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CLIMATOLOGICAL SUMMARY

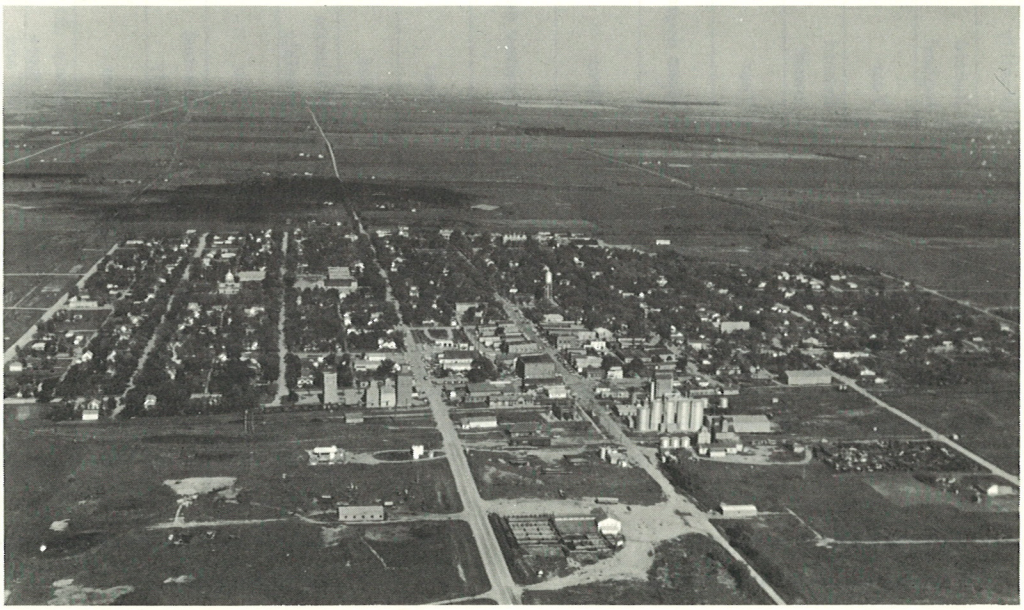
CLIMATOGRAPHY OF THE U. S. NO. 20 - 32

ELLENDALE, NORTH DAKOTA

Latitude 46° 00' N Longitude 98° 31' N

ELEVATION 1460 FEET

Data Compiled From Official U.S. Weather Bureau Records



Prepared by Weather Bureau State Climatologist For North Dakota

In Cooperation With Farmers Union Oil Co.

Ellendale, North Dakota

Climate Of Ellendale, North Dakota

Ellendale, the county seat of Dickey County, is located in the south-central portion of the county in south-eastern North Dakota. The surrounding area is flat, fertile farmland. The main cash crops of the area are wheat, corn, and flax as well as an extensive dairy industry.

The data in this summary are representative of not only Ellendale, but apply generally to other areas of Dickey County also.

The climate of Ellendale is typical of the Great Plains and is characterized by cold and snowy winters, warm summer days and cool nights. The frequent passage of weather systems across the area brings a wide variety of weather in all seasons. Hot, humid days are rare in summer, but cold waves and blizzards may be expected each winter.

Maximum temperatures during the three summer months of June, July, and August average 81 degrees. Temperatures of 90 degrees or more occur on an average of 21 days per year ranging from 3 in the coolest summers to 50 in 1936 and 1959. The highest temperature on record at Ellendale, 112 degrees, was observed on July 6, 1936. Temperatures during the winter months of December, January, and February average 13.7 degrees, but maximum temperatures on 26 days during these months exceed 32 degrees. During outbreaks of cold, arctic air, temperatures drop to zero or below on 43 days each year.

The annual precipitation at Ellendale is 19.65 inches, of which about 60% falls in the growing season, April through September, and about 50% falls in the months of May, June, and July. Annual precipitation has ranged from about 6 inches in 1936 to over 33 inches in 1942. Summertime precipitation is usually in the form of thunderstorms, about 30 storms are reported each year. June is usually the wettest month of the year and June, 1925, when 11.81 inches of precipitation were measured, is the wettest month of record. Precipitation of .10 inch or more per day can be expected on an average of 42 days per year and rainfall of 1.00 inch or more per day occurs two or three times each years. The likelihood of 1.00 inch or more of rain in a 7-day period during the summer is greatest during the first part of June when the chance is once in three years. The likelihood of a dry 7-day period, trace or less, is greatest in the first part of November when the chance is 7 years in 10. Intensities of about 1.20 inches in 1 hour, 1.70 inches in 6 hours, and 2.20 inches in 24 hours can be expected once in 2 years. About 32 inches of snow can be expected each year in Ellendale, but snowfall has varied from 67 inches in 1942-1943 to 6 inches in 1897-1898. The greatest single day snowfall in the past 30 years was 13.0 inches on April 3, 1946. The greatest snowfall in one month was 34.0 inches in November 1896. Measureable snow can be expected once in three years in October, twice in 3 years in April, and once in 7 years in May.

