

SECTION VI—WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF THE MONTH.

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Pressure.—The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds, are graphically shown on Chart VII, while the average values for the month at the several stations, with the departures from the normal, are shown in Tables I and III.

In marked contrast to the average pressure for January, 1914, that for February was above the normal for the entire country, although it was near the normal in the Pacific coast States, as well as in the Middle and South Atlantic and east Gulf States and the peninsula of Florida. The most pronounced plus departures occurred in the northern Rocky Mountain region, northern Plain States, the Missouri and upper Mississippi Valleys, and the Lake region.

During the first week comparatively low pressure obtained over practically all sections east of the Rocky Mountains, while the week beginning with the 7th was characterized by comparatively high pressure over these districts, especially over the Lake region and New England on the 11th-13th, where unusually high pressure and extremely low temperatures prevailed. From the 13th to 17th the middle and northern portions of the Plateau districts and Rocky Mountain region had abnormally high pressure, while at the same time an area of marked low pressure and high, shifting gales passed northeastward along the Atlantic coast. High pressure again obtained over the eastern districts from the 24th to the 27th, but the month closed with a barometric depression moving eastward over the Lake region and a second storm on the east Gulf coast.

The distribution of the highs and lows was generally favorable for northerly and northwesterly winds over most of the country during the greater portion of the month, and these directions were the prevailing winds over practically all districts east of the 100th meridian.

Temperature.—The month opened with moderate temperatures for the season prevailing over practically the entire country, but by the morning of the 3d a decided cold wave was advancing from the British Northwest and northern Rocky Mountain districts, with temperature readings from 20° to 30° below zero in North Dakota and Montana. This cold wave advanced rapidly southeastward and by the end of the first week the line of freezing temperature extended as far south as the middle and west Gulf coast, while zero weather was general throughout the Missouri Valley and Plains States.

For the first week of the month the temperature averaged above the normal generally, except in the Missouri

Valley and the central and northern portions of the Rocky Mountain and Plateau regions, where the weather was colder than normal. The negative departures for this period were marked in the northern border States, especially in Montana, where the average for the week was 20° or more below the normal. Over the southern, central, and eastern districts the average was well above the normal, especially in portions of New England.

At the beginning of the second decade low temperatures and wintry weather again overspread the northern Rocky Mountain districts, and moved thence during the next few days eastward over the Lake region and down the St. Lawrence Valley. Very low temperatures were experienced over the extreme northern districts during the passage of this cold wave, especially in portions of New England, where the lowest temperature recorded in many years occurred. However, the cold wave was confined principally to the more northern sections and only moderately cold weather occurred in the southern districts.

During the following several days temperatures remained comparatively low over most sections but no important changes occurred. For the 10-day period from the 7th to the 16th, the temperature averaged below the normal for all sections east of the Rocky Mountains, save in the Florida Peninsula, the negative departures being especially marked in New England, the Lake region, and the upper Mississippi Valley.

From the 22d to the 26th a cold wave again overspread the country east of the Rocky Mountains and freezing temperatures extended as far south as the Gulf coast and northern Florida. However, the weather rapidly moderated and the month closed with temperatures above the seasonal averages over much of the country.

After the first week the temperatures averaged below the normal generally east of the Rocky Mountains, but the weather was comparatively warm during the entire month in all districts to the westward. No unusually high temperatures occurred during the month, but on the morning of the 12th over New England and portions of New York the minimum temperatures were as low as had been recorded in February for many years; in fact, at points in Maine the lowest temperatures for at least 40 years were experienced.

Temperatures below freezing occurred in all parts of the country, save over the peninsula of Florida, extreme southern Texas, southwestern Arizona, and at the lower elevations of California. No damaging frosts were reported from the last-named State.

For the month as a whole the temperature averaged below the normal over all districts from the Rocky

Mountains eastward, the negative departures being pronounced in the central and northern districts, especially in the Lake region and New England, while to the westward of the Rocky Mountains the average was above the normal, with greatest departures in southern California and along the north Pacific coast.

Precipitation.—The geographical distribution of the precipitation during the month is illustrated on Chart V. The amounts were quite well distributed over the eastern sections of the country, with some local heavy falls in the east Gulf and South Atlantic States, although there was a deficiency of about 1 inch in large portions of Texas, and the east Gulf States, as well as in New England and the Lake region.

