to Japan, where it caused great destruction to life and property.

The determination of the positions given below is quite accurate, due to observations received from the U. S. S. *Gold Star*, en route Guam to Manila, S. S. *Silverbelle*, and S. S. *Foylebank*, both en route San Francisco to Manila. All three passed through San Bernardino Strait on their way to Manila. Officers on these ships were certain of the existence of the typhoons, which were quite far from the ships. The observatory received daily reports from the *Gold Star* which enabled the position of the third typhoon to be given with the daily forecasts. The positions of the fourth typhoon were not known until the observations from the ships were obtained on their arrival at Manila. The positions of the third September typhoon were as follows:

September 13, 6 a. m.: Latitude 10° N., longitude 143° E.
September 14, 6 a. m.: Latitude 11° N., longitude 142° E.
September 15, 6 a. m.: Latitude 12° N., longitude 135° E.
September 16, 6 a. m.: Latitude 13° N., longitude 132°.30 E.
September 17, 6 a. m.: Latitude 14° N., longitude 131° E.
September 18, 6 a. m.: Latitude 16° N., longitude 126° E.
September 19, 6 a. m.: Latitude 20° N., longitude 124° E.

The U. S. S. *Gold Star* was in the northwestern sector of this typhoon on its journey to Manila.

The fourth September typhoon appeared on the weather map September 15, 2 p. m. From the variations of wind and pressure at Guam, it seemed that a disturbance of some kind was passing to the southwest of the island. It was assumed that a typhoon was moving northwest, but no determinations of the center could be made until the S. S. *Silverbelle* and S. S. *Foylebank* arrived at Manila when the following positions were determined:

September 16, 6 a. m.: Latitude 13°.30 N., longitude 140° E.
September 17, 6 a. m.: Latitude 17°.30 N., longitude 135°.30 E.
September 18, 6 a. m.: Latitude 22° N., longitude 131°.30 E.
September 19, 6 a. m.: Latitude 24° N., longitude 129° E.

Thus, on September 19 two typhoons appeared, one centered about 180 miles northeast of Aparri, moving north, the other about 550 miles northeast of Aparri, moving northwest. The next day, September 20, only one typhoon appeared, about 120 miles south of Naha. It is difficult to determine whether the two typhoons combined into one, or one vanished while the other increased in intensity. It is assumed here that the so-called third typhoon vanished while the fourth continued, the following being the positions on the next few days:

September 20, 6 a. m.: Latitude 25° N., longitude 128° E.
September 21, 6 a. m.: Latitude 33° N., longitude 134° E.
September 22, 6 a. m.: Latitude 42° N., longitude 150° E.

It will be noticed, if these positions are plotted, that the typhoon recurved to the northeast on September 20.

This typhoon caused great destruction to life and property as it passed over Japan, September 21. The strong winds and heavy rains, together with large waves from the sea, did much harm in the Osaka prefecture. From Manila newspapers of September 27, the following report from Japanese authorities was quoted: 2,523 people were killed, 13,184 people were injured, 656 people missing; 34,262 buildings were destroyed and 40,274 buildings seriously damaged; 10,931 vessels of various sizes were wrecked or sunk. Of the dead, 1,665 were in the Osaka prefecture, which suffered most. Rain and disease intensified the suffering of the homeless, approximately 200,000, in the Osaka prefecture.

Fifth typhoon, September 22–29.—This typhoon first appeared southwest of Yap, September 22, moved northwest for 3 days, then crossed Balintang Channel September 25–26, moving west-northwest, changing to west-southwest in the China Sea. It entered Indo China September 28. The positions of the center day by day are given below:

September 22, 2 p.m.: Latitude 8° N., longitude 137° E.
September 23, 6 a.m.: Latitude 10° N., longitude 135° E.
September 24, 6 a.m.: Latitude 13° N., longitude 131° E.
September 25, 6 a.m.: Latitude 18° N., longitude 125° E.
September 26, 6 a.m.: Latitude 20° N., longitude 119° E.
September 27, 6 a.m.: Latitude 18° N., longitude 113° E.
September 28, 6 a.m.: Latitude 17° N., longitude 108° E.

Sixth typhoon, September 27–October 2.—This typhoon formed September 26 south of Yap and was definitely located September 27. It moved northwest, changing to west-northwest for a day, and then moved directly for northern Luzon. It crossed the Cagayan Province south of Aparri and was in the China Sea, September 30, where it moved westward to Indo China.

September 27, 6 a.m.: Latitude 7° N., longitude 137° E.
September 28, 6 a.m.: Latitude 12° N., longitude 125° E.
September 29, 6 a.m.: Latitude 16° N., longitude 124° E.
September 30, 6 a.m.: Latitude 18° N., longitude 119° E.
October 1, 6 a.m.: Latitude 18°.30 N., longitude 113° E.
October 2, 6 a.m.: Latitude 21° N., longitude 108°.30 E.

This typhoon caused much damage over the northern part of the archipelago, but it is impossible to give estimates because another typhoon passed over the same course on October 4, which typhoon will be described in the report for next month. An interesting aspect of this typhoon was the heavy winds experienced at Manila (force 6 and 7 from the southwest) but light winds (force 3) at stations close to the center, as the typhoon crossed the island September 29.

CLIMATOLOGICAL TABLES

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, September 1934

[For description of tables and charts, see Review, January, p. 37]

