CLIMATOLOGICAL DATA

[For description of tables and charts, see REVIEW, January, pp. 32 and 38]

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

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.

Section	Temperature								Precipitation					
			Monthly extremes								Greatest monthly		Least monthly	
	Section average	Departure from the normal	Station	Highest	Date	Station	Lowest	Date	Section average	Departure from the normal	Station	Amount	Station	Amount
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Alabama	73.7	−2.0	3 stations	100	3	2 stations	36	[1] 27	1.47	−2.05	Mobile	4.86	Bridgeport	0.12
Arizona	72.6	−.2	Mohawk	111	10	Alpine	29	25	2.76	+1.43	Truxton	7.43	Yuma	.53
Arkansas	71.2	−3.2	Conway	100	9	Gilbert	31	12	1.83	−1.48	Fayetteville	8.44	Fulton	.08
California	65.6	−2.0	El Centro	113	10	Twin Lakes	20	19	.40	−.07	Elk Valley	4.89	76 stations	.00
Colorado	60.6	+2.5	Sedgwick	102	8	Pearl	21	11	2.79	+1.42	Trickle Park	7.29	Garnett	.56
Florida	77.3	−2.1	De Funiak Springs	99	[1] 3	Mason	42	12	6.72	+0.5	Homestead	21.80	Mount Pleasant	.62
Georgia	72.9	−2.5	Blakely	102	23	Blairsville	31	28	1.04	−2.56	Glennville	3.65	Carlton Bridge	.04
Idaho	59.3	+2.2	Orofino	102	7	Pelton's Ranch	15	[1] 29	3.32	+2.25	Big Creek	7.05	Clark Fork	.55
Illinois	66.6	−1.3	Carbondale	102	21	7 stations	29	[1] 26	.64	−3.01	Casey	2.78	Hardin	.00
Indiana	65.2	−2.0	Shoals	102	22	Winona Lake	28	25	1.17	−2.15	Tell City	3.17	Gary	.17
Iowa	65.8	+1.9	Logan	98	[1] 7	2 stations	27	[1] 12	.94	−2.82	Waterloo	4.07	2 stations	T
Kansas	70.5	+.7	3 stations	102	[1] 1	Centralia	29	26	2.50	−.27	Arkansas City	8.45	Wheaton	.39
Kentucky	66.7	−3.8	Lovelaceville	100	21	Clermont	29	[1] 27	1.97	−.94	Pippapass	4.67	2 stations	.45
Louisiana	75.2	−2.8	New Orleans (Audubon).	101	10	Tallulah	39	12	3.74	−.11	Ville Platte (near)	10.82	Minden	.30
Maryland-Delaware	64.5	−3.2	Dundalk, Md	95	21	Oakland, Md	25	27	3.31	−.07	Frederick, Md	7.20	Snow Hill, Md	1.00
Michigan	60.0	+.3	Monroe	95	20	Roscommon	24	26	2.35	−.96	Roscommon	5.22	Channing	.14
Minnesota	62.6	+3.4	2 stations	95	[1] 7	3 stations	22	[1] 25	1.01	−1.79	Duluth	3.47	Farmington	.10
Mississippi	73.3	−2.6	do	99	[1] 2	do	38	[1] 12	2.40	−.62	Pearlington	6.57	Scott	.32
Missouri	68.8	−.6	Sikeston	100	9	2 stations	28	[1] 26	.69	−3.29	Neosho	4.07	4 stations	.00
Montana	61.2	+5.9	2 stations	103	3	Outlook	19	10	1.86	+.52	Birch Creek Camp	6.51	Sentinel Butte Pass	.04
Nebraska	69.1	+4.7	Niobrara	107	18	Nenzel (near)	21	11	1.22	−.80	Madrid	3.85	Ord	.07
Nevada	61.2	−.1	Overton	109	16	2 stations	22	[1] 27	1.13	+.69	Charleston Mt. R. S.	4.01	Goldfield	.00
New England	58.9	−1.3	Mount Carmel, Conn.	90	21	Presque Isle, Maine	22	27	3.98	+.15	2 stations	9.09	Amherst, Mass	1.53
New Jersey	63.5	−2.3	Elizabeth	93	20	Charlotteburg	25	27	4.41	+.62	Clayton	11.95	Tuckerton	1.17
New Mexico	65.3	+.9	Orogrande	102	5	Elizabethtown	27	27	1.52	−.17	Irvin's Ranch	5.35	3 stations	.00
New York	59.1	−2.0	4 stations	89	[1] 20	Whiteface Mountain.	20	26	3.37	−.11	Greene	6.74	Massena	1.34
North Carolina	68.1	−2.9	Shelby	99	22	2 stations	24	[1] 27	1.48	−2.46	Hatteras	4.75	Marion	.10
North Dakota	62.8	+5.9	2 stations	103	3	do	20	[1] 11	1.06	−.44	Pembina	3.00	Mayville	.02
Ohio	62.9	−2.8	Van Wert	99	20	Lima	27	26	1.54	−1.42	Willoughby	3.96	Larue	.56
Oklahoma	72.9	−1.4	Alva	106	9	2 stations	35	[1] 26	2.83	−.26	Sapulpa	16.30	Ardmore	.20
Oregon	58.9	+1.1	Umatilla	102	9	Fremont	21	5	2.87	+1.66	Wicopee	6.88	Umatilla	.44
Pennsylvania	61.4	−2.8	Marcus Hook	95	20	Kane Airway Station.	21	26	3.41	+.02	Pottsville	6.97	Hollidayburg	1.27
South Carolina	72.4	−2.0	Little Mountain	101	22	2 stations	35	27	1.39	−2.65	Effingham	4.83	Crescent	.00
South Dakota	67.1	+5.4	Armour	107	7	Britton	21	25	.75	−.74	Waters Ranch	2.86	Gettysburg	T
Tennessee	68.7	−2.8	Etowah	100	22	Gatlinburg	30	28	1.07	−1.93	Covington	3.07	Charleston	.18
Texas	75.9	−1.4	Memphis	107	9	Muleshoe	39	[1] 26	1.40	−1.49	Galveston	6.87	4 stations	.00
Utah	61.8	+1.0	Green River	103	1	Silver Lake	26	[1] 27	2.72	+1.66	Cedar Breaks	6.93	Utah Lake (Lehi)	.61
Virginia	65.3	−3.4	Lincoln	96	21	2 stations	27	[1] 27	1.57	−1.51	Winchester	4.88	Wytheville	.30
Washington	62.7	+4.6	Wahluke (near)	104	9	Stockdill Ranch	28	20	2.03	+.19	Anatone	5.77	Sixprong	.38
West Virginia	62.2	−4.2	Glenville	98	20	2 stations	21	[1] 12	2.88	−.02	Belington	5.63	White Sulphur Springs	.50
Wisconsin	61.4	+1.0	Eau Claire	96	19	3 stations	23	26	1.24	−2.40	Antigo	4.20	Darlington	.16
Wyoming	59.1	+4.3	3 stations	102	[1] 1	Border	20	16	2.29	+1.14	Quaking Aspen Creek.	5.20	Colony	.57
Alaska [August]	54.3	+1.6	Ophir	85	1	Barrow	26	4	4.03	+.61	Little Port Walter	27.59	Tanana	.23
Hawaii	75.3	+.5	Mahukona	95	21	Haleakala	33	8	5.64	−.19	Kukui	34.00	3 stations	.00
Puerto Rico	79.2	+.7	2 stations	98	[1] 11	2 stations	59	[1] 15	6.21	−2.19	Villalba	15.21	Aibonito	.61

