4.1	3.4	5.5
August	30.01	30.19	29.77	52.4	55.7	55.7	57.7	50.7	54.2	62	46	51	52	52	94	87	88	.370	.384	.392	.65	.48	.0	6.3	5.7	4.8	7.6
September	29.94	30.22	29.70	53.8	56.5	57.2	59.6	50.9	55.2	67	46	52	53	53	94	89	87	.386	.404	.409	.95	.91	.0	5.3	4.1	4.4	6.5
October	29.87	30.22	29.34	52.2	54.1	54.0	56.8	49.1	53.0	64	43	47	48	48	85	81	80	.329	.340	.335	7.52	1.80	.0	5.2	5.8	6.1	6.2
November	30.01	30.49	29.34	46.5	48.7	48.0	50.4	43.7	47.0	58	37	37	38	38	72	69	68	.229	.235	.239	7.46	1.93	.0	6.1	6.7	6.6	7.2
December	29.98	30.36	28.99	44.7	46.0	45.6	47.3	42.6	45.0	53	37	39	40	39	82	82	80	.247	.258	.248	14.02	2.48	.0	6.1	7.5	7.9	7.4
Year	29.93	30.56	28.99	48.0	50.7	50.5	52.8	45.7	49.3	72	31	44	44	44	85	81	80	.290	.302	.301	60.91	2.48	0.8	6.4	6.1	6.1	6.9

TERRE HAUTE, IND.

[ϕ=39°29′ N.; λ=87°24′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.40	30.02	28.42	27.0	32.6	32.4	38.2	22.9	30.6	56	5	23	24	25	83	68	72	0.135	0.135	0.142	1.42	0.65	4.1	5.3	7.1	6.6	6.8
February	29.54	30.03	28.96	37.3	43.7	43.2	48.0	32.6	40.3	70	13	33	33	34	85	67	71	.201	.205	.215	2.65	.92	2.0	8.6	8.3	9.1	8.2
March	29.31	29.75	28.88	44.2	52.0	52.8	59.2	40.5	49.8	79	27	40	38	40	84	62	64	.265	.243	.265	9.30	2.96	T	7.1	6.7	5.4	6.0
April	29.38	29.68	28.95	49.4	62.3	60.9	66.2	46.6	56.4	85	30	41	40	39	72	47	48	.273	.266	.252	3.11	1.44	3.0	4.8	5.9	5.9	5.7
May	29.30	29.57	28.87	58.1	70.4	69.0	74.7	54.5	64.6	88	38	51	50	52	78	52	57	.397	.393	.411	6.81	2.74	.0	5.5	6.9	6.2	5.3
June	29.38	29.67	29.08	66.8	79.0	77.8	82.9	62.9	72.9	93	54	59	56	58	76	47	53	.506	.458	.501	4.32	1.49	.0	5.2	6.1	6.0	6.1
July	29.34	29.50	29.15	72.8	84.9	82.7	89.8	68.8	79.3	98	64	64	63	64	76	50	57	.607	.586	.616	4.86	2.13	.0	4.4	4.9	4.8	4.8
August	29.40	29.57	29.22	70.8	85.0	83.7	89.8	68.2	79.0	97	60	66	65	67	84	53	58	.644	.635	.662	10.03	4.55	.0	4.3	5.4	3.0	4.7
September	29.38	29.54	28.93	62.1	78.5	73.5	82.0	60.5	71.2	94	44	58	57	56	85	49	59	.497	.495	.503	1.50	.62	.0	4.0	4.6	4.5	4.3
October	29.48	29.80	28.98	49.6	69.9	65.3	74.3	47.9	61.1	88	34	42	40	42	77	36	44	.284	.259	.280	1.45	1.31	.0	1.8	2.3	1.8	1.9
November	29.45	29.80	28.81	39.3	51.5	48.2	56.3	35.9	46.1	78	13	32	33	34	75	50	60	.193	.203	.209	3.92	1.86	7.4	4.7	4.4	2.9	4.0
December	29.45	30.00	29.06	30.3	37.7	36.8	41.5	27.4	34.4	56	12	24	26	26	77	62	65	.137	.149	.150	1.88	1.01	T	5.5	6.4	5.7	6.0
Year	29.40	30.03	28.42	50.6	62.3	60.5	66.9	47.4	57.1	98	5	44	44	45	79	54	59	.345	.336	.350	51.25	4.55	16.5	5.1	5.8	5.2	5.4

TOLEDO, OHIO

[ϕ=41°40′ N.; λ=83°34′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.31	29.96	28.35	24.6	27.9	27.8	33.1	20.4	26.8	58	5	20	21	21	81	74	73	0.112	0.121	0.115	0.55	0.17	4.3	8.0	8.6	7.5	8.2
February	29.50	30.05	28.74	31.2	35.7	34.9	40.0	25.9	33.0	66	9	27	29	29	82	75	78	.158	.170	.174	3.39	1.29	12.8	8.9	8.5	8.5	8.1
March	29.27	29.70	28.78	38.3	47.9	46.2	53.0	34.4	43.7	82	14	33	34	34	82	61	64	.213	.226	.212	5.22	1.81	.5	6.2	5.7	6.0	5.5
April	29.34	29.72	28.89	44.3	53.4	53.0	58.2	41.5	49.8	84	26	37	38	37	75	57	57	.232	.243	.241	3.00	1.18	6.7	5.0	6.3	5.5	5.5
May	29.26	29.58	28.65	54.4	64.8	63.8	68.8	50.8	59.8	87	36	46	48	48	76	58	60	.338	.362	.358	3.03	.64	.0	5.3	6.1	6.0	5.3
June	29.33	29.62	29.04	63.4	73.7	73.7	78.0	59.1	68.6	92	51	55	53	54	75	52	52	.447	.423	.436	4.28	1.95	.0	5.2	5.1	4.3	4.2
July	29.30	29.47	29.03	69.1	79.4	79.4	83.5	65.6	74.6	91	58	62	61	62	80	55	57	.564	.545	.558	2.97	1.16	.0	4.4	4.9	3.6	4.0
August	29.36	29.56	29.10	69.0	80.6	81.2	85.1	66.6	75.8	93	56	62	62	63	79	54	55	.568	.569	.585	.86	.55	.0	3.4	3.9	2.8	3.4
September	29.35	29.64	28.84	57.8	68.3	66.3	71.9	55.6	63.8	89	46	53	53	53	84	60	65	.412	.419	.423	2.44	1.59	.0	5.4	5.0	3.9	5.1
October	29.44	29.83	28.94	47.8	62.8	60.2	66.8	45.8	56.3	84	34	41	43	43	80	51	55	.269	.283	.283	1.22	.68	.0	3.0	2.3	2.5	2.7
November	29.40	29.74	28.91	37.1	47.7	46.1	52.9	34.7	43.8	76	12	31	32	32	77	56	60	.182	.198	.197	1.75	.80	5.2	4.8	4.8	3.8	5.3
December	29.37	29.95	28.85	28.2	32.5	32.3	36.4	25.6	31.0	49	5	23	24	25	80	68	73	.129	.133	.138	1.57	.65	2.7	7.3	7.8	7.5	7.6
Year	29.35	30.05	28.35	47.1	56.2	55.4	60.6	43.8	52.2	93	5	41	42	42	79	60	62	.302	.308	.310	30.28	1.95	32.2	5.6	5.8	5.2	5.4

TOPEKA, KANS.

[ϕ=39°03′ N.; λ=95°41′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.00	29.55	28.50	26.9	----	36.2	41.5	22.7	32.1	66	1	21	---	23	75	---	59	0.120	----	0.133	0.114	1.11	0.1	4.0	----	4.6	5.3
February	29.08	29.46	28.64	33.2	----	41.5	47.1	27.2	37.2	72	6	29	---	30	83	---	66	.175	----	.180	.92	.41	6.6	5.8	----	7.9	7.4
March	28.80	29.29	28.32	44.4	----	56.5	63.4	39.7	51.6	86	24	38	---	39	80	---	56	.245	----	.253	2.20	.92	.1	5.0	----	7.4	6.1
April	28.90	29.30	28.46	47.8	----	62.0	66.9	45.7	56.3	88	25	42	---	41	80	---	49	.285	----	.279	2.01	.76	6.5	4.8	----	5.3	5.2
May	28.83	29.17	28.19	58.0	----	67.7	75.1	54.5	64.8	90	36	54	---	56	87	---	68	.432	----	.467	11.16	5.49	.0	6.2	----	7.1	6.5
June	28.92	29.26	28.64	67.2	----	81.1	85.6	64.1	74.8	99	56	62	---	61	83	---	52	.561	----	.552	2.58	1.09	.0	7.0	----	5.3	6.0
July	28.90	29.06	28.64	72.9	----	90.3	94.0	70.3	82.2	104	64	66	---	64	79	---	44	.636	----	.599	3.97	2.14	.0	3.7	----	3.4	3.6
August	28.92	29.16	28.69	73.1	----	89.9	96.2	71.6	83.9	104	64	66	---	65	79	---	46	.641	----	.614	2.15	1.56	.0	4.2	----	2.7	2.9
September	28.97	29.26	28.67	61.6	----	79.8	85.9	59.8	72.8	100	38	55	---	54	79	---	44	.466	----	.456	.37	.20	.0	3.1	----	3.2	3.3
October	29.00	29.26	28.55	54.3	----	72.7	80.7	51.6	66.2	95	27	41	---	42	62	---	35	.280	----	.287	.35	.29	.0	2.3	----	2.1	2.2
November	28.97	29.46	28.44	37.2	----	47.7	55.1	33.0	44.0	80	10	27	---	28	65	---	46	.167	----	.168	1.92	1.70	T	3.8	----	3.7	4.7
December	29.01	29.53	28.57	30.4	----	40.1	46.7	26.1	36.4	62	8	22	---	23	68	---	50	.123	----	.131	.24	.18	T	4.3	----	4.4	4.5
Year	28.94	29.55	28.19	50.6	----	63.8	69.8	47.2	58.5	104	1	44	---	44	77	---	51	.344	----	.343	29.01	5.49	13.3	4.5	----	4.8	4.8

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

TATOOSH ISLAND, WASH.

[H=99 ft.; H_b=86 ft.; h_b=9 ft.; h_r=3 ft.; h_a= 55 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp. 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																											
January	19.4	E.	52	E.	16	1	0	36	2	13	6	4	0	0	2	7	22	21	17	2	2	2	7	0	0	0	1	0	0
February	17.9	E.	44	SW.	11	0	2	34	7	7	5	1	0	0	6	2	20	18	16	3	3	1	0	0	0	0	0	0	0
March	16.7	E.	68	SW.	11	3	6	15	2	13	11	9	3	0	6	6	19	19	18	4	2	6	2	0	0	0	0	1	0
April	11.5	E.	34	E.	2	0	4	13	4	6	18	12	3	0	3	10	17	15	10	0	0	0	1	0	0	0	0	0	0
May	10.7	SW.	41	W.	3	1	0	7	4	11	16	14	9	0	11	7	13	12	7	0	0	0	8	5	0	0	0	0	0
June	10.1	SW.	27	W.	0	0	0	4	0	16	22	16	2	0	7	10	13	10	3	0	0	0	10	9	0	0	0	0	0
July	9.9	SW.	29	SW.	0	1	3	6	0	18	27	6	1	0	11	7	13	7	3	0	0	0	13	17	0	0	0	0	0
August	7.9	SW.	21	S.	0	0	1	4	1	18	27	10	1	0	1	13	17	10	4	0	0	0	17	9	0	0	0	0	0
September	9.0	S.	35	E.	2	1	4	14	1	23	10	4	3	0	8	6	16	11	10	0	0	0	16	19	0	0	0	0	0
October	14.9	E.	47	S.	11	1	5	29	5	12	8	2	0	0	8	6	17	15	14	0	0	0	8	4	0	0	0	3	2
November	19.4	E.	50	E.	19	0	4	24	3	6	7	13	3	0	4	10	16	16	14	0	0	4	0	0	0	0	0	0	1
December	19.1	E.	67	SW.	16	1	2	22	3	17	6	8	3	0	6	5	20	21	19	0	0	0	6	2	0	0	0	1	0
Year	13.9	E.	68	SW.	91	9	31	208	32	160	163	99	28	0	73	89	203	175	135	9	7	13	88	76	0	0	1	5	3

TERRE HAUTE, IND.

[H=503 ft.; H_b=575 ft.; h_t=63 ft.; h_r=61 ft.; h_a=149 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.2	NW.	40	SW.	1	4	3	2	4	8	12	11	18	0	7	6	18	12	9	11	4	0	4	1	8	0	27	0	0
February	11.5	SW.	32	NW.	1	10	4	8	9	8	4	7	6	0	1	8	19	13	6	7	3	0	6	0	0	0	15	2	0
March	11.4	S.	30	E.	0	6	5	7	7	15	13	6	3	0	7	9	15	18	13	1	0	2	9	0	0	0	6	8	0
April	11.8	S.	29	SW.	0	5	8	3	5	20	6	7	6	0	7	15	8	11	9	3	2	1	2	0	0	0	3	3	0
May	9.4	S.	30	SW.	0	4	5	7	11	14	9	8	4	0	4	16	11	12	9	0	0	1	4	0	0	0	0	7	0
June	8.8	SW.	25	SE.	0	6	8	3	5	15	11	5	7	0	7	13	10	10	7	0	0	0	8	0	0	0	4	0	6
July	6.7	SW.	43	N.	1	5	6	6	5	18	8	4	10	0	13	12	6	9	7	0	0	0	5	0	0	17	0	8	0
August	7.5	S.	29	N.	0	10	7	4	12	12	5	6	5	1	10	14	7	8	8	0	0	0	4	0	0	17	0	8	0
September	8.0	SW.	20	NW.	0	9	4	5	5	11	7	4	4	1	12	11	7	6	5	0	0	0	1	0	0	6	0	4	0
October	7.7	SE.	28	W.	0	8	7	5	13	11	9	3	6	0	23	7	1	4	3	0	0	0	1	0	0	0	0	2	0
November	11.2	SW.	43	S.	1	5	2	1	21	10	14	3	4	0	16	6	8	10	9	5	4	0	3	0	3	0	10	3	0
December	9.6	SW.	30	W.	0	2	2	4	7	11	19	5	12	0	7	12	12	10	7	8	2	0	4	1	3	0	22	0	0
Year	9.5	SW.	43	N.	4	74	61	55	104	153	127	69	85	2	114	129	122	123	92	35	15	4	51	2	14	44	83	51	0

TOLEDO, OHIO

[H=589 ft.; H_b=628 ft.; h_t=79 ft.; h_r=72 ft.; h_a=87 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.7	W.	31	W.	0	3	7	8	3	9	8	17	7	0	0	11	20	12	7	18	8	0	3	2	14	0	28	0	0
February	10.7	W.	30	W.	0	7	6	7	6	5	7	10	8	0	2	5	21	14	10	9	6	0	4	0	9	0	24	0	0
March	11.5	W.	30	W.	0	0	4	8	4	7	16	18	5	0	10	12	9	15	11	6	4	1	6	1	2	0	14	6	0
April	11.9	SW.	31	W.	0	5	4	11	3	2	17	8	10	0	8	13	9	9	7	4	1	0	2	1	1	0	9	4	0
May	9.1	W.	27	W.	0	7	4	11	6	9	5	13	7	0	9	13	9	15	13	0	0	0	3	0	0	0	0	4	0
June	9.1	W.	31	W.	0	7	5	4	4	7	8	15	10	0	12	14	4	8	7	0	0	0	0	0	0	2	0	3	0
July	7.9	W.	28	W.	0	5	2	7	3	2	14	20	9	0	17	8	6	11	10	0	0	0	1	0	0	3	0	9	0
August	8.3	SW.	28	W.	0	12	1	3	3	5	16	9	13	0	17	13	1	6	4	0	0	0	1	0	0	6	0	5	0
September	8.8	W.	23	W.	0	9	3	12	7	2	5	15	7	0	11	7	12	8	6	0	0	0	4	1	0	0	0	3	1
October	8.0	SW.	27	W.	0	6	6	8	8	9	11	8	5	1	19	9	3	6	3	0	0	0	3	1	0	0	0	2	0
November	10.4	S.	28	W.	0	7	1	2	7	18	12	10	3	0	11	7	12	11	8	4	3	0	4	1	5	0	13	0	0
December	10.2	W.	35	W.	2	3	0	5	11	7	7	20	9	0	2	11	18	14	6	16	8	0	2	0	7	0	23	0	0
Year	9.7	W.	35	W.	2	71	43	86	65	82	126	163	93	1	118	123	124	129	92	57	30	1	33	7	38	11	111	36	1

TOPEKA, KANS.

