

TABLE 2.—Tornadic winds and possible tornadoes

State	January	February	March	April	May	June	July	August	September	October	November	December	Year
Alabama:													
Number	0	1	0	0	0	0	0	0	0	0	0	0	1
Deaths		0											0
Injuries		3											3
Damage (\$×1,000)		2.5											2.5
Iowa:													
Number	0	0	0	0	0	0	1	0	0	0	0	0	1
Deaths							0						0
Injuries							0						0
Damage (\$×1,000)							12.0						12.0
Kansas:													
Number	0	0	0	1	0	0	1	1	0	0	0	0	3
Deaths							0	0					0
Injuries							0	0					0
Damage (\$×1,000)			10.0				(?)	3.0					13.0
Louisiana:													
Number	0	0	1	0	0	0	0	0	0	0	0	0	1
Deaths													10
Injuries			4										50
Damage (\$×1,000)			2,000.0										2,000.0
Michigan:													
Number	0	0	0	0	1	0	0	0	0	0	0	0	1
Deaths					0								0
Injuries					0								0
Damage (\$×1,000)					100.0								100.0
Oklahoma:													
Number	0	0	0	0	1	0	0	0	0	0	0	0	1
Deaths					0								0

TABLE 2.—Tornadic winds and possible tornadoes—Continued

State	January	February	March	April	May	June	July	August	September	October	November	December	Year
Oklahoma—Con.													
Injuries					(3)								(3)
Damage (\$×1,000)					(3)								(3)
Texas:													
Number	0	0	0	0	0	0	0	0	0	1	0	0	1
Deaths										0			0
Injuries										0			0
Damage (\$×1,000)										(?)			(?)
Virginia:													
Number	0	0	0	0	0	0	0	1	0	0	0	0	1
Deaths								0					0
Injuries								0					0
Damage (\$×1,000)								(5)					(5)
United States:													
Number	1		1	1	2		2	2		1			10
Deaths			10										10
Injuries	3		50										53
Damage (\$×1,000)	2.5		2,000.0	10.0	100.0		12.0	3.0					2,127.5

1 Did not reach ground.
 2 No damage.
 3 See references in monthly columns.
 4 More than this number injured, no definite figure obtained.
 5 Several persons injured, no definite figures obtained.
 6 Losses of several hundred dollars, no definite estimate obtained.
 7 From press reports.
 8 Less of several thousand dollars, no definite estimate obtained.

THE WEATHER OF 1940 IN THE UNITED STATES

By W. W. REED

[Weather Bureau, Washington, D. C., March 1, 1941]

On the basis of weighted averages for the several sections, the year 1940 was normal as to mean temperature; the value for the year was 53.6°, as compared with a mean of 53.7° for the period 1891 to 1940, inclusive, and the extremes of 55.6° in 1921 and 51.8° in 1917. The largest positive departures from section normal mean annual temperatures (Table 1) were +2.8° in Nevada, +2.4° in Washington and Idaho, and +2.2° in Utah; while the extremes on the negative side were -2.2° in Mississippi, -2.1° in Arkansas and -2.0° in Louisiana.

The monthly extremes of positive anomalies occurred in October with values of +6.8° for North Dakota, +6.7° for South Dakota and +6.6° for Nebraska, while the greatest negative departure came in January as follows: Missouri, -15.2°; Kentucky, -14.7°; Kansas, -14.6°; and Mississippi, -14.5°. This was the coldest January of record in large areas. In Central, Southern, and Eastern States the outstanding abnormal characteristic was the persistence of cold weather with but little variation from day to day, rather than extremely low individual temperature readings. (Weekly Weather and Crop Bulletin, February 6.)

Maximum temperatures of 120° or above were recorded in California, Arizona, and Nevada with highest readings: Greenland Ranch, Inyo County, Calif., 124° on August 11, 123° on July 24, and 122° on June 14; Cow Creek, Inyo County, Calif., 123° on July 24 and August 11, and 122° on June 15; and Parker Reservoir, San Bernardino County, Calif., 121° on August 11. Maximum temperatures of 100° or above were registered in all States outside New England, where the highest reading was 98° at Brockton, Mass., on July 27.

Subzero temperatures were reported from all States except Florida, with minima on January 19, when Fraser, Grand County, Colorado, reported -47° and Bedford, Lincoln County, Wyoming, -45°. The extremes of 124° and -47° registered for 1940 fell well within the range of the record extremes of 134° at Greenland Ranch, Death Valley, Calif., on July 10, 1913, and -66° at Riverside Ranger Station, Yellowstone National Park, Wyoming, on February 9, 1933.

In Florida, state-wide minimum temperatures were considerably below freezing (27° or lower) in all months from January to April, inclusive, and also in November and December, with the lowest 8° at Mason, Escambia County on January 27. Freezing temperatures were not registered in extreme Southern Florida—minima: Key West, 43°; Tavernier, 36°; Captiva, 34°; and West Palm Beach, 33°.