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	75.1	−0.6	Ozark	99	28	Valley Head	48	5	2.02	−1.30	Madison	5.39	Marion	0.35
Arizona	74.2	−.4	Quartzsite	116	3	Williams	11	26	.58	−.56	Oracle	3.19	14 stations	.00
Arkansas	71.3	−3.1	4 stations	100	[1] 11	2 stations	37	17	5.46	+2.08	Sunset	14.13	Magnolia	1.44
California	68.9	+1.4	Greenland Ranch	119	4	Twin Lakes	7	25	.33	−.14	Bowman Dam	2.96	32 stations	.00
Colorado	57.1	−.7	Las Animas	99	[1] 1	Pearl	6	27	1.11	−.19	Crested Butte	4.04	Auldhurst	T
Florida	79.7	+.2	Hastings	98	30	Cottage Hill	53	6	4.59	−2.15	Everglades	12.95	Garniers	.58
Georgia	76.4	+.8	3 stations	99	[1] 27	Blairsville	43	6	2.57	−1.10	Fair View	7.12	Columbus	.40
Idaho	55.5	−1.2	Cambridge	103	6	Prairie	10	26	.56	−.44	Malad	2.63	4 stations	.00
Illinois	65.2	−1.8	Mascoutah	95	1	6 stations	35	27	6.64	+3.01	Beardstown	10.33	Streator	3.59
Indiana	66.7	−.5	Butlerville	96	24	Marengo	34	28	5.67	+2.26	La Porte	10.19	Leavenworth	3.00
Iowa	61.0	−2.6	2 stations	94	[1] 10	Inwood	25	21	5.07	+1.26	Grundy Center	8.94	Omaha, Nebr	2.32
Kansas	65.2	−4.4	Ashland	102	12	3 stations	26	26	4.18	+1.38	Oswego	15.61	Healy	.55
Kentucky	69.2	−1.3	2 stations	95	[1] 4	Taylorsville	39	28	4.82	+1.85	Paducah (near)	10.99	Whitesburg	1.79
Louisiana	76.8	−1.2	3 stations	99	[1] 11	St. Joseph	44	18	3.57	−.34	Lafayette	8.47	New Orleans No. 1	1.16
Maryland-Delaware	68.7	+.9	Salisbury, Md	92	11	2 stations	36	[1] 28	9.33	+6.10	Washington, D. C	17.45	Friendsville, Md	3.12
Michigan	60.6	+.4	Caro	92	15	Dukes	23	23	5.14	+1.91	St. Joseph	10.12	Lansing	2.21
Minnesota	54.8	−4.2	Beardsley	93	13	Pokegama Falls	15	21	3.41	+.49	Reeds	9.07	Argyle	.67
Mississippi	75.0	−.9	2 stations	100	[1] 12	Batesville	44	[1] 17	4.00	+.90	Greenville	7.26	Biloxi	1.02
Missouri	65.6	−3.6	do	95	[1] 1	2 stations	32	27	7.39	+3.25	Farmington	15.09	Poplar Bluff	4.07
Montana	51.6	−3.0	Kenilworth (near)	98	4	Cut Bank	−4	25	1.13	−.26	Lytle	2.99	Bridger	.16
Nebraska	59.7	−4.1	9 stations	95	[1] 12	Harrison	10	26	2.51	+.37	Auburn	7.73	Bridgeport	.34
Nevada	63.3	+2.4	Las Vegas	110	[1] 4	2 stations	9	26	.27	−.15	Lewers Ranch	1.70	12 stations	.00
New England	63.4	+3.0	4 stations	90	[1] 8	Chelsea, Vt	29	1	6.93	+3.19	Norwalk, Conn	15.64	East Wareham, Mass.	1.36
New Jersey	67.3	+1.4	Camden	91	9	2 stations	35	1	9.00	+5.44	Little Falls	13.42	Camden	4.02
New Mexico	64.0	−.4	Carlsbad	105	[1] 2	Lake Alice	11	26	.91	−.69	Jemez Springs	4.27	7 stations	.00
New York	64.3	+3.0	Delhi	96	26	Dannemora	30	28	5.38	+1.96	Flushing	15.06	Penn Yan	1.78
North Carolina	72.5	+1.5	Albemarle	97	11	Banners Elk	34	2	6.12	+2.13	Hatteras	14.96	Waynesville	1.51
North Dakota	52.4	−4.0	Arnegard	95	11	Bowman	9	26	.96	−.69	Forman	2.22	Arnegard	.13
Ohio	67.8	+2.2	Circleville	95	24	Mount Vernon (near).	31	28	3.82	+.83	Lake Milton	8.53	Marion	1.88
Oklahoma	71.1	−3.1	Buffalo	101	12	Boise City	29	26	6.13	+3.05	Holdenville	12.90	Boise City	1.23
Oregon	57.4	−.1	Riddle	107	2	Fremont	5	25	.63	−.60	Kinzua	4.26	2 stations	.00
Pennsylvania	66.4	+2.3	Franklin	94	25	Kylertown	31	28	6.58	+3.12	Gettysburg	15.13	Beaver Dam	2.41
South Carolina	75.7	+1.2	6 stations	96	[1] 5	2 stations	48	[1] 2	3.55	−.55	Ceasers Head	12.59	Edgefield	.76
South Dakota	57.1	−4.3	Dowling	98	12	Lead	12	26	2.11	+.41	Flandreau	7.43	McLaughlin	.18
Tennessee	70.8	−.6	5 stations	95	[1] 11	2 stations	42	[1] 5	4.35	+1.25	Ashwood	7.93	Kingston	1.76
Texas	77.2	−.2	3 stations	105	[1] 2	Dalhart	35	26	2.79	−.08	Beaumont	12.05	3 stations	.00
Utah	60.7	+.2	St. George	105	2	Soldier Summit	13	27	.46	−.56	Wendover	1.93	do	.00
Virginia	70.0	+1.3	Diamond Springs	93	10	Burkes Garden	36	2	6.83	+3.75	Washington, D. C	17.45	Mendota	2.14
Washington	57.0	−1.2	Wahluke	104	4	Newport	11	25	1.77	−.06	Mount Baker Lodge	8.69	White Swan	.16
West Virginia	69.0	+2.5	4 stations	94	25	2 stations	33	3	4.19	+1.26	Martinsburg	7.19	Bens Run	1.86
Wisconsin	58.0	−2.3	Fond du Lac	90	25	Mellen	22	30	6.05	+2.37	Rest Lake	10.44	Green Bay	1.91
Wyoming	51.3	−3.2	Pine Bluffs	96	12	Kirtley	6	26	1.14	−.02	Rockypoint	3.20	Kendall	.10
Alaska (August)	54.0	.0	2 stations	90	[1] 5	Allakaket	20	22	3.97	+.58	Cordova	12.80	Barrow	T
Hawaii	75.9	+1.3	do	95	[1] 1	Kanalohuluhulu	48	3	7.27	+1.27	Puhonua	31.40	2 stations	.00
Puerto Rico	78.5	−.6	San German	96	15	Guineo Reservoir	49	4	6.70	−1.34	Maricao	16.40	Mona Island	1.30

[1] Other dates also.

TABLE 1.—*Climatological data for Weather Bureau stations, September 1934*

[Compiled by Annie E. Small]

District and station	Elevation of instruments			Pressure			Temperature of the air											Mean wet thermometer	Mean temperature of the dew-point	Mean relative humidity	Precipitation			Wind											
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station, reduced to mean of 24 hours	Sea level, reduced to mean of 24 hours	Departure from normal	Mean max. + mean min. ÷ 2	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range					Total	Departure from normal	Days with 0.01, or more	Total movement	Prevailing direction	Maximum velocity: Miles per hour	Maximum velocity: Direction	Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month
	Ft.	Ft.	Ft.	In.	In.	In.	°F.	°F.	°F.		°F.	°F.		°F.	°F.	°F.	°F.			%	In.	In.		Miles							0–10	In.	In.
New England							64.2	+3.3												87	5.18	+2.1										6.9		
Eastport	76	67	85	30.08	30.17	+0.14	58.4	+2.6	73	10	64	47	29	53	16	56	54	90	3.65	+0.9	12	5,504	sw.	32	se.	18	9	4	17	6.7	0.0	0.0
Greenville, Me	1,070	6	40	28.99	30.15	------	59.2	------	82	26	67	38	29	51	29	----	----	----	4.25	------	14	3,057	se.	21	------	27	7	8	15	----	.0	.0
Portland, Me	103	82	117	30.02	30.14	+.09	62.8	+3.2	81	9	69	48	14	57	22	59	57	86	5.77	+2.7	16	5,672	s.	33	se.	9	12	4	14	5.9	.0	.0
Concord	289	60	----	------	------	------	63.2	+3.9	83	26	72	41	1	54	31	----	----	----	6.74	+3.3	12	------	nw.	----	------	----	8	7	15	----	.0	.0
Burlington	403	11	48	29.66	30.09	+.03	63.6	+3.3	84	26	72	42	30	56	29	----	----	----	4.05	+.6	11	7,146	s.	32	s.	27	9	7	14	6.3	.0	.0
Northfield	876	12	60	29.19	30.13	+.07	61.0	+4.9	82	25	71	36	1	51	35	57	55	87	3.45	+.4	13	5,090	s.	32	sw.	27	4	8	18	7.6	.0	.0
Boston	124	336	360	29.99	30.13	+.06	64.6	+1.4	81	9	70	52	2	59	20	61	60	88	5.67	+2.5	15	8,277	e.	45	se.	9	4	10	16	7.3	.0	.0
Nantucket	12	14	90	30.10	30.11	+.03	66.8	+4.0	81	7	73	54	29	61	19	63	62	90	3.37	+.9	14	8,853	e.	30	sw.	30	8	8	14	6.7	.0	.0
Block Island	26	11	46	30.08	30.10	+.02	66.4	+3.0	76	10	71	56	1	62	14	64	62	91	2.38	−.3	13	9,313	e.	40	se.	8	6	9	15	6.8	.0	.0
Providence	160	215	251	29.95	30.12	+.05	66.4	+3.2	84	9	74	47	2	59	27	62	60	84	4.13	+1.0	17	6,882	se.	43	se.	9	6	8	16	7.0	.0	.0
Hartford	159	70	104	------	30.11	+.04	66.0	+4.3	83	10	74	47	1	58	27	----	----	----	9.06	+5.6	16	4,254	s.	----	------	----	4	7	19	----	.0	.0
New Haven	106	74	153	30.00	30.11	+.04	66.5	+3.0	84	9	74	49	1	59	23	62	60	83	8.76	+5.2	13	6,216	n.	37	se.	8	4	7	19	7.4	.0	.0