Wind, sunshine, and relative humidity records are not available but the following data from Bismarck and Fargo should approximate conditions at Ellendale. Prevailing winds are northwesterly in the winter and southerly in the summer. The average wind movement during the year is 12 miles per hour. April is the windiest month with an average wind speed of 14 miles per hour. Highest wind speeds are usually from the northwest.

Sunshine averages about 60% of the possible amount ranging from 45% in the winter months to 70% in the summer. The average cloud cover is about six-tenths with over 200 days each year classified as either clear or partly cloudy. Relative humidity during the summer months varies from about 80% in the early morning hours to 45% in the late afternoon and during the winter months averages about 75% day and night.

Alfred A. Skrede
State Climatologist
U. S. Weather Bureau
Bismarck, North Dakota

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 —

CLIMATOLOGICAL SUMMARY

LATITUDE
LONGITUDE
ELEV. (GROUND)

STATION

MEANS AND EXTREMES FOR PERIOD

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max.: 90° and above	32° and below	Min.: 32° and below	0° and below	Month
(a)	46	46		65		65		30	46	46		46	64		30		46	46	46	46	46	
J	20.0	0.3	10.2	63	1908	-41	1893	1702	0.46	0.80	1950	5.8	16.0	1950	8.5	1950	1	0	24	30	16	J
F	24.5	4.4	14.5	75	1908	-41	1893	1434	0.58	1.06	1958	6.3	19.2	1952	12.5	1953	2	0	20	28	12	F
M	37.9	17.6	27.8	87	1910	-27	1948	1184	0.79	1.32	1942	5.5	28.0	1899	7.2	1940	2	0	10	29	3	M
A	54.8	30.9	42.9	92	1962	-6	1899	645	1.88	3.53	1932	3.1	14.1	1947	13.0	1946	4	*	1	17	*	A
M	67.9	42.6	55.3	107	1934	17	1946	329	2.62	4.86	1963	0.4	7.8	1943	7.8	1943	6	1	0	4	0	M
J	76.5	52.8	64.7	105	1936	28	1901	111	3.85	3.54	1925	0.0	00.0		0.0		7	3	0	*	0	J
J	83.8	57.9	70.9	112	1936	36	1903	31	2.89	2.57	1962	0.0	00.0		0.0		5	8	0	0	0	J
A	82.7	55.9	69.3	107	1938+	25	1891	34	2.55	5.58	1926	0.0	00.0		0.0		5	7	0	0	0	A
S	72.3	45.7	59.0	104	1906	11	1893	201	1.70	2.79	1957+	0.1	6.0	1942	4.0	1942	4	2	0	2	0	S
O	60.2	34.3	47.3	93	1929	-4	1919	546	1.16	2.73	1957	1.3	12.4	1919	9.0	1951	3	*	1	12	*	O
N	39.3	19.3	29.3	76	1904	-22	1893	1068	0.71	1.10	1946	4.4	34.0	1896	9.0	1960	2	0	9	28	2	N
D	25.8	6.8	16.3	63	1939	-31	1901	1485	0.46	0.91	1931	5.2	15.0	1927	8.5	1950	1	0	20	31	10	D
Year	53.8	30.7	42.3	112	July 1936	-41	1893	8770	19.65	5.58	Aug. 1926	32.1	34.0	Nov. 1896	13.0	Apr. 1946	42	21	65	181	43	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