In general review the outstanding features of temperature distribution were (1) the very extensive area with decidedly subnormal means in January, with the large departures for Missouri and other States already noted, reaching westward to the Plateau Region, (2) the contrast between deficiencies in the East and excesses in the West from March to May, inclusive, and again in September, (3) the wide extent of supernormal averages in February, and June to August, inclusive, and especially in December when negative departures were recorded only from Portland, Maine northwestward, and (4), in marked contrast to all other months except January and April, subnormal means for November in the West with deficiencies averaging more than 4° from Minnesota to Idaho, with an extreme of -6.9° in Montana.

Table 1 and the Chart of Annual Temperature Departures supplement these general remarks.

The average annual precipitation, derived by weighting the averages for the varying areas of the several States, was 30.25 inches or 1.25 inches above the similarly determined mean for the period 1886 to 1940, inclusive, in which the extreme means were 32.74 inches in 1915 and 24.65 inches in 1910.

Figure 1 and table 2 show precipitation at or above normal over all except 14 States from South Dakota to the South Atlantic States, with percentage highest in California (152), next highest in Louisiana (134), and third highest in Idaho, Nevada, Arizona, and Utah (127 to 123). The States with percentage of normal yearly precipitation below 85 were Indiana (83), Missouri (81), South Dakota (79), Illinois (77), and Nebraska (74), two of which, South Dakota and Nebraska, were classified

in 1939 with percentages of 77 and 74, respectively. The highest annual State averages over 50 inches, of precipitation taken from table 3 are those for Louisiana, 74.67 (normal 55.83); Mississippi, 60.58 (normal 53.13); and the lowest, less than 15 inches, those for Nevada (11.03) and Wyoming (14.48). The extreme local annual amounts of rainfall were 131.90 inches at Quinault, Wash., and 2.17 inches at Greenland Ranch, Calif.; other comparable heavy annual totals in the West were 128.38 inches at Wishkah Headworks, Grays Harbor County, Wash., and 125.48 inches at Scales, Sierra County, Calif., to which are to be added three highly unusual values from Louisiana;

County), and in Washington in February (31.11 at Peterson's Ranch, Skamania County). Monthly precipitation of less than a measurable amount of 0.01 inch at one or more stations was reported in all months and instances of this occurred in two out of three States: California had about 250 stations with zero or trace in both July and August.

The greatest 24-hour falls by States, over 15 inches, were 19.76 at Crowley, and 19.63 at Lafayette, Lafayette Parish, La. on August 8-9; 16.05 at Smithville, Bastrop County, Tex. on June 30; and 16.00 at Hempstead, Waller County, Tex., on November 24th.

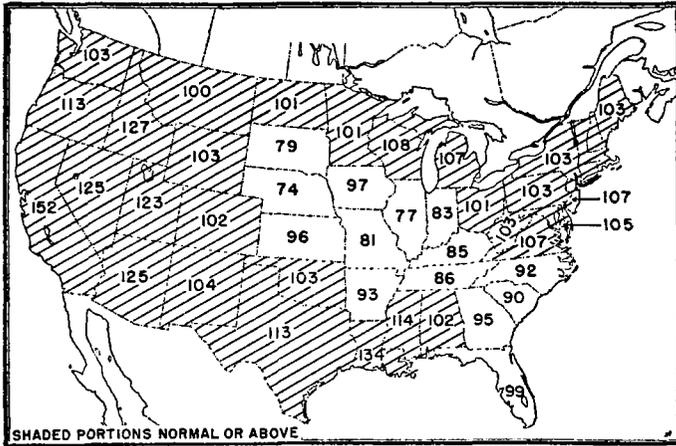


FIGURE 1.—Percent of normal precipitation, 1940.

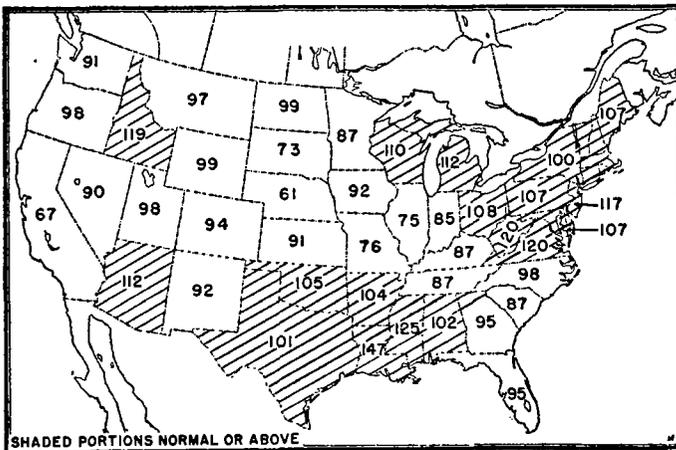


FIGURE 2.—Percent of normal precipitation, April 1—September 30, 1940.