[1] Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS

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 inch, or more	Wind: Average hourly velocity	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.
New England							**60.6**	**−0.2**										**83**	**3.75**	**+0.7**										**5.3**		
Eastport	75	67	85	29.89	29.97	−0.06	55.2	−0.6	76	1	62	38	26	49	23	52	51	90	6.85	+4.1	13	8.6	sw.	42	ne.	2	10	8	12	5.8	0.0	0.0
Greenville, Maine	1,070	6	----	28.85	30.01	------	53.4	------	78	1	65	28	30	42	38	49	49	---	4.41	------	14	------	------	------	------	------	------	------	------	------	------	------
Portland, Maine	103	82	117	29.87	29.98	−.07	60.0	+.4	80	3	68	39	26	52	24	55	52	86	3.92	+.8	11	7.4	n.	30	e.	2	13	11	6	4.6	.0	.0
Concord [2]	289	54	72	29.70	30.02	−.04	59.4	+.1	82	20	71	30	27	47	37	53	50	84	3.73	+.3	9	4.7	n.	19	nw.	22	12	10	8	4.8	.0	.0
Burlington	403	11	48	29.58	30.01	−.05	58.2	−2.1	76	18	67	35	30	49	27	53	50	80	2.54	.0	10	6.2	s.	25	s.	24	6	8	16	6.7	.0	.0
Northfield	876	12	60	29.08	30.03	−.03	55.5	−.6	77	20	67	32	26	44	33	48	47	90	5.52	+2.4	8	6.0	sw.	21	ne.	6	5	9	16	7.1	.0	.0
Boston [1]	124	106	165	29.88	30.01	−.06	63.3	+.1	86	21	71	42	26	55	24	56	52	74	2.32	−.8	11	9.8	nw.	33	ne.	2	12	8	10	5.0	.0	.0
Nantucket	12	14	90	30.00	30.01	−.07	62.7	−.1	78	2	69	45	27	57	19	58	56	84	5.23	+2.8	11	13.2	sw.	57	ne.	2	13	4	13	5.5	.0	.0
Block Island	26	11	46	30.00	30.02	−.06	63.3	−.1	79	2	70	45	27	57	20	58	56	80	2.85	+.2	7	13.0	sw.	38	n.	26	18	7	5	3.4	.0	.0
Providence [2]	159	65	25	29.86	30.03	−.04	63.9	+.7	87	21	74	39	27	54	30	56	54	82	2.57	−.6	9	10.5	nw.	35	nw.	21	11	8	11	5.1	.0	.0
Hartford [1]	159	122	----	29.86	30.03	−.04	61.4	−.3	88	21	74	32	27	49	37	56	54	84	2.37	−1.1	6	7.0	s.	29	n.	6	8	10	12	5.8	.0	.0
New Haven [2]	107	74	68	29.92	30.04	−.03	63.6	+.1	88	21	73	38	27	55	29	57	54	79	3.33	−.2	5	7.9	n.	27	sw.	25	14	8	8	4.7	.0	.0
Middle Atlantic States							**65.4**	**−1.5**										**76**	**2.78**	**−0.5**										**4.5**		
Albany [1]	97	26	40	29.92	30.02	−.05	60.0	−3.1	82	21	72	35	27	48	36	54	51	81	4.31	+1.2	7	6.2	s.	22	s.	24	8	12	10	5.7	.0	.0
Binghamton	871	57	79	29.14	30.07	.00	60.0	−1.3	84	20	71	31	27	48	35	53	51	82	1.51	−1.6	8	5.0	e.	16	nw.	25	4	14	12	6.8	T	.0
New York	314	415	454	29.70	30.03	−.05	65.8	−1.0	87	21	74	42	26	58	27	58	53	69	3.22	−.2	5	11.6	n.	50	nw.	21	16	6	8	4.5	.0	.0
Harrisburg [1]	374	94	104	29.66	30.06	−.02	64.0	−1.8	90	21	75	36	27	53	35	57	54	80	3.46	+.4	8	5.8	w.	28	n.	21	13	12	5	4.3	.0	.0
Philadelphia [2]	114	174	367	29.93	30.05	−.03	67.4	−.6	90	21	76	44	26	59	28	59	56	77	4.58	+1.4	6	10.5	n.	41	n.	25	16	7	7	4.4	.0	.0
Reading	323	47	306	29.71	30.06	------	64.4	−1.9	90	21	75	37	27	54	32	57	53	72	3.66	+.4	5	7.7	nw.	38	n.	21	15	7	8	4.4	.0	.0
Scranton	805	72	104	29.19	30.05	−.02	60.6	−2.3	86	21	72	33	27	49	35	53	50	75	2.72	−1.4	7	5.2	n.	28	nw.	21	9	13	8	5.1	.0	.0
Atlantic City	52	37	172	29.98	30.04	−.03	66.6	−.2	90	21	74	44	26	59	26	60	57	75	1.55	−1.1	6	13.3	w.	41	ne.	30	12	9	9	4.9	.0	.0
Sandy Hook	22	10	57	30.01	30.04	------	66.4	−1.1	85	21	73	46	26	60	25	59	56	74	2.85	−.6	4	11.7	w.	48	nw.	21	15	7	8	4.2	.0	.0
Trenton	190	89	107	29.84	30.04	------	64.9	−2.0	90	21	74	40	27	56	29	58	54	72	6.17	+2.8	6	6.7	n.	24	n.	25	14	7	9	4.9	.0	.0
Baltimore [2]	123	100	215	29.93	30.06	−.02	68.2	−.3	94	21	77	43	26	59	27	59	54	66	1.32	−2.0	6	8.8	n.	36	nw.	25	16	8	6	4.2	.0	.0
Washington	112	62	85	29.94	30.06	−.02	66.8	−1.3	92	21	76	42	27	57	29	59	55	73	1.34	−1.9	5	5.3	nw.	24	nw.	25	17	7	6	4.2	.0	.0
Cape Henry	18	8	54	30.01	30.03	------	70.4	−1.4	92	10	77	53	26	64	31	64	61	76	3.50	+.6	6	13.3	ne.	57	n.	25	16	6	8	4.4	.0	.0
Lynchburg	686	144	184	29.35	30.09	+.01	67.4	−1.6	93	21	79	38	27	55	32	59	55	72	1.14	−2.2	3	5.8	n.	25	ne.	30	19	8	3	3.1	.0	.0
Norfolk [2]	91	80	125	29.95	30.05	−.01	70.4	−1.2	91	10	78	51	26	63	35	63	61	82	4.10	+.9	7	9.4	ne.	34	n.	25	12	8	10	4.9	.0	.0
Richmond [2]	144	11	52	29.91	30.06	−.01	67.9	−2.6	92	21	78	41	27	58	33	60	58	86	1.55	−1.7	4	6.7	ne.	28	ne.	25	16	8	6	4.2	.0	.0
Wytheville	2,304	49	55	27.71	30.10	+.03	61.2	−2.4	86	21	74	30	27	48	34	54	51	78	.30	−3.0	2	4.5	nw.	24	w.	10	20	7	3	3.0	.0	.0
South Atlantic States							**72.6**	**−0.7**										**79**	**1.68**	**−2.6**										**4.3**		
Asheville	2,253	89	104	27.77	30.09	+.02	65.2	+.2	89	21	78	35	28	52	35	57	54	78	.35	−2.7	3	5.5	nw.	22	nw.	25	16	10	4	3.6	.0	.0
Charlotte [2]	779	63	86	29.23	30.05	−.02	71.4	−.1	95	21	83	43	27	60	32	61	58	74	.55	−2.4	6	6.5	ne.	26	nw.	10	14	9	7	4.4	.0	.0
Greensboro [1]	886	6	56	29.14	30.08	------	68.2	------	92	21	80	39	27	56	32	60	58	82	1.60	------	5	7.2	ne.	34	sw.	10	17	9	4	3.5	.0	.0
Hatteras	11	5	50	30.00	30.01	−.05	72.3	−2.2	88	1	78	58	26	67	21	68	65	80	4.75	+.1	7	13.2	ne.	47	nw.	11	15	7	8	4.6	.0	.0
Raleigh [2]	376	103	146	29.66	30.05	−.02	70.0	−1.1	94	21	80	47	26	60	36	61	58	76	1.71	−1.9	4	8.6	ne.	32	nw.	10	19	8	3	3.4	.0	.0
Wilmington	72	73	107	29.95	30.02	−.03	72.4	−.7	92	22	81	52	26	64	31	66	64	80	1.96	−2.6	7	8.6	ne.	28	sw.	25	13	7	10	4.8	.0	.0
