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, 1919.

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	75.3	0.0	Evergreen	100	11	Valley Head	44	26	0.77	− 2.72	Eufaula	4.77	11 stations	0.00
Arizona	72.7	− 0.5	Mohawk	112	3	Moccasin	27	23	2.56	+ 1.35	Sycamore R. S.	5 65	Yuma W. B.	0.03
Arkansas	74.6	+ 0.9	Bee Branch	108	10	Gravette	40	12	2.72	− 0.85	Higden	6.30	Warren	0.42
California	67.3	− 1.2	Needles	112	21	Portola	20	5	0.98	+ 0.49	Kennett	5 39	5 stations	0.00
Colorado	59.5	+ 2.9	Lamar	101	5†	3 stations	14	22†	1.94	+ 0.53	Silver Lake	5.07	Garnett	0.11
Florida	79.5	+ 0.2	Marianna	99	18	3 stations	50	29†	4.83	− 2.15	Key West	14 26	Mount Pleasant	0.43
Georgia	75 0	+ 0.2	3 stations	99	11†	Clayton	43	29†	1.41	− 2.04	Quitman	6 35	3 stations	0.00
Hawaii (August)	75.2	+ 0.5	Mahukona	94	16	3 stations	54	2†	4.52	− 1.90	Eke Maui	23.50	4 stations	0.00
Idaho	58.3	+ 1.6	Glenns Ferry	102	11	Irwin	15	22	1.13	+ 0.10	Grand View R. S.	3.93	Deer Flat	0.02
Illinois	69.9	+ 2.8	2 stations	102	10	Joliet	33	26	3.57	0.00	Mount Carroll	7.74	Fairfield	0 75
Indiana	69.4	+ 2.4	2 stations	101	9†	Bluffton	33	26	2.41	− 0.62	Marion	4.79	Farmland	0.45
Iowa	67.5	+ 4.1	3 stations	99	7†	Inwood	33	25	5.34	+ 1.98	2 stations	11.82	Forest City	1.49
Kansas	72.5	+ 3.4	Norwich	105	9	Blakeman	29	23	2.64	− 0.28	Burr Oak	9.02	Arkansas City	0 07
Kentucky	71.5	+ 1.5	Earlington	102	10	Taylorsville	40	27	1.69	− 1.07	Franklin	3.65	Earlington	0 56
Louisiana	78.0	+ 0.5	Grand Cane	100	11	Grand Cane	48	3	2.54	− 1.49	Lawrence	7.62	St. Francisville	0.44
Maryland-Delaware	68.1	+ 0.8	Hancock, Md	100	8	Oakland, Md	31	28	2.32	− 0.84	Emmitsburg, Md	3.42	Hancock, Md	0.75
Michigan	61.8	+ 1.9	2 stations	97	8†	Humboldt	21	26	3.16	+ 0.20	Allegan	6.30	Omer	0.80
Minnesota	60.7	+ 2.5	2 stations	94	7†	Angus	23	25	1.82	− 1.10	Worthington	5.24	New London	0.20
Mississippi	76.1	+ 0.2	Columbus	103	11	Corinth	47	24	1.13	− 2.51	Brookhaven	2.83	University	T.
Missouri	71.4	+ 2.7	Caruthersville	104	10	Cassville	38	11†	3.29	− 0.54	Mexico	8.66	Lockwood	0.30
Montana	56.2	+ 1.0	Outlook	100	12	Bowen	3	22	0.93	− 0.65	Browning	4.96	East Anaconda	0.13
Nebraska	67.8	+ 4.1	2 stations	104	9	Gordon	24	25	2.94	+ 0.79	Bruning	10.05	Erickson	0.10
Nevada	61.5	+ 1.1	Logandale	105	3	Potts	20	22	0.66	+ 0.29	San Jacinto	1.97	2 stations	T.
New England	59.4	− 0.1	Bridgeport, Conn	94	8	Somerset, Vt	21	4	5.02	+ 1.39	Rutland, Mass	8.58	St. Johnsbury, Vt	2.59
New Jersey	65.8	0.0	2 stations	96	8	Culvers Lake	30	27	3.26	− 0.80	Pompton Plains	6.28	Woodbine	1.04
New Mexico	64.6	+ 0.8	Artesia	104	3	2 stations	22	22†	3.57	+ 1.52	Carson Seep R. S.	14.85	Aztec	0.24
New York	61.7	+ 0.7	Roslyn	94	7	Indian Lake	24	27	3.11	− 0.23	Bedford Hills	7.52	Penn Yan	0.61
North Carolina	69.9	0.0	Mount Airy	100	10	Banners Elk	31	29	1.23	− 2.66	Smithfield	5.33	Pinehurst	T.
North Dakota	58.6	+ 2.2	Forman	100	5	Minot	20	25	0.92	− 0.72	Minot	3.18	Forman	0.06
Ohio	66.7	+ 1.1	2 stations	99	9	Paulding	32	27	1.90	− 0.87	Cincinnati	3.79	London	0.83
Oklahoma	75.0	+ 0.8	Mutual	109	10	Kenton	36	23	1.36	− 1.70	Antlers	6.18	Buffalo	T.
Oregon	58.8	0.0	La Grande	99	16	Fremont	14	29	1.70	− 0.01	Headworks	5.57	Union	0.17
Pennsylvania	64.4	+ 0.4	3 stations	96	7†	West Bingham	28	27	2.07	− 1.43	Lykens	4.09	Williamsport	0.46
Porto Rico	78.5	− 0.4	3 stations	96	7†	Toro Negro Dam	59	16	8.73	+ 0.61	Toro Negro Dam	15.17	Isabela	2.95
South Carolina	74.1	+ 0.1	2 stations	99	9†	Landrum	45	29	0.97	− 2.93	Cheraw	4.14	3 stations	0.00
South Dakota	63.8	+ 2.9	6 stations	100	5†	Eureka	25	25	1.37	− 0.42	Tyndall	4.63	Eureka	0.04
Tennessee	72.2	+ 1.0	Copperhill	103	11	Crossville	38	25	1.50	− 1.53	Springville	7.05	2 stations	T.
Texas	76.2	− 0.8	La Pryor	105	9	Romero	39	23	4.88	+ 2.09	Boerne	13.90	Clarksville	0.76
Utah	62.2	+ 2.5	St. George	102	11	3 stations	21	13†	1.88	+ 0.62	Silver Lake	6.11	Hanksville	0.00
Virginia	68.8	+ 0.4	2 stations	98	8†	Burkes Garden	27	29	1.18	− 2.14	Woodstock	2.77	Swansonville	0.20
Washington	58.8	+ 0.5	Trinidad	98	16	2 stations	16	29	1.70	+ 0.06	Cedar Lake	5.25	Maryhill	0.01
West Virginia	66.0	− 0.2	Moorefield	98	6†	Brandywine	31	29	2.11	− 0.81	Rowlesburg	4.37	Sutton	0.12
Wisconsin	61.7	+ 2.3	Racine	97	8	Long Lake	22	26	3.73	+ 0.27	Mount Horeb	8.14	Solon Springs	0.90
Wyoming	57.7	+ 2.9	Sundance	99	12	Sheridan Creek	9	22	1.47	+ 0.19	Pine Bluff	4.62	Deaver	0.23

* For explanation of the following tables and charts, see this REVIEW, January, 1919, pp. 52-53.

† Other dates also.

TABLE I.—*Climatological data for Weather Bureau Stations, September, 1919.*

Districts and stations.	Elevation of instruments.			Pressure.			Temperature of the air.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity.	Precipitation.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	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 .01 or more.	Total movement.	Prevailing direction.	Maximum velocity. Miles per hour.	Direction.	Date.						
	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**	**− 0.1**										**82**	**4.42**	**+ 1.2**										**6.2**		
Eastport	76	67	85	29.92	30.00	− .03	55.0	− 0.2	72	30	61	41	27	49	27	52	50	86	3.85	+ 0.9	10	6,748	s.	30	w.	30	6	10	14	8.4	.....	.....
Greenville, Me.	1,070	6	.....	28.84	29.99	.....	53.4	.....	78	29	62	29	18	44	44	.....	.....	.....	3.71	.....	16	.....	.....	.....	.....	.....	4	11	15	.....	.....	.....
Portland, Me.	103	82	117	29.91	30.03	− .02	57.8	− 1.6	87	8	65	39	16	51	35	54	51	82	3.68	+ 0.5	15	6,539	s.	30	n.	8	7	8	15	6.5	.....	.....
Concord	288	70	79	29.71	30.02	− .04	59.8	+ 0.7	89	8	70	33	27	49	41	.....	.....	.....	3.07	− 0.1	13	1,874	nw.	15	n.	30	4	10	16	7.2	.....	.....
Burlington	404	11	48	29.56	29.99	− .07	58.2	− 0.7	84	7	67	32	27	49	30	.....	.....	.....	3.40	0.0	16	8,549	s.	49	s.	20	6	9	15	6.5	.....	.....
Northfield	876	12	60	.....	30.03	− .03	55.3	+ 0.7	84	8	67	26	27	44	46	.....	.....	85	2.88	+ 0.1	17	5,292	s.	30	s.	25	5	9	16	.....	.....	.....
Boston	125	115	188	29.89	30.03	− .04	63.9	+ 1.2	91	8	72	45	18	56	35	58	55	79	5.83	+ 2.6	12	6,412	sw.	29	sw.	25	9	10	11	5.2	.....	.....
Nantucket	12	14	90	30.01	30.02	− .06	62.6	− 0.2	79	8	68	48	27	57	18	59	57	86	3.45	+ 0.7	12	9,305	sw.	34	ne.	9	9	8	13	6.5	.....	.....
Block Island	26	11	46	30.00	30.03	− .05	63.2	− 0.9	80	8	68	48	18	59	20	60	59	87	3.78	+ 0.8	10	9,926	ne.	36	nw.	12	12	7	11	5.4	.....	.....
Providence	160	215	251	29.86	30.03	− .04	63.0	− 0.2	90	8	71	42	27	55	33	58	55	80	5.80	+ 2.6	11	7,492	nw.	42	nw.	12	11	9	10	5.2	.....	.....
Hartford	159	122	140	29.86	30.03	− .04	63.4	+ 1.7	90	8	72	41	27	55	31	58	56	82	4.30	+ 0.8	10	4,460	s.	32	sw.	25	10	7	13	5.8	.....	.....
New Haven	106	74	153	29.92	30.04	− .03	64.2	+ 0.3	91	8	72	43	27	56	24	59	56	78	7.09	+ 3.3	8	5,691	w.	26	sw.	25	13	7	10	5.0	.....	.....
Middle Atlantic States.							**67.5**	**+ 1.6**										**75**	**1.85**	**− 1.5**										**4.6**		
Albany	97	102	115	29.91	30.01	− .06	62.8	+ 0.5	92	8	72	40	27	54	32	57	54	79	2.99	− 0.2	15	5,164	s.	32	s.	19	8	12	10	5.9	.....	.....
Binghamton	871	10	84	29.10	30.02	− .05	63.0	+ 3.0	89	8	74	35	27	52	38	.....	.....	.....	1.19	− 1.6	13	3,375	ne.	31	s.	19	8	19	13	5.8	.....	.....