[H=926 ft.; H_b=986 ft.; h_t=65 ft.; h_r= 61 ft.; h_a=87 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.3	NW.	35	NW.	2	7	2	6	7	8	9	8	15	0	10	12	9	4	1	7	1	0	7	1	7	0	28	0	0
February	10.7	N.	29	S.	0	11	3	8	3	9	3	12	7	0	4	7	17	7	4	8	4	0	10	2	6	0	19	0	0
March	11.4	S.	29	SW.	0	4	3	6	6	16	4	10	13	0	5	16	10	9	7	1	1	1	9	1	0	0	4	1	0
April	11.4	S.	32	SW.	1	9	2	6	5	16	7	9	5	1	11	10	9	9	8	2	2	0	5	1	1	0	7	5	0
May	9.8	S.	35	SW.	1	6	5	8	5	16	3	9	10	0	6	12	13	20	15	0	0	1	4	1	0	0	0	16	0
June	9.0	S.	30	W.	0	5	5	8	10	15	6	7	3	1	7	10	13	13	8	0	0	0	5	0	0	11	0	6	0
July	7.5	S.	21	SE.	0	5	5	3	6	25	10	6	2	0	17	10	4	6	5	0	0	0	2	0	0	25	0	7	0
August	9.8	S.	24	E.	0	5	10	7	3	30	4	3	0	0	20	9	2	6	3	0	0	0	2	1	0	23	0	7	0
September	7.8	S.	23	NW.	0	4	11	4	4	18	4	6	6	3	18	9	3	4	3	0	0	0	2	0	0	12	0	1	0
October	9.0	S.	27	NW.	0	4	1	5	9	20	8	4	8	3	23	8	0	4	1	0	0	1	0	0	0	5	2	3	0
November	10.6	S.	32	SW.	1	8	2	2	2	17	11	7	10	0	12	9	9	3	3	3	0	0	0	0	3	0	14	1	0
December	9.0	W.	31	NW.	0	6	2	4	8	7	4	19	12	0	11	12	8	4	2	4	0	0	2	0	2	0	25	1	0
Year	9.7	S.	35	NW.	5	74	51	67	69	197	73	100	91	8	144	124	97	89	60	25	8	3	48	7	19	76	99	48	0

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

TRENTON, N. J.

[ϕ=40°13′ N.; λ=74°46′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.85	30.27	29.05	29.6	35.0	33.6	38.9	25.4	32.2	60	7	22	24	23	73	67	70	0.133	0.136	0.134	2.83	0.94	2.5	6.8	7.0	5.7	7.2
February	29.99	30.60	29.18	31.8	37.8	37.3	43.5	27.6	35.6	64	13	24	27	26	72	66	69	.143	.163	.153	2.17	1.33	3.0	6.6	6.8	5.8	7.2
March	29.80	30.17	29.24	39.2	47.4	46.7	53.5	34.4	44.0	79	9	30	32	31	71	59	65	.182	.198	.190	1.59	.70	1.6	6.0	6.7	5.4	6.5
April	29.84	30.22	28.87	47.4	59.2	55.9	63.8	43.2	53.5	87	28	39	39	39	72	55	64	.250	.256	.253	2.31	.99	.2	6.4	6.4	5.6	6.5
May	29.74	30.19	29.06	55.6	65.1	62.9	69.3	50.9	60.1	84	39	46	46	46	73	58	66	.327	.329	.328	2.95	1.25	.0	7.3	7.1	5.2	7.3
June	29.79	30.16	29.54	65.5	75.7	71.5	79.7	60.1	69.9	91	43	59	59	59	81	67	74	.512	.520	.516	9.00	4.79	.0	7.1	7.0	7.3	7.4
July	29.77	29.92	29.54	71.5	81.1	78.4	84.8	67.1	76.0	93	56	66	66	66	82	67	75	.641	.645	.643	8.43	2.24	.0	6.8	7.1	6.7	7.2
August	29.79	29.97	29.46	72.0	82.7	77.4	86.0	67.3	76.6	95	59	66	66	66	80	69	75	.642	.654	.648	3.66	1.42	.0	5.5	5.7	5.0	5.2
September	29.82	30.17	28.87	59.4	69.5	65.6	73.4	55.5	64.4	86	46	54	56	55	83	72	77	.433	.462	.448	9.04	3.68	.0	6.5	6.6	6.4	6.3
October	29.88	30.20	29.35	50.9	63.6	58.9	67.2	47.7	57.4	87	38	46	47	46	83	66	74	.318	.335	.326	2.27	.83	.0	3.5	4.2	2.7	4.2
November	29.95	30.36	29.42	41.2	52.4	48.4	55.6	37.4	46.5	75	14	36	38	37	82	69	76	.243	.265	.254	3.10	1.01	13.0	5.9	5.7	4.3	5.7
December	29.88	30.39	29.22	33.1	39.3	37.4	42.2	29.2	35.7	59	17	26	28	27	74	67	71	.152	.161	.156	2.11	.85	T	6.7	7.3	5.4	7.0
Year	29.84	30.60	28.87	49.8	59.1	56.2	63.2	45.5	54.3	95	7	43	44	43	77	65	71	.331	.344	.337	49.46	4.79	20.3	6.3	6.5	5.5	6.5

VALENTINE, NEBR.

[ϕ=42°50′ N.; λ=100°32′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	27.29	27.68	26.76	21.2	30.9	28.5	36.2	14.6	25.4	62	−13	17	18	19	82	62	69	0.094	0.106	0.110	0.43	0.23	4.2	6.3	7.1	6.2	6.7
February	27.37	27.75	26.97	17.1	30.1	31.1	37.0	11.7	24.4	69	−10	12	18	20	81	62	64	.083	.106	.114	.40	.26	6.0	5.4	5.5	5.0	5.2
March	27.15	27.68	26.45	32.7	44.7	46.0	50.5	28.8	39.6	73	8	26	28	26	76	55	52	.142	.154	.149	1.27	.39	4.6	6.5	6.5	5.7	6.1
April	27.26	27.82	26.86	38.8	53.5	54.8	58.9	35.9	47.4	86	8	32	34	34	77	53	50	.199	.221	.216	4.40	2.60	6.4	6.2	5.8	5.7	5.7
May	27.20	27.50	26.70	48.8	62.2	61.3	66.8	46.7	56.8	91	35	44	42	42	84	52	54	.296	.286	.285	4.54	1.39	.0	5.7	7.2	7.1	6.2
June	27.25	27.53	26.86	60.8	77.0	78.2	82.1	57.4	69.8	94	43	54	53	54	80	45	45	.435	.417	.439	1.18	.50	.0	5.4	4.2	4.9	5.1
July	27.29	27.52	27.01	65.2	82.9	84.2	87.8	62.5	75.2	99	55	57	55	56	76	41	40	.469	.439	.454	2.99	1.06	.0	4.9	4.4	4.3	4.3
August	27.26	27.60	26.85	64.7	85.4	87.7	90.6	62.4	76.5	108	50	54	51	50	69	33	30	.419	.383	.373	1.37	.78	.0	4.3	3.4	2.7	3.1
September	27.35	27.57	27.10	54.4	75.4	74.5	80.0	52.1	66.0	95	35	49	49	49	84	44	45	.369	.367	.368	1.23	.68	.0	4.3	4.2	4.0	4.2
October	27.31	27.61	26.89	45.3	66.3	63.0	71.1	41.0	56.0	92	14	36	36	37	71	36	41	.226	.232	.229	.15	.12	.0	4.7	3.7	3.0	4.1
November	27.26	27.88	26.73	25.1	42.2	37.4	46.1	18.4	32.2	68	−2	19	22	22	77	47	55	.111	.124	.122	.08	.03	.1	5.3	6.1	4.3	6.3
December	27.26	27.62	26.76	20.8	37.3	34.2	42.5	14.7	28.6	62	−9	15	19	18	78	49	51	.093	.107	.103	.06	.04	.9	4.2	5.5	4.5	5.0
Year	27.27	27.88	26.45	41.2	57.3	56.7	62.5	37.2	49.8	108	−13	35	35	36	78	48	50	.245	.245	.247	18.10	2.60	22.2	5.3	5.3	4.8	5.2

VICKSBURG, MISS.

[ϕ=32°22′ N.; λ=90°53′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.85	30.25	29.37	43.0	52.5	52.8	57.7	41.1	49.4	79	26	38	38	37	80	59	56	0.261	0.256	0.252	3.47	0.66	0.0	5.2	6.3	5.2	6.4
February	29.93	30.24	29.54	50.9	60.1	61.1	65.5	49.1	57.3	78	24	45	45	45	82	60	59	.338	.326	.326	3.68	2.57	.0	6.9	6.9	5.4	7.0
March	29.73	30.25	29.44	59.2	70.6	70.1	75.1	57.2	66.2	83	37	53	53	52	81	56	56	.437	.431	.422	6.15	1.99	.0	7.2	5.6	6.2	6.4
April	29.77	30.06	29.27	57.0	69.0	68.7	72.9	55.2	64.0	86	38	52	52	53	85	58	61	.418	.422	.438	7.61	2.81	.0	5.5	6.5	5.2	6.1
May	29.69	29.92	29.42	66.8	79.2	79.0	82.9	64.9	73.9	90	53	61	59	61	83	52	55	.559	.524	.552	2.72	1.97	.0	5.7	6.0	5.3	6.3
June	29.76	29.97	29.63	71.3	84.0	81.6	87.1	69.4	78.2	93	64	66	66	67	83	56	62	.639	.655	.661	1.53	.51	.0	4.8	6.7	6.5	6.2
July	29.72	29.86	29.58	74.7	86.7	82.6	90.0	72.6	81.3	94	68	71	71	71	88	61	70	.755	.768	.769	8.31	4.54	.0	6.1	6.4	7.8	7.0
August	29.78	29.97	29.62	75.7	87.8	85.1	91.2	74.5	82.8	96	68	72	72	73	87	60	67	.771	.773	.804	3.74	1.42	.0	4.8	4.7	5.6	5.0
September	29.76	29.95	29.52	67.9	83.3	79.9	86.5	67.0	76.8	95	50	63	63	64	84	51	60	.590	.600	.625	.96	.88	.0	3.7	4.2	5.0	4.1
October	29.82	30.05	29.58	60.6	76.6	73.4	80.2	59.2	69.7	89	40	52	53	53	75	46	51	.407	.428	.427	.57	.34	.0	3.1	3.7	2.8	3.5
November	29.87	30.34	29.35	48.5	62.4	60.3	67.5	45.6	56.6	83	24	40	41	40	73	49	48	.288	.305	.278	4.20	2.23	.2	3.6	3.8	3.2	4.0
December	29.87	30.32	29.39	43.4	52.6	51.9	57.1	41.8	49.4	75	24	36	36	36	76	67	59	.223	.226	.228	3.50	1.17	.0	5.9	6.9	5.5	6.7
Year	29.79	30.34	29.27	60.0	72.1	70.5	76.1	58.1	67.1	96	24	54	54	54	81	55	59	.474	.476	.482	46.44	4.54	.2	5.2	5.6	5.3	5.7

WALLA WALLA, WASH.

[ϕ=46°02′ N.; λ=118°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	29.11	29.67	28.50	35.6	37.5	37.6	41.1	31.6	36.4	61	17	30	30	31	81	78	80	0.168	0.172	0.177	1.41	0.56	7.1	7.6	7.9	9.0	9.1
February	28.91	29.45	28.37	35.7	39.0	40.6	43.8	32.6	38.2	53	20	31	31	32	83	75	73	.171	.173	.180	2.18	.94	8.5	8.2	9.5	9.1	8.6
March	28.84	29.38	28.35	40.8	49.7	51.8	54.9	38.5	46.7	69	31	32	32	33	73	53	50	.186	.185	.192	1.34	.31	.5	6.6	7.4	7.5	7.3
April	28.94	29.37	28.51	46.3	58.9	63.2	64.6	43.8	54.2	81	33	37	37	36	70	46	39	.222	.227	.220	1.43	.49	.0	5.1	5.9	5.6	5.5
May	28.94	29.25	28.55	51.2	66.5	70.4	72.2	49.1	60.6	91	40	38	36	36	62	35	30	.235	.222	.217	1.84	.82	.0	4.0	5.4	5.2	4.8
June	28.87	29.09	28.62	59.4	75.3	81.1	82.7	58.4	70.6	94	45	44	44	41	59	36	27	.298	.294	.268	.95	.42	.0	4.2	3.7	3.5	4.3
July	28.88	29.10	28.64	68.1	85.5	91.3	92.4	66.6	79.5	103	56	46	44	41	46	26	19	.311	.294	.258	T	T	.0	2.4	2.3	2.2	2.3
August	28.90	29.11	28.69	62.2	77.3	84.4	85.5	59.8	72.6	100	53	40	40	37	46	28	20	.254	.255	.226	.02	.02	.0	1.7	2.0	1.9	2.2
September	28.91	29.22	28.66	62.1	76.9	81.5	83.5	58.8	71.2	98	51	44	45	45	53	34	30	.292	.304	.302	.15	.08	.0	2.4	2.8	3.7	3.1
October	28.96	29.34	28.50	49.0	59.2	61.1	64.7	45.5	55.1	83	35	41	42	43	76	54	52	.265	.273	.283	1.31	.48	.0	4.9	5.1	5.4	5.1
November	29.12	29.73	28.48	36.6	43.0	43.1	46.6	33.5	40.0	62	19	29	31	31	74	63	62	.164	.175	.172	2.44	.68	4.2	5.8	6.3	6.3	6.5
December	29.11	29.46	28.54	37.4	41.6	41.4	44.9	33.3	39.1	65	18	30	31	31	75	67	68	.169	.177	.176	.86	.45	2.2	6.3	8.3	8.1	8.3
Year	28.96	29.73	28.35	48.7	59.2	62.3	64.7	46.1	55.4	108	17	37	37	36	66	50	46	.228	.229	.223	13.93	.94	22.5	4.9	5.6	5.6	5.6

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

TRENTON, N. J.

[H=57 ft.; H_b=190 ft.; h_t=89 ft.; h_r= 84 ft.; h_a=107 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	8.9	NW.	34	SE.	1	10	5	2	3	11	7	10	13	1	2	15	14	15	9	13	6	0	20	1	8	0	26	0	0
February	9.7	NW.	34	NW.	1	9	4	2	5	8	5	6	17	0	6	4	18	10	5	6	2	0	17	6	3	0	20	1	0
March	10.1	S.	28	W.	0	9	9	1	3	17	5	12	6	0	6	10	15	10	9	3	1	0	14	3	1	0	10	0	0
April	9.9	S.	28	NW.	0	9	8	4	3	20	3	5	8	0	5	12	13	9	7	2	1	0	16	2	0	0	4	1	0
May	8.4	NW.	24	NW.	0	9	11	4	10	9	2	6	11	0	3	11	17	10	9	0	0	1	21	2	0	0	0	5	0
June	8.1	S.	27	NW.	0	10	5	4	9	16	7	1	7	1	3	10	17	14	12	0	0	0	25	3	0	3	0	10	0
July	7.5	S.	30	NW.	0	5	3	2	5	28	6	4	8	1	2	14	15	16	15	0	0	0	24	2	0	5	0	15	0
August	7.5	S.	26	S.	0	8	0	4	4	22	7	5	12	0	11	11	9	10	7	0	0	0	21	3	0	4	0	9	0
September	8.2	N.	37	NW.	1	15	8	4	6	17	3	0	7	0	8	8	14	11	8	0	0	0	24	2	0	0	0	2	0
October	8.1	N.	23	NE.	0	16	3	1	4	12	7	6	13	0	17	6	8	6	5	0	0	0	21	3	0	0	0	2	0
November	8.4	S.	30	W.	0	8	3	3	3	17	8	7	11	0	9	8	13	12	10	4	4	0	16	3	3	0	8	0	0
December	9.1	NW.	27	NW.	0	7	6	3	4	10	7	9	16	0	7	7	17	10	8	4	0	0	12	3	3	0	20	1	0
Year	8.7	S.	37	NW.	3	115	65	34	59	187	67	71	129	3	79	116	170	133	104	32	14	1	231	33	18	12	88	44	0

VALENTINE, NEBR.

