the northeast monsoon prevailed over the whole archipelago.

Typhoon, December 4 to 7.—This typhoon formed so far to the east of the Philippines and moved in such a way that it had no effect upon the weather of the archipelago The approximate daily positions are given below:

December 4, 6 a. m., latitude 10° N., longitude 144° E.
December 5, 6 a. m., latitude 15° N., longitude 140° E.
December 6, 6 a. m., latitude 22° N., longitude 140° E.
December 7, 6 a. m., latitude 26° N., longitude 147° E.

Typhoon, December 12 to 18.—Forming southwest of Palau Island, this disturbance moved toward the archipelago as a depression, increasing in intensity as it moved. It was strong enough on December 13 and 14 to be called a typhoon, and then it weakened and slowly filled up. The positions of this typhoon are given below:

December 12, 6 a. m., latitude 5° N., longitude 133° E.
December 13, 6 a. m., latitude 8°20′ N., longitude 129°30′ E.
December 14, 6 a. m., latitude 10° N., longitude 125° E.
December 15, 6 a. m., latitude 10°30′ N., longitude 123° E.
December 16, 6 a. m., latitude 12°20′ N., longitude 122°30′ E.
December 17, 6 a. m., latitude 12°20′ N., longitude 121°30′ E.
December 18, 6 a. m., latitude 11°30′ N., longitude 117° E.

Depression, December 16 to 19.—This depression formed southwest of Yap and moved toward the Philippines, but lost what little energy it had before reaching the archipelago. Its approximate positions are given below:

December 16, 6 a. m., latitude 7° N., longitude 137° E.
December 17, 6 a. m., latitude 8° 30′ N., longitude 135°30′ E.
December 18, 6 a. m., latitude 10° N., longitude 132° E.
December 19, 6 a. m., latitude 10°20′ N., longitude 130°30′ E.

GALE IN THE RED SEA, NOVEMBER 1934

In the meteorological report received at the Weather Bureau from the British S. S. *Ramsay*, Capt. W. Shaw Hickman, master, Second Officer R. S. McLean, observer, is a description of a violent gale experienced on November 18, 1934, while northbound in the Red Sea. The ship at midnight (17th–18th) was in latitude 23°12′ N., longitude 36°48′ E., wind east-southeast, force 4, barometer 29.98 inches (uncorrected). At 1:15 a.m. the wind suddenly shifted to north-northeast, force 9, accompanied by heavy rain and thunder. At 2 a.m. the wind force rose to 10, with barometer steady at 29.98.

After 1:15 a.m., according to Mr. McLean, "the sea rose very quickly and the steamer commenced shipping water fore and aft, while spraying over all. At times heavy spray was thrown clear over top of chart room on top of bridge. The lookout man had to leave the forecastle head and take up position on the bridge, it being dangerous forward on account of sea rising so rapidly." By 2:10 a. m. the wind had decreased to northeast, force 4.

The observing officer referred to the stormy conditions as of exceptional character; and also drew attention to a thunderstorm experienced 12 hours previously, on the 17th, in which the wind, which was from a northerly direction, force 2, at noon "shifted suddenly with one leap" to south-southwest, force 6, at 1:35 p.m.

The two instances were mentioned as squalls extraordinary to this region, and moving in diametrically opposite directions. The pressure throughout remained at 29.98 inches.—W. E. H.

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, December 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	46.7	−0.9	Pushmataha	80	30	Valley Head	10	12	3.41	−1.51	Milltown	6.76	Valley Head	1.83
Arizona	46.8	+2.3	Marinette	85	11	2 stations	0	3	1.71	+.51	Crown King	4.18	Gila Bend	.11
Arkansas	41.5	−1.2	Portland	74	24	Dutton	4	11	3.78	−.51	England	6.85	Bentonville	.95
California	46.3	+.7	2 stations	83	[1] 10	Sierraville	−12	31	3.20	−.50	Crescent City (near)	13.53	Brawley	.09
Colorado	28.9	+3.5	Two Buttes	79	22	Fraser	−24	4	.60	−.31	Columbine	3.13	6 stations	.00
Florida	60.0	.0	Lake Placid	90	[1] 3	2 stations	16	12	1.00	−1.76	Pensacola	2.56	Everglades	.00
Georgia	46.9	−1.2	2 stations	82	[1] 3	3 stations	10	12	2.64	−1.62	Fort Gaines	6.02	Waycross	.88
Idaho	27.7	+1.8	Lewiston	62	19	Deadwood	−17	1	2.03	+.05	Roland	9.78	Challis	.09
Illinois	28.3	−2.2	Du Quoin	59	4	Sycamore	−9	27	1.74	−.52	Cairo	3.30	Warsaw	.66
Indiana	29.9	−2.4	Shoals	60	2	Fowler	−12	27	2.00	−.88	Scottsburg	3.81	Shoals	1.08
Iowa	21.5	−2.4	Sioux City	48	22	4 stations	−17	[1] 11	.57	−.62	Clinton	2.01	Mt. Ayr	T
Kansas	33.1	+.3	Liberal	72	28	Hanover	−5	7	.42	−.44	Eldorado	1.35	2 stations	.00
Kentucky	37.0	−.9	Middlesboro	69	1	Anchorage	5	12	2.18	−1.80	Lovelaceville	4.22	Whitesburg	.83
Louisiana	52.8	+.4	2 stations	82	[1] 30	2 stations	14	12	3.91	−1.47	Dodson	7.69	Jonesville	1.91
Maryland-Delaware	35.2	−.2	do	71	1	Oakland, Md	−16	11	2.75	−.40	State Sanatorium, Md.	4.71	Western Port, Md	1.59
Michigan	23.4	−1.8	Webber Dam	66	1	Vanderbilt	−22	30	1.59	−.49	Painesdale	5.09	Lake City	.48
Minnesota	11.8	−3.7	4 stations	45	12	2 stations	−40	26	.95	+.16	Reads	2.60	Willmar	.24
Mississippi	47.8	−.6	5 stations	80	[1] 30	do	12	[1] 11	4.53	−.81	Rosedale	7.29	Pontotoc	1.53
Missouri	31.6	−2.5	Garber	69	28	Downing	−3	26	1.66	−.41	Campbell	4.12	Unionville	.05
Montana	24.0	+1.1	Grass Range	67	11	Medicine Lake	−40	26	.91	+.02	Haugan	6.83	Four Buttes	.03

[1] Other dates also.

Condensed climatological summary of temperature and precipitation by sections, December 1934—Continued.