TABLE 1.—*Climatological data for Weather Bureau stations, September 1934*—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station, reduced to mean of 24 hours	Pressure: Sea level, reduced to mean of 24 hours	Pressure: Departure from normal	Temperature of the air: Mean max. + mean min. ÷ 2	Temperature: Departure from normal	Temperature: Maximum	Temperature: Date	Temperature: Mean maximum	Temperature: Minimum	Temperature: Date	Temperature: Mean minimum	Temperature: Greatest daily range	Mean wet thermometer	Mean temperature of the dew-point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Days with 0.01, or more	Wind: Total movement	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month
	Ft.	Ft.	Ft.	In.	In.	In.	°F.	°F.	°F.		°F	°F.		°F.	°F.	°F.	°F.	%	In.	In.		Miles								0-10	In.	In.
Middle Atlantic States							69.5	+2.4										83	8.31	+5.1										6.9		
Albany	97	107	115	30.01	30.11	+0.04	66.2	+3.1	85	26	75	47	1	58	27	61	59	82	5.82	+2.7	14	4,995	s.	23	s.	27	5	10	15	6.7	0.0	0.0
Binghamton	871	60	68	29.17	30.10	+.03	64.8	+3.5	84	4	74	40	28	55	34	----	----	----	6.02	+2.9	10	3,585	e.	18	sw.	27	2	8	20	8.0	.0	.0
New York	314	415	454	29.76	30.09	+.01	68.2	+1.4	83	9	74	51	19	62	20	63	60	81	10.19	+6.8	12	7,683	e.	65	n.	8	8	8	14	6.5	.0	.0
Bellefonte	1,050	5	42	28.98	30.08	----	63.4	----	82	4	73	39	28	54	32	59	58	87	6.14	----	14	----	se.	----	----	----	4	12	14	7.0	.0	.0
Harrisburg	374	94	104	29.69	30.08	.00	67.5	+1.7	84	9	75	49	19	60	24	62	59	80	8.96	+5.9	14	4,324	e.	20	w.	27	8	11	11	6.3	.0	.0
Philadelphia	114	123	367	29.98	30.10	+.02	70.8	+2.8	85	9	78	53	19	64	23	64	61	78	6.27	+3.1	15	7,438	e.	36	ne.	8	6	8	16	6.8	.0	.0
Reading	323	283	306	29.74	30.08	----	67.3	+1.0	84	4	75	48	19	60	29	62	60	82	8.03	+4.8	13	7,393	se.	35	e.	8	8	8	14	6.6	.0	.0
Scranton	805	72	104	29.24	30.10	+.03	65.8	+2.9	85	9	75	43	28	57	33	60	57	80	4.40	+1.2	14	3,911	n.	20	sw.	27	4	14	12	6.6	.0	.0
Atlantic City	52	37	172	30.03	30.09	+.02	69.6	+2.8	81	10	74	51	19	65	23	66	64	85	5.54	+2.9	12	10,224	e.	60	nw.	8	5	10	15	6.8	.0	.0
Sandy Hook	22	10	57	30.07	30.09	----	69.0	----	82	10	74	54	19	64	17	65	63	84	10.00	+6.6	14	8,576	e.	65	n.	8	6	9	15	7.0	.0	.0
Trenton	190	88	106	29.89	30.09	----	68.2	+1.3	85	9	76	48	19	60	27	63	61	84	10.49	+7.1	15	5,837	n.	35	n.	8	6	9	15	6.8	.0	.0
Baltimore	123	100	215	29.95	30.08	.00	71.3	+2.8	88	10	78	53	19	65	24	65	63	80	12.41	+9.0	13	6,642	ne.	32	se.	16	8	6	16	6.5	.0	.0
Washington	112	62	85	29.96	30.08	.00	70.6	+2.5	87	27	78	52	1	63	25	65	63	83	17.45	+14.2	15	4,010	nw.	23	nw.	27	7	7	16	6.6	.0	.0
Cape Henry	18	8	54	30.04	30.06	----	73.9	+2.1	88	27	78	65	27	69	23	70	68	86	7.25	+4.4	9	8,551	se.	38	ne.	8	4	9	17	7.2	.0	.0
Lynchburg	686	5	----	29.35	30.09	+.01	71.8	+2.8	91	10	82	48	2	61	32	----	----	----	7.37	+4.1	14	----	n.	----	----	----	5	21	4	----	.0	.0
Norfolk	91	170	205	29.98	30.08	+.02	74.6	+3.0	90	10	81	64	18	69	21	69	68	87	6.80	+3.6	12	7,840	ne.	30	s.	16	2	6	22	8.2	.0	.0
Richmond	144	11	52	29.94	30.08	+.01	72.3	+1.8	90	11	80	55	1	65	24	67	66	88	5.92	+2.7	13	4,956	ne.	21	s.	16	6	8	16	6.7	.0	.0
Wytheville	2,304	49	55	----	30.05	+.02	66.4	+2.8	83	11	77	45	2	56	35	----	----	84	5.45	+2.2	11	2,912	e.	20	w.	27	9	10	11	----	.0	.0
South Atlantic States							76.2	+2.6										85	5.12	+0.8										5.9		
Asheville	2,253	89	104	27.77	30.07	.00	69.4	+4.4	87	12	81	46	3	58	36	62	60	83	3.90	+.9	15	4,343	s.	18	s.	29	6	15	9	5.7	.0	0.0
Charlotte	779	63	86	29.24	30.06	−.01	74.8	+3.3	91	12	83	55	1	66	25	68	65	80	4.89	+1.9	7	4,310	ne.	18	sw.	4	6	14	10	6.1	.0	.0
Greensboro	886	6	56	29.13	30.08	----	71.6	----	89	12	81	49	1	63	27	66	65	91	8.75	----	15	4,762	ne.	34	n.	12	6	15	9	6.1	.0	.0
Hatteras	11	5	50	30.03	30.04	−.02	76.6	+2.1	85	30	81	68	27	72	14	73	72	85	14.96	+10.4	15	7,933	ne.	65	nw.	8	7	10	13	6.2	.0	.0
Raleigh	376	103	146	29.66	30.05	−.02	73.8	+2.7	91	11	81	55	1	66	25	69	67	87	6.12	+2.5	14	5,453	ne.	22	se.	12	4	9	17	7.4	.0	.0
Wilmington	72	73	107	29.98	30.05	.00	76.0	+2.9	88	28	82	61	1	70	21	72	70	89	7.06	+2.6	17	5,156	n.	27	w.	30	5	10	15	6.9	.0	.0
Charleston	48	11	92	29.99	30.04	.00	78.2	+1.6	91	17	84	63	1	72	20	73	72	85	4.04	−.5	7	6,624	s.	30	se.	15	3	15	12	6.4	.0	.0
Columbia, S. C.	351	41	57	29.68	30.05	.00	77.0	+2.5	91	11	86	58	1	68	25	70	68	82	1.97	−1.5	9	4,394	ne.	21	se.	14	6	18	6	5.3	.0	.0
Augusta	182	62	77	29.84	30.03	−.02	78.0	+2.7	92	7	88	60	1	68	28	70	68	78	2.04	−1.3	7	3,615	se.	18	ne.	14	6	19	5	5.2	.0	.0
Savannah	65	73	152	29.96	30.03	.00	79.4	+3.2	93	30	88	61	1	71	25	72	71	85	4.20	−1.2	9	5,983	n.	21	se.	14	10	13	7	5.1	.0	.0
Jacksonville	43	86	110	29.98	30.03	+.03	79.2	+.9	93	8	87	66	3	72	22	73	71	85	1.99	−5.4	9	4,716	e.	20	e.	13	10	16	4	4.7	.0	.0
Florida Peninsula							81.4	+0.7										80	8.01	+0.9										6.0		
Key West	22	10	64	29.94	29.96	+.02	82.4	+.2	91	4	88	72	21	77	17	77	75	79	6.72	.0	22	6,367	e.	21	sw.	15	4	18	8	5.9	.0	0.0
Miami	25	124	168	29.97	30.00	+.03	81.0	+.9	93	7	86	71	15	76	18	75	73	79	9.69	+1.4	20	6,373	e.	29	w.	15	1	16	13	7.2	.0	.0
Tampa	35	88	197	29.97	30.00	+.03	80.8	+.9	93	9	89	69	21	73	21	74	72	83	7.62	+1.2	13	6,421	e.	32	e.	11	11	12	7	4.8	.0	.0
Titusville	43	5	36	29.96	30.01	----	79.0	----	90	30	87	65	3	71	22	----	----	----	4.59	----	15	----	e.	----	----	----	8	16	6	----	.0	.0