106.64 at Crowley, Acadia Parish; 105.50 at Grand Coteau, St. Landry Parish; and 104.97 at Jennings, Jefferson Davis Parish. Yearly totals under 3 inches were reported also from Thorne, Mineral County, Nev. (2.73) and Cow Creek, Inyo County, Calif. (2.39).

The greatest average monthly falls for section areas (over 10 inches) were 10.83 for Louisiana in August, 10.57 for North Carolina in August, 10.38 for Mississippi in July, and 10.22 for South Carolina in August. In contrast the average 3-month total for June, July, and August in California was only 0.10 inch and the average 2-month total for July and August in Nevada was 0.09 inch.

Local amounts of monthly precipitation in excess of 30 inches occurred in Louisiana in August (maximum 37.99 at Lafayette), in California in January, February, and December (maximum 32.71 at Inskip, Butte County, in February), in Oregon in February (31.42 at Valsetz, Polk

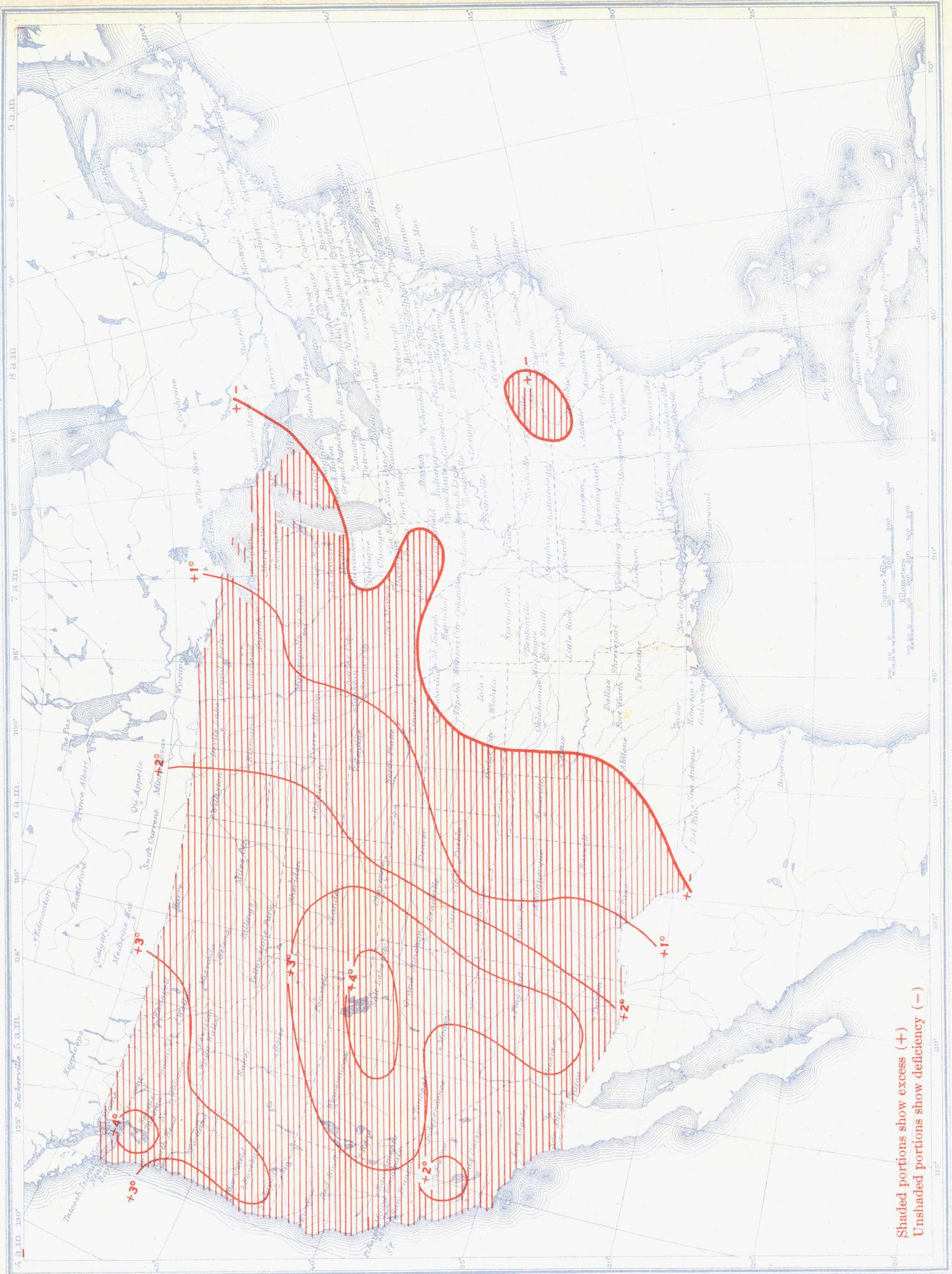
TABLE 1.—Monthly and Annual Temperature Departures from Normal for the Year 1940