Monthly and Seasonal Snowfall

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
1917 - 1918	0.0	3.8	2.5	9.1	4.2	5.4	7.6	4.3	0.0	36.9
1918 - 1919	0.0	T	10.3	6.7	0.6	10.7	0.3	10.1	T	38.7
1919 - 1920	0.0	12.4	12.2	5.0	8.0	3.0	4.5	3.5	0.0	48.6
1920 - 1921	T	T	0.2	1.7	1.4	2.3	9.7	0.9	0.0	16.2
1921 - 1922	0.0	0.0	6.4	2.8	5.1	17.0	5.6	0.4	0.0	37.3
1922 - 1923	0.0	1.2	12.4	3.5	7.8	4.7	2.9	4.5	T	37.0
1923 - 1924	0.0	0.2	T	2.8	0.7	3.0	6.3	1.9	2.4	17.3
1924 - 1925	0.0	0.0	1.4	8.5	7.4	1.2	2.5	T	T	21.0
1925 - 1926	0.0	2.3	2.9	1.7	2.5	4.3	1.7	1.6	0.0	17.0
1926 - 1927	T	0.1	2.6	5.8	9.1	4.8	5.3	0.4	T	28.1
1927 - 1928	0.0	0.0	4.3	15.0	2.2	1.1	0.8	2.7	0.0	26.1
1928 - 1929	0.0	0.0	0.5	4.7	10.9	4.1	3.8	8.3	0.5	32.8
1929 - 1930	0.0	7.3	2.7	4.9	4.1	6.8	0.7	1.8	T	28.3
1930 - 1931	0.0	0.1	5.6	1.1	0.1	6.4	4.3	1.7	T	19.3
1931 - 1932	0.0	1.0	6.5	11.4	8.4	2.8	4.2	0.6	1.3	36.2
1932 - 1933	0.0	4.1	1.9	2.3	4.7	1.4	4.1	4.4	0.0	22.9
1933 - 1934	0.0	0.4	5.4	2.3	0.4	T	2.0	3.0	0.0	13.5
1934 - 1935	0.0	0.0	4.4	2.4	3.5	1.8	4.6	5.9	1.0	23.6
1935 - 1936	0.0	1.5	4.6	7.2	4.0	3.4	3.8	0.5	0.0	25.0
1936 - 1937	0.0	0.4	6.7	7.5	10.0	6.4	9.6	11.7	0.0	52.3
1937 - 1938	0.0	0.0	3.5	9.6	7.1	7.7	3.3	0.0	0.0	31.2
1938 - 1939	0.0	0.0	4.4	2.1	6.3	8.6	2.9	0.2	0.0	24.5
1939 - 1940	0.0	1.6	0.0	2.1	0.3	8.2	14.8	6.7	0.0	33.7

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
1940- 1941	0.0	0.0	5.7	5.3	9.6	3.9	7.9	0.0	0.0	32.4
1941- 1942	T	T	3.1	2.3	0.5	2.8	11.9	2.5	0.0	23.1
1942- 1943	6.0	7.0	1.4	9.3	11.1	6.0	18.7	0.0	7.8	67.3
1943- 1944	0.0	6.6	5.6	0.1	5.1	5.5	11.5	0.0	0.9	35.3
1944- 1945	0.0	0.0	1.4	1.2	8.8	16.6	1.1	2.4	0.0	31.5
1945- 1946	0.0	0.0	0.3	8.7	2.1	18.5	1.4	13.0	0.0	44.0
1946- 1947	0.0	0.0	2.6	3.9	3.3	3.8	4.3	14.1	0.0	32.0
1947- 1948	0.0	0.0	18.3	3.1	2.9	7.3	7.8	T	0.0	39.4
1948- 1949	0.0	0.0	8.5	2.0	15.7	3.9	7.3	0.0	0.0	37.4
1949- 1950	0.0	0.0	0.8	4.6	16.0	1.5	7.3	7.5	3.5	41.2
1950- 1951	0.0	1.0	5.3	11.5	9.8	15.2	11.3	T	0.0	54.1
1951- 1952	0.0	10.0	T	14.5	12.2	19.2	6.7	0.5	0.0	63.1
1952- 1953	0.0	T	2.0	2.2	11.5	13.3	3.5	T	0.5	33.0
1953- 1954	0.0	0.0	10.0	9.1	6.2	0.8	8.6	1.2	1.7	37.6
1954- 1955	0.0	T	2.0	2.5	5.7	16.2	3.0	1.0	0.0	30.4
1955- 1956	0.0	0.0	2.5	6.2	10.9	5.0	12.0	4.0	0.0	40.6
1956- 1957	0.0	T	4.0	3.5	3.8	8.7	0.8	2.8	0.0	23.6
1957- 1958	0.0	0.0	2.3	6.6	5.6	0.7	1.0	T	0.0	16.2
1958- 1959	0.0	0.0	3.0	1.1	1.5	10.0	1.0	T	0.0	16.6
1959- 1960	0.0	T	13.0	2.5	6.5	0.9	6.8	9.5	T	39.2
1960- 1961	0.0	0.0	9.5	8.1	0.2	5.5	T	1.5	0.0	24.8
1961- 1962	0.0	0.0	1.0	7.0	6.2	8.6	7.7	1.0	0.0	31.5
1962- 1963	0.0	T	0.5	1.5	3.5	3.0	6.0	5.0	0.0	19.5