New York	314	414	454	29.70	30.03	− .05	66.5	0.0	91	8	74	51	27	59	22	65	56	76	3.60	0.0	8	10,059	nw.	49	nw.	12	9	10	11	5.6	.....	.....
Harrisburg	374	94	104	29.66	30.05	− .03	67.0	+ 2.1	92	8	77	42	27	57	27	60	56	72	1.63	− 1.2	6	3,810	w.	22	nw.	12	15	7	8	4.4	.....	.....
Philadelphia	117	123	190	29.92	30.05	− .03	68.8	+ 1.4	92	8	77	50	27	61	22	62	58	74	2.82	− 0.6	7	6,301	nw.	26	nw.	3	13	8	9	4.7	.....	.....
Reading	325	81	98	29.70	30.04	.....	67.2	.....	92	8	77	43	27	57	29	60	56	74	2.08	− 1.6	5	3,776	n.	23	sw.	25	13	9	8	4.7	.....	.....
Scranton	805	111	119	29.19	30.04	− .03	63.9	+ 1.7	90	8	74	40	27	54	33	57	54	77	2.21	− 0.6	10	4,165	sw.	35	s.	25	11	8	11	5.6	.....	.....
Atlantic City	52	37	48	29.98	30.04	− .03	67.9	+ 0.3	86	8	74	50	28	62	24	63	60	79	1.48	− 1.6	6	4,948	sw.	19	sw.	11	14	7	9	4.7	.....	.....
Cape May	18	13	49	30.05	30.07	.00	68.3	− 0.7	88	9	75	48	28	62	19	63	61	83	1.59	− 1.4	7	4,447	s.	21	nw.	12	18	4	8	3.9	.....	.....
Sandy Hook	22	10	57	30.01	30.03	.....	67.1	.....	89	8	73	53	27	62	19	62	59	80	2.80	.....	7	9,703	s.	39	w.	12	13	8	9	4.9	.....	.....
Trenton	190	159	183	29.83	30.03	.....	66.0	.....	91	8	75	46	27	57	27	60	56	77	2.74	− 0.8	7	6,867	n.	33	nw.	12	11	8	11	5.3	.....	.....
Baltimore	123	100	113	29.92	30.05	− .03	70.4	+ 1.8	95	8	80	51	28	61	30	62	58	71	2.31	− 1.5	4	4,125	nw.	25	nw.	11	16	6	8	4.1	.....	.....
Washington	112	62	85	29.93	30.05	− .03	69.4	+ 1.3	94	8	80	46	28	59	30	62	58	76	1.77	− 1.8	6	3,847	nw.	30	nw.	12	12	12	6	4.5	.....	.....
Lynchburg	681	153	188	29.33	30.07	− .01	69.8	+ 1.4	95	9	83	42	29	57	44	60	56	70	0.47	− 3.2	2	3,610	n.	34	n.	12	20	8	2	3.4	.....	.....
Norfolk	91	170	205	29.97	30.06	.00	72.6	+ 0.9	91	10	81	58	14	65	26	64	61	74	0.70	− 3.4	3	8,209	s.	40	w.	1	16	8	6	4.4	.....	.....
Richmond	144	11	52	29.91	30.06	− .01	71.3	+ 0.5	94	9	83	49	27	60	33	63	59	74	0.54	− 2.9	3	4,974	s.	37	nw.	10	12	9	9	4.4	.....	.....
Wytheville	2,304	49	55	27.74	30.07	.00	64.2	+ 0.6	88	9	78	37	29	51	42	56	53	73	1.48	− 1.8	6	2,957	nw.	23	sw.	19	21	6	3	2.9	.....	.....
South Atlantic States.							**73.7**	**+ 0.8**										**74**	**1.59**	**− 3.0**										**3.5**		
Asheville	2,255	70	84	27.78	30.10	+ .03	66.2	+ 1.2	89	10	79	43	25	53	39	57	53	71	0.30	− 2.7	3	3,834	nw.	29	n.	11	20	8	2	2.4	.....	.....
Charlotte	779	153	161	29.24	30.06	− .01	72.7	+ 2.0	93	10	84	50	29	62	27	62	58	66	0.84	− 2.4	2	3,053	ne.	22	nw.	11	18	6	6	3.5	.....	.....
Hatteras	11	12	50	30.04	30.05	− .01	74.0	+ 0.7	85	7	80	61	25	68	19	68	66	78	1.99	− 3.3	4	8,100	ne.	33	w.	12	13	11	6	4.3	.....	.....
Manteo	12	5	42	.....	.....	.....	72.0	− 1.4	90	9	80	48	14	64	28	.....	.....	.....	2.66	− 1.8	2	.....	n.	.....	.....	.....	21	5	4	.....	.....	.....
Raleigh	376	103	110	29.66	30.06	− .01	71.6	+ 1.0	92	9	82	52	28	61	31	64	60	74	0.51	− 2.8	3	4,655	sw.	28	ne.	23	14	12	4	3.8	.....	.....
Wilmington	78	81	91	29.97	30.05	.00	73.1	0.0	89	11	82	56	28	64	24	66	64	80	1.90	− 3.4	4	4,550	ne.	22	ne.	29	17	8	5	3.5	.....	.....
Charleston	48	11	92	29.98	30.03	− .01	76.3	+ 0.1	90	23	83	60	29	70	18	70	67	78	1.76	− 3.7	5	7,461	e.	30	n.	30	20	5	5	3.3	.....	.....
Columbia, S. C.	351	41	57	29.69	30.06	+ .01	74.6	+ 0.9	94	23	85	53	29	64	30	64	60	67	0.08	− 3.4	1	4,419	n.	23	n.	28	21	5	4	2.7	.....	.....
Greenville, S. C.	1,013	113	122	28.97	30.05	.....	72.7	.....	92	11	83	53	29	62	29	62	57	64	0.07	.....	2	4,878	ne.	35	n.	11	19	10	1	2.6	.....	.....
Augusta	180	62	77	29.84	30.03	− .02	75.3	+ 0.9	94	11	87	53	29	64	32	67	63	73	0.06	− 3.6	1	3,523	ne.	21	ne.	30	20	3	7	3.2	.....	.....
Savannah	65	150	194	29.96	30.02	− .01	76.0	+ 0.6	92	23	83	57	29	68	23	70	68	83	1.73	− 3.8	4	6,952	ne.	42	ne.	30	12	13	5	4.5	.....	.....
Jacksonville	43	200	245	29.95	30.00	.00	7.47	+ 0.1	91	12	83	64	29	72	19	72	71	85	5.63	− 2.4	13	8,824	ne.	36	ne.	28	11	13	6	4.9	.....	.....
Florida Peninsula.							**81.2**	**0.0**										**78**	**8.26**	**+ 0.3**										**5.7**		
Key West	22	10	61	29.87	29.89	− .05	82.4	− 0.1	90	25	87	73	10	78	15	76	73	77	14.26	+ 7.5	12	8,582	e.	110	e.	10	12	9	9	5.0	.....	.....
Miami	25	71	79	29.91	29.94	.....	80.4	− 1.1	90	26	86	69	1	75	18	75	73	78	3.72	− 5.9	13	6,884	e.	46	se.	9	8	10	12	6.0	.....	.....
Sand Key	23	39	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tampa	35	79	92	29.92	29.95	− .02	80.8	+ 1.1	93	6	89	67	29	72	23	73	71	79	6.82	− 0.6	10	4,968	ne.	34	e.	20	2	21	7	6.2	.....	.....
East Gulf States.							**76.5**	**+ 1.7**										**72**	**0.88**	**− 3.0**										**4.1**		
Atlanta	1,174	190	216	28.84	30.05	.00	74.2	+ 2.1	91	10	84	56	29	65	26	63	58	63	1.12	− 2.4	5	5,865	e.	30	w.	11	22	4	4	2.7	.....	.....
Macon	370	78	87	29.6	30.03	.00	75.0	+ 2.1	91	11	86	54	29	64	30	66	62	70	0.77	− 2.6	4	3,683	ne.	19	ne.	28	16	8	6	3.5	.....	.....
Thomasville	273	49	58	29.71	30.00	− .01	77.6	+ 0.8	93	18	87	57	29	68	25	69	66	77	0.31	− 3.9	6	3,020	ne.	19	e.	6	10	16	4	4.6	.....	.....
Pensacola	56	140	182	29.93	29.96	.00	77.8	− 0.1	89	10	81	60	30	72	26	70	67	74	0.76	− 4.5	7	9,102	ne.	33	se.	13	9	11	10	5.1	.....	.....
Anniston	741	9	57	29.28	30.07	+ .04	73.6	+ 2.3	91	10	87	52	30	61	38	.....	.....	.....	0.55	− 3.0	2	3,000	se.	20	se.	13	23	6	1	2.3	.....	.....
Birmingham	700	11	48	29.29	30.05	+ .02	75.9	+ 1.9	95	11	87	55	29	65	30	69	60	69	1.09	− 2.4	4	3,61[illegible]	n.	23	se.	20	18	9	3	2.9	.....	.....
Mobile	57	125	161	29.93	29.99	− .03	78.6	+ 2.1	91	11	87	62	29	70	25	70	67	76	1.10	− 3.9	8	6,483	n.	35	e.	13	10	16	4	4.6	.....	.....
Montgomery	223	100	112	29.78	30.03	+ .01	77.1	+ 1.3	91	11	87	58	29	67	30	67	62	67	0.13	− 2.8	2	3,955	e.	22	sw.	20	17	11	2	3.1	.....	.....
Corinth	469	6	.....	.....	.....	.....	74.9	.....	98	11	89	47	24	61	38	.....	.....	.....	0.40	.....	4	.....	n.	.....	.....	.....	14	11	2	.....	.....	.....
Jackson	304	5	.....	.....	.....	.....	77.5	.....	97	11	90	51	30	65	39	.....	.....	.....	0.31	.....	3	.....	ne.	.....	.....	.....	18	8	4	.....	.....	.....
Meridian	375	85	93	29.62	30.01	− .01	75.4	+ 2.7	92	11	85	56	29	66	29	67	64	74	0.22	− 3.2	2	3,070	e.	18	e.	13	12	14	4	4.4	.....	.....
Vicksburg	247	65	74	29.7	30.02	.00	76.3	+ 1.5	95	11	86	57	2	67	28	69	67	81	0.68	− 2.7	4	3,973	n.	2	nw.	22	11	9	10	5.1	.....	.....
New Orleans	53	76	84	29.92	29.97	− .01	80.2	+ 2.2	92	11	86	69	26	74	19	71	68	73	2.93	− 1.9	9	5,21[illegible]	ne.	32	se.	13	11	5	14	6.1	.....	.....
West Gulf States.							**76.7**	**+ 1.0**										**77**	**4.01**	**+ 0.6**										**4.0**		
Shreveport	219	77	93	29.74	30.01	+ .01	76.9	+ 0.7	93	11	85	59	2	68	27	69	66	77	2.16	− 1.1	6	4,250	e.	23	s.	20	14	9	7	4.6	.....	.....