East Gulf States							75.9	+0.3										77	2.32	−1.9										4.4		
Atlanta	1,173	128	135	28.83	30.05	.00	73.8	+1.4	89	11	83	54	5	64	25	65	62	73	4.68	+1.7	10	5,311	nw.	24	se.	22	11	13	6	4.8	.0	0.0
Macon	370	79	87	29.65	30.04	+.01	76.0	+1.2	92	12	87	57	3	65	31	68	65	77	2.14	−1.0	6	3,795	n.	15	sw.	4	9	18	3	4.5	.0	.0
Thomasville	273	49	58	29.76	30.04	+.03	78.0	+1.2	95	28	89	58	1	67	29	71	69	81	1.61	−3.3	9	----	e.	----	----	----	7	12	11	----	.0	.0
Apalachicola	35	11	51	29.98	30.02	----	79.1	----	90	4	86	68	1	72	20	72	----	----	3.76	−4.3	8	----	n.	----	----	----	11	13	6	----	.0	.0
Pensacola	56	149	185	29.97	30.03	+.04	77.4	−.6	87	10	84	64	6	71	19	71	68	77	.79	−4.5	5	7,158	ne.	25	e.	14	16	13	1	3.8	.0	.0
Anniston	741	9	----	----	----	----	73.0	+1.7	90	11	84	50	5	62	31	----	----	----	2.67	−1.0	6	----	sw.	----	----	----	17	8	5	----	.0	.0
Birmingham	700	11	48	29.29	30.04	+.01	74.0	−.8	90	24	84	54	5	64	28	66	63	78	1.53	−1.8	5	3,625	se.	24	sw.	12	11	13	6	4.5	.0	.0
Mobile	57	125	161	29.95	30.01	+.01	77.2	−.9	91	12	85	61	6	69	22	70	68	79	.95	−4.0	8	5,428	n.	26	se.	14	13	14	3	4.3	.0	.0
Montgomery	218	92	105	29.80	30.04	+.02	76.8	+.5	93	12	87	58	8	66	27	68	64	74	1.32	−1.7	6	3,824	n.	18	sw.	22	13	11	6	4.3	.0	.0
Meridian	375	67	92	29.64	30.03	+.01	74.9	+.4	94	12	86	54	5	64	30	67	65	80	3.63	+.7	9	3,206	e.	18	sw.	26	13	14	3	4.0	.0	.0
Vicksburg	247	65	73	29.77	30.02	.00	75.1	−1.2	92	13	85	55	17	66	27	66	64	76	3.64	+.8	11	4,682	se.	20	s.	28	13	9	8	4.7	.0	.0
New Orleans	53	76	84	29.96	30.01	+.03	79.1	−.1	91	29	86	66	5	72	20	72	69	78	1.16	−3.9	8	4,294	se.	27	se.	22	10	14	6	5.1	.0	.0
West Gulf States							76.6	−0.5										74	4.71	+1.0										4.6		
Shreveport	249	92	227	29.73	30.00	.00	77.0	+.1	94	13	87	58	17	66	30	67	62	69	1.51	−1.3	7	7,502	s.	36	ne.	29	16	10	4	3.8	.0	0.0
Bentonville	1,303	11	44	28.62	29.98	−.04	66.5	−2.4	88	19	78	43	27	56	32	----	----	----	7.12	+3.3	11	4,251	s.	20	n.	13	11	9	10	----	.0	.0
Fort Smith	457	79	94	29.50	29.98	−.03	70.8	−3.2	93	13	81	51	16	61	30	63	59	73	10.49	+7.5	11	5,577	e.	34	w.	3	15	8	7	4.6	.0	.0
Little Rock	357	94	102	29.63	30.00	−.03	72.1	−2.0	95	19	82	52	17	62	30	63	59	71	4.00	+.8	7	5,475	s.	21	w.	14	15	6	9	4.5	.0	.0
Austin	605	136	148	29.33	29.96	----	79.8	+1.5	96	1	90	56	17	69	34	69	64	68	1.07	−2.3	9	6,320	s.	25	s.	28	6	18	6	5.7	.0	.0
Brownsville	57	88	96	29.86	29.92	----	80.7	+.1	92	5	88	66	17	74	25	74	73	85	7.49	+2.0	13	6,633	se.	32	ne.	30	10	14	6	5.1	.0	.0
Corpus Christi	20	11	78	29.95	29.97	+.02	80.2	+.5	90	3	86	66	5	75	18	74	72	80	6.36	+1.9	12	7,641	se.	28	ne.	30	13	10	7	4.7	.0	.0
Dallas	512	220	227	29.42	29.96	----	75.8	----	95	2	86	54	16	66	30	66	60	66	6.07	+3.4	5	8,839	se.	36	se.	9	15	8	7	4.1	.0	.0
Fort Worth	670	106	114	29.28	29.98	−.01	76.8	−.1	98	2	88	55	16	66	35	----	----	----	4.90	+2.4	5	7,360	s.	30	se.	9	15	8	7	3.9	.0	.0
Galveston	54	106	114	29.93	29.99	+.01	79.8	−.3	87	1	84	67	16	76	13	73	71	77	3.04	−2.5	11	7,318	se.	25	n.	30	14	12	4	3.9	.0	.0
Houston	138	292	314	29.84	29.99	----	78.7	−.3	93	2	87	59	16	70	24	----	----	----	3.57	−.5	10	7,931	se.	29	ne.	30	10	13	7	4.8	.0	.0
Palestine	510	64	72	29.47	29.99	.00	76.2	−.8	95	2	86	54	16	66	30	68	65	76	3.74	+.8	8	5,461	s.	22	se.	11	10	12	8	4.8	.0	.0
Port Arthur	34	58	66	29.95	29.99	----	79.1	----	90	26	86	62	16	72	22	72	69	79	4.59	−.2	12	5,122	e.	31	nw.	3	12	13	5	4.4	.0	.0
San Antonio	693	242	301	29.23	29.93	−.03	80.2	+1.2	95	1	90	60	16	70	28	70	66	71	1.95	−1.1	7	8,312	se.	41	e.	10	6	15	9	5.4	.0	.0
Ohio Valley and Tennessee							69.6	+0.8										78	4.16	+1.2										5.5		
Chattanooga	762	71	214	29.25	30.05	−0.01	73.4	+1.2	92	11	84	55	5	63	29	65	62	77	2.81	−0.3	10	4,117	w.	27	nw.	12	11	17	2	4.4	0.0	0.0
Knoxville	995	66	84	29.01	30.05	−.01	72.8	+2.2	89	14	84	53	5	62	30	65	62	79	2.92	+.2	10	3,057	w.	17	w.	29	8	16	6	4.8	.0	.0
Memphis	399	78	86	29.59	30.01	−.02	72.4	−1.2	91	20	81	54	17	64	26	64	60	72	3.22	+.4	7	5,061	sw.	22	ne.	15	9	12	9	5.4	.0	.0
Nashville	546	168	191	29.48	30.06	.00	70.6	−1.2	88	20	80	52	18	61	29	63	60	77	4.52	+1.1	14	5,480	s.	33	nw.	11	4	13	13	6.6	.0	.0
Lexington	989	5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Louisville	525	188	234	29.47	30.05	−.01	69.4	−1.1	89	25	79	47	28	60	29	62	58	76	3.07	+.3	15	6,023	s.	31	n.	29	8	15	7	5.0	.0	.0
Evansville	431	76	116	29.56	30.03	−.03	68.7	−2.0	89	25	78	48	28	60	28	62	59	78	8.14	+4.8	16	5,637	s.	30	sw.	3	9	9	12	5.9	.0	.0
Indianapolis	822	194	230	29.16	30.04	−.02	66.5	−.4	89	25	76	45	27	57	27	60	56	74	4.54	+1.1	15	6,535	s.	31	n.	28	6	14	10	6.0	.0	.0
Terre Haute	575	96	129	29.40	30.01	----	66.6	----	88	25	76	46	27	57	29	60	58	81	7.08	+3.5	15	5,753	s.	30	sw.	1	7	10	13	6.1	.0	.0
Cincinnati	627	11	51	29.37	30.04	−.03	69.8	+2.7	92	25	81	44	28	59	34	61	57	75	3.58	+.9	12	4,504	s.	19	s.	3	7	14	9	5.6	.0	.0
Columbus	822	216	230	29.18	30.04	−.03	68.6	+2.1	89	25	78	45	28	59	27	61	57	74	3.36	+.8	11	6,342	s.	29	sw.	11	9	16	5	5.3	.0	.0
Elkins	1,947	59	78	28.08	30.11	+.03	64.6	+1.6	83	26	77	39	3	52	38	58	56	89	3.82	+.7	11	2,978	se.	28	w.	29	7	10	13	6.3	.0	.0
Parkersburg	637	77	84	29.43	30.08	.00	69.6	+2.3	90	24	81	45	28	58	34	62	60	79	3.29	+.5	12	3,642	se.	18	sw.	27	10	13	7	4.9	.0	.0
Pittsburgh	842	353	410	29.17	30.06	−.02	68.4	+2.0	89	25	78	44	28	59	31	61	58	77	3.78	+1.2	11	5,296	se.	36	nw.	27	8	16	6	5.0	.0	.0