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1918	1.4	13.0	34.9	41.1	53.6	62.9	66.2	67.6	52.5	47.6	29.4	18.9	40.8
1919	20.8	10.9	21.3	42.8	54.6	66.6	69.7	67.4	60.5	36.0	18.5	10.4	40.0
1920	6.2	16.0	26.2	33.8	53.8	62.4	67.4	66.5	60.2	50.9	28.9	18.4	40.9
1921	19.1	22.2	27.7	43.8	54.5	68.9	71.0	67.3	58.3	47.8	20.2	18.1	43.2
1922	9.0	2.1	27.8	43.6	57.3	64.2	66.4	71.4	61.4	47.4	32.8	12.2	41.3
1923	13.4	7.4	20.7	40.5	54.6	65.7	71.6	63.8	60.5	44.9	37.5	24.1	42.1
1924	5.1	21.2	26.8	42.1	47.6	59.7	66.7	65.9	55.6	52.3	30.2	4.6	39.8
1925	8.8	18.7	31.7	49.3	53.6	62.3	66.9	70.4	60.4	34.0	29.6	17.6	41.9
1926	16.6	23.2	26.5	41.6	59.8	62.6	70.5	66.5	54.2	45.0	23.2	11.6	41.8
1927	13.5	15.7	32.3	42.9	48.8	62.0	65.4	64.6	58.4	48.3	23.3	-0.6	39.6
1928	16.0	21.2	31.0	37.0	58.1	59.2	69.2	66.2	54.6	45.0	32.6	22.2	42.7
1929	-2.2	3.9	32.7	42.7	50.8	62.9	70.7	68.1	53.5	47.2	25.8	14.4	39.2
1930	0.8	25.6	30.0	47.2	52.1	63.1	73.2	71.0	57.0	42.8	31.0	21.6	43.0
1931	23.8	28.0	26.5	44.8	52.2	68.8	72.4	64.0	64.2	48.8	30.8	20.6	45.7
1932	8.0	13.7	20.3	45.2	55.8	67.0	70.6	69.0	57.2	41.4	28.0	12.4	40.7
1933	15.2	11.0	29.8	41.4	55.2	74.4	72.7	69.9	64.6	45.7	31.4	13.0	43.7
1934	19.0	20.8	26.4	44.2	61.8	66.0	73.1	68.4	53.2	50.2	34.4	13.7	44.5
1935	7.6	27.0	30.0	39.0	51.0	62.2	75.8	68.4	59.4	43.6	21.0	15.0	41.7
1936	-4.9	-9.3	29.4	38.0	61.6	67.6	82.1	72.8	63.4	44.2	27.8	15.9	40.7
1937	-6.8	7.4	26.6	41.2	58.5	64.1	73.6	76.0	60.2	45.8	27.1	11.5	40.4
1938	9.2	10.8	34.2	45.4	53.4	66.4	71.6	73.0	62.3	52.4	25.6	19.4	43.6
1939	16.2	2.3	28.6	42.8	62.2	64.0	72.8	70.6	59.9	44.0	33.4	27.3	43.7
1940	4.8	17.4	26.2	40.9	56.3	65.2	73.5	67.6	63.8	52.4	24.4	22.0	42.9