Bentonville	1,303	11	44	28.68	30.02	.00	71.4	+ 2.5	91	10	84	44	13	59	37	.....	.....	.....	1.61	− 1.8	4	3,097	s.	22	se.	18	16	6	8	4.4	.....	.....
Fort Smith	457	79	94	29.52	30.00	− .01	75.6	+ 2.9	97	10	86	52	2	65	29	66	62	71	0.56	− 2.6	5	4,22[illegible]	e.	26	s.	18	14	8	8	4.9	.....	.....
Little Rock	357	139	147	29.65	30.02	− .01	75.3	+ 2.2	95	10	84	55	26	66	21	66	62	68	2.78	− 0.5	4	4,928	s.	30	s.	18	12	8	10	4.9	.....	.....
Brownsville	57	4	26	.....	.....	.....	82.3	.....	100	12	92	66	5	72	30	.....	.....	.....	7.69	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi	20	69	77	29.89	29.91	− .04	80.2	+ 1.2	9[illegible]	11	86	68	23	74	21	74	73	82	5.81	+ 1.8	13	10,805	se.	72	ne.	14	8	11	8	5.5	.....	.....
Dallas	512	109	117	29.45	29.99	.....	76.2	.....	96	11	81	61	22	68	23	.....	.....	.....	3.89	.....	7	5,736	se.	29	ne.	14	8	10	12	2.2	.....	.....
Fort Worth	670	106	114	29.25	29.96	− .03	75.6	− 1.1	95	11	84	59	22	68	23	68	66	77	4.12	+ 1.2	8	6,228	se.	29	n.	19	8	11	11	5.6	.....	.....
Galveston	54	106	114	29.90	29.96	− .02	80.0	+ 0.6	91	10	81	68	4	76	14	73	71	76	5.29	− 0.1	7	8,953	se.	53	e.	14	15	11	4	4.0	.....	.....
Houston	138	111	121	29.80	29.9[illegible]	.....	79.0	+ 0.5	93	11	86	64	2	72	20	.....	.....	.....	8.68	.....	9	5,916	se.	38	e.	14	8	17	5	4.9	.....	.....
Palestine	510	6	72	29.46	29.98	− .01	76.3	+ 1.5	93	10	85	57	2	68	26	69	66	79	4.12	+ 0.9	4	4,968	e.	28	s.	20	10	9	11	5.4	.....	.....
Port Arthur	3[illegible]	58	66	29.91	29.95	.....	78.4	.....	92	1	85	62	2	72	20	72	70	80	3.98	.....	8	6,898	e.	43	se.	14	14	9	7	4.6	.....	.....
San Antonio	701	119	122	29.22	29.9[illegible]	− .02	77.8	+ 0.7	9[illegible]	11	86	61	23	70	24	70	68	81	7.61	+ 4.7	13	6,005	se.	52	se.	15	6	12	10	6.1	.....	.....
Taylor	582	55	63	29.38	29.99	+ .02	76.5	− 0.4	94	11	85	59	22	68	24	.....	.....	.....	5.99	+ 3.0	9	5,289	se.	30	ne.	14	3	14	13	6.8	.....	.....

TABLE I.—*Climatological data for Weather Bureau Stations, September, 1919*—Continued.

Districts and stations.	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 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.							70.5	+ 2.7										68	1.70	− 1.1										4.1		
Chattanooga	762	18	21	29.2	30.07	+ .01	73.8	+ 2.6	93	9	85	5	26	6	30	62	57	63	0.0	− 3.2	2	4,692	s.	2	s.	19	19	5	6	3.4	.....	.....
Knoxville	996	102	111	29.0	30.06	00	72.0	+ 2.6	93	10	8	50	2	60	3	62	57	67	0.96	− 1.8	2	3,282	ne.	2	s.	19	21	3	6	3.0	.....	.....
Memphis	39	76	9	29.6	30.06	+ .0	76.2	+ 3.	9	10	8	56	1	67	30	67	63	70	1.3	− 1.7	4	4,460	sw.	29	sw.	21	1	11	5	4.1	.....	.....
Nashville	5 6	168	191	29.4	30.07	+ .0	72.8	+ 1.3	92	10	84	52	2	60	30	63	58	67	1.35	− 2.	2	4,965	nw.	29	sw.	19	19	8	3	3.2	.....	.....
Lexington	98	19	230	29.0	30.07	00	71.5	+ 3.6	92	10	81	49	26	62	29	.....	.....	.....	1.12	− 1.3	6	8,457	sw.	48	sw.	16	18	6	6	3.5	.....	.....
Louisville	525	219	255	29.49	30.06	00	73.0	+ 3.1	9	10	8	49	26	62	32	6	59	67	2.53	− 0.1	5	7,18	s.	46	n.	11	20	7	3	3.4	.....	.....
Evansville	431	13	175	29.5	30.05	− .01	74.	+ 4.7	97	10	87	50	26	6	32	62	56	60	3.51	+ 0.9	6	6,932	sw.	45	w.	19	13	15	2	3.9	.....	.....
Indianapolis	82	194	230	29.1	30.0	− .0	70.3	+ 4.6	93	9	80	46	2	60	32	60	5	6	1.86	− 1.2	8	7,438	sw.	3	sw.	20	1	10	6	4.3	.....	.....
Terre Haute	57	96	12	29.42	30.03	.....	70.8	.....	95	9	82	45	26	60	3	61	55	6	1.56	.....	6	6,138	sw.	40	nw.	10	13	15	2	4.0	.....	.....
Cincinnati	628	11	51	29.38	30.06	− .01	69.6	+ 4.9	95	9	82	44	26	58	35	60	5	6	3.71	+ 1.5	7	4,319	ne.	37	sw.	19	15	9	6	4.0	.....	.....
Columbus	82	179	222	29.19	30.06	− .01	68.1	+ 2.2	92	9	78	42	26	58	29	60	55	67	1.15	− 1.	6	6,931	se.	41	nw.	10	12	9	9	4.9	.....	.....
Dayton	83	184	216	29.08	30.02	.....	68.8	+ 1.4	93	9	80	4	26	58	3	59	5	63	1.26	− 1.2	6	5,802	sw.	47	sw.	19	16	10	4	3.8	.....	.....
Pittsburgh	8 2	353	410	29.16	30.06	− .02	66.	+ 0.3	88	7	76	45	26	57	28	59	55	73	1.6	− 0.8	6	6,257	nw.	49	nw.	11	11	6	13	5.4	.....	.....
Elkins	1,9 7	41	50	28.06	30.10	+ .02	62.0	+ 0.1	86	9	75	35	29	49	45	55	53	8	2.28	− 0.6	6	2,533	w.	20	w.	16	7	13	10	5.9	.....	.....
Parkersburg	638	77	82	29.43	30.08	00	68.6	+ 2.5	9	9	80	45	1	57	34	60	56	72	0.98	− 1.7	5	3,017	nw.	31	s.	19	11	10	9	5.4	.....	.....
Lower Lake Region.							64.7	+ 1.6										70	2.23	− 0.6										5.4		
Buffalo	767	247	280	29.19	30.01	− .05	63.1	+ 0.2	80	21	70	44	26	56	26	57	54	75	1.47	− 1.7	15	11,147	sw.	74	sw.	19	8	7	15	6.3	.....	.....
Canton	448	10	61	29 49	29 97	.....	58.8	− 0.5	85	21	68	35	27	49	30	.....	.....	.....	4.69	+ 1.9	14	6,993	sw.	41	sw.	20	8	9	13	6.2	.....	.....
Oswego	335	76	91	29 63	29 99	− .07	62.2	− 0.5	89	7	70	40	27	55	28	57	53	74	2.47	− 0.3	10	6,710	s.	33	ne.	12	7	10	13	6.2	.....	.....
Rochester	523	97	113	29.46	30.02	− .04	63.4	+ 1.5	89	7	72	42	26	55	33	56	52	71	1.26	− 1.1	13	5,532	sw.	30	sw.	20	9	10	11	5.7	.....	.....
Syracuse	597	97	113	29 37	30.02	− .05	63.0	+ 1.4	89	7	71	39	27	55	29	.....	.....	.....	1.60	− 1.2	14	7,332	s.	47	s.	19	5	15	10	6.3	.....	.....
Erie	714	130	166	29.26	30.02	− .04	65 6	+ 1.7	87	7	73	47	27	58	28	58	54	70	1.27	− 2.2	9	9,389	sw.	40	sw.	19	7	16	7	5.6	.....	.....
Cleveland	762	190	201	29.22	30.04	− .02	66.4	+ 2.1	88	8	74	48	27	59	29	59	54	69	1.79	− 1.4	8	8,373	sw.	44	ne.	11	9	13	8	5.3	.....	.....
Sandusky	629	62	103	29.36	30.04	− .02	67.6	+ 2.3	90	8	76	49	27	59	29	.....	.....	.....	2.17	− 0.5	8	8,054	sw.	46	nw.	11	13	10	7	4.7	.....	.....
Toledo	628	208	243	29.36	30.04	− .02	67.6	+ 3.5	91	8	77	44	26	58	28	58	53	66	1.51	− 0.8	6	9,406	sw.	64	s.	19	14	11	5	4.0	.....	.....
Fort Wayne	856	113	124	29.13	30.05	.....	67.6	+ 2.1	93	9	78	42	26	57	32	58	52	65	2.61	.....	5	5,994	sw.	32	nw.	11	12	11	7	4.6	.....	.....
Detroit	730	218	245	29.25	30.03	− .03	66.8	+ 3.7	90	8	76	45	26	58	25	57	53	67	4.09	+ 1.6	9	7,693	sw.	39	sw.	19	12	10	8	4.8	.....	.....
Upper Lake Region.							61.6	+ 2.7										75	3.06	− 0.2										5.9		
Alpena	609	13	92	29.33	29.99	− .04	60.0	+ 2.7	95	8	70	35	26	51	33	55	52	78	1.55	− 1.9	13	7,885	nw.	40	nw.	11	6	15	9	6.3	.....	.....
Escanaba	612	54	60	29.32	29.98	− .03	58.1	+ 1.1	79	7	66	32	26	51	25	54	51	82	2.15	− 1.4	13	6,506	s.	31	s.	26	11	9	10	5.1	.....	.....
Grand Haven	632	54	89	29.33	30.00	− .04	62.9	+ 1.8	82	8	70	40	26	56	27	58	54	75	4.85	+ 1.7	10	7,821	s.	33	w.	24	8	10	12	5.6	.....	.....
Grand Rapids	707	70	87	29.26	30.02	− .03	65.3	+ 3.5	92	8	74	41	26	56	32	57	52	69	3.86	+ 0.7	11	3,821	nw.	23	nw.	11	8	11	11	5.9	.....	.....
Houghton	684	62	99	29.25	29.97	− .03	56.4	+ 0.3	92	7	64	35	26	49	37	.....	.....	.....	1.33	− 2.2	15	6,025	e.	63	nw.	20	6	3	21	7.6	.....	.....
Lansing	878	11	62	29.08	30.02	.....	63.8	+ 2.5	90	8	75	34	26	52	34	56	53	76	2.61	0.0	11	3,677	sw.	23	s.	19	7	14	9	5.5	.....	.....