Section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Ala.....	-12.2	-3.1	-0.6	-1.1	-2.4	-1.0	-1.6	+0.7	-2.0	+1.3	+0.3	+4.3	-1.5
Ariz.....	+2.4	0	+1.9	+0.6	+3.4	+2.2	+0.6	+7	-1.2	+1.0	-2	+1.1	+1.2
Ark.....	-13.2	-1.7	-7	-1.5	+2.5	-1.9	-2.1	-2.4	-3.2	+2.5	-2.0	+3.9	-2.1
Calif.....	+2.3	+6	+1.7	+3	+2.6	-2.9	-2.0	0	+2.0	+4	-2.1	+2.7	+0.6
Colo.....	-4.2	+1.6	+3.3	+9	+3.0	+2.8	+2.3	+6	+2.5	+3.4	-3.0	+2.0	+1.3
Fla.....	-9.3	-4.0	-2.2	-2.0	+2.6	+1	+1	+1.5	-2.1	-2.2	+1	+4.4	-1.5
Ga.....	-11.9	-2.5	-2.4	-1.7	+2.9	-2	-1.5	+4	-2.5	+1	0	+3.7	-1.3
Idaho.....	+2.2	+4.8	+4.2	+1.6	+3.9	+4.2	+1.0	+1.9	+2.2	+2.8	-4.3	+3.7	+2.4
Ill.....	-12.6	+1.1	-2.5	-1.3	+2.7	-1.1	+4	+7	-1.3	+4.5	-1.9	+5.0	-0.8
Ind.....	-12.8	+1.0	-3.1	-2.6	+2.9	+7	+2	+1.9	-2.0	+3.7	-1.4	+4.9	-1.1
Iowa.....	-10.1	+1.9	-3.0	-1.2	-1.7	-1.7	+2.0	-1.4	+1.9	+6.1	-2.7	+4.2	-0.2
Kans.....	-14.6	+8	+1.2	-4	0	+4	+2.6	-1.5	+7	+6.2	-2.8	+3.4	-0.3
Ky.....	-14.7	-1.0	-2.1	-2.0	-3.6	-7	-1.6	+2	-3.8	+2.1	-6	+5.1	-1.9
La.....	-12.3	-2.6	-1	-1.0	-1.8	-1.5	-9	-1.6	-2.8	+5	-1	+3.8	-2.0
Md.-Del.....	-11.5	+1.1	-4.4	-4.0	-7	-1.0	-2	-2.0	-3.2	-3.0	+3	+5.0	-1.8
Mich.....	-4.1	+2.9	-4.7	-2.8	-1.5	+1	+1.2	+1.1	+3	-0	+1.5	+2.8	-0.4
Minn.....	-4.4	+4.8	-4.9	-2.5	-1.0	-6	+1.6	-1.3	+3.4	+5.1	-4.0	+3.4	0.0
Miss.....	-14.5	-3.7	-5	-1.5	-2.6	-1.7	-2.2	-1.0	-2.6	+7	-7	+1.1	-2.2
Mo.....	-15.2	+4	-9	-1.1	-1.8	-1	-3	-9	-6	+5.4	-2.1	+4.4	-1.1
Mont.....	-5.2	+2.7	+4.7	-1.3	+3.6	+2.9	+2	+2.6	+5.9	+4.6	-6.9	+4.7	+1.7
Nebr.....	-11.4	+1.7	+1.3	-9	+2.8	+2.3	+4.3	+2	-4.7	-6.6	-3.6	+3.1	+0.8
Nev.....	+4.2	+4.2	+3.3	+1.6	+6.2	+5.5	+3	-1	+1.2	-2.0	-2.0	+4.0	+2.8
N. Eng.....	-6.3	+1.1	-4.0	-3.6	-2	-2.4	-3	-1.6	-1.3	-3.7	-2	+4	-1.8
N. J.....	-8.5	+1.3	-4.5	-4.1	-7	-4	+1	-2.6	-3.3	-3.6	-2	+3.2	-1.9
N. Mex.....	-12.2	-1.0	+1.4	-2	+1.5	-3	+1.3	-9	+9	+1.7	-2.5	+3.4	+0.3
N. Y.....	-7.8	+3	-5.8	-3.4	+4	-8	-3	-1.1	-2.0	-3.6	0	+2.9	-1.8
N. C.....	-11.8	-9	-3.0	-1.6	-1.4	+1.3	-1.0	-5	-2.9	-5	+2	+3.6	-1.5
N. Dak.....	-2.8	+5.4	-7	-3.6	+1.3	+1	+2.6	+1.3	+5.9	+6.8	-4.6	+6.7	+1.5
Ohio.....	-11.6	+4	-3.5	-3.2	-1.9	+1.0	-4	+1.1	-2.8	+1.3	-7	+5.7	-0.9
Okla.....	-12.8	-4	+2.2	-4	-1	-1.6	-7	-2.5	-1.4	+4.3	-3.0	+3.1	-1.0
Oreg.....	+2.3	+3.4	+3.4	+1.1	+3.5	+4.1	-2	+1.6	+1.1	+2.5	-3.3	+2.3	+1.8
Pa.....	-9.1	+1.0	-5.2	-3.4	-3	+3	+1	-1.5	-2.8	-2.5	0	+1.6	-1.6
S. C.....	-11.5	-1.8	-3.2	-1.6	-2.5	+9	-3	-4	-2.0	-1	0	+3.0	-1.6
S. Dak.....	-9.1	+2.0	-1.4	-2.5	+1.0	-1.6	+4.4	+2	+5.4	+6.7	-4.8	+5.2	+0.7
Tenn.....	-14.3	-1.9	-2.1	-1.5	-3.0	-4	-1.5	-4	-2.8	-2.9	-9	+4.6	-1.7
Tex.....	-10.1	-1.2	-1.0	-9	-4	-2.7	-8	-1.4	-1.4	+1.3	-2.3	+2.7	-1.4
Utah.....	+2.3	+3.2	+3.6	+1.5	+4.9	+3.7	+1.9	+2.8	+1.0	+2.5	-3.3	+2.6	+2.2
Va.....	-11.5	-1	-3.5	-2.2	-7	-1.2	-1.2	-1.3	-3.4	-1.2	+5	+4.6	-1.6
Wash.....	+3.5	+3.8	+4.0	+2.0	+3.7	+3.4	+9	+1.0	+4.6	+3.2	-3.9	+2.9	+2.4
W. Va.....	-12.1	+1	-3.7	-2.5	-1.6	+6	-6	-4	-4.2	-3	0	+7	-1.6
Wis.....	-5.3	+4.1	-5.4	-2.6	-2.6	-5	+8	-7	+1.0	+2.7	-2.3	+2.4	-0.7
Wyo.....	-4.3	+2.8	+4.4	-5	+3.0	+3.0	+2.8	-2.0	+4.3	+4.0	-4.9	+3.4	+1.8

