was completed in many localities in Arkansas and was well advanced in the more northwestern portion of the belt.

Satisfactory progress was made in the harvesting of white and sweet potatoes and sugar beets under mostly satisfactory weather conditions. There was too much rain in the trucking districts of the Southeast, particularly in Florida, where much lowland was under water, but there was some improvement during the latter part of the month and planting winter truck was resumed.

Pastures were generally poor because of drought in Oklahoma and were practically gone at the end of the month in much of Kansas, while the range continued poor to bare in New Mexico and was much too dry in Arizona. There was sufficient precipitation to benefit ranges, however, in most other western grazing sections, while the rainfall the last half of the month was helpful in most districts east of the Mississippi River, although it continued too dry in some sections.

CLIMATOLOGICAL TABLES.[1]

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, October, 1922.

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	65.3	+ 0.5	Tuscaloosa	92	3	3 stations	32	[2] 19	2.56	− 0.42	Robertsdale	5.83	Healing Springs	T.
Arizona	63.2	+ 1.2	2 stations	106	2	Lakeside	3	30	0.31	− 0.56	Fort Valley	1.63	17 stations	0.00
Arkansas	63.1	+ 0.8	Rison	98	4	2 stations	20	18	1.47	− 1.53	Pindall	4.35	Arlberg	0.15
California	59.7	− 1.1	Greenland Ranch	103	2	Madeline	13	30	1.51	+ 0.23	Twin Valley	6.75	6 stations	0.00
Colorado	47.2	+ 1.3	Lamar	99	4	Dillon	− 1	30	0.45	− 0.83	Yampa	1.43	15 stations	0.00
Florida	74.5	+ 1.3	Orlando	96	7	Garniers	38	5	8.28	+ 3.73	Homestead	23.89	Wausau	1.50
Georgia	65.9	+ 1.1	Hazlehurst	94	8	Blue Ridge	28	27	3.73	+ 0.91	St. George	8.67	Concord	1.29
Hawaii	73.8	+ 0.3	Kaueleau No. 2, Hawaii.	91	[2] 9	Volcano Observatory, Hawaii.	50	9	5.44	+ 0.23	Eke, Maui	27.00	Olowalu, Maui	0.03
Idaho	49.5	+ 3.3	Deer Flat	94	[2] 1	Warren	4	30	0.71	− 0.63	Sandpoint	4.58	Challis	0.00
Illinois	58.5	+ 3.3	Carbondale	96	3	Freeport	22	18	2.28	− 0.30	Flora	5.76	Mount Carroll	0.13
Indiana	57.8	+ 3.2	Crawfordsville	98	6	Connersville	24	19	2.87	+ 0.17	Royal Center	4.83	Moores Hill	0.95
Iowa	56.1	+ 5.3	Guthrie Center	96	4	Little Sioux	11	17	1.81	− 0.65	Fayette	3.93	Davenport (Pine Acres).	0.06
Kansas	59.3	+ 2.8	Hutchinson	97	6	Smith Center	13	17	1.27	− 0.59	Winfield	3.87	2 stations	0.00
Kentucky	60.2	+ 2.4	2 stations	96	[2] 3	Greensburg	25	19	2.24	− 0.26	Blandville	4.41	Berea	0.76
Louisiana	68.1	+ 0.6	Dodson	95	[2] 1	Robeline	32	[2] 25	2.71	− 0.16	Abbeville	6.79	Logansport	0.01
Maryland-Delaware	58.4	+ 2.0	2 stations	93	5	Oakland, Md	15	31	1.88	− 0.99	Baltimore, Md	5.58	Aberdeen, Md	0.74
Michigan	50.0	+ 1.3	St. Joseph	91	[2] 1	Ewen	10	20	2.15	− 0.53	Ceresco	3.88	Eagle Harbor	0.39
Minnesota	49.4	+ 3.9	Ada	95	3	Wheaton	9	13	1.00	− 1.02	Fairmont	2.50	3 stations	T.
Mississippi	65.7	+ 1.0	2 stations	95	1	Batesville	31	19	1.63	− 0.95	Woodville	4.44	Okolona	0.38
Missouri	59.9	+ 2.4	Carnthersville	97	3	Dean	18	18	2.00	− 0.77	Grant City	3.83	Seligman	0.51
Montana	48.0	+ 4.0	2 stations	95	[2] 2	2 stations	8	[2] 16	0.58	− 0.57	Upper Yaak River	3.14	3 stations	0.00
Nebraska	54.7	+ 3.6	Newport	99	3	Curtis	5	17	0.63	− 0.93	Pawnee City	2.89	5 stations	0.00
Nevada	52.0	+ 1.3	Las Vegas	98	2	Rye Patch	4	30	0.32	− 0.27	2 stations	1.15	3 stations	0.00
New England	49.7	+ 1.3	Turners Falls, Mass.	92	2	Garfield, Vt	10	19	2.54	− 1.00	Nantucket, Mass	5.34	Bethlehem, N. H	1.07
New Jersey	56.6	+ 1.6	3 stations	92	[2] 2	2 stations	18	21	1.48	− 2.25	Charlotteburg	2.70	Somerville	0.55
New Mexico	54.1	+ 0.6	Gage	98	[2] 4	Elizabethtown	− 3	31	0.34	− 0.90	Turney's Ranch	2.11	20 stations	0.00
New York	50.7	+ 0.4	Port Jervis	90	6	2 stations	8	[2] 18	2.47	− 0.96	Carmel	4.74	New York City	1.17
North Carolina	61.3	+ 1.2	2 stations	93	[2] 4	Banners Elk	22	13	4.50	+ 1.05	Sloan	8.34	Cullowhee	1.67
North Dakota	45.7	+ 1.9	Carson	98	3	2 stations	8	17	0.57	− 0.43	2 stations	1.70	3 stations	0.00
Ohio	55.8	+ 2.2	3 stations	93	5	Millport	21	19	1.78	− 0.89	Summerfield	3.43	2 stations	0.54
Oklahoma	63.3	+ 1.7	Hollis	98	3	2 stations	21	[2] 18	1.84	− 0.83	Fairfax	5.00	Kenton	0.01
Oregon	51.9	+ 1.4	Medford	88	7	Fremont	5	29	2.54	+ 0.42	Classic Lake	9.58	Harper	0.08
Pennsylvania	54.8	+ 2.5	3 stations	94	[2] 5	Wellsboro	12	21	2.51	− 0.80	Selins Grove	5.60	Neshaminy Falls	0.65
South Carolina	64.5	+ 0.9	Florence No. 1	94	[2] 4	Landrum	31	25	5.57	+ 2.48	Effingham	9.00	Orangeburg No. 2	3.04
South Dakota	50.9	+ 3.3	Colome	102	4	Lead	4	17	0.83	− 0.66	Fairfax	2.69	Oelrichs	T.
Tennessee	60.9	+ 1.2	2 stations	96	[2] 1	Mountain City	22	19	1.49	− 1.46	Mountain City	3.90	Florence	0.56
Texas	67.7	+ 0.2	San Benito	103	7	Dalhart	25	31	2.16	− 0.16	Matagorda	7.44	2 stations	0.00
Utah	50.7	+ 1.9	St. George	94	1	Great Basin Alpine	9	[2] 30	0.72	− 0.54	Kanosh	3.22	2 stations	T.
Virginia	59.4	+ 2.0	Lincoln	95	[2] 5	Burkes Garden	19	15	3.20	+ 0.11	Callaville	6.55	Speers Ferry	0.80
Washington	51.5	+ 2.4	Colfax	87	10	2 stations	17	29	2.63	+ 0.04	Cedar Lake	11.20	Pomeroy	0.15
West Virginia	55.4	+ 0.5	Wheeling	93	5	2 stations	18	[2] 18	2.45	− 0.50	Bluefield	4.81	Kanawha Falls	0.39
Wisconsin	50.5	+ 2.6	2 stations	90	[2] 4	2 stations	11	20	1.01	− 1.62	2 stations	2.13	Beloit	0.24
Wyoming	45.6	+ 3.0	Gillette	98	3	2 stations	0	[2] 29	0.84	− 0.29	Ervay	2.95	Pinebluff	T.

LATE REPORTS FOR SEPTEMBER, 1922.

Hawaii	74.8	0.0	Mahukona	96	25	Kula Sanitarium, Maui.	51	2	7.36	+ 1.70	Eke, Maui	30.50	Lahaina, Maui	0.11
Porto Rico	78.6	− 0.3	4 stations	97	[2] 7	4 stations	60	[2] 4	6.51	− 1.65	Mayaguez	23.42	Isabela	2.30

[1] For description of tables and charts, see REVIEW, July, 1922, pp. 384-385.

[2] Other dates also.