Charleston [2]	48	11	92	29.96	30.01	−.03	74.9	−1.7	91	22	82	51	27	68	22	66	64	83	2.16	−2.4	4	11.4	n.	32	n.	26	13	6	11	4.8	.0	.0
Columbia, S. C. [2]	347	70	91	29.67	30.04	−.01	73.8	−.7	96	22	85	48	26	63	28	64	61	73	1.18	−2.3	8	7.8	ne.	21	ne.	26	17	9	4	3.5	.0	.0
Greenville, S. C	1,040	70	78	28.97	30.06	------	72.0	+1.4	95	22	83	44	27	61	29	----	----	---	.14	−3.5	1	6.2	ne.	23	sw.	25	18	9	3	3.5	.0	.0
Augusta [2]	182	62	77	29.83	30.02	−.03	74.3	−1.0	97	22	85	50	26	63	32	64	60	70	1.52	−1.8	5	5.4	ne.	23	w.	10	15	5	10	4.6	.0	.0
Savannah [2]	65	73	152	29.94	30.00	−.03	76.7	+.5	96	22	86	50	27	68	31	68	66	84	1.31	−4.1	5	9.1	ne.	25	e.	18	12	9	9	5.1	.0	.0
Jacksonville [2]	43	86	110	29.94	29.98	−.02	75.8	−2.5	93	1	84	54	27	68	23	69	67	84	2.87	−4.5	8	8.1	ne.	23	ne.	18	6	12	12	6.2	.0	.0
Florida Peninsula							**80.0**	**−0.7**										**86**	**11.24**	**+4.1**										**6.3**		
Key West [2]	21	10	64	29.87	29.89	−.05	81.4	−.8	92	2	87	71	4	76	15	77	75	83	11.88	+5.2	22	8.7	e.	27	sw.	8	7	10	13	6.1	.0	.0
Miami [2]	25	124	168	29.88	29.91	−.06	80.0	−.1	92	26	86	71	4	75	18	75	74	90	17.81	+9.5	21	7.7	ne.	24	s.	12	5	7	18	7.4	.0	.0
Tampa [2]	35	88	197	29.90	29.94	−.03	78.6	−1.3	91	1	86	64	30	71	20	72	71	84	4.04	−2.4	.14	11.1	ne.	29	e.	7	9	14	7	5.5	.0	.0
East Gulf States							**74.4**	**−1.5**										**73**	**2.56**	**−1.8**										**4.1**		
Atlanta [1]	1,173	5	72	28.82	30.03	−.02	71.6	−.8	95	22	83	44	27	60	31	62	58	72	3.07	------	4	7.2	ne.	31	nw.	10	17	9	4	3.3	.0	.0
Macon [2]	370	79	87	29.63	30.01	−.02	73.2	−1.6	97	10	85	48	12	61	35	63	59	71	.92	−2.3	5	5.7	n.	22	nw.	10	15	10	5	4.0	.0	.0
Thomasville	273	49	58	29.72	30.01	.00	74.0	−2.8	95	11	84	48	27	64	33	----	----	---	1.19	−3.7	3	------	------	---	------	---	---	---	---	------	------	------
Apalachicola	35	11	51	29.93	29.97	------	75.7	−2.8	92	1	83	52	27	69	22	69	67	80	5.67	−2.4	8	9.6	ne.	37	se.	18	8	9	13	5.9	.0	.0
Pensacola	56	54	79	29.93	29.99	.00	76.2	−1.8	95	10	84	53	12	68	25	68	64	71	.98	−4.4	4	7.5	e.	20	s.	24	16	6	8	4.2	.0	.0
Anniston	741	9	----	29.28	30.07	+.04	71.2	−.1	93	22	83	44	12	60	31	----	----	---	.64	------	2	------	se.	----	------	---	17	10	3	----	.0	.0
Birmingham [2]	700	11	48	29.30	30.04	+.01	74.2	−.6	95	9	86	46	27	62	30	61	56	68	1.39	−2.0	4	5.5	e.	30	s.	24	18	8	4	3.4	.0	.0
Mobile [2]	57	86	161	29.94	30.00	.00	75.9	−2.2	94	10	86	53	12	66	32	66	64	78	4.86	−.1	5	9.5	n.	26	s.	24	17	8	5	3.8	.0	.0
Montgomery [2]	218	92	105	29.79	30.02	.00	75.6	−.7	97	3	86	48	27	65	29	64	59	70	.29	−2.7	3	6.4	e.	21	nw.	10	15	5	10	4.5	.0	.0
Meridian [2]	375	67	92	29.63	30.02	.00	73.4	−1.1	95	9	86	45	13	61	35	63	59	75	1.65	−1.3	2	4.7	ne.	21	ne.	24	16	7	7	3.6	.0	.0
Vicksburg	247	82	102	29.76	30.02	.00	74.4	−1.9	94	4	85	46	26	64	27	64	60	69	.64	−2.2	3	7.2	n.	27	n.	2	19	4	7	3.1	.0	.0
New Orleans [2]	53	76	84	29.93	29.99	+.01	77.9	−1.3	94	10	85	58	27	71	23	69	66	73	7.99	+3.0	7	7.5	ne.	21	n.	25	15	12	3	3.6	.0	.0
Port Eads, La	9	4	35	29.95	29.96	------	78.5	------	93	2	83	65	13	74	17	----	----	---	6.72	------	10	12.9	e.	32	------	19	---	---	---	5.4	.0	.0
West Gulf States							**75.9**	**−1.2**										**70**	**2.52**	**−1.2**										**3.5**		
Shreveport [2]	249	92	227	29.77	30.03	+.03	74.7	−2.2	95	9	86	47	27	64	28	65	62	76	.36	−2.4	5	8.3	ne.	32	ne.	2	24	2	4	2.6	.0	.0
Bentonville	1,303	12	51	------	------	------	68.7	−.2	92	1	80	36	26	57	35	----	----	---	4.00	+.3	6	4.7	s.	20	s.	2	14	9	7	----	.0	.0
Fort Smith	463	57	82	29.60	30.08	+.07	72.4	−1.6	95	8	83	45	27	62	33	63	58	65	2.82	−.2	5	5.6	e.	26	w.	2	16	5	9	4.7	.0	.0
Little Rock [2]	357	94	102	29.68	30.06	+.03	72.6	−1.5	96	9	83	47	26	62	28	63	60	77	2.17	−1.0	4	6.3	e.	20	ne.	25	15	6	9	4.5	.0	.0
Austin [2]	605	68	90	29.37	29.99	------	76.7	−1.6	100	10	88	49	27	65	35	65	59	64	3.39	.0	3	6.4	ne.	27	nw.	24	21	6	3	2.7	.0	.0
Brownsville [2]	57	88	96	29.88	29.94	------	80.3	−.3	99	24	89	56	27	72	28	71	68	77	1.58	−3.9	4	8.6	e.	23	nw.	26	9	17	4	4.9	.0	.0
Corpus Christi [2]	20	11	78	29.94	29.96	+.01	80.4	+.7	93	9	87	59	27	74	18	71	68	78	3.14	−1.4	7	10.1	e.	28	ne.	6	17	9	4	3.2	.0	.0
Dallas [1]	512	220	227	29.48	30.01	------	75.6	------	99	9	88	45	27	64	34	64	58	61	.22	−2.5	3	8.3	se.	26	n.	10	18	7	5	3.3	.0	.0
Fort Worth [1]	679	35	56	29.32	30.02	+.03	76.6	−.3	100	1	88	47	26	65	31	63	56	58	.68	−1.8	2	9.1	se.	27	nw.	25	16	8	6	3.6	.0	.0
Galveston [2]	54	106	114	29.92	29.98	.00	77.7	−2.4	92	8	82	56	26	73	17	69	66	73	6.87	+1.3	5	9.3	e.	25	n.	25	18	9	3	3.1	.0	.0
Houston [2]	138	157	190	29.84	29.99	------	77.6	−1.4	99	10	88	52	27	67	27	67	63	74	2.49	−1.6	5	9.4	ne.	27	ne.	20	17	9	4	3.5	.0	.0
Palestine	510	64	72	29.50	30.03	+.04	74.2	−2.8	95	1	84	49	27	64	27	64	59	67	1.76	−1.2	4	6.1	ne.	16	e.	20	19	7	4	3.0	.0	.0
Port Arthur	34	59	134	29.96	29.99	------	76.2	------	94	2	85	52	26	68	23	68	65	73	4.32	−.5	6	11.6	ne.	39	ne.	20	18	8	4	3.4	.0	.0
San Antonio [2]	693	111	301	29.26	29.98	+.02	79.0	.0	101	10	90	53	27	68	31	67	62	64	1.42	−1.6	5	9.8	e.	40	n.	24	16	11	3	3.5	.0	.0