If high degree of raininess may be determined by the large area of sections in which precipitation was 50 percent or more above the normal, then in 1940 the wettest months were February, April, and November, and if abnormal dryness is to be related, on the other hand, to the area of the sections with State averages of precipitation below 60 percent of the normal, the driest months were January, May, July, September, and October. The highest monthly percentages of normal fall from table 2 are 335 in Idaho, 276 in Nevada, and 272 in Utah, all in September; and the lowest are 3 in Nevada in July, and 10 in California and Oregon in August. Such contrasts as those just given are found, of course, only in regions that are arid or have the wide ranges in monthly rainfall typical of the Mediterranean type of climate found on the western coast.

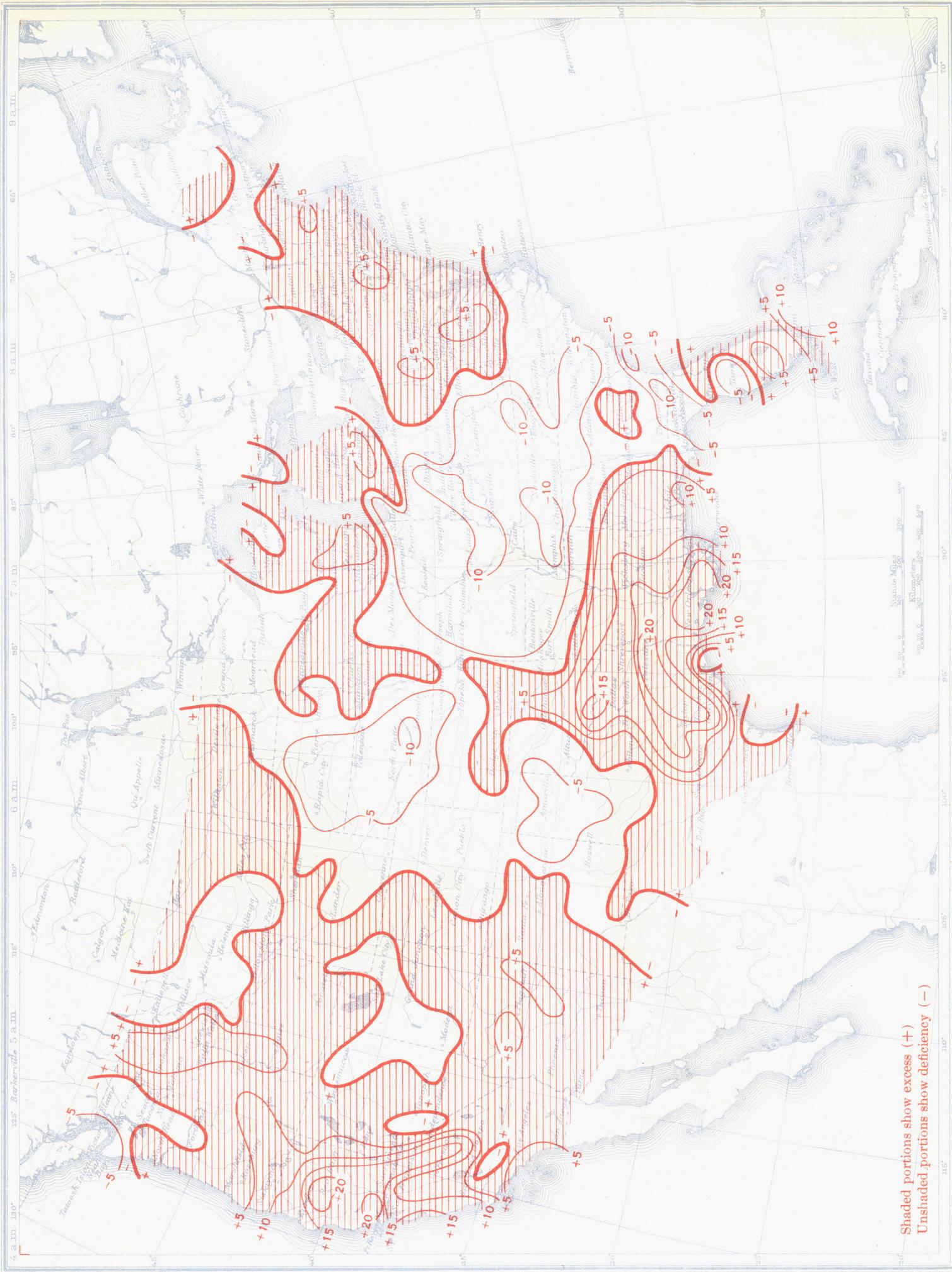
Percentages of normal rainfall inches, 303 in April, 201 in June, 214 in August, and 212 in November in Louisiana; and 210 in Oregon and 201 in California in February, have a background such that they really denote unusual raininess both relatively and actually.

Annual Temperature Departures (°F.) in the United States, 1940



Shaded portions show excess (+)
 Unshaded portions show deficiency (-)

Annual Precipitation Departures (inches) in the United States, 1940



Shaded portions show excess (+)
 Unshaded portions show deficiency (-)

TABLE 2.—Percentage of Normal Precipitation, 1940

Section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Ala.....	89	131	89	83	88	149	156	65	45	51	107	128	102
Ariz.....	57	141	21	131	100	257	42	97	242	212	132	311	125
Ark.....	36	100	50	142	71	106	110	136	54	61	160	91	93
Calif.....	174	201	120	78	64	25	14	10	87	143	57	250	152
Colo.....	187	131	98	87	91	56	75	73	211	71	126	123	102
Fla.....	95	149	114	97	49	103	115	102	99	20	55	209	99
Ga.....	108	110	83	84	62	106	117	137	28	33	138	98	95