The precipitation was likewise quite generally below the average in the Plains region and over the mountain districts of the West, except those of California. Heavy falls occurred in southern California, resulting in damaging floods in some districts. Except for the heavy falls noted in portions of California, the east Gulf and South Atlantic States, the rainfall was not excessive in any portion of the country to any noteworthy extent. There were moderate excesses above the normal over considerable portions of the South Atlantic and Gulf States, the Ohio, middle Mississippi, and lower Missouri valleys, and the northern and southern portions of the Rocky Mountain region.

Snowfall.—More than the average amount of snow occurred in New England, New York, and portions of the adjoining States, and from Kansas and Nebraska eastward to the Ohio Valley. Unusually heavy falls occurred in the interior of the east Gulf and South Atlantic States on the 25th and 26th. The fall in the mountains of California was likewise heavy.

Over all northern districts from the Lake region westward and throughout the mountain regions of the West, except in California, the snowfall was very generally less than the average, and at the end of the month there was practically none on the ground at the lower levels, and the supply stored in the mountains had increased but little, if any, over that reported at the end of last month.

GENERAL SUMMARY.

The month as a whole was one of moderate winter conditions and not unfavorable, except in a few minor particulars. However, temperature conditions were in marked contrast to those of the preceding two months. January was exceptionally warm for the season of the year over the entire country, while December was likewise warm over all eastern districts. The change from these abnormally warm to much colder conditions during February was favorable in that it retarded or prevented premature plant or fruit development and lessened the danger of later damage from frost. No damaging frosts occurred during the month in the citrus fruit or winter vegetable-growing districts, and the winter-wheat belt was largely covered with snow during the period when cold weather would have seriously injured the growing plants. At the end of the month the snow had largely disappeared, except over the North Atlantic States and in the Lake region.

Several periods of cold weather caused the formation of considerable ice on the streams and other bodies of water in the central and northern portions of the country, and in New England and other sections where ice is gathered for commercial purposes the supply was abundant.

Average accumulated departures for February, 1914.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since January 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since January 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	° F.	° F.	° F.	Inch.	Inch.	Inch.	P. ct.	P. ct.	P. ct.	P. ct.
New England.....	19.8	-5.6	-6.0	2.61	-0.70	-1.00	4.9	-0.4	71	-4
Middle Atlantic.....	27.1	-4.9	-1.5	3.07	-0.10	-0.10	5.2	-0.2	70	-4
South Atlantic.....	45.1	+1.1	+1.1	5.02	+1.10	-0.40	5.5	+0.4	74	-2
Florida Peninsula.....	65.9	-0.9	-1.1	1.87	-0.70	+0.20	80	+0.9	80	0
East Gulf.....	48.1	-2.8	+0.3	5.24	+0.50	+1.40	5.9	+0.1	74	-2
West Gulf.....	47.2	-2.4	+3.9	2.32	-0.40	-2.60	5.9	+0.3	74	0
Ohio Valley and Tennessee.....	30.3	-5.4	-0.5	3.65	+0.10	-1.50	5.8	-0.4	77	+2
Lower Lakes.....	17.1	-7.7	-4.1	1.68	-0.80	-0.80	5.9	-1.0	76	-4
Upper Lakes.....	11.8	-7.4	-1.3	1.04	-0.70	-0.30	6.0	-0.4	79	-3
North Dakota.....	1.4	-5.6	+4.3	0.30	-0.20	-0.20	5.9	+0.2	83	+3
Upper Mississippi Valley.....	18.9	-5.7	+3.7	1.60	-0.10	-0.60	5.5	+0.3	80	+3
Missouri Valley.....	20.9	-3.1	+7.1	1.69	+0.40	-0.20	5.5	+0.3	77	+2
Northern slope.....	19.9	-1.1	+7.1	0.95	+0.10	-0.20	6.0	+0.9	75	+4
Middle slope.....	31.4	-1.0	+0.1	0.75	0.00	-0.60	4.1	-0.9	69	+2
Southern slope.....	44.6	+0.1	+8.4	0.31	-0.80	-1.70	4.4	-0.1	57	-11
Southern Plateau.....	44.6	-0.1	+3.3	0.50	-0.20	-0.50	3.3	-0.4	51	+7
Middle Plateau.....	33.6	+1.1	+5.7	0.84	-0.30	+1.10	4.4	-0.7	76	+2
Northern Plateau.....	32.7	+0.1	+0.1	1.2	-0.20	+0.30	7.3	+1.1	95	0
North Pacific.....	42.9	+2.3	+6.3	3.43	+1.10	+3.80	7.7	+0.4	84	+3
Middle Pacific.....	50.5	+1.5	+3.0	4.2	-0.10	+3.40	4.8	-0.8	75	-1
South Pacific.....	56.1	+3.5	+6.5	3.39	+0.90	+6.60	4.1	+0.3	71	+2