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS—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 inch, or more	Wind: Average hourly velocity	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.
Ohio Valley and Tennessee							66.6	−2.1										73	1.53	−1.4										3.6		
Chattanooga [1]	762	71	214	29.25	30.05	−0.01	68.8	−3.4	96	22	84	38	27	54	38	60	57	79	0.49	−2.6	2	4.7	n.	25	ne.	25	16	8	6	3.9	0.0	0.0
Knoxville [2]	995	66	84	29.02	30.06	.00	69.6	−1.0	94	22	82	43	28	57	31	59	54	71	1.17	−1.5	3	4.6	ne.	18	n.	25	24	3	3	1.9	.0	.0
Memphis [2]	399	78	86	29.63	30.04	+.01	73.8	+.2	95	22	83	48	26	64	23	61	58	73	1.88	−.9	1	6.0	e.	21	n.	25	16	7	7	3.8	.0	.0
Nashville [2]	546	167	187	29.48	30.06	.00	71.0	−.8	95	9	83	44	12	59	33	59	54	67	.87	−2.6	4	6.9	ne.	31	n.	25	19	8	3	2.9	.0	.0
Lexington	989	6	----	29.05	30.11	+.04	66.6	−1.9	97	21	81	38	26	52	36	----	----	----	2.59	−.5	4	----	----	----	----	----	24	4	2	1.8	.0	.0
Louisville [2]	525	166	120	29.52	30.08	+.02	68.2	−2.3	95	21	80	41	26	57	31	56	52	70	.97	−1.8	3	6.6	ne.	27	ne.	25	20	8	2	2.5	.0	.0
Evansville [1]	431	76	116	29.62	30.07	+.01	67.0	−3.7	95	21	81	40	27	52	38	57	52	67	.91	−2.4	3	6.0	n.	27	ne.	25	21	6	3	2.8	.0	.0
Indianapolis [2]	823	98	129	29.22	30.10	+.04	66.8	−.1	94	20	78	38	26	56	30	56	51	70	1.06	−2.3	3	6.1	ne.	21	ne.	25	12	13	5	4.1	.0	.0
Terre Haute	575	68	149	29.48	30.09	----	67.5	----	97	20	79	39	26	56	32	57	51	64	.96	−2.7	3	7.1	ne.	27	ne.	8	19	8	3	3.4	.0	.0
Cincinnati [2]	627	11	51	29.42	30.09	+.02	65.8	−1.3	97	21	78	37	26	53	39	56	52	76	1.23	−1.4	3	5.3	ne.	22	n.	25	14	8	8	4.2	.0	.0
Columbus [2]	822	90	110	29.22	30.09	+.02	64.8	−1.7	94	20	76	37	26	54	34	55	51	75	1.55	−1.0	4	6.7	n.	25	sw.	14	9	15	6	4.7	.0	.0
Dayton	900	186	213	29.15	30.11	----	64.1	−2.5	93	20	75	35	26	53	35	55	51	71	1.13	−.8	3	6.9	ne.	26	sw.	8	12	11	7	4.5	.0	.0
Elkins [2]	1,947	61	78	28.08	30.12	+.04	59.4	−3.6	85	21	72	31	26	47	40	52	50	89	3.42	+.3	7	4.1	w.	17	nw.	25	15	6	9	5.2	.0	.0
Parkersburg	637	77	84	29.41	30.09	+.01	63.8	−3.5	90	20	75	36	26	52	33	57	54	80	2.13	−.6	5	4.5	n.	18	nw.	25	19	6	5	3.2	.0	.0
Pittsburgh [1]	842	39	54	29.19	30.09	+.01	62.5	−3.9	90	21	73	36	27	52	31	55	51	74	2.59	.0	7	7.9	nw.	34	sw.	24	6	13	11	5.8	.0	.0
Lower Lake Region							61.6	−1.3										82	2.35	−0.6										5.5		
Buffalo [2]	768	243	279	29.24	30.07	+.01	61.0	−1.4	77	18	67	40	26	55	22	54	52	83	3.72	+.8	11	11.4	sw.	36	sw.	10	8	11	11	5.8	.0	.0
Canton	448	10	61	29.55	30.02	----	58.8	−.5	78	19	70	30	26	48	31	53	50	80	3.49	+.1	9	6.4	w.	24	sw.	10	6	13	11	6.0	.0	.0
Ithaca	836	77	100	29.15	30.06	----	59.6	−2.0	87	20	71	34	27	48	33	----	----	----	2.79	−.3	11	6.5	nw.	23	nw.	25	6	12	12	6.3	.0	.0
Oswego	335	71	85	29.68	30.05	−.01	59.5	−1.7	82	20	67	41	27	52	25	56	53	81	2.38	−.3	9	7.6	w.	24	n.	24	13	8	9	4.9	.0	.0
Rochester [2]	523	86	102	29.50	30.06	.00	61.6	−.8	85	20	69	43	25	54	24	54	52	85	2.33	−.1	10	7.1	sw.	18	w.	10	10	12	8	5.3	.0	.0
Syracuse [2]	596	65	79	29.41	30.05	−.02	60.0	−1.8	85	20	71	35	26	49	33	54	52	84	1.91	−.8	7	7.9	sw.	26	w.	10	5	12	13	6.7	.0	.0
Erie [2]	714	57	81	29.31	30.09	+.03	61.8	−1.8	80	20	68	42	27	55	21	55	53	87	3.14	−.2	12	6.6	s.	16	e.	15	7	9	14	6.2	.0	.0
Cleveland [2]	762	267	318	29.27	30.09	+.03	63.0	−.9	85	20	69	44	27	57	25	55	52	78	1.83	−1.5	11	12.0	s.	41	ne.	24	10	13	7	5.2	.0	.0
Sandusky	629	5	67	----	----	----	63.8	−1.5	92	20	74	39	27	54	32	----	----	----	3.01	+.1	7	7.0	sw.	22	nw.	10	12	11	7	4.9	.0	.0
Toledo [2]	628	79	87	29.42	30.10	+.04	63.6	−.8	91	20	73	37	26	54	29	55	53	83	1.17	−1.6	5	7.7	w.	24	n.	10	15	10	5	3.9	.0	.0
Fort Wayne [2]	857	69	84	29.19	30.10	----	63.8	−1.6	92	20	74	38	26	53	29	54	50	75	.70	−2.4	3	6.8	nw.	25	nw.	10	11	9	10	5.1	.0	.0
Detroit [1]	730	5	78	29.31	30.09	+.03	62.8	−.7	91	20	72	36	26	53	27	56	54	79	1.73	−1.2	8	7.6	nw.	23	nw.	10	11	9	10	5.4	.0	.0
Upper Lake Region							60.9	+1.4										82	1.86	−1.5										5.7		
Alpena	609	13	89	29.42	30.08	+.05	59.3	+1.7	89	20	68	36	30	51	28	54	52	84	3.04	+.1	12	9.2	nw.	31	se.	14	7	6	17	6.7	.0	.0
Escanaba	612	51	72	29.43	30.09	+.08	58.6	+1.5	82	7	66	34	26	51	31	54	52	84	1.77	−1.6	9	9.8	s.	35	n.	24	6	12	12	6.6	.0	.0
Grand Rapids [2]	707	70	244	29.33	30.09	+.04	63.2	+.5	88	20	73	38	26	54	29	54	52	83	.65	−2.9	6	8.3	sw.	27	s.	13	11	11	8	5.0	.0	.0
Lansing	878	5	90	29.15	30.10	----	60.4	−1.0	85	20	69	34	26	52	26	----	----	84	1.42	−1.5	6	6.6	nw.	21	nw.	10	12	10	8	5.0	.0	.0
Marquette	734	44	73	29.27	30.08	+.08	59.7	+2.2	87	6	67	38	25	52	26	54	52	81	3.05	−.2	10	7.7	w.	23	s.	23	7	9	14	6.5	.0	.0
Sault Ste. Marie [2]	614	11	52	29.40	30.08	+.06	57.8	+2.3	82	20	66	35	25	50	31	52	50	89	1.99	−2.2	12	6.6	nw.	24	nw.	24	3	9	18	7.5	T	.0
Chicago	673	7	131	29.39	30.11	+.07	64.6	−.6	90	20	72	42	26	57	26	57	54	75	.31	−2.8	3	8.7	ne.	30	ne.	24	11	14	5	4.5	.0	.0
Green Bay	617	109	141	29.42	30.09	+.07	62.0	+1.6	85	20	71	37	25	53	26	56	53	78	2.36	−1.2	7	9.4	s.	30	n.	24	9	9	12	5.8	.0	.0
Milwaukee [2]	681	126	221	29.38	30.11	+.08	63.2	+.7	88	20	71	40	25	56	24	56	53	81	.55	−2.7	3	10.5	w.	30	n.	24	13	7	10	4.9	.0	.0
Duluth	1,133	5	47	28.86	30.07	+.09	60.0	+4.9	84	7	70	31	25	50	29	53	50	80	3.47	+.2	5	9.9	ne.	31	nw.	10	12	10	8	4.9	.0	.0
North Dakota							63.2	+6.0										66	0.94	−0.6										3.6		
Moorehead, Minn. [2]	940	50	58	29.03	30.04	+.08	63.8	+5.6	92	19	76	30	25	51	49	55	49	69	.22	−2.0	6	7.7	s.	21	n.	9	17	9	4	3.3	.0	.0