Ludington	637	60	66	29.31	30.00	.....	61.2	.....	79	7	68	39	26	55	28	56	53	76	4.02	.....	11	7,525	s.	35	s.	20	11	7	12	5.0	.....	.....
Marquette	734	77	111	29.19	29.99	− .01	59.2	+ 2.4	93	7	67	36	26	52	28	53	50	77	2.49	− 1.0	14	7,390	nw.	38	sw.	27	5	3	22	7.7	.....	.....
Port Huron	638	70	120	29.32	30.01	− .05	64.1	+ 3.2	92	8	73	38	26	55	31	57	54	75	3.77	+ 1.1	9	7,731	sw.	32	sw.	19	9	14	7	5.0	.....	.....
Saginaw	641	69	77	29.32	30.01	.....	64.0	.....	91	8	74	36	26	54	29	56	51	72	2.52	− 0.6	9	5,741	sw.	35	s.	19	10	13	7	5.0	.....	.....
Sault Ste. Marie	614	11	52	29.28	29.97	− .05	57.8	+ 3.5	89	7	66	35	30	49	36	54	52	86	4.05	+ 0.6	17	4,995	nw.	36	nw.	25	4	9	17	7.2	.....	.....
Chicago	823	140	310	29.15	30.02	− .02	68.9	+ 4.3	93	8	76	52	26	62	25	59	53	62	3.85	+ 0.8	9	8,145	sw.	36	s.	20	11	12	7	4.8	.....	.....
Green Bay	617	109	144	29.31	29.97	− .05	62.6	+ 3.5	90	8	71	40	26	54	28	56	52	74	2.97	− 0.2	9	7,567	s.	32	s.	20	5	11	14	6.6	.....	.....
Milwaukee	681	119	133	29.26	30.00	− .03	65.5	+ 4.0	93	8	73	46	26	58	25	58	54	71	5.36	+ 2.4	12	6,702	sw.	33	sw.	28	13	7	10	4.9	.....	.....
Duluth	1,133	11	47	28.75	29.97	− .01	55.8	+ 1.7	77	19	64	36	25	48	29	50	47	82	1.42	− 2.1	11	7,987	ne.	44	nw.	24	8	9	13	6.0	.....	.....
North Dakota.							59.1	+ 2.0										67	0.90	− 0.5										5.1		
Moorhead	940	8	57	28.97	29.97	+ .01	60.6	+ 4.0	91	7	72	32	25	49	32	53	49	75	1.34	− 1.0	5	5,770	se.	30	nw.	23	13	7	10	4.6	.....	.....
Bismarck	1,674	8	57	28.21	29.98	+ .04	61.0	+ 3.9	93	6	73	34	25	49	45	51	44	62	0.34	− 0.8	4	7,373	nw.	32	nw.	20	13	8	9	4.7	.....	.....
Devils Lake	1,482	11	44	28.37	29.94	.00	57.1	+ 1.5	86	6	68	30	25	46	32	49	44	71	0.95	− 0.4	4	7,226	nw.	36	nw.	24	9	11	10	5.3	.....	.....
Ellendale	1,457	10	56	28.40	29.96	.....	60.5	.....	94	5	73	30	25	48	41	51	46	67	0.19	.....	4	9,539	nw.	41	s.	12	6	11	13	6.2	.....	.....
Grand Forks	835	12	89	.....	.....	.....	58.5	.....	91	7	70	29	25	47	32	52	.....	.....	2.23	.....	8	.....	nw.	39	sw.	24	12	9	9	.....	.....	.....
Williston	1,878	41	48	27.97	29.94	+ .01	58.0	− 1.5	88	11	69	32	27	47	45	49	42	60	0.99	+ 0.1	4	6,557	se.	40	w.	6	9	15	6	4.8	.....	.....
Upper Mississippi Valley.							68.4	+ 3.5										71	4.16	+ 0.8										4.6		
Minneapolis	918	10	208	28.96	29.94	.....	64.3	.....	91	7	73	41	25	55	34	.....	.....	.....	1.47	− 2.2	11	8,052	s.	48	s.	26	9	10	11	6.0	.....	.....
St. Paul	837	236	261	29.07	29.97	− .02	63.9	+ 3.0	89	20	73	41	25	55	36	.....	.....	.....	1.25	− 2.2	8	8,347	se.	51	s.	26	11	13	6	5.1	.....	.....
La Crosse	714	11	48	29.22	29.98	− .03	64.4	+ 2.7	91	7	74	42	23	55	34	.....	.....	.....	2.35	− 1.8	9	3,056	se.	21	s.	26	12	4	14	5.8	.....	.....
Madison	974	70	78	28.98	30.01	− .02	64.2	+ 3.1	91	8	72	44	26	56	30	57	53	72	6.83	+ 3.6	10	5,992	s.	28	s.	26	9	7	14	6.1	.....	.....
Wausau	1,247	4	.....	28.66	29.99	.....	59.8	.....	87	8	69	35	26	50	35	.....	.....	.....	2.76	.....	12	.....	n.	.....	.....	.....	10	8	12	5.5	.....	.....
Charles City	1,015	10	49	28.92	29.99	− .01	65.0	+ 3.3	91	8	75	42	25	55	35	58	54	77	3.94	+ 1.1	12	4,316	s.	26	s.	26	14	7	9	5.1	.....	.....
Davenport	606	71	79	29.36	30.01	− .02	68.8	+ 4.1	92	9	79	48	23	59	30	60	56	71	7.23	+ 4.1	9	4,564	sw.	25	s.	20	15	9	6	4.1	.....	.....
Des Moines	861	84	97	29.08	30.00	− .02	68.9	+ 3.9	94	9	79	45	23	59	32	60	56	71	7.65	+ 4.6	7	5,075	sw.	32	sw.	5	12	8	10	5.0	.....	.....
Dubuque	698	81	96	29.28	30.02	− .01	66.1	+ 2.5	91	8	75	43	26	57	29	58	55	74	5.35	+ 1.8	10	3,917	s.	22	s.	26	12	7	11	5.1	.....	.....
Keokuk	614	64	78	29.36	30.02	− .01	70.8	+ 4.4	94	9	81	47	26	61	32	61	56	66	4.69	+ 0.7	5	4,766	s.	29	se.	18	18	7	5	3.3	.....	.....
Cairo	356	87	93	29.65	30.03	− .02	73.8	+ 3.6	95	10	84	52	24	64	27	65	61	72	1.80	− 0.7	4	4,697	s.	32	sw.	19	12	11	7	4.6	.....	.....
Peoria	609	11	45	29.37	30.03	− .01	68.2	+ 3.9	94	9	80	43	26	57	32	60	56	76	3.48	+ 0.4	8	3,548	s.	21	w.	19	19	5	6	3.2	.....	.....
Springfield, Ill.	644	10	91	29.34	30.01	− .04	70.5	+ 4.1	96	10	82	45	26	59	31	61	56	70	2.74	− 0.6	7	5,293	s.	36	se.	28	13	12	5	4.2	.....	.....
Hannibal	534	74	109	29.45	30.02	− .01	70.6	+ 2.7	95	10	82	49	23	60	37	.....	.....	.....	3.28	− 0.3	5	5,796	sw.	39	sw.	18	18	6	6	3.2	.....	.....
St. Louis	567	265	303	29.42	30.02	− .02	73.6	+ 3.6	96	10	83	50	26	64	26	62	56	60	6.13	+ 3.2	6	8,130	sw.	48	s.	20	20	7	3	2.9	.....	.....
Missouri Valley.							69.1	+ 4.2										67	2.68	− 0.1										4.3		
Columbia, Mo.	781	11	84	29.20	30.02	− .01	71.1	+ 3.3	96	10	82	48	23	60	33	.....	.....	.....	3.31	+ 0.5	7	4,653	se.	36	sw.	18	20	4	6	3.0	.....	.....
Kansas City	963	161	181	28.97	29.99	− .03	72.4	+ 4.9	96	10	82	51	23	63	29	62	57	64	2.26	− 1.5	5	7,232	s.	33	se.	18	20	4	6	3.3	.....	.....
St. Joseph	967	11	49	28.96	29.98	.....	71.2	.....	94	9	82	49	23	61	34	62	57	70	4.40	.....	7	5,072	s.	2	se.	26	20	3	7	3.0	.....	.....
Springfield, Mo.	1,324	98	104	28.6	30.03	.00	72.6	+ 4.7	95	10	83	52	22	62	29	62	57	66	1.62	− 2.1	4	6,651	s.	35	[illegible]	[illegible]	20	7	3	2.6	.....	.....
Iola	984	11	50	28.97	29.99	− .02	73.0	+ 4.4	98	10	86	45	21	60	41	.....	.....	.....	1.02	− 2.3	4	4,504	s.	26	n.	10	12	10	8	4.7	.....	.....
Topeka	987	92	107	.....	.....	.....	72.1	.....	96	10	83	48	23	61	37	.....	.....	.....	2.50	− 1.1	4	6,962	sw.	2	sw.	18	17	8	5	3.3	.....	.....
Drexel	1,299	10	54	28.56	29.9	.....	68.3	.....	95	9	79	42	22	58	35	59	56	76	3.80	.....	9	7,037	s.	42	sw.	26	12	8	10	5.0	.....	.....
Lincoln	1,189	11	84	28.71	29.95	− .0	71.0	+ 5.8	99	9	82	47	23	60	33	60	55	67	5.75	+ 3.1	8	6,920	s.	30	s.	26	15	3	12	4.9	.....	.....
Omaha	1,105	115	122	28.80	29.97	− .03	70.8	+ 5.0	98	9	80	48	22	61	30	60	56	67	5.28	+ 2.2	9	5,101	s.	27	n.	24	16	3	11	4.8	.....	.....
Valentine	2,598	47	54	27.27	29.96	.00	65.6	+ 3.3	96	5	78	36	25	53	40	55	48	63	1.04	.....	9	7,018	s.	33	s.	12	13	12	5	4.3	.....	.....
Sioux City	1,135	94	164	28.76	29.96	− .02	67.2	+ 3.1	92	7	77	42	25	58	35	58	54	72	2.56	+ 0.1	10	8,096	s.	45	s.	26	9	8	13	5.5	.....	.....
Huron	1,306	59	74	28.58	29.97	+ .01	63.5	+ 4.1	94	5	75	35	25	52	40	55	50	71	0.77	− 0.9	8	7,065	se.	36	s.	13	12	8	10	4.6	.....	.....
Pierre	1,572	70	75	28.30	29.94	− .01	66.4	+ 3.6	97	6	78	38	25	55	37	55	47	60	1.59	+ 0.5	3	6,292	e.	30	se.	12	10	8	12	5.2	.....	.....
Yankton	1,233	49	57	28.64	29.94	− .04	66.8	+ 3.5	94	7	77	40	25	56	39	.....	.....	.....	2.87	+ 0.4	10	4,939	s.	27	s.	26	8	8	14	6.1	.....	.....

TABLE I.—*Climatological data for Weather Bureau Stations, September, 1919*—Continued.

Districts and stations.	Elevation of instruments.			Pressure.			Temperature of the air.														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.	Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity.	Total.	Departure from normal.	Days with .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 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.