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

Section	Temperature: Section average	Temperature: Departure from the normal	Monthly extremes: Station	Highest	Date	Station	Lowest	Date	Precipitation: Section average	Departure from the normal	Greatest monthly: Station	Amount	Least monthly: Station	Amount
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Nebraska	26.6	+0.1	Benkleman	70	12	2 stations	−14	7	0.49	−0.21	Arden (near)	1.37	Lodgepole	0.02
Nevada	34.1	+3.4	Logandale	75	[1] 11	Canyon Creek Ranch	−9	9	.92	−.06	Marlette Lake	2.64	Thorne	.24
New England	23.8	−2.7	Haverhill, Mass	70	1	East Barnet, Vt	−26	31	3.34	+.01	Pinkham Notch, N. H.	6.02	Boston, Mass	1.64
New Jersey	33.2	−.5	2 stations	69	1	Runyon	−3	12	2.90	−.75	Little Falls	4.11	Layton	1.89
New Mexico	35.9	+2.0	Carlsbad	81	28	Selsor Ranch	−22	2	.47	−.22	Cloudcroft	2.28	18 stations	.00
New York	24.1	−2.7	3 stations	67	1	Stillwater Reservoir	−31	31	2.79	−.14	Trenton Falls	5.58	Elmira	1.15
North Carolina	41.9	−.8	2 stations	75	1	Mount Mitchell	−9	12	2.85	−.99	Beaufort	6.98	Hot Springs	1.32
North Dakota	12.6	.0	do	53	11	2 stations	−44	26	.30	−.22	Park River	1.19	Wishek	.00
Ohio	30.3	−1.4	do	74	1	Paulding	−12	27	1.44	−1.32	Wilmington	2.43	Cambridge	.70
Oklahoma	41.0	+1.3	Boise City	77	28	Hooker	7	7	.72	−.97	Idabel	3.41	Boise City	T
Oregon	34.6	+1.3	Port Oxford	78	2	Danner	−10	28	4.52	+.71	Crossett	18.12	Valley Falls	.48
Pennsylvania	30.7	−.4	New Castle	73	1	Somerset	−10	11	2.55	−.61	Lansford	5.63	McKeesport	.84
South Carolina	44.8	−2.0	Garnett	78	3	3 stations	8	12	2.74	−.89	Crescent	5.89	Ferguson	1.00
South Dakota	21.7	+1.0	Rapid City	63	11	2 stations	−25	26	.30	−.27	Dumont	.93	2 stations	T
Tennessee	39.5	−1.3	Rogersville	70	1	Elkmont	−4	12	2.85	−1.77	Memphis	5.37	Fayetteville	1.38
Texas	51.0	+1.5	Mission	91	29	Sanderson	11	1	1.82	−.37	Lufkin	7.14	15 stations	.00
Utah	29.6	+3.2	Springdale	67	11	Thistle	−10	5	1.20	+.12	Silver Lake	5.29	Lucin	.02
Virginia	37.7	−.5	Diamond Springs	78	1	Hot Springs	1	11	2.63	−.47	Mount Weather	5.04	Timberville	.68
Washington	35.3	+1.1	Longview	66	3	2 stations	−6	27	6.20	+.73	Mt. Baker Lodge	30.09	Hanford	.50
West Virginia	33.5	−1.2	Sutton	78	1	do	−8	11	2.20	−1.14	Pickens	5.06	Dam No. 26 O. R.	.82
Wisconsin	17.0	−3.4	Lake Mills	54	1	Danbury	−29	26	1.29	−.03	Cornucopia	3.89	Viroqua	.45
Wyoming	23.8	+2.2	Pine Bluffs	66	11	South Pass City	−19	3	.74	−.01	Bechler River	6.35	Basin	T
Alaska (November)	16.7	+1.7	Ketchikan	60	25	2 stations	−28	[1] 13	1.84	−.95	View Cove	16.46	2 stations	T
Hawaii	71.6	+1.7	2 stations	90	[1] 12	Kanalohuluhulu	43	1	6.06	−4.00	Puhonua	29.50	Olowalu	.24
Puerto Rico	74.5	+.1	San German	94	24	Guineo Reservoir	48	25	8.90	+4.40	Rio Blanco	21.42	Santa Rita	.42

[1] Other dates also.

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

[Compiled by Annie E. Small]

District and station	Elevation of instruments: Barometer above sea level	Thermometer above ground	Anemometer above ground	Pressure: Station, reduced to mean of 24 hours	Sea level, reduced to mean of 24 hours	Departure from normal	Temperature of the air: Mean max. + mean min. ÷ 2	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Mean wet thermometer	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Departure from normal	Days with .01, or more	Wind: Total movement	Prevailing direction	Maximum velocity: Miles per hour	Direction	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							26.3	−3.2										69	3.04	−0.4										5.9		
Eastport	76	67	85	29.85	29.94	−0.04	20.9	−5.4	56	1	28	1	28	14	33	18	14	75	2.79	−1.0	9	9,780	nw.	51	se.	20	9	9	13	5.7	8.1	3.6
Greenville, Maine	1,070	6	40	28.73	29.97		14.2		57	1	22	−10	28	6	38				3.46		11	7,910	nw.	36		27	10	12	9		23.5	14.0
Portland, Maine	103	82	117	29.87	30.00	−.03	25.0	−2.6	57	1	32	3	9	18	32	21	16	70	3.90	−.1	12	7,309	n.	48	se.	19	15	7	9	4.2	10.8	6.3
Concord	289	60					24.2	−2.6	64	1	32	1	9	16					3.37	+.2	12		nw.				12	3	16		8.7	
Burlington	403	11	48	29.57	30.04	−.01	17.4	−7.0	64	1	26	−12	23	9	41				2.68	+.8	15	8,195	nw.	38	se.	19	6	4	21	7.4	19.8	9.2
Northfield	876	12	60	29.04	30.04	−.01	15.6	−4.8	63	1	26	−18	31	5	38	13	10	82	2.29	−.2	14	5,550	n.	25	nw.	27	7	8	16	6.5	20.5	13.8
Boston	124	336	360	29.87	30.02	−.03	28.4	−4.1	65	1	36	3	9	21	25	24	16	60	1.64	−1.8	8	11,836	nw.	60	w.	26	10	9	12	5.7	1.6	.6
Nantucket	12	14	90	29.99	30.00	−.05	33.6	−2.2	58	1	39	11	9	28	22	30	25	72	3.48	−.3	8	11,605	nw.	44	sw.	20	8	6	17	6.1	.4	.0
Block Island	26	11	46	29.99	30.02	−.04	33.2	−2.8	60	1	39	12	9	27	22	30	24	70	3.52	−.3	8	14,880	nw.	57	nw.	27	7	11	13	6.2	1.2	.0
Providence	160	215	251	29.84	30.02	−.04	29.8	−1.8	64	1	37	5	9	23	29	26	17	61	3.10	−.3	8	9,531	nw.	51	nw.	27	14	7	10	5.0	.8	T
Hartford	159	70	104		30.06	−.01	29.6	−.2	64	1	36	8	11	23	29				3.36	−.6	10	6,735	nw.				9	8	14		.3	.0
New Haven	106	74	153	29.94	30.07	.00	31.2	−1.3	61	1	38	9	11	24	25	27	19	63	3.34	−.7	8	7,335	n.	32	s.	1	10	4	17	6.0	.1	.0
Middle Atlantic States							35.1	−0.5										68	2.46	−0.8										6.6		
Albany	97	107	115	29.96	30.07	−.01	26.0	−2.5	67	1	33	1	31	19	30	23	18	72	1.93	−.7	10	5,832	s.	27	sw.	26	6	7	18	7.0	3.8	.2
Binghamton	871	60	68	29.10	30.06	−.03	27.0	−1.2	65	1	34	3	31	20	32				2.35	.0	13	5,348	nw.	28	nw.	26	2	3	26	9.0	3.1	T
New York	314	415	454	29.72	30.07	−.02	33.4	−1.6	64	1	41	10	11	26	25	29	21	61	2.43	−1.2	8	12,632	nw.	58	nw.	26	11	7	13	5.6	T	.0
Bellefonte	1,050	5	42	28.93	30.08		27.4		65	1	35	1	11	20	28	25	22	80	1.89		10		w.				4	6	21	7.9	2.8	T
Harrisburg	374	94	104	29.69	30.10	−.02	33.3	+.6	65	1	39	15	11	27	23	29	21	63	4.33	+1.3	10	6,169	w.	35	nw.	26	6	7	18	7.2	1.2	T
Philadelphia	114	168	367	29.98	30.10	−.01	35.9	−.4	67	1	43	16	11	29	25	30	22	58	2.61	−.8	9	9,410	n.	43	s.	1	8	10	13	6.4	T	.0
Reading	323	283	306	29.73	30.10		33.4	+1.2	67	1	40	13	10	27	24	29	23	66	2.30	−1.3	10	9,145	nw.	49	nw.	26	7	10	14	6.7	.9	.0
Scranton	805	72	104	29.18	30.08	−.02	29.1	−1.6	65	1	36	8	9	23	26	26	22	74	2.32	−.7	11	5,842	nw.	27	nw.	30	3	10	18	7.3	.7	.0
Atlantic City	52	37	172	30.04	30.10	.00	36.4	.0	60	1	44	12	12	29	23	32	26	68	2.79	−1.2	9	11,898	w.	53	se.	19	7	8	16	6.6	T	.0
Sandy Hook	22	10	57	30.05	30.07		33.8		63	1	40	14	11	28	23	30	25	70	2.30	−1.7	8	11,829	nw.	43	nw.	26	9	7	15	6.4	T	.0
Trenton	190	88	106	29.88	30.09		33.3	−1.1	67	1	40	11	11	26	29	29	23	69	2.37	−1.0	10	7,548	nw.	32	nw.	26	8	9	14	5.8	T	.7
Baltimore	123	100	215	29.97	30.10	−.03	37.7	+.5	67	1	44	17	11	31	26	32	25	64	3.10	−.3	9	7,781	sw.	38	sw.	20	8	9	14	6.3	.1	T
Washington	112	62	85	29.99	30.12	−.01	37.3	+.7	68	1	45	17	12	30	26	32	25	64	2.91	−.4	8	5,583	nw.	25	nw.	26	8	9	14	6.1	3.0	.5
Cape Henry	18	8	54	30.09	30.11		42.6	−1.1	73	1	50	22	11	36	26	38	33	74	1.78	−1.7	10	9,950	n.	41	n.	11	8	9	14	6.0	1.0	.0
Lynchburg	686	5		29.05	30.14	.00	39.0	−.5	68	26	49	10	11	29	32				2.99	−.3	14		nw.				7	17	7		4.0	.5
Norfolk	91	80	125	30.03	30.14	+.01	43.0	−.1	71	1	50	19	12	36	25	37	32	71	1.83	−1.5	10	7,614	w.	30	w.	19	7	9	15	6.6	2.5	.0
Richmond	144	11	52	29.98	30.14	.00	39.6	−.2	68	1	49	14	12	30	26	33	28	70	2.32	−1.0	10	6,222	sw.	30	w.	1	14	5	12	5.3	3.9	.7
Wytheville	2,304	49	55		30.16	+.01	34.4	−.9	58	1	42	8	12	27	33			72	1.50	−1.4	11	5,798	w.	34	w.	19	8	10	13		2.4	.0
South Atlantic States							46.3	−1.0										74	2.44	−1.0										5.9		
Asheville	2,253	89	104	27.75	30.19	+.03	37.2	−.6	64	25	46	8	12	28	38	32	27	73	1.78	−1.4	11	6,954	nw.	26	w.	19	7	10	14	6.3	.6	.0
Charlotte	779	63	86	29.30	30.16	.00	42.2	−.8	67	1	51	18	12	34	30	36	30	67	3.29	−.6	10	5,279	ne.	27	sw.	1	11	7	13	5.8	T	.0
Greensboro	886	6	56	29.17	30.15		38.8		66	1	49	15	11	29	36	33	28	74	2.91		11	5,687	sw.	29	sw.	1	7	9	15	6.5	.2	.0
Hatteras	11	5	50	30.10	30.11	−.02	47.4	−2.7	72	1	54	25	12	41	26	44	42	85	4.07	−.1	11	10,342	n.	37	s.	1	10	5	16	6.2	T	.0