[H=2,581 ft.; H_b=2,598 ft.; h_t=47 ft.; h_r=36 ft.; h_a=54 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.7	W.	41	NW.	2	9	0	5	0	6	7	19	14	2	6	8	17	11	2	17	9	0	3	1	8	0	29	0	1
February	8.2	W.	25	S.	0	7	0	7	5	6	3	14	10	4	9	7	12	6	3	8	5	0	7	0	13	0	25	0	0
March	10.4	W.	30	NW.	0	8	4	4	6	4	9	19	8	0	8	11	12	11	5	9	6	0	9	0	3	0	18	0	1
April	11.1	NW.	36	S.	1	11	3	5	3	8	3	11	15	1	9	8	13	8	7	2	1	1	0	0	3	0	9	4	0
May	9.3	N.	30	NW.	0	18	3	12	5	3	5	13	3	0	4	16	11	14	12	0	0	1	6	1	0	1	0	7	0
June	10.0	S.	29	N.	0	11	3	4	12	11	0	9	8	2	7	17	6	14	8	0	0	0	3	0	0	7	0	14	0
July	7.4	N.	30	N.	0	12	7	10	4	5	7	13	2	2	13	14	4	10	8	0	0	0	1	0	0	11	0	12	1
August	9.1	S.	29	W.	0	7	7	7	3	15	4	14	4	1	20	8	3	6	5	0	0	0	1	0	0	16	0	7	0
September	6.9	N.	25	SW.	0	12	4	10	4	7	5	15	3	0	14	9	7	7	6	0	0	0	4	1	0	7	0	2	1
October	9.6	W.	26	S.	0	10	2	5	3	11	7	15	9	0	14	10	7	2	1	0	0	0	4	0	0	3	8	1	0
November	8.9	W.	28	W.	0	6	3	3	1	3	5	30	9	0	8	9	13	6	0	7	1	0	2	0	5	0	28	0	0
December	9.8	W.	32	NW.	2	3	0	0	3	8	7	25	16	0	7	17	7	3	1	9	3	0	0	0	4	0	30	0	0
Year	9.2	W.	41	NW.	5	114	36	72	49	87	62	197	101	12	119	134	112	98	58	52	25	2	40	3	36	45	147	47	4

VICKSBURG, MISS.

[H=234 ft.; H_b=247 ft.; h_t=82 ft.; h_r=74 ft.; h_a=102 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.5	N.	32	W.	1	12	4	5	9	8	9	6	9	0	5	12	14	9	7	0	0	0	10	3	0	0	6	1	0
February	9.5	SE.	24	W.	0	10	4	6	14	12	5	2	3	0	5	8	15	4	4	0	0	0	9	2	0	0	2	1	0
March	9.9	S.	25	SW.	0	7	1	10	8	22	8	3	3	0	8	8	15	11	9	0	0	0	3	1	0	0	0	9	0
April	8.8	SE.	37	NE.	1	5	2	6	22	11	9	6	5	0	10	7	13	13	9	0	0	0	1	1	0	0	0	8	0
May	8.3	S.	28	S.	0	5	2	4	8	20	15	3	5	0	4	17	10	5	3	0	0	0	0	0	0	1	0	1	0
June	7.4	SW.	26	W.	0	9	6	8	7	10	12	4	4	0	7	11	12	9	5	0	0	0	1	0	0	6	0	14	0
July	6.3	S.	34	N.	2	9	2	5	6	18	17	2	3	0	1	16	14	14	10	0	0	0	3	1	0	21	0	16	0
August	6.5	SW.	26	N.	0	2	1	4	11	15	17	5	5	2	12	11	8	6	6	0	0	0	2	0	0	22	0	11	0
September	6.7	S.	27	E.	0	14	1	9	9	12	10	2	3	0	15	11	4	4	2	0	0	0	3	0	0	9	0	6	0
October	7.8	E.	17	SW.	0	13	4	15	7	12	3	1	7	0	18	7	6	4	3	0	0	0	5	1	0	0	0	3	0
November	8.9	SE.	25	S.	0	11	1	4	17	16	2	1	8	0	15	9	6	6	6	1	1	0	4	1	0	0	6	2	0
December	8.4	N.	24	NW.	0	16	2	5	11	15	3	6	4	0	8	5	18	13	9	0	0	0	7	2	0	0	2	1	0
Year	8.2	S.	37	NE.	4	113	30	81	120	171	110	35	59	2	108	122	135	98	73	1	1	0	48	12	0	59	16	73	0

WALLA WALLA, WASH.

[H=948 ft.; H_b=991 ft.; h_t=57 ft.; h_r=50 ft.; h_a=65 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	5.3	S.	31	W.	0	3	4	1	8	24	7	13	2	0	1	3	27	13	11	6	4	0	14	5	7	0	19	0	0
February	5.4	S.	30	SE.	0	5	3	5	9	16	6	6	5	1	1	3	24	13	9	10	6	0	8	2	1	0	12	0	0
March	7.2	S.	28	SE.	0	1	1	1	13	23	12	9	2	0	4	10	17	16	11	5	1	0	2	0	0	0	2	2	0
April	6.1	S.	17	W.	0	6	3	3	14	18	4	9	3	0	10	8	12	9	7	0	0	0	0	0	0	0	0	0	0
May	6.6	S.	25	E.	0	3	4	3	8	21	6	11	6	0	12	10	9	8	7	0	0	1	0	0	0	2	0	1	0
June	5.8	S.	18	SW.	0	5	2	0	12	18	8	11	2	2	13	11	6	6	5	0	0	0	0	0	0	8	0	4	0
July	5.8	S.	19	SW.	0	3	1	0	9	27	7	11	3	1	22	6	3	0	0	0	0	0	0	0	0	20	0	1	0
August	6.1	S.	20	W.	0	5	1	1	5	25	6	17	2	0	25	3	3	1	0	0	0	0	0	0	0	8	0	0	0
September	4.8	S.	18	W.	0	6	0	4	11	18	8	9	2	2	18	10	2	4	1	0	0	0	0	0	0	8	0	3	1
October	4.8	S.	24	W.	0	1	3	2	12	21	7	15	1	0	14	3	14	10	0	0	0	0	0	0	0	0	0	2	0
November	6.1	S.	27	SW.	0	4	2	0	8	27	10	8	1	0	7	10	13	14	9	4	4	0	0	0	1	0	14	0	0
December	5.8	S.	32	W.	1	0	2	3	5	31	12	5	2	2	3	5	23	10	6	8	1	0	4	1	8	0	15	0	0
Year	5.8	S.	32	W.	1	42	26	23	114	269	93	124	31	8	130	82	153	104	75	33	16	1	28	8	17	46	62	13	1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

WASHINGTON, D. C.

[ϕ=38°54′ N.; λ=77°03′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.94	30.41	29.10	32.0	37.7	37.3	42.6	28.8	35.7	63	18	25	24	25	74	59	61	0.142	0.138	0.144	2.64	.82	1.5	6.8	6.6	5.5	6.7
February	30.09	30.65	29.32	36.3	43.4	43.0	49.1	32.7	40.9	71	21	28	28	29	72	56	59	.164	.173	.173	2.37	1.25	1.4	7.2	6.5	5.5	6.5
March	29.90	30.29	29.39	42.8	52.9	52.7	60.4	39.2	49.8	85	20	34	35	36	72	55	58	.212	.226	.236	2.23	.56	2.5	6.2	6.5	6.2	6.3
April	29.92	30.29	29.07	50.9	61.5	60.8	67.3	46.9	57.1	87	33	41	39	41	71	49	50	.279	.262	.272	1.67	.56	T	6.1	5.4	5.3	5.7
May	29.83	30.27	29.29	59.2	67.0	66.4	72.3	54.5	63.4	86	44	50	49	50	72	55	60	.374	.364	.384	3.51	.80	.0	6.9	6.4	6.1	6.6
June	29.88	30.18	29.62	68.2	78.0	75.6	82.4	63.1	72.8	95	45	59	57	61	77	51	62	.520	.492	.548	2.26	1.31	.0	5.8	6.2	6.3	6.1
July	29.86	29.99	29.61	72.8	83.2	79.6	87.6	69.1	78.4	96	60	66	66	67	81	57	68	.655	.643	.680	5.06	1.13	.0	6.5	6.5	6.2	6.3
August	29.88	30.08	29.65	73.4	83.9	80.4	88.1	69.2	78.6	96	60	66	65	68	78	54	68	.650	.640	.705	4.64	2.24	.0	4.7	4.4	4.6	4.7
September	29.90	30.24	29.41	62.4	71.0	68.2	74.8	59.9	67.4	90	48	56	57	59	82	63	75	.470	.479	.520	4.27	1.65	.0	6.8	6.5	6.6	6.6
October	29.98	30.30	29.46	50.8	64.8	59.6	69.1	48.4	58.8	88	38	45	45	48	82	52	70	.309	.310	.362	1.15	.49	.0	3.5	3.9	1.9	3.4
November	30.04	30.38	29.55	42.0	54.9	51.1	60.0	39.5	49.8	79	14	37	39	40	82	57	68	.253	.280	.281	2.60	.87	6.4	4.6	3.5	3.5	4.3
December	29.98	30.48	29.38	34.8	41.5	39.5	44.8	31.9	38.4	59	20	27	28	28	72	58	65	.155	.160	.167	2.69	.88	T	7.0	6.0	4.3	6.1
Year	29.94	30.65	29.07	52.1	61.6	59.5	66.5	48.6	57.6	96	14	44	44	46	76	56	64	.349	.347	.373	35.09	2.24	11.8	6.0	5.7	5.2	5.8

WICHITA, KANS.

[ϕ=37°41′ N.; λ=97°20′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.62	29.09	28.14	29.0	40.8	41.3	46.1	25.1	35.6	66	3	20	23	22	69	49	47	0.119	0.133	0.129	0.12	0.07	T	3.1	3.9	2.5	3.8
February	28.68	28.99	28.32	33.8	41.4	43.8	48.5	29.3	38.9	74	4	28	30	29	79	67	61	.173	.185	.174	2.48	1.28	9.3	4.8	6.3	5.8	6.0
March	28.41	28.92	27.86	45.7	57.0	58.5	62.9	40.9	51.9	83	25	38	39	39	76	53	51	.243	.244	.248	1.91	1.21	T	5.0	5.5	4.8	5.0
April	28.51	28.88	27.99	49.4	61.4	63.5	66.8	46.6	56.7	85	26	43	43	44	78	53	51	.299	.304	.317	2.85	1.46	6.2	4.7	5.2	4.2	4.7
May	28.44	28.79	27.86	58.6	69.5	69.5	73.7	55.6	64.6	85	35	53	55	55	83	61	63	.427	.448	.457	8.14	3.89	.0	6.6	5.8	5.0	6.0
June	28.54	28.84	28.23	67.2	81.3	81.6	84.1	65.0	74.6	94	57	61	60	61	81	51	51	.543	.537	.541	4.49	1.96	.0	4.5	5.4	3.6	4.7
July	28.53	28.71	28.28	72.8	88.7	89.4	93.0	71.4	82.2	102	65	64	60	60	74	41	40	.593	.526	.533	2.24	.86	.0	3.3	3.6	2.6	2.9
August	28.53	28.78	28.31	74.2	91.2	91.7	94.7	73.6	84.2	103	66	64	60	60	71	37	37	.596	.524	.531	5.60	5.54	.0	1.9	1.1	1.3	1.5
September	28.59	28.87	28.30	64.4	81.1	80.7	85.2	63.2	74.2	96	43	55	53	53	72	41	41	.456	.432	.436	2.62	1.24	.0	2.6	2.0	1.7	2.1
October	28.62	28.88	28.25	57.0	75.5	74.1	79.4	54.6	67.0	92	25	42	44	42	57	35	33	.283	.319	.291	.16	.14	.0	1.9	2.3	2.0	1.8
November	28.60	29.10	28.07	38.4	49.8	48.2	53.9	33.9	43.9	73	11	27	30	29	64	48	48	.166	.184	.179	2.05	1.88	.2	3.3	3.9	3.6	3.5
December	28.63	29.14	28.22	32.6	42.2	42.9	47.9	28.1	38.0	61	9	22	22	23	63	44	44	.121	.127	.128	.15	.15	T	3.2	3.6	4.2	3.5
Year	28.56	29.14	27.86	51.9	65.0	65.4	69.7	48.9	59.3	103	3	43	43	43	72	48	47	.335	.330	.330	32.81	5.54	15.7	3.7	4.0	3.4	3.8

WILLISTON, N. DAK.

[ϕ=48°09′ N.; λ=103°35′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	28.00	28.59	27.43	11.4	14.7	15.6	23.5	4.7	14.1	39	−23	9	11	12	88	84	85	0.069	0.076	0.082	0.83	0.26	10.8	5.5	5.8	6.0	6.4
February	28.14	28.72	27.72	3.4	9.2	12.4	16.9	−1.3	7.8	45	−27	0	4	8	86	78	80	.050	.060	.071	.93	.38	11.9	4.2	4.8	4.2	4.7
March	27.83	28.30	27.06	26.8	34.9	37.0	41.1	24.3	32.7	64	5	23	25	26	84	67	65	.127	.136	.145	1.12	.44	8.5	4.7	4.6	4.5	4.7
April	27.99	28.60	27.55	33.7	48.1	52.0	54.2	32.6	43.4	77	10	27	29	29	77	50	45	.155	.166	.166	.90	.65	T	3.3	4.0	4.9	4.2
May	27.93	28.22	27.18	45.9	58.2	59.7	62.5	43.8	53.2	81	30	39	37	38	77	48	47	.243	.231	.233	1.19	.65	T	4.9	5.2	6.3	5.6
June	27.95	28.29	27.49	56.9	71.5	73.6	76.5	54.4	65.4	95	41	50	49	50	78	48	47	.370	.369	.359	3.13	1.03	.0	5.0	3.5	4.5	4.0
July	27.99	28.22	27.64	60.9	77.1	79.8	82.6	59.0	70.8	94	50	56	56	54	83	49	43	.443	.348	.422	3.01	2.10	.0	3.6	2.5	2.2	2.7
August	27.95	28.32	27.57	55.7	75.5	79.3	82.6	54.0	68.3	95	46	49	48	48	79	41	37	.353	.346	.344	1.70	.82	.0	2.0	2.5	2.7	2.4
September	28.05	28.29	27.85	51.7	71.4	73.8	77.2	50.4	63.8	93	33	45	47	46	81	45	41	.312	.336	.325	.49	.43	.0	2.3	3.2	3.4	3.0
October	28.01	28.32	27.56	43.1	55.8	55.2	61.7	40.6	51.2	86	28	36	39	37	79	57	56	.221	.245	.228	1.26	.98	9.2	3.7	3.9	4.6	4.0
November	27.97	28.61	27.42	23.2	29.1	28.5	33.3	18.6	26.0	49	−4	19	22	22	84	74	77	.109	.121	.122	.68	.32	6.5	6.3	5.8	5.5	6.1
December	27.96	28.43	27.39	17.0	24.4	23.3	30.1	12.4	21.2	47	−31	14	17	17	86	73	75	.092	.105	.102	.47	.17	4.4	3.5	4.7	5.0	5.0
Year	27.98	28.72	27.06	35.8	47.5	49.2	53.5	32.8	43.2	95	−31	31	32	32	82	60	58	.212	.220	.219	15.71	2.10	51.3	4.1	4.2	4.5	4.4

WILMINGTON, N. C.