1941	12.0	13.0	26.3	47.2	60.4	66.4	72.1	70.8	59.1	47.2	32.6	23.4	44.2
1942	20.9	17.1	32.6	47.2	51.3	62.2	68.5	67.6	54.4	47.2	30.8	12.6	42.7
1943	-0.1	15.8	19.8	45.4	51.0	63.0	71.5	68.6	56.8	48.4	29.2	21.9	40.9
1944	22.6	10.8	19.8	40.2	59.8	63.0	68.6	67.0	57.4	49.2	31.0	18.0	42.3
1945	13.5	13.8	34.8	40.2	49.7	58.8	68.4	68.2	56.4	46.2	26.6	7.8	40.4
1946	9.6	10.8	37.6	49.2	51.3	64.2	70.1	65.8	57.6	42.8	28.0	15.6	41.9
1947	19.2	10.2	24.9	38.8	50.8	60.9	69.2	72.7	59.1	53.6	23.3	13.2	41.3
1948	7.2	9.6	21.8	46.2	55.6	62.5	70.8	69.8	64.4	47.7	30.4	14.3	41.7
1949	6.1	5.4	26.0	47.0	57.1	65.8	71.2	74.0	57.7	46.9	39.8	13.9	42.6
1950	-4.2	11.4	23.7	36.2	52.4	66.5	67.8	66.9	61.2	49.8	25.0	13.5	39.2
1951	6.4	16.8	17.1	43.0	58.9	60.3	69.3	66.5	55.3	44.7	25.6	8.3	39.4
1952	5.9	19.5	20.6	48.2	57.0	69.9	72.3	71.0	65.1	45.9	33.1	21.1	44.2
1953	15.2	20.5	29.9	40.2	55.2	66.0	70.3	72.2	61.4	55.0	35.8	21.7	45.3
1954	3.7	34.4	27.0	44.1	52.3	64.6	74.2	69.7	59.4	45.6	37.7	22.9	44.6
1955	15.0	9.3	24.5	52.1	62.0	64.4	74.3	72.8	60.9	49.9	19.8	8.3	42.7
1956	10.9	10.2	25.1	37.7	55.9	70.5	68.8	69.2	58.2	53.1	31.9	22.9	42.9
1957	5.9	17.2	30.1	43.8	55.2	63.5	75.9	69.1	56.9	47.1	31.4	25.5	43.5
1958	20.4	15.0	31.0	45.2	59.6	60.2	67.1	71.8	61.1	49.1	31.8	15.1	43.9
1959	7.9	10.6	34.1	44.8	55.5	69.9	72.8	74.4	60.7	42.2	22.6	27.1	43.6
1960	12.0	13.9	18.0	43.9	56.2	63.2	73.3	71.7	61.5	48.9	31.7	14.5	42.4
1961	14.4	19.9	36.8	39.8	53.1	69.2	69.3	74.1	56.9	49.0	31.9	11.8	43.8
1962	10.4	12.0	23.9	44.6	57.3	64.6	67.4	70.4	56.5	50.6	36.0	20.4	42.8
1963	4.9	17.0	37.1	45.7	55.2	69.0	72.1	69.7	61.8	56.4	35.3	10.3	44.5