TABLE 1.—*Climatological data for Weather Bureau stations, December 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 .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
South Atlantic States—Continued	Ft.	Ft.	Ft.	In.	In.	In.	°F	°F	°F		°F	°F		°F	°F	°F	°F	%	In.	In.		Miles								0-10	In.	In.
Raleigh	376	103	146	29.72	30.14	−0.01	42.6	−0.4	69	1	51	18	12	34	27	37	31	70	2.32	−1.3	12	6,537	nw.	27	nw.	26	10	7	14	5.8	0.4	0.0
Wilmington	72	73	107	30.07	30.15	.00	47.2	−1.9	70	4	56	22	12	38	29	42	37	73	3.00	+.2	12	6,348	ne.	29	sw.	19	11	5	15	5.9	T	.0
Charleston	48	11	92	30.10	30.15	.00	50.2	−1.5	72	26	58	23	12	42	25	45	41	75	2.16	−.6	11	7,521	w.	29	e.	30	8	9	14	5.7	T	.0
Columbia, S. C	351	41	57	29.77	30.17	+.01	45.6	−1.6	69	25	55	19	12	36	31	40	36	76	2.29	−.7	12	5,127	ne.	24	w.	19	10	9	12	5.2	T	.0
Greenville, S. C	1,039	139					42.8	+.6	70	1	52	17	12	34	30				3.41	−1.4	11		ne.				15	6	10		T	.0
Augusta	182	62	77	29.96	30.16	.00	46.6	−1.5	72	3	56	20	12	37	33	40	34	68	2.39	−.9	12	4,414	nw.	21	nw.	19	10	9	12	5.7	.0	.0
Savannah	65	73	152	30.09	30.16	+.01	52.0	−.4	75	3	61	22	12	42	27	45	40	74	1.46	−1.5	8	7,866	w.	34	w.	19	10	8	13	5.6	.0	.0
Jacksonville	43	86	110	30.11	30.16	+.02	55.7	−.6	80	3	65	23	12	46	30	49	45	76	.70	−2.3	7	5,926	nw.	25	w.	19	8	9	14	6.0	T	.0
Florida Peninsula							67.2	+0.7										79	0.76	−1.1										4.9		
Key West	22	10	64	30.08	30.10	+.02	71.0	+.7	83	4	76	45	12	66	23	65	63	82	.41	−1.3	6	7,204	ne.	32	nw.	11	10	12	9	5.3	.0	.0
Miami	25	124	168	30.10	30.13	+.02	68.6	+.6	83	1	76	30	12	62	32	62	59	76	.97	−.7	10	7,130	e.	25	nw.	11	10	13	8	5.1	.0	.0
Tampa	35	88	197	30.11	30.15	+.03	62.0	+.9	83	3	72	27	12	52	33	55	52	79	.91	−1.2	5	7,546	n.	28	n.	11	15	10	6	4.3	T	.0
Titusville	43	5	36	30.09	30.14		61.0		84	3	72	23	12	49	38				.63		5		nw.				10	13	8		.0	.0
East Gulf States							48.7	−0.8										76	2.94	−1.9										5.5		
Atlanta*	1,173	128	135	29.11	30.17	+.01	41.4	−3.3	64	25	50	18	12	33	31	37	33	78	2.42	−2.3	13	6,528	nw.	28	nw.	7	11	5	15	6.0	.1	T
Macon	370	79	87	29.78	30.18	+.02	45.8	−1.7	70	3	56	19	12	36	36	40	34	70	1.56	−2.4	13	5,100	nw.	24	w.	19	11	6	14	5.5	T	.0
Thomasville	273	49	58	29.88	30.19	+.04	52.8	+.3	77	25	64	20	12	42	35	46	42	78	1.61	−2.7	10		nw.				9	8	14		.0	.0
Apalachicola	35	11	51	30.13	30.17		54.0		74	30	61	24	12	47	27	49			.84	−4.3	8		n.				10	7	14		.0	.0
Pensacola	56	149	185	30.12	30.18	+.03	53.0	−1.0	73	26	60	25	12	46	24	49	45	80	2.56	−2.1	11	8,776	n.	34	se.	27	13	4	14	4.8	.0	.0
Anniston	741	9					44.5	+.3	70	25	53	14	12	36	31				4.03	−1.0	8		nw.				7	9	15		T	.0
Birmingham	700	11	48	29.39	30.18	+.02	44.8	−1.6	67	30	53	17	12	36	27	40	35	75	3.52	−1.6	12	5,463	nw.	25	w.	19	8	9	14	6.2	T	.0
Mobile	57	125	161	30.11	30.17	+.02	51.6	−.6	74	30	60	24	12	43	29	47	44	80	2.93	−2.0	10	6,619	n.	42	se.	27	12	5	14	5.1	.0	.0
Montgomery	218	92	105	29.94	30.20	+.04	47.6	−1.8	69	16	56	20	12	39	30	42	37	73	2.83	−2.0	12	5,142	n.	25	w.	19	11	5	15	6.2	T	.0
Meridian	375	67	92	29.77	30.18	+.02	47.8	+.1	76	30	58	18	12	38	35	42	38	76	5.04	−.2	11	4,455	sw.	24	nw.	19	11	7	13	5.5	T	.0
Vicksburg	247	65	73	29.92	30.19	+.04	50.0	.0	73	31	59	21	12	41	27	44	40	75	6.01	+.7	9	5,714	n.	27	w.	19	11	8	12	5.5	.0	.0
New Orleans	53	76	84	30.12	30.18	+.05	56.0	+.4	78	30	64	29	11	48	25	50	47	77	1.96	−2.8	8	4,906	ne.	20	se.	27	14	9	8	4.5	.0	.0
West Gulf States							51.7	+1.3										75	2.86	−0.2										5.4		
Shreveport	249	92	227	29.90	30.18	+.05	50.0	+.9	71	16	59	23	11	41	29	45	40	74	4.06	−.2	8	8,303	nw.	41	nw.	18	14	6	11	4.7	.0	.0
Bentonville	1,303	11	44	28.72	30.12	−.01	37.2	−.3	57	28	46	10	11	29	26				.95		6	5,321	sw.	20	s.	15	8	10	13		.5	.0
Fort Smith	457	79	94	29.66	30.16	+.03	41.0	−1.1	62	22	49	19	11	33	31	36	31	74	1.06	−1.7	8	6,366	e.	22	w.	3	10	9	12	5.5	T	.0
Little Rock	357	94	102	29.79	30.18	+.04	42.2	−2.0	62	15	50	17	11	34	29	37	32	73	5.90	+1.8	10	5,994	sw.	24	sw.	12	9	8	14	6.0	T	.0
Austin	605	136	148	29.52	30.16		54.3	+3.3	75	25	64	29	12	45	34	48	43	72	3.72	+1.1	12	5,524	n.	38	nw.	18	11	6	14	5.7	.0	.0
Brownsville	57	88	96	30.05	30.10		64.2	+3.0	82	18	72	38	12	56	29	58	55	79	1.18	−.4	7	7,943	se.	30	n.	3	10	13	8	5.6	.0	.0
Corpus Christi	20	11	78	30.12	30.14	+.02	60.2	+2.2	80	29	68	37	8	53	28	55	52	79	.70	−.8	4	7,492	s.	30	n.	31	9	10	12	5.9	.0	.0
Dallas	512	220	227	29.60	30.16		48.4		77	29	58	22	11	39	34	42	36	66	.88	−1.5	4	8,219	se.	41	nw.	18	14	5	12	5.2	.0	.0
Fort Worth	679	92	110	29.43	30.16	+.04	49.7	+2.2	79	29	60	24	11	39	37				.56	−1.3	4	7,010	n.	37	n.	18	15	5	11	4.5	.0	.0
Galveston	54	106	114	30.11	30.17	+.05	57.4	+1.0	73	31	63	33	11	52	21	53	50	81	3.42	−.3	9	7,668	n.	38	nw.	18	13	6	12	5.2	.0	.0
