

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. 20-33-33

LATITUDE 41° 07' N  
 LONGITUDE 83° 10' W  
 ELEV. (GROUND) 760 FT.

# CLIMATOLOGICAL SUMMARY

STATION: Tiffin, Ohio

## MEANS AND EXTREMES FOR PERIOD 1936-1965

MONTH	TEMPERATURE (° F)													PRECIPITATION TOTALS (INCHES)													MONTH		
	MEANS			EXTREMES				MEAN DEGREE DAYS **	MEAN NUMBER OF DAYS				MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	SNOW, SLEET				MEAN NUMBER OF DAYS						
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY	RECORD LOWEST		YEAR	DAY	90° AND ABOVE	32° AND BELOW							32° AND BELOW	0° AND BELOW	MAXIMUM MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY	MEAN		MAXIMUM MONTHLY	YEAR
JAN	47.7	28.0	32.7	52.7	27.7	11	1161.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	JAN				
FEB	47.7	28.0	32.7	52.7	27.7	11	1004.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	FEB				
MAR	47.7	28.0	32.7	52.7	27.7	11	651.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	MAR				
APR	47.7	28.0	32.7	52.7	27.7	11	471.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	APR				
MAY	47.7	28.0	32.7	52.7	27.7	11	154.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	MAY				
JUNE	47.7	28.0	32.7	52.7	27.7	11	31.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	JUNE				
JULY	47.7	28.0	32.7	52.7	27.7	11	4.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	JULY				
AUG	47.7	28.0	32.7	52.7	27.7	11	12.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	AUG				
SEPT	47.7	28.0	32.7	52.7	27.7	11	39.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	SEPT				
OCT	47.7	28.0	32.7	52.7	27.7	11	35.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	OCT				
NOV	47.7	28.0	32.7	52.7	27.7	11	70.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	NOV				
DEC	47.7	28.0	32.7	52.7	27.7	11	109.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	DEC				
YEAR	41.3	30.5	30.	100	10	11	1908.	19	31	127	4	23.61	9.21	37	5.06	7	29.6	18.7	64	13	13	6	1.3	15	YEAR				

\*\* BASE 65° F \*Also on earlier dates, months, or years

## NARRATIVE CLIMATOLOGICAL SUMMARY

Tiffin is located near the center of Seneca County in north central Ohio. The surrounding country has a prairie-like surface with very slight undulations. Within Seneca County, the elevation of the earth's surface above sea level varies from about 650 to 970 feet. A map of the physiographic regions of Ohio shows much of the northern half of Seneca County to be a part of Ohio's Lake Plains. The southern portion of Seneca County is a part of Ohio's Till Plains. General farming is the prevailing agricultural activity throughout the county.

The climate of Seneca County is classified as continental. Such a climate is 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 an average of 19 days when temperatures reach 90° F or more. 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 near the mean for north central Ohio. The normal daily range in temperature is greatest in late summer and least in winter. Extreme temperature range (record high minus record low during the period 1889-1967) is 136 degrees. Coldest month of record since the beginning of 1936 is January 1940. In that month, temperature climbed above freezing on only 5 days while daily lows of zero or below were recorded on 6 days. Maximum temperatures below freezing occur most often between mid-December and mid-February. Warmest month of record for the period 1936-1967 is July 1955. During that month, the daily maximum temperature exceeded 89° F on 17 days while daily lows were greater than 69° F on 7 days. A noteworthy hot spell occurred in July 1936. From July 8-14, 1936, daily highs ranged from 102 to 106° F. Temperature of 90° F or higher has been recorded as early as late April, however, such days are more common during the period June through August.

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 168 days in length. The growing season is 189 days or more in 10% of the years, 176 days or more in 30% of the years, less than 159 days in 30% of the years, and less than 147 days in 10% of the years. During the period 1936-1967, a temperature of 32° F or less was recorded as late as May 16 in Spring and as early as September 21 in Fall.

Heating degree days (mean 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.

