SECTION VII.—THE WEATHER AND DATA FOR THE MONTH:

THE WEATHER OF JUNE, 1918.

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PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing direction of the winds for June, 1918, are graphically shown on Chart VII, while the means at the several stations, with the departures from the normal, are shown in Tables I and III.

At the beginning of June the pressure was below the normal over the northern half of the country from the Rocky Mountains eastward. Elsewhere it was generally near the normal, except that in the north Pacific Coast States it was materially above. Relatively high pressure soon overspread most northern and eastern districts, and continued much of the time throughout the first decade, while in the South the pressure was generally near the normal. Lower readings predominated during the first few days of the second decade, after which pressure above the normal prevailed in most northern sections east of the Rocky Mountains until near the end of the decade, when the readings became lower over most districts. The third decade had pressure generally below the normal in all districts, except that during the first few days a moderate high area moved slowly across the northern States, and during the latter half of the period relatively high pressure obtained in the north Pacific Coast States. The month closed with pressure near the normal in all sections except the central portions of the Rocky Mountain and Plateau regions and thence northwesterly to the Pacific, where it was generally above the seasonal average.

For the month as a whole the barometric pressure averaged below the normal throughout the eastern half of the country, and generally over the Pacific Coast States; elsewhere it was, as a rule, above the seasonal average. The departures were generally small, except in the central Rocky Mountain district, where they were +.10 or more.

The pressure distribution was fairly uniform over the country, and the gradients were not sufficiently marked to produce a strong preponderance of wind from any one direction. In the middle and southern Plains and lower Mississippi Valley, however, the winds were very generally from some southerly point, while elsewhere they were unusually variable.

TEMPERATURE.

The month opened rather warm in most eastern districts, and cooler than the average in the southern Plateau States, but elsewhere nearly normal temperatures prevailed. Seasonal temperatures followed in nearly all districts until near the middle of the first decade, when there was a sharp drop over the central and northern districts east of the Rocky Mountains; but at the same time warmer weather prevailed in the more western States, particularly in the far Northwest. During the next several days there was a general warming up in nearly all districts.

About the middle of the month cooler weather overspread most sections east of the Mississippi River, and unusually high temperature prevailed in the West. After a few days the high temperature advanced to the central valleys, but cooler weather soon followed in the Ohio Valley and Lake regions. Toward the latter part of the second decade, while high temperature continued in the central and southern Plains States and west of the Rocky Mountains, unseasonably low temperature overspread the Lakes region and the North Atlantic States, but was soon followed by warmer weather. During the early days of the third decade there was a sharp drop in temperature from the middle Plains States eastward, with frost in the more northern districts, while high temperature continued in the southern Plains region and west of the Rocky Mountains. About the middle of the decade considerably warmer weather overspread the central valleys and lower Lakes region, and it became somewhat cooler in the upper Mississippi Valley. The last few days of the month brought moderate temperatures to most sections.

For June as a whole the temperature was below the normal from the upper Mississippi Valley eastward and southeastward to the Carolinas. It was about normal along the immediate north Pacific coast, over small portions of extreme western Texas and southeastern New Mexico, and over the extreme northwestern and southeastern portions of Florida. Elsewhere the temperature was above the seasonal average, the excess ranging from 3° to 6° per day from the central Gulf coast northwestward to the Canadian border, and over the greater part of the Rocky Mountains and Plateau regions. A deficiency ranging from 3° to 6° per day occurred in the interior of the Atlantic Coast States from central North Carolina to northern New England.

PRECIPITATION.

At the beginning of the month the weather was generally fair, except that local rains prevailed in the lower Ohio and middle and lower Mississippi valleys. During the next few days showers occurred in the South Atlantic and east Gulf States, the upper Mississippi Valley, and upper Lake region and locally in the far Southwest.

About the middle of the first decade general rains fell from the Rocky Mountains eastward, except in the immediate Gulf Coast States, the rainfall being heavy locally in the Ohio and Mississippi valleys. Toward the close of the decade light showers occurred from the upper Mississippi Valley eastward over the Lake region to New England, and some good rains fell in the central and east Gulf States, Arkansas, and east-central Texas. From the Rocky Mountains westward the decade was practically rainless except for a few light showers in widely scattered districts, and drought conditions continued in nearly the whole of that area.