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1918	.42	.50	.71	2.46	3.27	2.47	2.64	3.47	.14	.23	2.16	.67	19.14
1919	.06	.74	.71	2.23	5.22	2.91	4.17	.68	.19	1.50	.95	.38	19.74
1920	.65	.23	.42	1.48	2.54	3.45	2.63	.74	3.19	.81	.42	.20	16.76
1921	.16	.25	1.56	1.66	4.53	3.40	5.84	2.19	5.78	.72	.65	.28	27.02
1922	.53	1.48	.87	1.63	3.69	2.17	1.54	.16	1.21	.45	2.73	.34	16.80
1923	.59	.47	.26	1.38	1.79	6.86	3.62	1.45	1.11	.42	.23	.24	18.42
1924	.07	.38	.76	2.63	.85	3.74	1.53	2.74	2.73	1.35	.12	.65	17.55
1925	.42	.05	.45	2.27	.71	11.81	1.22	1.45	3.01	.48	.32	.24	22.43
1926	.22	.47	.20	.44	1.73	.77	2.39	9.76	2.29	1.78	.25	.55	20.85
1927	.49	.69	.56	2.64	5.89	3.64	2.16	3.40	2.03	.93	.31	1.04	23.78
1928	.26	.23	.33	1.08	.67	5.63	4.92	3.35	2.35	1.42	1.01	.39	21.64
1929	.74	.32	.78	2.51	4.42	.47	2.79	1.70	1.40	3.30	.21	.23	15.87
1930	.14	.92	.03	2.21	2.25	1.35	1.99	5.01	.29	1.80	1.39	.07	17.45
1931	.05	.74	1.27	1.15	1.71	3.72	2.03	2.15	.89	1.66	.73	1.20	17.30
1932	.28	.11	.25	4.47	2.49	4.67	1.93	3.65	.70	.78	.15	.11	19.59
1933	.26	.07	.60	2.34	1.61	2.08	3.69	1.23	.20	.12	.50	.33	13.03
1934	.02	T	.45	.47	.74	4.13	.89	3.06	1.80	1.37	.53	.29	13.75
1935	.28	.28	1.81	3.69	1.78	3.13	2.72	4.80	.19	.17	.39	.53	19.77
1936	.28	.25	.43	1.06	1.10	.37	.68	.53	.26	.05	.44	.48	5.93
1937	.57	.49	.75	2.70	3.01	2.45	1.90	2.14	1.93	.46	.36	.72	17.48
1938	.56	.56	.79	1.25	1.91	3.10	1.94	1.61	2.29	.11	.36	.21	14.69
1939	.77	.56	.18	1.03	2.25	7.83	3.04	1.64	.69	2.02	.02	.19	20.26
1940	.03	.57	1.98	2.26	.99	2.36	2.96	4.02	1.04	1.56	.58	.71	19.06
1941	.81	.30	.71	3.95	1.47	6.93	2.02	2.72	3.36	1.66	.28	.19	24.40
1942	.03	.20	2.96	2.36	5.54	6.39	3.42	7.95	2.38	1.42	.32	.71	33.68
1943	.89	.50	1.60	1.06	1.98	5.47	2.96	2.61	.60	1.11	.63	.01	19.42
1944	.63	.48	.90	1.69	3.01	4.28	4.84	4.90	1.42	.67	2.29	.09	25.20
1945	.78	1.89	1.44	2.58	1.88	2.39	1.70	2.20	2.49	.06	.02	.73	18.16
1946	.16	1.79	1.34	1.67	1.11	3.40	3.54	.99	4.44	2.86	1.33	.56	23.69
1947	.27	.30	.40	2.82	1.00	4.93	2.78	.44	.64	1.44	2.02	.26	17.30
1948	.21	.73	.71	1.56	.48	4.67	5.69	1.80	.85	1.34	.83	.15	19.22
1949	1.48	.35	.65	.45	2.03	3.68	5.05	.71	.47	2.95	.35	.94	19.11
1950	1.54	.23	1.12	1.40	7.47	.63	3.03	.99	2.08	.88	.44	.96	20.77
1951	.80	1.16	.86	1.21	2.18	3.44	4.62	4.43	1.66	2.59	.04	1.55	24.54
1952	1.04	1.77	.52	.69	.70	2.30	.86	1.43	.32	.12	1.75	.28	11.78
1953	.90	1.06	1.11	4.65	4.14	6.30	1.53	1.39	.50	.71	.93	.80	24.62
1954	.41	.06	1.16	1.02	1.90	3.99	2.11	1.23	2.14	.98	.20	.20	15.30
1955	.40	.28	.20	1.01	2.92	3.71	5.00	3.05	.62	.03	.27	.49	18.68
1956	.87	.35	.90	1.03	2.12	4.67	3.08	2.18	.56	2.09	2.21	.33	20.39
1957	.26	.49	.11	3.35	3.91	3.35	2.62	2.22	3.95	3.36	1.01	.39	24.92
1958	.34	1.16	.22	1.73	3.29	4.10	1.70	1.01	.63	.94	.36	.12	16.10
1959	.10	.41	.07	1.29	2.41	1.93	1.85	1.78	1.98	1.41	.77	.60	14.60
1960	.47	.42	.53	1.70	5.72	3.30	1.03	4.16	.72	.46	.81	.70	20.02
1961	.02	.56	.24	1.43	2.37	4.48	1.94	1.87	5.16	1.40	.09	.57	20.13
1962	.54	1.01	.97	.77	4.19	6.40	7.97	1.72	3.32	.59	.40	.12	28.00
1963	.26	.32	.66	2.22	6.44	4.03	4.20	4.12	2.02	.82	T	.40	25.49