Bismarck [1]	1,677	4	41	28.26	30.03	+.09	64.4	+6.3	98	3	81	27	11	48	46	54	48	64	1.38	+.2	4	10.2	e.	34	se.	4	16	10	4	3.9	.0	.0
Devils Lake	1,478	11	44	28.48	30.05	+.11	61.0	+5.1	89	5	75	29	25	48	36	53	49	74	1.16	−.5	9	7.5	se.	25	n.	9	13	9	8	4.3	.0	.0
Lemmon, S. Dak	2,602	4	38	27.32	30.01	----	64.6	----	94	3	79	32	11	50	43	53	45	----	.77	----	4	----	----	----	----	----	----	----	----	----	.0	.0
Grand Forks	832	12	67	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Williston	1,878	42	50	28.04	29.99	+.06	63.8	+7.2	100	3	77	30	10	50	44	53	45	59	1.02	−.1	5	6.1	se.	24	se.	2	20	7	3	3.0	.0	.0
Upper Mississippi Valley							66.8	+1.5										70	0.92	−2.7										3.7		
Minneapolis, St. Paul, Minn. [1]	919	32	61	29.08	30.06	+.07	65.3	+3.9										71	.41	−2.7												
							66.0	----	91	19	76	36	26	54	36	57	52	----	.94	----	5	9.4	s.	28	nw.	9	14	10	6	4.0	.0	.0
Springfield, Minn	1,025	4	42	28.97	30.06	----	64.0	+1.8	93	7	78	34	25	54	33	57	52	77	.29	−3.7	7	----	----	----	----	----	----	----	----	----	.0	.0
La Crosse [2]	714	11	48	29.32	30.09	+.08	62.9	+.5	87	20	74	37	26	54	29	56	52	78	.84	−2.9	6	4.6	s.	19	nw.	20	12	10	8	4.8	.0	.0
Madison [2]	974	70	78	29.07	30.12	+.09	63.6	+2.6	87	20	72	40	26	54	28	55	52	76	2.63	−1.0	7	6.5	s.	26	ne.	24	8	16	6	5.0	.0	.0
Charles City	1,015	10	51	29.02	30.11	+.11	67.2	+1.6	88	7	75	36	25	52	32	56	52	74	1.69	−1.9	5	5.1	se.	17	se.	17	19	8	3	2.8	.0	.0
Davenport [2]	606	66	161	29.45	30.12	+.09	67.6	+2.0	93	21	78	40	25	56	28	56	53	67	.35	−3.3	2	7.7	sw.	24	ne.	24	18	6	6	3.7	.0	.0
Des Moines [2]	860	5	99	29.16	30.08	+.06	64.9	+.9	92	21	79	36	26	56	32	58	52	72	1.48	−2.5	2	8.0	se.	24	n.	24	17	9	4	3.4	.0	.0
Dubuque	699	60	79	29.36	30.10	+.07	68.0	+.5	91	20	76	36	26	54	31	57	53	64	.04	−3.8	7	4.7	s.	15	n.	9	14	7	9	4.6	.0	.0
Keokuk	614	64	78	29.44	30.09	+.06	70.9	−.6	93	21	80	41	26	57	31	58	52	64	1.75	−1.1	1	5.4	sw.	19	sw.	13	20	4	6	3.0	.0	.0
Cairo	358	87	93	29.69	30.07	+.02	66.6	+2.3	94	22	82	45	27	60	31	60	55	73	1.16	−2.9	2	5.8	ne.	28	n.	24	16	7	7	3.9	.0	.0
Peoria [2]	609	11	45	29.45	30.11	+.07	68.8	+1.2	94	20	79	34	26	54	36	56	52	68	.38	−3.3	3	3.9	ne.	14	ne.	25	21	5	4	2.4	.0	.0
Springfield, Ill. [2]	636	5	191	29.42	30.10	+.05	71.8	+1.3	95	21	81	40	27	57	30	55	50	53	.03	−3.4	2	9.3	s.	25	n.	24	16	8	6	3.9	.0	.0
St. Louis [5]	568	179	303	29.49	30.09	+.05	69.1	+2.8	95	20	82	44	26	61	29	59	51	68	1.28	−1.9	1	8.2	ne.	24	nw.	9	20	6	4	3.0	.0	.0
Missouri Valley							69.1	+2.8										68	1.28	−1.9										4.5		
Columbia, Mo. [2]	784	6	66	29.26	30.10	+.07	70.0	+1.1	95	20	82	39	11	57	38	59	54	68	1.30	−3.3	4	5.7	e.	19	nw.	10	17	8	5	3.5	.0	.0
Kansas City [1]	963	8	76	29.06	30.07	+.05	69.6	+1.2	94	8	81	37	26	59	35	61	56	80	.78	−3.1	4	8.0	sw.	28	nw.	9	10	12	8	4.7	.0	.0
St. Joseph [2]	967	11	49	29.21	30.08	----	67.8	−1.1	93	21	80	37	26	59	33	60	57	75	2.42	−1.1	8	7.0	s.	20	n.	9	16	10	4	3.5	.0	.0
Springfield, Mo. [1]	1,324	5	78	28.76	30.10	+.07	70.2	+1.5	90	9	79	36	12	56	36	60	56	68	1.20	−2.6	4	8.1	se.	30	n.	24	16	4	10	4.5	.0	.0
Topeka	987	65	87	29.03	30.07	----	70.6	+4.2	98	8	81	38	26	59	35	61	56	64	1.74	−1.2	8	7.8	s.	23	n.	9	8	11	11	5.7	.0	.0
Lincoln [2]	1,189	11	81	28.80	30.04	+.05	69.0	+2.2	100	8	83	38	11	58	41	58	52	66	.56	−2.6	4	9.1	s.	25	n.	9	12	13	5	4.2	.0	.0
Omaha [1]	1,105	31	44	29.03	30.06	+.06	68.6	+6.1	95	7	81	38	25	57	36	59	54	62	1.22	−.1	4	9.3	se.	25	sw.	8	14	9	7	4.4	.0	.0
Valentine	2,598	46	54	27.32	30.00	+.04	68.0	+4.6	100	7	82	30	11	55	44	57	50	69	2.77	−.3	7	8.7	s.	30	sw.	18	8	11	11	5.5	.0	.0
Sioux City [2]	1,138	64	106	28.85	30.05	+.07	68.0	+6.7	94	7	79	35	12	56	45	58	54	60	.52	−1.0	4	8.8	s.	29	sw.	7	10	12	8	4.7	.0	.0
Huron [1]	1,301	26	41	28.64	30.02	+.06	63.0	+6.2	98	2	82	29	25	54	53	56	49	61	1.81	+0.6	6	13.5	s.	40	sw.	15	11	14	5	4.5	.0	.0
Northern Slope							63.0	+6.2										61	1.81	+0.6										5.6		
Billings [1]	3,570	18	39	26.34	29.94	----	66.2	----	98	2	78	44	30	54	40	53	43	51	1.09	----	8	8.9	sw.	40	nw.	4	7	14	9	5.5	.0	.0
Havre	2,507	11	67	27.37	29.98	+.04	64.2	+7.8	98	2	78	40	25	50	45	52	44	55	1.47	+.2	6	7.8	e.	26	sw.	4	17	10	3	3.2	.0	.0
Helena [1]	4,124	85	111	25.84	29.99	+.02	60.4	+3.8	90	1	73	37	30	48	43	51	45	63	2.00	+.8	14	6.9	sw.	43	sw.	13	2	13	15	7.2	.0	.0
Missoula [2]	3,263	80	91	26.64	29.98	----	63.1	+7.7	91	7	76	39	6	51	42	54	48	67	1.68	+.2	12	6.3	e.	31	se.	7	4	17	9	6.3	.0	.0
Kalispell	2,973	48	56	26.95	29.96	.00	60.8	+7.3	86	11	72	40	6	50	35	54	48	68	1.69	+.4	11	5.1	w.	21	sw.	13	8	7	15	6.3	.0	.0
Miles City [2]	2,371	48	55	27.50	29.96	+.01	68.6	+7.4	98	2	81	40	10	56	39	55	45	50	.51	−.5	5	5.8	ne.	20	se.	3	11	13	6	4.6	.0	.0
Rapid City [2]	3,259	50	58	26.68	29.99	+.03	66.6	+6.2	95	1	79	39	11	54	39	55	46	57	1.27	+.1	8	6.5	w.	20	n.	8	13	8	9	4.5	.0	.0
Cheyenne [1]	6,094	5	39	24.11	29.99	+.03	60.1	+3.1	91	1	72	38	11	48	41	51	46	70	3.75	+2.6	18	8.3	s.	35	se.	3	7	8	19	7.2	.0	.0
Lander	5,352	60	68	24.71	29.94	−.02	61.8	+6.1	91	1	75	40	27	48	39	51	43	58	1.73	+.8	9	5.0	sw.	25	w.	4	5	18	7	5.5	.0	.0
Sheridan [6]	3,790	10	47	26.14	29.96	----	64.6	----	100	2	80	40	11	50	47	52	44	56	2.05	+.8	7	4.0	s.	22	se.	3	11	5	11	5.7	.0	.0
Yellowstone Park	6,241	12	46	23.98	30.08	+.11	55.2	+5.1	83	2	67	32	30	43	35	46	41	68	2.84	+1.6	15	6.7	sw.	29	sw.	7	3	12	12	6.7	.0	.0
North Platte [6]	2,821	11	51	27.11	29.99	+.02	69.2	+7.1	98	8	82	39	11	57	38	58	52	68	.88	−.5	6	7.1	s.	25	sw.	18	11	14	7	5.0	.0	.0