As is characteristic of continental climates, precipitation in the Tiffin 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 35.61 inches is nearly 2 inches above the mean for north central Ohio. Showers and thundershowers account for most of the rainfall during the growing season. Thunderstorms occur on about 40 days each year. Most of these occur May through August. As is typical of much of Ohio, most precipitation during the winter months comes in the form of rain. Seasonal snowfall is subject to wide variations from the annual mean of 29.6 inches. During the period 1936-1967, as little as 11.6 inches of snow fell during the winter of 1965-1966 and as much as 61.4 inches was recorded in the winter of 1950-1951. About 1 of 5 winters will have at least 40 inches of snow.

Evaporation is greatest during the warm months and is then most critical for agriculture. During the period 1936-1967, the driest growing season (May-September) of record is 1964. In that year, only 11.30 inches of precipitation fell during the period May-September. Normal rainfall for those months is 17.27 inches. When evaporation exceeds rainfall for prolonged periods, a drought may occur, however, severe droughts seldom occur in Williams County.

Humidity, cloudiness, sunshine, and wind observations are not recorded in Tiffin, 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 80% at 1 AM, 75% at 7 AM, 60% at 1 PM, and 70% 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 30% in December. Heavy fog occurs about 10 times 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 southwest, averaging about 8 mph in summer and 11 mph in winter. Damaging winds of 35 to 80 mph 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, 13 such storms have been reported in Seneca County. During the last decade, Ohio has averaged 11 tornadoes a year.

January 1968

Marvin E. Miller  
 ESSA Weather Bureau State Climatologist  
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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 20	MAR 4	YR 13	APR 3	APR 14	APR 26						
70	MAR 4	MAR 14	MAR 23	APR 11	APR 22	MAY 5						
50	MAR 13	MAR 21	MAR 29	APR 15	APR 27	MAY 11						
30	MAR 21	MAR 28	APR 5	APR 20	MAY 3	MAY 16						
10	APR 2	APR 7	APR 14	APR 27	MAY 11	MAY 24						
PERCENT CHANCE OF EARLIER DATE IN FALL												
10		NOV 9	OCT 23	OCT 11	SEPT 28	SEPT 21						
30		NOV 17	NOV 1	OCT 20	OCT 7	SEPT 26						
50		NOV 23	NOV 8	OCT 27	OCT 13	SEPT 30						
70		NOV 29	NOV 14	NOV 2	OCT 19	OCT 4						
90		DEC 7	NOV 24	NOV 11	OCT 27	OCT 9						

### STATION HISTORY

DATE	LOCATION	ELEVATION	OBSERVER
9/1885-5/1928	(From Post Office) 0.6 mile NE	775	T. H. Sonnedecker
5/1928-11/1929	1.0 mile NW	775	L. O. Runkle
12/1929-12/1942	1.0 mile NW	740	A. D. German
1/1943-12/1952	0.6 mile NE	750	F. W. Klenk
1/1953-Present	0.5 mile NE	760	R. D. Foutz