During the first several days of the second decade showers occurred from the region of the Great Lakes and the Ohio Valley eastward and in Texas and the Southeast, being locally heavy in southern Texas. Toward the middle of the decade light local showers occurred over widely scattered areas, and some heavy rains fell in southern Texas. During the latter part of the decade light local rains occurred in the northern Plains States and in limited areas west of the Rocky Mountains. Severe drought continued in most districts west of the Rocky Mountains, and rain was needed for some crops in the districts to the eastward, particularly in the central valleys.

Early in the third decade general rains occurred from Oklahoma to the upper Lake region, and to the eastward, the rainfall being heavy in the Northeastern States. About the middle of the decade moderate to heavy rains occurred over the Ohio, middle Mississippi, and lower Missouri valleys, and from Maryland southward to the Gulf; also over the Northeastern States and the northern Rocky Mountain district. During the remaining portion of the month unsettled showery weather prevailed in most localities from the Rocky Mountains eastward, and good rains fell in a few localities from the Rocky Mountains westward. In much of that section, however, but little rain fell, and moisture was urgently needed.

For June as a whole precipitation was heavy over small areas in the upper and lower portions of the Mississippi Valley, in the Appalachian regions, in eastern North Carolina, and in portions of Georgia and Florida. Elsewhere over the eastern half of the country rainfall was generally moderate to light, although fairly heavy amounts occurred in many small areas. From the Rocky Mountains westward the rainfall was light as usual, except over a few limited areas, and in some sections of California no precipitation occurred.

RELATIVE HUMIDITY.

The average relative humidity for the month was distinctly less than normal over nearly all portions of the country, the principal exception being the southern Plateau region, where there was a moderate excess. The relative dryness of the atmosphere was most pronounced in the northern Rocky Mountains and in the Middle Plains region.

GENERAL SUMMARY.

For June as a whole the weather was generally favorable for farm work. Corn as a rule made good progress, except that it was somewhat damaged during the latter part of the month by hot, dry weather in Oklahoma and Texas, and by low temperature and frosts in the Lake region and in the Northeast. The generally moderate temperatures and well-distributed showers throughout the South were favorable for the development of cotton, except in portions of Texas, where, during the latter part of the month, lack of sufficient moisture caused considerable deterioration. As a whole the weather was favorable for wheat, which made excellent progress in most sections. The weather was too hot and dry for the proper development of oats, rye, and barley over the area from Kansas to North Dakota and in the North Pacific Coast States. Likewise the weather was unfavorable for potatoes and truck crops over much of the Central and Great Plains States and in the Lake region. Meadows and pastures made rather unsatisfactory progress in many sections because of the lack of sufficient moisture, but where precipitation occurred the ranges showed general improvement. The fruit crop as a whole developed favorably.

SEVERE LOCAL STORMS.

The following notes of severe storms have been extracted from official reports:

Georgia.—Severe thunderstorms occurred in many sections of southern Georgia shortly after 3 p. m., June 17, 1918. Damage by wind was reported over a wide territory, many trees being blown down, cornfields leveled, barns, packing houses, and small dwellings wrecked, some stock killed, and a few people more or less injured.

New Jersey.—Hail occurred as follows: June 5, 1918, near Flemington; June 12, from Princeton to near Freehold, and in Gloucester, Camden, Burlington, Atlantic, and Cumberland counties; June 14, in Camden, Warren, and Hunterdon counties. Estimated damage to fruit and vegetables about $40,000. June 22, a severe storm occurred over Delaware Bay, touching Fortescue, but did not reach many fields. Five cottages were demolished and automobile tops were punctured by the hail.