TABLE 1.—*Climatological data for Weather Bureau Stations, October, 1922.*

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 0.01 inch or more.	Wind. Total movement.	Prevailing direction.	Maximum velocity. Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow, sleet, and ice on ground at end of month.
	Ft.	Ft.	Ft.	In.	In.	In.	° F	° F.	° F		° F.	° F.		° F.	° F.	° F.	° F.	%	In.	In.		Miles.								0-10	In.	In.
New England.							51.5	+0.8										75	2.69	−0.9										5.4		
Eastport	76	67	85	29.80	29.89	−0.11	45.6	−1.9	75	3	52	25	19	39	26	42	39	80	3.01	−0.8	15	8,516	w.	37	s.	24	6	5	20	7.3	0.7	0.0
Greenville, Me	1,070	6	.....	28.74	29.42	.....	43.0	.....	84	1	51	17	19	35	38	.....	.....	.....	3.14	.....	12	.....	.....	.....	.....	.....	8	4	19	.....	1.2	0.0
Portland, Me	103	82	117	29.84	29.96	−.08	49.6	−0.3	83	5	57	24	19	42	30	44	38	71	2.13	−1.5	9	6,678	nw.	42	s.	23	12	8	11	5.2	0.0	0.0
Concord	288	70	79	29.65	29.97	−.08	49.0	+0.3	88	2	60	18	21	38	41	.....	.....	.....	2.27	−1.0	6	4,317	nw.	37	w.	18	10	8	13	5.7	0.0	0.0
Burlington	404	11	48	29.51	29.95	−.09	46.9	0.0	81	2	56	20	19	38	28	.....	.....	.....	1.98	−1.2	17	8,698	s.	42	s.	14	7	7	17	6.7	1.2	0.0
Northfield	876	12	60	29.02	29.98	−.07	45.0	+1.4	85	1	56	14	19	34	41	41	39	84	1.63	−0.8	10	6,186	s.	31	n.	29	6	11	14	6.6	1.0	0.0
Boston	125	115	188	29.83	29.97	−.08	55.1	+1.5	87	5	64	28	19	46	30	48	43	70	1.97	−1.9	5	7,778	w.	36	w.	18	15	6	10	4.7	0.0	0.0
Nantucket	12	14	90	29.95	29.96	−.09	55.9	+1.4	81	3	62	34	19	50	23	52	48	77	5.34	+2.0	7	12,197	sw.	48	sw.	25	11	12	8	5.1	0.0	0.0
Block Island	26	11	46	29.94	29.97	−.08	55.8	+0.9	77	3	62	33	19	50	20	51	48	78	2.94	−1.2	8	14,164	sw.	59	nw.	24	12	6	13	5.2	0.0	0.0
Providence	160	215	251	29.79	29.97	−.08	53.8	+1.6	87	5	63	28	19	45	28	48	43	70	2.66	−1.2	8	9,438	nw.	48	nw.	18	15	5	11	4.5	0.0	0.0
Hartford	159	122	140	29.80	29.98	−.08	54.4	+3.2	87	2	64	28	19	44	35	48	44	76	2.48	−1.4	6	5,643	nw.	39	sw.	23	16	5	10	4.7	0.0	0.0
New Haven	106	74	153	29.87	29.99	−.07	55.0	+1.2	88	5	64	29	21	46	29	49	44	70	3.18	−0.7	5	6,983	sw.	40	sw.	23	18	7	6	3.7	0.0	0.0
Middle Atlantic States.							58.2	+2.4										72	2.43	−0.8										4.1		
Albany	97	102	115	29.88	29.99	−.07	52.2	+0.1	88	5	62	25	19	42	34	46	42	76	1.56	−1.4	7	5,132	nw.	38	s.	23	16	8	7	4.0	T.	0.0
Binghamton	871	10	84	29.06	30.00	−.06	52.1	+2.9	87	6	63	23	21	41	36	.....	.....	.....	1.95	−1.2	8	4,259	nw.	30	nw.	18	11	5	15	6.1	T.	0.0
New York	314	414	454	29.66	30.00	−.06	57.6	+1.3	87	5	65	34	27	50	24	51	45	69	1.17	−2.5	8	12,348	nw.	60	nw.	24	18	5	8	3.9	0.0	0.0
Harrisburg	374	94	104	29.63	30.03	−.05	57.7	+3.7	89	5	67	33	21	48	30	50	44	66	3.16	+0.2	6	4,324	w.	28	sw.	23	16	8	7	4.3	0.0	0.0
Philadelphia	117	123	190	29.89	30.02	−.05	60.6	+4.3	91	5	69	38	31	52	26	52	46	64	0.71	−2.4	6	7,246	sw.	29	sw.	11	16	5	10	4.1	0.0	0.0
Reading	325	81	98	29.66	30.01	.....	58.0	.....	89	5	68	30	21	48	32	50	45	68	1.18	−2.1	6	3,897	nw.	24	nw.	12	16	10	5	3.5	0.0	0.0
Scranton	805	111	119	29.15	30.02	−.05	54.3	+2.9	87	6	65	26	21	44	34	47	43	73	3.56	+0.6	7	5,191	sw.	27	sw.	18	11	11	9	5.2	T.	0.0
Atlantic City	52	37	172	29.96	30.01	−.06	59.2	+2.3	86	3	66	33	27	52	26	54	50	75	1.50	−1.8	6	12,017	nw.	48	s.	7	18	5	8	3.7	0.0	0.0
Cape May	18	13	49	30.03	30.05	−.02	60.1	+3.8	84	3	67	35	21	53	25	54	50	76	1.07	−2.2	10	6,319	sw.	36	s.	23	16	7	8	3.9	0.0	0.0
Sandy Hook	22	10	55	29.97	29.99	.....	58.5	.....	86	5	65	36	27	52	24	52	48	74	1.28	.....	8	11,563	nw.	50	s.	23	17	7	7	3.6	0.0	0.0
Trenton	190	159	183	29.80	30.00	.....	57.7	.....	88	5	68	32	21	48	35	51	45	70	0.81	−2.6	5	7,952	sw.	39	w.	23	16	5	10	4.1	0.0	0.0
Baltimore	123	100	113	29.89	30.02	−.06	60.6	+2.4	91	5	70	37	31	52	28	53	48	68	5.58	+2.6	6	3,926	sw.	22	sw.	11	16	7	8	4.2	0.0	0.0
Washington	112	62	85	29.90	30.02	−.06	59.4	+2.0	87	5	70	33	21	49	32	52	47	72	1.41	−1.7	5	3,459	n.	28	n.	26	14	11	6	4.1	0.0	0.0
Lynchburg	681	153	188	29.30	30.04	−.05	60.6	+2.1	89	3	73	35	19	48	39	51	47	72	4.19	+0.8	8	4,399	w.	31	nw.	26	18	4	9	3.8	0.0	0.0
Norfolk	91	170	205	29.95	30.04	−.03	64.3	+3.0	87	4	72	43	25	57	30	57	54	76	2.75	−1.2	9	8,871	ne.	40	nw.	23	15	8	8	4.5	0.0	0.0
Richmond	144	11	52	29.89	30.04	−.04	60.8	+1.0	89	5	72	34	27	50	33	54	50	77	3.68	+0.1	8	5,022	ne.	34	sw.	11	18	5	8	3.4	0.0	0.0
Wytheville	2,304	49	55	27.69	30.06	−.03	55.6	+2.0	84	5	68	30	19	43	42	47	43	73	4.61	+1.5	7	3,501	nw.	24	sw.	25	20	5	6	3.2	0.0	0.0
South Atlantic States.							65.8	+1.6										77	5.40	+1.8										4.7		
Asheville	2,255	70	84	27.72	30.07	−.02	56.6	+1.3	81	30	69	32	19	45	41	48	44	74	3.36	+0.9	6	4,034	se.	26	n.	12	16	7	8	4.0	0.0	0.0
Charlotte	779	55	62	29.21	30.05	−.03	62.8	+1.1	87	5	73	43	27	53	33	54	48	68	5.32	+2.2	10	2,835	ne.	15	w.	7	17	6	8	3.8	0.0	0.0
Hatteras	11	12	11	30.01	30.02	−.04	67.0	+1.1	80	10	71	54	25	63	16	62	60	81	2.48	−3.5	9	9,685	n.	37	n.	18	16	5	10	4.6	0.0	0.0
Manteo	12	5	42	.....	.....	.....	63.7	.....	84	4	73	38	31	54	30	.....	.....	.....	6.86	.....	5	.....	ne.	.....	.....	.....	17	4	10	.....	0.0	0.0
Raleigh	376	103	110	29.64	30.04	−.03	63.2	+2.7	88	4	73	42	27	54	31	55	50	72	3.74	+0.2	9	5,400	ne.	30	s.	9	15	7	9	4.2	0.0	0.0
Wilmington	78	81	91	29.95	30.04	−.02	66.1	+2.8	84	5	75	45	27	58	32	60	58	82	6.40	+2.7	10	5,102	ne.	23	se.	9	16	5	10	4.1	0.0	0.0
Charleston	48	11	92	29.96	30.01	−.05	68.7	+0.9	86	7	75	52	27	62	19	64	62	84	5.72	+1.8	7	7,784	ne.	32	ne.	13	10	10	11	5.3	0.0	0.0