Houston	138	292	314	30.02	30.17		56.8	+2.4	78	31	65	28	11	48	28				4.04	−.2	11	8,643	se.	43	se.	2	12	6	13	5.3	.0	.0
Palestine	510	64	72	29.63	30.18	+.06	51.1	+1.2	75	25	61	24	11	42	31	45	41	75	4.20	+.5	8	5,744	s.	28	w.	18	13	5	13	5.1	.0	.0
Port Arthur	34	58	66	30.12	30.17		55.8		78	30	64	29	11	48	23				3.24	−2.0	9	5,786	s.	31	nw.	2	11	8	12	5.5	.0	.0
San Antonio	693	242	301	29.41	30.14	+.03	56.0	+2.3	75	25	64	33	8	48	26	51	47	76	4.17	+2.6	12	7,624	n.	44	nw.	18	9	7	15	6.0	.0	.0
Ohio Valley and Tennessee							35.8	−1.1										75	2.36	−1.2										7.1		
Chattanooga	762	71	214	29.35	30.19	+.03	42.4	−.9	65	25	50	15	12	35	28	37	30	67	3.18	−2.0	12	6,132	w.	38	w.	19	8	9	14	6.3	T	.0
Knoxville	995	66	84	29.09	30.18	+.02	39.4	−.9	60	25	47	15	12	32	28	35	30	74	2.72	−1.8	14	4,474	w.	29	w.	19	10	8	13	5.9	.3	.0
Memphis	399	78	86	29.74	30.17	+.02	42.6	−1.0	61	24	50	17	11	36	29	38	34	73	5.37	+.9	13	6,002	sw.	26	n.	26	9	8	14	6.6	T	.0
Nashville	546	168	191	29.59	30.19	+.04	39.9	−1.1	61	26	48	14	11	32	33	36	31	73	2.57	−1.6	12	7,174	nw.	30	nw.	26	6	9	16	7.0	.8	.0
Lexington	989	5					35.2	−.6	54	23	42	10	12	28	36				2.52	−1.2	13		se.				8	5	11		2.0	.0
Louisville	525	188	234	29.58	30.18	+.04	36.2	−1.4	54	26	43	10	11	29	36	32	27	73	2.37	−1.4	11	8,089	sw.	30	w.	26	9	6	16	6.5	2.0	.0
Evansville	431	76	116	29.68	30.17	+.04	36.0	−1.1	55	2	43	13	11	29	32	32	27	74	2.64	−.9	12	7,164	nw.	25	sw.	3	6	8	17	6.8	.6	.0
Indianapolis	822	194	230	29.23	30.15	+.03	30.2	−2.0	51	2	37	4	26	24	42	27	23	76	1.87	−1.1	12	8,608	w.	30	nw.	26	4	3	24	8.2	4.9	.0
Terre Haute	575	96	129	29.51	30.15		31.2		52	2	37	5	26	25	37	28	25	82	1.73	−1.2	10	7,274	nw.	25	sw.	3	6	6	19	7.3	9.2	.0
Cincinnati	627	11	51	29.45	30.16	+.03	33.4	.0	52	2	40	10	11	26	39	30	26	79	1.58	−1.4	10	6,444	sw.	27	sw.	19	4	8	19	7.6	3.4	.0
Columbus	822	216	230	29.23	30.14	+.02	31.6	−.8	50	2	38	9	12	25	29	28	25	79	1.30	−1.4	12	8,911	sw.	38	w.	26	3	7	21	7.6	3.0	.0
Elkins	1,947	59	78	28.03	30.18	+.06	30.9	−1.8	65	1	40	−5	11	22	41	27	23	77	2.11	−1.4	14	5,395	w.	30	w.	26	4	7	20	7.8	8.3	.0
Parkersburg	637	77	84	29.50	30.18	+.04	34.2	−1.0	56	1	42	12	12	26	38	30	27	78	1.72	−1.3	10	5,161	sw.	30	w.	26	5	4	22	7.6	.5	.0
Pittsburgh	842	353	410	29.19	30.12	+.01	32.9	−1.3	61	1	39	12	11	27	32	29	24	71	1.33	−1.5	15	8,345	w.	38	sw.	19	2	6	23	8.3	1.2	.0
Lower Lake Region							26.3	−2.8										79	2.07	−0.6										8.4		
Buffalo	768	243	280	29.20	30.06	.00	27.4	−2.4	54	1	34	7	11	21	28	25	22	82	2.89	−.5	23	12,503	w.	57	w.	26	1	6	24	8.5	9.8	.3
Canton	448	10	61	29.54	30.05		14.4	−8.3	58	1	24	−22	31	5	51				2.00	−.7	15	6,873	w.	38	w.	26	5	8	18	6.9	15.6	8.5
Ithaca	836	77	100	29.13	30.07		26.6	−2.4	64	1	34	3	31	19	29	24	20	77	1.61	−.8	15	8,065	nw.	34	w.	26	1	4	26	8.9	3.7	T
Oswego	335	71	85	29.68	30.06	.00	24.8	−4.2	65	1	32	−1	31	18	28	23	18	74	2.94	−.6	19	9,080	se.	41	w.	26	1	2	28	9.1	17.6	4.3
Rochester	523	86	102	29.48	30.07	+.01	26.8	−2.5	64	1	33	9	8	21	29	24	18	71	2.38	−.3	20	7,199	w.	31	w.	26	2	2	27	9.2	12.3	3.0
Syracuse	596	65	79	29.40	30.07	.00	26.0	−2.3	67	1	33	1	31	19	31				2.78	−.3	21	6,215	w.	31	nw.	26	1	4	26	8.8	10.9	3.0
Erie	714	130	166	29.28	30.08	+.01	29.8	−2.1	50	1	35	10	11	24	21	27	24	78	1.50	−1.3	19	10,753	sw.	38	se.	19	3	5	23	8.5	8.2	T
Cleveland	762	267	337	29.24	30.09	.00	31.0	−.2	55	1	37	10	27	26	26	28	24	78	1.84	−.6	17	10,942	w.	38	w.	13	2	7	22	8.5	20.4	.0
Sandusky	629	5	67	29.40	30.10	+.01	29.2	−2.0	47	1	35	1	27	23	31				1.23	−1.0	15	7,331	sw.	27	w.	26	0	8	23	8.5	6.2	.0
Toledo	628	79	87	29.41	30.12	+.04	27.4	−3.0	44	3	33	0	27	22	28	26	22	80	1.85	−.5	16	7,426	w.	32	nw.	26	3	6	22	7.9	17.4	.3
Fort Wayne	857	69	84	29.16	30.12		26.6	−.7	45	2	33	−2	27	20	35	25	23	85	1.40	−1.2	11	7,268	w.	28	w.	1	2	8	21	8.0	14.5	2.2
Detroit *	626	5	78	29.38	30.09	+.02	26.0	−3.3	46	1	32	2	27	20	26	24	22	85	2.43	+.1	12	7,966	sw.	33	sw.	1	3	8	20	7.9	12.2	1.3
Upper Lake Region							22.0	−2.4										83	1.70	−0.4										7.8		
Alpena	609	13	89	29.36	30.06	+.04	22.9	−1.9	43	1	29	2	26	17	27	22	18	79	1.48	−.6	18	8,869	nw.	35	nw.	26	2	5	24	8.4	16.8	4.8
Escanaba	612	54	60	29.38	30.07	+.04	21.1	−1.3	38	12	28	−6	26	15	32	20	17	82	1.36	−.4	14	7,814	nw.	28	n.	13	4	3	24	8.0	13.5	7.0
Grand Rapids	707	70	244	29.29	30.09	+.04	26.4	−2.1	39	3	32	5	27	21	26	24	21	79	1.51	−1.1	14	8,371	sw.	38	sw.	1	2	5	24	8.5	15.5	3.2
Lansing	878	6	88	29.10	30.08		23.8	−3.4	39	3	30	−2	27	17	31	24	22	93	1.78	−.3	17	7,498	sw.	27	nw.	26	3	5	23	8.1	16.8	5.0
Ludington	637	5	54	29.35	30.07		25.5	−2.9	38	15	30	6	10	21	19	24			1.77	−.7	13		se.				1	4	26		23.8	2.8
Marquette	734	77	111	29.22	30.05	+.03	21.8	−.8	40	12	27	−2	26	16	28	20	18	87	2.30	−.4	19	7,852	w.	30	s.	27	2	2	27	8.7	24.0	12.6