Average accumulated departures for June, 1918.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	° F.	° F.	° F.	In.	In.	In.	0-10.		P. ct.	
New England	60.8	−2.8	− 8.8	3.64	+0.50	−3.60	5.3	0.0	76	− 3
Middle Atlantic	68.0	−2.2	− 1.4	3.21	−0.50	−0.90	5.2	+0.1	69	− 4
South Atlantic	76.2	+0.5	+ 5.0	3.18	−2.50	−7.80	5.5	+0.3	74	− 3
Florida Peninsula	81.0	+0.6	+ 4.0	2.65	−4.20	−7.30	5.4	+0.3	75	− 3
East Gulf	80.1	+2.0	+ 7.3	4.45	−0.10	−3.90	4.9	−0.1	73	− 2
West Gulf	82.5	+3.5	+ 3.9	3.34	−0.10	−4.60	3.8	−0.5	64	−10
Ohio Valley and Tennessee	72.4	−0.6	− 1.4	3.49	−0.70	−2.60	5.1	+0.1	66	− 7
Lower Lakes	64.3	−2.7	− 4.8	2.84	−0.70	−1.10	5.1	+0.2	64	− 5
Upper Lakes	60.9	−1.6	− 6.3	1.70	−1.00	−0.20	4.9	−0.2	68	− 5
North Dakota	64.1	+0.5	+14.3	1.24	−2.40	−2.70	4.2	−0.9	64	− 5
Upper Mississippi Valley	71.4	+0.5	+ 0.7	3.70	−1.00	−1.90	5.2	+0.2	67	− 3
Missouri Valley	74.9	+4.0	+10.0	2.42	−1.90	−3.00	3.8	−1.2	64	− 3
Northern slope	66.9	+4.7	+ 7.4	1.39	−1.10	−1.50	4.1	−0.7	55	− 5
Middle slope	77.2	+5.3	+ 6.9	1.40	−0.20	0.00	3.8	−0.2	55	− 6
Southern slope	80.4	+3.2	+ 9.1	1.34	−1.40	−2.70	3.3	−0.5	51	− 7
Southern Plateau	78.4	+3.8	+ 2.5	0.49	0.00	−0.10	2.9	+0.9	39	+ 9
Middle Plateau	72.9	+7.2	+ 4.5	0.53	0.00	−1.20	3.4	+0.1	38	0
Northern Plateau	70.2	+6.1	+12.2	0.71	−0.70	−1.90	3.8	−0.7	43	− 9
North Pacific	60.7	+2.4	+ 6.6	0.56	−1.40	−3.60	4.5	−1.5	68	− 8
Middle Pacific	65.1	+2.8	+ 4.4	0.06	−0.40	−6.50	3.2	+0.1	61	− 3
South Pacific	71.2	+5.0	+11.6	0.02	0.00	+2.50	3.4	+0.2	64	− 2

WEATHER CONDITIONS OVER THE NORTH ATLANTIC DURING JUNE, 1917.

The data presented are for June, 1917, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month.

Chart IX (XLVI-55) shows for June, 1917, the averages of pressure, air temperature, water surface temperature, and the prevailing direction of the wind at 7 a. m., 75th meridian time (Greenwich mean noon).

It was found impracticable to show any storm tracks on the chart, as the atmospheric depressions during the month were, for the most part, of slight intensity and their movements were too indefinite to plot accurately.

PRESSURE.

The distribution of the mean atmospheric pressure for the month did not differ materially from the normal. The Azores HIGH was not far from its usual position, although somewhat above the normal in intensity and extent. The isobar of 29.8 inches marks the southern boundary of the Icelandic LOW, which was central near latitude 65° and longitude 20°. The pressure over the entire ocean south of the 40th parallel was uniformly high, and over a large part of that region the changes from day to day were comparatively small.

The following table gives for a number of selected 5-degree squares the average pressure for each of the three

decades of the month, as well as the highest and lowest individual readings reported during the month within the respective squares:

Pressure over the North Atlantic Ocean during June, 1917, by 5-degree squares.