Maximum wind velocities during February, 1914.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Ablene, Tex.....	22	50	w.	Mount Weather, Va.	14	70	nw.
Bismarck, N. Dak.....	28	54	nw.	Do.....	16	62	nw.
Bloek Island, R. I.....	7	50	w.	Nantucket, Mass.....	6	51	se.
Do.....	8	60	w.	Do.....	14	59	se.
Do.....	9	60	w.	Do.....	16	59	se.
Do.....	11	64	nw.	Do.....	20	53	ne.
Do.....	12	58	nw.	New York, N. Y.....	7	60	w.
Do.....	14	72	e.	Do.....	9	51	nw.
Do.....	15	50	w.	Do.....	12	56	nw.
Do.....	16	72	nw.	Do.....	14	75	nw.
Do.....	17	59	w.	Do.....	16	52	nw.
Do.....	21	50	ne.	Do.....	16	55	nw.
Buffalo, N. Y.....	1	72	w.	Norfolk, Va.....	1	50	n.
Do.....	7	88	sw.	North Head, Wash.....	21	50	sw.
Do.....	8	72	w.	Do.....	23	65	se.
Do.....	9	50	w.	Do.....	26	62	se.
Burlington, Vt.....	3	50	s.	Do.....	28	62	se.
Do.....	22	54	s.	Do.....	22	56	nw.
Canton, N. Y.....	1	64	w.	Oklahoma, Okla.....	6	60	se.
Do.....	7	58	w.	Pensacola, Fla.....	7	50	w.
Columbus, Ohio.....	8	52	nw.	Pittsburgh, Pa.....	7	50	w.
Eastport, Me.....	14	66	ne.	Point Reyes Light, Cal.....	4	64	nw.
Hatteras, N. C.....	13	50	se.	Do.....	5	57	nw.
Do.....	20	68	n.	Do.....	18	54	s.
Do.....	24	56	n.	Do.....	19	54	s.
Huron, S. Dak.....	28	54	nw.	Do.....	20	80	s.
Jacksonville, Fla.....	13	54	sw.	Do.....	8	50	nw.
Kansas City, Mo.....	28	53	nw.	Do.....	14	56	nw.
Lincoln, Nebr.....	28	56	nw.	Do.....	16	50	nw.
Mount Tamalpais, Cal.....	4	62	nw.	Do.....	28	60	nw.
Do.....	5	64	nw.	Do.....	28	52	nw.
Do.....	18	56	sw.	Do.....	28	68	nw.
Do.....	19	50	sw.	St. Louis, Mo.....	28	60	nw.
Do.....	20	56	se.	St. Paul, Minn.....	28	52	nw.
Do.....	22	50	sw.	St. Paul, Iowa.....	28	68	nw.
Do.....	27	50	sw.	Tatoosh Island, Wash.....	14	52	e.
Mount Weather, Va.....	7	56	nw.	Do.....	26	58	s.
				Do.....	28	62	s.
				Do.....	28	56	sw.
				Toledo, Ohio.....	7	56	sw.

MEAN LAKE LEVELS DURING FEBRUARY, 1914.

The United States Lake Survey reports the stages of the Great Lakes for the month of February, 1914, as follows:

Lakes.	Feet above mean sea level.
Superior.....	602.18
Michigan-Huron.....	580.06
Erie.....	571.72
Ontario.....	246.87

Lake Superior is 0.20 foot lower than last month, 0.61 foot higher than a year ago, 0.38 foot above the average stage of February of the last 10 years, 0.30 foot below the high stage of February, 1901, and 1.42 feet above the low stage of February, 1871. It will probably fall 0.1 foot during March.

Lakes Michigan and Huron are 0.03 foot lower than last month, 0.11 foot higher than a year ago, 0.01 foot lower than the average stage of February of the last 10 years, 2.66 feet below the high stage of February, 1886, 0.90 foot above the low stage of February, 1896. They will probably rise 0.1 foot during March.

Lake Erie is 0.33 foot lower than last month, 0.68 foot lower than a year ago, 0.08 foot above the average stage of February of the last 10 years, 2.02 feet below the high stage of February, 1863, and 1.10 feet above the low stage of February, 1902. It will probably rise 0.1 foot during March.