Northern Slope.							59.2	+ 1.8										62	1.37	+ 0.3										4.4		
Billings	3,110	5	....	....	....	....	58.2	....	87	11	73	27	29	43	51	....	....	....	0.60	....	8	....	sw.	....	....	....	13	15	2	....	....	....
Havre	2,505	11	44	27.3	29.96	+ .02	57.0	− 0.6	84	11	70	26	29	44	49	48	42	66	0.79	− 0.2	12	5,274	e.	37	n.	19	14	8	8	4.5	....	....
Helena	4,110	87	112	25.80	29.96	− .01	57.0	+ 0.8	89	11	69	28	28	45	40	46	37	53	0.57	− 0.5	6	6,002	sw.	40	sw.	4	10	9	11	5.0	....	....
Kalispell	2,962	11	3	26.92	29.9	.00	51.0	+ 0.1	8	3	67	24	29	41	41	45	37	58	0.50	− 0.8	6	3,931	nw.	31	ne.	26	13	9	8	4.6	....	....
Miles City	2,371	26	48	27.45	29.98	+ .02	63.2	+ 2.0	95	11	75	37	29	52	39	54	49	70	1.32	+ 0.4	10	4,479	n.	30	w.	20	12	13	5	4.3	....	....
Rapid City	3,255	50	58	25.61	29.98	+ .02	63.0	+ 3.5	92	6	75	36	22	51	41	53	46	60	2.27	+ 1.0	7	5,514	n.	33	nw.	7	14	9	7	4.3	....	....
Cheyenne	6,088	84	101	24.07	29.9	− .02	59.0	+ 1.8	81	1	71	32	21	47	36	50	44	66	1.76	+ 0.8	8	6,771	w.	36	nw.	1	12	12	6	4.7	....	....
Lander	5,372	60	68	24.67	29.9	− .02	59.8	+ 4.6	88	11	74	32	22	45	39	47	37	50	1.01	0.0	9	3,707	sw.	30	sw.	5	16	9	5	3.7	....	....
Sheridan	3,790	10	47	26.10	29.96	....	59.6	....	91	11	7[illegible]	30	22	45	49	50	44	66	1.11	....	7	3,356	nw.	34	sw.	4	19	2	9	4.1	....	....
Yellowstone Park	6,200	11	48	23.92	29.98	+ .01	52.0	− 1.[illegible]	78	11	65	26	28	39	39	42	34	60	2.51	+ 1.5	13	5,103	s.	30	s.	11	9	15	6	4.6	....	....
North Platte	2,821	11	51	27.09	29.98	+ .01	67.8	+ 4.6	97	5	80	36	23	55	43	56	52	68	1.56	+ 0.1	8	4,647	s.	24	ne.	2	14	8	8	4.5	....	....
Middle Slope.							70.8	+ 3.3										64	1.40	− 0.6										4.4		
Denver	5,292	106	113	24.77	29.96	− .03	64.4	+ 1.7	86	4	76	36	22	53	37	52	45	60	1.04	+ 0.2	8	4,605	s.	36	n.	20	10	12	8	5.0	....	....
Pueblo	4,685	80	86	25.31	29.92	− .04	67.5	+ 3.1	95	1	81	35	23	54	41	54	47	59	2.04	+ 1.4	8	3,697	nw.	37	nw.	5	7	15	8	5.3	....	....
Concordia	1,392	50	58	28.52	29.96	− .03	71.[illegible]	+ 3.3	100	9	82	46	23	60	33	60	54	63	3.03	+ 0.4	4	5,851	s.	28	s.	7	13	10	7	4.4	....	....
Dodge City	2,501	11	51	27.40	29.96	− .02	73.1	+ 4.9	96	10	86	43	23	60	35	61	56	64	1.01	− 0.8	2	7,683	s.	35	ne.	21	18	9	3	3.4	....	....
Wichita	1,358	139	158	28.56	29.96	− .04	74.3	+ 4.5	98	10	85	48	23	64	31	62	58	64	0.23	− 2.9	2	9,771	s.	43	nw.	18	14	12	4	3.7	....	....
Altus	1,410	5	....	....	....	....	76.4	....	101	10	88	54	22	65	35	....	....	....	2.56	....	8	....	e.	....	....	....	15	1	14	....	....	....
Muskogee	652	[illegible]	....	....	....	....	75.4	....	100	10	88	42	24	63	34	....	....	....	1.65	....	5	....	se.	....	....	....	12	11	7	....	....	....
Oklahoma	1,21[illegible]	10	47	28.73	29.99	.00	74.3	+ 2.2	98	10	85	50	22	61	35	65	61	73	1.03	− 1.7	3	8,475	s.	34	s.	27	12	10	8	4.9	....	....
Southern Slope.							73.4	+ 0.6										70	5.59	+ 3.0										5.0		
Abilene	1,738	10	52	28.18	29.96	− .01	75.3	+ 1.1	97	11	85	55	22	66	30	66	62	73	1.72	− 1.4	11	6,502	s.	26	e.	15	11	9	10	5.8	....	....
Amarillo	3,676	10	46	26.30	29.96	.00	71.2	+ 3.5	99	2	83	47	23	59	3	60	55	68	4.58	+ 2.2	3	7,730	s.	31	nw.	21	13	14	3	4.3	....	....
Del Rio	94[illegible]	6	71	28.92	29.8[illegible]	− .0[illegible]	77.2	− 1.7	97	11	85	57	2[illegible]	69	23	....	....	....	9.74	+ 7.2	9	6,762	se.	58	e.	15	9	14	7	5.6	....	....
Roswell	3,566	75	82	26.37	29.92	.00	70.0	− 0.3	94	3	82	48	2[illegible]	58	35	60	55	68	6.33	+ 4.0	7	4,649	s.	33	nw.	18	15	9	6	4.2	....	....
Southern Plateau.							71.0	+ 0.5										51	1.56	+ 0.6										2.9		
El Paso	3,762	110	132	26.17	29.8[illegible]	− .02	72.6	− 0.1	92	2	82	48	2	63	27	60	53	60	3.30	+ 1.8	11	6,398	e.	46	ne.	12	13	9	8	4.5	....	....
Santa Fe	7,015	57	6[illegible]	23.32	29.8[illegible]	− .0[illegible]	61.[illegible]	+ 0.8	8[illegible]	1	71	37	24	51	29	50	44	62	2.53	+ 0.9	10	4,520	e.	29	sw.	13	13	12	5	4.6	....	....
Flagstaff	6,908	8	57	23.40	29.8[illegible]	− .0[illegible]	56.7	+ 1.2	79	3	70	3	25	4[illegible]	40	48	....	....	1.53	....	7	....	sw.	27	w.	30	17	11	2	....	....	....
Phoenix	1,108	11	81	28.6[illegible]	29.77	− .0[illegible]	81.5	+ 0.1	106	3	94	6[illegible]	2[illegible]	69	37	67	60	55	1.93	+ 0.9	5	3,778	e.	19	s.	6	21	7	2	2.2	....	....
Yuma	141	9	5	29.59	29.7[illegible]	− .0[illegible]	81.2	+ 0.3	106	3	98	6[illegible]	30	71	36	68	61	54	0.03	− 0.1	1	3,617	w.	30	s.	6	22	4	4	2.1	....	....
Independence	3,957	11	42	25.89	29.85	− .01	69.8	+ 0.7	91	16	87	41	30	55	39	50	28	26	T.	− 0.1	0	5,327	s.	30	se.	28	26	4	0	1.3	....	....
Needles	488	4	....	....	....	....	84.5	....	112	21	....	60	30	....	48	....	....	....	1.37	....	5	....	....	....	e.	....	21	4	5	....	....	....
Middle Plateau.							63.1	+ 0.7										44	1.24	+ 0.6										3.0		
Reno	4,532	74	81	25.42	29.86	− .09	59.5	− 0.2	88	24	76	36	12	43	47	45	31	42	0.40	+ 0.1	2	5,051	w.	35	w.	27	22	4	4	2.3	....	....
Tonopah	6,090	12	20	24.06	29.86	....	63.0	....	82	13	74	33	30	52	32	46	29	35	0.39	− 0.1	3	7,671	se.	34	se.	8	20	10	0	2.2	....	....
Winnemucca	4,344	18	56	25.56	29.90	− .02	59.4	− 1.1	87	15	77	30	24	41	56	44	30	40	0.40	+ 0.1	3	4,493	ne.	31	sw.	27	21	7	2	2.4	....	....
Modena	5,479	10	43	24.61	29.87	− .05	61.2	+ 1.0	84	12	75	32	23	48	43	49	38	52	3.29	+ 2.2	7	8,567	sw.	56	sw.	6	17	8	5	3.2	....	....
Salt Lake City	4,360	163	203	25.58	29.88	− .07	66.8	+ 1.7	90	11	77	47	23	56	32	54	44	49	1.76	+ 0.9	12	6,154	se.	48	e.	3	14	7	9	4.0	....	....
Grand Junction	4,602	82	96	25.38	29.91	− .04	68.6	+ 2.2	90	11	81	41	23	56	35	54	44	50	1.17	+ 0.2	7	4,306	se.	30	sw.	30	13	10	7	4.2	....	....
Northern Plateau.							60.8	− 0.3										51	0.94	+ 0.2										3.5		
Baker	3,471	48	53	26.41	29.97	− .02	56.4	− 0.6	86	15	72	29	29	41	45	46	35	52	0.26	− 0.5	8	4,301	se.	36	sw.	4	18	9	3	2.4	....	....
Boise	2,739	78	86	27.10	29.93	− .04	62.2	+ 0.3	94	3	76	38	28	48	40	50	38	46	0.79	+ 0.4	3	3,494	nw.	39	ne.	16	17	7	6	3.5	....	....
Lewiston	757	40	48	29.15	29.95	− .03	63.0	− 0.5	91	3	78	36	29	48	43	....	....	....	0.73	+ 0.1	6	1,998	e.	21	w.	19	13	10	7	4.0	....	....
Pocatello	4,477	60	68	25.45	29.90	− .06	61.5	+ 0.9	88	10	74	31	22	49	43	49	39	51	2.13	+ 1.2	10	6,321	se.	44	s.	3	13	10	7	3.9	....	....
Spokane	1,929	101	110	27.93	29.97	− .01	58.8	0.0	87	3	72	28	29	45	41	48	38	52	0.46	− 0.6	5	3,824	ne.	30	sw.	19	16	10	4	4.0	....	....
Walla Walla	991	57	65	28.89	29.96	− .04	63.0	− 2.4	88	2	75	39	29	51	37	52	43	52	1.26	+ 0.3	7	3,054	s.	22	w.	11	20	6	4	3.0	....	....
North Pacific Coast Region.							59.0	+ 1.4										76	2.34	− 0.1										4.6		
North Head	211	11	56	29.76	29.99	− .04	58.0	+ 1.8	84	14	63	48	28	53	31	54	52	84	2.18	+ 0.3	9	8,483	n.	72	s.	30	11	11	8	4.9	....	....
North Yakima	1,071	4	....	....	....	....	60.3	....	88	24	75	29	29	45	44	....	....	....	0.69	....	8	....	nw.	....	....	....	18	3	9	....	....	....
