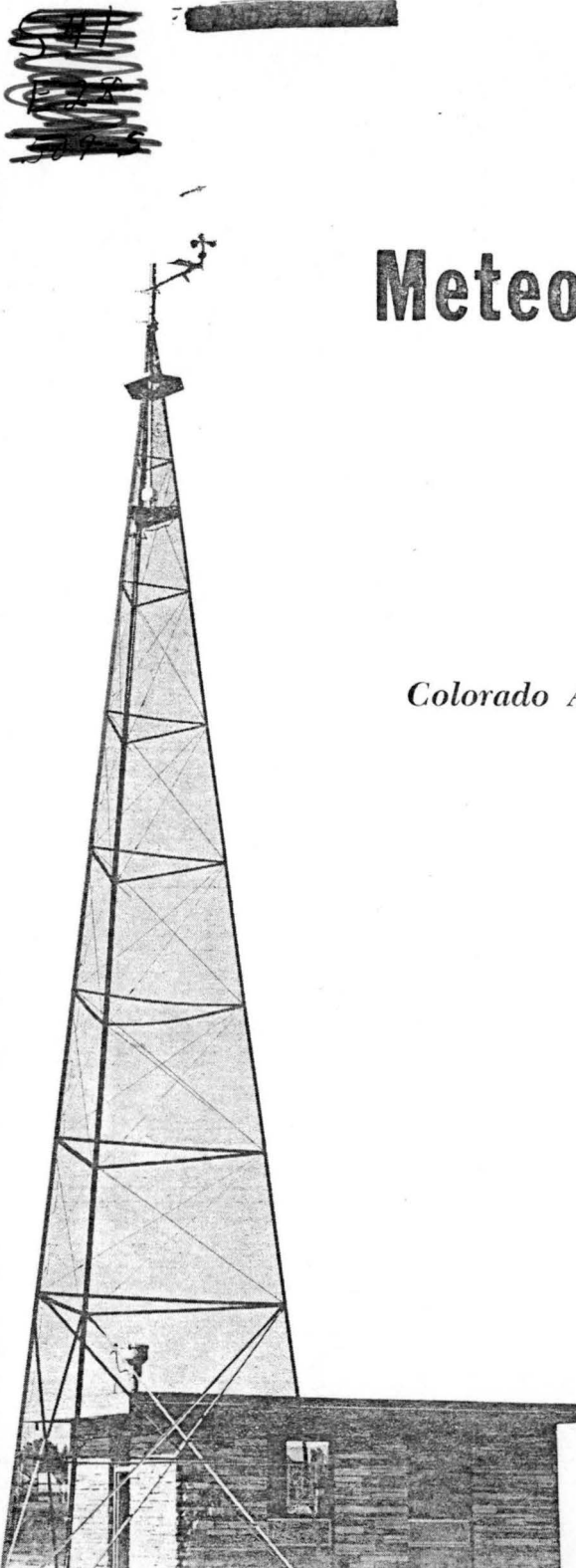




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Meteorological Data 1887-1957

*A summary of 71 years
of meteorological data at the
Colorado Agricultural Experiment Station
Fort Collins, Colorado*

ENGINEERING RESEARCH

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Bulletin 509-S

Agricultural Experiment Station
Colorado State University

Fort Collins

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Meteorological Data . . . 1887 to 1957

A summary of 71 years of meteorological data at the Colorado Agricultural Experiment Station Fort Collins, Colorado

By Maxwell Parshall*

Weather and climate are of interest to almost everyone. Weather is defined as the physical state of the atmosphere at any instant. It is continually changing and is never exactly the same at different times. Climate is the average weather at a definite position on the earth's surface. It tends to be the same for like seasons of the year but changes over a long period of time. Climate is influenced by geography. In the vicinity of Fort Collins, climate changes greatly within relatively short distances. Within thirty air-miles one can find arctic climate in the high mountains, in contrast to the local semi-arid climate.

Weather observations for the study of climate were first made at the Colorado Agricultural Ex-

periment Station in the early 1870's by several professors at the university and also by an interested private citizen. Records were not continuous or complete but are on file at this station. The precipitation was of most interest because the Fort Collins area is semi-arid and agricultural.

The Colorado Meteorological Association was organized with scattered volunteer members in 1886 in the interest of public welfare. The first bulletin of the Association was issued by F. H. Loud, Director of Observations, Colorado College Meteorological Observatory, Colorado Springs, Colorado, in May 1886, for the data of April 1886. The Colorado General Assembly passed an act effective July 1, 1889, creating the Colorado Weather Service, under the authority of the

* Meteorologist, Colorado Agricultural Experiment Station.

State Board of Agriculture. Monthly bulletins were issued at Colorado Springs in cooperation with the United States Signal Service.

Later the bulletins were compiled and distributed from a central office in Denver, Colorado. The May 1891 bulletin of the Colorado Weather Service was issued in cooperation with the United States Weather Bureau, then under the Department of Agriculture. Later the bulletin appeared as Climatological Data, Colorado Section, compiled by the United States Weather Bureau, now under the Department of Commerce.

The Colorado Agricultural Experiment Station set up extensive weather instruments in 1887, including an evaporation tank. This work was under the direction of Professor L. G. Carpenter. Facilities for making airway observations were added to the station in 1937. Observers were: R. E. Trimble, 1887-1936; Harry Caperton, 1937; and Maxwell Parshall, 1937-51. Observations since 1951 have been made by several students under the direction of Mr. Parshall.

The weather instruments have occupied three different locations on the Colorado State University campus. From 1887 to 1910 they were west of the Old Main Building and just west of the railroad tracks. From 1910 to 1940 they

were south of the old Civil Engineering Building located on the southwest corner of the campus "oval." At present they are southwest from the Hydraulics Laboratory in a new building shown on the front cover of this bulletin. The present location is $40^{\circ} 35'$ N. latitude, $105^{\circ} 04'$ W. longitude, with the barometer at an altitude of 5,004 feet above mean sea level.

Weather elements observed are: maximum, minimum and current air temperature; terrestrial radiation air temperature*; soil temperatures at depths of 3 inches, 6 inches, 12 inches, 24 inches, 36 inches, and 72 inches; wet and dry bulb air temperatures from a psychrometer; barometric pressure; wind direction; daily wind movement in miles; precipitation, kind, amount and time of duration; cloud cover; dew and frost.

Evaporation is measured in inches of depth from a steel tank three feet square and three feet deep buried in the ground. An exposed rim about three inches high is surrounded by grass on two sides and concrete on the other sides. Wind movement in miles at about fifteen inches above the water surface, and maximum, minimum and current water temperatures are observed. Instruments make records of air temperature, barometric pressure, wind direction, wind veloc-

* Terrestrial radiation is defined as the difference in degrees Fahrenheit between the minimum temperatures observed in the instrument shelter and 6 inches above ground surface.

ity, sunshine and precipitation. The sunshine record, which is an attempt to keep a record of duration and time of sunshine, is not satisfactory. Soil temperatures are read twice daily, 7 a.m. and 7 p.m., from mercurial thermometers.

The instruments used are for the most part of standard design and are approved by the United States Weather Bureau. Thermometers are occasionally

checked against a standard thermometer. The instrument shelter is kept well painted with white paint, and weeds and grass are cut during the summer to keep an average height of two to three inches. Additional data about the instruments are available in earlier versions of this bulletin; a list follows.