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS—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 inch, or more	Wind: Average hourly velocity	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 Slope							69.5	+1.4										67	2.69	+0.6										5.2		
Denver [2]	5,292	106	113	24.82	29.98	+0.02	65.2	+2.3	91	1	75	50	30	56	29	55	50	70	2.47	+1.5	12	6.2	s.	29	ne.	5	9	13	8	5.3	0.0	0.0
Pueblo [1]	4,690	79	86	25.35	29.96	.00	66.7	+2.1	94	1	80	45	26	53	42	55	49	65	1.96	+1.2	9	7.0	e.	27	s.	18	6	14	10	5.8	.0	.0
Concordia	1,392	50	58	28.60	30.05	+.06	70.4	+2.1	95	17	81	40	11	60	34	61	56	66	.83	−1.8	5	7.9	s.	21	se.	3	9	13	8	5.1	.0	.0
Dodge City	2,509	10	86	27.44	30.00	+.02	70.2	+.8	97	17	82	44	25	59	38	60	54	66	2.05	+.2	8	11.0	s.	29	s.	5	12	10	8	5.0	.0	.0
Wichita [2]	1,358	85	93	28.63	30.05	+.05	71.0	+.4	95	2	81	44	26	61	31	61	57	71	6.14	+3.0	9	9.7	se.	28	se.	2	15	6	9	4.6	.0	.0
Oklahoma City [2]	1,214	10	47	28.78	30.04	+.05	73.6	+.8	99	1	84	44	26	63	31	62	56	64	2.71	−.3	7	8.1	s.	20	n.	10	11	9	10	5.3	.0	.0
Chadron, Nebr	3,439	5	44	26.51	29.97	------	69.2	------	102	1	82	38	10	56	39	56	48	---	1.34	------	10	------	------	----	------	---	--	--	--	----	.0	.0
Southern Slope							74.9	+1.4										56	0.56	−2.0										4.0		
Abilene [2]	1,738	10	56	28.22	29.99	+.03	76.6	+1.3	97	9	88	46	26	65	30	63	56	60	.97	−1.7	7	9.0	se.	22	n.	24	20	3	7	3.7	.0	.0
Amarillo [2]	3,676	10	49	26.33	29.98	+.02	72.2	+2.9	96	13	84	47	26	60	35	58	51	58	.54	−1.8	4	10.3	se.	25	se.	30	14	12	4	4.4	.0	.0
Del Rio	960	63	71	28.98	29.94	.00	78.0	−1.2	98	24	88	55	27	68	29	66	59	57	.18	−2.8	1	8.0	se.	29	n.	6	15	11	4	3.8	.0	.0
Roswell	3,566	75	85	26.41	29.95	+.03	72.8	+2.5	94	16	86	51	27	60	39	58	49	50	.57	−1.5	5	7.2	s.	25	nw.	4	14	11	5	4.0	.0	.0
Southern Plateau							72.1	+1.7										57	1.07	+0.2										4.1		
El Paso [2]	3,778	82	101	26.19	29.88	.00	77.2	+3.3	95	13	89	58	19	66	32	60	50	45	.25	−1.0	6	7.7	e.	27	nw.	30	14	15	1	3.8	.0	.0
Albuquerque [1]	4,972	5	34	25.13	29.94	------	68.4	+.5	89	9	80	51	30	56	32	57	51	62	1.99	+1.2	13	7.3	se.	32	se.	20	9	13	8	5.1	.0	.0
Santa Fe	7,013	38	53	23.79	30.00	+.07	62.5	+1.6	83	9	73	45	25	52	30	52	46	64	2.55	+1.1	8	5.4	e.	21	n.	30	5	14	11	6.2	.0	.0
Flagstaff	6,907	10	59	23.43	29.89	.00	57.6	+2.1	78	9	70	37	21	45	33	50	45	71	3.63	------	15	7.5	nw.	25	sw.	16	3	21	6	5.9	.0	.0
Phoenix [2]	1,107	39	87	28.68	29.80	−.01	85.2	+2.5	107	9	98	67	21	73	32	67	58	48	1.43	+.7	5	5.3	e.	26	sw.	6	16	9	5	4.1	.0	.0
Yuma	142	9	54	29.65	29.79	+.01	85.3	+1.6	109	10	99	64	19	72	39	69	60	51	.53	+.2	4	4.1	s.	25	e.	7	24	4	2	1.8	.0	.0
Independence	3,957	5	26	25.92	29.89	+.02	68.2	+.2	90	10	83	43	29	54	38	50	33	---	T	−.1	0	5.3	s.	----	------	---	---	---	---	1.2	.0	.0
Middle Plateau							63.3	+1.2										56	1.81	+1.1										4.6		
Reno [2]	4,527	61	76	25.44	29.93	−.02	60.2	−.3	86	11	74	34	19	46	38	48	39	57	.56	+.3	5	5.8	w.	30	nw.	3	15	7	8	3.9	.0	.0
Tonopah	6,090	12	20	24.04	29.90	------	61.2	------	80	8	72	38	19	50	29	46	33	---	.60	------	2	------	se.	----	------	---	---	---	---	2.0	.0	.0
Winnemucca	4,344	18	56	25.58	29.92	−.01	61.0	+1.8	92	1	77	34	29	45	43	49	38	52	1.53	+1.1	12	7.6	ne.	25	s.	11	8	15	7	4.9	.0	.0
Modena	5,473	10	46	------	29.92	.00	60.4	+.4	85	1	74	37	28	47	37	----	----	---	2.88	+2.1	12	9.3	w.	38	nw.	27	9	11	10	5.2	.0	.0
Salt Lake City [2]	4,357	86	210	25.62	29.93	−.02	66.8	+2.4	93	1	78	41	27	56	41	54	47	57	1.72	+.7	12	7.6	se.	32	s.	17	7	13	10	5.7	.0	.0
Grand Junction	4,602	60	68	25.42	29.96	+.01	67.9	+1.7	95	1	79	48	30	57	30	56	48	57	2.35	+1.4	15	6.1	se.	23	w.	28	7	12	11	5.9	.0	.0
Northern Plateau							64.6	+4.6										66	2.20	+1.4										5.7		
Baker [2]	3,471	36	54	26.43	29.97	−.02	59.4	+3.4	89	11	72	38	21	47	41	51	46	73	3.90	+3.2	15	5.1	s.	19	s.	9	7	11	12	5.7	.0	.0