[ϕ=34°14′ N.; λ=77°57′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
January	30.03	30.50	29.50	42.2	50.7	47.8	55.5	38.3	46.9	71	21	37	36	38	81	59	71	0.239	0.237	0.257	2.26	0.57	0.0	6.6	5.2	4.6	5.9
February	30.16	30.59	29.48	46.2	56.4	53.1	61.0	43.2	52.1	77	29	40	40	43	81	57	71	.269	.275	.301	.93	.46	T	6.0	6.2	4.8	5.9
March	30.00	30.33	29.55	53.3	66.2	60.7	69.7	50.0	59.8	79	30	48	50	52	84	58	74	.367	.397	.407	1.98	1.23	.0	4.5	4.8	4.1	4.8
April	30.01	30.37	29.45	58.8	71.2	64.4	74.1	53.9	64.0	81	41	53	49	53	82	48	68	.431	.380	.420	4.69	1.79	.0	3.9	3.9	4.5	4.2
May	29.89	30.16	29.53	68.1	78.5	72.7	81.0	64.0	72.5	93	54	62	59	62	82	54	71	.571	.524	.577	3.78	2.37	.0	4.4	4.2	4.5	5.0
June	29.96	30.23	29.74	72.8	79.7	75.5	83.0	68.1	75.6	88	52	67	64	67	83	61	76	.676	.616	.664	5.07	1.57	.0	4.0	5.5	4.9	5.1
July	29.97	30.13	29.72	76.1	82.5	78.5	85.0	71.5	78.2	91	63	71	68	71	83	63	78	.756	.696	.761	11.00	4.77	.0	4.4	6.0	5.3	5.4
August	29.98	30.13	29.73	76.1	85.8	80.1	88.8	72.6	80.7	96	67	71	69	72	84	58	78	.756	.717	.802	5.84	2.43	.0	3.1	3.7	3.6	3.9
September	29.94	30.14	29.57	70.2	79.9	74.2	83.0	66.8	74.9	92	55	66	65	67	86	63	80	.655	.641	.683	16.26	9.52	.0	5.2	4.9	5.4	5.8
October	30.01	30.33	29.52	56.3	69.6	64.0	73.2	53.6	63.4	86	43	52	51	55	84	54	74	.393	.399	.456	1.48	1.20	.0	3.6	2.8	2.5	3.3
November	30.10	30.40	29.59	52.5	64.4	59.5	67.5	49.2	58.4	80	25	48	50	52	86	62	77	.377	.392	.423	.92	.31	.0	3.9	3.9	3.4	4.3
December	30.05	30.51	29.58	43.0	54.3	50.0	58.9	39.8	49.4	72	29	37	42	42	79	64	76	.234	.280	.285	3.15	1.38	.0	5.0	4.9	3.8	5.3
Year	30.01	30.59	29.45	59.6	69.9	65.0	73.4	55.9	64.7	96	21	54	54	56	83	58	74	.477	.463	.503	57.38	9.52	T	4.6	4.7	4.3	4.9

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

WASHINGTON, D.C.

[H=72 ft.; H_b=112 ft.; h_t=62 ft.; h_r=42 ft.; h_a=85 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	6.9	NW.	26	SW.	0	7	6	3	2	19	5	0	18	2	5	12	14	11	10	5	3	0	14	2	3	0	21	0	0
February	7.9	S.	30	NW.	0	9	7	5	1	9	8	2	14	1	6	6	16	9	5	3	2	0	10	0	0	0	13	2	0
March	7.9	NW.	30	NW.	0	5	5	7	2	16	6	2	15	4	9	8	14	15	12	3	2	0	7	2	0	0	5	1	0
April	7.5	NW.	26	NW.	0	7	6	8	3	12	7	3	11	3	11	7	12	9	9	3	0	1	11	0	0	0	0	1	0
May	7.1	NW.	23	NW.	0	5	4	12	8	7	5	4	17	0	6	11	14	14	12	0	0	1	4	0	0	0	0	5	0
June	5.9	SW.	24	NW.	0	9	5	3	4	14	17	1	6	1	7	13	10	11	6	0	0	0	0	0	0	6	0	4	0
July	5.0	SW.	27	W.	0	8	3	6	4	17	14	7	3	0	6	11	14	17	14	0	0	0	4	0	0	13	0	6	0
August	5.2	SW.	17	NW.	0	7	2	1	4	13	15	8	11	1	12	12	7	5	5	0	0	0	1	0	0	10	0	6	0
September	5.8	SW.	27	NW.	0	7	7	10	7	7	12	4	6	0	6	9	15	13	10	0	0	0	13	0	0	1	0	3	0
October	5.7	N.	24	NW.	0	12	6	2	0	13	11	6	11	1	18	8	5	6	4	0	0	0	10	0	0	0	0	1	0
November	6.2	S.	26	NW.	0	9	0	5	4	13	10	6	9	4	15	8	7	10	7	3	2	0	13	1	0	0	6	1	0
December	6.6	NW.	26	NW.	0	12	7	4	6	7	7	3	16	0	11	6	14	12	6	3	0	0	16	2	1	0	16	0	0
Year	6.5	NW.	30	NW.	0	97	58	66	45	147	117	46	137	17	112	111	142	132	100	20	9	2	103	7	4	30	61	30	0

WICHITA, KANS.

[H=1,300 ft.; H_b=1,358 ft.; h_t=85 ft.; h_r=78 ft.; h_a=93 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	10.4	NW.	30	NW.	0	8	4	5	5	12	6	2	20	0	17	7	7	3	2	2	0	0	6	1	5	0	26	2	0
February	11.3	NW.	35	SW.	1	7	11	3	4	14	3	0	14	0	8	7	13	7	6	6	3	0	13	2	4	0	14	0	0
March	12.3	NW.	30	SW.	0	1	4	2	12	15	9	0	19	0	11	10	10	9	4	1	0	0	8	1	0	0	2	1	0
April	12.4	SE.	35	SW.	2	5	2	3	15	11	11	5	8	0	13	9	8	8	4	2	2	0	5	0	0	0	4	4	0
May	10.8	S.	36	SW.	1	12	4	9	8	16	7	2	4	0	8	11	12	20	14	0	0	0	4	0	0	0	0	17	0
June	10.2	SE.	27	S.	0	6	6	6	17	18	1	0	6	0	12	14	4	11	8	0	0	1	0	0	0	5	0	10	0
July	9.2	S.	28	NE.	0	6	6	8	13	17	8	0	4	0	21	7	3	7	5	0	0	1	1	0	0	24	0	9	1
August	10.9	S.	28	S.	0	2	3	3	15	33	4	1	0	1	26	4	1	4	1	0	0	0	1	1	0	27	0	3	1
September	8.7	SE.	25	N.	0	6	11	7	12	16	2	0	6	0	24	3	3	7	5	0	0	0	0	0	0	8	0	7	1
October	9.8	SE.	23	S.	0	5	3	4	22	17	3	2	5	1	24	5	2	2	1	0	0	0	0	0	0	3	1	1	0
November	11.1	S.	30	S.	0	16	0	2	6	21	5	5	11	0	17	6	7	5	4	3	1	0	1	0	3	0	12	3	0
December	9.6	NW.	32	NW.	1	12	1	1	7	18	3	4	16	0	18	7	6	1	1	2	0	0	3	1	2	0	21	0	0
Year	10.6	S.	36	SW.	5	80	55	53	136	208	62	21	113	2	199	90	76	84	55	16	6	2	42	6	14	67	80	57	3

WILLISTON, N. DAK.

[H=1,877 ft.; H_b=1,878 ft.; h_t=42 ft.; h_r=34 ft.; h_a=50 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.4	W.	25	NW.	0	11	5	4	10	10	6	10	6	0	8	8	15	9	8	17	9	0	3	2	21	0	31	0	7
February	6.8	SE.	26	SE.	0	8	6	8	8	4	9	8	5	0	12	9	7	9	5	14	9	0	6	4	24	0	28	0	5
March	9.2	SW.	30	W.	0	5	5	3	9	6	11	17	6	0	11	14	6	9	9	13	8	0	2	1	8	0	25	0	6
April	8.8	NW.	31	NW.	0	7	3	11	5	5	8	8	13	0	16	7	7	4	4	3	0	0	1	1	2	0	12	2	4
May	10.3	SE.	37	SE.	3	10	3	8	10	7	8	6	10	0	5	17	9	9	6	2	0	0	0	0	0	0	4	6	6
June	8.5	SE.	30	NW.	0	3	13	4	15	5	6	7	7	0	15	11	4	9	7	0	0	0	0	0	0	2	0	10	0
July	6.8	W.	31	W.	0	10	9	4	8	3	7	9	12	0	22	9	0	13	10	0	0	1	1	1	0	5	0	10	8
August	7.2	W.	29	NW.	0	4	9	8	7	8	5	11	10	0	23	5	3	7	5	0	0	2	1	0	0	6	0	7	7
September	7.0	SE.	27	W.	0	6	11	6	13	7	7	8	2	0	21	2	7	2	2	0	0	0	2	0	0	3	0	1	7
October	8.2	W.	27	NW.	0	8	6	8	7	9	8	9	7	0	16	8	7	6	5	2	2	0	2	1	0	0	4	1	10
November	8.7	W.	27	W.	0	4	5	5	6	4	10	15	11	0	6	15	9	7	5	14	6	0	1	0	13	0	27	6	3
December	7.6	W.	27	W.	0	8	4	1	5	9	11	16	8	0	12	12	7	9	4	13	9	0	0	0	10	0	31	0	10
Year	8.0	W.	37	SE.	3	84	79	70	103	77	96	124	97	0	167	117	81	93	70	78	43	3	19	10	78	16	162	37	73

WILMINGTON, N. C.

[H=6 ft.; H_b=72 ft.; h_t=73 ft.; h_r=65 ft.; h_a=107 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.2	N.	35	SW.	2	14	8	7	1	9	6	6	10	1	10	8	13	7	7	0	0	0	17	2	0	0	7	0	1
February	9.6	NE.	30	SW.	0	8	14	6	1	10	5	3	9	0	9	6	13	7	5	1	0	0	19	2	0	0	2	0	0
March	10.9	SW.	31	SW.	0	7	5	7	3	12	22	4	2	0	12	11	8	7	6	0	0	0	18	3	0	0	1	4	0
April	10.0	SW.	30	S.	0	6	4	2	4	10	18	5	6	5	16	7	7	12	11	0	0	0	18	1	0	0	0	5	0
May	9.1	SW.	29	NW.	0	5	8	6	3	4	17	12	7	0	16	5	10	9	8	0	0	0	10	0	0	2	0	9	0
June	9.2	SW.	29	SW.	0	8	2	2	3	8	24	9	4	0	11	12	7	14	11	0	0	0	8	0	0	0	0	12	0
July	9.5	SW.	27	S.	0	3	4	5	3	18	25	1	2	1	10	8	13	16	12	0	0	0	9	0	0	1	0	10	0
August	8.2	SW.	26	SW.	0	3	6	3	9	14	15	4	8	0	16	12	3	9	8	0	0	0	9	0	0	11	0	10	0
September	7.8	SW.	26	NW.	0	7	12	4	4	11	9	4	8	1	8	11	11	15	13	0	0	0	18	1	0	2	0	14	0
October	7.7	N.	25	NW.	0	19	16	8	3	2	2	3	9	0	19	6	6	6	4	0	0	0	24	0	0	0	0	2	0
November	8.7	NE.	32	NW.	2	12	16	5	4	8	6	1	5	3	15	6	9	7	7	0	0	0	19	2	0	0	4	0	0
December	8.5	N.	33	W.	1	12	16	3	3	8	7	6	7	0	11	9	11	10	9	0	0	0	24	1	0	0	2	1	0
Year	9.0	SW.	35	SW.	5	104	111	58	41	114	156	58	77	11	153	101	111	119	101	1	0	0	193	12	0	16	16	67	1

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

WINNEMUCCA, NEV.

[ϕ=40°58′ N.; λ=117°43′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.	Moisture: Relative humidity: 7:30 a. m.	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.	Moisture: Vapor pressure: 7:30 a. m.	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	25.73	26.26	25.14	27.8	36.8	36.6	40.9	24.5	32.7	54	13	26	28	29	92	71	75	0.153	0.151	0.159	1.16	0.47	6.1	6.6	6.9	6.9	6.9
February	25.56	25.91	24.97	29.1	39.6	41.1	44.0	25.6	34.8	54	3	24	25	28	81	57	60	.127	.136	.150	1.16	.34	10.4	6.5	7.0	7.5	7.0
March	25.52	25.84	25.11	31.3	43.1	43.6	48.1	26.5	37.3	60	9	27	27	27	83	54	54	.146	.148	.148	1.34	.25	6.5	6.1	7.9	7.8	7.5
April	25.58	25.95	25.18	37.6	55.6	58.6	61.4	34.7	48.0	80	15	31	31	30	77	42	38	.173	.178	.167	2.38	.69	T	6.5	4.8	8.1	7.7
May	25.60	25.77	25.32	41.9	64.8	66.5	69.9	39.5	54.7	89	25	35	32	32	77	32	30	.208	.188	.180	.80	.43	T	4.4	6.9	6.4	5.9
June	25.57	25.73	25.38	51.2	75.6	75.4	81.1	49.0	65.0	92	36	40	39	37	68	30	30	.258	.248	.232	1.55	.55	T	4.6	5.1	5.9	4.9
July	25.66	25.78	25.42	56.0	83.5	84.4	89.4	54.0	71.7	101	43	42	41	40	63	25	25	.277	.260	.254	1.15	.89	.0	3.0	3.7	4.1	3.4
August	25.62	25.76	25.40	54.4	83.8	85.3	89.0	51.2	70.1	95	41	35	37	35	49	20	18	.215	.226	.212	.06	.04	.0	2.6	1.9	2.7	2.1
September	25.64	25.83	25.46	48.3	79.4	80.6	84.4	44.5	64.4	95	34	33	33	33	57	21	20	.192	.198	.193	.17	.17	.0	1.5	3.0	3.4	2.9
October	25.63	25.92	25.29	38.2	60.8	59.8	65.1	34.8	50.0	76	27	32	34	34	77	39	43	.180	.195	.200	1.81	.95	T	3.4	5.5	6.0	5.6
November	25.75	26.17	25.26	23.3	42.0	40.7	46.2	18.1	32.2	56	3	16	20	21	74	42	44	.095	.112	.112	.34	.11	1.0	2.7	4.4	4.5	4.4
December	25.74	26.06	25.42	23.2	42.7	41.8	47.5	18.9	33.2	60	3	16	24	25	74	48	50	.094	.135	.136	.06	.05	0.5	4.5	5.8	6.4	6.0
Year	25.63	26.26	24.97	38.5	59.0	59.5	63.9	35.1	49.5	101	3	30	31	31	73	40	41	.176	.181	.179	11.98	.95	24.5	4.4	5.2	5.8	5.4

WYTHEVILLE, VA.