Lake Ontario is 0.27 foot higher than last month, 0.88 foot lower than a year ago, 0.19 foot higher than the average stage of February of the last 10 years, 1.80 feet below the high stage of February, 1886, and 2.04 feet above the low stage of February, 1897. It will probably rise 0.2 foot during March.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given for the various sections of the climatological service of the Weather Bureau the average temperature and total rainfall; the stations reporting the highest and lowest temperatures with dates of occurrence; the stations reporting the greatest and least precipitation, and other data, as indicated by the several headings.

The mean temperature for each section, the highest

and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Temperature and precipitation by sections, February, 1914.

Section.	Temperature—in degrees Fahrenheit.						Precipitation—in inches and hundredths.							
	Section average.	Departure from the normal.	Monthly extremes.				Section average.	Departure from the normal.	Greatest monthly.		Least monthly.			
			Station.	Highest.	Date.	Station.			Lowest.	Date.	Station.	Amount.	Station.	Amount.
Alabama.....	46.1	-0.6	Thomasville.....	82	23	Riverton.....	13	8	4.21	-1.75	Daphne.....	7.80	Penton.....	2.59
Arizona.....	46.9	+0.3	Gila Bend.....	84	30	2 stations.....	-4	2	1.10	-0.12	Thomas.....	5.70	St. Michaels.....	T.
Arkansas.....	40.4	-1.1	Portland.....	84	3	Swain.....	-3	7	4.23	+0.57	Dumas.....	8.60	Pond.....	1.68
California.....	48.4	-0.1	Healdsburg.....	79	13	Bridgeport.....	-19	2	5.49	+1.08	Mono Ranch.....	19.35	Bagdad.....	0.00
Colorado.....	25.0	-1.3	Lamar.....	82	22	Lay.....	-37	0	0.74	-0.48	Fronton.....	3.90	Blanca.....	0.00
Florida.....	59.5	-0.2	Davie.....	89	7	3 stations.....	28	26+	4.82	+1.49	Wausau.....	12.51	Fort Myers.....	0.50
Georgia.....	45.9	-1.5	Quitman.....	89	3	2 stations.....	15	26	5.29	0.00	Waycross.....	12.89	Newman.....	2.27
Hawaii [for January].....	67.0	Olas Mill.....	82	3	Volcano House.....	-43	8	7.06	-0.11	Walakamoi.....	28.93	Waipahu.....	1.41
Idaho.....	29.3	+0.3	Garnet.....	64	24	Irwin.....	-43	6	1.61	-0.11	Musselshell.....	4.80	Challis.....	0.10
Illinois.....	21.8	-4.8	Mascoutah.....	64	17	2 stations.....	-20	9	2.38	+0.47	Golconda.....	7.22	2 stations.....	0.39
Indiana.....	22.8	-5.9	Rome.....	60	22	Laporte.....	-16	9	3.07	+0.12	Huntingburg.....	6.03	Cambridge City.....	0.53
Iowa.....	16.8	-3.7	Pella.....	59	28	Inwood.....	-29	7	0.87	-0.28	Keosauqua.....	1.99	Britt.....	0.32
Kansas.....	30.2	-0.7	Cooldige.....	79	21	Goodland.....	-13	6	1.24	+0.11	Chanute.....	5.03	2 stations.....	T.
Kentucky.....	32.2	-3.2	Franklin.....	69	6	Williamstown.....	-3	24	4.14	+0.40	Louisville.....	6.50	Pikeville.....	2.36
Louisiana.....	50.2	-2.0	Sugartown.....	88	18	Grand Cane.....	8	75	5.25	+0.47	Donaldsonville.....	11.69	Lake Charles.....	2.47
Maryland and Del.....	28.7	-3.0	Yarrow.....	68	1	Oakland.....	-28	25	2.78	-0.31	Deer Park.....	4.23	Chewsville.....	1.78
Michigan.....	12.6	-6.4	2 stations.....	50	21	Bergland.....	-47	12	1.10	-0.73	Benzonia.....	3.13	Owosso.....	0.17
