U. S. DEPARTMENT OF COMMERCE, ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
IN COOPERATION WITH THE OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER
AND THE OHIO DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WATER
CLIMATOGRAPHY OF THE UNITED STATES NO. 20-33-22

LATITUDE 41° 33' N
LONGITUDE 84° 08' W
ELEV. (GROUND) 740 ft

CLIMATOLOGICAL SUMMARY

STATION: Wauseon, Ohio

MEANS AND EXTREMES FOR PERIOD 1935-1965

MONTH	TEMPERATURE (°F) MEANS: DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	EXTREMES: RECORD HIGHEST	YEAR	DAY	RECORD LOWEST	YEAR	DAY	MEAN DEGREE DAYS **	MEAN NUMBER OF DAYS: MAX. 90° AND ABOVE	MAX. 32° AND BELOW	MIN. 32° AND BELOW	MIN. 0° AND BELOW
JAN	32.6	16.9	24.7	70	50	25	-19	63	24	1242.	0	14	29	2
FEB	35.1	18.6	26.8	68	44	26	-15	63	27	1075.	0	10	26	1
MAR	44.8	26.4	35.6	81	38	22	-11	48	12	908.	0	4	24	0
APR	58.9	36.5	47.7	87	42	30	14	57	9	519.	0	0	10	0
MAY	71.1	47.4	59.2	93	62	18	26	55	9	216.	0	0	1	0
JUNE	80.8	57.0	68.9	100	52	29	37	45	5	38.	3	0	0	0
JULY	84.5	60.3	72.4	109	36	14	42*	65	1	5.	6	0	0	0
AUG	82.8	58.9	70.8	101*	47	6	36	46	30	16.	5	0	0	0
SEPT	76.0	51.5	63.7	100	53	2	28	56	21	121.	1	0	0	0
OCT	65.2	41.2	53.2	92	51	4	15	52	21	373.	0	0	5	0
NOV	48.6	30.5	39.5	79	50	1	-2	58	30	761.	0	2	18	0
DEC	36.1	20.6	28.3	65	41	4	-20	50	27	1131.	0	10	27	1
YEAR	59.7	38.8	49.2	109	36	JULY 14	-20	50	DEC 27	6405.	15	40	140	4

MONTH	PRECIPITATION TOTALS (INCHES) MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET: MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	MEAN NUMBER OF DAYS: .01 OR MORE	.10 OR MORE	.50 OR MORE	1.00 OR MORE	MONTH
JAN	2.31	7.54	50	1.67	59	21	7.6	25.6	39	9.0	39	30	12	5	1.2	.3	JAN
FEB	2.19	4.67	50	1.62	39	19	7.7	15.6	50	7.5	65	25	10	5	1.2	.3	FEB
MAR	2.89	4.98	64	1.79	45	31	5.5	17.0	55	10.0	54	29	12	7	1.8	.4	MAR
APR	3.46	8.47	61	2.71	61	16	1.5	14.1	57	11.0	57	8	12	7	2.2	.5	APR
MAY	3.60	10.58	43	2.46	56	12	.0						11	7	2.2	.8	MAY
JUNE	3.44	7.71	37	1.96	37	20	.0						10	6	2.7	.6	JUNE
JULY	3.37	9.57	58	3.43	37	25	.0						9	5	2.5	.7	JULY
AUG	2.92	6.32	56	2.71	56	13	.0						8	5	1.9	.6	AUG
SEPT	2.74	7.24	50	2.62	50	12	.0	.1	40	.1	40	1	8	5	1.7	.8	SEPT
OCT	2.50	5.58	54	3.16	45	1	.0	.8	43	.8	43	16	8	4	1.7	.5	OCT
NOV	2.32	4.52	55	2.26	36	2	3.0	11.8	50	6.3	40	26	11	5	1.2	.2	NOV
DEC	2.06	4.91	51	1.59	65	25	6.6	25.6	51	7.0	44	11	11	5	1.2	.2	DEC
YEAR	33.80	10.58	MAY 43	3.43	JULY 37	25	31.9	25.6	JAN 39	11.0	APR 57	8	122	66	22.	6	YEAR