* Observations taken at airport.

TABLE 1.—*Climatological data for Weather Bureau stations, December 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 air: Mean max. + mean min. ÷ 2	Temperature of air: Departure from normal	Temperature of air: Maximum	Temperature of air: Date	Temperature of air: Mean maximum	Temperature of air: Minimum	Temperature of air: Date	Temperature of air: Mean minimum	Temperature of 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 .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.
Upper Lake Region—Continued																																
Sault Ste. Marie	614	11	52	29.34	30.07	+0.07	18.4	−2.1	41	1	25	−5	30	12	33	17	15	86	2.42	+0.1	23	6,971	se	30	nw.	26	7	4	20	7.5	31.4	10.1
Chicago	673	7	131	29.36	30.12	+.04	26.2	−2.6	42	3	32	−1	27	21	32	25	21	80	1.93	−.1	11	8,105	w.	32	sw.	3	7	2	22	7.6	27.4	4.5
Green Bay	617	109	141	29.39	30.08	+.04	20.4	−1.9	36	23	28	−12	26	13	39	19	15	80	.98	−.7	12	7,669	w.	30	w.	26	7	2	22	7.5	8.5	3.3
Milwaukee	681	97	221	29.33	30.10	+.04	24.4	−1.7	40	3	31	−5	26	18	33	22	18	74	1.22	−.5	10	10,251	w.	47	se.	3	5	8	18	7.6	8.1	1.4
Duluth	1,133	5	47	28.80	30.09	+.04	10.6	−5.3	38	12	19	−27	26	2	38	10	8	90	1.94	+.8	10	9,254	nw.	44	nw.	25	10	4	17	6.2	24.4	16.5
North Dakota							12.7	+0.3										87	0.34	−0.2										6.5		
Moorhead, Minn	940	50	58	29.08	30.15	+.07	11.0	−.5	44	12	19	−24	26	3	32	10	9	92	.40	−.3	9	6,771	n.	30	nw.	22	7	7	17	7.2	5.2	3.0
Bismarck	1,674	8	57	28.26	30.14	+.06	15.4	+.7	48	11	25	−22	26	6	35	14	10	80	.13	−.4	5	6,458	nw.	35	nw.	22	7	7	17	6.8	2.2	.1
Devils Lake	1,478	11	44	28.47	30.14	+.08	9.9	+.4	43	12	18	−33	26	1	33	8	7	93	.40	−.1	10	6,722	nw.	27	nw.	22	9	8	14	6.2	5.3	2.8
Grand Forks	833	12	67	------	------	------	9.0	------	38	12	17	−29	26	1	31	7	----	----	.53	------	9	------	nw.	35	nw.	22	12	3	16	----	5.7	5.2
Williston	1,878	41	48	28.06	30.14	+.08	14.5	+.7	45	11	24	−30	26	5	41	13	10	82	.43	−.2	10	5,942	s.	27	nw.	22	12	3	16	5.7	4.8	2.9
Upper Mississippi Valley							24.2	−2.9										83	1.34	−0.4										7.3		
Minneapolis	918	102	208	29.07	30.10	------	15.0	−4.6	42	12	22	−19	26	7	39	15	12	86	1.23	+.2	9	8,124	nw.	30	w.	23	6	8	17	7.1	13.0	7.5
La Crosse	714	11	48	29.31	30.12	+.04	17.6	−4.7	39	12	26	−13	26	10	36	17	14	85	1.12	−.2	11	4,372	s.	18	w.	22	4	8	19	7.5	9.0	6.6
Madison	974	70	78	29.01	30.12	+.04	20.2	−2.6	36	23	27	−8	26	14	30	19	18	91	.97	−.7	12	6,906	nw.	25	se.	22	6	5	20	7.3	7.3	3.6
Charles City	1,015	10	51	29.01	30.14	+.04	16.4	−4.0	37	22	25	−14	26	8	35	15	13	86	.84	−.5	8	5,950	nw.	21	nw.	22	7	3	21	7.5	8.9	6.7
Davenport	606	66	161	29.46	30.16	+.06	23.4	−3.7	41	15	30	−5	26	17	38	22	20	85	1.30	−.2	14	7,319	nw.	27	nw.	31	5	5	21	7.6	10.0	1.3
Des Moines	861	5	99	29.21	30.15	+.04	22.8	−3.2	43	15	30	−4	26	16	31	22	20	83	.30	−.9	8	7,432	nw.	27	nw.	22	4	5	22	8.0	3.4	.1
Dubuque	700	60	79	29.34	30.14	+.04	21.1	−3.6	39	15	28	−7	26	14	36	20	17	81	.99	−.4	12	5,041	nw.	23	nw.	26	5	7	19	7.4	7.3	.4
Keokuk	614	64	78	29.46	30.17	+.05	27.0	−2.6	47	15	34	−1	26	20	37	25	22	79	.91	−.5	11	6,175	nw.	28	sw.	3	5	4	22	7.7	6.5	T
Cairo	358	87	93	29.77	30.17	+.02	37.6	−.2	54	2	44	14	11	31	29	34	29	77	3.30	−.1	13	6,964	n.	25	sw.	3	7	7	17	6.6	1.5	.0
Peoria	609	11	45	29.46	30.16	+.05	26.0	−2.1	45	2	32	−3	26	20	36	24	22	85	1.34	−.4	12	5,824	nw.	24	sw.	3	7	6	18	7.2	8.2	2.1
Springfield, Ill	636	5	191	29.44	30.14	+.02	29.6	−2.1	51	2	36	2	26	23	29	27	25	84	1.88	−.3	11	8,633	nw.	32	nw.	31	7	4	20	7.5	9.4	.0
St. Louis	568	265	303	29.53	30.15	+.02	33.4	−1.3	51	2	40	10	26	27	33	30	26	78	1.95	−.3	11	8,882	s.	30	w.	19	9	4	18	6.6	8.8	.0
Missouri Valley							28.2	−0.6										81	0.60	−0.6										6.2		
Columbia, Mo	784	6	84	29.28	30.15	+.03	31.0	−2.2	56	15	38	5	11	24	32	----	----	----	1.19	−.7	10	6,503	nw.	27	sw.	3	8	5	18	6.6	8.0	.0
Kansas City *	750	32	45	29.32	30.16	+.04	31.1	−1.4	55	15	38	7	7	24	28	29	26	82	.53	−.8	7	7,538	sw.	32	nw.	25	9	6	16	6.1	4.4	.0
St. Joseph	967	11	49	29.08	30.15	------	29.0	------	51	15	36	4	26	22	27	26	24	82	.27	−.7	5	6,773	nw.	29	nw.	8	12	4	15	5.9	2.6	.0
Springfield, Mo	1,324	98	104	28.70	30.15	+.02	34.0	−2.2	59	15	42	8	11	27	25	31	28	81	1.54	−.8	9	8,225	se.	25	se.	2	12	6	13	5.0	5.0	.0
Iola	984	11	50	29.06	30.15	+.03	34.7	+.8	59	15	44	9	7	26	30	----	----	----	.85	−.5	5	------	n.	----	------	----	10	10	11	----	5.1	.0
Topeka	987	65	87	------	------	------	31.0	−1.0	56	15	38	3	7	24	27	----	----	----	.26	−.7	4	6,910	nw.	25	sw.	27	10	8	13	6.0	3.0	.0
Lincoln	1,189	11	81	28.84	30.16	+.04	26.5	−1.1	47	15	34	−2	7	19	36	24	21	80	.44	−.4	6	7,445	n.	27	nw.	31	9	9	13	6.0	4.9	.0