Columbia, S. C	351	41	57	29.66	30.04	−.03	65.2	+1.2	86	4	75	42	25	55	35	57	53	73	6.05	+3.8	10	4,221	ne.	25	ne.	13	18	3	10	4.1	0.0	0.0
Due West	711	10	55	29.29	30.06	.....	62.6	.....	86	4	73	40	24	52	31	.....	.....	.....	3.14	.....	9	5,683	ne.	26	nw.	7	17	6	8	4.3	0.0	0.0
Greenville, S. C	1,039	113	122	28.94	30.03	.....	62.4	.....	84	4	72	42	25	53	32	54	49	69	4.77	.....	7	5,548	ne.	30	e.	13	19	5	7	3.5	0.0	0.0
Augusta	180	62	77	29.82	30.01	−.06	66.5	+1.2	87	4	76	43	25	57	34	59	56	77	6.50	+4.2	9	3,399	e.	19	ne.	13	14	7	10	5.0	0.0	0.0
Savannah	65	150	194	29.93	30.00	−.05	69.0	+2.7	89	7	76	54	14	62	22	63	61	83	4.94	+1.4	8	7,957	ne.	32	ne.	13	8	7	16	6.3	0.0	0.0
Jacksonville	43	209	245	29.91	29.96	−.06	72.6	+1.5	88	7	78	56	11	67	20	68	67	88	8.84	+3.8	18	9,057	n.	35	n.	20	3	12	16	7.2	0.0	0.0
Florida Peninsula.							78.1	+ 1.2										82	11.50	+ 5.2										6.3		
Key West	22	10	64	29.87	29.89	− .05	80.1	+ 1.0	90	6	85	70	13	76	13	74	72	79	8.31	+ 2.9	12	7,496	se.	34	se.	14	10	10	11	5.3	0.0	0.0
Miami	25	71	79	29.88	29.91	.....	78.0	+ 0.2	90	5	83	68	11	73	17	74	72	84	15.85	+ 5.3	26	5,348	se.	26	e.	14	3	7	21	7.9	0.0	0.0
Sand Key	23	39	72	29.87	29.90	− .04	79.0	.....	87	6	82	68	31	76	13	74	72	78	9.05	.....	12	10,485	s.	48	s.	15	10	11	10	5.4	0.0	0.0
Tampa	35	79	92	29.88	29.92	− .06	76.1	+ 2.3	90	17	83	60	12	70	18	70	69	85	10.33	+ 7.4	15	4,816	e.	25	se.	1	3	15	13	6.7	0.0	0.0
East Gulf States							66.9	+ 0.6										75	3.46	+ 0.7										5.0		
Atlanta	1,174	190	216	28.79	30.03	− .04	63.2	+ 0.2	83	4	72	41	24	54	24	56	52	73	3.48	+ 1.1	8	8,032	e.	28	nw.	23	13	6	12	5.0	0.0	0.0
Macon	370	78	87	29.62	30.02	− .04	66.2	+ 2.5	87	7	76	43	25	56	33	58	54	74	4.73	+ 2.6	9	4,407	ne.	20	nw.	23	12	8	11	5.3	0.0	0.0
Thomasville	273	49	58	29.67	29.97	− .07	69.7	+ 1.5	90	17	78	49	25	62	27	62	60	80	4.75	+ 1.3	13	3,414	ne.	18	ne.	14	7	5	19	6.9	0.0	0.0
Apalachicola	36	42	49	29.91	29.94	.....	70.6	.....	84	8	76	55	10	65	19	66	64	85	7.42	.....	13	7,146	ne.	27	ne.	2	10	9	12	5.9	0.0	0.0
Pensacola	56	149	185	29.89	29.95	− .08	69.4	− 0.5	84	1	76	48	10	63	20	63	60	76	6.58	+ 2.5	11	9,946	ne.	42	se.	29	12	3	16	5.8	0.0	0.0
Anniston	741	9	57	29.25	30.04	− .03	64.2	+ 1.8	89	4	76	36	24	53	36	.....	.....	.....	1.99	− 0.4	4	3,771	se.	16	se.	14	14	9	8	4.4	0.0	0.0
Birmingham	700	11	48	29.27	30.04	− .03	65.8	+ 1.4	88	1	77	40	24	55	35	55	50	67	1.81	− 0.5	3	4,411	e.	18	se.	31	13	8	10	4.6	0.0	0.0
Mobile	57	125	161	29.90	29.96	− .08	68.7	− 0.7	87	1	77	48	25	60	27	62	59	80	4.61	+ 1.4	10	7,089	n.	32	e.	3	12	8	11	5.1	0.0	0.0
Montgomery	223	100	112	29.76	30.01	− .05	66.6	0.0	87	1	76	45	25	58	28	59	55	73	3.26	+ 0.8	6	4,538	ne.	22	nw.	7	14	4	13	4.8	0.0	0.0
Corinth	469	6	.....	.....	.....	.....	64.0	.....	92	3	79	35	19	49	45	.....	.....	.....	0.98	.....	5	.....	ne.	.....	.....	.....	12	15	4	.....	0.0	0.0
Meridian	375	85	93	29.60	29.99	− .07	64.0	+ 1.0	86	1	75	39	25	53	33	57	53	75	2.30	− 0.4	6	3,672	ne.	22	nw.	7	14	8	9	4.6	0.0	0.0
Vicksburg	247	65	73	29.73	30.01	− .05	66.8	+ 0.1	89	1	77	40	19	56	33	57	52	69	1.33	− 1.5	6	4,210	n.	23	ne.	2	18	4	9	3.9	0.0	0.0
New Orleans	53	76	84	29.89	29.94	− .09	71.6	+ 0.6	89	6	79	57	26	65	19	63	59	73	3.25	+ 0.3	8	5,398	ne.	24	e.	2	14	10	7	4.2	0.0	0.0
West Gulf States.							68.0	+ 1.3										68	2.86	+ 0.1										3.4		
Shreveport	249	77	93	29.73	30.00	− .05	67.0	+ 1.4	89	2	80	44	19	54	35	56	51	66	0.45	− 2.7	5	3,773	se.	26	nw.	8	22	6	3	2.8	0.0	0.0
Bentonville	1,303	11	44	.....	.....	.....	60.4	+ 2.4	89	4	74	25	18	46	45	.....	.....	.....	1.06	.....	6	.....	.....	.....	.....	.....	16	8	7	.....	0.0	0.0
Fort Smith	457	79	94	29.52	30.00	− .05	64.2	+ 2.5	90	5	76	37	18	52	36	53	46	60	2.80	0.0	6	4,836	e.	26	nw.	22	15	9	7	4.1	0.0	0.0
Little Rock	357	136	144	29.63	30.00	− .06	65.2	+ 2.3	90	2	76	40	18	54	34	55	49	64	0.77	− 1.8	4	4,977	s.	30	nw.	7	16	8	7	3.1	0.0	0.0
Brownsville	57	4	26	29.85	29.92	.....	73.7	.....	91	7	82	54	20	65	27	66	63	78	0.74	.....	5	5,327	se.	26	nw.	31	17	6	8	3.8	0.0	0.0
Corpus Christi	20	11	73	29.94	29.96	− .04	73.4	+ 0.8	90	10	82	57	19	65	32	65	62	75	5.88	+ 3.8	8	6,977	n.	46	n.	23	17	9	5	3.5	0.0	0.0
Dallas	512	109	117	29.45	30.00	.....	67.4	.....	89	5	79	42	24	56	36	.....	.....	.....	2.87	.....	7	4,476	se.	31	nw.	8	14	10	7	4.0	0.0	0.0
Fort Worth	670	106	114	29.27	29.98	− .05	67.6	+ 1.3	90	1	79	41	24	56	36	56	49	61	2.33	− 0.2	7	5,491	se.	32	nw.	8	16	10	5	3.6	0.0	0.0
Galveston	54	106	114	29.91	29.97	− .06	71.0	− 1.7	86	2	77	52	25	65	22	65	62	76	4.78	+ 0.6	10	7,445	n.	38	n.	7	22	5	4	2.9	0.0	0.0
Groesbeck	461	11	56	29.50	29.98	.....	67.8	.....	91	1	81	41	24	55	41	.....	.....	.....	1.42	.....	9	5,745	n.	32	nw.	8	21	5	5	2.9	0.0	0.0
Houston	138	111	121	29.82	29.96	.....	71.2	+ 1.3	92	7	82	51	19	60	33	.....	.....	.....	2.90	.....	7	4,984	n.	31	e.	25	18	8	5	3.2	0.0	0.0
Palestine	510	64	72	29.46	29.99	− .04	67.6	+ 1.4	90	1	79	45	24	56	33	57	52	66	3.26	− 0.3	7	4,144	ne.	24	nw.	8	16	10	5	3.7	0.0	0.0
Port Arthur	34	58	66	29.91	29.95	.....	69.0	.....	89	7	80	48	19	59	29	66	58	77	3.16	.....	6	5,611	n.	32	s.	31	20	5	6	3.0	0.0	0.0
San Antonio	701	119	132	29.24	29.96	− .05	71.4	+ 2.2	97	7	83	50	24	60	36	59	52	60	3.55	+ 2.1	5	5,325	n.	38	nw.	22	17	10	4	3.4	0.0	0.0
Taylor	582	55	63	29.40	30.01	− .01	69.0	+ 0.7	94	7	82	43	24	56	38	.....	.....	.....	1.93	− 0.6	4	5,027	n.	26	n.	23	19	8	4	3.4	0.0	0.0