Minnesota.....	2.8	-6.9	Fairmont.....	57	28	Roseau.....	-52	11	0.44	-0.22	Glencoe.....	1.51	Warren.....	T.
Mississippi.....	46.4	-1.0	Leikesville.....	81	6	Austin.....	13	8	4.49	-0.74	Pearlington.....	9.33	Grenada.....	2.10
Missouri.....	28.3	-3.2	Cardwell.....	75	26	2 stations.....	-11	7	2.71	+0.42	Caruthersville.....	4.98	Grant City.....	0.80
Montana.....	19.5	-0.9	Busteed.....	61	16	Bowen.....	-54	8	0.84	+0.13	Heron.....	3.39	Bridger.....	T.
Nebraska.....	22.1	-2.1	Hillside.....	78	21	Burge.....	-31	7	0.65	-0.06	2 stations.....	1.75	Ashton.....	0.06
Nevada.....	35.5	+2.4	Logan.....	79	22	Tecoma.....	-16	6	0.87	-0.39	Marlette Lake.....	3.26	Beowawe.....	T.
New England.....	16.8	-5.6	Bridgeport, Conn.....	57	4	Presque Isle, Me.....	-36	11	2.48	-1.09	Westboro, Mass.....	4.94	Burlington, Vt.....	0.41
New Jersey.....	25.5	-4.5	Indian Mills.....	67	4	Culvers Lake.....	-17	12	2.85	-1.03	Lakewood.....	4.94	Culvers Lake.....	1.89
New Mexico.....	37.1	+0.2	Carlsbad.....	82	21	Dulce.....	-21	24	0.31	-0.47	Tajique (near).....	1.72	7 stations.....	0.00
New York.....	14.8	-6.3	Oyster Bay.....	59	4	Nehasane.....	-43	13	2.17	-0.48	Spier Falls.....	4.67	Chazy.....	0.05
North Carolina.....	39.1	-2.1	Swan Quarter.....	76	4	2 stations.....	6	17+	4.31	-0.07	Southport.....	8.56	Hot Springs.....	1.08
North Dakota.....	1.1	-6.4	New England.....	57	28	do.....	-47	11	0.32	-0.18	Ranger.....	1.03	3 stations.....	0.00
Ohio.....	22.1	-5.3	Ironton.....	67	22	Garrettsville.....	-24	25	3.04	+0.18	Portsmouth.....	5.27	Wauseon.....	0.98
Oklahoma.....	37.8	-1.0	2 stations.....	79	20	Rankin.....	-9	6	0.96	-0.22	Idabel.....	3.21	3 stations.....	T.
Oregon.....	37.8	+1.1	Pilot Rock.....	75	8	Austin.....	-21	6	3.06	-0.97	Deadwood.....	14.70	Diamond.....	0.12
Pennsylvania.....	21.8	-5.2	Warren.....	65	4	Saegerstown.....	-27	25	2.78	-0.19	Somerset.....	6.20	Montrose.....	1.30
Porto Rico.....	73.4	+0.2	Humacao.....	93	11	Cayey.....	49	27	4.46	+1.93	Rio Grande.....	12.60	Ponce.....	1.92
South Carolina.....	44.6	-2.2	3 stations.....	78	3+	Darlington.....	14	27	4.40	-0.11	Beaufort.....	9.49	St. Matthews.....	2.90
South Dakota.....	11.8	-5.1	Fort Meade.....	66	17	Bellefourche.....	-42	7	0.87	+0.24	Sorum.....	2.66	Eureka.....	0.05
Tennessee.....	38.6	-0.8	2 stations.....	72	6	Mountain City.....	0	17	3.68	-0.86	Perryville.....	5.61	Nashville.....	2.03
Texas.....	48.3	-1.5	Fort McIntosh.....	98	6	2 stations.....	-5	6	1.53	-0.47	Hempstead.....	6.08	14 stations.....	0.00
Utah.....	29.6	-0.7	Mount Home.....	70	18	Woodruff.....	-22	6	0.98	-0.37	Park City.....	2.55	Low.....	0.00
Virginia.....	32.8	-3.1	2 stations.....	69	3	do.....	-6	17	3.21	-0.27	Rocky Mount.....	4.88	Culpeper.....	1.76
Washington.....	35.2	+0.6	do.....	68	20	Newport.....	-25	5	2.83	-1.07	Yale.....	11.45	Fort Simcoe.....	0.05
West Virginia.....	28.4	-3.3	Bancroft.....	70	3	2 stations.....	-22	25	3.64	+0.49	Pickens.....	6.96	Moundsville.....	1.63
Wisconsin.....	9.1	-6.6	Shullsburg.....	49	27	Long Lake.....	-42	12	0.65	-0.50	Sheboygan No. 2.....	1.90	Vudessare.....	0.18
Wyoming.....	21.0	+0.8	Upton.....	77	22	Grand Canyon, Y.....	-53	8	0.74	-0.24	Bechler River, Y.....	3.16	2 stations.....	0.00

+ Other dates also.

1 Cherokee Park,

2 El Verde.