Position of 5-degree squares.		Decade means.			Extremes.			
					Highest.		Lowest.	
Latitude.	Longitude.	I.	II.	III.	Pressure.	Date.	Pressure.	Date.
°	°	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*June.*	*Inches.*	*June.*
60-65 N	20-25 W	29.79	29.63	29.99	30.10	30	29.30	18
60-65 N	0- 5 E	30.07	29.94	29.83	30.34	6	29.50	23
55-60 N	35-40 W	29.77	29.88	29.95	30.05	3	29.48	8
55-60 N	10-15 W	29.90	29.79	29.95	30.33	29	29.50	23
50-55 N	55-60 W	30.01	30.10	29.94	30.50	12	29.68	21
50-55 N	0- 5 E	30.14	30.01	29.98	30.28	3	29.69	20
45-50 N	65-70 W	30.01	30.07	29.95	30.40	11	29.70	15
45-50 N	40-45 W	30.10	30.22	30.13	30.41	16	29.78	27
45-50 N	10-15 W	30.09	29.98	30.15	30.43	30	29.68	19
40-45 N	50-55 W	30.24	30.35	30.15	30.46	12	29.98	7
40-45 N	25-30 W	30.27	30.16	30.42	30.50	23	29.98	23
35-40 N	75-80 W	30.06	30.11	30.08	30.30	13	29.86	15
35-40 N	35-40 W	30.38	30.32	30.48	30.52	21,25	30.20	14
35-40 N	10-15 W	30.21	30.09	30.24	30.37	30	29.90	19
30-35 N	50-55 W	30.37	30.31	30.35	30.50	26	30.19	25
30-35 N	25-30 W	30.37	30.26	30.41	30.51	23	30.08	16
25-30 N	90-95 W	29.98	30.05	30.06	30.17	17	29.92	1
25-30 N	60-65 W	30.25	30.16	30.23	30.31	3,11,30	30.08	19,21
25-30 N	15-20 W	30.23	30.18	30.22	30.41	11	29.96	16
15-20 N	35-40 W	30.07	30.06	30.08	30.29	11	29.98	1,16
10-15 N	80-85 W	29.92	29.90	29.91	29.98	3,23	29.83	11

The mean and extreme values presented in the above table are based on the pressures, for each square on the M. S. daily synoptic charts of the North Atlantic, compiled by the Marine Section of the Weather Bureau.

GALES.

Ordinarily June has fewer gales than any other month, and in this month of 1917 the number reported was even less than normal over the greater part of the ocean. They did not occur on more than two days in any one 5-degree square, while the region below the 40th parallel appeared entirely free, except the square between latitude 35°–40°, longitude 65°–70°, where a southeasterly gale of 50 miles an hour was reported on the 17th.

From the 1st to the 3d a LOW of gradually decreasing intensity covered the greater part of the region between Iceland and the British coast. On the 1st two vessels between the 56th and 58th parallels and the 28th and 36th meridians experienced northwesterly gales of from 40 to 50 miles an hour, while on the 2d and 3d southwesterly gales were reported about 350 miles north of the Azores. Between the 4th and 7th there was no low pressure area of any consequence over the ocean, although a few reports, received from vessels in widely scattered localities, denoted winds of gale force. On the 8th a well-developed LOW of 29.40 in. was central near latitude 55°, longitude 40°, and westerly gales of from 50 to 55 miles an hour prevailed over the southerly quadrants. This LOW moved eastward, and on the 9th the center was near latitude 56°, longitude 33°, without change in intensity. Probably also the wind velocities had changed but little, although so few reports were received from the southerly and southeasterly quadrants that it was impossible to determine the conditions accurately. On the 10th and 11th there was evidence of little change in the intensity and position of this disturbance, and no gale reports were received on either of these dates. On the 12th it began to decrease in intensity, and apparently remained over the northeastern division of the ocean until the 24th, although, as stated before, it was impracticable to plot its movements with any degree of accuracy on account of lack of observations from that part of the ocean.