The data taken at this station are summarized in the following tables:

Table

TITLE

- I Monthly Precipitation in Inches, Colorado Agricultural Experiment Station, Fort Collins, Colorado
- II Probability of Receiving 0.01 Inch or More of Precipitation at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- III Daily Average Maximum Temperature in Degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- IV Daily Average Minimum Temperature in Degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- V Daily Average Mean Temperature in Degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- VI Extreme Daily Maximum Temperature in Degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- VII Extreme Daily Minimum Temperature in Degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957
- VIII Dates of Occurrence of First and Last Snowfalls at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1888-1957
- IX Frost Dates and Length of Growing Period at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1889-1957
- X Summary of Meteorological Data at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887-1957

Earlier summaries of meteorological data for the Colorado Agricultural Experiment Station Weather Station were published under the following titles:*

Meteorology of 1897, with Illustrations, by L. G. Carpenter and R. E. Trimble, Colorado Agricultural Experiment Station Bulletin No. 49, Fort Collins, Colorado, September 1898.

Meteorological Observations 1902, by L. G. Carpenter and R. E. Trimble, Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1903.

Climate of Colorado Temperature 21 Years' Record at Fort Collins, by L. G. Carpenter and R. E. Trimble, Colorado Agricultural Experiment Station Bulletin No. 127, Fort Collins, Colorado, January 1908.

Colorado Climatology, by R. E. Trimble, Colorado Agricultural Experiment Station Bulletin No. 182, Fort Collins, Colorado, April 1912.

Colorado Climatology, by R. E. Trimble, Colorado Agricultural Experiment Station Bulletin No. 245, Fort Collins, Colorado, June 1918.

The Climate of Colorado, A Forty-One Year Record, by R. E. Trimble, Colorado Agricultural Experiment Station Bulletin No. 340, Fort Collins, Colorado, December 1928.

Analysis of Fifty Years' Record of Meteorological Data Taken at the Colorado Experiment Station, Fort Collins, Colorado, by Maxwell Parshall, Colorado Agricultural Experiment Station Bulletin No. 456, Fort Collins, Colorado, October 1939.

Summary of Meteorological Data at Colorado Agricultural Experiment Station, Fort Collins, Colorado, from 1887 to 1947, by Maxwell Parshall, Colorado Agricultural Experiment Station and Extension Service Bulletin No. 402A, Fort Collins, Colorado, June 1948.

* All are now out of print.

TABLE I. Monthly precipitation in inches, Colorado Agricultural Experiment Station, Fort Collins, Colorado.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
1872	—	—	—	—	—	—	—	—	—	—	0.02	0.20	—
1873	0.25	0.16	0.00	1.20	2.30	1.50	1.30	0.85	0.75	0.42	0.20	0.17	9.10
1874	0.06	0.43	1.29	0.77	2.95	0.65	3.15	0.25	0.00	1.00	0.02	0.00	10.57
1875	—	—	—	—	—	—	—	—	—	—	—	—	—
1876	—	—	—	—	—	—	—	—	—	—	—	—	—
1877	—	—	—	—	—	—	—	—	—	—	—	—	—
1878	—	—	—	—	—	—	—	—	—	—	—	—	—
1879	—	—	—	—	—	—	—	—	—	1.75	0.15	0.60	—
1880	0.72	1.09	0.38	0.94	0.60	0.86	1.80	0.37	1.47	2.07	1.10	0.10	11.50
1881	1.10	0.55	1.45	—	—	—	—	—	—	—	—	—	—
1882	—	—	0.17	—	4.67	3.07	1.76	0.89	2.51	0.82	0.29	—	—
1883	1.00	1.50	0.68	—	2.51	3.18	—	1.78	1.00	1.29	Tr.	1.33	—
1884	1.10	0.70	1.15	3.94	4.84	—	—	—	—	0.10	1.80	0.35	—
1885	1.77	—	—	—	—	—	—	—	—	—	—	—	—
1886	—	—	—	—	—	—	—	—	—	0.69	1.18	0.33	—
1887	0.86	0.23	0.45	1.10	1.23	1.96	3.05	2.12	0.54	0.43	0.15	0.00	12.12
1888	0.29	0.36	0.73	1.23	3.39	0.47	0.60	1.01	0.29	0.88	0.38	0.16	9.79
1889	0.21	0.34	0.65	2.07	3.39	2.06	0.79	0.95	0.42	3.16	0.42	0.02	14.48
1890	0.13	0.21	0.22	3.92	1.19	0.12	1.27	3.14	0.07	0.70	0.32	0.12	11.41
1891	2.32	0.15	1.21	2.14	4.07	1.30	0.17	2.06	1.02	0.20	0.60	0.46	15.70
1892	0.60	1.29	1.52	1.60	4.83	2.42	1.32	0.22	0.14	0.93	0.23	0.35	15.45
1893	0.02	0.54	0.14	1.66	1.92	0.26	0.64	0.92	0.18	0.16	0.55	0.12	7.11
1894	0.25	0.60	0.67	0.89	3.09	0.42	1.72	1.53	2.29	0.00	0.14	0.76	12.36
1895	0.24	1.52	0.54	1.36	3.62	3.65	3.75	1.45	0.47	1.06	0.40	0.01	18.07
1896	0.43	0.03	1.73	1.26	1.68	3.05	3.05	2.20	1.55	0.49	0.05	0.24	15.76
1897	0.18	0.54	2.15	1.39	2.06	1.69	2.65	1.74	0.75	0.75	0.67	0.67	15.24
1898	0.14	0.08	0.50	1.08	3.65	1.37	0.50	0.98	0.50	0.82	1.24	0.17	11.03
1899	0.66	1.04	1.50	1.10	1.01	1.03	4.95	0.99	0.21	3.23	0.00	0.47	16.19
1900	0.25	1.12	1.07	10.56	1.75	0.82	1.14	0.16	1.92	0.24	0.07	0.11	19.21
1901	0.19	0.38	1.88	3.62	7.47	2.35	0.71	0.72	2.10	0.36	0.02	1.37	21.17
1902	0.32	0.15	1.50	0.61	2.13	2.43	1.31	0.67	7.12	1.15	0.27	0.77	18.43
1903	0.16	1.60	1.03	1.50	0.63	2.23	1.06	0.86	0.87	1.70	0.18	0.1	11.89
1904	0.04	0.34	0.51	0.89	5.37	1.68	1.99	0.71	1.09	0.39	0.00	0.12	13.13
1905	0.29	0.35	1.75	6.32	4.13	0.64	2.18	1.25	0.28	2.60	0.07	0.00	19.86
1906	0.01	0.03	2.44	4.30	2.40	1.80	1.96	0.80	3.08	1.59	1.35	0.12	19.88
1907	0.23	0.36	0.69	2.80	2.44	0.44	2.28	1.27	0.58	0.08	0.44	0.03	11.61
1908	0.11	0.03	0.28	0.05	5.83	1.16	3.66	2.12	0.54	1.78	1.06	0.60	17.22
1909	0.02	0.90	3.35	1.34	1.06	2.59	1.98	1.45	2.10	0.08	0.79	0.58	16.24
1910	0.29	0.16	0.06	0.42	4.75	1.04	0.87	1.92	1.79	1.03	0.11	0.48	12.92
1911	0.34	1.52	0.05	1.89	0.72	1.78	1.47	0.59	0.80	0.93	0.43	0.37	10.89
1912	0.37	1.65	1.79	0.90	2.84	2.43	2.93	1.26	2.66	2.03	0.59	0.21	19.66
1913	0.30	0.94	0.20	1.49	2.09	0.15	2.63	0.41	2.39	1.00	0.17	4.08	15.85
1914	0.35	0.30	0.87	3.23	2.73	2.01	1.68	1.27	0.02	1.58	0.12	0.15	14.31
1915	0.12	1.41	1.73	4.01	3.78	1.90	2.12	1.56	2.97	1.97	0.10	0.82	22.49
1916	0.84	0.11	0.31	0.86	3.85	0.60	0.65	0.71	0.70	2.92	0.98	0.62	13.15
1917	0.40	1.04	0.99	1.22	5.86	0.03	1.19	1.21	0.45	0.62	0.40	0.31	13.72
1918	0.41	1.05	0.14	3.72	2.95	1.18	4.83	1.91	3.23	0.71	0.90	0.76	21.79
1919	0.00	0.30	1.65	0.93	0.45	0.19	0.64	0.61	2.61	1.93	1.22	0.39	10.92
1920	0.54	0.64	0.14	3.60	1.95	0.60	0.58	1.72	0.60	0.50	0.24	0.54	11.65
1921	0.96	0.19	0.13	1.71	1.97	3.66	1.40	2.55	0.68	0.37	0.32	0.89	14.83
1922	0.35	0.53	0.36	2.80	0.87	1.03	0.80	0.73	0.02	0.74	1.44	0.31	9.98
1923	0.19	1.39	2.74	2.18	4.46	6.23	4.50	0.62	1.36	3.55	0.10	0.25	27.57
1924	0.51	0.54	1.83	0.93	3.90	0.22	0.21	0.05	0.84	0.78	0.09	0.74	10.64
1925	0.27	0.09	0.58	0.10	1.18	1.50	1.85	1.32	1.96	3.26	0.89	1.50	14.50
1926	0.25	0.28	1.54	2.99	1.76	1.58	0.93	0.86	1.03	1.15	0.36	0.83	13.56