Idaho.....	118	214	136	159	33	60	123	17	335	157	100	88	127
Ill.....	64	75	66	120	78	71	47	120	18	78	105	91	77
Ind.....	54	107	50	159	102	81	44	81	34	82	117	83	83
Iowa.....	75	109	99	118	51	77	122	182	25	97	153	114	97
Kans.....	124	92	91	115	100	67	49	138	89	53	203	120	96
Ky.....	38	133	107	123	87	81	65	96	67	27	107	80	85
La.....	61	155	71	203	41	201	122	214	96	39	212	165	134
Md.-Del.....	69	94	114	162	133	53	77	125	102	81	195	79	105
Mich.....	121	79	67	77	123	143	67	195	73	96	130	104	107
Minn.....	35	111	162	126	60	90	80	142	35	141	221	95	101
Miss.....	62	128	78	144	58	146	206	90	78	47	155	142	114
Mo.....	61	80	77	114	51	90	42	148	17	60	133	126	81
Mont.....	70	188	102	197	56	82	119	26	140	128	112	47	100
Nebr.....	131	83	144	91	30	75	52	67	57	93	136	133	74
Nev.....	196	159	94	159	26	84	3	16	276	154	80	175	125
N. Eng.....	60	101	129	159	138	106	97	49	106	37	171	96	103
N. J.....	54	84	84	136	156	169	88	57	125	69	147	82	107
N. Mex.....	105	168	75	74	161	89	61	98	94	61	258	165	104
N. Y.....	58	116	144	130	109	115	85	71	98	66	125	134	103
N. C.....	84	86	74	98	91	76	73	191	37	39	159	79	92
N. Dak.....	21	133	114	152	84	65	148	99	67	147	95	81	101
Ohio.....	48	123	88	177	122	127	51	124	52	64	126	109	101
Okla.....	54	162	21	148	82	91	116	112	92	57	232	108	103
Oreg.....	77	210	132	105	56	25	136	10	237	153	87	89	113
Pa.....	43	106	142	154	114	98	76	110	99	62	141	97	103
S. C.....	99	105	87	68	78	72	62	179	34	31	178	76	90
S. Dak.....	36	109	156	125	20	85	68	98	45	79	100	68	79
Tenn.....	43	119	107	103	79	95	93	103	35	67	98	72	86
Tex.....	43	128	53	99	91	176	75	118	48	96	273	170	113
Utah.....	188	178	89	123	19	79	43	53	272	132	132	157	123
Va.....	78	85	69	132	117	93	115	213	50	56	176	80	107
Wash.....	59	199	124	117	78	25	179	49	112	164	76	83	103
W. Va.....	40	123	94	146	123	137	97	118	98	65	118	69	103
Wis.....	75	91	71	98	101	162	76	191	34	86	179	106	108
Wyo.....	153	129	90	158	41	86	92	46	201	89	137	76	103