** BASE 65° F * Also on Earlier Dates, Months, or Years

NARRATIVE CLIMATOLOGICAL SUMMARY

Wauseon is located near the center of Fulton County in northwest Ohio. Terrain within Fulton County is relatively flat; the elevation of the earth's surface above sea level varies from about 660 to 850 feet. A map of the physiographic regions of Ohio shows most of Fulton County to be a part of Ohio's Lake Plains. During the glacial age, this area was covered by the waters of Lake Maumee. Because the Lake Plains were so heavily forested, and the drainage so inadequate, this area was referred to historically as the "Black Swamps" of northern Ohio. Presently, general farming is the prevailing agricultural activity of this area.

The climate of Wauseon is classified as continental. Such a climate is a characteristic of a land mass the size of North America and is marked by large annual, daily, and day to day ranges in temperature. Summers are moderately warm and humid with occasional days when temperatures exceed 90°F; winters are reasonably cold and cloudy with an average of 4 days with sub-zero temperatures. Weather changes occur every few days from the passing of cold or warm fronts and their associated centers of high and low pressure.

Mean temperature for the year is 1.6 degrees below the average for northwest Ohio. The normal daily range in temperatures is greatest in late summer and least in winter. Extreme temperature range (record high minus record low) during the period 1870-1966 is 141 degrees. Coldest month of record for the period 1936-1966 is January 1945. In that month, temperature climbed above 32°F on only the 12th and 22nd while sub-zero temperatures were recorded on 9 days. Maximum temperatures below 32°F occur most frequently during the months December through February. Warmest month of record during the period 1936-1966 is July 1936. In that month, the daily maximum temperature exceeded 89°F on 18 days while daily lows greater than 69°F were recorded on 6 days. From July 7 through July 17, 1936, daily highs ranged from 98 to 109°F. Since 1936, a temperature of 90°F has been recorded as early as May 5, however, such days are more common during the period mid-June through August.

Heating degree days, as shown in the above table, are a measure of the departure of the mean daily temperature from 65°F. The daily totals are accumulated from July 1 through June 30. At any point during the year, the accumulated degree days can be used as an index of past temperature effect upon power consumption and fuel consumption for heating of homes and businesses.

Taking the number of days between the last freezing temperature (32°F) of spring and the first freezing temperature in fall as the crop-growing season, this season averages 158 days in length. The growing season is 181 days or more in 10% of the years, 168 days or more in 30% of the years, less than 149 days in 30% of the years, and less than 136 days in 10% of the years. During the period 1936-1966, a temperature of 32°F or less was recorded as late as May 27 in Spring and as early as September 14 in Fall.

As is characteristic of continental climates, precipitation in the Wauseon area varies widely from year to year; however, it is normally abundant and well distributed throughout the year with fall being the driest season. The mean annual precipitation of 33.80 inches is near the normal for northwest Ohio. Showers and thundershowers account for most of the rainfall during the growing season. Thunderstorms occur on about 41 days each year. Most of these occur April through August. As is typical of much of Ohio, most precipitation during the winter months comes in the form of rain. Snowfall averages about 32 inches a year although during the period 1936-1966 as little as 13.4 inches fell in the winter of 1936-1937 and as much as 54.5 inches fell during the winter of 1951-1952. About 2 of 7 winters will have more than 40 inches of snow.

Evaporation is greatest during the warm months and is then most critical for agriculture. During the period May through September, potential evaporation normally exceeds rainfall by about 13 inches. During the period 1936-1966, the driest growing season of record is 1963. In that year, the potential evaporation exceeded the rainfall by more than 22 inches. When evaporation exceeds rainfall for prolonged periods, a drought may occur; however, severe droughts seldom occur in Fulton County.