On the 23d an area of low pressure of slight intensity covered a large portion of the Gulf of St. Lawrence, extending as far south as the 40th parallel. Moderate gales were encountered over a limited area between St. Johns, Newfoundland, and the 52d parallel, and they also occurred over the eastern part of the steamer lanes. The easterly drift of this LOW was slight, and on the 24th and 25th the center was some distance north of St. Johns; it had gradually decreased in intensity, and on both of these dates the winds were from light to moderate with fog off the coast of Nova Scotia. On the 27th three LOWS were observed over the northern division of the ocean. The first was central near Father Point, Quebec, the second at latitude 51°, longitude 43°, and the third about 300 miles west of the south coast of Ireland. Wind and weather still remained moderate, no gales were reported, and fog still enveloped a large portion of the western division of the steamer lanes. On the 28th, the first LOW of the 27th was central over the northern part of Newfoundland, the second had disappeared, and the third was central near Brest, France. Moderate winds were still the rule, although one vessel near latitude 55°, longitude 42°, encountered a westerly gale of 40 miles an hour. On the 30th Quebec was the center of a well-developed LOW, and the European disturbance had disappeared, the month ending with light to moderate winds over all sections of the ocean, and fog prevailing off the Banks of Newfoundland.

AIR TEMPERATURE.

The average monthly temperature of the air over the ocean did not, as a rule, vary greatly from the normal. The largest departures occurred in the waters adjacent to the coast of New England, where they ranged from −2° to −4°, and in the Gulf of Mexico they were also slightly negative. Along the European coast it was somewhat warmer than usual, and over the middle section of the steamer lanes the departures were variable, ranging from +2° to −2°. In the vicinity of the Azores the air temperatures were practically normal, the same conditions holding true over the greater part of the ocean south of the 40th parallel, the only exception being over a limited territory in the northeast trade wind region, where positive departures of 2° occurred. The seasonal rise in temperature was marked over the northern division of the ocean, the monthly average ranging from 2° to 4° above the mean of the first decade.

The fluctuations in temperature from day to day were comparatively small, and in the square that includes the east coast of Labrador, where they are usually the greatest, the temperature range was only 10°, from 38° on the 9th, to 48° on a number of days during the last decade of the month.

The following table gives the temperature departures for the month at a number of Canadian and United States Weather Bureau Stations on the Atlantic and Gulf coasts.

	°F.		°F.
St. Johns, N. F.	+5.5	Norfolk, Va.	−0.2
Sydney, C. B. I.	+2.7	Hatteras, N. C.	−0.5
Halifax, N. S.	−0.9	Charleston, S. C.	−0.9
Eastport, Me.	−2.8	Key West, Fla.	−0.6
Portland, Me.	−4.4	Tampa, Fla.	+1.6
Boston, Mass.	−0.0	Mobile, Ala.	−0.2
Nantucket, Mass.	−0.7	New Orleans, La.	+0.8
Block Island, R. I.	−0.4	Galveston, Tex.	−0.6
New York, N. Y.	−0.2	Corpus Christi, Tex.	+0.2

WATER SURFACE TEMPERATURES.

Off the Banks of Newfoundland the departure of the average monthly water surface temperature from the normal, was considerably greater than the air tem-

perature departure, while over the remainder of the ocean the air and water temperature departures did not differ materially, and the seasonal rise during the month, as well as the daily fluctuations, were about the same for the two elements.

FOG.

Fog was usually prevalent over the western division of the steamer lanes, the maximum amount occurring in the square between latitude 40°–45°, longitude 60°–65°, where it was reported on 22 days, a percentage of 73, while the normal percentage for the month ranges from 20 to 30.

Off the Banks of Newfoundland where the greatest amount usually occurs, with a percentage of from 60 to 65, it was observed during June, 1917, on only 7 days, or 23 per cent. Over the mid-section of the steamer routes it occurred on from 3 to 8 days. Owing to the present lack of vessel reports it is impossible to state its frequency in European waters.

HAIL.

Hail was recorded on the 17th by a vessel near latitude 61°, longitude 22°, this being the only report received during the month.

Winds of 50 mis./hr. (22.4 m./sec.) or over, during June, 1918.