Table 1—Continued.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
27	0.04	0.40	1.87	2.69	0.91	2.17	2.19	2.10	1.10	1.05	1.00	0.25	15.77
28	0.26	0.52	1.38	0.98	3.35	2.73	0.83	0.69	0.09	1.50	1.15	0.06	13.54
29	0.21	0.70	1.78	2.37	1.08	0.64	0.46	2.35	2.13	0.99	0.93	0.09	13.73
30	0.45	0.07	0.70	0.56	4.08	1.50	1.00	5.45	0.16	0.36	0.70	0.14	15.17
31	0.00	1.26	0.41	1.07	2.55	1.50	0.10	0.78	0.40	1.00	0.63	0.18	9.88
32	0.08	0.48	1.09	0.88	2.14	1.11	2.15	3.68	0.01	0.34	0.34	0.49	12.79
33	0.16	0.13	0.60	1.91	4.56	0.05	0.71	4.34	2.10	0.00	0.06	1.03	15.65
34	0.01	1.11	0.71	1.41	1.92	1.25	1.33	0.28	0.79	0.00	0.06	0.00	8.87
35	0.07	0.89	0.21	1.24	6.71	0.62	1.14	0.50	3.29	0.62	0.66	0.00	15.95
36	0.04	0.39	0.71	1.17	1.10	2.90	0.95	1.46	1.11	1.38	0.18	0.38	11.77
37	0.36	0.53	1.14	2.23	1.48	1.94	1.18	0.63	0.09	0.71	0.56	1.52	12.37
38	0.42	0.27	1.32	2.47	2.70	1.81	0.93	0.47	7.34	0.72	0.54	0.76	19.75
39	0.41	0.60	1.60	1.42	1.56	0.43	Tr.	1.01	0.15	0.40	0.03	0.24	7.85
40	1.07	0.54	0.72	1.39	1.83	0.24	1.10	0.32	5.33	0.46	0.59	0.15	13.74
41	0.58	0.04	1.16	3.49	2.01	1.87	0.90	4.19	1.28	1.33	0.18	0.68	17.71
42	0.32	0.88	0.20	5.50	2.26	2.37	0.34	1.48	0.75	6.70	0.50	Tr.	21.30
43	0.22	0.48	0.71	1.45	5.95	1.06	0.93	0.56	0.10	0.29	0.33	0.19	12.27
44	0.45	0.35	2.01	4.10	1.98	1.23	2.25	0.09	0.19	0.14	0.13	0.21	13.13
45	0.73	0.34	0.42	3.02	1.88	2.83	0.44	3.55	1.31	0.80	0.15	0.26	15.73
46	0.13	0.10	0.78	0.43	2.68	1.32	2.93	1.68	0.78	1.23	1.98	0.07	14.11
47	0.42	0.89	0.95	1.41	3.62	4.48	0.80	0.55	0.50	2.64	0.88	0.81	17.95
48	1.01	0.70	0.68	0.67	2.16	1.88	0.36	0.75	0.20	0.72	0.38	0.94	10.45
49	0.37	0.11	1.96	1.53	2.94	6.31	3.13	0.74	0.42	1.24	Tr.	0.06	18.81
50	0.36	0.17	0.36	2.00	3.91	1.33	1.50	0.60	1.70	0.31	0.50	0.08	12.82
51	0.73	0.70	0.35	1.39	2.59	2.11	1.97	7.39	0.96	2.73	0.66	1.00	22.58
52	0.07	0.08	1.57	1.89	3.71	2.46	0.72	0.98	0.04	0.20	1.03	Tr.	12.75
53	0.19	0.49	1.05	1.87	1.88	2.79	1.23	0.65	0.48	0.12	0.45	0.22	11.42
54	0.11	0.06	0.90	0.35	1.17	0.89	0.95	1.24	0.99	0.35	0.53	0.47	8.01
55	0.36	0.63	1.15	0.22	1.64	2.58	1.23	1.42	1.91	0.19	1.05	0.59	12.97
56	0.70	0.66	0.71	1.67	2.62	0.31	2.23	1.91	0.03	0.05	0.79	0.51	12.19
57	0.70	0.52	0.43	3.94	6.04	1.02	0.43	3.07	0.81	1.99	0.62	Tr.	19.57
1957													
Jan	0.36	0.56	1.00	2.01	2.81	1.66	1.53	1.45	1.25	1.10	0.50	0.45	14.68
Extremes													
Max.	2.32	1.65	3.35	10.56	7.47	6.31	4.95	7.39	7.34	6.70	1.98	4.08	27.57
Min.	0.00	0.03	0.05	0.05	0.45	0.03	Tr.	0.05	0.01	0.00	0.00	0.00	7.11

TABLE II. Probability of receiving 0.01 inch or more of precipitation at Colorado Agricultural Experiment Station, Fort Collins, Colorado, based on records from 1887 to 1957.*