PROBABILITY OF FREEZE OCCURRENCE IN SPRING

Dates on which chance of last occurrence of indicated temperature (or lower) decreases to

Temp. (°F)	90%	75%	50%	25%	10%
32	Apr. 29	May 6	May 13	May 20	May 27
28	Apr. 19	Apr. 26	May 3	May 10	May 17
24	Apr. 8	Apr. 16	Apr. 24	May 2	May 10
20	Mar. 30	Apr. 7	Apr. 15	Apr. 24	May 1
16	Mar. 18	Mar. 26	Apr. 4	Apr. 13	Apr. 21

PROBABILITY OF FREEZE OCCURRENCE IN FALL

Dates on which chance of first occurrence of indicated temperature (or lower) increases to

Temp. (°F)	90%	75%	50%	25%	10%
32	Sept. 11	Sept. 17	Sept. 23	Sept. 29	Oct. 5
28	Sept. 22	Sept. 28	Oct. 5	Oct. 12	Oct. 18
24	Sept. 28	Oct. 6	Oct. 14	Oct. 22	Oct. 30
20	Oct. 6	Oct. 14	Oct. 23	Nov. 1	Nov. 9
16	Oct. 15	Oct. 23	Nov. 1	Nov. 10	Nov. 18

Monthly Maximum Temperature

[redacted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1918	43	51	75	72	88	92	97	95	83	80	65	58	97
1919	48	44	52	74	86	90	97	92	94	78	50	46	97
1920	38	38	66	57	84	87	98	93	91	89	59	47	98
1921	55	58	75	81	85	98	95	93	95	78	65	54	98
1922	40	36	52	76	80	90	91	100	99	93	59	43	100
1923	43	38	51	86	85	88	92	87	90	79	69	54	92
1924	50	54	53	79	75	83	93	96	92	78	62	52	96
1925	42	51	75	81	95	86	94	103	95	64	64	48	103
1926	52	53	70	87	93	100	103	99	85	74	63	41	103
1927	45	43	62	78	75	93	87	89	92	83	55	37	93
1928	48	48	72	75	92	83	89	96	86	84	58	51	96
1929	39	31	66	80	85	93	99	97	94	84	50	45	99
1930	32	59	60	80	89	90	102	98	85	77	68	45	102
1931	53	56	54	81	93	102	108	101	103	84	72	45	108
1932	34	56	55	78	90	90	101	94	90	80	62	57	101
1933	46	56	65	77	87	105	102	96	95	85	72	49	105
1934	52	55	63	85	107	99	110	98	92	94	67	40	110
1935	44	51	62	70	77	88	99	102	94	77	46	38	102
1936	32	29	60	84	91	105	112	104	101	88	60	45	112
1937	17	37	56	67	91	98	109	106	100	84	67	41	109
1938	37	44	71	83	78	95	95	107	94	85	62	50	107
1939	42	41	80	83	97	92	97	97	92	82	58	63	97
1940	45	49	47	74	89	99	102	95	94	81	57	44	102
1941	42	35	61	74	91	92	102	103	91	74	69	58	103
1942	60	46	63	86	83	81	92	91	91	85	62	35	92
1943	38	42	70	76	93	90	96	98	87	85	54	52	98
1944	55	35	46	65	88	88	92	97	82	80	62	45	97
1945	41	45	75	80	80	89	96	99	99	83	69	49	99
1946	37	44	85	80	94	96	96	95	85	76	56	46	96
1947	55	44	65	79	79	84	94	104	94	84	51	41	104
1948	42	43	52	80	89	92	100	98	95	77	57	43	100
1949	45	41	46	84	87	97	105	103	92	83	72	46	105
1950	31	39	53	75	91	99	90	94	95	82	69	47	99
1951	40	44	48	82	86	84	93	98	84	86	58	45	98
1952	42	40	45	90	90	97	101	105	98	76	71	43	105
1953	46	46	63	81	86	93	96	98	92	91	74	49	98
1954	44	59	55	84	83	91	102	95	89	79	68	52	102
1955	40	43	73	83	92	87	97	100	96	89	68	38	100
1956	49	38	56	74	84	102	90	93	93	88	58	52	102
1957	35	42	59	81	85	85	97	93	85	82	56	53	93
1958	51	69	56	84	87	89	95	104	95	88	69	48	104
1959	48	40	62	85	99	96	105	105	101	78	52	51	105
1960	37	36	46	77	86	88	104	96	95	85	66	48	104
1961	47	47	71	83	87	101	95	102	89	85	67	48	102
1962	48	46	50	92	85	85	87	95	86	81	65	60	95
1963	51	55	81	81	84	96	91	92	95	90	64	49	96