noted, as is the march of percentages of normal in table 2. One feature of the distribution of rainfall that is not to be omitted from this short summary is the heavy precipitation over more or less widespread areas in the southern tier of States from Eastern Texas to Florida in all months except January, March, May, and October, as shown in the total precipitation charts in current issues of this Review. The marked annual excesses in this region, and also in California, stand out clearly on the Chart of Annual Precipitation Departure.

TABLE 3.—Monthly and Annual Precipitation (in inches), 1940

	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Ala.....	4.34	6.89	5.25	3.57	3.45	6.43	8.46	2.93	1.47	1.40	3.49	6.30	53.98
Ariz.....	.76	1.86	.22	.84	.33	.90	.95	2.26	2.76	1.63	1.16	3.70	17.37
Ark.....	1.56	3.31	2.39	6.93	3.62	4.35	4.14	4.96	1.83	1.91	5.93	3.86	44.79
Calif.....	8.41	8.44	4.30	1.28	.63	.08	.01	.01	.40	1.76	1.42	9.16	35.90
Colo.....	1.42	1.27	1.27	1.56	1.74	.79	1.66	1.43	2.79	.83	1.01	1.11	16.88
Fla.....	2.58	4.56	3.53	2.77	1.99	6.89	8.31	7.18	6.72	.83	1.20	5.77	52.33
Ga.....	4.44	5.34	4.03	3.03	2.14	4.68	6.69	7.09	1.04	.89	3.73	4.14	47.24
Idaho.....	2.47	3.56	2.36	2.18	.55	.72	.75	.10	3.32	2.18	2.03	1.74	21.96
Ill.....	1.47	1.61	2.02	4.08	3.24	2.92	1.53	4.01	.64	2.14	2.89	2.05	28.60
Ind.....	1.67	2.59	1.89	5.58	4.14	3.11	1.49	2.74	1.17	2.23	3.59	2.37	32.57
Iowa.....	.83	1.18	1.72	3.22	2.07	3.56	4.56	4.44	.94	2.32	2.45	1.36	30.65
Kan.....	2.47	3.85	1.31	2.97	3.76	2.68	1.58	6.39	2.50	1.05	2.66	1.02	25.67
Ky.....	1.67	4.56	5.02	4.88	3.50	3.39	2.68	3.57	1.97	.74	3.70	3.16	38.84
La.....	2.96	7.15	3.41	9.44	1.89	9.33	7.51	10.83	3.74	1.28	8.21	8.42	74.67
Md.-Del.....	2.23	2.91	3.92	5.78	4.55	2.09	3.28	5.38	3.31	2.34	4.98	2.48	43.25
Mich.....	2.27	1.16	1.45	1.97	3.93	4.45	1.91	5.16	2.35	2.63	3.22	2.16	32.66
Minn.....	.26	.81	1.93	2.59	1.91	3.67	2.68	4.51	1.01	2.77	2.59	.75	25.48
Miss.....	3.09	6.27	4.55	6.96	2.59	6.09	10.38	3.84	2.40	1.24	5.64	7.53	60.58
Mo.....	1.35	1.59	2.44	4.41	2.44	4.36	1.58	5.78	.69	1.73	3.46	2.58	32.41
Mont.....	.66	1.43	1.01	2.19	1.19	2.02	1.65	.28	1.86	1.37	1.13	.46	15.25
Nebr.....	.72	.60	1.58	2.24	1.07	2.81	1.75	1.88	1.22	1.49	1.06	.93	17.35
Nev.....	2.31	1.62	.92	1.24	.23	.41	.01	.08	1.13	.86	.52	1.70	11.03
N. Eng.....	2.05	3.19	4.22	5.28	4.60	3.62	3.61	1.88	3.98	1.29	5.90	3.13	42.75
N. J.....	1.94	3.03	5.14	5.62	6.32	3.28	2.73	5.96	4.41	2.36	4.66	3.00	48.45
N. Mex.....	.59	1.19	.56	.66	1.85	1.10	1.55	2.45	1.52	.70	1.70	1.14	15.01
N. Y.....	1.70	3.12	4.36	3.87	3.78	4.21	3.36	2.68	3.78	2.17	3.78	3.89	40.29
N. C.....	3.07	3.50	3.12	3.46	3.81	3.56	4.26	10.57	1.48	1.28	4.19	3.00	45.30
N. Dak.....	.10	.61	.87	2.22	1.97	2.24	3.70	2.05	1.06	1.56	.69	.42	17.39
Ohio.....	1.46	3.17	2.96	5.53	4.51	4.79	1.93	4.18	1.54	1.63	3.45	3.00	38.15
Okla.....	.79	2.19	.46	5.03	3.87	3.49	3.47	3.36	2.83	1.71	4.75	1.83	33.78
Oreg.....	2.93	6.50	3.64	2.08	.97	.30	.61	.04	2.87	2.94	3.27	3.40	29.55
Pa.....	1.41	3.16	4.89	5.30	4.46	4.11	3.25	4.57	3.41	2.03	4.04	3.07	43.70
S. C.....	3.52	4.50	3.38	2.07	2.84	3.45	3.60	10.22	1.39	.93	4.13	2.76	42.79
S. Dak.....	.19	.62	1.75	2.70	.61	3.01	1.76	2.24	.75	1.02	.67	.39	15.71
Tenn.....	2.02	5.18	5.77	4.55	3.29	4.04	4.08	4.14	1.07	1.91	3.52	3.31	42.88
Tex.....	.83	2.38	1.11	3.06	3.36	5.48	1.97	2.85	1.48	2.52	6.22	3.86	35.04
Utah.....	2.24	2.19	1.24	1.46	.23	.44	.38	.56	2.72	1.39	1.25	1.68	15.78
Va.....	2.46	2.62	2.58	4.34	4.46	3.87	5.16	9.26	1.57	1.63	4.27	2.45	44.67
Wash.....	2.92	7.31	4.12	2.79	1.56	.40	1.18	.37	2.03	4.85	3.97	4.50	36.00
W. Va.....	1.44	3.84	3.70	5.13	4.93	5.97	4.43	4.83	2.88	1.80	3.27	2.31	44.53
Wis.....	.89	1.05	1.25	2.50	3.63	6.56	2.73	6.10	1.24	2.13	3.35	1.39	32.82
Wyo.....	1.19	.98	1.05	2.52	.87	1.38	1.20	.51	2.29	.97	.96	.66	14.48