[ϕ=36°56′ N.; λ=81°05′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	27.60	27.98	26.95	30.8	38.1	35.3	43.2	26.5	34.8	59	8	26	27	28	83	66	73	0.149	0.160	0.159	2.07	0.36	4.1	7.3	5.6	5.9	6.2
February	27.77	28.13	27.15	36.0	45.7	42.5	49.5	32.1	40.8	65	18	32	34	34	85	66	73	.190	.212	.207	1.18	.45	.7	8.1	8.2	7.0	7.8
March	27.62	27.92	27.27	42.5	55.0	51.7	59.8	38.9	49.4	76	20	36	38	38	78	55	61	.221	.251	.241	2.67	1.08	.0	6.3	7.3	6.8	6.5
April	27.67	27.99	27.01	47.1	59.3	56.6	64.6	41.2	52.9	81	26	40	40	41	77	53	60	.260	.262	.273	2.77	.90	.2	6.0	6.0	4.8	5.2
May	27.61	27.88	27.19	55.6	66.3	63.3	71.0	50.5	60.8	84	42	50	49	52	82	57	68	.370	.367	.396	6.45	2.14	.0	6.6	6.6	7.4	6.5
June	27.69	27.89	27.52	61.4	72.4	69.3	76.7	56.2	66.4	83	46	57	57	58	84	60	68	.464	.473	.481	2.65	.64	.0	6.6	6.6	6.7	6.1
July	27.68	27.80	27.51	66.6	76.4	73.3	80.5	62.6	71.6	88	56	63	62	64	89	64	74	.581	.569	.602	8.02	1.46	.0	6.7	7.2	7.0	6.7
August	27.73	27.87	27.59	66.2	79.5	73.5	82.9	61.2	72.0	88	53	62	61	63	88	53	71	.566	.539	.385	2.44	1.24	.0	4.9	5.3	4.9	4.7
September	27.68	27.90	27.38	59.1	70.7	65.0	73.8	56.2	65.0	85	46	55	56	58	88	62	78	.452	.464	.489	2.59	.53	.0	6.0	7.4	6.7	7.3
October	27.73	28.05	27.36	43.2	64.7	57.3	68.6	40.3	54.4	84	31	38	38	41	84	40	55	.236	.240	.261	.31	.23	.0	2.9	2.4	2.4	2.4
November	27.74	27.98	27.37	37.5	52.7	47.2	57.2	33.5	45.4	73	13	33	36	35	83	55	64	.209	.234	.229	3.92	1.80	2.8	4.5	4.8	3.4	4.5
December	27.66	28.07	27.19	30.8	38.7	35.5	43.2	26.7	35.0	58	14	26	27	27	81	63	71	.145	.152	.152	.93	.75	4.1	6.3	5.6	4.4	5.8
Year	27.68	28.13	26.95	48.1	60.0	55.9	64.2	43.8	54.0	88	8	43	44	45	84	58	68	.320	.327	.340	36.00	2.14	11.9	6.0	6.1	5.6	5.8

YAKIMA, WASH.

[ϕ=46°36′ N.; λ=120°30′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	29.02	29.59	28.43	31.2	36.2	36.9	38.8	28.5	33.6	56	19	28	28	28	85	73	71	0.148	0.155	0.158	0.74	0.35	2.8	8.1	8.1	8.2	8.4
February	28.82	29.38	28.29	31.8	38.2	39.2	40.9	29.0	35.0	48	17	19	30	31	88	73	72	.157	.167	.171	1.77	.38	9.7	8.1	9.1	8.3	8.6
March	28.73	29.29	28.28	36.9	49.4	51.2	53.0	34.2	43.6	66	24	30	31	29	76	50	45	.167	.175	.164	1.52	.33	1.3	4.9	7.0	6.5	6.6
April	28.85	29.33	28.49	44.4	62.0	64.1	66.0	41.7	53.8	81	28	33	32	31	64	33	29	.190	.185	.172	.34	.33	.0	4.8	6.2	5.2	5.7
May	28.86	29.18	28.48	50.3	69.6	71.8	74.1	48.1	61.1	94	35	35	31	32	56	25	25	.205	.170	.188	.19	.12	.0	3.6	4.7	4.9	4.8
June	28.81	29.03	28.58	58.7	77.8	81.4	83.5	56.6	70.0	95	44	43	42	43	58	31	28	.289	.274	.285	.81	.64	.0	2.6	4.4	5.0	4.3
July	28.81	29.03	28.60	65.7	86.4	91.0	92.5	63.7	78.1	106	54	45	42	43	50	23	20	.305	.272	.279	.04	.03	.0	2.4	1.7	1.6	1.8
August	28.83	29.01	28.63	59.6	79.5	84.0	85.6	56.9	71.2	98	48	42	40	40	54	25	22	.274	.247	.248	.15	.09	.0	0.8	1.7	1.3	1.5
September	28.84	29.13	28.58	59.0	79.2	81.9	83.7	56.0	69.8	96	45	45	45	45	61	30	28	.298	.299	.298	.09	.04	.0	3.0	3.2	3.0	3.3
October	28.88	29.28	28.44	45.3	61.4	62.1	64.9	41.9	53.4	78	33	39	40	41	80	47	49	.244	.254	.268	1.41	.66	.0	3.1	4.8	5.5	5.0
November	29.02	29.67	28.39	31.8	44.3	44.5	47.8	28.6	38.2	59	15	26	30	27	79	52	50	.144	.154	.147	.31	.21	T	4.7	5.2	5.5	5.3
December	29.01	29.39	28.36	30.6	38.6	40.0	43.4	26.9	35.2	57	13	25	28	28	81	65	62	.136	.153	.157	.41	.33	.5	5.2	6.9	6.7	6.9
Year	28.87	29.67	28.28	45.4	60.2	62.3	64.5	42.7	53.6	106	13	35	35	35	69	44	42	.213	.210	.211	7.78	.66	14.3	4.3	5.2	5.1	5.2

YELLOWSTONE PARK, WYO.

[ϕ=44°58′ N.; λ=110°42′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	7:30 a. m.	Noon, local time	7:30 p. m.	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.	Noon, local time	7:30 p. m.	Daylight
January	23.88	24.32	23.50	16.7	24.3	23.6	29.5	11.5	20.5	42	−19	10	15	15	73	64	67	0.072	0.086	0.087	1.41	0.50	20.7	6.6	7.0	7.3	7.2
February	23.82	24.17	23.37	19.1	28.0	27.1	33.3	14.7	24.0	51	−14	13	18	17	76	64	65	.084	.100	.098	.96	.16	19.5	7.1	6.4	7.0	6.9
March	23.70	24.14	23.22	23.2	32.5	32.1	36.9	19.0	28.0	54	2	18	22	21	81	63	61	.103	.116	.112	1.48	.48	17.9	7.0	8.3	7.8	8.0
April	23.85	24.26	23.47	30.2	44.9	46.2	48.9	27.9	38.4	71	2	24	26	27	77	50	49	.134	.144	.148	1.32	.32	2.3	6.1	6.6	7.1	6.6
May	23.85	24.16	23.50	35.9	51.5	50.7	55.0	34.5	44.8	74	22	30	32	32	80	49	51	.170	.184	.176	1.89	.62	9.8	7.6	7.9	7.4	7.6
June	23.93	24.18	23.49	43.6	65.4	65.1	69.4	42.3	55.8	80	31	38	42	40	81	45	44	.237	.276	.258	.83	.22	.0	4.4	6.7	7.4	6.2
July	24.04	24.21	23.79	48.8	70.6	69.6	74.7	47.4	61.0	84	40	42	41	42	80	38	61	.274	.263	.275	1.35	.26	.0	4.7	5.1	6.4	5.3
August	24.00	24.20	23.67	48.0	70.5	67.9	73.8	44.8	59.3	83	33	38	38	40	72	32	42	.233	.238	.258	1.07	.33	.0	3.0	4.6	5.8	4.5
September	24.04	24.23	23.80	44.5	68.8	68.5	73.3	42.4	57.8	80	35	36	38	36	71	34	33	.212	.230	.217	.54	.19	.0	2.5	4.0	4.1	3.6
October	23.96	24.30	23.58	35.1	47.1	44.3	50.7	31.4	41.0	67	11	30	33	32	81	61	66	.168	.189	.183	4.98	1.66	11.5	4.8	6.1	6.5	6.0
November	23.90	24.30	23.40	19.2	26.5	24.3	30.0	14.3	22.2	41	−10	14	17	16	76	65	69	.086	.094	.091	.63	.22	8.5	6.8	7.5	7.5	7.3
December	23.88	24.14	23.51	20.8	27.5	25.9	31.1	15.4	23.2	43	−8	15	18	17	75	62	66	.089	.093	.095	.68	.17	8.9	6.7	6.4	7.3	6.8
Year	23.90	24.36	23.22	32.1	46.5	45.4	50.6	28.8	39.7	84	−19	26	28	28	77	52	55	.156	.168	.167	17.14	1.66	99.1	5.6	6.4	6.8	6.3

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

WINNEMUCCA, NEV.

[H=4,287 ft.; H_b=4,344 ft.; h_t=18 ft.; h_r=6 ft.; h_a=56 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m. and 7:30 p. m.: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	7.8	NE.	30	NW.	0	2	30	2	1	4	18	4	1	0	6	7	18	6	6	12	3	0	10	1	4	0	29	0	0
February	9.6	SW.	35	SW.	1	3	11	0	1	7	28	4	2	0	5	4	19	10	8	9	7	0	0	0	0	0	22	0	0
March	9.6	SW.	32	NW.	1	1	9	2	1	7	25	12	5	0	4	6	21	13	9	16	8	2	0	0	0	0	26	0	0
April	8.0	SW.	24	NW.	0	6	10	3	3	6	20	9	3	0	3	8	19	10	8	4	0	0	0	0	0	0	10	1	2
May	7.3	SW.	31	SE.	0	7	13	2	1	1	17	10	11	0	5	16	10	8	5	4	1	0	0	0	0	0	5	4	0
June	7.5	SW.	27	W.	0	5	14	2	2	6	19	5	7	0	12	6	12	11	9	1	0	0	0	0	0	4	0	6	0
July	6.9	SW.	25	SW.	0	0	19	4	2	1	18	8	10	0	19	6	6	4	4	0	0	0	0	0	0	18	0	7	2
August	7.0	SW.	27	SW.	0	3	13	1	2	4	25	9	5	0	24	4	3	2	1	0	0	0	0	0	0	18	0	2	0
September	6.7	NE.	22	S.	0	4	19	4	2	6	8	12	6	0	20	5	5	1	1	0	0	0	0	0	0	8	0	1	0
October	7.4	NE.	25	W.	0	3	22	4	1	4	19	5	4	0	10	6	15	8	7	4	4	2	0	0	0	0	6	2	0
November	8.1	NE.	29	SW.	0	6	21	0	1	4	17	5	6	0	14	6	10	6	3	6	3	0	1	0	2	0	29	0	0
December	7.9	NE.	26	SW.	0	5	25	0	0	4	24	3	1	0	6	15	10	2	1	2	1	0	1	0	0	0	28	0	0
Year	7.8	SW.	35	SW.	2	45	206	24	17	53	238	86	61	0	128	90	148	81	62	58	27	4	12	1	6	48	156	23	2

WYTHEVILLE, VA.

[H=2,299 ft.; H_b=2,304 ft.; h_t=49 ft.; h_r=40 ft.; h_a=55 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.4	W.	34	W.	1	0	3	6	1	1	5	37	9	0	10	7	14	15	11	9	6	0	7	1	5	0	23	0	0
February	7.8	W.	25	W.	0	1	10	8	2	1	2	19	12	1	3	5	20	11	7	5	2	0	6	1	1	0	13	1	0
March	7.6	W.	27	SW.	0	2	1	6	2	2	8	25	16	0	7	11	13	14	10	0	0	1	5	1	0	0	7	4	0
April	7.4	W.	30	W.	0	3	1	9	0	5	4	21	17	0	15	2	13	12	9	3	2	1	2	0	0	0	4	2	0
May	6.5	W.	26	NW.	0	2	2	6	3	1	8	28	11	1	7	9	15	15	13	0	0	0	4	1	0	0	0	9	0
June	5.7	W.	24	NW.	0	10	2	5	1	3	7	23	9	0	6	14	10	14	10	0	0	0	2	1	0	0	0	5	0
July	4.8	W.	16	SW.	0	1	3	6	4	7	11	21	9	0	7	11	13	16	15	0	0	0	8	1	0	0	0	10	0
August	5.0	W.	16	W.	0	4	4	4	0	1	12	20	16	1	11	16	4	10	7	0	0	0	7	1	0	0	0	6	0
September	5.4	W.	19	NW.	0	1	7	10	2	2	5	18	11	4	4	8	18	15	12	0	0	0	7	2	0	0	0	3	0
October	5.5	NW.	21	NW.	0	8	4	4	1	2	2	14	27	0	22	7	2	2	2	0	0	0	2	1	0	0	2	0	0
November	6.7	W.	22	W.	0	2	4	10	2	2	6	16	18	0	15	4	11	11	7	2	2	0	2	2	4	0	13	1	0
December	7.8	W.	25	W.	0	2	4	9	1	1	1	33	10	1	12	6	13	5	3	5	2	0	5	1	0	0	27	0	0
Year	6.5	W.	34	W.	1	36	45	83	19	28	71	375	165	8	119	100	146	140	106	24	14	2	57	13	10	0	89	41	0

YAKIMA, WASH.

[H=1,068 ft.; H_b=1,076 ft.; h_t=58 ft.; h_r=52 ft.; h_a=67 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	3.9	NW.	19	NW.	0	5	2	6	11	7	3	13	12	3	3	5	23	9	8	11	5	0	9	4	7	0	27	0	1
February	4.2	NW.	16	SW.	0	5	1	2	10	6	7	12	13	0	1	5	22	14	9	13	9	0	6	2	2	0	19	0	0
March	5.9	NW.	25	SW.	0	4	3	3	5	5	10	15	17	0	6	10	15	10	8	5	1	0	1	0	0	0	10	2	1
April	6.5	NW.	23	NW.	0	9	2	3	6	7	5	6	22	0	9	11	10	3	2	0	0	0	0	0	0	0	2	0	0
May	7.6	NW.	28	W.	0	9	4	2	6	4	2	10	25	0	12	10	9	3	2	0	0	0	0	0	0	4	0	1	0
June	7.3	NW.	26	NW.	0	9	2	1	0	4	4	12	27	1	14	8	8	5	3	0	0	0	0	0	0	8	0	1	0
July	7.0	NW.	24	NW.	0	3	0	0	8	3	6	8	33	1	24	6	1	2	0	0	0	0	0	0	0	19	0	2	1
August	7.0	NW.	21	NW.	0	3	2	0	1	5	5	15	30	1	26	4	1	2	2	0	0	0	0	0	0	8	0	0	0
September	5.6	NW.	23	NW.	0	5	0	1	1	5	11	11	26	0	16	10	4	3	1	0	0	0	0	0	0	9	0	3	0
October	4.8	NW.	24	S.	0	8	0	2	8	7	10	11	15	1	14	6	11	8	7	0	0	0	2	1	0	0	0	0	1
November	4.7	NW.	27	NW.	0	8	2	4	9	11	3	9	13	1	10	7	13	5	2	4	0	0	1	1	0	0	23	0	0
December	4.4	NW.	26	NW.	0	3	6	3	14	3	3	14	15	1	7	6	18	7	1	5	4	0	8	4	2	0	24	0	0
Year	5.7	NW.	28	W.	0	71	24	27	79	67	69	136	248	9	142	88	135	71	45	38	19	0	27	12	11	48	105	9	4

YELLOWSTONE PARK, WYO.

[H=6,235 ft.; H_b=6,235 ft.; h_t=12 ft.; h_r=3 ft.; h_a=46 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.0	S.	28	SW.	0	3	0	1	2	20	19	13	3	1	7	2	22	17	9	22	16	0	0	0	19	0	31	1	0
February	8.7	SW.	32	SW.	1	4	1	2	2	21	15	10	1	0	5	8	15	14	13	19	14	0	0	0	13	0	28	0	0
March	9.2	SW.	34	SW.	1	7	1	1	0	16	21	9	6	1	2	6	23	15	8	22	13	0	2	2	7	0	29	0	0
April	8.0	SW.	26	SW.	0	8	1	0	0	10	26	8	7	0	6	8	16	13	11	7	4	1	6	0	2	0	18	1	0
May	7.3	SW.	38	SW.	1	11	0	2	2	11	12	11	6	7	3	7	21	19	11	10	5	0	6	0	0	0	11	1	0
June	7.5	SW.	34	SW.	1	5	1	1	3	9	25	11	5	0	4	14	12	13	8	6	0	2	0	0	9	0	2	8	0
July	7.1	SW.	30	NW.	0	8	3	1	0	10	24	8	7	1	11	10	10	18	10	0	0	1	0	0	0	0	0	10	0
August	7.4	SW.	29	SW.	0	5	2	0	1	11	29	11	3	0	14	10	7	13	8	0	0	3	0	0	0	0	0	12	0
September	6.5	SW.	26	W.	0	4	0	0	0	9	24	14	8	1	13	14	3	8	5	0	0	0	0	0	0	0	0	7	2
October	6.7	SW.	34	SW.	1	6	4	2	0	14	24	9	2	1	10	5	16	15	11	4	3	0	1	0	1	0	14	3	0
November	9.0	S.	26	NW.	0	5	1	0	1	20	24	4	4	1	5	6	19	10	5	23	9	0	0	0	15	0	30	0	0
December	9.0	SW.	35	SW.	1	2	0	0	0	21	27	7	2	3	5	9	17	14	6	23	13	0	0	0	17	0	30	0	0
Year	7.9	SW.	38	SW.	6	68	14	10	11	172	270	115	54	16	85	99	181	169	105	130	77	7	3	2	74	0	193	43	2

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

YUMA, ARIZ.