TABLE 1.—*Climatological data for Weather Bureau Stations, October, 1922*—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 0.01 inch or more.	Total movement.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow, sleet, and ice on ground at end of month.
	Ft.	Ft.	Ft.	In.	In.	In.	° F.	° F.	° F		° F	° F.		° F	° F.	° F	° F.	N	In.	In.		Miles.								0-10	In.	In.
Ohio Valley and Tennessee.							59.6	+ 2.5										68	1.54	− 1.0										4.1		
Chattanooga	762	189	213	29.23	30.05	− .04	62.3	+ 0.4	88	5	73	40	25	51	34	53	46	64	1.72	− 1.1	5	4,265	ne.	25	sw.	11	16	11	4	3.9	0.0	0.0
Knoxville	996	102	111	29.00	30.05	− .04	60.8	+ 2.7	86	4	72	38	25	49	36	52	46	65	1.39	− 1.2	4	3,611	ne.	26	sw.	7	15	5	11	4.6	0.0	0.0
Memphis	399	76	97	29.63	30.06	− .01	65.3	+ 2.0	89	4	75	39	18	56	28	54	47	61	0.89	− 1.8	5	4,818	se.	30	nw.	23	17	5	9	4.0	0.0	0.0
Nashville	546	168	191	29.47	30.06	− .02	62.4	+ 1.4	87	2	74	37	19	50	35	52	46	63	0.75	− 1.7	5	5,662	ne.	32	nw.	7	16	6	9	4.1	0.0	0.0
Lexington	989	193	230	28.98	30.04	− .04	61.0	+ 4.5	87	4	70	38	13	52	27	.....	.....	.....	1.25	− 1.0	7	9,107	sw.	37	sw.	10	21	0	10	3.4	0.0	0.0
Louisville	525	219	255	29.46	30.05	− .03	61.5	+ 2.2	89	4	72	38	19	51	32	52	46	65	2.24	− 0.4	7	6,935	s.	33	s.	25	20	4	7	3.4	0.0	0.0
Evansville	431	139	175	29.57	30.04	− .04	62.4	+ 4.4	91	4	72	39	13	52	29	52	46	63	2.12	− 1.0	8	6,920	sw.	30	n.	17	14	10	7	4.0	0.0	0.0
Indianapolis	822	194	230	29.15	30.03	− .04	59.1	+ 4.1	89	4	68	35	18	50	30	50	44	66	1.78	− 1.0	8	7,439	s.	32	nw.	23	18	4	9	4.1	0.0	0.0
Royal Center	736	11	55	29.22	30.02	.....	56.2	.....	89	4	68	30	18	45	35	.....	.....	.....	4.83	.....	7	6,349	s.	29	nw.	11	13	9	9	4.4	0.0	0.0
Terra Haute	575	96	129	29.40	30.02	.....	59.4	.....	90	4	70	34	18	48	32	50	44	67	2.22	.....	8	5,981	s.	25	nw.	11	13	10	8	4.4	0.0	0.0
Cincinnati	628	11	51	29.37	30.04	− .04	57.9	+ 2.2	88	5	69	32	19	46	36	.....	46	72	1.23	− 1.1	7	4,098	nw.	29	sw.	7	18	5	8	3.7	0.0	0.0
Columbus	824	179	222	29.16	30.03	− .05	57.4	+ 2.2	86	4	68	34	27	47	34	49	43	68	1.56	− 0.8	8	7,043	s.	37	nw.	23	13	8	10	4.7	0.0	0.0
Dayton	899	181	216	29.05	30.00	.....	57.7	+ 3.6	87	2	68	34	19	48	32	49	44	68	1.10	− 1.3	8	6,450	sw.	31	w.	7	18	4	9	4.0	0.0	0.0
Elkins	1,947	59	67	28.01	30.08	− .02	53.2	+ 1.8	82	5	68	23	27	38	43	44	41	80	1.20	− 1.2	7	2,912	w.	24	nw.	23	13	10	8	4.7	0.0	0.0
Parkersburg	638	77	84	29.40	30.06	− .02	57.6	+ 3.0	88	5	70	30	27	46	37	49	46	78	2.73	+ 0.3	8	3,017	se.	24	s.	23	18	4	9	4.1	0.0	0.0
Pittsburgh	842	353	410	29.13	30.04	− .04	56.4	+ 0.7	86	5	66	34	21	47	31	49	43	68	1.62	− 0.7	8	7,055	sw.	36	sw	11	12	8	11	4.8	0.0	0.0
Lower Lake Region.							52.0	+ 0.8										72	2.06	− 0.9										5.4		
Buffalo	767	247	280	29.16	29.99	− .06	51.8	− 0.1	80	1	59	28	20	45	24	47	44	76	2.70	− 0.8	7	12,861	sw.	62	sw.	25	11	8	12	5.5	T.	0.0
Canton	448	10	61	29.46	29.94	.....	46.3	− 0.9	80	2	56	21	20	37	40	.....	.....	.....	2.61	− 0.7	13	7,845	sw.	47	sw.	17	8	8	15	6.4	0.7	0.0
Oswego	335	76	91	29.61	29.98	− .06	50.4	− 0.8	80	6	59	23	19	42	33	46	42	76	2.72	− 0.6	12	7,930	s.	40	nw.	18	10	6	15	5.9	0.0	0.0
Rochester	523	86	102	29.43	30.01	− .04	51.5	0.0	83	1	60	28	29	43	28	45	40	70	2.30	− 0.6	11	5,895	sw.	36	w.	18	10	6	15	5.9	0.1	0.0
Syracuse	597	97	113	29.35	29.99	− .07	50.8	− 0.2	84	6	59	22	19	42	34	.....	.....	.....	2.25	− 1.0	13	8,122	s.	46	nw.	18	7	8	16	6.7	T.	0.0
Erie	714	130	166	29.23	30.00	− .05	54.6	+ 1.2	83	5	62	32	21	47	30	48	43	68	2.01	− 1.8	9	10,547	s.	38	sw.	25	12	6	13	5.2	T.	0.0
Cleveland	762	190	201	29.19	30.02	− .04	55.4	+ 1.8	83	5	62	35	19	48	32	48	43	69	1.58	− 1.2	9	9,383	s.	41	nw.	25	13	7	11	5.2	0.0	0.0
Sandusky	629	62	103	29.33	30.02	− .04	56.2	+ 2.3	88	5	64	32	19	48	30	.....	.....	.....	1.21	− 1.2	8	8,976	sw.	36	sw.	25	10	11	10	5.2	0.0	0.0
Toledo	628	208	243	29.34	30.02	− .03	55.2	+ 1.8	86	5	64	32	20	46	33	48	44	73	1.98	− 0.3	6	10,236	sw.	49	sw.	23	16	7	8	4.3	0.0	0.0
Fort Wayne	856	113	124	29.10	30.03	.....	55.5	+ 1.8	88	2	65	32	19	46	39	48	44	73	2.62	.....	8	6,324	sw.	30	nw.	11	13	9	9	4.9	0.0	0.0
Detroit	730	218	258	29.23	30.02	− .03	54.6	+ 2.1	87	5	63	31	20	47	30	48	43	73	1.22	− 1.2	8	7,827	sw.	38	w.	11	17	6	8	4.5	T.	0.0
Upper Lake Region.							49.6	+ 1.7										77	1.70	− 1.1										5.7		
Alpena	609	13	92	29.32	29.99	− .04	47.4	+ 0.3	86	4	55	26	24	40	31	43	40	80	2.08	− 1.4	13	8,684	nw.	40	nw.	25	7	12	12	6.4	T.	0.0
Escanaba	612	54	60	29.32	29.99	− .02	46.4	+ 1.3	86	4	54	26	20	39	27	42	39	80	0.71	− 2.4	7	7,684	n.	37	s.	13	9	11	11	5.5	T.	0.0
Grand Haven	632	54	89	29.31	29.99	− .04	51.6	+ 1.4	76	4	59	28	20	44	31	47	43	76	2.21	− 0.3	7	8,670	s	52	w.	16	8	11	12	5.7	0.0	0.0
Grand Rapids	707	70	87	29.24	30.01	− .03	53.0	+ 2.9	85	5	62	28	20	44	29	46	42	73	2.87	+ 0.3	9	4,257	w.	25	w.	16	7	12	12	5.7	T.	0.0
Houghton	684	62	99	29.24	29.97	− .03	44.6	− 0.5	78	2	52	25	20	37	27	.....	.....	.....	0.62	− 2.6	9	7,787	e.	42	w.	24	10	2	19	6.8	1.4	0.0
Lansing	878	11	62	29.05	30.01	.....	51.8	+ 3.1	87	5	63	25	20	41	35	44	42	81	2.48	+ 0.2	9	3,827	sw.	23	nw.	23	8	12	11	5.6	T.	0.0
Ludington	637	60	66	29.29	29.99	.....	50.2	.....	78	1	57	26	20	43	29	46	43	79	2.58	.....	9	8,243	s.	39	w.	16	11	13	7	4.7	T.	0.0
Marquette	734	77	111	29.20	30.01	.00	46.6	+ 0.9	89	4	55	26	18	39	35	41	37	78	1.74	− 1.4	10	7,765	nw.	37	nw.	24	5	5	21	7.2	1.1	0.0
Port Huron	638	70	120	29.30	30.00	− .04	51.6	+ 1.1	86	5	60	30	13	43	29	45	44	82	1.29	− 1.4	7	7,776	sw.	34	nw.	17	9	12	10	5.3	T.	0.0
Saginaw	641	69	77	29.30	30.01	.....	51.0	.....	86	5	60	26	20	42	35	45	42	82	1.70	.....	9	6,073	ne.	27	s.	13	11	9	11	5.3	T.	0.0