Humidity, cloudiness, sunshine, and wind observations are not recorded in Wauseon; however, estimates of these variables can be made from observations taken at other locations. Relative humidity, the ratio between the amount of moisture in the air and the amount which could be present, without condensation, at the same temperature and pressure, is an important factor in human and animal comfort and in the growth and development of vegetation. Generally, humidity rises and falls inversely with the daily temperature and is lowest in summer and highest in winter. For the year, relative humidity averages about 79% at 1 AM, 84% at 7 AM, 61% at 1 PM, and 67% at 7 PM. Cloudiness is greatest in winter and least in summer. This seasonal variation is most clearly illustrated by the percentage of possible sunshine which is about 70% in July and 40% in December. Heavy fog occurs about 20 days each year and is most frequent in the cold half of the year. Death from smog is unknown. The prevailing wind direction for the year is westsouthwest. Average wind speed near the earth's surface during summer and winter is about 8 and 11 mph, respectively. Damaging winds occur most often during spring and summer. Such storms are usually associated with migrating thunderstorms.

The tornado, one of the most destructive of all atmospheric storms, is characterized by a violently rotating column of air which is nearly always observable as a "funnel cloud". It frequently leaves great destruction along a narrow path, and is usually accompanied by heavy rain and hail, and often by lightning and thunder. Since 1900, 2 such storms have been reported in Fulton County. During the last decade, Ohio has averaged slightly more than 11 tornadoes a year.

July 1967

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PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS 16°	20°	24°	28°	32°	36°
90	FEB 26	MAR 5	MAR 22	APR 5	APR 18	APR 30
70	MAR 8	MAR 15	MAR 31	APR 14	APR 27	MAY 7
50	MAR 16	MAR 22	APR 6	APR 19	MAY 3	MAY 13
30	MAR 23	MAR 29	APR 12	APR 25	MAY 9	MAY 18
10	APR 3	APR 9	APR 21	MAY 3	MAY 18	MAY 26
PERCENT CHANCE OF EARLIER DATE IN FALL						
10	NOV 10	OCT 27	OCT 19	OCT 6	SEPT 21	SEPT 12
30	NOV 20	NOV 8	OCT 28	OCT 15	OCT 2	SEPT 19
50	NOV 27	NOV 16	NOV 3	OCT 22	OCT 9	SEPT 24
70	DEC 4	NOV 25	NOV 9	OCT 29	OCT 16	SEPT 29
90	DEC 13	DEC 7	NOV 18	NOV 8	OCT 26	OCT 5

STATION HISTORY

DATE	LOCATION	ELEVATION	OBSERVER
11/1869- 7/1917	1.0 miles N	780	Thomas Mikesell
8/1917-12/1918	0.1 miles NW	780	Henry Meister
1/1919- 2/1931	0.5 miles S	780	W. A. Showalter
2/1931- 2/1934	0.1 miles W	780	Ray Zeigler
2/1934- 9/1934	0.1 miles W	780	Harold Bakerman
9/1934-12/1935	0.1 miles W	780	Paul Dennis
1/1936- 3/1944	0.1 miles W	780	Calvin Bixler
4/1944-Present	1.0 miles SE	740	Rollin McKeever