Monthly Minimum Temperature

[redacted]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1918	-28	-35	-6	15	24	38	42	43	21	17	3	-25	-35
1919	-33	-30	-22	19	31	37	49	42	30	-4	-12	-21	-33
1920	-27	-17	-19	4	32	39	49	37	26	16	2	-22	-27
1921	-10	-11	-2	17	23	39	50	40	33	25	-17	-28	-28
1922	-24	-26	-17	21	36	44	42	42	35	18	11	-20	-26
1923	-11	-23	-18	12	24	43	52	39	34	11	13	-20	-23
1924	-32	-13	4	12	25	34	43	39	31	29	7	-28	-32
1925	-24	-20	-6	25	24	41	42	43	32	3	0	-12	-24
1926	-16	-1	-8	7	19	35	46	46	21	17	-10	-16	-16
1927	-27	-17	10	21	29	38	44	41	25	21	-1	-25	-27
1928	-26	-7	4	7	30	34	48	39	25	16	9	-10	-26
1929	-26	-36	0	19	22	36	43	41	20	23	-6	-19	-36
1930	-30	-16	-2	21	26	37	44	41	22	9	-3	-6	-30
1931	-12	-6	2	15	22	40	46	40	33	28	-2	-8	-12
1932	-23	-19	-14	19	32	49	46	38	32	15	-7	-28	-28
1933	-23	-32	-5	17	31	38	51	40	28	14	2	-23	-32
1934	-19	-19	-5	17	30	46	45	36	25	22	7	-19	-19
1935	-27	-5	-6	17	29	33	55	35	25	13	-6	-18	-27
1936	-32	-39	-5	0	33	39	50	45	29	1	-1	-19	-39
1937	-31	-21	0	14	34	35	51	48	26	11	-15	-16	-31
1938	-22	-24	1	15	28	37	53	45	32	20	-7	-21	-24
1939	-15	-33	-6	6	29	44	49	45	19	9	13	-10	-33
1940	-25	-17	3	9	27	40	45	45	29	27	-14	-21	-25
1941	-16	-21	-8	20	30	40	44	41	29	16	2	-8	-21
1942	-27	-22	9	17	29	37	48	39	19	8	0	-23	-27
1943	-32	-15	-12	12	21	38	51	42	27	20	9	-13	-32
1944	-9	-28	-14	14	22	39	45	42	33	21	-3	-11	-28
1945	-20	-20	-16	20	23	35	40	39	22	13	-1	-23	-23
1946	-21	-24	0	18	17	30	47	40	32	16	-5	-21	-24
1947	-22	-28	-1	16	24	38	40	43	21	25	-11	-15	-28
1948	-31	-22	-27	13	31	40	51	47	37	15	5	-18	-31
1949	-24	-23	-3	16	28	36	47	44	26		11	-19	-24
1950	-30	-17	-16	12	23	35	45	38	36	24	-12	-25	-30
1951	-30	-20	-16	21	33	37	47	42	24	15	-7	-25	-30
1952	-22	-10	-15	16	22	41	45	42	27	12	-1	-3	-22
1953	-15	-15	-3	11	26	37	47	51	31	22	13	-6	-15
1954	-30	-2	-7	-2	24	39	46	45	31	22	7	3	-30
1955	-22	-27	-12	24	25	42	50	42	30	13	-14	-29	-29
1956	-20	-30	-15	14	24	36	51	41	31	23	2	-13	-30
1957	-26	-17	1	7	33	42	53	45	29	15	3	-18	-26
1958	-6	-23	14	16	25	39	47	36	28	22	-13	-17	-23
1959	-26	-23	5	13	25	45	45	46	31	19	-12	6	-26
1960	-28	-10	-14	16	28	43	48	43	26	12	-7	-22	-28
1961	-28	-12	13	13	20	42	50	48	32	21	7	-18	-28
1962	-25	-27	-23	17	36	42	46	43	31	14	13	-15	-27
1963	-27	-17	2	12	24	46	51	45	37	21	6	-22	-27

STATION HISTORY

A climatological substation was established in Ellendale in January, 1891 and closed in March, 1910. The exact location of this station is unknown. There is no record of weather observations in the vicinity from March, 1910, until September, 1917, when a first-order Weather Bureau station was established one mile east of the post office. The Weather Bureau station was closed May, 1933, and a cooperative climatological station established June, 1933, six blocks east of the post office. The station was moved to its present location one block east of the post office in August, 1949. The maximum and minimum thermometers, and the standard rain and snow gage are located over sod in a good exposure.

Climatological averages in this summary are generally based on the 46 year period 1918-1963, the additional period 1891-1910 is used in finding the temperature extremes of record.

Observers at the Ellendale station have been:

C. Ackley.....	January 1891	to	November 1893
C. H. Peck.....	August 1894	to	January 1895
C. A. Morrison.....	February 1895	to	December 1896
F. L. Walker.....	June 1897	to	August 1905
W. M. Kern.....	December 1905	to	May 1908
C. M. Axtell.....	August 1908	to	March 1910
U. S. Weather Bureau.....	September 1917	to	May 1933
J. E. Demmer.....	June 1933	to	July 1949
P. Gress.....	August 1949	to	August 1957
M. D. Goddard.....	September 1957	to	Present