[ϕ=32°45′ N.; λ=114°36′ W.]

Month	Pressure: Monthly mean	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m.[1]	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m.[1]	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m.[1]	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m.[1]	Moisture: Relative humidity: 7:30 a. m.[1]	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m.[1]	Moisture: Vapor pressure: 7:30 a. m.[1]	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m.[1]	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m.[1]	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m.[1]	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.92	30.49	29.62	50.1	67.7	68.3	70.8	45.9	58.4	77	35	30	30	30	49	25	26	0.174	0.172	0.173	0.07	0.06	0.0	1.6	2.8	2.6	2.2
February	29.91	30.14	29.62	49.9	67.2	68.4	70.1	46.3	58.2	78	35	35	34	34	60	32	31	.215	.211	.206	.58	.25	.0	2.7	4.1	4.6	4.3
March	29.82	30.11	29.53	52.5	71.0	72.7	75.1	49.3	62.2	86	40	39	32	32	62	27	25	.249	.197	.191	.61	.54	.0	3.0	3.1	2.7	3.0
April	29.74	30.02	29.47	58.1	82.0	84.2	86.7	54.8	70.8	102	43	39	33	31	51	18	16	.248	.194	.177	T	T	.0	.5	1.4	1.8	1.3
May	29.66	29.89	29.46	63.0	88.9	92.2	94.0	60.9	77.4	109	51	44	38	35	52	18	15	.293	.238	.212	.00	.00	.0	1.0	.9	1.3	1.0
June	29.59	29.75	29.39	70.8	96.6	100.1	102.1	68.2	85.2	111	61	51	44	42	52	18	15	.391	.312	.283	T	T	.0	.5	.9	1.3	.9
July	29.66	29.86	29.51	78.4	100.4	104.4	105.7	75.4	90.6	112	63	64	58	55	61	26	21	.607	.504	.451	.18	.13	.0	1.7	1.7	1.0	1.5
August	29.64	29.84	29.46	80.2	99.6	102.3	104.7	76.2	90.4	112	61	64	60	57	61	29	24	.623	.548	.485	.25	.15	.0	3.1	2.8	2.0	2.5
September	29.64	29.87	29.44	75.3	98.7	99.9	102.8	72.1	87.4	108	64	64	58	57	68	28	26	.598	.510	.490	.35	.23	.0	.5	1.8	2.1	1.4
October	29.75	29.95	29.60	61.3	84.4	84.0	87.7	58.6	73.2	100	49	46	42	44	59	24	26	.322	.288	.301	T	T	.0	1.5	1.9	1.9	1.8
November	29.92	30.25	29.54	50.0	70.0	68.5	72.5	45.6	59.0	81	40	20	22	24	33	16	19	.117	.119	.137	.00	.00	.0	.2	.9	1.5	1.1
December	29.91	30.19	29.69	50.7	67.3	66.1	69.3	46.6	58.0	83	38	35	36	37	60	36	39	.215	.225	.237	.88	.55	.0	2.7	1.8	3.6	3.1
Year	29.76	30.49	29.39	61.7	82.8	84.3	86.8	58.3	72.6	112	35	44	41	40	56	25	24	.338	.293	.279	.292	.55	.0	1.6	2.0	2.2	2.0

BARROW, ALASKA

[ϕ=71°23′ N.; λ=156°17′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Daylight
January	(2) 29.96	30.68	29.21	-17.8	----	-19.2	-10.4	-26.5	-18.4	18	-44	----	----	----	----	----	----	----	----	----	0.17	0.12	4.0	4.1	----	3.4	3.4
February	30.21	30.83	29.49	-22.5	----	-21.6	-14.3	-27.0	-20.6	16	-49	----	----	----	----	----	----	----	----	----	.06	.06	.9	1.6	----	3.1	3.1
March	29.75	30.27	29.34	-19.6	----	-15.5	-12.5	-23.5	-18.0	16	-42	----	----	----	----	----	----	----	----	----	.12	.12	2.5	2.4	----	2.4	2.4
April	30.08	30.50	29.63	-5.8	----	-2.8	1.2	-8.9	-3.8	16	-19	----	----	----	----	----	----	----	----	----	.00	.00	.0	2.0	----	2.1	2.3
May	29.89	30.47	29.46	17.8	----	22.8	25.2	15.4	20.3	44	-6	----	----	----	----	----	----	----	----	----	.05	.05	1.2	6.5	----	6.3	6.2
June	29.87	30.20	29.16	32.3	----	38.3	41.3	30.9	36.1	62	24	----	----	----	----	----	----	----	----	----	.23	.14	1.2	7.4	----	6.5	6.7
July	29.80	30.08	29.52	39.2	----	43.0	48.4	36.4	42.4	67	30	----	----	----	----	----	----	----	----	----	1.63	.73	.0	7.2	----	6.9	6.9
August	29.80	30.09	29.30	37.3	----	42.2	46.0	34.7	40.4	64	20	----	----	----	----	----	----	----	----	----	1.11	.34	.4	9.4	----	7.1	7.1
September	29.67	30.07	29.18	30.4	----	30.8	32.8	28.6	30.7	49	19	----	----	----	----	----	----	----	----	----	1.15	.41	3.3	9.4	----	8.6	8.7
October	29.65	30.29	29.10	25.2	----	25.6	27.9	22.5	25.2	35	0	----	----	----	----	----	----	----	----	----	.95	.26	2.5	7.8	----	8.3	8.6
November	29.78	30.44	29.10	9.7	----	8.7	13.7	4.5	9.1	28	-5	----	----	----	----	----	----	----	----	----	.41	.23	5.1	6.9	----	7.2	7.2
December	29.86	30.74	28.98	-9.8	----	-10.9	-4.2	-17.0	-10.6	20	-32	----	----	----	----	----	----	----	----	----	.23	.16	3.2	2.8	----	3.9	3.8
Year	29.86	30.83	29.98	9.7	----	11.8	16.3	5.8	11.1	67	-49	----	----	----	----	----	----	----	----	----	6.11	.73	24.3	5.6	----	5.5	5.5

DUTCH HARBOR, ALASKA

[ϕ=53°53′ N.; λ=166°32′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Daylight
January	(2) 29.54	30.74	28.02	31.1	----	31.8	35.1	25.9	30.5	46	11	----	----	----	----	----	----	----	----	----	3.71	1.12	8.0	8.2	----	8.2	8.4
February	29.78	30.66	28.94	32.1	----	33.9	36.2	27.5	31.8	51	12	----	----	----	----	----	----	----	----	----	2.38	.81	12.5	8.0	----	8.3	8.6
March	29.49	30.20	28.42	30.0	----	33.1	35.5	25.8	30.6	44	9	----	----	----	----	----	----	----	----	----	4.61	1.10	29.4	8.0	----	8.2	8.5
April	29.46	30.18	28.06	35.6	----	40.0	42.6	33.0	37.8	49	27	----	----	----	----	----	----	----	----	----	5.84	1.28	T	7.6	----	8.0	8.3
May	29.52	30.00	28.76	38.4	----	43.1	45.5	35.9	40.7	51	31	----	----	----	----	----	----	----	----	----	5.15	1.18	T	8.5	----	8.2	8.4
June	29.67	30.24	28.94	42.2	----	47.1	48.9	39.7	44.3	54	35	----	----	----	----	----	----	----	----	----	5.00	1.28	.0	9.1	----	8.6	8.4
July	29.98	30.36	29.54	48.0	----	53.5	56.3	44.1	50.2	74	39	----	----	----	----	----	----	----	----	----	.89	.23	.0	7.8	----	7.9	7.8
August	29.99	30.36	29.36	52.4	----	57.6	61.1	48.0	54.6	71	40	----	----	----	----	----	----	----	----	----	2.44	.55	.0	8.2	----	7.2	7.7
September	29.63	30.28	29.06	45.8	----	49.0	50.9	42.2	46.6	63	37	----	----	----	----	----	----	----	----	----	9.46	1.25	T	8.3	----	8.0	8.3
October	29.38	30.12	28.68	40.3	----	42.7	44.1	35.7	40.2	58	26	----	----	----	----	----	----	----	----	----	9.26	2.10	T	7.9	----	7.7	8.1
November	29.56	30.28	28.50	37.6	----	39.3	42.3	32.5	37.4	52	26	----	----	----	----	----	----	----	----	----	10.55	2.14	2.3	7.0	----	8.2	8.4
December	29.21	30.10	28.94	34.2	----	35.0	37.4	29.8	33.5	43	21	----	----	----	----	----	----	----	----	----	10.15	1.72	3.4	7.3	----	7.4	7.7
Year	29.60	30.74	28.02	39.0	----	39.2	44.7	35.0	39.8	7.4	9	----	----	----	----	----	----	----	----	----	69.43	2.14	82.6	8.0	----	8.0	8.2

FAIRBANKS, ALASKA

[ϕ=64°51′ N.; λ=147°39′ W.]

Month	Monthly mean	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Maximum	Minimum	Monthly	Maximum	Minimum	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Total	Maximum in 24 hours	Total snowfall	7:30 a. m.[1]	Noon, local time	7:30 p. m.[1]	Daylight
January	(2) 29.38	30.19	28.48	-18.8	-16.1	-14.3	-9.2	-27.0	-18.1	22	-43	-23	-20	-18	81	80	81	0.016	0.019	0.020	0.54	0.26	15.4	4.2	4.9	4.7	5.5
February	29.64	30.20	28.49	-17.1	-7.1	-2.2	0.5	-23.3	-11.4	45	-50	-21	-12	-9	80	77	70	.018	.028	.031	.40	.23	13.3	3.5	3.7	3.7	4.3
March	29.16	29.77	28.48	1.8	18.8	22.6	25.5	-5.4	10.0	53	-34	1	6	6	85	56	48	.042	.058	.059	.23	.10	3.0	4.3	4.9	4.9	5.1
April	29.25	29.72	28.68	26.9	42.6	44.5	46.1	22.4	34.2	58	7	19	18	17	70	36	33	.103	.096	.093	.10	.07	1.8	3.6	4.2	4.0	4.3
May	29.24	29.61	28.37	39.6	55.1	57.0	59.9	35.5	47.7	75	29	31	27	26	74	34	32	.176	.147	.138	.13	.04	T	6.2	7.4	8.0	7.0
June	29.26	29.83	28.35	47.1	64.6	66.6	69.6	44.9	57.2	89	36	41	40	38	80	43	38	.257	.253	.241	.40	.19	.0	6.0	7.1	7.7	7.1
July	29.41	29.84	28.98	51.1	66.2	67.9	70.5	47.8	59.2	85	40	49	50	49	91	58	54	.345	.361	.352	2.72	.83	.0	5.8	6.6	7.1	6.6
August	29.48	29.85	29.03	48.5	59.6	61.2	63.8	45.5	54.6	78	36	46	49	48	92	70	65	.319	.350	.340	2.09	.80	.0	6.9	7.9	7.9	7.8
September	29.11	29.69	28.61	43.7	55.4	57.4	59.4	39.2	49.3	73	28	41	42	43	90	64	60	.259	.276	.280	.58	.18	.7	8.1	7.6	8.4	8.2
October	29.03	29.70	28.37	34.6	42.7	44.2	45.5	30.2	37.8	61	11	30	31	33	86	67	66	.166	.176	.188	.10	.06	1.2	6.9	7.0	7.7	7.6
November	29.27	29.81	28.53	9.6	11.2	12.9	16.6	2.4	9.5	36	-26	8	10	11	94	90	92	.065	.071	.073	.42	.15	7.9	6.5	7.4	7.9	7.5
December	29.15	30.25	28.45	-2.6	-1.0	-1.6	5.7	-11.9	-3.1	39	-38	-5	-4	-4	89	89	89	.039	.042	.041	.52	.19	9.7	5.0	6.4	6.6	6.3
Year	29.28	30.25	28.35	22.0	32.8	34.7	37.8	16.7	27.2	89	-50	18	20	20	84	64	61	.150	.166	.155	8.83	.83	53.0	5.6	6.3	6.6	6.4

See footnotes at end of table.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

YUMA, ARIZ.

[H=137 ft.; H_b=142 ft.; h_t=9 ft.; h_r=2 ft.; h_a=54 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m.[1] and 7:30 p. m.[1]: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	6.6	N.	27	NW.	0	35	8	5	2	3	0	4	5	0	24	1	6	2	1	0	0	0	0	0	0	0	0	0	0
February	5.8	N.	23	N.	0	21	5	3	2	8	2	7	5	3	14	6	8	4	3	0	0	0	0	0	0	0	0	0	0
March	7.1	W.	28	NW.	0	15	7	5	3	4	5	14	8	1	19	8	4	3	2	0	0	0	0	0	0	0	0	0	0
April	7.2	W.	26	NW.	0	11	6	3	3	10	10	14	3	0	26	4	0	2	0	0	0	0	0	0	0	10	0	0	2
May	6.2	W.	34	W.	1	9	4	2	2	3	10	22	5	5	27	3	1	0	0	0	0	0	0	0	0	19	0	0	0
June	5.6	W.	19	SE.	0	2	2	1	4	13	6	22	6	4	26	4	0	0	0	0	0	0	0	0	0	30	0	0	0
July	5.8	S.	26	N.	0	4	1	1	5	15	11	18	3	4	24	7	0	3	1	0	0	0	0	0	0	31	0	3	0
August	5.4	S.	34	SE.	1	2	6	3	7	14	12	12	3	3	19	11	1	4	3	0	0	0	0	0	0	31	0	6	0
September	4.4	S.	26	S.	0	11	5	6	1	11	8	16	2	0	25	4	1	2	2	0	0	0	0	0	0	29	0	3	0
October	4.8	W.	19	N.	0	20	4	2	2	3	3	14	9	5	25	3	3	0	0	0	0	0	0	0	0	12	0	0	0
November	7.6	N.	27	N.	0	34	4	4	4	1	2	7	4	0	27	2	1	0	0	0	0	0	0	0	0	0	0	0	0
December	5.8	N.	21	N.	0	24	17	7	1	6	1	2	3	1	18	8	5	5	5	0	0	1	1	0	0	0	0	1	0
Year	6.0	W.	34	W.	2	188	69	42	36	91	70	152	56	26	279	61	30	23	17	0	0	1	1	0	0	162	0	13	2

BARROW, ALASKA

[H=22 ft.; H_b=13 ft.; h_t=4 ft.; h_r=2 ft.; h_a=27 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	9.2	SW.	28	SW.	0	2	10	0	5	5	34	4	2	0	19	3	9	2	2	4	2	0	3	1	31	0	31	0	10
February	10.5	SW.	29	S.	0	1	19	1	5	9	19	0	2	0	17	4	7	1	1	1	1	0	2	0	28	0	28	0	11
March	12.5	NE.	29	NE.	0	1	38	5	3	1	12	0	2	0	22	3	6	1	1	1	1	0	0	0	31	0	31	0	10
April	14.2	NE.	36	NE.	2	3	52	3	0	0	1	0	1	0	21	5	4	0	0	0	0	0	0	0	30	0	30	0	0
May	11.4	NE.	31	NE.	0	10	29	6	4	4	6	1	2	0	9	6	16	1	1	4	1	0	4	3	16	0	29	0	0
June	12.2	NE.	30	NE.	0	4	29	1	0	4	10	2	10	0	8	5	17	2	2	2	1	0	2	5	5	0	22	0	0
July	11.7	SW.	29	SW.	0	6	10	1	2	9	26	0	7	0	8	4	19	7	7	0	0	0	1	10	0	0	4	0	0
August	13.0	NE.	30	NE.	0	4	24	0	3	4	19	4	4	0	7	4	20	8	7	2	1	0	1	6	0	0	12	0	0
September	14.6	NE.	34	SW.	2	3	33	0	2	1	14	2	5	0	3	2	25	6	6	9	6	0	0	2	24	0	29	0	0
October	20.5	NE.	48	NE.	11	7	45	0	2	1	6	0	1	0	2	5	24	6	6	2	2	0	4	1	28	0	30	0	0
November	16.1	NE.	35	NE.	2	6	26	6	10	2	6	2	2	0	5	6	19	3	3	4	3	0	3	0	30	0	30	0	4
December	10.8	NE.	29	NE.	0	3	37	10	3	1	7	0	1	0	17	4	10	2	2	2	2	0	1	0	31	0	31	0	21
Year	13.1	NE.	48	NE.	17	50	352	33	40	41	160	15	39	0	138	51	176	39	38	31	20	0	21	28	254	0	307	0	56