Sault Sainte Marie	614	11	52	29.29	30.00	− .01	43.9	+ 0.5	82	4	52	20	20	36	29	40	36	81	2.06	− 1.2	14	6,077	nw.	46	nw.	25	7	8	16	6.6	5.1	0.0
Chicago	823	140	310	29.12	30.00	− .04	57.6	+ 2.5	87	5	66	36	18	51	27	50	44	64	3.40	+ 0.8	8	8,566	nw.	33	s.	13	15	9	7	4.1	0.0	0.0
Green Bay	617	109	144	29.31	29.98	− .04	50.0	+ 2.9	84	4	58	25	18	42	29	44	40	75	0.47	− 1.9	6	8,816	s.	36	s.	13	10	8	13	6.0	T.	0.0
Milwaukee	681	125	139	29.26	29.99	− .04	54.4	+ 4.2	87	5	62	31	18	47	26	48	43	72	1.62	− 0.8	7	7,855	sw.	32	s.	13	11	11	9	5.2	0.0	0.0
Duluth	1,133	11	47	28.74	29.97	− .03	46.0	+ 1.9	85	2	54	21	18	38	32	40	37	81	0.56	− 2.2	7	9,690	ne.	51	nw.	24	11	7	13	5.4	T.	0.0
North Dakota.							46.6	+ 3.3										66	0.59	− 0.7										5.2		
Moorhead	940	50	58	28.93	29.95	− .05	47.8	+ 3.3	93	3	60	17	18	36	43	39	32	64	0.16	− 1.9	4	6,229	n.	36	nw.	24	11	6	14	5.5	0.3	0.0
Bismarck	1,674	8	57	28.20	30.01	+ .02	47.6	+ 2.7	91	1	61	20	17	34	43	39	32	65	0.63	− 0.4	4	5,943	nw.	36	nw.	24	13	10	8	4.4	2.5	0.0
Devils Lake	1,482	11	44	28.37	29.96	− .03	44.7	+ 4.2	88	1	56	19	17	33	44	37	31	70	0.52	− 0.7	6	7,388	nw.	42	nw.	24	13	4	14	5.3	0.3	0.0
Ellendale	1,457	10	56	28.40	29.97	.....	47.4	.....	93	3	62	18	12	33	53	.....	.....	.....	0.45	.....	4	10,112	nw.	48	nw.	24	10	8	13	5.3	1.2	0.0
Grand Forks	835	12	89	.....	.....	.....	46.4	.....	95	3	60	14	18	32	54	.....	.....	.....	0.20	.....	4	.....	nw.	56	nw.	24	18	2	11	.....	0.8	0.0
Williston	1,878	41	48	27.96	29.96	− .02	46.5	+ 3.1	86	3	58	20	16	34	44	39	32	66	1.06	+ 0.3	5	5,121	sw.	29	w.	24	11	9	11	5.4	8.2	0.5
Upper Mississippi Valley.							57.3	+ 4.2										68	1.57	− 0.9										4.2		
Minneapolis	918	102	208	28.95	29.93	.....	53.6	.....	89	4	62	30	12	45	28	.....	.....	.....	1.21	− 1.4	5	8,577	nw.	37	nw.	24	10	10	11	5.3	0.4	0.0
St. Paul	837	236	261	29.05	29.96	− .05	52.3	+ 3.7	87	4	62	27	18	43	32	.....	.....	.....	1.08	− 1.3	7	8,842	sw.	40	w.	24	11	12	8	4.8	T.	0.0
La Crosse	714	11	48	29.21	29.98	− .04	53.9	+ 3.6	87	4	66	25	18	42	36	.....	.....	.....	1.24	− 1.2	7	3,266	se.	18	s.	4	13	7	11	5.0	0.0	0.0
Madison	974	70	78	28.96	30.01	− .02	53.9	+ 5.1	86	5	63	30	18	45	29	46	41	70	0.65	− 1.8	4	6,883	sw.	33	s.	13	12	8	11	5.0	0.0	0.0
Wausau	1,247	4	.....	28.66	30.01	.....	48.4	.....	84	5	58	24	20	38	33	.....	.....	.....	0.54	.....	5	.....	se.	.....	.....	.....	14	5	12	4.7	T.	0.0
Charles City	1,015	10	49	28.91	30.00	− .02	53.7	+ 5.5	86	4	66	24	18	42	38	45	41	74	2.38	+ 0.4	6	3,951	se.	25	se.	13	14	10	7	3.9	T.	0.0
Davenport	606	71	79	29.34	30.00	− .04	58.6	+ 6.0	89	3	70	31	18	47	36	48	42	65	0.42	− 2.0	3	4,472	sw.	27	nw.	16	20	3	8	3.5	0.0	0.0
Des Moines	861	84	97	29.08	29.98	− .05	57.4	+ 4.9	88	5	69	28	18	46	38	48	42	65	3.41	+ 0.7	8	4,852	sw.	32	sw.	13	19	6	6	3.5	0.0	0.0
Dubuque	698	81	96	29.26	30.02	− .02	55.4	+ 3.5	87	5	66	32	18	44	35	47	42	70	0.72	− 2.0	6	4,309	s.	24	s.	13	15	7	9	4.4	0.0	0.0
Keokuk	614	64	78	29.34	30.02	− .03	59.4	+ 4.9	90	3	70	32	17	48	36	49	43	63	0.77	− 1.7	5	4,419	sw.	33	nw.	16	18	6	7	3.7	0.0	0.0
Cairo	358	87	93	29.64	30.02	− .05	62.0	+ 1.6	89	3	72	38	18	52	29	53	48	70	2.54	− 0.1	8	4,765	s.	30	n.	17	14	7	10	4.7	0.0	0.0
Peoria	609	11	45	29.36	30.03	− .02	58.0	+ 6.0	92	3	70	29	18	46	36	49	45	76	2.02	− 0.6	6	3,565	s.	20	sw.	24	23	1	7	2.9	0.0	0.0
Springfield, Ill	644	10	91	29.32	30.01	− .04	59.2	+ 3.4	89	4	70	34	17	48	32	50	45	69	1.95	− 0.6	8	5,470	s.	25	nw.	16	14	7	10	4.6	0.0	0.0
Hannibal	534	74	109	29.45	30.02	− .03	59.1	+ 3.2	90	3	71	33	17	48	36	.....	.....	.....	1.83	+ 0.2	5	5,256	sw.	31	nw.	16	21	3	7	3.3	0.0	0.0
St. Louis	567	265	303	29.40	30.01	− .05	62.2	+ 3.8	90	3	72	38	18	53	31	52	44	59	1.74	− 0.7	7	8,148	s.	37	n.	16	17	5	9	4.2	0.0	0.0
Missouri Valley.							57.1	+4.0										61	1.25	− 0.6										3.4		
Columbia, Mo	781	11	84	29.19	30.02	−.03	59.4	+4.6	89	4	71	30	18	47	35	.....	.....	.....	1.50	−0.9	6	4,612	se.	26	nw.	16	21	2	8	3.3	0.0	0.0
Kansas City	963	161	181	28.98	30.01	−.03	60.6	+4.8	87	4	71	34	17	50	33	51	44	61	2.31	+0.1	5	6,735	s.	40	n.	16	21	4	6	2.8	0.0	0.0
St. Joseph	967	11	49	28.96	30.00	.....	59.4	.....	90	6	71	30	17	48	36	49	43	66	2.72	.....	6	5,139	s.	37	nw.	16	23	3	5	2.7	0.0	0.0
Springfield, Mo	1,324	98	104	28.63	30.03	−.02	61.0	+3.7	86	3	71	32	18	50	30	50	43	62	1.60	−1.2	6	6,529	se.	39	w.	22	18	8	5	3.0	0.0	0.0
Iola	984	11	50	28.97	30.01	−.03	60.4	+3.5	89	3	74	28	18	47	44	.....	.....	.....	1.30	−1.0	6	3,800	s.	27	n.	16	17	8	6	3.7	0.0	0.0
Topeka	987	92	107	.....	.....	.....	59.6	+3.3	90	6	72	32	17	48	38	.....	.....	.....	1.69	−0.2	6	6,610	s.	37	n.	16	22	1	8	2.8	0.0	0.0
Drexel	1,299	10	54	28.58	29.97	.....	57.8	.....	90	27	71	20	17	44	45	.....	.....	.....	1.32	.....	5	7,439	s.	32	s.	28	18	10	3	3.2	T.	0.0
Lincoln	1,189	11	84	28.72	29.98	−.05	58.9	+5.6	89	27	72	22	17	45	47	47	38	56	1.42	−0.4	4	7,126	s.	36	nw.	6	20	7	4	3.0	0.0	0.0
Omaha	1,105	115	122	28.81	29.99	−.04	59.6	+5.4	90	27	71	27	17	48	42	48	41	60	1.45	−0.9	5	4,988	nw.	37	nw.	16	19	9	3	3.2	T.	0.0
Valentine	2,598	47	54	27.28	30.01	.00	51.2	+2.7	96	4	68	18	17	35	51	40	30	55	0.61	−0.7	4	6,157	w.	36	s.	12	15	12	4	3.5	T.	0.0
Sioux City	1,135	94	164	28.76	29.98	−.04	56.1	+5.0	88	4	68	23	17	44	43	46	38	59	1.11	−0.7	5	8,463	s.	42	nw.	16	15	11	5	3.8	0.0	0.0
Huron	1,306	59	74	28.59	30.00	−.01	51.4	+3.7	93	4	66	21	17	37	46	42	34	63	0.84	−0.5	4	6,436	nw.	34	nw.	16	16	7	8	3.7	T.	0.0
Pierre	1,572	70	75	28.31	29.99	−.02	52.2	+2.4	97	3	68	21	17	37	49	41	32	66	0.44	−0.4	4	5,538	nw.	33	sw.	3	15	7	9	4.0	T.	0.0
Yankton	1,233	49	57	28.65	29.97	−.04	55.0	+3.9	91	4	68	24	17	42	44	.....	.....	.....	0.73	−0.8	5	4,945	nw.	32	nw.	16	13	11	7	4.5	0.0	0.0