In the warm, or growing season, percentages of normal precipitation are of more vital interest and in this connection attention is called to figure 2 in regard to their distributions relative to the normal of 100, and especially to the marked deficiency in Nebraska (61), California (67), South Dakota (73), Illinois (75), and Missouri (76).

The actual values in inches of the monthly section averages of precipitation, the extremes of which have been mentioned already, are given in table 3, from which the annual march of monthly amounts may be readily

tions at these stations reached this level. At all stations west of the Great Divide, for which this comparison could be made, the directions of the resultant winds were to the south of normal at 3,000 meters while, with only two exceptions, the opposite turning from normal occurred at this level at all of the corresponding stations to the eastward.

It is interesting to note that a large area of above-normal precipitation was reported over the southwest, the west central, and over the west Gulf areas (chart V). This area was divided into two well-defined portions; one of these, the larger, lying west of the Great Divide, and the other including all of the States of Texas, Oklahoma, and parts of Kansas, Arkansas, and Louisiana. It appears likely that the directions of the resultant winds being considerably to the south of the corresponding normal directions over the areas west of the Great Divide at both the 1,500 m. and the 3,000 m. levels was responsible for more than normal amount of free-air moisture in these sections of the United States.

METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR FEBRUARY 1941

[Climate and Crop Weather Division, J. B. KINCEP in charge]

AEROLOGICAL OBSERVATIONS

By EARL C. THOM

Mean surface temperatures for February were above normal over about two-thirds of the United States (chart I). Temperatures were below normal for the month from the southern Great Lakes southwestward to the Texas Panhandle, and were above normal over all other sections. A small area in northern Montana had a mean temperature 12° F. above normal for the month while the largest opposite departure, -8° F., occurred along the southern Atlantic coast.

At the 1,500 m. level the 5 a. m. resultant winds were from directions to the north of normal for the month at most stations in the eastern two-thirds of the country, while at this level resultant winds showed the opposite turning from normal at all stations to the westward. At 13 of the pilot-balloon stations, for which 5 a. m. normals are available, February resultants were not computed for the 3,000 m. level since less than 10 of the morning observa-