Station.	Date.	Velocity.	Direction.	Station.	Date.	Velocity.	Direction.
		Mis./hr.				*Mis./hr.*	
Buffalo, N. Y.	11	60	nw.	Norfolk, Va.	12	60	w.
Burlington, Vt.	12	50	se.	Oklahoma, Okla.	29	74	nw.
Columbus, Ohio	30	50	w.	Pensacola, Fla.	17	58	e.
Del Rio, Tex.	13	54	se.	Pierre, S. Dak.	25	54	nw.
Detroit, Mich.	27	50	sw.	Point Reyes Light, Cal.	6	59	nw.
El Paso, Tex.	5	54	ne.	Do.	13	60	nw.
Hatteras, N. C.	26	52	sw.	Do.	14	60	nw.
Houghton, Mich.	1	52	sw.	Providence, R. I.	22	58	se.
Jacksonville, Fla.	30	52	nw.	San Antonio, Tex.	2	54	e.
Louisville, Ky.	28	60	n.	Sault Ste. Marie, Mich.	7	50	nw.
Marquette, Mich.	11	56	sw.	Savannah, Ga.	22	50	nw.
Mobile, Ala.	17	60	e.				
New York, N. Y.	13	51	nw.				
Do.	22	50	nw.				
Do.	23	55	nw.				

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total 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.

Condensed climatological summary of temperature and precipitation by sections, June, 1918.