Port Angeles	29	8	48	29.98	30.03	....	55.6	....	82	24	65	34	29	46	31	....	....	....	0.91	− 0.9	5	3,873	s.	36	w.	19	15	8	7	4.2	....	....
Seattle	125	215	250	29.88	30.01	.00	59.6	+ 1.7	80	14	67	40	29	52	27	54	49	73	2.08	+ 0.1	8	5,106	n.	23	s.	19	11	7	12	5.1	....	....
Tacoma	213	113	120	29.78	30.00	− .02	58.8	+ 1.2	81	15	67	37	29	50	29	54	50	75	1.62	− 0.8	7	3,592	n.	24	n.	13	10	10	10	5.7	....	....
Tatoosh Island	86	7	57	29.89	29.99	− .02	54.4	+ 1.4	68	14	59	44	28	50	17	52	50	87	3.12	− 3.0	9	8,922	ne.	43	ne.	23	15	8	7	4.1	....	....
Medford	1,425	4	....	....	....	....	62.0	....	96	23	78	35	28	46	54	....	....	....	0.66	....	8	....	nw.	....	....	....	11	10	9	....	....	....
Portland, Oreg.	153	68	106	29.81	29.96	− .07	62.5	+ 1.5	85	23	71	44	29	54	33	55	49	68	3.18	+ 1.3	10	4,082	nw.	25	e.	21	16	3	11	4.4	....	....
Roseburg	510	9	57	29.42	29.97	− .05	61.0	+ 0.5	88	14	73	40	29	49	41	54	49	71	3.36	+ 2.3	9	1,890	n.	21	sw.	5	16	7	7	4.0	....	....
Middle Pacific Coast Region.							63.4	− 0.1										64	0.77	+ 0.2										3.5		
Eureka	62	73	89	29.90	29.96	− .05	56.5	+ 1.6	67	19	62	45	29	51	16	53	52	85	1.52	+ 0.4	10	3,931	sw.	35	n.	20	9	8	13	5.5	....	....
Mount Tamalpais	2,375	11	31	27.47	29.91	− .03	63.0	− 3.1	92	23	70	42	29	56	28	52	42	56	1.26	+ 0.6	4	12,874	nw.	70	nw.	6	20	7	3	2.5	....	....
Point Reyes Light	490	7	18	29.36	29.87	....	56.3	+ 0.2	86	19	61	49	25	52	31	....	....	....	0.16	....	2	13,436	nw.	48	nw.	2	9	10	11	5.9	....	....
Red Bluff	332	50	56	29.50	29.84	− .09	72.1	− 1.8	101	19	85	49	29	60	36	57	43	44	0.66	− 0.1	5	4,498	nw.	24	nw.	19	22	3	5	2.6	....	....
Sacramento	69	106	117	29.78	29.85	− .04	69.7	+ 0.7	100	20	83	47	30	56	41	58	49	56	0.53	+ 0.1	5	5,774	s.	31	sw.	27	23	2	5	2.1	....	....
San Francisco	155	208	243	29.73	29.90	− .04	62.0	+ 2.7	93	19	69	52	24	55	39	56	52	78	0.39	+ 0.1	3	7,975	sw.	42	sw.	13	17	8	5	3.3	....	....
San Jose	141	12	110	29.77	29.92	....	63.9	− 0.8	97	19	78	45	3	50	46	....	....	....	0.25	− 0.1	2	3,847	nw.	20	s.	7	20	6	4	2.6	....	....
South Pacific Coast Region.							68.1	0.0										69	0.56	+ 0.4										2.8		
Fresno	327	89	98	29.49	29.84	− .03	73.2	− 1.1	99	24	87	52	30	59	38	57	44	43	0.29	0.0	3	5,264	nw.	29	nw.	10	24	4	2	1.5	....	....
Los Angeles	338	159	191	29.50	29.86	− .02	68.3	− 1.2	92	12	78	53	14	59	34	60	56	75	1.29	+ 1.2	4	3,673	sw.	18	sw.	9	19	6	5	3.4	....	....
San Diego	87	62	70	29.76	29.85	− .04	66.5	− 0.4	79	24	72	57	7	61	21	62	60	84	0.26	+ 0.2	3	4,555	nw.	20	s.	26	16	11	3	3.8	....	....
San Luis Obispo	201	32	40	29.68	29.90	− .03	64.4	+ 2.9	99	23	77	48	15	52	49	55	50	73	0.42	0.0	3	2,989	nw.	18	ne.	12	25	3	2	2.6	....	....
West Indies.																																
San Juan, P. R.	82	8	54	29.85	29.93	....	79.8	....	91	23	85	72	4	74	17	....	....	....	5.63	− 1.2	17	6,633	s.	32	e.	3	3	20	7	6.0	....	....
Panama Canal.																																
Balboa Heights	118	7	97	29.71	29.83	.00	79.4	− 0.4	90	6	85	71	27	74	18	75	74	87	10.84	+ 3.0	21	4,090	nw.	22	s.	13	0	14	16	7.5	....	....
Colon	36	15	97	29.79	29.83	− .01	80.6	+ 0.8	90	12	86	73	4	75	14	76	75	84	11.74	− 0.9	20	4,928	se.	27	n.	7	1	13	16	7.7	....	....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes; or 0.80 in 1 hour, during September, 1919, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	19			0.63														0.37			
Albany, N. Y.	22			0.73														0.52			
Alpena, Mich.	15			0.28														0.16			
Amarillo, Tex.	16–17	6:10 p. m.	5:10 a. m.	1.98	1.30 a. m.	2:06 a. m.	0.58	0.05	0.10	0.28	0.34	0.48	0.53	0.66	0.68						
Anniston, Ala.	19	5:00 p. m.	5:55 p. m.	0.53	5:13 p. m.	5:36 p. m.	0.01	0.06	0.11	0.18	0.38	0.51									
Asheville, N. C.	23			0.19														0.19			
Atlanta, Ga.	20			0.41														0.39			
Atlantic City, N. J.	10			0.72														0.65			
Augusta, Ga.	22			0.06														0.06			
Baker, Oreg.	11			0.09														0.07			
Baltimore, Md.	22			0.75														0.52			
Bentonville, Ark.	21–22			1.34														0.44			
Binghamton, N. Y.	9			0.23														0.15			
Birmingham, Ala.	12	D. N. a. m.	D. N. a. m.	1.04	12:42 a. m.	1:16 a. m.	0.03	0.18	0.38	0.52	0.66	0.75	0.83	0.90							
Bismarck, N. Dak.	9			0.14														0.09			
Block Island, R. I.	1			0.47														0.47			
Boise, Idaho	30			0.34														0.23			
Boston, Mass.	3			2.94														0.67			
Buffalo, N. Y.	11			0.42														0.38			
Burlington, Vt.	8	3:25 a. m.	4:10 a. m.	0.52	3:56 a. m.	4:21 a. m.	0.01	0.06	0.14	0.31	0.39	0.50									
Cairo, Ill.	20			0.82														0.44			
Canton, N. Y.	8			2.41														0.89			
Charles City, Iowa	9			1.00														0.66			
Charleston, S. C.	2			0.55														0.47			
Charlotte, N. C.	11			0.48														0.43			
Chattanooga, Tenn.	22			0.03														0.03			
Cheyenne, Wyo.	29–31			0.60														*			
Chicago, Ill.	10			0.74														0.59			
Cincinnati, Ohio	22	6:32 a. m.	1:10 p. m.	1.74	6:56 a. m.	7:55 a. m.	0.07	0.05	0.18	0.32	0.25	0.42	0.56	0.68	0.79	0.89	0.95	1.07			
	30	3:08 p. m.	3:44 p. m.	0.60	3:17 p. m.	3:35 p. m.	0.01	0.11	0.36	0.56	0.59										
Cleveland, Ohio	11			0.35														0.27			
Columbia, Mo.	18	6:11 p. m.	6:49 p. m.	0.69	6:20 p. m.	6:41 p. m.	0.01	0.24	0.34	0.43	0.63	0.67									
Columbia, S. C.	11			0.08														0.08			
Columbus, Ohio	21			0.38														0.23			
Concord, N. H.	8–9			0.86														0.45			
Concordia, Kans.	18			1.61														0.64			
Corpus Christi, Tex.	17			0.76														0.40			
Dallas, Tex.	19	3:16 p. m.	8:35 p. m.	0.91	3:59 p. m.	4:27 p. m.	0.09	0.12	0.23	0.34	0.43	0.47	0.51								
	21–22	7:10 p. m.	5:45 a. m.	2.50	9:25 p. m.	10:26 p. m.	0.01	0.06	0.13	0.16	0.25	0.34	0.42	0.64	0.91	1.18	1.48	1.75	1.82		
Davenport, Iowa	29–30	9:45 p. m.	9:35 a. m.	3.48	4:28 a. m.	5:22 a. m.	0.77	0.20	0.52	0.74	0.93	1.16	1.54	1.99	2.11	2.20	2.28	2.36			
Dayton, Ohio	21			0.72														0.40			
Del Rio, Tex.	15	6:45 p.m.	9:40 p. m.	1.06	7:21 p. m.	7:38 p. m.	0.06	0.10	0.26	0.54	0.69										
	22–23	4:00 a. m.	12:00 mid.	6.43	5:24 a. m.	7:02 a. m.	0.12	0.14	0.25	0.36	0.52	0.60	0.71	0.79	0.89	1.03	1.18	1.53	2.72	3.16	
					7:52 a. m.	8:59 a. m.	3.32	0.06	0.13	0.18	0.31	0.41	0.51	0.62	0.70	0.73	0.78	0.91	1.00		
Denver, Colo.	13			0.35														0.24			
Des Moines, Iowa	18	9:55 a. m.	4:20 p. m.	1.16	1:28 p. m.	2:03 p. m.	0.45	0.06	0.12	0.20	0.37	0.46	0.53	0.61							
		7:43 p. m.	D. N. p. m.	1.15	8:13 p. m.	8:46 p. m.	0.01	0.13	0.22	0.37	0.53	0.58	0.65	0.70							
	20–21	8:05 p. m.	D. N. a. m.	1.76	8:12 p. m.	8:57 p. m.	0.02	0.12	0.28	0.48	0.76	0.83	0.93	1.01	1.13	1.24					
Detroit, Mich.	20	6:35 p. m.	8:55 p. m.	1.16	6:53 p. m.	7:15 p. m.	0.01	0.09	0.14	0.41	0.65	0.69									
	21	12:13 p. m.	4:55 p. m.	1.71	3:20 p. m.	4:17 p. m.	0.64	0.07	0.21	0.40	0.59	0.66	0.77	0.80	0.81	0.83	0.89	1.05			
Devils Lake, N. Dak.	9			0.77														0.37			
Dodge City, Kans.	17			0.99														0.20			
Drexel, Nebr.	18			2.36														0.47			
Dubuque, Iowa	19			1.47														0.73			
Duluth, Minn.	6			0.37														0.18			
Eastport, Me.	3			1.60														0.37			
Elkins, W. Va.	22			1.32														0.45			
Ellendale, N. Dak.	4			0.13														0.05			
El Paso, Tex.	12			0.25														0.22			
Erie, Pa.	21			0.56														0.22			
Escanaba, Mich.	28			0.60														0.36			
Eureka, Calif.	30			0.59														0.15			
Evansville, Ind.	21	12:15 p. m.	4:45 p. m.	1.84	2:59 p. m.	3:40 p. m.	0.50	0.22	†0.32	†0.44	†0.65	†0.87	†0.95	†1.18	†1.32	†1.33					
Flagstaff, Ariz.	27			0.85														*			
Fort Smith, Ark.	21			0.43														0.33			
Fort Wayne, Ind.	21			1.84														0.47			
Fort Worth, Tex.	19	2:19 p. m.	7:41 p. m.	3.18	2:32 p. m.	3:41 p. m.	0.03	0.06	0.11	0.27	0.44	0.67	0.88	1.35	1.73	2.08	2.39	2.68	2.81		
Fresno, Calif.	29			0.24														0.07			
Galveston, Tex.	5–6	8:35 p. m.	6:30 a. m.	1.79	10:54 p. m.	11:52 p. m.	0.11	0.12	0.18	0.28	0.54	0.80	0.93	0.96	0.98	1.04	1.09	1.32			
Grand Haven, Mich.	20	4:24 p. m.	8:20 p. m.	2.27	6:09 p. m.	6:54 p. m.	0.32	0.08	0.18	0.26	0.46	0.70	0.89	0.97	1.12	1.46					
Grand Junction, Colo.	2			0.56														0.37			
Grand Rapids, Mich.	20	10:20 a. m.	2:50 p. m.	1.20	1:51 p. m.	2:26 p. m.	0.38	0.10	0.21	0.36	0.54	0.62	0.71	0.77							
Green Bay, Wis.	20			0.71														0.45			
Greenville, S. C.	21			0.01														0.01			
Hannibal, Mo.	18	7:20 p. m.	9:10 p. m.	0.98	8:11 p. m.	8:48 p. m.	0.07	0.21	0.26	0.27	0.37	0.49	0.67	0.82	0.88						
Harrisburg, Pa.	11			0.48														0.29			
Hartford, Conn.	3			1.77														0.44			
Hatteras, N. C.	1	D. N. a. m.	7:28 a. m.	1.00	5:15 a. m.	5:46 a. m.	0.03	0.16	0.27	0.55	0.71	0.78	0.85	0.89							
Havre, Mont.	20–21			0.12														0.08			
Helena, Mont.	8			0.27														0.16			
Houghton, Mich.	18			0.21														0.19			
Houston, Tex.	7	12:30 p. m.	1:05 p. m.	0.93	12:34 p. m.	12:54 p. m.	0.01	0.16	0.41	0.66	0.89										
	14	6:42 p. m.	10:15 p. m.	2.70	6:55 p. m.	8:25 p. m.	0.01	0.21	0.32	0.44	0.50	0.58	0.69	0.80	0.82	0.82	0.87	1.23	1.98	2.19	
	15	7:26 a. m.	12:45 p. m.	2.80	11:14 a. m.	12:19 p. m.	1.29	0.11	0.22	0.31	0.42	0.47	0.50	0.60	0.75	0.91	1.05	1.25	1.51		
Huron, S. Dak.	12			0.23														0.23			
Independence, Calif.	27			T.														T.			