Boise [1]	2,739	5	49	27.13	29.93	−.04	63.2	------	93	11	74	38	28	52	34	55	49	66	1.87	------	11	8.9	se.	37	w.	7	4	11	15	6.6	.0	.0
Pocatello [1]	4,478	5	31	25.50	29.97	+.01	60.4	------	90	1	73	32	30	48	42	51	46	67	3.80	------	15	7.0	sw.	30	s.	17	6	8	16	6.4	.0	.0
Spokane [2]	1,929	101	110	27.93	29.94	−.04	64.6	+5.4	92	11	75	47	6	54	34	56	51	69	2.12	+1.2	7	5.5	s.	22	s.	27	9	10	11	5.5	.0	.0
Walla Walla	991	57	65	28.87	29.93	−.07	67.4	+3.6	91	8	77	50	29	57	33	----	----	---	1.96	+1.0	9	4.9	s.	23	w.	26	7	12	11	5.9	.0	.0
Yakima	1,076	58	67	28.79	29.93	------	67.1	+6.0	95	9	80	47	5	55	33	56	48	54	.83	+.3	5	5.8	nw.	35	sw.	9	16	8	6	3.9	.0	.0
North Pacific Coast Region							62.7	+3.7										78	2.69	+0.5										6.6		
North Head	211	5	56	29.77	29.99	−.04	60.2	+3.7	82	22	65	50	19	56	25	58	56	91	2.90	−.1	15	10.6	n.	29	s.	17	8	8	14	6.6	.0	.0
Seattle [2]	125	90	321	29.84	29.97	−.04	64.0	+5.9	85	22	72	49	19	56	29	58	54	78	2.58	+.8	9	6.4	n.	26	sw.	17	8	7	15	6.1	.0	.0
Tacoma	194	172	201	29.78	29.98	−.04	62.5	+5.2	80	22	70	45	20	55	26	----	----	---	2.21	+.1	7	5.9	n.	27	w.	17	5	7	18	7.1	.0	.0
Tatoosh Island	86	9	61	29.89	29.98	−.03	57.6	+4.6	66	8	62	47	6	53	14	56	54	88	2.41	−2.3	10	9.4	e.	37	s.	9	6	9	15	6.7	.0	.0
Medford [1]	1,329	29	58	28.55	29.94	------	64.0	+.7	91	8	77	45	20	51	45	55	48	66	2.31	+1.8	11	------	nw.	----	------	---	7	10	13	6.0	.0	.0
Portland, Oreg. [2]	154	68	106	29.79	29.96	−.07	65.6	+3.9	88	23	74	46	19	58	28	60	55	74	3.56	+1.6	9	5.2	nw.	15	sw.	17	5	7	18	7.1	.0	.0
Roseburg	510	45	76	29.41	29.96	−.06	65.0	+2.1	90	22	76	42	20	54	39	57	53	72	2.83	+1.6	11	4.0	nw.	20	sw.	7	5	7	18	6.7	.0	.0
Middle Pacific Coast Region							66.1	+1.2										66	0.51	−0.2										4.6		
Eureka	60	72	88	29.92	29.99	−.02	59.8	+3.9	73	6	65	49	19	54	21	56	54	85	.91	−.1	5	5.7	sw.	26	n.	29	5	9	16	6.3	.0	.0
Redding [1]	722	20	34	29.14	29.90	------	70.2	−3.3	90	22	81	49	27	60	28	56	45	45	.53	−.3	4	7.8	nw.	34	w.	26	10	13	7	4.9	.0	.0
Sacramento [2]	66	92	115	29.83	29.90	+.01	69.4	+.1	89	21	82	51	27	57	34	58	50	56	.01	−.4	1	6.9	sw.	18	s.	26	23	3	4	2.1	.0	.0
San Francisco	155	112	132	29.77	29.94	.00	65.0	+4.1	83	29	71	55	4	59	24	59	56	80	.59	+.1	6	7.8	w.	29	w.	18	9	10	11	5.0	.0	.0
South Pacific Coast Region							69.9	+0.1										66	0.03	−0.1										2.9		
Fresno [1]	327	89	98	29.54	29.89	+.02	71.3	−2.1	94	1	86	46	29	56	37	59	49	52	.00	−.2	0	6.8	nw.	26	nw.	27	22	5	3	2.3	.0	.0
Los Angeles	338	223	250	29.55	29.91	+.03	69.6	+.6	90	26	80	54	30	60	28	61	56	69	.01	−.2	1	5.9	w.	20	w.	17	21	8	1	2.3	.0	.0
San Diego [1]	87	62	70	29.81	29.90	+.01	68.7	+1.6	93	26	76	57	6	62	28	63	60	78	.08	.0	3	6.9	w.	17	nw.	10	16	10	4	4.2	.0	.0
West Indies																																
San Juan, P. R	82	10	54	29.83	29.91	------	81.8	+1.3	92	13	87	74	24	76	15	----	----	---	1.49	−4.4	11	8.3	e.	26	ne.	25	1	20	9	6.3	.0	.0
Panama Canal																																
Balboa Heights	118	6	92	------	[3]29.81	−.01	80.4	+.6	90	12	86	73	5	75	15	----	----	[3]86	13.99	+5.7	23	4.4	nw.	18	se.	9	0	18	12	7.3	.0	.0
Cristobal	36	6	97	------	[3]29.81	−.02	82.0	+1.6	89	11	87	75	29	77	13	76	75	[3]84	13.77	+1.2	20	5.7	se.	20	ne.	29	0	5	25	8.5	.0	.0
Alaska																																
Fairbanks	454	11	87	------	[4]29.74	------	45.7	+2.3	77	7	55	17	27	36	----	----	----	70	.75	−.5	10	6.2	e.	20	sw.	24	2	6	22	----	T	.0
Juneau	80	96	116	[4]29.83	[4]29.92	------	52.2	+2.0	67	7	57	40	30	48	22	50	47	82	9.31	------	23	7.6	s.	31	e.	21	6	1	23	8.0	.0	.0
Nome	22	5	59	------	[4]29.62	------	43.3	+1.7	55	7	49	24	25	37	----	----	----	79	3.72	+1.0	20	12.6	n.	34	s.	29	1	5	24	----	T	.0
Hawaiian Islands																																
Honolulu	38	86	100	29.91	29.95	------	79.0	+.8	85	23	84	71	23	74	14	71	68	71	.53	−.8	13	8.9	e.	25	e.	1	10	12	8	5.1	.0	.0