TABLE 1.—*Climatological data for Weather Bureau stations, September 1934*—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station, reduced to mean of 24 hours	Pressure: Sea level, reduced to mean of 24 hours	Pressure: Departure from normal	Temperature of the air: Mean max. + mean min. ÷ 2	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Mean wet thermometer	Mean temperature of the dew-point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Days with 0.01, or more	Wind: Total movement	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month
	Ft.	Ft.	Ft.	In.	In.	In.	°F	°F	°F		°F	°F		°F	°F	°F	°F	%	In.	In.		Miles								0–10	In.	In.
Lower Lake region							66.3	+3.4										78	3.43	+0.5										6.2		
Buffalo	768	243	280	29.22	30.04	−0.02	65.8	+3.4	87	24	72	45	30	59	24	60	57	79	3.57	+.6	13	8,582	s.	47	sw.	27	8	9	13	6.2	0.0	0.0
Canton	448	10	61	29.58	30.05		63.5	+4.2	87	3	72	39	30	55	30				3.11	−.2	13	5,248	sw.	29	w.	27	4	11	15	7.0	.0	.0
Ithaca	836	77	100	29.18	30.08		65.0	+3.4	86	25	75	39	28	56	33	59	57	82	4.96	+1.9	12	6,503	se.	22	s.	12	4	12	14	6.8	.0	.0
Oswego	335	71	85	29.70	30.06	.00	65.3	+4.1	87	4	73	45	28	58	29	59	56	79	2.98	+.3	10	6,711	se.	26	w.	27	6	6	18	6.9	.0	.0
Rochester	523	86	102	29.50	30.06	.00	66.9	+4.5	88	4	75	46	28	59	28	60	56	75	4.56	+2.1	13	5,138	s.	22	sw.	27	9	5	16	6.3	.0	.0
Syracuse	596	65	79	29.44	30.08	+.01	66.6	+5.0	88	26	75	45	30	58	32				4.71	+2.0	11	4,792	s.	28	sw.	27	4	12	14	7.0	.0	.0
Erie	714	130	166	29.28	30.04	−.02	67.6	+4.0	87	15	76	47	28	60	27	61	58	79	2.93	−.5	12	8,662	s.	30	s.	1	10	10	10	5.4	.0	.0
Cleveland	762	267	337	29.22	30.04	−.02	67.1	+3.2	85	2	74	47	28	60	25	60	57	76	2.12	−1.2	13	8,092	se.	35	n.	7	9	11	10	5.6	.0	.0
Sandusky	629	5	67	29.36	30.03	−.03	68.0	+2.7	90	26	77	42	28	59	31				2.57	−.4	12	5,545	s.	21	nw.	27	4	16	10	6.4	.0	.0
Toledo	628	79	87	29.36	30.03	−.03	67.1	+2.7	86	21	76	45	28	59	28	60	57	77	3.16	+.4	13	5,533	sw.	24	sw.	26	7	16	7	4.9	.0	.0
Fort Wayne	857	69	84	29.10	30.02		65.8	+.3	85	13	74	43	28	57	27	59	56	77	3.56	+.5	13	5,420	s.	30	sw.	15	7	11	12	6.1	.0	.0
Detroit	626	5	78	29.34	30.02	−.04	66.4	+2.9	87	26	76	43	30	57	28	60	57	80	2.89	.0	14	6,025	se.	29	sw.	4	7	13	10	6.1	.0	.0
Upper Lake region							58.8	−0.8										85	3.85	+0.5										7.1		
Alpena	609	13	89	29.35	30.01	−.02	58.2	+.6	83	25	65	38	30	51	30	55	53	89	4.12	+1.1	14	6,937	se.	32	sw.	2	5	10	15	7.1	.0	.0
Escanaba	612	54	60	29.33	29.99	−.02	54.5	−2.6	70	25	61	32	30	48	25	52	50	87	2.93	−.4	17	6,717	s.	27	n.	21	4	10	16	7.2	.0	.0
Grand Rapids	707	70	244	29.23	30.00	−.05	64.1	+1.4	86	25	73	44	30	56	33	58	56	81	5.76	+2.2	16	6,976	s.	40	sw.	15	6	7	17	6.9	.0	.0
Lansing	878	6	88	29.07	30.01		63.0	+1.6	84	26	72	39	17	54	28	58	57	86	2.21	−.7	16	5,549	s.	22	w.	26	6	9	15	6.6	.0	.0
Ludington	637	5	54																													
Marquette	734	77	111	29.18	29.99	−.01	54.0	−3.5	79	14	61	36	29	47	26	50	49	86	6.59	+3.3	18	6,100	s.	27	nw.	15	2	10	18	7.8	.0	.0
Sault Sainte Marie	614	11	52	29.31	30.00	−.02	56.3	+.8	81	25	64	34	30	48	33	52	50	85	3.54	−.6	17	4,836	se.	21	sw.	26	4	9	17	7.3	.0	.0
Chicago	673	7	131	29.28	30.00	−.04	64.2	−1.0	88	20	71	43	27	57	34	59	57	81	4.03	+.9	15	6,693	s.	22	sw.	15	5	9	16	7.0	.0	.0
Green Bay	617	109	141	29.32	29.98	−.04	59.1	−1.3	84	25	68	37	30	50	29	54	52	82	1.91	−1.6	9	6,962	s.	28	n.	21	6	5	19	7.3	.0	.0
Milwaukee	681	97	221	29.26	29.99	−.04	61.3	−1.2	85	25	68	42	27	54	32	56	54	81	4.33	+1.0	10	8,276	s.	30	n.	20	7	7	16	6.7	.0	.0
Duluth	1,133	5	47	28.74	29.97	−.01	52.8	−2.3	70	7	61	31	27	45	32	49	47	87	3.10	−.2	15	7,197	ne.	31	sw.	27	5	6	19	7.1	.0	.0
North Dakota							52.3	−4.9										68	0.85	−0.7										5.8		
Moorhead, Minn.	940	50	58	28.94	29.96	.00	53.5	−4.7	89	13	65	26	21	42	39	47	42	72	.93	−1.3	11	6,568	s.	21	n.	13	6	12	12	6.3	T	.0
Bismarck	1,674	8	57	28.17	29.95	+.01	52.6	−5.5	89	7	65	25	15	41	41	46	39	67	.54	−.7	8	6,792	nw.	30	se.	8	8	10	12	6.1	2.5	.0
Devils Lake	1,478	11	44	28.38	29.96	+.02	51.0	−4.9	85	13	62	24	26	40	40	44	38	69	.73	−.9	8	6,945	nw.	29	nw.	13	7	9	14	6.2	1.5	.0
Grand Forks	833	12	67				52.6		88	13	64	24	21	41	43	46			.86		7		nw.	27	nw.	12	5	9	16		T	.0
Williston	1,878	41	48	27.98	29.96	+.03	52.2	−4.4	92	7	63	24	15	41	44	44	37	66	1.19	+.1	12	6,208	n.	25	ne.	13	14	8	8	4.8	2.1	.0
Upper Mississippi Valley							62.5	−2.7										81	6.36	+2.7										6.2		
Minneapolis	918	102	208	28.98	29.96		57.2	−4.2	86	13	66	33	21	48	33	52	48	74	4.86	+1.7	17	7,574	nw.	32	nw.	13	8	8	14	6.3	.0	.0
La Crosse	714	11	48	29.20	29.96	−.05	59.4	−2.8	84	1	69	35	27	50	31	55	53	87	9.04	+5.0	14	3,364	s.	14	sw.	27	5	9	16	7.0	.0	.0
Madison	974	70	78	28.94	29.97	−.06	60.6	−1.8	84	25	69	37	27	52	31	56	53	84	4.25	+.5	14	5,738	s.	21	n.	21	7	6	17	6.8	.0	.0