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.188	0.188	0.275	0.232	0.464	0.406	0.391	0.435	0.421	0.206	0.275	0.206
2	0.145	0.261	0.304	0.348	0.536	0.449	0.391	0.436	0.304	0.261	0.218	0.261
3	0.203	0.290	0.319	0.377	0.478	0.536	0.522	0.565	0.333	0.275	0.218	0.206
4	0.174	0.116	0.348	0.304	0.449	0.464	0.362	0.536	0.333	0.246	0.232	0.174
5	0.159	0.203	0.406	0.319	0.420	0.493	0.449	0.449	0.319	0.246	0.130	0.174
6	0.130	0.232	0.319	0.333	0.449	0.478	0.348	0.449	0.304	0.261	0.188	0.218
7	0.174	0.217	0.174	0.391	0.507	0.478	0.507	0.493	0.333	0.206	0.246	0.138
8	0.203	0.348	0.188	0.406	0.478	0.464	0.421	0.507	0.449	0.232	0.188	0.232
9	0.217	0.261	0.247	0.391	0.406	0.536	0.319	0.421	0.349	0.304	0.188	0.206
10	0.174	0.188	0.362	0.348	0.493	0.362	0.478	0.507	0.349	0.188	0.188	0.188
11	0.203	0.188	0.319	0.348	0.522	0.421	0.449	0.348	0.362	0.246	0.232	0.145
12	0.159	0.319	0.232	0.319	0.478	0.362	0.406	0.522	0.246	0.246	0.159	0.206
13	0.087	0.319	0.290	0.319	0.478	0.348	0.493	0.464	0.349	0.290	0.145	0.218
14	0.130	0.203	0.406	0.406	0.478	0.421	0.435	0.333	0.304	0.246	0.102	0.206
15	0.203	0.232	0.261	0.435	0.493	0.493	0.464	0.421	0.218	0.261	0.130	0.102
16	0.261	0.145	0.174	0.333	0.478	0.421	0.406	0.421	0.145	0.333	0.159	0.159
17	0.261	0.261	0.261	0.319	0.377	0.478	0.478	0.391	0.188	0.206	0.218	0.218
18	0.159	0.275	0.319	0.362	0.435	0.435	0.449	0.406	0.290	0.261	0.206	0.130
19	0.188	0.348	0.203	0.348	0.522	0.261	0.435	0.536	0.319	0.206	0.188	0.159
20	0.246	0.247	0.333	0.319	0.551	0.391	0.464	0.536	0.232	0.188	0.188	0.145
21	0.217	0.217	0.304	0.348	0.435	0.406	0.478	0.391	0.232	0.232	0.206	0.232
22	0.159	0.290	0.348	0.348	0.449	0.290	0.377	0.435	0.261	0.275	0.188	0.145
23	0.203	0.247	0.304	0.478	0.449	0.333	0.421	0.362	0.188	0.218	0.206	0.174
24	0.232	0.362	0.290	0.449	0.464	0.421	0.478	0.391	0.304	0.261	0.188	0.206
25	0.145	0.333	0.377	0.536	0.536	0.406	0.406	0.493	0.261	0.246	0.174	0.130
26	0.261	0.377	0.333	0.377	0.522	0.333	0.464	0.377	0.333	0.188	0.145	0.218
27	0.261	0.319	0.348	0.319	0.566	0.290	0.478	0.464	0.188	0.145	0.246	0.130
28	0.203	0.319	0.333	0.420	0.435	0.319	0.478	0.449	0.188	0.206	0.218	0.130
29	0.217		0.319	0.522	0.507	0.391	0.435	0.435	0.275	0.290	0.130	0.174
30	0.174		0.275	0.522	0.493	0.507	0.478	0.319	0.377	0.246	0.116	0.188
31	0.290		0.377		0.580		0.435	0.319		0.188		0.188

*Probability in percent can be obtained by multiplying all figures in the tabulation by 100.

TABLE III. Average size of storm, in inches, at Colorado Agricultural Experiment on, Fort Collins, Colorado, 1887 to 1957.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
0.027	0.042	0.085	0.180	0.098	0.080	0.064	0.123	0.063	0.164	0.052	0.170
0.046	0.056	0.065	0.257	0.248	0.212	0.077	0.138	0.241	0.067	0.125	0.126
0.048	0.094	0.063	0.095	0.155	0.240	0.093	0.230	0.272	0.075	0.089	0.122
0.038	0.112	0.085	0.117	0.142	0.392	0.129	0.168	0.154	0.162	0.109	0.129
0.072	0.028	0.046	0.137	0.202	0.190	0.119	0.108	0.100	0.183	0.061	0.079
0.107	0.053	0.044	0.090	0.119	0.114	0.049	0.132	0.147	0.105	0.079	0.048
0.117	0.053	0.118	0.200	0.167	0.171	0.047	0.099	0.099	0.107	0.059	0.081
0.136	0.070	0.148	0.105	0.164	0.117	0.252	0.119	0.114	0.081	0.161	0.093
0.065	0.066	0.089	0.194	0.206	0.185	0.102	0.071	0.158	0.159	0.115	0.065
0.028	0.112	0.100	0.218	0.249	0.118	0.064	0.076	0.165	0.105	0.071	0.051
0.061	0.051	0.139	0.263	0.142	0.117	0.163	0.125	0.126	0.116	0.155	0.087
0.033	0.080	0.100	0.097	0.149	0.111	0.115	0.138	0.081	0.177	0.117	0.049
0.082	0.065	0.070	0.110	0.198	0.155	0.131	0.155	0.127	0.182	0.077	0.226
0.014	0.066	0.148	0.248	0.154	0.152	0.075	0.161	0.162	0.143	0.084	0.106
0.064	0.087	0.234	0.184	0.176	0.232	0.127	0.104	0.151	0.318	0.089	0.041
0.043	0.049	0.149	0.131	0.223	0.097	0.108	0.116	0.179	0.217	0.033	0.057
0.052	0.070	0.044	0.258	0.165	0.098	0.046	0.125	0.045	0.186	0.149	0.051
0.054	0.048	0.129	0.228	0.256	0.058	0.106	0.091	0.090	0.142	0.092	0.032
0.037	0.053	0.151	0.230	0.117	0.073	0.173	0.085	0.112	0.189	0.105	0.034
0.018	0.055	0.100	0.205	0.286	0.088	0.135	0.085	0.227	0.138	0.069	0.079
0.067	0.111	0.234	0.172	0.313	0.129	0.059	0.087	0.557	0.175	0.066	0.040
0.014	0.061	0.053	0.147	0.193	0.080	0.132	0.063	0.195	0.095	0.116	0.117
0.014	0.048	0.079	0.169	0.221	0.096	0.102	0.071	0.151	0.267	0.024	0.105
0.064	0.104	0.206	0.240	0.229	0.096	0.105	0.042	0.145	0.166	0.062	0.039
0.099	0.096	0.132	0.134	0.175	0.119	0.102	0.049	0.138	0.102	0.089	0.067
0.103	0.076	0.092	0.242	0.122	0.048	0.148	0.095	0.152	0.058	0.066	0.044
0.045	0.145	0.099	0.199	0.175	0.139	0.133	0.096	0.168	0.069	0.084	0.046
0.107	0.133	0.087	0.172	0.198	0.119	0.048	0.080	0.124	0.052	0.085	0.011
0.097		0.132	0.236	0.124	0.049	0.174	0.059	0.110	0.260	0.224	0.064
0.084		0.168	0.162	0.247	0.041	0.175	0.083	0.170	0.138	0.061	0.113
0.024		0.084		0.248		0.121	0.055		0.179		0.040