TABLE 1.—*Climatological data for Weather Bureau Stations, October 1, 1922*—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 0.01 inch or more.	Total movement.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow, sleet, and ice on ground at end of month.
	Ft.	Ft.	Ft.	In.	In.	In.	°F.	°F.	°F		°F	°F.		°F	°F.	°F.	°F.	N	In.	In.		Miles.								0-10	In.	In.
Northern Slope.							48.6	+3.9										53	0.56	−0.4										4.1		
Billings	3,140	5					51.0		95	3	69	20	16	33	57				0.94		5		nw.				14	7	10		0.0	0.0
Havre	2,505	11	44	27.33	29.98	.00	47.9	+3.4	81	2	63	14	30	33	47	40	32	62	0.09	−0.4	3	4,971	sw.	30	sw.	23	16	5	10	4.4	0.0	0.0
Helena	4,110	87	112	25.81	30.00	−.03	49.8	+5.8	80	1	62	21	30	38	37	38	26	45	0.06	−0.8	2	5,922	sw.	38	nw.	15	13	9	9	4.7	T.	0.0
Kalispell	2,973	48	56	26.94	30.00	−.01	47.6	+5.1	73	2	59	24	30	36	35	40	34	64	1.05	−0.1	8	3,366	nw.	24	ne.	15	16	6	9	4.3	0.0	0.0
Miles City	2,371	48	55	27.47	30.03	+.03	50.4	+3.9	91	3	64	22	17	36	42	40	30	51	0.52	−0.3	4	4,108	s.	30	n.	4	13	7	11	4.5	T.	0.0
Rapid City	3,259	50	58	26.61	30.04	+.03	51.0	+4.4	91	3	66	16	17	36	44	39	27	44	0.60	−0.5	3	6,165	w.	37	s.	12	13	13	5	3.9	4.0	T.
Cheyenne	6,088	84	101	24.04	30.02	+.01	47.5	+2.2	82	3	61	15	17	34	43	35	24	46	0.23	−0.5	4	8,254	w.	40	w.	24	19	6	6	3.4	2.5	T.
Lander	5,372	60	68	24.69	30.06	+.02	46.2	+4.1	80	3	60	10	31	32	44	37	28	57	1.97	+0.9	5	3,136	sw.	40	w.	4	17	9	5	4.0	16.0	8.4
Sheridan	3,790	10	47	26.12	30.05		47.3		89	3	64	12	31	30	53	36	26	55	1.35		9	3,443	nw.	26	n.	15	11	14	6	4.5	8.1	5.0
Yellowstone Park	6,200	11	48	23.92	30.05	+.03	43.7	+2.2	76	2	57	20	30	31	42	34	23	49	0.34	−0.8	2	6,323	sw.	35	sw.	4	12	12	7	4.4	3.0	T.
North Platte	2,821	11	51	27.10	30.04	+.02	53.6	+3.9	89	4	71	16	17	36	53	40	30	54	0.14	−1.0	1	4,396	w.	29	n.	16	19	5	7	3.1	0.0	0.0
Middle Slope.							58.3	+2.7										54	1.50	0.0										2.9		
Denver	5,292	100	113	24.76	30.02	+0.1	52.8	+1.6	86	3	66	24	17	39	40	39	24	41	0.30	−0.7	4	5,109	s.	29	ne.	16	18	8	5	3.1	0.5	0.0
Pueblo	4,685	80	86	25.31	29.99	.00	54.2	+1.9	90	4	72	21	31	37	48	39	26	40	0.19	−0.5	2	3,901	nw.	27	ne.	6	21	9	1	2.6	0.0	0.0
Concordia	1,392	50	58	28.52	30.00	−.03	59.8	+4.4	90	5	73	26	17	46	45	48	39	57	1.14	−0.9	6	6,056	s.	30	s.	13	19	9	3	3.1	0.0	0.0
Dodge City	2,509	11	51	27.42	30.02	.00	59.0	+4.3	89	26	74	31	23	44	50	46	37	56	0.45	−1.0	3	6,827	s.	31	ne.	16	22	5	4	2.4	0.0	0.0
Wichita	1,358	139	158	28.55	29.98	−.05	60.9	+2.1	87	6	72	37	17	49	36	50	42	59	2.59	+0.3	5	8,732	s.	50	sw.	13	20	7	4	2.7	0.0	0.0
Altus	1,410	5					66.2		95	6	81	37	18	51	43				0.77		4		se.				20	8	3		0.0	0.0
Broken Arrow	765	11	52	29.20	30.02		62.6		90	3	76	32	18	50	40				2.06		8	7,805	s.	40	n.	16	19	7	5	3.1	0.0	0.0
Muskogee	652	4					64.9		95	3	80	29	18	50	44				1.14		6						18	8	5		0.0	0.0
Oklahoma City	1,214	10	47	28.74	30.01	−.02	63.3	+2.0	90	6	75	29	18	52	38	53	49	70	4.30	+2.5	7	7,367	s.	33	n.	7	21	6	4	3.1	0.0	0.0
Southern Slope.							63.4	+1.0										55	1.02	−0.9										3.4		
Abilene	1,738	10	52	28.20	30.00	−.01	64.4	+0.2	91	6	76	38	24	52	47	53	46	64	2.43	+0.1	11	5,292	s.	32	s.	13	13	8	10	4.5	0.0	0.0
Amarillo	3,676	10	49	26.28	29.99	−.01	60.4	+4.3	89	6	74	34	31	46	42	47	39	55	0.23	−1.5	3	7,425	s.	39	n.	6	24	5	2	3.1	0.0	0.0
Del Rio	944	64	71	28.99	29.96	−.02	69.3	−0.6	97	10	80	47	24	58	42				1.30	−0.7	7	5,379	e.	35	nw.	7	19	4	8	3.4	0.0	0.0
Roswell	3,566	75	85	26.37	29.96	.00	59.6	−0.1	91	2	76	30	31	44	49	45	32	45	0.10	−1.4	4	5,346	s.	38	sw.	13	19	9	3	2.7	0.0	0.0
Southern Plateau.							60.9	+0.9										35	0.12	−0.5										1.5		
El Paso	3,762	110	133	26.18	29.91	−.01	64.0	+1.6	90	11	76	37	31	52	35	50	38	47	0.35	−0.6	4	6,500	e.	45	nw.	28	21	9	1	2.3	0.0	0.0
Santa Fe	7,013	38	53	23.27	29.94	−.02	51.4	+1.4	77	4	64	23	29	39	32	38	26	45	0.24	−0.8	3	4,126	e.	24	nw.	19	25	4	2	1.9	1.8	0.0
Flagstaff	6,908	10	59	23.37	29.94	+.02	46.2	+1.5	75	2	63	5	30	29	47	34		5	1.07		3	5,497	w.	29	sw.	27	25	4	2		11.0	2.0
Phoenix	1,108	11	81	28.70	29.84	−.04	71.6	+1.4	100	9	88	38	31	55	40	55	43	42	T.	−0.4	0	3,469	e.	22	w.	28	27	3	1	1.2	0.0	0.0
Yuma	141	9	54	29.70	29.81	−.03	73.7	+0.4	101	3	90	42	31	58	40	57	45	44	0.00	−0.2	0	2,767	w.	19	w.	28	29	2	0	0.9	0.0	0.0
Independence	3,957	9	41	25.96	29.97	+.02	58.5	−0.8	82	1	72	32	30	45	38	43	24	29	T.	−0.3	0	4,931	nw.	35	se.	2	26	5	0	1.3	0.0	0.0
Middle Plateau.							52.2	+1.3										45	0.28	−0.5										3.0		
Reno	4,532	74	81	25.47	29.98	−.01	51.5	+1.8	77	7	67	20	30	36	45	40	30	50	0.09	−0.3	3	4,384	w.	35	sw.	2	17	12	2	2.9	0.0	0.0