Indianapolis, Ind.	21			1.35														0.68			
Iola, Kans.	10–11	8:10 p. m.	D. N. a. m.	0.95	8:31 p. m.	8:51 p. m.	0.07	0.07	0.22	0.41	0.52										
Jacksonville, Fla.	1	4:15 p. m.	7:18 p. m.	0.73	4:25 p. m.	4:51 p. m.	0.01	0.25	0.34	0.36	0.41	0.56	0.59								
	13–14	11:27 p. m.	D. N. a. m.	0.85	11:51 p. m.	12:11 a. m.	0.06	0.09	0.31	0.60	0.75										
Kalispell, Mont.	7			0.13														0.12			
Kansas City, Mo.	21	2:25 a. m.	8:20 a. m.	1.72	6:19 a. m.	6:41 a. m.	0.83	0.07	0.20	0.47	0.72	0.78									
Keokuk, Iowa	18	2:25 p. m.	4:00 p. m.	0.83	2:43 p. m.	3:02 p. m.	0.03	0.17	0.39	0.52	0.61										
	21	D. N. a. m.	7:35 a. m.	1.19	12:55 a. m.	1:25 a. m.	0.23	0.15	0.17	0.31	0.46	0.62	0.76								
	28	D. N. a. m.	7:02 a. m.	1.44	6:08 a. m.	6.43 a. m.	0.30	0.05	0.25	0.28	0.34	0.57	0.92	1.12							
Key West, Fla.	9–10			0.95														*			
Knoxville, Tenn.	22			0.34														0.34			
La Crosse, Wis.	9			1.00														0.64			

* Self-register not in use. † Record partly estimated.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during September, 1919, at all stations furnished with self-registering gages.*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Lander, Wyo	20-21			0.61														*			
Lansing, Mich	20			0.43														0.38			
Lewiston, Idaho	6			0.32														0.17			
Lexington, Ky	21			0.60														0.36			
Lincoln, Nebr	16	2:43 p.m.	3:45 p.m.	0.76	3:05 p.m.	3:21 p.m.	0.02	0.30	0.50	0.63	0.67										
Little Rock, Ark	21	4:48 p.m.	6:40 p.m.	0.70	5:13 p.m.	5:35 p.m.	0.02	0.10	0.23	0.38	0.51	0.57									
Los Angeles, Calif	27			0.68														0.26			
Louisville, Ky	19	10:40 a.m.	11:35 a.m.	1.01	11:00 a.m.	11:20 a.m.	T.	0.21	0.59	0.77	0.96										
	21	1:15 p.m.	6:35 p.m.	1.11	4:25 p.m.	5:04 p.m.	0.22	0.11	0.22	0.29	0.35	0.39	0.48	0.61	0.79						
Ludington, Mich	21	12:25 a.m.	D. N. a. m.	0.86	12:26 a.m.	1:00 a.m.	0.01	0.11	0.19	0.20	0.37	0.47	0.53	0.57							
	28-29	D. N. p. m.	D. N. a. m.	1.58	12:28 a.m.	1:00 a.m.	0.61	0.08	0.24	0.27	0.51	0.68	0.74	0.80							
Lynchburg, Va	22			0.32														0.28			
Macon, Ga	12			0.46														0.46			
Madison, Wis	20-21	9:22 p.m.	4:00 a.m.	1.91	10:31 p.m.	11:06 p.m.	0.44	0.11	0.47	0.72	0.89	0.96	1.04	1.09							
	28-29	6:10 p.m.	D. N. a. m.	1.26	10:38 p.m.	11:02 p.m.	0.08	0.12	0.24	0.41	0.57	0.67									
Marquette, Mich	11			0.58														0.30			
Memphis, Tenn	21-22			1.21														0.48			
Meridian, Miss	20			0.21														0.11			
Miami, Fla	1-2	D. N. p. m.	D. N. a. m.	1.65	10:45 p.m.	11:38 p.m.	0.02	0.16	0.24	0.31	0.41	0.56	0.81	1.02	1.17	1.32	1.44	1.58			
	3	D. N. p. m.	D. N. p. m.	0.67	10:12 p.m.	10:30 p.m.	0.01	0.22	0.32	0.45	0.66										
Milwaukee, Wis	20	2:54 p.m.	3:35 p.m.	0.84	3:04 p.m.	3:23 p.m.	0.04	0.11	0.33	0.63	0.77										
Minneapolis, Minn	17			0.42														0.27			
Mobile, Ala	7			0.44														0.26			
Modena, Utah	26			0.87														0.61			
Montgomery, Ala	23			0.07														0.07			
Moorhead, Minn	13			0.52														0.51			
Mount Tamalpais, Calif	29			0.62														0.51			
Nantucket, Mass	23			1.13														0.65			
Nashville, Tenn	21-22			1.33														0.69			
New Haven, Conn	2-3	5:45 a.m.	7:05 a.m.	3.44	10:21 p.m.	11:34 p.m.	0.66	0.14	0.34	0.46	0.52	0.59	0.15	0.74	0.91	1.12	1.27	1.59	1.87		
	11-12	9:01 p.m.	D. N. a. m.	1.10	10:09 p.m.	10:35 p.m.	T.	0.09	0.19	0.34	0.58	0.88	0.92								
New Orleans, La	7	10:45 a.m.	11:41 a.m.	0.82	11:02 a.m.	11:29 a.m.	0.02	0.08	0.30	0.62	0.68	0.77	0.80								
New York	22-23			2.27														0.61			
Norfolk, Va	23			0.66														0.25			
Northfield, Vt																					
North Head, Wash	30			0.60														0.39			
North Platte, Nebr	12			0.72														0.61			
Oklahoma, Okla	18			0.39														0.32			
Omaha, Nebr	18	5:05 a.m.	3:25 p.m.	3.49	10:35 a.m.	12:03 p.m.	1.61	0.06	0.12	0.21	0.28	0.35	0.43	0.51	0.55	0.61	0.69	0.84	1.17	1.34	
	29	6:10 p.m.	8:55 p.m.	0.83	6:26 p.m.	6:40 p.m.	0.02	0.24	0.56	0.64											
Oswego, N. Y	2	4:38 a.m.	7:12 a.m.	0.54	4:38 a.m.	5:01 a.m.	0.00	0.08	0.22	0.33	0.47	0.51									
Palestine, Tex	20	2:19 p.m.	5:10 p.m.	0.65	2:23 p.m.	2:38 p.m.	0.03	0.20	0.42	0.55											
	22	4:00 a.m.	2:20 p.m.	3.21	4:17 a.m.	5:07 a.m.	0.02	0.09	0.16	0.17	0.22	0.27	0.32	0.41	0.49	0.56	0.72				
					5:07 a.m.	5:57 a.m.		0.90	1.02	1.24	1.43	1.51	1.65	1.76	1.86	1.95	2.03				
Parkersburg, W. Va	21			0.58														0.42			
Pensacola, Fla	12-13			0.16														0.15			
Peoria, Ill	18-19			1.38														0.37			
Philadelphia, Pa	22			0.83														0.51			
Phoenix, Ariz	26			1.20														0.76			
Pierre, S. Dak	10	8:30 a.m.	10:00 a.m.	1.20	9:02 a.m.	9:42 a.m.	0.04	0.06	0.19	0.33	0.56	0.57	0.61	0.91	1.13						
Pittsburgh, Pa	10			0.46														0.45			
Pocatello, Idaho	2			0.82														0.46			
Point Reyes Light, Calif	7			0.15														0.03			
Port Angeles, Wash	30			0.23														0.15			
Port Huron, Mich	20			1.17														0.75			
Portland, Me	8			0.69														0.30			
Portland, Oreg	4			0.38														0.21			
Providence, R. I	11			0.87														0.50			
Pueblo, Colo	9-10	10:00 p.m.	D. N. a. m.	1.49	11:17 p.m.	12:08 a.m.	0.05	0.09	0.38	0.49	0.63	0.67	0.82	0.91	0.98	1.04	1.10	1.16			
Raleigh, N. C	11			0.21														0.17			
Rapid City, S. Dak	1			0.88														0.36			
Reading, Pa	22			0.80														0.51			
Red Bluff, Calif	7			0.28														0.12			
Reno, Nev	29			0.37														0.11			
Richmond, Va	10			0.41														0.40			
Rochester, N. Y	20			0.66														0.54			
Roseburg, Oreg	8			1.02														0.51			
Roswell, N. Mex	15-16	7:42 a.m.	8:12 a.m.	3.52	3:35 p.m.	3:48 p.m.	0.70	0.18	0.51	0.61											
Sacramento, Cal	7			0.39														0.12			
Saginaw, Mich	29			0.70														0.30			
St. Joseph, Mo	20-21	D. N. p. m.	8:40 a.m.	1.77	4:46 a.m.	5:20 a.m.	0.85	0.05	0.13	0.27	0.44	0.60	0.69	0.73							
	28	5:47 p.m.	D. N. p. m.	1.05	7:35 p.m.	8:03 p.m.	0.39	0.07	0.22	0.40	0.49	0.61	0.65								
	21	6:55 a.m.	1:45 p.m.	1.25	7:38 a.m.	8:18 a.m.	T.	0.12	0.14	0.21	0.24	0.43	0.50	0.61	0.68	0.70					
St. Louis, Mo	28	2:30 p.m.	8:45 p.m.	3.73	6:06 p.m.	6:56 p.m.	0.12	0.14	0.42	0.70	0.90	1.09	1.23	1.38	1.62	1.88	1.99				