Omaha	1,105	170	200	28.93	30.17	+.06	25.3	−1.1	46	22	32	−2	26	18	32	23	20	79	.33	−.6	4	8,520	n.	32	n.	8	7	6	18	6.8	3.4	T
Valentine	2,598	47	54	27.34	30.16	+.06	26.0	+1.4	56	12	37	−9	26	14	47	22	18	77	.28	−.3	6	7,140	w.	30	nw.	22	11	9	11	5.5	3.0	T
Sioux City	1,138	64	106	28.88	30.15	+.03	22.2	−.9	48	22	30	−7	26	14	33	21	18	82	.63	−.3	3	7,789	nw.	31	nw.	22	4	9	18	7.5	7.3	T
Huron	1,306	60	74	28.70	30.16	+.06	20.0	+1.3	48	12	28	−14	26	12	42	18	15	83	.27	−.3	6	7,156	n.	24	nw.	22	10	5	16	6.4	2.3	T
Northern Slope							25.5	+1.6										74	0.58	−0.2										6.1		
Billings	3,140	4	----	------	------	------	----	------	----	----	----	----	----	----	----	----	----	----	----	------	----	------	----	----	------	----	----	----	----	----	----	----
Havre	2,505	11	67	27.39	30.14	+.09	23.1	+2.7	57	11	33	−19	25	13	48	18	15	79	.66	.0	8	7,186	sw.	31	sw.	31	6	11	14	6.4	7.3	2.6
Helena	4,124	85	111	25.82	30.18	+.05	22.6	−1.6	51	21	29	−14	25	16	47	20	15	72	.89	+.1	9	5,083	w.	38	w.	20	1	9	21	7.9	15.1	3.5
Kalispell	2,973	48	56	27.00	30.15	+.08	27.6	+2.7	46	21	32	2	25	23	24	26	23	82	.94	−.5	13	4,250	nw.	23	sw.	20	0	3	28	9.1	8.9	2.1
Miles City	2,371	48	55	27.52	30.18	+.08	22.5	+1.5	47	11	32	−11	25	14	34	20	17	82	.35	−.3	9	4,501	s.	24	nw.	22	8	8	15	6.3	5.2	2.2
Rapid City	3,259	50	58	26.61	30.15	+.06	29.0	+2.1	63	11	40	−11	26	18	63	24	18	67	.44	.0	6	6,318	w.	29	nw.	22	12	8	11	5.2	8.6	T
Cheyenne	6,094	50	71	23.98	30.12	+.05	31.0	+2.5	63	11	42	8	4	20	36	24	15	54	.15	−.4	7	9,911	nw.	39	w.	20	11	11	9	5.1	2.0	.0
Lander	5,372	60	68	24.66	30.22	+.07	22.2	+1.8	50	21	34	−5	5	10	39	19	16	80	.20	−.5	1	4,507	sw.	37	w.	20	13	11	7	4.1	3.3	2.0
Sheridan	3,790	10	47	26.10	30.12	------	28.7	------	56	21	41	−10	26	17	58	24	19	72	.68	.0	11	4,574	nw.	30	nw.	6	7	14	10	5.7	6.9	2.6
Yellowstone Park	6,241	11	48	------	30.23	+.07	23.0	+1.4	45	11	31	7	3	15	27	----	----	75	1.12	−.4	19	6,447	s.	32	sw.	26	4	4	23	----	21.2	6.7
North Platte	2,821	11	51	27.12	30.16	+.06	28.2	+1.5	58	22	39	1	26	18	37	24	21	81	.42	−.1	4	5,658	w.	28	w.	22	9	13	9	5.4	4.0	.0
Middle Slope							35.3	+1.8										68	0.47	−0.4										4.5		
Denver	5,292	106	113	24.73	30.10	+.02	36.0	+3.7	69	11	48	14	5	24	45	28	16	48	.67	−.1	4	5,787	s.	32	w.	20	12	14	5	4.1	7.0	.0
Pueblo	4,685	80	86	25.33	30.12	+.04	35.2	+3.7	69	11	50	10	26	20	50	28	18	55	.13	−.4	1	5,058	nw.	31	nw.	20	16	13	2	3.5	1.3	.0
Concordia	1,392	50	58	28.66	30.19	+.08	30.4	−.3	54	12	39	2	7	22	35	27	24	83	.22	−.4	3	6,221	n.	24	n.	9	11	9	11	5.3	.5	0
Dodge City	2,509	10	86	27.49	30.18	+.08	35.4	+2.8	68	28	47	9	26	24	51	28	23	71	.13	−.4	4	8,564	n.	31	n.	31	14	11	6	3.8	.2	.0
Wichita	1,358	85	93	28.67	30.15	+.04	34.2	−.4	57	15	43	7	26	26	33	31	27	76	1.03	.0	1	7,934	n.	35	sw.	22	13	6	12	5.1	3.0	.0
Oklahoma City	1,214	10	47	28.84	30.16	+.05	40.6	+1.3	66	28	50	17	7	31	36	35	31	75	.62	−.9	3	7,658	s.	27	nw.	7	12	8	11	5.2	T	.0
Southern Slope							47.2	+3.1										60	0.36	−0.5										4.9		
Abilene	1,738	10	52	28.31	30.16	+.05	48.4	+2.4	73	25	59	26	7	37	33	41	33	61	.39	−1.0	3	6,555	s.	31	w.	18	11	7	13	5.5	.0	.0
Amarillo	3,676	10	49	26.33	30.13	+.04	42.0	+5.0	67	28	54	19	26	30	40	33	24	55	.40	−.4	1	6,541	sw.	27	n.	18	14	10	7	4.2	3.0	.0
Big Spring	2,537	5	62	27.49	30.16	------	47.0	------	76	29	59	24	4	35	37	38	31	63	.08	------	3	------	s.	----	------	----	13	5	13	5.4	.0	.0
Del Rio	944	64	71	29.11	30.12	+.02	54.8	+2.6	76	30	65	32	20	45	37	48	41	66	.61	−.1	8	5,550	se.	38	nw.	18	11	6	14	5.7	.0	.0
Roswell	3,566	75	85	26.46	30.14	+.07	43.6	+2.4	71	28	57	20	3	30	41	35	25	53	.05	−.6	1	5,084	n.	37	nw.	18	17	6	8	3.9	.0	.0
Southern Plateau							44.9	+3.2										59	0.80	+0.1										3.9		
El Paso	3,778	152	175	26.28	30.12	+.09	48.5	+3.6	70	12	60	24	3	37	34	39	28	50	.32	−.2	3	5,796	nw.	28	nw.	29	17	7	7	3.7	T	.0
Albuquerque	4,972	5	39	25.15	30.19	------	36.0	------	57	16	49	12	4	23	37	28	22	66	.78	+.3	4	4,839	n.	34	w.	17	13	12	6	4.5	.0	.0
Santa Fe	7,013	38	53	23.29	30.19	+.13	32.5	+1.8	57	12	42	7	2	23	33	27	22	69	.80	+.1	5	4,383	n.	21	n.	20	16	8	7	4.0	5.5	T
Flagstaff	6,907	10	59	23.38	30.10	+.04	32.5	+4.1	57	20	45	6	3	20	39	26	----	67	1.27	------	7	5,654	se.	24	nw.	19	11	14	6	----	T	.0
Phoenix	1,108	10	107	28.90	30.07	+.03	56.0	+4.0	81	11	68	30	3	44	40	46	36	55	1.71	+.7	3	3,615	e.	18	n.	2	17	5	9	3.9	.0	.0
Yuma	141	9	54	29.92	30.08	+.03	57.8	+2.6	77	11	69	35	30	47	33	47	36	48	.65	+.1	3	4,441	n.	21	n.	18	18	6	7	3.4	.0	.0
Independence	3,957	5	26	26.08	30.18	+.06	42.2	+2.9	65	9	54	17	29	30	32	33	----	----	.54	−.2	1	------	n.	----	------	----	15	8	8	----	.0	.0