Charles City	1,015	10	51	28.90	29.98	−.02	58.0	−3.0	82	24	68	33	27	48	33	53	50	82	7.47	+3.8	14	4,880	se.	20	se.	24	11	5	14	5.7	.0	.0
Davenport	606	66	161	29.34	29.99	−.04	63.4	−2.2	86	25	72	38	27	54	32	58	55	81	7.91	+4.3	16	6,153	sw.	24	nw.	20	11	2	17	6.3	.0	.0
Des Moines	861	5	99	29.07	29.97	−.05	61.4	−4.2	88	11	72	35	27	51	33	55	52	77	6.20	+2.5	12	6,590	se.	25	nw.	15	10	5	15	6.1	.0	.0
Dubuque	700	60	79	29.23	29.98	−.05	61.9	−2.1	86	25	71	38	27	53	31	56	53	79	6.54	+2.5	14	4,122	s.	18	sw.	1	8	6	16	6.4	.0	.0
Keokuk	614	64	78	29.33	30.00	−.03	64.4	−3.1	87	11	74	38	27	55	29	58	55	77	6.40	+2.6	15	5,154	s.	19	s.	25	11	6	13	5.7	.0	.0
Cairo	358	87	93	29.64	30.01	−.04	68.6	−2.9	89	20	77	52	27	60	28	62	60	82	6.02	+3.1	13	5,438	s.	25	nw.	13	7	8	15	6.4	.0	.0
Peoria	609	11	45	29.35	30.02	−.02	63.8	−.5	88	20	73	39	27	54	36	58	57	87	6.57	+2.5	13	4,116	s.	14	sw.	1	12	7	11	5.3	.0	.0
Springfield, Ill.	636	5	191	29.32	30.00	−.05	65.2	−2.4	91	20	74	43	27	56	38	60	57	82	5.24	+1.6	11	7,258	s.	34	w.	26	7	10	13	6.2	.0	.0
St. Louis	568	265	303	29.40	30.00	−.04	66.6	−3.5	91	20	75	45	27	58	37	60	57	79	5.86	+2.4	15	7,983	s.	36	sw.	12	9	8	13	6.0	.0	.0
Missouri Valley							62.6	−3.9										71	4.90	+1.5										4.8		
Columbia, Mo.	784	6	84	29.16	29.98	−.05	65.2	−3.0	87	11	75	38	27	56	28				8.31	+4.0	16	5,386	se.	28	w.	11	10	9	11	5.3	.0	.0
Kansas City	750	32	45	29.17	29.97	−.05	65.8	−3.1	92	11	77	37	27	55	35	58	55	76	6.44	+1.9	14	6,613	s.	27	nw.	20	10	11	9	5.2	.0	.0
St. Joseph	967	11	49	28.94	29.97		63.5		91	11	74	38	27	53	31	57	53	76	7.05	+3.2	14	5,821	se.	28	nw.	2	11	7	12	5.2	.0	.0
Springfield, Mo.	1,324	98	104	28.61	30.00	−.03	65.8	−3.1	87	11	76	41	27	56	31	59	55	77	6.50	+3.0	13	6,778	se.	27	w.	20	12	9	9	4.7	.0	.0
Iola	984	11	50	28.95	29.98	−.03	67.3	−2.5	93	1	80	36	27	55	39				7.62	+2.7	12		n.				13	7	10		.0	.0
Topeka	987	65	87				65.0	−3.7	91	11	76	40	27	54	36				4.94	+1.1	12	6,701	s.	29	s.	24	13	10	7	4.4	.0	.0
Lincoln	1,189	11	81	28.70	29.95	−.04	62.4	−4.0	92	19	74	36	26	51	35	54	49	70	4.47	+1.5	9	7,457	s.	32	sw.	10	12	9	9	4.4	.0	.0
Omaha	1,105	170	200	28.80	29.97	−.03	62.0	−4.8	89	19	73	36	26	51	33	54	49	70	2.32	−.9	10	8,569	s.	31	n.	20	14	6	10	4.7	.0	.0
Valentine	2,598	47	54	27.28	29.98	+.02	56.4	−6.1	90	13	70	23	26	43	41	47	40	63	1.31	.0	8	7,050	n.	29	sw.	8	12	10	8	5.0	T	.0
Sioux City	1,138	64	106	28.75	29.96	−.02	59.4	−4.0	89	19	70	33	21	48	37	52	48	72	3.43	+.4	9	7,055	se.	25	se.	9	13	6	11	4.9	.0	.0
Huron	1,306	60	74	28.57	29.97	+.01	56.9	−4.4	90	13	69	28	21	45	43	48	42	65	1.52	.0	10	7,309	se.	22	n.	14	14	5	11	4.6	.0	.0
Northern Slope							53.1	−4.3										59	1.32	+0.1										5.2		
Billings	3,140	4																														
Havre	2,505	11	67	27.36	30.00	+.06	51.4	−5.0	88	6	64	20	25	39	47	43	36	65	1.74	+.4	11	6,259	sw.	25	sw.	27	7	15	8	5.6	8.7	.0
Helena	4,124	85	111	25.82	30.00	+.03	51.8	−4.8	85	6	63	19	24	40	37	42	33	54	.63	−.6	9	6,400	sw.	30	sw.	26	6	10	14	6.5	6.4	.0
Kalispell	2,973	48	56		30.01	+.05	51.2	−2.3	88	6	63	17	25	40	42			61	.71	−.5	7	4,394	w.	23	w.	12	6	8	16		T	.0
Miles City	2,371	48	55	27.47	30.02	+.07	54.7	−6.5	92	7	67	26	25	42	42	44	35	56	1.04	.0	5	4,763	s.	24	n.	13	9	10	11	5.8	3.5	.0
Rapid City	3,259	50	58	26.61	30.01	+.05	55.6	−4.8	94	12	69	19	26	42	41	46	37	56	.38	−.8	9	6,617	n.	28	n.	5	13	8	9	4.8	.4	.0
Cheyenne	6,094	50	71	24.04	29.96	.00	53.4	−3.6	84	1	68	21	25	39	43	41	31	54	.72	−.5	5	6,849	w.	29	nw.	29	11	13	6	4.7	1.2	.0
Lander	5,372	60	68	24.67	29.99	+.03	53.1	−2.6	88	4	68	21	26	38	45	43	33	57	1.67	+.8	7	3,698	sw.	37	sw.	11	11	12	7	4.6	4.3	.0
Sheridan	3,790	10	47	26.11	30.01		51.8		92	7	67	24	26	37	50	42	33	62	1.90	+.6	10	3,589	nw.	21	nw.	13	12	7	11	5.1	9.0	.0
Yellowstone Park	6,241	11	48		30.03	+.06	47.2	−6.2	81	6	60	15	24	34	43			55	.95	−.3	8	5,956	sw.	28	sw.	12	10	7	13		8.5	.0
North Platte	2,821	11	51	27.05	29.96	−.01	59.6	−2.5	91	13	74	26	26	46	43	50	44	67	3.50	+2.2	6	6,125	n.	25	n.	17	15	7	8	4.2	T	.0
Middle Slope							65.2	−2.8										60	2.57	+0.5										4.2		
Denver	5,292	106	113	24.75	29.94	−0.02	60.7	−2.2	89	4	75	30	25	46	42	46	33	46	.50	−0.5	6	5,607	s.	35	n.	14	12	12	6	4.1	T	0.0
Pueblo	4,685	80	86	25.30	29.93	−.03	64.0	−.6	91	19	80	33	27	48	49	48	35	44	.34	−.4	5	5,105	e.	27	ne.	14	12	15	3	4.0	.0	.0
Concordia	1,392	50	58	28.52	29.99	.00	64.6	−3.7	94	19	77	35	26	52	38	55	50	66	1.82	−.8	11	6,604	s.	25	n.	2	13	10	7	4.4	.0	.0
Dodge City	2,509	10	86	27.40	29.97	−.01	65.6	−3.8	98	12	79	33	26	52	36	55	48	62	2.05	+.2	7	9,962	s.	35	ne.	20	16	11	3	3.1	.0	.0
Wichita	1,358	85	93	28.54	29.96	−.04	66.4	−4.2	93	12	78	40	26	55	38	58	52	68	4.25	+1.2	9	8,022	s.	32	nw.	2	13	9	8	4.6	.0	.0
Oklahoma City	1,214	10	47	28.70	29.96	−.03	70.2	−2.6	91	20	81	43	27	60	40	61	58	72	6.45	+3.4	9	7,214	s.	26	nw.	2	10	15	5	4.7	.0	.0