TABLE IV. Daily average maximum temperature in degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
1	38.4	38.7	44.3	56.4	63.9	70.1	83.0	85.2	81.8	72.2	55.5	46.2
2	38.6	40.9	46.8	56.9	63.5	71.8	83.2	84.6	80.5	70.9	53.8	45.7
3	40.4	40.1	45.2	54.7	62.8	70.5	82.9	85.0	79.7	70.0	55.8	45.2
4	40.9	40.8	45.1	56.9	65.5	71.6	83.9	85.1	79.6	68.2	56.6	46.7
5	41.4	43.0	44.2	58.0	66.2	73.9	84.6	84.4	80.1	68.0	56.1	45.4
6	39.2	41.4	46.2	57.9	65.0	73.5	84.9	83.8	79.5	66.6	54.0	44.6
7	39.3	42.1	47.3	56.7	66.0	75.1	83.9	84.1	78.8	67.6	52.4	42.9
8	41.8	41.0	50.5	56.7	65.8	75.1	83.8	84.6	77.1	67.2	52.6	42.2
9	41.6	40.6	49.6	58.6	67.1	75.2	84.2	83.6	76.4	67.8	52.7	42.4
10	40.9	42.1	47.6	59.5	64.6	76.9	84.7	83.8	76.0	68.2	53.8	43.4
11	38.6	43.3	49.5	58.3	66.2	77.6	83.8	82.9	75.1	65.5	50.4	44.0
12	39.4	43.5	49.1	58.5	66.2	76.5	84.8	84.9	76.9	65.7	50.5	43.8
13	41.4	41.9	48.4	60.5	66.3	77.6	85.1	84.3	76.6	66.0	51.5	41.6
14	41.7	41.3	46.9	61.4	68.3	77.1	85.0	84.3	75.9	65.9	52.3	40.8
15	39.3	42.9	47.7	58.8	68.0	77.0	85.3	85.0	75.0	65.9	51.0	42.1
16	39.4	45.4	51.4	60.7	67.0	77.8	85.1	83.8	75.8	64.2	50.0	42.7
17	38.4	43.9	51.7	60.5	70.1	79.3	84.1	83.7	77.4	64.1	50.6	40.5
18	41.2	43.7	53.0	60.5	70.1	78.9	83.7	83.1	76.6	63.5	49.8	41.2
19	40.8	41.9	52.3	60.6	69.8	80.9	84.1	82.2	75.6	62.0	49.8	41.9
20	39.1	43.0	51.8	62.6	68.5	80.3	85.2	81.3	75.3	62.0	50.8	42.8
21	40.2	43.3	51.0	63.1	68.9	80.6	84.1	82.1	74.2	63.0	48.1	41.0
22	41.8	43.8	51.8	64.3	70.3	81.6	84.2	81.9	74.5	61.2	46.6	43.1
23	41.3	44.3	53.4	61.6	71.0	82.6	84.7	82.0	73.5	60.4	48.6	41.8
24	41.4	43.9	52.7	60.5	71.2	82.2	84.3	82.4	72.6	61.9	50.3	41.3
25	40.4	44.0	51.3	61.7	71.5	82.0	85.3	82.2	71.2	60.6	48.4	40.5
26	40.1	43.6	49.2	63.4	70.9	83.1	84.9	82.3	69.9	60.0	47.8	40.9
27	41.1	44.3	51.5	63.7	69.7	84.6	85.5	81.3	71.6	61.0	45.7	40.4
28	41.5	44.3	52.5	64.2	70.7	84.5	85.0	81.2	70.5	60.1	47.0	42.8
29	41.3		53.8	62.0	71.8	83.1	84.8	81.5	70.8	57.8	47.2	41.4
30	39.5		52.8	62.3	72.2	83.9	84.1	81.9	71.6	56.8	48.7	40.2
31	39.5		54.0		70.7		84.4	82.0		57.6		38.8

TABLE V. Daily average minimum temperature in degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
10.3	9.4	16.7	27.6	35.9	45.8	52.7	54.5	49.4	39.9	27.3	19.7
10.2	11.1	18.2	27.5	36.9	45.6	52.7	54.9	48.0	38.9	23.8	19.3
13.1	13.3	19.5	27.8	36.4	45.7	52.3	54.6	49.2	39.3	24.8	18.6
12.9	11.3	19.9	27.7	36.6	46.0	52.5	55.0	47.9	38.3	26.0	17.0
13.7	13.6	19.4	29.0	39.1	45.8	52.9	55.0	47.3	36.4	24.8	18.4
12.1	13.5	18.5	29.1	37.6	46.3	53.0	54.6	47.4	36.7	25.0	17.3
9.6	12.5	19.1	30.2	38.2	46.8	54.1	53.7	48.0	35.3	26.4	17.0
10.5	12.1	20.5	29.5	39.0	47.8	53.7	53.8	47.9	35.6	22.8	14.4
12.6	12.4	22.1	30.1	38.9	47.5	53.4	53.8	47.1	35.4	21.8	13.4
11.3	13.3	22.0	30.8	38.9	47.2	54.2	53.7	44.7	35.6	21.7	15.2
10.9	13.5	21.0	30.0	38.7	48.7	54.7	54.3	45.7	34.6	20.8	14.9
10.2	14.0	21.0	29.4	38.9	47.7	55.0	53.4	44.3	34.3	20.7	15.9
11.0	14.8	20.8	31.3	38.8	48.4	55.3	53.7	45.0	34.7	21.4	14.5
14.0	13.8	22.1	32.1	39.4	49.2	55.3	54.0	44.4	34.2	20.6	13.0
12.8	13.9	20.4	32.6	40.7	49.3	55.0	54.2	43.7	34.6	21.5	12.3
11.4	14.7	21.7	32.1	41.1	48.7	55.1	53.3	43.1	32.9	20.7	14.5
11.3	16.6	23.7	31.7	40.5	48.8	55.4	52.8	43.1	33.0	21.7	13.2
11.2	16.2	23.3	32.7	41.9	48.7	54.8	53.3	43.4	32.4	21.7	12.7
12.9	15.2	23.5	33.5	41.6	49.2	54.6	52.9	42.6	30.4	20.7	12.8
10.9	15.4	24.1	32.4	42.0	50.5	54.2	51.8	41.2	31.4	20.8	14.2
11.0	16.4	24.3	33.0	42.7	50.9	54.2	51.3	40.8	30.0	20.2	13.9
12.3	16.9	24.3	34.9	41.8	49.9	53.9	51.2	41.1	31.5	18.2	14.2
12.2	17.4	25.0	35.8	43.2	50.3	55.2	51.3	41.6	29.4	19.7	14.5
13.9	17.0	25.2	35.4	44.8	51.5	55.3	51.0	41.3	28.9	19.8	13.8
14.1	17.9	23.8	34.3	43.8	51.6	55.1	50.8	40.0	30.0	21.5	12.4
12.7	16.8	23.2	35.1	44.3	52.4	55.0	50.6	39.2	28.9	18.4	12.2
11.6	16.6	23.8	35.9	45.1	51.5	56.0	51.1	37.6	28.6	19.6	11.3
11.8	16.9	24.3	36.6	45.0	52.0	55.4	51.3	39.3	29.1	19.2	12.6
12.2		26.7	36.3	44.7	52.9	55.3	50.0	39.4	27.6	17.3	14.0
11.2		25.2	36.4	45.2	53.2	55.6	50.4	39.8	27.4	18.6	12.3
11.5		25.5		46.4		55.1	49.8		25.9		10.8