Tonopah	6,090	12	20	24.08	29.96		52.6		75	1	62	19	29	43	28	39	24	35	0.01	−0.8	1	7,323	se.	37	nw.	28	21	9	1	2.1	0.0	0.0
Winnemucca	4,344	18	56	25.62	30.02	−.03	49.0	+0.4	82	9	67	11	30	31	51	38	27	51	0.31	−0.2	2	4,442	sw	37	sw.	2	17	6	8	3.7	0.0	0.0
Modena	5,479	10	43	24.62	29.96	.00	49.5	−0.6	78	2	66	21	31	32	48	37	22	39	0.37	−0.4	1	7,092	w.	44	s.	3	21	8	2	2.5	0.8	0.0
Salt Lake City	4,360	163	203	25.63	29.98	−.03	55.8	+3.3	83	10	66	34	31	46	30	44	34	48	0.66	−0.7	3	5,061	nw.	29	s.	2	16	7	8	3.9	T.	0.0
Grand Junction	4,602	60	68	25.40	29.98	−.01	55.1	+1.8	86	2	69	28	31	41	38	42	31	47	0.25	−0.7	4	3,738	se.	32	sw.	12	18	9	4	2.7	T.	0.0
Northern Plateau.							53.6	+4.0										56	0.71	−0.5										4.6		
Baker	3,471	48	53	26.45	30.03	−.05	49.6	+4.1	80	10	64	20	30	35	44	41	32	56	0.40	−0.5	5	4,780	se.	30	sw.	2	13	6	12	5.3	0.0	0.0
Boise	2,739	78	86	27.16	30.01	−.05	56.2	+5.9	86	10	70	26	30	43	38	45	34	49	0.52	−0.8	3	3,710	se.	39	w.	3	18	6	7	3.8	0.0	0.0
Lewiston	757	40	48	29.23	30.01	−.06	55.1	+3.3	82	1	68	28	30	42	38				0.86	−0.3	6	1,442	se.	22	w.	19	12	6	13	5.3	0.0	0.0
Pocatello	4,477	60	68	25.48	29.99	−.05	52.3	+4.3	83	10	65	25	30	40	40	41	28	46	0.76	−0.2	4	6,205	se.	40	sw..	4	17	6	8	4.0	T.	0.0
Spokane	1,929	101	110	27.96	30.01	−.05	51.6	+3.3	77	10	63	26	29	40	34	45	39	66	0.83	−0.7	8	3,196	sw.	30	sw.	3	13	8	10	5.0	0.0	0.0
Walla Walla	991	57	65	28.92	30.00	−.07	56.5	+2.8	75	15	66	35	30	47	31	49	42	62	0.89	−0.6	6	2,825	s.	20	e.	2	16	4	11	4.3	0.0	0.0
North Pacific Coast Region.							53.8	+1.8										86	3.94	+0.1										7.3		
North Head	211	11	56	29.78	30.00	−.05	54.1	+1.2	72	22	58	42	29	51	18	52	51	91	5.72	+1.8	16	7,939	n.	58	s.	24	10	9	12	5.7	0.0	0.0
Port Angeles	29	8	53	30.01	30.03		49.8		74	10	56	34	29	44	30				1.67	−0.9	12	3,122	s.	24	w.	27	7	3	21	7.2	0.0	0.0
Seattle	125	215	250	29.91	30.04	−.01	53.5	+2.7	73	6	58	34	29	48	26	50	48	84	2.37	−0.3	12	4,787	s.	31	s.	24	4	5	22	8.0	0.0	0.0
Tacoma	213	113	120	29.81	30.04	.00	52.4	+1.8	72	7	58	32	29	47	29				3.84	+0.4	13	3,086	n.	20	sw.	4	2	9	20	7.8	0.0	0.0
Tatoosh Island	86	9	57	29.90	30.00	−.01	52.4	+2.5	64	6	55	43	31	50	14	51	50	92	5.76	−2.2	13	9,376	e.	56	s.	24	2	7	22	8.4	0.0	0.0
Yakima	1,071	5					52.8		80	8	67	26	30	39	45				0.85		10						15	5	11		0.0	0.0
Medford	1,425	4																														
Portland, Oreg.	153	68	106	29.86	30.02	−.04	55.4	+1.2	78	8	62	39	30	49	27	52	50	84	4.70	+1.0	13	3,031	nw.	21	sw.	4	4	5	22	7.7	0.0	0.0
Roseburg	510	9	57	29.48	30.03	−.05	55.2	+1.3	74	7	64	38	30	47	29	52	48	79	3.50	+0.9	15	1,755	n.	18	s.	25	5	16	10	6.2	0.0	0.0
Middle Pacific Coast Region.							58.8	−0.6										71	2.51	+1.0										5.1		
Eureka	62	73	89	29.98	30.04	−.02	54.8	+1.7	74	22	60	40	29	49	24	52	49	84	3.38	+0.7	11	3,415	se.	30	sw.	3	8	7	16	6.4	0.0	0.0
Point Reyes	490	7	18	29.45	29.96		55.3	+0.6	76	21	59	47	24	51	23				1.77		10	14,388	nw.	56	nw.	28	6	10	15	6.5	0.0	0.0
Red Bluff	332	50	56	29.62	29.98	−.05	60.8	−3.5	84	22	71	40	30	50	32	54	47	66	3.95	+2.4	7	3,576	se.	28	nw.	29	14	9	8	4.1	0.0	0.0
Sacramento	69	106	117	29.90	29.97	−.02	61.9	−1.0	85	1	73	42	28	51	35	53	45	59	0.72	−0.3	7	4,718	s.	27	nw.	29	18	7	6	3.3	0.0	0.0
San Francisco	155	208	243	29.82	29.99	−.02	60.6	+0.1	81	21	67	49	25	54	25	54	50	76	2.95	+1.7	9	5,258	w.	26	se.	10	8	15	8	5.4	0.0	0.0
San Jose	141	12	110	29.85	30.00		59.2	−1.1	85	22	71	35	30	47	41				1.55	+0.6	9	3,815	nw.	25	ne.	29	12	10	9	4.6	0.0	0.0
South Pacific Coast Region.							63.8	+0.5										66	0.33	−0.5										2.5		
Fresno	327	89	98	29.61	29.97	+.01	64.2	−0.5	92	1	77	41	29	51	35	53	45	57	0.52	−0.2	2	4,555	nw.	26	nw.	27	24	4	3	1.8	0.0	0.0
Los Angeles	338	159	191	29.60	29.96	+.01	65.4	+0.1	90	1	75	50	30	56	37	55	49	66	0.24	−0.5	1	3,800	sw.	24	nw.	28	22	8	1	2.3	0.0	0.0
San Diego	87	62	70	29.85	29.94	−.01	64.0	+0.3	88	23	71	48	30	57	30	57	53	74	0.09	−0.4	2	4,428	nw.	30	w.	28	18	11	2	3.0	0.0	0.0
San Luis Obispo	201	32	40	29.77	29.99	.00	61.4	+2.2	91	23	74	36	30	48	45	52	46	69	0.47	−0.9	3	2,923	n.	17	w.	4	17	13	1	2.9	0.0	0.0
West Indies.																																
San Juan, P. R.	82	9	54	29.85	29.93		79.0		90	3	85	70	7	73	16				3.28	−2.8	17	5,807	s.	29	e.	19	9	20	2	4.4	0.0	0.0
Panama Canal.																																
Balboa Heights	118	7	97		29.85		79.0	−0.2	89	29	74	84	20	74	15	74	73	86	9.03	−1.2		5,164	s.	36	s.	15	0	13	18	7.5	0.0	0.0
Colon	36	5	71		29.85		80.8		92	14	87	72	16	74	20	75	74	85	13.87	−1.0		4,820	se.	25	se.	27	2	10	19	7.6	0.0	0.0
Alaska.																																
Juneau	80	11	84				43.8		55	1	49	31	1	39	19	41	40	90	6.49		21	4,487	s.	28	se.	28	4	2	25	8.4	0.0	0.0