AVERAGE TEMPERATURE (°F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
36	21.2	20.7	21.2	21.5	21.8	22.1	22.4	22.7	23.0	23.3	23.6	23.9	23.2
37	21.5	21.0	21.5	21.8	22.1	22.4	22.7	23.0	23.3	23.6	23.9	24.2	23.2
38	21.8	21.3	21.8	22.1	22.4	22.7	23.0	23.3	23.6	23.9	24.2	24.5	23.2
39	22.1	21.6	22.1	22.4	22.7	23.0	23.3	23.6	23.9	24.2	24.5	24.8	23.2
40	22.4	21.9	22.4	22.7	23.0	23.3	23.6	23.9	24.2	24.5	24.8	25.1	23.2
41	22.7	22.2	22.7	23.0	23.3	23.6	23.9	24.2	24.5	24.8	25.1	25.4	23.2
42	23.0	22.5	23.0	23.3	23.6	23.9	24.2	24.5	24.8	25.1	25.4	25.7	23.2
43	23.3	22.8	23.3	23.6	23.9	24.2	24.5	24.8	25.1	25.4	25.7	26.0	23.2
44	23.6	23.1	23.6	23.9	24.2	24.5	24.8	25.1	25.4	25.7	26.0	26.3	23.2
45	23.9	23.4	23.9	24.2	24.5	24.8	25.1	25.4	25.7	26.0	26.3	26.6	23.2
46	24.2	23.7	24.2	24.5	24.8	25.1	25.4	25.7	26.0	26.3	26.6	26.9	23.2
47	24.5	24.0	24.5	24.8	25.1	25.4	25.7	26.0	26.3	26.6	26.9	27.2	23.2
48	24.8	24.3	24.8	25.1	25.4	25.7	26.0	26.3	26.6	26.9	27.2	27.5	23.2
49	25.1	24.6	25.1	25.4	25.7	26.0	26.3	26.6	26.9	27.2	27.5	27.8	23.2
50	25.4	24.9	25.4	25.7	26.0	26.3	26.6	26.9	27.2	27.5	27.8	28.1	23.2
51	25.7	25.2	25.7	26.0	26.3	26.6	26.9	27.2	27.5	27.8	28.1	28.4	23.2
52	26.0	25.5	26.0	26.3	26.6	26.9	27.2	27.5	27.8	28.1	28.4	28.7	23.2
53	26.3	25.8	26.3	26.6	26.9	27.2	27.5	27.8	28.1	28.4	28.7	29.0	23.2
54	26.6	26.1	26.6	26.9	27.2	27.5	27.8	28.1	28.4	28.7	29.0	29.3	23.2
55	26.9	26.4	26.9	27.2	27.5	27.8	28.1	28.4	28.7	29.0	29.3	29.6	23.2
56	27.2	26.7	27.2	27.5	27.8	28.1	28.4	28.7	29.0	29.3	29.6	29.9	23.2
57	27.5	27.0	27.5	27.8	28.1	28.4	28.7	29.0	29.3	29.6	29.9	30.2	23.2
58	27.8	27.3	27.8	28.1	28.4	28.7	29.0	29.3	29.6	29.9	30.2	30.5	23.2
59	28.1	27.6	28.1	28.4	28.7	29.0	29.3	29.6	29.9	30.2	30.5	30.8	23.2
60	28.4	27.9	28.4	28.7	29.0	29.3	29.6	29.9	30.2	30.5	30.8	31.1	23.2
61	28.7	28.2	28.7	29.0	29.3	29.6	29.9	30.2	30.5	30.8	31.1	31.4	23.2
62	29.0	28.5	29.0	29.3	29.6	29.9	30.2	30.5	30.8	31.1	31.4	31.7	23.2
63	29.3	28.8	29.3	29.6	29.9	30.2	30.5	30.8	31.1	31.4	31.7	32.0	23.2
64	29.6	29.1	29.6	29.9	30.2	30.5	30.8	31.1	31.4	31.7	32.0	32.3	23.2
65	29.9	29.4	29.9	30.2	30.5	30.8	31.1	31.4	31.7	32.0	32.3	32.6	23.2
66	30.2	29.7	30.2	30.5	30.8	31.1	31.4	31.7	32.0	32.3	32.6	32.9	23.2
67	30.5	30.0	30.5	30.8	31.1	31.4	31.7	32.0	32.3	32.6	32.9	33.2	23.2