AVERAGE TEMPERATURE (°F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
36	19.3	15.6	39.4	44.6	63.9	70.0	77.2	74.9	67.7	52.2	36.3	32.8	49.5
37	30.1	28.6	31.9	47.8	60.0	68.7	73.5	74.1	62.4	50.6	38.2	26.4	49.4
38	26.6	33.8	43.4	50.1	59.8	68.2	73.7	74.3	63.6	55.8	41.9	30.0	51.7
39	29.8	28.2	37.1	45.5	63.4	72.3	73.4	72.4	69.0	54.6	39.2	34.0	51.6
40	16.5	28.1	30.8	44.7	57.5	69.6	74.3	71.6	63.0	54.6	38.9	34.1	48.7
41	27.7	25.9	32.9	54.3	64.3	70.9	75.2	72.1	69.3	56.8	42.9	36.2	52.4
42	27.4	24.0	39.1	54.5	62.6	70.8	74.6	70.3	63.5	54.1	42.0	24.7	50.6
43	23.3	29.7	34.7	45.3	58.7	74.7	74.3	72.4	61.5	51.7	37.7	27.2	49.3
44	31.3	30.2	33.1	43.1	63.6	71.8	72.6	72.5	63.6	50.7	40.5	21.7	49.6
45	15.2	27.5	47.3	50.0	52.2	65.3	70.3	70.2	65.3	49.9	41.0	22.6	48.1
46	27.0	28.5	46.9	48.3	56.4	67.0	71.5	67.0	63.9	56.8	43.5	32.4	50.8
47	29.4	21.5	31.5	46.3	55.0	65.1	69.6	76.9	64.3	59.3	36.1	27.4	48.5
48	18.8	25.4	35.2	52.0	56.8	66.7	72.4	70.6	65.5	48.2	44.4	31.7	49.0
49	31.5	31.2	37.6	46.5	60.0	72.0	75.4	71.7	58.2	56.4	39.2	32.1	51.0
50	32.9	26.6	31.7	41.7	59.2	67.7	69.2	68.1	62.2	55.5	34.9	21.2	47.6
51	26.7	26.5	36.4	45.7	59.9	67.8	71.3	68.8	61.0	54.4	32.9	26.0	48.1
52	28.9	29.9	35.3	49.1	57.0	72.8	74.7	69.7	62.9	47.5	41.5	32.0	50.1
53	30.2	31.5	38.6	44.5	60.9	71.9	73.2	71.2	63.4	54.8	41.4	32.0	51.1
54	26.7	34.4	33.9	51.8	53.9	71.1	70.8	68.7	64.9	53.1	39.4	28.9	49.8
55	24.2	27.0	36.1	54.2	60.1	66.0	76.3	74.1	64.4	52.7	35.3	25.3	49.6
56	22.7	27.2	32.8	44.9	57.2	69.3	71.1	69.7	59.3	56.0	39.5	33.7	48.6
57	18.0	30.0	36.0	47.6	57.1	67.7	71.7	69.8	62.4	49.5	39.2	33.6	48.5
58	25.4	21.5	35.5	49.0	57.9	63.8	71.6	69.1	63.3	53.5	41.5	20.2	47.7
59	19.3	26.3	34.9	48.5	62.8	70.2	72.1	75.1	67.0	51.8	34.7	33.5	49.7
60	28.1	26.9	24.2	50.8	56.8	66.1	69.7	70.8	66.7	52.1	41.4	22.2	48.0
61	21.0	30.8	39.4	42.8	54.6	66.1	70.7	69.6	67.3	53.4	39.4	25.8	48.4
62	20.1	22.9	33.1	47.0	64.0	68.8	69.2	69.4	59.8	52.8	37.8	22.7	47.3
63	13.7	16.4	36.5	47.6	55.5	68.3	71.2	66.3	61.1	59.4	43.4	19.2	46.6
64	27.7	25.7	34.6	48.7	62.8	69.7	73.4	66.9	62.2	47.7	41.9	27.4	49.1
65	23.9	24.3	28.8	45.2	63.1	67.6	68.2	66.7	63.6	49.9	40.3	34.2	48.0
66	20.5	26.7	37.3	44.8	52.6	69.9	73.2	67.4	60.2	48.4	39.4	29.4	47.5