TABLE 1.—*Climatological data for Weather Bureau stations, September 1934*—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station, reduced to mean of 24 hours	Pressure: Sea level, reduced to mean of 24 hours	Pressure: Departure from normal	Temperature of the air: Mean max. + mean min. ÷ 2	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Mean wet thermometer	Mean temperature of the dew-point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Days with 0.01, or more	Wind: Total movement	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month
	Ft.	Ft.	Ft.	In.	In.	In.	°F	°F	°F		°F	°F		°F	°F	°F	°F	%	In.	In.		Miles								0-10	In.	In.
Southern Slope							74.8	+1.2										56	1.39	−1.1										3.6		
Abilene	1,738	10	52	28.16	29.92	−0.04	77.3	+2.0	99	2	90	53	16	65	37	63	55	54	.86	−1.8	3	8,002	s.	26	s.	23	17	11	2	3.5	0.0	0.0
Amarillo	3,676	10	49	26.28	29.94	−.02	70.1	+.8	96	2	85	40	21	56	43	56	47	54	.96	−1.3	5	7,137	s.	28	ne.	2	17	11	2	3.6	.0	.0
Big Spring	2,537	5	62	27.36	29.93	------	75.0	------	98	20	87	51	16	63	37	62	56	59	.58	------	3	------	s.	----	------	----	18	10	2	3.2	.0	.0
Del Rio	944	64	71	28.91	29.87	−.07	79.8	+.6	94	2	89	63	4	71	27	69	65	65	3.75	+.8	4	7,379	se.	41	n.	14	8	17	5	5.1	.0	.0
Roswell	3,566	75	85	26.36	29.90	−.02	71.8	+1.5	96	5	86	46	26	58	41	56	46	47	T	−2.1	0	5,845	s.	35	ne.	2	21	6	3	2.6	.0	.0
Southern Plateau							72.8	+2.0										46	0.54	−0.2										2.1		
El Paso	3,778	152	175	26.16	29.84	−.04	77.8	+3.9	98	5	90	58	29	66	35	58	43	35	.17	−1.1	3	6,872	e.	32	ne.	12	25	4	1	1.4	.0	.0
Albuquerque	4,972	5	39	25.07	29.86	------	67.2	------	93	5	81	44	29	53	39	54	46	56	1.08	+.3	6	5,505	n.	40	nw.	6	17	8	5	3.2	.0	.0
Santa Fe	7,013	38	53	23.33	29.90	−.03	60.4	−.5	82	5	72	37	26	49	32	48	38	51	1.34	−.1	6	4,243	e.	23	e.	11	14	10	6	4.0	.0	.0
Flagstaff	6,907	10	59	23.41	29.87	−.02	57.0	+1.5	83	4	74	22	26	40	49	45	----	56	.26	------	5	------	sw.	27	sw.	23	14	13	3	----	.0	.0
Phoenix	1,108	10	107	28.66	29.78	−.03	84.8	+2.1	108	3	99	52	28	71	43	63	48	35	.66	−.1	2	4,110	e.	21	sw.	23	24	5	1	1.5	.0	.0
Yuma	141	9	54	29.62	29.76	−.02	85.6	+1.9	110	15	102	53	26	69	49	66	54	41	T	−.4	0	3,673	w.	20	nw.	23	29	0	1	.5	.0	.0
Independence	3,957	5	26	25.94	29.91	+.05	71.2	+3.2	99	3	88	39	27	55	40	51	----	----	.00	−.1	0	------	n.	----	------	----	28	1	1	----	.0	.0
Middle Plateau							62.8	+0.9										35	0.44	−0.2										1.9		
Reno	4,527	61	76	25.48	29.92	−.03	63.4	+3.7	95	3	80	29	26	47	41	47	33	39	.13	−.1	1	4,442	w.	27	w.	23	26	2	2	1.4	T	.0
Tonopah	6,090	12	20	------	------	------	65.4	------	90	4	77	29	25	54	33	46	28	28	.21	------	2	------	nw.	----	------	----	----	----	----	----	----	----
Winnemucca	4,344	18	56	25.62	29.96	+.03	59.8	+.6	97	4	80	17	26	40	51	43	26	34	.25	−.2	2	5,139	ne.	23	sw.	23	25	3	2	1.4	T	.0
Modena	5,473	10	46	24.62	29.88	−.04	61.2	+1.2	91	4	79	29	27	44	44	45	28	35	.72	−.1	3	7,665	sw.	48	sw.	23	23	6	1	1.9	.4	.0
Salt Lake City	4,360	86	210	25.62	29.93	−.02	63.6	−.8	90	1	76	34	27	51	35	47	32	36	.40	−.6	5	5,481	nw.	31	se.	7	20	6	4	2.8	.0	.0
Grand Junction	4,602	60	68	25.36	29.90	−.05	65.9	−.3	90	5	80	35	28	51	38	49	34	38	.72	−.2	4	4,911	se.	27	sw.	23	23	5	2	2.2	.0	.0
Northern Plateau							60.0	−0.4										44	0.45	−0.3										4.6		
Baker	3,471	48	53	26.46	30.03	+.04	55.6	−.4	90	5	71	26	26	40	45	44	32	46	.29	−.4	2	4,827	n.	20	n.	19	14	9	7	4.5	1.7	.0
Boise	2,739	79	87	27.15	29.98	+.01	61.4	−.5	93	6	76	28	26	47	37	47	33	38	.04	−.5	3	3,764	nw.	17	nw.	7	16	11	3	3.6	T	.0
Pocatello	4,477	60	68	25.47	29.94	−.02	59.6	−.6	88	6	73	31	27	46	43	44	28	36	.41	−.4	2	6,732	se.	27	sw.	22	16	7	7	3.9	T	.0
Spokane	1,929	101	110	27.96	30.00	+.02	57.6	−1.6	92	4	70	28	25	46	39	46	35	50	.98	+.1	7	4,616	s.	26	ne.	23	10	7	13	5.6	.0	.0
Walla Walla	991	57	65	28.92	29.98	−.02	64.0	+.2	98	4	75	36	25	53	35	51	38	44	.60	−.4	6	4,036	s.	17	w.	12	11	12	7	4.7	.0	.0
Yakima	1,076	58	67	28.86	30.00	------	61.7	+.6	96	4	75	34	25	49	38	50	39	50	.37	−.1	5	4,253	nw.	25	n.	23	11	11	8	5.1	.0	.0
North Pacific Coast Region							59.4	+0.9										69	1.65	−0.6										5.0		
North Head	211	11	56	29.83	30.06	+.03	57.0	+.5	93	2	61	46	23	53	37	54	52	86	2.24	−.8	14	7,675	n.	37	s.	12	5	12	13	6.5	.0	.0
Seattle	125	90	321	29.90	30.03	+.02	59.5	+1.4	90	2	66	42	25	53	30	53	48	68	2.22	+.4	8	5,539	n.	32	sw.	12	6	10	14	6.4	.0	.0
Tatoosh Island	86	10	54	29.96	30.05	+.04	54.1	+1.1	73	3	58	43	25	50	18	52	50	90	3.23	−1.4	15	7,501	s.	42	sw.	12	5	6	19	6.8	.0	.0
Medford	1,326	29	58	28.56	29.95	------	65.3	------	104	2	84	34	26	46	49	51	39	47	.31	−.2	3	4,107	nw.	26	nw.	22	25	4	1	1.8	.0	.0
Portland, Oreg.	153	68	106	29.87	30.03	.00	62.8	+1.1	95	2	72	39	25	53	33	55	50	66	1.32	−.7	7	4,220	nw.	17	sw.	22	7	14	9	5.6	.0	.0
Roseburg	510	45	76	29.46	30.01	−.01	63.4	+.5	104	2	78	35	26	48	48	53	44	56	.57	−.7	2	3,411	n.	17	n.	21	17	9	4	3.0	.0	.0
Middle Pacific Coast Region							63.6	+1.6										59	0.20	−0.4										2.4		
Eureka	62	73	89	29.93	30.00	−.01	54.7	−1.2	65	5	60	41	25	49	18	52	50	89	.47	−.5	3	4,426	n.	27	n.	13	13	9	8	4.3	.0	.0
Redding	722	20	34	------	------	------	77.6	------	105	2	91	44	24	64	36	56	36	27	.05	------	2	------	nw.	----	------	----	24	4	2	1.5	.0	.0
Sacramento	66	92	115	29.78	29.85	−.04	72.5	+3.2	102	15	89	44	25	56	46	58	46	46	.01	−.4	1	5,580	s.	22	sw.	21	25	5	0	1.0	.0	.0
San Francisco	155	208	243	29.74	29.90	−.04	63.6	+2.7	92	14	72	52	1	55	30	55	51	74	.13	−.3	1	4,765	sw.	24	sw.	9	16	10	4	3.0	.0	.0
South Pacific Coast Region							73.0	+3.2										56	0.11	0.0										2.6		
Fresno	327	97	105	29.51	29.85	−.02	76.6	+3.2	103	3	92	45	25	61	39	57	40	33	.01	−.2	1	4,313	nw.	17	nw.	24	25	4	1	1.2	.0	.0
Los Angeles	338	159	191	29.53	29.88	.00	72.7	+3.7	98	18	82	54	25	63	31	60	54	60	.13	.0	1	3,839	sw.	17	sw.	25	18	8	4	2.9	.0	.0
San Diego	87	62	70	29.78	29.88	−.01	69.7	+2.6	89	17	76	55	26	64	23	63	59	74	.18	+.1	2	4,664	nw.	19	nw.	15	19	9	2	3.6	.0	.0
West Indies																																
San Juan, P. R.	82	9	54	29.88	29.95	------	80.2	−.3	91	1	85	72	28	75	16	----	----	----	11.56	+5.6	20	6,673	e.	32	e.	27	2	18	10	6.3	.0	.0
Panama Canal																																
Balboa Heights	118	6	97	------	[1] 29.82	.00	80.4	+.6	91	2	86	71	15	74	16	----	----	[1] 88	16.38	+8.2	20	3,641	nw.	22	nw.	3	0	14	16	7.6	.0	.0
Cristobal	36	6	97	------	[1] 29.83	.00	81.0	+.6	90	24	86	70	5	76	18	76	76	[1] 86	21.30	+9.0	26	4,039	w.	32	nw.	12	0	3	27	9.0	.0	.0
Alaska																																
Fairbanks	454	11	87	[2] 29.44	[2] 29.96	------	45.9	------	71	23	57	24	30	35	35	40	31	58	.55	------	5	5,158	ne.	30	n.	16	12	8	10	5.2	.0	.0
Juneau	80	96	116	[2] 29.94	[2] 30.03	------	50.9	------	70	9	57	37	23	45	24	46	39	69	5.15	------	15	4,986	s.	32	ne.	11	5	9	16	6.8	.0	.0
Hawaiian Islands																																
Honolulu	38	86	100	[2] 29.94	[2] 29.98	------	79.0	+.8	87	14	84	71	11	74	12	72	69	72	2.82	+1.5	21	6,161	e.	27	e.	26	10	14	6	4.9	.0	.0