TABLE VI. Daily average mean* temperature in degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
1	24.7	24.0	30.5	42.0	49.9	58.4	67.8	69.8	65.6	56.0	41.4	32.9
2	24.4	26.4	32.5	42.2	50.2	59.2	68.0	69.7	64.2	55.0	38.8	32.5
3	26.7	26.7	32.3	41.3	49.6	58.7	67.6	69.8	64.4	54.6	40.2	31.9
4	26.9	26.0	32.5	42.3	51.3	58.8	68.2	69.8	63.7	53.3	41.3	31.9
5	27.6	28.3	31.8	43.5	52.6	59.8	68.8	69.7	63.7	52.2	40.5	31.9
6	25.7	27.5	32.3	43.5	51.4	59.9	68.9	69.1	63.5	51.6	39.5	31.0
7	24.5	27.3	33.2	43.4	52.2	61.0	69.0	68.9	63.4	51.4	39.4	29.8
8	26.2	26.2	35.5	43.1	52.4	61.4	68.8	69.2	62.5	51.4	37.7	28.3
9	27.1	26.4	35.8	44.3	53.0	61.4	68.8	68.7	61.8	51.6	37.3	27.9
10	26.1	27.7	34.8	45.1	51.8	62.0	69.5	68.8	60.4	51.9	37.8	29.3
11	24.6	28.4	35.3	44.0	52.5	63.2	69.9	68.6	60.4	50.0	35.6	29.5
12	24.8	28.7	35.2	44.0	52.5	62.6	69.9	69.1	60.6	50.0	35.6	29.8
13	26.2	28.5	34.6	46.0	52.6	63.5	70.2	69.0	60.8	50.4	36.4	28.0
14	28.1	27.6	34.6	46.8	53.8	63.7	70.1	69.1	60.2	50.1	36.5	26.9
15	26.1	28.4	34.0	45.7	54.4	63.7	70.2	69.6	59.4	50.2	36.3	27.2
16	25.2	30.1	36.6	46.4	54.0	63.8	70.2	68.6	59.5	48.5	35.2	28.3
17	24.9	30.2	37.7	46.1	55.3	64.6	69.8	68.2	60.2	48.5	36.2	26.9
18	26.2	29.9	38.2	46.6	56.0	64.3	69.3	68.2	60.0	48.0	35.7	26.9
19	26.8	28.6	37.8	47.0	55.7	65.0	69.3	67.6	59.1	46.3	35.2	27.3
20	25.0	29.2	38.0	47.5	55.3	65.4	69.7	66.6	58.2	46.7	35.8	28.5
21	25.6	29.8	37.7	48.1	55.8	65.8	69.1	66.7	57.5	46.5	34.1	27.4
22	27.1	30.4	38.1	49.5	56.0	65.7	69.1	66.6	57.9	46.3	32.6	28.7
23	26.8	30.8	39.2	48.7	57.0	66.5	70.0	66.6	57.5	44.9	34.1	28.3
24	27.6	30.5	39.0	48.0	58.0	66.8	69.8	66.7	57.0	45.4	35.1	27.6
25	27.3	31.0	37.5	48.0	57.6	66.8	70.2	66.5	55.6	45.3	35.0	26.5
26	26.4	30.3	36.2	49.3	57.6	67.7	70.8	66.5	54.6	44.5	33.1	26.6
27	26.4	30.4	37.6	49.8	57.4	68.0	70.7	66.2	54.6	44.8	32.7	25.8
28	26.7	30.6	38.5	50.1	57.9	68.2	70.1	66.2	54.9	44.6	33.1	27.7
29	26.7	[31.3]	40.3	49.1	58.2	68.0	70.0	65.7	55.1	42.7	32.2	27.7
30	25.3		39.0	49.4	58.7	68.5	69.8	66.2	55.8	42.1	33.6	26.3
31	25.5		39.2		58.6		69.8	66.0		41.7		24.4

*Mean temperature = $\frac{1}{2}$ (Daily Maximum Temperature + Daily Minimum Temperature)

TABLE VII. Extreme daily maximum temperature in degrees Fahrenheit at Colorado cultural Experiment Station, Fort Collins, Colorado, 1887-1957.*

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
64.6	65.0	71.0	75.2	86.0	90.9	95.0	99.6 (1902)	95.0	88.0 (1887)	78.0	67.0
62.7	71.9	71.0	77.0	83.7	90.4	96.6	98.2	93.3	84.6	77.0	67.2
66.3	69.7	72.6	74.0	84.7	89.9	94.4	99.2	93.8	84.2	75.7	65.5
67.3	67.8	70.7	78.0	84.6	90.4	95.4	96.6	94.1	86.8	77.0	69.1
67.8	66.7	76.1	74.0	88.3	92.0	97.2	94.0	94.6	85.0	74.9	65.8
61.7	62.2	67.0	80.4	86.0	92.0	97.0	97.0	92.1	85.3	79.1 (1934)	71.4
60.5	64.6	72.4	83.0	85.3	93.2	97.0	97.0	91.9	84.4	74.1	62.0
66.1	75.2 (1954)	68.9	79.9	90.0 (1895)	88.4	95.0	97.3	90.0	83.9	74.2	63.7
66.0	72.8	71.1	76.4	87.8	94.2	95.2	94.1	92.1	84.7	69.8	72.7
67.0	69.6	76.9	80.0	86.0	94.8	100.7	93.6	92.0	83.2	75.3	67.6
66.0	70.0	76.0	79.0	87.8	95.6	101.9	93.4	91.8	80.8	72.3	75.7 (1939)
67.7	68.0	74.9	80.2	82.6	95.9	102.2 (1954)	93.4	90.8	84.3	75.0	64.1
64.2	69.3	74.0	84.0	86.7	96.3	99.8	94.5	94.0	81.1	71.8	65.3
65.0	68.0	76.2	84.0	86.6	94.3	97.3	95.5	93.0	81.0	74.0	70.0
63.2	62.3	72.0	83.0	85.6	94.3	101.7	96.4	91.6	80.2	75.0	66.6
63.3	66.0	75.7	82.0	86.0	95.1	98.0	97.0	95.0	80.8 (1895)	74.6	66.9
63.2	65.0	80.0	83.0	87.2	96.0	96.0	95.0	93.5	88.0	73.7	69.2
64.0	63.9	81.0 (1921)	82.0	88.7	99.8	98.1	93.2	93.7	81.9	72.6	58.4
69.0	66.2	79.3	79.3	88.8	94.0	97.2	94.7	87.3	78.5	75.6	65.0
60.6	65.0	80.3	86.0	90.0	93.4	100.5	93.1	93.5	79.8	70.8	64.7
68.0	67.0	78.8	91.0 (1888)	88.0	95.2	96.0	95.6	88.1	82.8	71.2	66.1
64.2	67.8	79.9	87.0	89.0	95.2	97.4	94.9	88.3	76.6	67.7	68.9
62.6	65.8	71.0	83.0	86.5	102.3 (1954)	97.0	94.4	90.5	79.8	67.0	69.5
64.9	66.1	75.8	83.0	87.0	98.3	96.3	94.0	85.7	80.7	67.0	67.5
68.0	69.7	76.2	81.9	85.0	96.0	97.0	93.5	90.0	77.3	71.9	63.7
71.0 (1888)	71.2	73.0	86.2	89.7	94.9	99.9	94.0	87.9	78.6	65.8	66.0
70.0	74.2	80.2	85.2	89.3	94.0	96.8	93.0	90.0	78.8	71.0	64.3
69.0	73.0	74.0	86.4	89.3	97.2	96.2	95.2	87.1	78.9	75.4	66.8
67.0	[69.5]	76.9	82.0	87.0	96.9	96.7	95.6	89.3	76.9	69.5	65.2
70.0		78.3	82.7	87.2	96.0	94.8	94.4	88.9	76.8	71.8	62.9
68.0		80.0		90.0		97.0	93.5		78.6		65.7

* of occurrence of highest temperature for the month is given in parentheses.