TABLE 2.—*Data furnished by the Canadian Meteorological Service, October, 1922.*

Stations.	Altitude above mean sea level, Jan. 1, 1919.	Pressure.			Temperature of the air.						Precipitation.		
		Station reduced to mean of 24 hours.	Sea level reduced to mean of 24 hours.	Departure from normal.	Mean max.+mean min.÷2.	Departure from normal.	Mean maximum.	Mean minimum.	Highest.	Lowest.	Total.	Departure from normal.	Total snowfall.
	Feet.	*In.*	*In.*	*In.*	*° F.*	*° F.*	*° F.*	*° F.*	*° F.*	*° F.*	*In.*	*In.*	*In.*
St. Johns, N. F	125												
Sydney, C. B. I	48	29.79	29.84	−.12	47.6	+1.1	55.0	40.1	76	28	4.90	+0.21	T.
Halifax, N. S	88	29.76	29.87	−.13	47.8	+0.6	54.9	40.6	76	24	3.87	−1.68	3.5
Yarmouth, N. S	65	29.82	29.89	−.13	47.7	+0.1	53.9	41.5	68	29	3.38	−1.32	1.9
Charlottetown, P. E. I	38	29.77	29.81	−.15	45.7	−0.8	52.4	39.0	82	28	1.76	−3.14	T.
Chatham, N. B	28	29.74					53.4		79		1.99	−1.87	0.4
Father Point, Que	20	29.82	29.84	−.11	37.6	−2.2	45.0	30.3	64	18	4.02	+1.12	1.2
Quebec, Que	296	29.59	29.92	−.08	42.2	−0.2	49.1	35.4	74	19	3.05	−0.10	2.1
Montreal, Que	187	29.72	29.93	−.08	44.8	0.0	51.9	37.6	76	20	3.39	+0.26	3.5
Stonecliffe, Ont	489												
Ottawa, Ont	236	29.70	29.96	−.05	45.5	+1.7	55.0	36.0	86	18	3.06	+0.51	3.0
Kingston, Ont	285	29.66	29.97	−.06	48.0	+1.0	55.2	40.8	72	21	2.51	−0.22	1.0
Toronto, Ont	379	29.57	29.98	−.06	49.8	+3.2	58.5	41.1	83	25	0.96	−1.40	T.
Cochrane, Ont	930												
White River, Ont	1,244	28.63	29.97	−.01	34.8	−2.3	45.7	24.0	80	−2	1.69	−0.66	1.2
Port Stanley, Ont	592	29.39	30.03	−.02	50.8	+3.0	60.1	41.6	74	25	1.50	−1.48	
Southampton, Ont	656	29.26			47.4	+1.3	54.9	39.9	75	24	2.08	−1.09	1.1
Parry Sound, Ont	688	29.27	29.97	−.04	44.3	+0.4	53.1	35.5	77	17	2.83	−1.09	3.6
Port Arthur, Ont	644	29.27	29.98	.00	40.9	+1.0	48.3	33.5	78	14	0.71	−1.85	T.
Winnipeg, Man	760	29.13	29.97	−.01	43.5	+4.4	53.5	33.6	86	18	0.51	−1.19	1.8
Minnedosa, Man	1,690	28.13	29.97	.00	40.9	+3.1	50.4	31.5	81	15	0.52	−0.68	0.8
Le Pas, Man	860				36.2		45.4	27.1	74	10	0.30		0.2
Qu'Appelle, Sask	2,115	27.65	29.91	−.06	42.3	+2.9	52.4	32.3	72	18	1.38	+0.28	6.2
Medicine Hat, Alb	2,144	27.61	29.88	−.09	48.7	+3.9	62.2	35.2	75	16	0.04	−0.54	
Moose Jaw, Sask	1,759				44.2		56.3	32.1	76	20	0.73		3.5
Swift Current, Sask	2,392	27.35	29.99	+.02	44.6	+2.5	58.7	30.5	75	14	0.24	−0.64	0.0
Calgary, Alb	3,428												
Banff, Alb	4,521	25.38	29.97	+.02	42.1	+2.9	54.6	29.7	69	20	1.03	+0.01	1.4
Edmonton, Alb	2,150	27.61	29.90	−.03	42.5	+1.4	53.7	31.4	69	11	0.84	+0.14	4.0
Prince Albert, Sask	1,450	28.40	29.99	+.02	39.5	+2.4	47.4	31.6	69	20	1.08	+0.25	0.8
Battleford, Sask	1,592	28.18	29.93	−.04	42.5	+2.9	53.5	31.5	78	20	1.13	+0.68	0.0
Kamloops, B. C	1,262	28.74	30.04	+.08	48.1	+1.1	56.6	39.7	67	27	1.25	+0.64	0.0
Victoria, B. C	230	29.76	30.02	+.01	51.7	+2.5	56.9	46.5	67	39	3.10	+0.73	0.0
Barkerville, B. C	4,180	25.64	29.96	+.02	39.9	+0.2	49.0	30.9	58	16	2.66	−0.04	14.9
Hamilton, Ber	151	29.88	30.04	+.02	73.3	+0.3	79.6	67.1	84	57	5.81	−0.90	

LATE REPORTS FOR AUGUST AND SEPTEMBER, 1922.

Calgary, Alb. August	3,428	26.44	29.94	+.03	63.3	+3.9	79.9	46.9	94	38	1.42	−0.72	0.0
Calgary, Alb. September		26.38	29.91	−.01	55.8	+6.0	71.9	39.7	88	29	1.55	+0.19	0.0
Kamloops, B. C. (September)	1,262	28.69	29.97	.00	61.6	+4.2	73.4	49.8	84	38	0.66	−0.19	0.0
Barkerville, B. C. (September)	4,180	25.63	29.92	−.06	46.4	−0.3	55.5	37.3	66	29	7.14	+4.28	9.7
Hamilton, Ber (September)	151	29.93	30.09	+.02	78.4	+1.0	84.3	72.5	88	69	6.90	+0.39	0.0

SEISMOLOGICAL REPORTS FOR OCTOBER, 1922.

W. J. HUMPHREYS, Professor in Charge.

[Weather Bureau, Washington, December 3, 1922.]

TABLE 1.—*Noninstrumental earthquake reports, October, 1922.*

Day.	Approximate time, Greenwich civil.	Station.	Approximate latitude.	Approximate longitude.	Intensity Rossi-Forel.	Number of shocks.	Duration.	Sounds.	Remarks.	Observer.
1922.	*H. m.*	CALIFORNIA.	° ′	° ′			*Sec.*			
Oct. 18	5 30	Hollister	36 45	121 20	Slight.	2	3-4			Press report.
		OREGON.								
16	4 20	Hermiston	46 00	119 20	3	3	3, 3, 1	Rattling	Felt by several	C. L. Upham.
		WYOMING.								
26	1 20	Casper	43 00	106 20	3	1	Few.	None		Z. Q. Miller.
		Do	43 00	106 20	3-4	1	3	Rumbling	Felt by many	G. S. McKenzie.