					6:56 p.m.	7:46 p.m.		2.18	2.40	2.44	2.47	2.50	2.50	2.52	2.57	2.65	2.75				
					7:46 p.m.	8:30 p.m.		2.82	2.83	2.87	2.96	3.11	3.33	3.46	3.54	3.59					
St. Paul, Minn	28			0.49														0.28			
Salt Lake City, Utah	3			0.52														0.33			
San Antonio, Tex	15			2.50														0.72			
San Diego, Cal	30			0.12														0.11			
Sand Key, Fla																					
Sandusky, Ohio	10			0.55														0.47			
Sandy Hook, N. J	3			0.59														0.46			
San Francisco, Cal	29			0.20														0.09			
San Jose, Cal	28			0.24														*			
San Luis Obispo, Cal	28			0.25														0.14			
Santa Fe, N. Mex	13			0.34														0.34			
Sault Ste. Marie, Mich	20			0.70														0.61			
Savannah, Ga	12			1.11														0.54			
Scranton, Pa	22			0.91														0.29			
Seattle, Wash	11			1.32														0.22			
Sheridan, Wyo	1			0.58														0.49			
Shreveport, La	6	3:30 p.m.	4:40 p.m.	0.88	3:35 p.m.	3:53 p.m.	0.03	0.30	0.59	0.73	0.81										
Sioux City, Iowa	3			0.95														0.44			
Spokane, Wash	4			0.12														0.12			
Springfield, Ill	21			1.04														0.59			
Springfield, Mo	21	6:24 a.m.	7:52 a.m.	0.90	6:24 a.m.	7:04 a.m.	0.00	0.10	0.20	0.26	0.49	0.59	0.65	0.72	0.80						
Syracuse, N. Y	12			0.63														0.43			
Tacoma, Wash	11			0.52														0.14			

* Self-register not in use.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during September, 1919, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.												
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Tampa, Fla	6	3:55 p.m.	5:00 p.m.	2.03	3:59 p.m.	4:21 p.m.	0.01	0.40	1.36	1.36	1.80	1.95									
	16	5:15 p.m.	D.N.p.m.	2.05	5:17 p.m.	6:05 p.m.	0.01	0.20	0.45	0.68	0.95	1.19	1.36	1.50	1.67	1.75	1.80				
	20	4:36 p.m.	5:55 p.m.	1.68	4:39 p.m.	5:08 p.m.	0.01	0.37	0.85	1.20	1.38	1.47	1.53								
Tatoosh Island, Wash	30			1.64														0.44			
Taylor, Tex	14–15	1:39 p.m.	6:30 a.m.	3.01	2:22 a.m.	3:33 a.m.	0.86	0.06	0.13	0.15	0.20	0.34	0.47	0.62	0.88	1.11	1.29	1.71	2.11		
Terre Haute, Ind	10	5:05 p.m.	6:15 p.m.	0.79	5:14 p.m.	5:37 p.m.	0.01	0.10	0.29	0.56	0.70	0.75									
Thomasville, Ga	10			0.11														0.11			
Toledo, Ohio	11			0.21														0.21			
Tonopah, Nev	27			0.20														0.20			
Topeka, Kans	21	D.N.a.m.	D.N.a.m.	1.64	4:32 a.m.	5:09 a.m.	0.12	0.17	0.32	0.63	0.86	1.17	1.26	1.36	1.41						
Trenton, N. J	11	10:10 p.m.	D.N.p.m.	0.87	10:12 p.m.	10:22 p.m.	0.01	0.35	0.72	0.76											
Valentine, Nebr	8			0.57														0.49			
Vicksburg, Miss	22			0.29														0.29			
Walla Walla, Wash	7			0.42														0.31			
Washington, D. C	11	7:00 p.m.	7:45 p.m.	0.66	7:10 p.m.	7:23 p.m.	0.01	0.22	0.44	0.59											
Wausau, Wis	28–29			1.02														0.33			
Wichita, Kans	18			0.22														0.15			
Williston, N. Dak	6–7	9:22 p.m.	D.N.a.m.	0.93	9:38 p.m.	9:50 p.m.	0.06	0.31	0.55	0.60											
Wilmington, N. C	2			0.93														0.35			
Winnemucca, Nev	30			0.21														0.12			
Wytheville, Va	21			0.62														0.38			
Yankton, S. Dak	9	12:30 a.m.	5:10 a.m.	1.04	12:59 a.m.	1:24 a.m.	0.03	0.11	0.26	0.37	0.45	0.53									
Yellowstone Park, Wyo	27–28			0.78														*			

* Self-register not in use.

TABLE III.—*Data furnished by the Canadian meteorological service, September 1919.*

Stations.	Altitude above mean sea level Jan. 1, 1919.	Pressure.			Temperature.						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.	*Inches.*	*Inches.*	*Inches.*	*° F.*	*° F.*	*° F.*	*° F.*	*° F.*	*° F.*	*Inches.*	*Inches.*	*Inches.*
St. Johns, N. F	125	29.86	30.00	−0.03	54.9	+0.9	63.2	46.6	74	34	4.70	+0.99	
Sydney, C. B. I	48	29.97	29.91	− .10	58.0	+1.5	66.3	49.6	76	36	4.56	+1.28	
Halifax, N. S	88	29.90	30.00	− .04	57.8	+0.2	65.3	50.3	73	37	5.08	+1.37	
Yarmouth, N. S	65	29.92	29.99	− .06	56.4	+0.3	63.4	49.3	79	36	3.44	−0.01	
Charlottetown, P. E. I	38	29.93	29.97	− .04	57.5	+0.2	63.8	51.3	75	35	5.11	+1.71	
Chatham, N. B	28	29.96			56.6	+1.2	65.3	47.9	78	32	3.81	+1.10	
Father Point, Que	20	29.91	29.93	− .05	50.3	−0.1	58.5	42.2	82	31	2.21	−0.92	
Quebec, Que	296	29.65	29.98	− .03	54.8	−0.3	63.0	46.6	78	32	3.39	−0.28	
Montreal, Que	187	29.76	29.96	− .08	58.2	−0.2	65.8	50.6	80	39	3.92	+0.62	
Stonecliffe, Ont	489	29.36	29.97	− .06	49.6	−6.1	68.1	31.2	84	20	5.57	+2.29	
Ottawa, Ont	236	29.71	29.97	− .07	59.2	+1.8	70.0	48.4	84	36	2.68	−0.01	
Kingston, Ont	285	29.68	29.99	− .05	63.7	+3.7	72.2	55.2	85	42	2.36	−0.44	
Toronto, Ont	379	29.59	29.99	− .07	63.4	+4.4	73.9	53.0	95	39	1.91	−1.34	
Cochrane, Ont	930				49.7		58.2	42.1	72	28	3.20		T.
White River, Ont	1,244	28.61	29.93	− .05	49.3	−1.0	59.6	39.1	76	22	5.73	+2.96	
Port Stanley, Ont	592	29.38	30.02	− .04	61.2	+1.7	69.4	53.0	78	36	3.93	+1.20	
Southampton, Ont	656	29.28			61.9	+4.4	70.7	53.1	86	38	1.98	−0.96	T.
Parry Sound, Ont	688	29.29	29.97	− .06	59.9	+3.9	69.1	50.8	86	35	3.32	−0.35	
Port Arthur, Ont	644	29.26	29.97	− .01	52.9	+0.7	62.3	43.6	73	31	3.00	−0.48	
Winnipeg, Man	760	29.10	29.92	− .02	56.0	+3.5	66.3	45.8	80	26	3.24	+1.21	
Minnedosa, Man	1,690	28.13	29.92	− .02	54.2	+3.7	65.4	43.0	82	26	1.18	−0.18	1.2
Le Pas, Man	860				51.6		62.3	41.0	80	28			
Qu'Appelle, Sask	2,115	27.70	29.93	+ .01	53.8	+2.7	66.4	41.3	87	19	1.06	−0.27	0.8
Medicine Hat, Alb	2,144	27.63	29.87	− .05	58.8	+3.8	73.1	44.5	90	26	1.12	−0.06	
Moose Jaw, Sask	1,759				57.4		71.8	43.0	92	25	0.23		T.
Swift Current, Sask	2,392	27.35	29.94	+ .02	56.3	+3.2	70.1	42.5	86	25	1.06	−0.16	
Calgary, Alb	3,428	26.43	29.98	+ .06	52.5	+2.7	66.6	38.4	79	22	1.35	−0.01	−0.2
Banff, Alb	4,521	25.40	29.95	+ .02	48.3	+2.5	62.4	34.3	72	13	0.62	−1.05	−0.5
Edmonton, Alb	2,150	27.60	29.86	− .04	52.7	+3.4	65.5	40.0	76	20	1.40	+0.07	−0.2
Prince Albert, Sask	1,450	28.38	29.95	+ .05	52.5	+4.1	62.9	42.2	78	28	3.27	+1.99	
Battleford, Sask	1,592	28.17	29.90	.00	54.4	+2.6	66.9	42.0	82	24	1.84	+0.59	
Kamloops, B. C	1,262	28.74			60.4	+3.0	73.4	47.4	84	31	0.59	−0.26	
Victoria, B. C	230	29.74	29.99	− .02	57.6	+2.8	61.9	50.4	81	42	1.35	−0.81	
Barkerville, B. C	4,180	25.74			46.0	−0.7	56.3	35.6	67	17	1.73	−1.18	
Triangle Island, B. C	680												
Prince Rupert, B. C	170												
Hamilton, Ber	151	29.87	30.03	− .04	77.8	+0.4	83.2	72.5	85	70	5.72	−0.79	