Section.	Temperature.								Precipitation.					
	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.
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Alabama	79.7	+ 1.4	Decatur	107	17	2 stations	50	14†	4.22	+0.15	Camp Hill	8.36	Tuscaloosa	1.52
Arizona	77.5	+ 4.3	2 stations	119	11	Williams	28	1	1.00	+0.52	Walnut Grove	4.03	2 stations	0.00
Arkansas	80.5	+ 4.1	Bee Branch	110	20	Okay	49	13	3.55	−0.42	Fulton	12.07	Searcy	0.50
California	72.6	+ 3.6	Greenland Ranch	124	27	Tamarack	27	1	0.12	−0.19	Barstow	2.97	76 stations	0.00
Colorado	65.0	+ 4.7	3 stations	105	11†	Steamboat Springs	19	2	1.49	+0.05	Goodpasture	5.90	2 stations	0.00
Florida	80.4	+ 0.6	Lake City	106	3	Brooksville (2)	58	19	5.14	−1.58	Jasper	10.41	Key West	0.43
Georgia	79.2	+ 1.4	Bainbridge	105	16	Tate	47	23	4.04	−0.41	Tate	7.12	2 stations	2.01
Hawaii, May	72.7	− 0.5	Mahukona	96	26	Waimea	48	11	7.08	+1.13	Honomu	37.76	3 stations	0.00
Idaho	66.9	+ 7.4	2 stations	110	11†	Stanley	14	2	0.88	−0.52	2 stations	3.16	Geneva	0.09
Illinois	72.1	+ 0.8	2 stations	105	17	Joliet	38	22	3.49	−0.31	Fairfield	7.46	Antioch	0.80
Indiana	70.8	− 0.8	2 stations	102	16	Laporte	30	23	3.31	−0.44	Royal Center	4.88	Crawfordsville	1.10
Iowa	70.8	+ 1.7	2 stations	104	16†	West Bend	38	2	5.29	+0.91	Monroe	10.19	Audobon	1.55
Kansas	78.4	+ 5.5	Chapman	111	20	2 stations	38	30	1.35	−3.05	Coldwater	4.08	Utica	0.08
Kentucky	73.6	− 0.1	Hopkinsville	104	17	Anchorage	37	23	3.63	−0.55	London	7.64	Brownsville	1.22
Louisiana	82.7	+ 2.8	Angola	109	15	Kelly (near)	58	14	3.70	−1.24	Calhoun	9.53	Paradis	0.47
Maryland-Delaware	68.8	− 1.2	Seaford, Del.	99	2	Oakland, Md.	34	24	2.40	−1.92	Deer Park, Md.	4.37	Emmitsburg, Md.	1.28
Michigan	62.0	− 2.2	Allegan	98	16	Humboldt	22	23	2.04	−1.05	Iron Mountain	4.77	Port Huron	0.51
Minnesota	64.4	+ 0.1	Pipestone	99	6	Duluth (near)	24	11	1.99	−1.96	Stillwater	6.24	Pipestone	0.17
Mississippi	81.2	+ 2.5	Tupelo	107	16	Batesville	52	14	3.92	−0.45	Lake	8.08	Pontotoc	0.85
Missouri	77.2	+ 3.9	Amoret	110	20	Louisiana	48	8†	3.15	−1.36	Lockwood	8.06	Amoret	0.62
Montana	65.0	+ 5.3	Jordan	108	14	Bowen	20	29	1.01	−1.72	Dell	3.64	Valentine	0.07
Nebraska	73.5	+ 4.4	4 stations	108	15	Harrison	32	30	1.93	−1.88	Santee	6.06	Haigler	0.23
Nevada	71.6	+ 7.1	Logandale	114	11†	Beowawe	21	1	0.94	+0.69	Millett	3.36	Duck Flat	0.00
New England	60.7	− 3.4	Springfield, Mass.	95	1	Pittsburg, N. H.	26	20	3.72	+0.54	New Haven, Conn.	6.10	Boston, Mass.	1.94
New Jersey	66.3	− 2.8	Tuckerton	96	2	Boonton	32	21	3.43	−0.37	Flemington	6.21	Bridgeton	1.75
New Mexico	71.9	+ 2.8	Artesia	116	29	2 stations	25	1	1.12	−0.08	Hobbs	5.67	3 stations	0.00
New York	61.7	+ 3.2	Port Jervis	97	1	2 stations	24	20	3.65	+0.18	2 stations	6.05	West Point	1.54
North Carolina	72.7	− 0.8	Goldsboro	104	2	Jefferson	37	24	3.80	−1.39	Tryon	8.59	Lillington	1.11
North Dakota	63.3	+ 0.5	4 stations	102	10	Marstonmoor	27	30	1.63	−1.87	Pembina	3.92	Parshall	0.09
Ohio	68.8	− 0.5	2 stations	98	17	Green Hill	33	24	2.68	−1.36	Mount Healthy	7.75	Dover	0.55
Oklahoma	81.4	+ 5.0	2 stations	112	25†	2 stations	45	1	3.40	−0.29	Broken Bow	7.30	Hooker	0.64
Oregon	66.1	+ 6.1	2 stations	107	20†	3 stations	18	1	0.28	−1.17	Hilgard	2.57	15 stations	0.00
Pennsylvania	66.0	− 1.7	3 stations	98	2	West Bingham	29	20	3.42	−0.56	Ridgway	6.83	Media	0.44
Porto Rico	78.3	− 0.1	2 stations	99	6†	2 stations	55	15†	5.22	−1.69	Maricao	10.93	Isidora	1.59
South Carolina	77.0	− 0.5	Blackville	106	5	2 stations	50	20†	3.44	−1.52	Landrum	7.69	Charleston	0.27
South Dakota	68.3	+ 2.2	Hardingrove	110	10	2 stations	32	2†	3.57	−0.75	Sioux Falls	5.77	Hardingrove	0.30
Tennessee	75.8	+ 1.6	Savannah	105	17	Erasmus	40	23	4.34	−0.04	Waling	7.72	Savannah	1.75
Texas	83.3	+ 3.4	Barstow	114	28	Clint	38	1	2.45	−0.45	Clarksville	7.43	Anderson	0.06
Utah	69.8	+ 7.0	St. George	115	12	Blacks Fork	20	29	0.77	+0.01	Blacks Fork	3.11	2 stations	0.00
Virginia	69.8	− 1.9	Danville	103	1†	Burkes Garden	38	8	4.63	+0.29	Blacksburg	9.71	Winchester	1.74
Washington	64.4	+ 3.8	Wheeler	108	21	4 stations	25	1†	0.40	−1.27	Forks	2.47	6 stations	0.00
West Virginia	68.2	− 1.0	Ryan	99	17	Bluefield	34	24	4.17	−0.24	Marlington	10.11	New Cumberland	0.87
Wisconsin	63.9	− 0.8	3 stations	97	16	Big St. Germain Dam.	24	23	2.31	−1.49	River Falls	5.31	Spooner	0.48
Wyoming	63.8	+ 5.6	Worland	104	10	Foxpark	19	30	1.60	−0.07	Willow Springs, Ranger Station.	5.01	Afton	0.30

† Other dates also.

DESCRIPTION OF TABLES AND CHARTS.

(*See* the Review, January, 1918, p. 48.)