TABLE VIII. Extreme daily minimum temperature in degrees Fahrenheit at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.*

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
1	-24.0	-40.7	-20.1	7.2	19.2	30.8	40.7	43.0	35.8	27.5	-0.5	2.6
		(1951)										
2	-27.9	-23.0	-18.5	-3.0	24.3	30.0	43.0	43.0	37.0	24.6	-16.8	-5.1
3	-23.3	-18.0	-18.2	8.0	23.0	30.3	41.0	44.9	34.3	29.5	8.6	-6.7
4	-28.1	-31.4	-13.1	-10.4	23.4	35.1	36.0	46.1	36.8	24.0	8.0	-15.0
			(1945)			(1903)						
5	-29.9	-31.6	-10.2	8.0	27.8	31.3	41.7	45.0	33.5	15.7	1.0	-19.1
6	-26.0	-38.3	-31.3	9.2	12.1	32.5	38.8	44.0	31.0	19.9	8.8	-11.8
			(1943)		(1917)							
7	-29.5	-32.0	-12.2	10.4	23.6	31.6	40.0	44.0	29.7	22.2	5.1	-18.3
8	-25.8	-31.4	-7.2	-4.3	27.0	36.2	39.6	45.0	30.1	22.0	6.8	-10.8
9	-23.0	-21.4	-27.5	11.6	24.2	34.5	43.0	46.0	28.0	16.3	-9.7	-35.2
											(1919)	
10	-15.2	-31.6	-19.6	-0.6	25.0	35.0	44.0	45.9	31.0	17.8	-15.9	-11.4
11	-28.4	-29.7	-30.1	3.0	26.6	34.7	45.6	45.8	27.5	20.8	-7.3	-23.2
12	-16.2	-38.4	-24.4	-8.1	26.0	32.6	42.0	45.2	22.0	20.5	-11.0	-29.7
13	-22.3	-26.8	-11.1	11.6	28.0	28.8	44.0	44.3	27.1	19.5	-21.1	-19.0
					(1947)						(1916)	
14	-16.0	-22.6	-8.8	7.6	22.3	37.6	47.2	45.8	26.1	19.8	-13.0	-21.2
15	-28.0	-28.0	-20.0	16.0	27.7	36.3	45.4	45.3	26.0	17.4	1.1	-17.5
16	-17.0	-23.4	-4.8	20.4	26.1	31.2	44.2	38.3	28.0	19.3	-4.1	-17.6
17	-38.5	-18.0	-19.7	8.7	28.4	35.0	46.9	44.8	28.0	6.4	-6.2	-9.4
	(1930)											
18	-23.8	-20.9	-9.2	9.2	27.4	33.8	47.2	43.8	30.0	21.0	-10.0	-13.4
19	-26.6	-14.1	-24.6	15.8	27.0	33.0	43.0	43.2	30.4	18.1	-4.0	-23.4
20	-17.0	-14.0	-7.9	21.0	28.2	36.5	38.9	42.4	29.4	17.5	-9.3	-21.3
21	-32.2	-11.2	-12.1	5.7	29.2	38.8	44.8	40.2	27.4	14.6	-3.0	-17.3
22	-19.0	-17.3	-2.0	14.8	29.0	38.9	43.2	36.7	25.5	16.5	-9.4	-15.1
23	-14.1	-12.2	-10.2	20.1	29.2	38.6	46.9	37.6	27.0	16.0	-12.8	-9.7
24	-22.0	-11.3	2.5	21.8	33.0	38.8	46.4	39.7	28.8	11.0	-7.8	-16.5
25	-14.0	-12.6	1.7	21.1	33.7	39.6	45.0	31.7	20.1	13.0	-3.8	-18.9
							(1910)(1926)					
26	-31.4	-16.2	-4.8	13.4	32.7	40.2	45.0	33.2	22.4	11.8	-12.0	-13.6
27	-26.0	-20.0	-24.5	25.0	34.8	41.5	48.0	39.2	23.4	14.8	-14.0	-16.0
28	-31.8	-19.0	-16.7	21.0	31.3	39.8	45.0	40.1	25.3	12.5	-14.4	-24.0
29	-27.6	[-14.3]	4.0	20.3	25.2	41.0	45.3	33.9	23.0	-7.4	-9.4	-8.2
30	-20.0		-7.5	5.7	32.2	42.0	43.0	34.5	26.5	4.2	-4.9	-14.0
31	-19.7		-9.0		33.4		42.5	36.0		-8.0		-22.3
										(1905)		

*Year of occurrence of lowest temperature for the month is given in parentheses.

TABLE IX. Date of occurrence of first and last snowfalls at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.

Fall (First)	Spring (Last)	Year	Fall (First)	Spring (Last)
Nov. 4	-----	1924	Nov. 6	April 25
Oct. 29	May 2	1925	Oct. 8	Mar. 18
Nov. 8	May 15	1926	Oct. 23	April 9
Nov. 14	May 21	1927	Sept. 25	May 8
Dec. 6	May 8	1928	Oct. 29	April 25
Nov. 17	May 6	1929	Sept. 6	April 9
Nov. 16	April 17	1930	Oct. 15	Mar. 31
Sept. 22	April 21	1931	Nov. 18	May 21
Oct. 28	April 18	1932	Oct. 9	April 28
Oct. 16	May 7	1933	Nov. 1	May 10
Oct. 19	May 5	1934	Sept. 20	May 13
Oct. 13	April 29	1935	Sept. 26	May 3
Oct. 20	April 30	1936	Sept. 26	April 5
Dec. 3	April 16	1937	Nov. 15	June 4
Nov. 15	April 13	1938	Oct. 18	May 5
Nov. 12	April 30	1939	Oct. 29	April 16
Oct. 24	April 21	1940	Nov. 10	April 17
Oct. 14	May 10	1941	Oct. 29	April 19
Oct. 20	April 3	1942	Sept. 18	May 3
Sept. 30	May 13	1943	Nov. 1	May 9
Oct. 18	May 4	1944	Nov. 24	May 7
Nov. 12	April 21	1945	Sept. 27	April 17
Nov. 15	Feb. 20	1946	Oct. 7	May 19
Oct. 18	April 30	1947	Oct. 22	June 12
Sept. 14	May 13	1948	Oct. 16	April 11
Sept. 24	April 25	1949	Oct. 19	May 6
Nov. 16	April 18	1950	Nov. 2	May 26
Oct. 11	May 6	1951	Sept. 21	June 2
Oct. 18	May 15	1952	Oct. 6	April 22
Oct. 20	May 5	1953	Oct. 23	May 12
Oct. 30	May 11	1954	Oct. 14	May 2
Oct. 9	April 14	1955	Sept. 25	April 12
Oct. 22	April 26	1956	Oct. 29	April 24
Nov. 8	April 25	1957	Oct. 24	May 16
Oct. 16	April 17			
Oct. 24	April 23	Mean	Oct. 22	April 29
		Extreme	Sept. 6	Feb. 20
			Dec. 6	June 12

TABLE X. Frost dates and length of growing period at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1889-1957.