[1] Observations taken bihourly.
[2] Pressure not reduced to mean of 24 hours.

TABLE 2.—*Data furnished by the Canadian Meteorological Service, September 1934*

Stations	Altitude above mean sea level, Jan. 1, 1919	Pressure: Station reduced to mean of 24 hours	Pressure: Sea level reduced to mean of 24 hours	Pressure: Departure from normal	Temperature of the air: Mean max. + mean min. ÷ 2	Temperature of the air: Departure from normal	Temperature of the air: Mean maximum	Temperature of the air: Mean minimum	Temperature of the air: Highest	Temperature of the air: Lowest	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Total snowfall
	Feet	*In.*	*In.*	*In.*	°*F.*	°*F.*	°*F.*	°*F.*	°*F.*	°*F.*	*In.*	*In.*	*In.*
Cape Race, Newfoundland	99				55.0		61.8	48.2	71	33	1.27		0.0
Sydney, Cape Breton Island	48	30.11	30.16	+0.15	63.7	+7.2	73.5	54.0	86	39	1.34	−1.94	.0
Halifax, Nova Scotia	88	29.93	30.03	−.01	64.0	+6.4	70.3	57.8	78	47	5.18	+1.47	.0
Yarmouth, Nova Scotia	65	30.04	30.11	+.06	62.6	+6.5	71.1	54.0	79	36	2.99	−.62	.0
Charlottetown, Prince Edward Island	38	30.14	30.18	+.17	62.8	+5.5	69.2	56.4	79	47	1.49	−1.91	.0
Chatham, New Brunswick	28	30.02	30.05	+.05	60.4	+5.0	70.4	50.3	83	37	2.15	−.56	.0
Father Point, Quebec	20	30.04	30.06	+.08	54.2	+3.8	62.5	45.8	82	36	1.50	−1.63	.0
Quebec, Quebec	296	29.79	30.11	+.10	60.6	+5.5	66.8	54.4	78	40	3.48	−.19	.0
Doucet, Quebec	1,236				53.7		63.9	43.5	81	26	5.45		1.6
Montreal, Quebec	187												
Ottawa, Ontario	236	29.80	30.06	+.02	62.8	+5.4	71.2	54.5	86	41	4.17	+1.48	.0
Kingston, Ontario	285	29.75	30.06	+.02	64.0	+4.0	69.9	58.1	79	48	4.93	+2.13	.0
Toronto, Ontario	379	29.63	30.03	+.03	62.9	+3.9	69.6	56.2	78	44	4.24	+.99	.0
Cochrane, Ontario	930				53.3		61.0	45.6	78	30	5.65		.5
White River, Ontario	1,244	28.67	29.99	+.01	49.5	−.8	59.7	39.3	76	18	5.17	+2.40	.0
London, Ontario	808				62.7		70.8	54.6	82	38	4.48		.0
Southampton, Ontario	656	29.30	30.01	−.04	61.4	+3.9	69.4	53.4	84	37	4.76	+1.82	.0
Parry Sound, Ontario	688	29.33	30.01	−.02	61.1	+5.1	67.9	54.3	82	41	3.81	+.14	.0
Port Arthur, Ontario	644	29.27	29.98	.00	50.6	−1.6	56.6	44.6	66	30	4.38	+.90	.0
Winnipeg, Manitoba	760	29.12	29.95	+.01	50.5	−2.0	58.9	42.0	83	26	4.34	+2.31	4.3
Minnedosa, Manitoba	1,690	28.13	29.95	+.01	47.3	−3.2	57.1	37.6	86	25	2.73	+1.37	1.8
Le Pas, Manitoba	860		29.97		46.0		55.3	36.7	85	22	3.46		1.0
Qu'Appelle, Saskatchewan	2,115	27.68	29.93	+.01	46.4	−4.7	57.2	35.5	88	12	1.62	+.29	10.6
Moose Jaw, Saskatchewan	1,759				47.8		58.6	36.9	85	12	1.60		8.6
Swift Current, Saskatchewan	2,392	27.40	29.93	+.01	47.4	−5.7	57.7	37.1	88	15	1.89	+.67	2.9
Medicine Hat, Alberta	2,365	27.44	29.93	+.01	48.9	−6.1	59.1	38.7	88	9	2.22	+1.04	9.5
Calgary, Alberta	3,540	26.30	29.99	+.07	45.7	−4.1	56.2	35.2	82	10	2.23	+.87	12.2
Banff, Alberta	4,521	25.43	30.02	+.09	44.0	−1.8	55.1	32.8	84	12	1.40	−.27	6.0
Prince Albert, Saskatchewan	1,450	28.42	30.00	+.10	45.6	−2.8	55.4	35.8	88	20	1.04	−.24	.0
Battleford, Saskatchewan	1,592	28.24	29.99	+.09	45.6	−6.2	56.1	35.1	88	18	.95	−.30	1.3
Edmonton, Alberta	2,150	27.70	30.00	+.10	44.2	−5.1	52.8	35.5	88	15	2.39	+1.06	9.4
Kamloops, British Columbia	1,262	28.74	30.02	+.05	57.0	−.4	67.3	46.8	91	34	1.16	+.31	.0
Victoria, British Columbia	230	29.79	30.04	+.03	54.2	−.6	63.3	45.0	87	42	1.26	−.90	.0
Barkerville, British Columbia	4,180												
Estevan Point, British Columbia	20				54.8		60.4	49.2	72	30	5.99		.0
Prince Rupert, British Columbia	170				52.5		59.4	45.6	74	34	9.86		.0
Hamilton, Bermuda	151	29.98	30.14	+.07	80.4	+3.0	86.0	74.8	89	70	1.85	−4.66	.0
LATE REPORTS FOR AUGUST 1934													
Southampton, Ontario	656	29.31	30.02	+.03	61.6	−2.2	71.8	51.5	90	34	2.39	+.14	.0

SEVERE LOCAL STORMS, SEPTEMBER 1934

[Compiled by Mary O. Souder]

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards)	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Pratt County, Kans.	2	3:30–4 p. m.	120	0		Tornado	Few telephone poles blown down; only slight damage reported; path 15 miles long.	Official, U. S. Weather Bureau.
Rifle, near, Colo.	3					Heavy rain	A landslide caused by local storms partially dammed the Colorado River closing both the railway and the highway, temporarily interfering with traffic.	Do.
New Haven, Conn., and vicinity.	8	P. m.				Wind and rain	Electric wires and some transportation lines impaired; in Milford trolley cars were inundated, delaying schedule.	Do.
Brooklyn, N. Y., and vicinity	8	9 p. m.		1		Heavy wind and rain.	Traffic almost impossible; service on the Long Island R. R. between Flatbush and east New York held up for several hours; cellars flooded; derrick broke loose; boy drowned while sailing.	Do.
Atlantic City, N. J., vicinity of.	8	P. m.		3		Wind and rain	3 men on fishing trip drowned when their 35-foot power boat capsized 2½ miles off shore.	Do.
Hatteras, N. C., and nearby coastal areas.	8					do	Maximum wind velocity of 64 miles at 6 a. m., and 7.72 inches of precipitation for the 24 hours ending 8 a. m.; no property damage or loss of life reported.	Do.
Arnett, Okla., 4 miles south	9	3 p. m.	[1] 2		$25,000	Hail	Crop loss $25,000; hailstones as large as hen eggs destroyed practically all crops in the main path which was 12 miles long.	Do.
Pampa, Tex., and vicinity	9	do	[1] 18		12,000	do	$2,000 loss in fruit and $10,000 to other crops; path 20 miles long.	Do.
Bristol, Tex.	9	5:30 p. m.	200	0		Tornado	Buildings damaged	Do.
Erick, Okla., vicinity of	9	6 p.m.	[1] 2		20,000	Hail	Cotton and feed crops destroyed	Do.
Buffalo, N. Y., and vicinity	12	1:45–7:15 p. m.		1	5,000	Electrical and rain.	A number of transformers of the General Electric Co. struck by lightning; sewers and viaducts flooded, delaying traffic; several houses struck by lightning; at Albion a man who sought refuge in a shack killed by lightning.	Do.

[1] Miles instead of yards.