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
36	1.02	2.71	2.18	1.71	2.21	1.47	2.66	1.64	6.17	1.96	2.61	2.30	28.64
37	5.12	1.37	1.26	5.70	4.15	7.71	5.21	3.63	2.55	2.47	1.04	1.45	41.66
38	.66	2.89	4.56	3.37	4.76	3.54	2.52	2.33	2.69	.73	1.25	2.00	31.30
39	2.53	3.88	2.46	4.18	.34	4.67	2.26	1.46	2.85	2.00	.91	.70	28.24
40	1.35	1.14	1.60	3.30	3.09	6.50	2.27	3.63	1.75	2.79	2.73	3.09	33.24
41	1.19	.56	1.11	1.89	2.38	5.00	3.30	3.02	.74	5.21	2.15	1.95	28.50
42	1.52	2.48	4.47	1.95	2.49	3.50	4.20	4.00	2.61	1.87	3.11	2.18	34.38
43	1.65	.80	1.72	2.88	10.58	3.89	4.95	1.99	3.17	1.95	2.24	.41	36.23
44	.67	1.29	3.15	4.76	4.03	3.58	.97	4.45	1.44	1.49	1.74	1.72	29.29
45	.89	1.33	4.84	2.98	6.39	3.75	2.18	1.91	3.84	4.60	1.93	2.34	36.98
46	1.02	1.58	2.98	.67	3.26	4.55	1.50	1.24	1.41	2.83	2.20	2.12	25.36
47	3.62	.37	2.02	5.00	4.75	3.28	3.13	5.90	4.24	1.84	2.14	2.24	38.53
48	1.52	2.83	4.59	2.93	6.57	2.79	2.77	1.19	5.13	2.03	4.40	2.45	39.20
49	3.46	2.87	1.67	2.00	4.98	4.17	2.72	3.39	3.53	5.12	1.17	3.42	38.50
50	7.54	4.67	3.02	6.49	.61	4.43	5.23	1.60	7.24	3.69	4.39	2.59	51.50
51	2.32	3.08	3.79	4.79	4.85	4.96	3.06	1.50	2.40	4.11	2.67	4.91	42.44
52	3.77	1.92	3.72	3.48	4.12	.53	3.09	2.61	1.46	.60	2.26	1.73	29.29
53	2.47	1.57	3.23	3.56	3.16	2.32	1.75	3.18	1.79	.59	1.16	1.74	26.52
54	2.25	3.68	4.36	3.98	2.46	1.73	3.63	4.44	2.23	5.58	2.03	1.86	38.23
55	2.24	2.30	3.59	2.57	2.17	2.52	3.51	2.76	1.44	4.42	4.52	.54	32.58
56	1.62	2.08	4.08	4.25	5.57	.89	2.25	6.32	.58	.29	1.92	2.27	32.12
57	2.15	1.87	1.13	5.33	2.70	4.42	2.66	3.45	2.26	4.53	2.40	4.04	36.94
58	1.34	.95	.71	2.07	2.95	4.14	9.57	4.18	1.99	1.09	3.64	.50	33.13
59	3.89	3.10	2.96	3.36	5.01	1.68	4.09	1.72	2.88	3.70	3.29	2.74	38.42
60	3.25	3.28	1.10	1.45	3.47	5.08	4.10	1.65	1.31	.93	1.96	.71	28.29
61	.15	3.18	4.39	8.47	1.76	3.00	4.59	2.68	4.15	1.72	2.18	1.52	37.79
62	2.84	2.81	2.07	1.11	2.53	2.47	4.27	1.69	3.54	1.53	1.43	1.27	27.56
63	1.22	1.08	2.70	2.73	2.11	1.97	2.83	2.19	1.00	.03	2.72	.95	21.53
64	1.89	1.37	4.98	3.54	1.48	3.23	2.55	2.69	1.97	.35	1.30	2.57	27.92
65	4.17	2.68	2.35	3.32	3.09	1.55	3.30	5.33	4.06	5.16	2.18	3.73	40.92
66	1.09	1.09	2.31	3.31	2.33	3.17	3.21	4.13	1.79	1.10	5.40	4.81	33.74