* Observations taken at airport.

TABLE 1.—*Climatological data for Weather Bureau Stations, December 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 air: Mean max. + mean min. ÷ 2	Temperature of air: Departure from normal	Temperature of air: Maximum	Temperature of air: Date	Temperature of air: Mean maximum	Temperature of air: Minimum	Temperature of air: Date	Temperature of air: Mean minimum	Temperature of 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 .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 Plateau							33.1	+2.9										70	0.97	0.0										5.1		
Reno	4,527	61	76	25.59	30.24	+0.09	35.3	+1.6	60	21	46	15	3	24	32	31	25	66	0.27	−0.7	3	3,915	w.	32	sw.	26	14	12	5	4.0	1.1	T
Tonopah	6,090	12	20	------	------	------	34.3	------	55	12	42	14	2	27	22	29	23	64	.90	------	4	------	se.	------	------	------	------	------	------	------	------	------
Winnemucca	4,344	18	56	25.75	30.25	+.07	33.0	+3.0	57	21	43	8	2	24	31	29	26	78	1.06	.0	5	6,288	ne.	27	s.	29	10	11	10	5.2	1.5	0.0
Modena	5,473	10	46	24.71	30.19	+.07	31.0	+2.9	55	21	42	4	3	20	37	26	22	74	1.08	+.2	4	6,238	sw.	35	sw.	27	10	11	10	5.5	.1	.0
Salt Lake City	4,360	86	210	25.77	30.25	+.10	33.2	+1.3	52	21	40	14	2	27	21	29	24	69	1.87	+.4	8	4,375	s.	30	n.	22	9	6	16	6.0	15.9	1.5
Grand Junction	4,602	60	68	25.50	30.18	+.08	33.2	+5.7	52	27	43	17	4	24	32	28	23	70	.58	.0	5	3,824	se.	18	sw.	27	12	10	9	4.6	.4	.0
Northern Plateau							33.0	+2.4										78	1.24	−0.4										8.0		
Baker	3,471	48	53	26.57	30.26	+.10	28.2	+.9	48	20	36	9	6	21	23	26	22	78	1.01	−.7	11	4,796	se.	26	sw.	21	5	7	19	7.1	11.4	2.6
Boise	2,739	79	87	27.36	30.30	+.10	32.9	+.8	53	21	38	20	11	28	20	30	26	77	1.49	−.1	15	4,017	se.	30	nw.	21	0	6	25	8.8	4.7	1.2
Pocatello	4,477	60	68	25.59	30.25	+.06	29.3	+1.6	47	21	35	10	7	23	24	27	23	75	1.30	+.1	14	8,049	se.	37	sw.	20	5	8	18	6.9	13.9	4.5
Spokane	1,929	101	110	28.06	30.17	+.09	32.9	+2.4	50	21	37	22	25	29	16	31	29	84	1.50	−.7	16	5,150	s.	26	sw.	20	1	5	25	8.6	7.9	2.7
Walla Walla	991	57	65	29.10	30.19	+.07	39.3	+3.8	60	21	45	27	5	34	21	36	32	75	1.57	−.5	10	5,004	s.	27	w.	29	1	5	25	8.8	T	.0
Yakima	1,076	58	67	29.01	30.19	------	35.4	+4.7	54	20	41	23	31	30	21	33	29	76	.59	−.8	9	3,626	nw.	27	w.	24	5	6	20	7.5	1.1	.0
North Pacific Coast Region							44.8	+2.3										84	7.86	+0.6										8.0		
North Head	211	11	56	29.86	30.10	+.07	46.2	+2.1	61	6	50	34	27	42	19	44	40	81	8.94	−.5	24	12,524	e.	65	s.	25	5	4	22	7.6	T	.0
Seattle	125	90	321	29.95	30.08	+.07	44.0	+2.3	55	19	48	33	9	40	20	42	39	82	5.46	−.1	22	8,551	s.	45	sw.	25	1	6	24	8.5	.4	.0
Tatoosh Island	86	10	54	29.93	30.03	+.07	45.2	+1.3	53	3	48	34	27	42	13	44	42	90	14.38	+1.0	24	14,306	e.	71	sw.	26	5	5	21	7.7	4.9	.0
Medford	1,329	29	58	28.77	30.22	------	40.2	------	63	7	48	24	9	33	33	38	36	84	2.18	−.9	13	3,263	nw.	21	nw.	21	4	7	20	7.5	T	.0
Portland, Oreg.	153	68	106	30.00	30.16	+.09	44.1	+2.9	57	20	48	34	30	40	11	41	38	80	10.83	+4.1	23	6,150	s.	23	e.	7	3	3	25	8.1	T	.0
Roseburg	510	45	76	29.64	30.20	+.09	44.6	+2.8	61	15	50	33	31	39	19	42	40	86	5.39	.0	19	3,008	sw.	19	w.	26	1	4	26	8.7	.0	.0
Middle Pacific Coast Region							50.0	+1.4										76	3.95	−0.5										5.6		
Eureka	62	73	89	30.14	30.21	+.09	49.2	+1.0	67	5	56	36	2	42	28	46	44	85	5.28	−1.0	15	4,438	se.	26	se.	16	9	8	14	5.9	.0	.0
Redding	722	20	34	------	------	------	48.6	------	72	9	56	28	25	41	25	42	35	66	3.42	------	8	5,447	nw.	25	n.	5	9	8	14	6.3	.0	.0
Sacramento	69	92	115	30.10	30.18	+.04	47.8	+1.6	68	6	55	34	31	40	30	45	41	80	2.50	−.5	8	5,415	se.	25	nw.	4	11	8	12	5.4	.0	.0
San Francisco	155	208	243	29.99	30.16	+.04	52.9	+1.6	69	7	58	42	25	48	18	48	42	71	4.06	+.1	8	4,590	n.	30	ne.	5	14	9	8	4.9	.0	.0
South Pacific Coast Region							55.8	+2.9										70	3.01	+1.0										5.3		
Fresno	327	97	105	29.82	30.19	+.06	47.5	+1.3	67	11	55	32	5	40	27	45	42	83	1.89	+.4	7	3,512	nw.	17	se.	8	7	10	14	6.5	.0	.0
Los Angeles	338	159	191	29.71	30.07	.00	60.8	+4.2	79	21	69	44	30	53	25	50	41	56	3.75	+1.1	8	4,478	ne.	19	ne.	12	17	3	11	4.0	.0	.0
San Diego	87	62	70	29.96	30.05	−.02	59.1	+3.1	78	10	66	44	3	52	22	53	48	71	3.38	+1.5	8	4,148	nw.	21	se.	6	12	6	13	5.3	.0	.0
West Indies																																
San Juan, P. R.	82	9	54	29.93	30.02	------	76.6	+.3	87	8	82	67	31	72	18	----	----	---	9.53	+4.0	26	10,493	e.	40	ne.	3	1	22	8	6.2	.0	.0
Panama Canal																																
Balboa Heights	118	6	97	------	[1] 29.82	.00	80.2	+.2	91	3	87	71	1	73	18	----	----	[1] 85	2.71	−1.6	16	3,856	nw.	21	nw.	14	2	21	8	6.2	.0	.0
Cristobal	36	6	97	------	[1] 29.84	.00	80.8	+.9	88	7	85	73	13	76	14	76	75	[1] 84	15.66	+4.6	23	7,379	n.	34	nw.	14	6	9	16	6.8	.0	.0
Alaska																																
Fairbanks	454	11	87	29.40	29.97	------	1.6	------	58	5	9	−40	31	−6	38	1	−3	77	.39	------	8	3,891	n.a.	25	e.	8	14	3	14	5.2	7.2	3.0
Juneau	80	96	116	[2] 29.81	[2] 29.90	------	29.4	------	59	8	33	2	23	26	14	27	20	69	4.38	------	21	6,681	s.	32	ne.	23	7	1	23	7.6	7.9	2.0
Hawaiian Islands																																
Honolulu	38	86	100	[2] 29.96	[2] 30.00	------	74.9	+2.5	83	16	80	66	23	70	13	69	67	78	2.48	−1.5	14	6,466	e.	27	e.	26	14	14	3	4.1	.0	.0