Year	Spring		Fall		Growing Period
	Date	Day of Year	Date	Day of Year	
1889	May 12	132	Sept. 6	249	117
1890	May 6	126	Sept. 8	251	125
1891	May 2	122	Sept. 3	246	124
1892	May 22	142	Aug. 30	242	100
1893	June 6	157	Sept. 14	257	100
1894	May 11	131	Sept. 14	257	126
1895	June 20	171	Sept. 21	264	93
1896	May 20	140	Sept. 26	269	129
1897	June 3	154	Sept. 17	260	106
1898	May 7	127	Sept. 7	250	123
1899	June 7	158	Sept. 17	260	102
1900	May 19	139	Sept. 18	261	122
1901	May 26	146	Sept. 17	260	114
1902	June 3	154	Sept. 19	252	98
1903	May 31	151	Aug. 29	241	90
1904	May 17	137	Aug. 22	234	97
1905	May 29	149	Sept. 2	245	96
1906	May 9	129	Oct. 5	278	149
1907	June 1	152	Sept. 10	253	101
1908	May 29	149	Sept. 27	270	121
1909	May 25	145	Sept. 22	265	120
1910	May 22	142	Aug. 25	237	95
1911	May 22	142	Sept. 19	262	120
1912	May 14	134	Sept. 14	257	123
1913	May 15	135	Sept. 17	260	125
1914	May 7	127	Sept. 14	257	130
1915	June 7	158	Sept. 16	259	101
1916	June 7	158	Sept. 12	255	97
1917	June 13	164	Sept. 27	270	106
1918	May 13	133	Sept. 16	259	126
1919	June 3	154	Sept. 23	266	112
1920	May 26	146	Sept. 26	269	123
1921	May 3	123	Sept. 21	264	141
1922	June 1	152	Oct. 7	280	128
1923	May 16	136	Sept. 29	272	136
1924	May 15	135	Sept. 19	262	127
1925	May 5	125	Oct. 9	282	157
1926	May 14	134	Sept. 24	267	133
1927	May 30	150	Sept. 20	263	113
1928	May 5	125	Sept. 21	264	139
1929	May 6	126	Sept. 9	252	126
1930	May 23	143	Sept. 26	269	126
1931	May 22	142	Sept. 21	264	122
1932	May 16	136	Oct. 4	277	141
1933	May 15	135	Oct. 8	281	146
1934	May 15	135	Sept. 16	259	124
1935	May 7	127	Sept. 27	270	143

Table X—Continued.

Year	Spring		Fall		Growing Period
	Date	Day of Year	Date	Day of Year	
1936	May 1	121	Sept. 27	270	149
1937	June 6	157	Oct. 5	278	121
1938	May 10	130	Oct. 11	284	154
1939	May 13	133	Sept. 30	273	140
1940	May 1	121	Oct. 7	280	159
1941	April 25	115	Sept. 9	252	137
1942	May 22	142	Sept. 19	262	120
1943	June 3	154	Sept. 6	249	95
1944	May 19	139	Sept. 12	255	116
1945	June 18	169	Sept. 13	256	87
1946	May 20	140	Sept. 20	263	123
1947	June 13	164	Sept. 15	258	94
1948	May 13	133	Oct. 2	275	142
1949	May 2	122	Sept. 13	256	134
1950	June 4	155	Sept. 26	269	114
1951	June 4	155	Sept. 12	255	100
1952	May 22	142	Sept. 23	266	124
1953	May 19	139	Sept. 21	264	125
1954	May 29	149	Sept. 21	264	115
1955	May 29	149	Sept. 25	268	119
1956	May 16	136	Sept. 23	266	130
1957	May 17	137	Sept. 22	265	128
Mean	May 21		Sept. 19		121
Extremes	April 25		Aug. 22		87
	June 20		Oct. 11		159

TABLE XI. Summary of meteorological data at Colorado Agricultural Experiment Station, Fort Collins, Colorado, 1887 to 1957.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year	Max. Var.	Period Years
Mean temperature, °F.	26.1	28.6	36.0	46.0	54.5	63.8	69.5	68.0	59.7	48.6	36.3	28.5	47.2	43.4	71
Standard deviation, °F.	5.1	6.1	4.9	3.4	2.8	2.7	2.3	1.8	2.5	2.7	3.6	4.6	1.51	-----	----
Average precipitation, inches	0.36	0.56	1.00	2.01	2.81	1.66	1.53	1.45	1.25	1.10	0.50	0.45	14.68	2.45	71
Median precipitation, inches	0.29	0.48	0.78	1.49	2.44	1.50	1.19	1.01	0.79	0.78	0.42	0.26	13.74	2.18	71
Maximum precipitation, inches	2.32	1.65	3.35	10.56	7.47	6.31	4.95	7.39	7.34	6.70	1.98	4.08	27.57	-----	71
Minimum precipitation, inches	0.00	0.03	0.05	0.05	0.45	0.03	Tr.	0.05	0.01	0.00	0.00	0.00	7.11	-----	71
Average barometric pressure, inches mercury	24.940	24.937	24.907	24.932	24.949	24.984	25.074	25.077	25.052	25.038	25.017	24.965	24.989	0.170	71
Standard deviation, inches mercury	0.064	0.064	0.057	0.047	0.043	0.044	0.030	0.031	0.041	0.044	0.059	0.052	0.016	-----	----
Average relative humidity at 7 A.M. and 7 P.M. in percent	71.3	71.3	65.6	59.7	61.9	61.6	63.1	65.2	66.6	67.4	69.6	72.3	66.3	12.6	69
Average dew point temperature °F. at 7 A.M. and 7 P.M.	11.9	14.3	20.3	28.9	39.4	48.8	54.4	52.6	43.1	31.2	20.1	14.3	31.6	42.5	69
Terrestrial radiation °F.	4.2	3.9	3.7	3.6	4.4	4.9	4.8	4.5	4.5	4.3	4.4	4.3	4.3	1.3	69
Soil temperature °F. average of 7 A.M. and 7 P.M. at depths:															
3 in.	28.0	30.2	37.0	47.2	56.8	67.0	72.6	70.3	62.0	49.2	37.0	30.1	48.7	44.6	68
6 in.	29.2	31.0	37.4	47.8	57.0	67.2	73.0	71.2	63.6	51.4	39.0	31.6	50.0	43.8	67
12 in.	30.6	31.7	37.2	47.4	56.6	66.2	72.2	71.4	64.6	53.2	41.2	33.6	50.4	41.6	67
24 in.	33.4	33.2	37.4	45.9	54.3	63.2	69.6	69.8	64.8	55.4	44.5	37.0	50.7	36.6	68
36 in.	36.1	35.4	38.0	44.6	52.2	60.2	66.7	68.0	64.6	56.9	47.2	40.0	50.8	32.6	62
72 in.	43.2	41.1	41.4	44.9	49.8	55.5	60.8	63.6	63.2	59.2	53.2	47.4	52.0	22.5	52
Maximum variation vertical	15.2	10.9	4.4	3.2	7.2	11.7	12.2	7.8	2.8	10.0	16.2	17.3	3.3		
Average wind velocity, M.P.H. 65 ft. above ground surface	6.42	6.55	7.46	7.81	6.60	5.39	4.73	4.59	4.85	5.31	5.89	5.94	5.96	3.22	65
Average snow depth, inches	5.5	6.7	8.6	6.2	1.2	Tr.	0	0	0.2	2.5	5.2	5.4	41.5	8.6	69
Evaporation, inches per day				0.142	0.163	0.197	0.208	0.187	0.158	0.107					66
Average water temp. 7 A.M. and 7 P.M. °F				47.9	57.7	67.2	72.4	70.5	62.2	49.6					66
Average wind velocity, M.P.H. 15 inches above surface				2.68	1.92	1.25	0.99	0.92	1.05	1.30					62