MONTHLY AND SEASONAL SNOWFALL

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
36-37	.0	.0	.5	3.5	6.0	1.9	1.5	.0	.0	13.4
37-38	.0	.7	1.7	1.1	6.5	13.2	.5	6.8	.0	30.5
38-39	.0	.0	6.2	3.8	25.6	12.0	.3	.0	.0	47.9
39-40	.0	.0	.0	3.4	10.2	12.0	6.0	2.3	.0	33.9
40-41	.1	.0	10.4	4.5	3.9	4.7	3.3	.0	.0	26.9
41-42	.0	.0	1.2	3.1	1.0	10.6	5.3	1.2	.0	22.4
42-43	.0	.0	5.0	10.4	14.0	2.1	4.3	.6	.0	36.4
43-44	.0	.8	2.1	.7	.4	7.8	7.1	.8	.0	19.7
44-45	.0	.0	.0	16.6	12.6	4.8	5.6	.5	.0	40.1
45-46	.0	.0	.1	7.0	5.3	4.0	.1	.0	.0	16.5
46-47	.0	.0	.0	5.2	2.6	3.9	9.0	1.2	.0	21.9
47-48	.0	.0	3.4	10.8	5.6	8.1	2.9	.0	.0	30.8
48-49	.0	.0	.0	2.8	1.5	4.1	4.0	.5	.0	12.9
49-50	.0	.0	1.5	4.5	8.0	15.6	7.7	.3	.0	37.6
50-51	.0	.0	11.8	8.6	14.0	10.2	7.0	.3	.0	51.9
51-52	.0	.0	6.1	25.6	7.2	7.5	3.9	4.2	.0	54.5
52-53	.0	.0	.0	8.1	10.3	5.7	1.0	.2	.0	25.3
53-54	.0	.0	5.0	6.7	3.9	11.4	15.5	.0	.0	42.5
54-55	.0	.0	2.1	5.4	3.9	7.8	17.0	.0	.0	36.2
55-56	.0	.0	10.3	4.5	12.7	5.8	9.7	1.9	.0	44.9
56-57	.0	.0	2.7	7.1	14.1	4.5	2.1	14.1	.0	44.6
57-58	.0	.2	.4	4.7	11.6	5.1	2.8	.3	.0	25.1
58-59	.0	.0	3.9	4.9	12.1	2.0	3.1	.0	.0	26.0
59-60	.0	.0	8.0	3.5	2.6	12.9	10.0	.1	.0	37.1
60-61	.0	.0	2.8	5.4	1.5	1.7	.2	9.6	.0	21.2
61-62	.0	.0	1.5	7.7	4.1	14.1	8.5	.2	.0	36.1
62-63	.0	.5	.0	11.7	11.9	9.8	3.9	.0	.0	37.8
63-64	.0	.0	.0	7.6	4.8	9.8	9.9	.4	.0	32.5
64-65	.0	.0	3.9	8.7	2.9	11.8	11.9	2.1	.0	41.3
65-66	.0	.0	.1	1.2	3.6	3.0	3.8	3.2	.3	15.2

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
JAN	.48	.70	1.04	1.34	1.65	1.98	2.36	2.80	3.39	4.34	5.23
FEB	.69	.90	1.20	1.47	1.72	1.99	2.28	2.61	3.05	3.73	4.36
MAR	1.04	1.31	1.71	2.04	2.35	2.67	3.02	3.43	3.94	4.74	5.46
APR	1.22	1.54	2.02	2.41	2.79	3.18	3.61	4.11	4.74	5.72	6.62
MAY	.98	1.32	1.84	2.29	2.74	3.21	3.72	4.33	5.13	6.36	7.54
JUN	1.15	1.47	1.95	2.36	2.74	3.14	3.58	4.09	4.75	5.76	6.66
JUL	1.43	1.73	2.16	2.51	2.84	3.17	3.53	3.94	4.46	5.25	5.96
AUG	1.13	1.40	1.79	2.11	2.41	2.72	3.05	3.44	3.93	4.66	5.36
SEP	.81	1.07	1.47	1.80	2.13	2.47	2.85	3.29	3.86	4.76	5.59
OCT	.29	.48	.83	1.18	1.55	1.97	2.45	3.06	3.86	5.23	6.54
NOV	1.01	1.22	1.51	1.75	1.97	2.19	2.43	2.70	3.05	3.58	4.05
DEC	.60	.80	1.10	1.35	1.60	1.86	2.14	2.48	2.91	3.59	4.22
ANN	24.31	26.16	28.53	30.32	31.91	33.45	35.04	36.79	38.91	41.97	44.61

Average precipitation amounts (0.50 probability level) in the above table differ from the means shown on the opposite page because of the method used in making the computations. The above values were determined from the incomplete gamma distribution whose curve has been found to give best fits to precipitation climatological series.