DUTCH HARBOR, ALASKA

[H=40 ft.; H_b=13 ft.; h_t=4 ft.; h_r=3 ft.; h_a=— ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	----	(2) NW.	----	------	0	1	5	1	12	9	7	1	23	3	2	5	24	21	14	13	13	0	2	2	13	0	28	0	1
February	----	NW.	----	------	1	9	7	2	10	5	5	1	11	6	2	2	24	16	10	12	10	0	2	4	8	0	19	0	0
March	----	SW.	----	------	0	3	4	0	16	4	17	3	14	1	1	5	25	25	21	20	18	0	7	0	8	0	27	0	0
April	----	SE.	----	------	2	3	0	0	19	8	13	6	9	2	1	7	22	20	18	4	0	0	0	0	0	0	14	0	0
May	----	SE.	----	------	0	1	9	1	17	3	7	3	18	3	1	8	22	23	17	2	0	0	12	0	0	0	5	0	0
June	----	SE.	----	------	0	1	9	9	17	4	6	2	12	0	2	4	24	21	17	0	0	0	14	0	0	0	0	0	0
July	----	SW.	----	------	0	1	10	5	11	1	17	1	9	7	2	8	21	17	6	0	0	0	6	1	2	0	0	0	0
August	----	SE.	----	------	0	0	9	0	21	3	17	1	5	6	3	10	18	13	10	0	0	0	2	0	0	0	0	0	0
September	----	NW.	----	------	0	1	6	4	5	2	12	1	28	1	1	8	21	27	25	1	0	0	3	0	0	0	0	0	0
October	----	NW.	----	------	0	5	4	1	4	4	8	11	24	1	0	15	16	30	26	3	0	0	0	0	0	0	9	0	0
November	----	SW.	----	------	0	0	2	0	15	3	22	8	8	2	0	9	21	29	23	4	3	0	0	0	0	0	14	0	0
December	----	SW.	----	------	0	0	0	2	15	8	17	7	12	1	3	7	21	26	22	15	14	0	0	0	1	0	20	0	0
Year	----	NW.	----	------	3	25	65	25	162	54	148	45	173	33	18	88	259	268	209	74	58	0	48	7	32	0	136	0	1

FAIRBANKS, ALASKA

[H=440 ft.; H_b=454 ft.; h_t=11 ft.; h_r=61 ft.; h_a=87 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	3.6	N.	27	W.	0	11	4	7	5	10	3	9	6	7	13	5	13	7	4	8	7	0	13	6	31	0	31	0	12
February	4.2	N.	24	SW.	0	12	8	8	2	10	3	6	5	2	13	6	9	6	3	11	6	0	10	5	27	0	28	0	16
March	4.3	S.	15	SW.	0	12	4	3	7	12	5	10	6	3	12	6	13	4	3	12	4	0	4	0	20	0	31	0	18
April	6.0	N.	21	S.	0	14	6	12	4	11	4	6	2	1	14	9	7	4	1	7	4	0	1	0	1	0	29	0	15
May	7.0	E.	27	S.	0	12	8	11	4	10	6	5	4	2	2	16	13	8	1	1	0	1	0	0	0	0	10	0	0
June	6.7	S.	23	N.	0	10	8	6	4	10	9	7	6	0	2	14	14	5	3	0	0	0	0	0	0	0	0	1	0
July	6.0	S.	27	S.	0	6	9	6	2	10	18	6	3	2	7	11	13	11	6	0	0	0	3	0	0	0	0	3	0
August	5.7	S.	21	S.	0	4	6	8	1	21	12	5	2	3	4	6	21	19	13	0	0	0	11	0	0	0	0	0	2
September	6.3	S.	27	S.	0	10	5	9	2	16	3	10	5	0	0	8	22	12	8	2	1	0	4	0	0	0	8	0	13
October	5.6	NE.	27	N.	0	9	20	5	6	10	2	5	3	2	2	9	20	4	1	7	3	0	9	0	5	0	22	0	10
November	4.2	N.	15	S.	0	7	13	6	6	10	3	5	8	2	5	7	18	11	3	18	11	0	12	1	28	0	30	0	8
December	3.9	N.	21	NE.	0	14	6	2	7	7	6	9	9	2	9	6	16	8	5	15	8	0	12	1	29	0	31	0	9
Year	5.3	N.	27	W.	0	121	97	83	50	137	74	83	59	26	83	103	179	99	51	81	44	1	79	13	141	0	220	4	103

See footnotes at end of table.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

JUNEAU, ALASKA

[$\phi = 58°18'$ N.; $\lambda = 134°24'$ W.]

Month	Pressure: Monthly mean [1]	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m. [1]	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m. [1]	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m. [1]	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m. [1]	Moisture: Relative humidity: 7:30 a. m. [7]	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m. [1]	Moisture: Vapor pressure: 7:30 a. m. [1]	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m. [1]	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m. [1]	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m. [1]	Moisture: Cloudiness: Daylight
	In.	In.	In.	°	°	°	°	°	°	°	°	°	°	°	%	%	%	In.	In.	In.	In.	In.	In.				
January	29.71	30.38	28.60	31.5	32.7	31.8	35.4	28.4	31.9	46	13	24	24	24	76	71	73	.139	.136	.138	10.30	1.39	35.0	8.4	8.2	8.6	8.4
February	29.82	30.30	29.39	23.6	25.2	25.8	27.8	20.5	24.2	57	3	12	12	12	61	58	56	.101	.104	.104	6.10	2.41	19.3	5.0	6.5	7.1	6.5
March	29.58	30.26	28.77	32.8	39.3	40.7	42.1	30.3	36.2	59	23	28	26	26	83	60	57	.155	.144	.138	5.67	2.23	8.3	6.1	7.0	7.0	6.9
April	29.79	30.22	29.23	37.9	46.0	46.5	48.0	35.9	42.0	57	31	34	33	32	86	62	60	.196	.185	.183	5.71	.82	.1	7.6	7.7	8.0	7.8
May	29.92	30.30	28.84	43.1	49.7	50.8	52.2	41.7	47.0	70	34	39	37	37	85	65	63	.237	.227	.228	8.16	2.40	T	8.7	9.5	9.0	9.3
June	29.92	30.27	29.30	46.6	53.6	54.8	56.9	45.0	51.0	77	39	43	43	43	87	68	67	.275	.276	.279	8.91	2.86	.0	8.4	8.1	8.1	8.1
July	29.98	30.36	29.63	50.2	57.3	59.0	60.4	49.0	54.7	75	43	47	48	47	90	72	67	.325	.330	.323	7.29	1.91	.0	8.1	7.9	8.5	8.2
August	29.99	30.23	29.71	50.9	61.0	63.4	64.6	49.1	56.8	77	45	48	48	47	91	66	60	.336	.342	.327	4.92	1.12	.0	5.3	5.3	5.4	5.6
September	29.80	30.05	29.31	51.9	55.8	56.4	59.6	48.6	54.1	77	41	48	49	48	88	79	77	.337	.347	.342	13.23	1.83	.0	8.3	8.9	8.7	8.9
October	29.65	30.13	28.88	47.9	49.7	49.2	52.9	43.7	48.3	64	36	39	40	40	75	70	73	.243	.246	.250	9.90	2.04	.0	8.6	8.6	8.8	8.8
November	29.76	30.56	28.89	36.5	39.1	38.6	41.8	33.5	37.6	53	22	33	33	33	88	79	81	.193	.191	.193	12.06	2.07	11.7	8.7	9.2	9.3	9.4
December	29.71	30.46	29.08	32.6	33.2	32.7	35.2	29.4	32.3	46	6	27	27	28	79	79	83	.162	.161	.165	11.69	1.81	23.4	7.9	9.0	8.7	8.8
Year	29.80	30.56	28.60	40.5	45.2	45.8	48.1	37.0	43.0	77	3	35	35	35	82	69	68	.225	.224	.222	103.94	2.86	97.8	7.6	8.0	8.1	8.1

KODIAK, ALASKA

[$\phi = 57°48'$ N.; $\lambda = 152°24'$ W.]

Month	Pressure: Monthly mean [1]	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m. [1]	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m. [1]	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m. [1]	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m. [1]	Moisture: Relative humidity: 7:30 a. m. [7]	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m. [1]	Moisture: Vapor pressure: 7:30 a. m. [1]	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m. [1]	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m. [1]	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m. [1]	Moisture: Cloudiness: Daylight
January	29.36	30.30	28.00	30.2	----	32.6	35.5	26.5	31.0	43	11	----	----	----	----	----	----	----	----	----	6.73	1.34	6.8	6.1	----	7.7	7.7
February	29.52	30.22	28.63	29.6	----	34.0	36.1	26.7	31.4	41	7	----	----	----	----	----	----	----	----	----	6.11	1.81	3.4	5.5	----	6.1	5.8
March	29.35	30.01	28.33	29.1	----	33.8	36.2	26.5	31.4	43	10	----	----	----	----	----	----	----	----	----	6.29	2.76	6.7	7.0	----	6.9	7.0
April	29.47	29.92	28.66	36.7	----	40.9	43.2	34.8	39.0	49	30	----	----	----	----	----	----	----	----	----	9.57	2.72	T	8.0	----	8.7	8.4
May	29.53	29.98	28.72	38.9	----	44.4	47.0	37.5	42.2	54	33	----	----	----	----	----	----	----	----	----	11.96	1.78	T	8.7	----	8.5	8.3
June	29.64	30.19	28.67	43.7	----	48.3	51.6	41.9	46.8	65	35	----	----	----	----	----	----	----	----	----	9.99	2.90	T	9.3	----	8.2	8.2
July	29.83	30.18	29.26	46.8	----	54.3	57.7	44.8	51.2	74	38	----	----	----	----	----	----	----	----	----	3.72	.99	.0	7.3	----	7.8	7.6
August	29.93	30.18	29.49	51.5	----	60.4	64.5	49.6	57.0	75	45	----	----	----	----	----	----	----	----	----	.76	.32	.0	6.0	----	5.0	5.9
September	29.38	29.99	28.56	47.7	----	53.7	56.8	45.6	51.2	71	38	----	----	----	----	----	----	----	----	----	9.04	3.40	.0	6.4	----	7.5	7.4
October	29.17	29.97	28.14	42.5	----	46.5	48.9	40.5	44.7	60	29	----	----	----	----	----	----	----	----	----	10.24	1.72	T	7.4	----	7.7	7.7
November	29.47	30.26	28.70	34.5	----	38.1	41.0	31.4	36.2	48	21	----	----	----	----	----	----	----	----	----	3.86	1.30	1.1	6.4	----	6.8	6.8
December	29.23	30.12	28.51	34.4	----	35.9	38.3	31.4	34.8	45	20	----	----	----	----	----	----	----	----	----	6.77	.76	12.7	7.8	----	7.9	7.9
Year	29.49	30.30	28.00	38.8	----	43.6	46.4	36.4	41.4	75	7	----	----	----	----	----	----	----	----	----	85.04	3.40	30.7	7.2	----	7.4	7.4

NOME, ALASKA

[$\phi = 64°30'$ N.; $\lambda = 165°24'$ W.]

Month	Pressure: Monthly mean [1]	Pressure: Extremes: Maximum	Pressure: Extremes: Minimum	Temperature: Mean: 7:30 a. m. [1]	Temperature: Mean: Noon, local time	Temperature: Mean: 7:30 p. m. [1]	Temperature: Mean: Maximum	Temperature: Mean: Minimum	Temperature: Mean: Monthly	Temperature: Extremes: Maximum	Temperature: Extremes: Minimum	Moisture: Dew point: 7:30 a. m. [1]	Moisture: Dew point: Noon, local time	Moisture: Dew point: 7:30 p. m. [1]	Moisture: Relative humidity: 7:30 a. m. [7]	Moisture: Relative humidity: Noon, local time	Moisture: Relative humidity: 7:30 p. m. [1]	Moisture: Vapor pressure: 7:30 a. m. [1]	Moisture: Vapor pressure: Noon, local time	Moisture: Vapor pressure: 7:30 p. m. [1]	Moisture: Precipitation: Total	Moisture: Precipitation: Maximum in 24 hours	Moisture: Precipitation: Total snowfall	Moisture: Cloudiness: 7:30 a. m. [1]	Moisture: Cloudiness: Noon, local time	Moisture: Cloudiness: 7:30 p. m. [1]	Moisture: Cloudiness: Daylight
January	29.94	30.85	29.13	−0.9	----	2.5	7.0	−8.6	−0.8	25	−26	−10	----	−5	66	----	69	0.032	----	0.035	0.54	0.33	6.5	2.6	----	4.4	4.1
February	30.15	30.78	29.12	4.0	----	11.1	13.9	−2.0	6.0	32	−34	0	----	2	64	----	66	.037	----	.052	.81	.40	6.4	4.0	----	5.2	4.8
March	29.61	30.25	29.10	10.0	----	16.5	19.2	3.0	11.1	44	−31	5	----	10	78	----	74	.072	----	.085	.96	.39	11.2	6.5	----	7.1	7.1
April	29.70	30.07	29.10	30.0	----	35.8	38.1	25.9	32.0	49	13	26	----	28	85	----	74	.142	----	.156	.61	.13	2.0	6.9	----	7.6	7.6
May	29.72	30.13	29.10	32.9	----	40.9	44.2	28.6	36.4	56	18	28	----	34	82	----	75	.157	----	.195	.42	.16	.1	5.7	----	6.4	5.8
June	29.80	30.14	29.28	43.7	----	52.0	56.4	38.8	47.6	67	29	37	----	40	78	----	65	.228	----	.254	1.36	.77	T	5.6	----	5.3	5.3
July	29.92	30.20	29.37	47.7	----	53.5	55.3	44.3	49.8	64	35	45	----	48	91	----	82	.301	----	.336	1.43	.48	.0	8.2	----	7.9	8.5
August	29.81	30.18	29.12	47.7	----	51.7	53.4	44.2	48.8	59	30	46	----	47	93	----	86	.310	----	.328	6.58	2.05	.0	8.0	----	9.2	9.3
September	29.59	30.20	29.12	38.3	----	46.4	50.0	33.5	41.8	61	26	34	----	36	83	----	70	.197	----	.217	2.09	.59	T	6.4	----	7.3	7.5
October	29.47	30.08	28.83	33.1	----	37.5	38.8	28.4	33.6	52	11	30	----	32	86	----	79	.165	----	.181	1.06	.33	4.4	8.2	----	8.6	8.7
November	29.61	30.15	28.97	19.3	----	21.5	25.5	13.1	19.3	34	−4	14	----	18	80	----	83	.087	----	.100	1.81	.54	15.7	6.5	----	6.9	7.4
December	29.54	30.56	28.60	11.0	----	10.6	16.2	3.8	10.0	33	−23	6	----	6	80	----	82	.062	----	.061	.91	.18	10.2	6.4	----	7.7	7.5
Year	29.74	30.85	28.60	26.4	----	31.7	34.8	21.1	28.0	67	−34	22	----	25	80	----	75	.149	----	.167	18.58	2.05	56.5	6.3	----	7.0	7.0

See footnotes at end of table.

TABLE 16.—*Annual meteorological summaries for the year ended Dec. 31, 1938*—Continued

JUNEAU, ALASKA

[H=72 ft.; H_b=80 ft.; h_t=96 ft.; h_r=88 ft.; h_a=116 ft.]