[1] Data are airport records.
[2] Barometric and hygrometric data from airport, other data city office records.
[3] Observations taken bihourly.
[4] Pressure not reduced to a mean of 24 hours.
[5] Barometric, hygrometric, and temperature records from airport, other data from city office records.
[6] Wind, and clear, partly cloudy, and cloudy data, from city office records, other data from airport records.

NOTE.—Except as indicated by notes 1, 2, 5, and 6, data in table are city office records.

SEVERE LOCAL STORMS

[Compiled by MARY O. SOUDER from reports submitted by Weather Bureau officials]

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Fort Worth, Tex	1	6-7 p. m			$25,000	Straight-line-wind	Buildings and electric service damaged; 2 persons injured.
New Jersey, southwestern quarter of the State.	1			4	1,000,000	Tropical disturbance.	Rainfall measured from 4.50 to 10.52 inches, within 12 hours at most stations. Number of small rivers flooded, breaking several dams. Property damage, mostly to highways and bridges, is estimated at more than $1,000,000. It is remarkable, however, that no rain fell at the coastal stations of New Jersey from this storm.
Niagara County, N. Y., northern portion.	1		[1] 2-3		205,000	Heavy hail	Property damage, $5,000; crops loss, $200,000; path 30 miles long.
Haysville, Kans., vicinity of	2	6 p. m		0		Tornado	This storm struck for a short distance in a wheat field.
Kit Carson, Colo	3	3 p. m			5,000	Heavy rain	Highway washed out; houses flooded.
Montezuma to Cimarron, Kans.	5	3:40-5 p. m	[1] 1-6		4,000	do	Loss mostly in feed crops; path 20 miles long.
Denver, Colo	5	6 p. m			500	Hail and wind	Damage to greenhouses, $500; severe loss to crops and gardens. Denver covered with from 2 to 4 inches of hail about the size of marbles.
Moccasin, Ariz	6				5,000	Heavy rain and wind.	Fields and houses flooded; crops buried more than a foot under the sand.
Brunsville to Oyens, Iowa	7	11 p. m	[1] 2-4		5,100	Hail, electrical	About 250 farms affected; greatest damage to late corn. Many windows broken; house damaged by lightning; loss in crops, $15,000.
Stanton, Nebr., vicinity of	7				4,000	Thunderstorm	3 barns burned.
Cheesman, Colo	9	1 p. m	[1] 1		500	Heavy hail	Property damaged; loss to crops, $500. Ground covered with 4 inches of hail.
Hoehne, Colo	9	P. m	[1] 6		100,000	do	Loss in beets and other crops.
Kiowa, Colo	9	do			1,000	Hail	Loss to crops.
Lockport, N. Y	15				10,000	Thunderstorm	Barn and contents destroyed by lightning.
Arvada, Colo	20	5 p. m				Hail	Heavy loss in flowers, hay, and tomatoes.
Houston, Tex.[2]	21	do			3,000	Thundersquall	Damage confined to a narrow mile-long east-and-west strip a few blocks south of the business section; property damaged.
Albuquerque, N. Mex., vicinity of.	21				1,000	Electrical	Barn and contents destroyed.
New Roads and False River Section, La.	24	4:45 a. m		1	6,000	Tornado	Several small homes destroyed and several damaged including a cotton gin and the New Roads Livestock Exchange Bldg. Several persons injured, 1 critically.
Chunky, Miss., vicinity of	24		100	0	3,000	do	The first damage occurred about a mile northwest of Chunky when a residence was moved 10 to 12 feet from its foundation with the only person in the house a woman, who was slightly injured when she was blown from the back porch into an adjoining room. A short distance away, a Negro church was blown from its foundation and several tenant houses unroofed. Trees blown down lay in all directions, showing the effect of the rotary motion of the storm. A funnel cloud was not observed, but many persons mentioned the red appearance of the clouds prior to the occurrence of the tornado and all reported the roaring noise similar to the passing of a heavy freight train. Large timbers, pieces of roofing, and other debris seen whirling in the air several hundred feet high. Several persons slightly injured; path 880 yards long.
Lauderdale, Miss	24		500	1	30,000	do	At least 9 houses completely demolished and 30 others badly damaged; several persons were injured requiring hospital treatment. About 256 persons cared for by the Red Cross. Trees uprooted and broken lay in all directions. Small casualty list because the storm struck during daylight hours rather than at night. Path 3 miles long.
Chicago, Ill.,[2] and vicinity	25	P. m			250,000	Wind	For 18 hours high waves battered the harbors of Jackson, Grant and Burnham Parks; 16 small boats capsized and 36 others were damaged.
Atlantic City, N. J.,[2] vicinity of.	25	do		1		Wind and rain	Loss in crops; damage to electric and telephone lines and property.
Aztec Ruins, N. Mex	30	4:45-5:05 p. m.	[1] 1		3,500	Heavy hail	Property damage, $1,500; crop loss, $2,000.

LATE REPORTS FOR AUGUST 1940[3]

Gridley, Kans., 5 miles south and 2 miles west.	14	P. m		0	$6,000	Tornado	Chief damage to buildings on 2 farms.
Eula, Tex	17	5 a. m	100	0	500	do	Damage to barns and outbuildings.
Munday to Goree, Tex	27	5-6 p. m	[1] 2		55,000	Heavy hail	Crop loss, $50,000; property damage, $5,000.
Gatesville, Tex	29	3-3:15 p. m	[1] 3		15,000	do	Crop loss, $10,000; property damage, $5,000.
Paducah, Tex	29	3-4 p. m	[1] 3-5		15,000	do	Loss to crops.
Marlin, Tex	29	3:20-3:55 p.m	[1] 10		5,000	Hail and wind	Damage to property and utilities.

[1] Miles instead of yards.
[2] From press reports.
[3] 6-9: Supplementary report on tropical storm of August 1940, in Louisiana. This storm was tabulated on August 6-7, with $200,000 damage. Later reports gave August 6-9, with estimated damage of $6,445,000 in Louisiana where 37.50 inches of rain fell in 4 days. A detailed account appears in "*Daily and Hourly Precipitation, Supplement No. 1, Precipitation in Louisiana and Adjacent Areas, Storm of August 6-10, 1940,*" issued by the Hydrological Unit of the Weather Bureau at Fort Worth, Tex.

SOLAR RADIATION AND SUNSPOT DATA FOR SEPTEMBER 1940

A PREDICTION OF MONTHLY SUNSPOT NUMBERS THROUGH 1944

By JOHN Q. STEWART and FORREST C. EGGLESTON
[Princeton University, Princeton, New Jersey, October 1940]

In several recent papers [1] a method has been outlined for fitting the curve

$$R=F(r-s)^a e^{-b(r-s)}$$

to sunspot numbers, where R is the Wolf number at time r, and F, a, b are constants throughout a given cycle or outburst. *Annual* numbers for the remainder of the present cycle were predicted by extrapolating such a fit.[2] More recently we have published our predicted *monthly* numbers,[3] together with annual numbers predicted by others.

In Tables 1 and 2 our predictions are here reprinted to

[1] J. Q. Stewart and H. A. A. Panofsky, *Ap. J. 88*, 385, 1938. J. Q. Stewart and F. C. Eggleston, *Ap. J. 91*, 72, 1940. *Cf.* M. Waldmeier, *Astronom. Mitteil.* (Zurich) *133*, 105, 1935.

[2] J. Q. Stewart and F. C. Eggleston, *Physical Review 55*, 102, 1939.

[3] J. Q. Stewart and F. C. Eggleston, *Publ. A. S. P.* in press (Dec. 1940).