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

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

Stations	Altitude above mean sea level, Jan. 1, 1919	Pressure			Temperature of the air						Precipitation		
		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	Mean maximum	Mean minimum	Highest	Lowest	Total	Departure from normal	Total snowfall
	Feet	*In.*	*In.*	*In.*	°*F.*	°*F.*	°*F.*	°*F.*	°*F.*	°*F.*	*In.*	*In.*	*In.*
Cape Race, Newfoundland	99												
Sydney, Cape Breton Island	48												
Halifax, Nova Scotia	88												
Yarmouth, Nova Scotia	65												
Charlottetown, Prince Edward Island	38												
Chatham, New Brunswick	28												
Father Point, Quebec	20												
Quebec, Quebec	296												
Doucet, Quebec	1,236				0.7		12.2	−10.8	40	−36	3.09		24.9
Montreal, Quebec	187												
Ottawa, Ontario	236	29.77	30.06	+0.04	14.4	−2.6	22.0	6.8	47	−15	3.02	+0.11	24.2
Kingston, Ontario	285												
Toronto, Ontario	379	29.64	30.07	+.02	25.6	−1.4	31.8	19.3	45	0	2.60	−.31	17.0
Cochrane, Ontario	930				2.7		11.3	−5.9	36	−29	2.28		22.6
White River, Ontario	1,244	28.66	30.06	+.09	2.1	−7.6	16.0	−11.8	32	−42	2.21	+.50	22.1
London, Ontario	808				22.7		29.9	15.5	43	−8	3.29		22.4
Southampton, Ontario	656	29.30	30.04	+.02	23.4	−3.3	29.4	17.4	41	0	2.74	−1.24	24.8
Parry Sound, Ontario	688	29.32	30.05	+.04	16.7	−4.5	24.0	9.5	44	−12	3.00	−1.48	23.9
Port Arthur, Ontario	644	29.34	30.08	+.09	13.2	.0	21.8	4.7	36	−20	1.10	+.23	11.0
Winnipeg, Manitoba	760	29.26	30.15	+.13	5.0	+.9	13.3	−3.2	35	−37	.94	+.03	9.4
Minnedosa, Manitoba	1,690	28.20	30.13	+.11	5.7	.0	14.0	−2.5	33	−38	.36	−.26	3.6
Le Pas, Manitoba	860		30.15		−.6		8.2	−9.4	34	−42	.31		3.1
Qu'Appelle, Saskatchewan	2,115	27.69	30.06	+.06	7.9	+.5	16.1	−.3	36	−36	.48	−.04	4.8
Moose Jaw, Saskatchewan	1,759												
Swift Current, Saskatchewan	2,392	27.42	30.08	+.09	13.8	−2.2	22.5	5.1	44	−30	.50	−.28	5.0
Medicine Hat, Alberta	2,365	27.45	30.04	+.07	16.2	−2.0	24.9	7.5	45	−31	.85	+.30	8.3
Calgary, Alberta	3,540												
Banff, Alberta	4,521												
Prince Albert, Saskatchewan	1,450	28.51	30.19	+.18	3.8	+1.0	11.1	−3.4	40	−46	.91	+.17	9.1
Battleford, Saskatchewan	1,592	28.29	30.14	+.15	4.2	−1.2	12.6	−4.2	37	−43	1.62	+1.30	16.2
Edmonton, Alberta	2,150												
Kamloops, British Columbia	1,262												
Victoria, British Columbia	230	29.80	30.06	+.09	42.2	+1.0	45.8	38.7	52	30	6.42	−1.56	.4
Barkerville, British Columbia	4,180												
Estevan Point, British Columbia	20												
Prince Rupert, British Columbia	170												
Hamilton, Bermuda	151												

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Banff, Alberta	4,521	25.25	29.89	−0.07	32.4	+6.6	39.4	25.4	53	8	0.57	−1.70	2.4
Estevan Point, British Columbia	20				47.9		51.9	43.9	61	36	18.07		.0
Prince Rupert, British Columbia	170				43.3		48.1	38.5	59	32	9.20		.0