Month	Wind: By self-register: Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	Number of winds, 7:30 a. m.[1] and 7:30 p. m.[1]: North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Number of days: Clear	Partly cloudy	Cloudy	Precipitation: 0.01 inch or over	0.04 inch or over	Snow: T or more	0.01 inch or more melted	Hail	Fog: Light	Dense	Maximum Temp.: 32° or below	90° or above	Minimum temperature 32° or below	Electricity: Thunderstorm	Aurora
	Mi.		*Mi.*																										
January	9.4	S.	32	SE.	1	1	9	7	15	17	1	8	3	1	5	1	25	25	23	18	15	0	0	0	13	0	19	0	0
February	12.6	NE.	38	NE.	8	6	23	9	9	1	3	5	0	0	7	6	15	11	11	9	6	0	0	0	20	0	21	0	6
March	6.8	SE.	27	E.	0	1	5	5	23	11	2	12	1	2	7	4	20	17	15	16	13	0	0	0	0	0	20	0	7
April	6.7	SE.	26	SE.	0	2	4	6	20	12	0	9	0	7	3	7	20	18	16	3	1	0	0	0	0	0	2	0	4
May	7.6	SE.	29	SE.	0	2	0	4	33	15	0	7	0	1	0	4	27	25	18	1	0	0	2	0	0	0	0	0	0
June	7.6	SE.	30	SE.	0	0	1	5	22	12	2	8	1	9	4	3	23	21	18	0	0	0	0	0	0	0	0	0	0
July	6.7	SE.	19	SE.	0	0	0	3	21	17	2	15	0	4	5	2	24	23	17	0	0	0	1	0	0	0	0	0	0
August	5.0	S.	19	SE.	0	1	0	0	10	17	2	20	1	11	13	2	16	13	10	0	0	0	2	1	0	0	0	0	6
September	7.8	SE.	27	S.	0	0	1	6	24	16	1	9	0	3	2	1	27	24	21	0	0	0	11	2	0	0	0	0	6
October	9.4	SE.	30	E.	0	2	2	13	22	16	0	6	1	0	2	5	24	24	20	0	0	0	1	0	0	0	0	0	2
November	7.1	S.	28	E.	0	1	0	8	12	25	5	9	0	0	1	4	25	27	23	13	12	0	7	1	2	0	8	0	2
December	9.4	S.	35	NE.	1	3	8	11	16	12	2	9	1	0	3	1	27	25	21	14	10	0	4	0	7	0	14	0	1
Year	8.0	S.	38	NE.	10	19	53	77	227	171	20	117	8	38	52	40	273	253	213	74	57	0	28	4	42	0	84	0	34

KODIAK, ALASKA

[H=147 ft.; H_b=15 ft.; h_t=5 ft.; h_r=4 ft.; h_a=— ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	8.9	NW.	34	NW.	5	0	15	2	6	2	11	2	21	3	4	4	23	17	16	17	6	0	3	2	6	0	24	0	0
February	11.3	NW.	41	SE.	7	0	12	2	5	1	4	3	29	0	11	2	15	15	11	11	7	0	4	2	7	0	22	0	4
March	11.0	SW.	40	SW.	7	2	6	2	14	2	24	3	9	0	6	5	20	15	11	13	5	0	5	3	8	0	22	0	1
April	9.1	SE.	40	SE.	3	3	16	3	17	1	6	4	10	0	3	4	23	26	19	7	0	0	6	6	0	0	7	0	1
May	9.6	SE.	33	SE.	3	2	18	2	20	5	5	0	10	0	1	9	21	25	23	3	0	0	9	1	0	0	0	0	0
June	7.1	NE.	23	SE.	0	4	24	1	14	7	3	0	7	0	2	7	21	22	15	1	0	0	5	7	0	0	0	0	0
July	5.4	NE.	22	SW.	0	9	16	4	16	5	7	0	5	0	4	7	20	14	12	0	0	0	6	3	0	0	0	0	0
August	4.6	SW.	35	N.	1	7	5	7	9	11	14	2	6	1	7	14	10	8	5	0	0	0	1	6	0	0	0	0	0
September	8.3	SE.	36	SW.	3	3	10	4	20	7	7	5	4	0	2	11	17	19	18	0	0	0	6	1	0	0	0	0	2
October	9.9	SE.	34	SE.	1	0	15	2	18	3	7	2	15	0	6	3	22	24	21	1	0	2	1	0	0	0	2	0	1
November	9.4	SW.	52	W.	4	0	4	2	11	12	19	4	7	1	7	6	17	16	10	7	3	0	2	1	1	0	17	0	0
December	9.6	NW.	37	SE.	4	2	14	2	11	9	5	3	16	0	5	5	21	21	19	8	5	1	0	0	5	0	14	0	0
Year	8.7	SE.	52	W.	38	32	155	33	161	65	112	28	139	5	58	77	230	222	180	68	26	3	48	32	27	0	108	0	9

NOME, ALASKA

[H=28 ft.; H_b=22 ft.; h_t=5 ft.; h_r=2 ft.; h_a=32 ft.]

Month	Average hourly velocity	Prevailing direction	Maximum velocity	Direction at time of maximum velocity	Days with 32 miles or over	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Calm	Clear	Partly cloudy	Cloudy	0.01 inch or over	0.04 inch or over	T or more	0.01 inch or more melted	Hail	Light	Dense	32° or below	90° or above	Minimum temperature 32° or below	Thunderstorm	Aurora
January	7.9	NE.	36	NE.	1	12	24	8	1	0	4	1	10	2	18	5	8	5	3	7	5	0	2	0	31	0	31	0	18
February	10.0	NE.	42	NE.	3	7	23	19	0	2	0	1	3	1	12	6	10	9	7	11	9	0	2	1	28	0	28	0	10
March	8.7	NE.	30	NE.	0	5	20	17	3	4	3	3	7	0	4	9	18	15	7	25	14	0	4	0	24	0	31	0	6
April	8.6	NE.	26	NE.	0	3	16	19	1	4	10	4	1	2	3	6	21	11	6	14	8	0	0	0	6	0	25	0	4
May	7.6	E.	23	NW.	0	6	7	10	8	7	8	9	5	2	10	5	16	10	4	8	4	0	3	0	0	0	20	0	0
June	8.9	SW.	29	NE.	0	11	4	5	3	11	11	6	9	0	8	12	10	7	5	1	1	0	1	0	0	0	2	0	0
July	7.2	SW.	21	NW.	0	2	3	4	6	14	19	11	2	1	2	5	24	12	8	0	0	0	5	1	0	0	0	0	0
August	10.0	S.	29	S.	0	1	5	4	11	16	11	6	7	1	1	4	26	23	17	0	0	0	4	2	0	0	1	0	0
September	8.9	N.	27	E.	0	18	7	1	3	5	7	5	14	0	6	5	19	13	13	2	0	0	1	0	0	0	14	0	12
October	8.1	NE.	25	N.	0	13	16	4	2	7	5	3	12	0	1	6	24	15	9	14	10	0	4	0	5	0	23	0	6
November	12.3	NE.	36	SE.	4	16	18	6	4	5	4	1	6	0	6	4	20	13	10	22	13	0	3	0	25	0	30	0	12
December	10.1	NE.	34	NE.	1	20	19	9	1	4	2	2	4	1	5	5	21	17	10	21	17	0	0	0	30	0	31	0	6
Year	9.0	NE.	42	NE.	9	114	162	106	43	79	84	52	80	10	76	72	217	150	99	125	81	0	29	4	149	0	236	0	74

[1] Hours at Dutch Harbor 12 a. m. and 12 p. m., 165th meridian time; at Barrow, Fairbanks, and Kodiak 2 a. m. and 2 p. m., 150th meridian time; at Nome 1 a. m. and 1 p. m., 165th meridian time.

[2] No diurnal correction applied.

[3] By eye observation.

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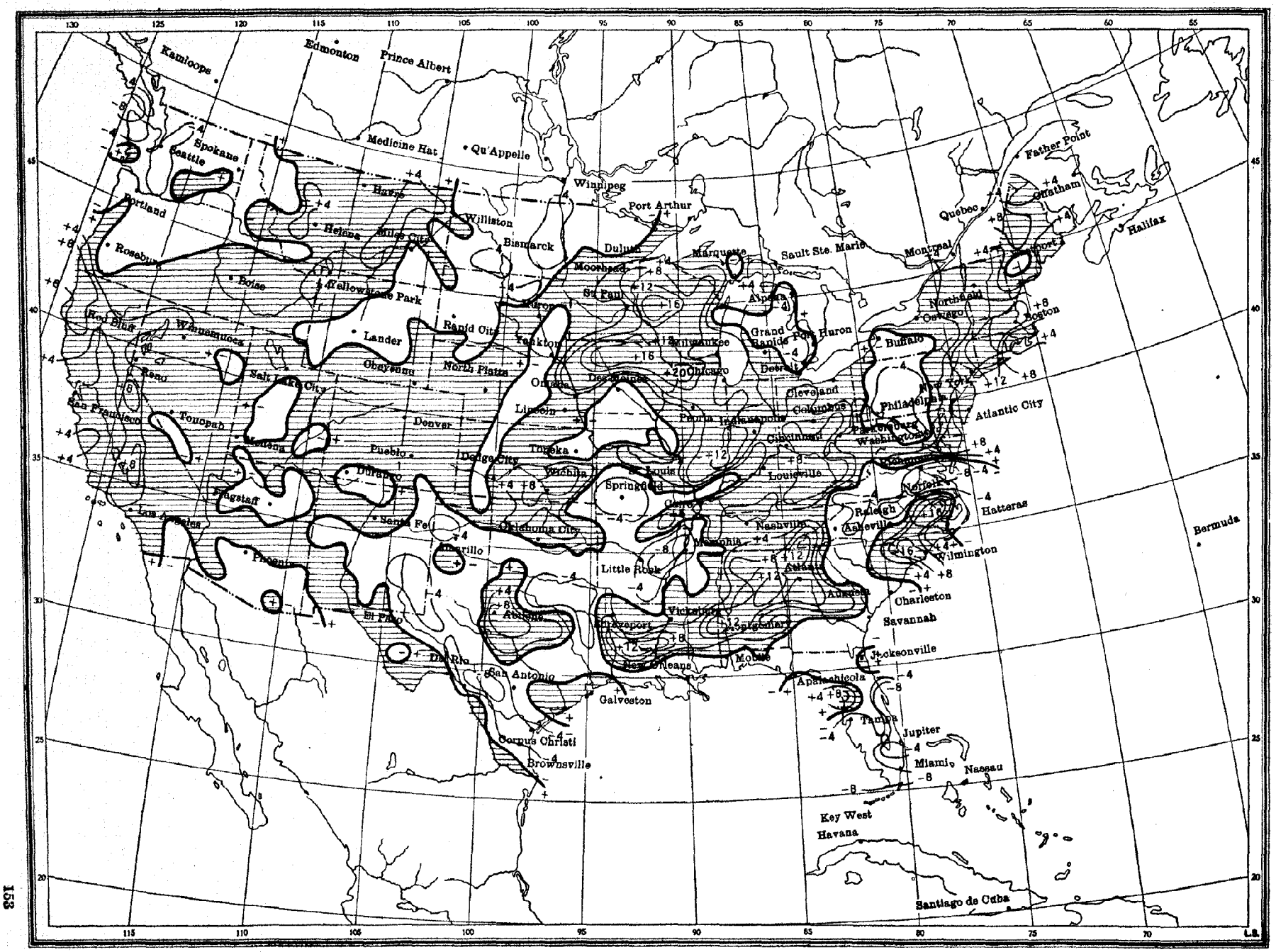
DEPARTURE FROM NORMAL TEMPERATURE, IN DEGREES FAHRENHEIT, FOR THE CROP SEASON OF 1938, MARCH 1 TO SEPTEMBER 30

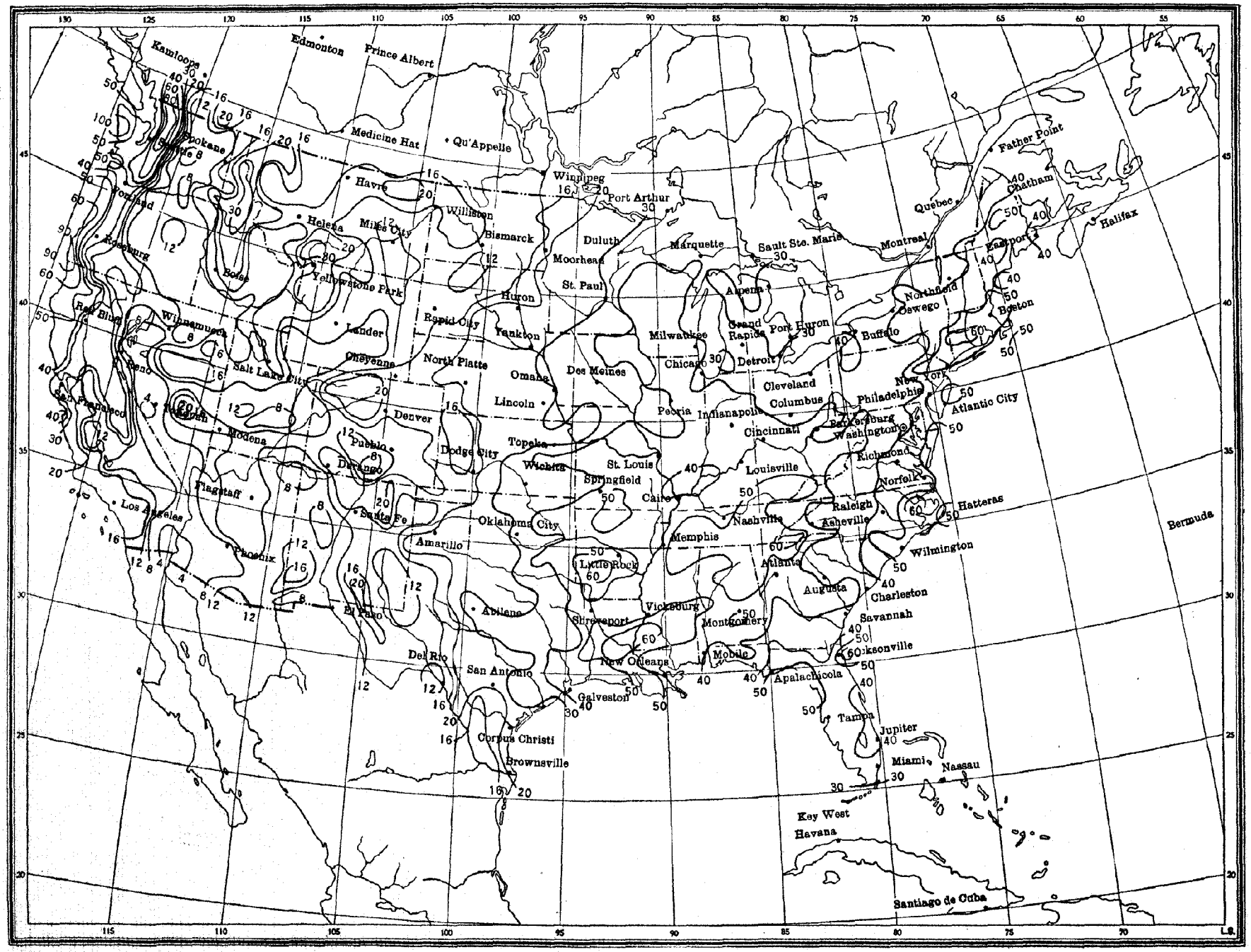
Shaded portions show excess (+) and unshaded portions deficiency (−) of temperature. Figures show mean daily excess (+) or deficiency (−) of temperature over areas bounded by light lines.

TOTAL PRECIPITATION, INCHES, FOR THE CROP SEASON OF 1938, MARCH 1 TO SEPTEMBER 30



DEPARTURE FROM NORMAL PRECIPITATION FOR THE CROP SEASON OF 1938, MARCH 1 TO SEPTEMBER 30

Shaded portions show excess (+) and unshaded portions deficiency (−) of precipitation. Figures show, in inches, amount of excess or deficiency of precipitation over areas bounded by light lines.



TOTAL PRECIPITATION, INCHES, FOR THE YEAR 1938.