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
36	1.30	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.80	0.75	1.22
37	1.32	1.27	1.22	1.17	1.12	1.07	1.02	0.97	0.92	0.87	0.82	0.77	1.24
38	1.34	1.29	1.24	1.19	1.14	1.09	1.04	0.99	0.94	0.89	0.84	0.79	1.26
39	1.36	1.31	1.26	1.21	1.16	1.11	1.06	1.01	0.96	0.91	0.86	0.81	1.28
40	1.38	1.33	1.28	1.23	1.18	1.13	1.08	1.03	0.98	0.93	0.88	0.83	1.30
41	1.40	1.35	1.30	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	1.32
42	1.42	1.37	1.32	1.27	1.22	1.17	1.12	1.07	1.02	0.97	0.92	0.87	1.34
43	1.44	1.39	1.34	1.29	1.24	1.19	1.14	1.09	1.04	0.99	0.94	0.89	1.36
44	1.46	1.41	1.36	1.31	1.26	1.21	1.16	1.11	1.06	1.01	0.96	0.91	1.38
45	1.48	1.43	1.38	1.33	1.28	1.23	1.18	1.13	1.08	1.03	0.98	0.93	1.40
46	1.50	1.45	1.40	1.35	1.30	1.25	1.20	1.15	1.10	1.05	1.00	0.95	1.42
47	1.52	1.47	1.42	1.37	1.32	1.27	1.22	1.17	1.12	1.07	1.02	0.97	1.44
48	1.54	1.49	1.44	1.39	1.34	1.29	1.24	1.19	1.14	1.09	1.04	0.99	1.46
49	1.56	1.51	1.46	1.41	1.36	1.31	1.26	1.21	1.16	1.11	1.06	1.01	1.48
50	1.58	1.53	1.48	1.43	1.38	1.33	1.28	1.23	1.18	1.13	1.08	1.03	1.50
51	1.60	1.55	1.50	1.45	1.40	1.35	1.30	1.25	1.20	1.15	1.10	1.05	1.52
52	1.62	1.57	1.52	1.47	1.42	1.37	1.32	1.27	1.22	1.17	1.12	1.07	1.54
53	1.64	1.59	1.54	1.49	1.44	1.39	1.34	1.29	1.24	1.19	1.14	1.09	1.56
54	1.66	1.61	1.56	1.51	1.46	1.41	1.36	1.31	1.26	1.21	1.16	1.11	1.58
55	1.68	1.63	1.58	1.53	1.48	1.43	1.38	1.33	1.28	1.23	1.18	1.13	1.60
56	1.70	1.65	1.60	1.55	1.50	1.45	1.40	1.35	1.30	1.25	1.20	1.15	1.62
57	1.72	1.67	1.62	1.57	1.52	1.47	1.42	1.37	1.32	1.27	1.22	1.17	1.64
58	1.74	1.69	1.64	1.59	1.54	1.49	1.44	1.39	1.34	1.29	1.24	1.19	1.66
59	1.76	1.71	1.66	1.61	1.56	1.51	1.46	1.41	1.36	1.31	1.26	1.21	1.68
60	1.78	1.73	1.68	1.63	1.58	1.53	1.48	1.43	1.38	1.33	1.28	1.23	1.70
61	1.80	1.75	1.70	1.65	1.60	1.55	1.50	1.45	1.40	1.35	1.30	1.25	1.72
62	1.82	1.77	1.72	1.67	1.62	1.57	1.52	1.47	1.42	1.37	1.32	1.27	1.74
63	1.84	1.79	1.74	1.69	1.64	1.59	1.54	1.49	1.44	1.39	1.34	1.29	1.76
64	1.86	1.81	1.76	1.71	1.66	1.61	1.56	1.51	1.46	1.41	1.36	1.31	1.78
65	1.88	1.83	1.78	1.73	1.68	1.63	1.58	1.53	1.48	1.43	1.38	1.33	1.80
66	1.90	1.85	1.80	1.75	1.70	1.65	1.60	1.55	1.50	1.45	1.40	1.35	1.82
67	1.92	1.87	1.82	1.77	1.72	1.67	1.62	1.57	1.52	1.47	1.42	1.37	1.84

MONTHLY AND SEASONAL SNOWFALL

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
36-37	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
37-38	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
38-39	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
39-40	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
40-41	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
41-42	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
42-43	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
43-44	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
44-45	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
45-46	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
46-47	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
47-48	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
48-49	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
49-50	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
50-51	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
51-52	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
52-53	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
53-54	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
54-55	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
55-56	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
56-57	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
57-58	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
58-59	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
59-60	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
60-61	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
61-62	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
62-63	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
63-64	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
64-65	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
65-66	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8
66-67	0	0	4.2	3.5	4.7	5.1	3.2	0	0	20.8

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN	.05	.10	.20	.40	.60	.80	.90	.95
JAN	1.56	1.72	1.88	2.04	2.20	2.36	2.52	2.68
FEB	1.58	1.74	1.90	2.06	2.22	2.38	2.54	2.70
MAR	1.60	1.76	1.92	2.08	2.24	2.40	2.56	2.72
APR	1.62	1.78	1.94	2.10	2.26	2.42	2.58	2.74
MAY	1.64	1.80	1.96	2.12	2.28	2.44	2.60	2.76
JUN	1.66	1.82	1.98	2.14	2.30	2.46	2.62	2.78
JUL	1.68	1.84	2.00	2.16	2.32	2.48	2.64	2.80
AUG	1.70	1.86	2.02	2.18	2.34	2.50		