

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH Michigan Weather Service
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 20

LATITUDE 44° 40'
 LONGITUDE 84° 08'
 ELEV. (GROUND) 963 Feet

CLIMATOLOGICAL SUMMARY

STATION Mio, Michigan

MEANS AND EXTREMES FOR PERIOD 1931 - 1960

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)							Mean number of days						Month	
	Means			Extremes						Mean	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more	Temperatures						
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily	Year		90° and above	32° and below	32° and below	0° and below	Max.		Min.
(a) JANUARY	30	30	30	30	1944+	-38	1951	1390	30	30	1950	12.8	30	1943	11.0	1947	4	0	20	31	8	JANUARY		
FEBRUARY	30.0	6.6	18.3	59	1932	-45	1934	1370	1.24	1.20	1932	11.2	30.6	1959	12.0	1959+	4	0	17	28	9	FEBRUARY		
MARCH	38.2	14.8	26.5	78	1946+	-39	1943	1160	1.51	1.57	1947	11.1	26.0	1942	18.0	1942	4	0	10	29	5	MARCH		
APRIL	53.8	27.5	40.7	90	1941+	-12	1954	730	2.15	1.28	1951	3.1	13.5	1932	8.0	1932	6	*	1	22	*	APRIL		
MAY	66.9	37.8	52.4	96	1937	17	1947+	380	2.59	2.09	1932	0.4	6.0	1935	6.0	1935	7	*	0	10	0	MAY		
JUNE	77.2	48.4	62.8	102	1934	26	1949	130	2.75	2.98	1931	T	F	F	F	1951	6	2	0	1	0	JUNE		
JULY	81.6	52.1	66.9	112	1936	33	1943	50	2.90	2.51	1960	T	F	F	F	1955+	5	4	0	0	0	JULY		
AUGUST	79.2	51.1	65.2	100	1955	28	1941	80	2.97	3.03	1947	T	F	F	F	1949	6	3	0	*	0	AUGUST		
SEPTEMBER	69.8	44.0	56.9	96	1931	19	1942	260	3.01	1.98	1938	0.1	1.0	1956	1.0	1956	7	1	0	4	0	SEPTEMBER		
OCTOBER	59.1	34.6	46.9	87	1947	7	1936	550	2.11	1.51	1959	0.7	6.0	1933	4.0	1939+	5	0	*	14	0	OCTOBER		
NOVEMBER	43.3	25.9	34.6	75	1950+	-11	1951+	890	1.97	1.28	1931	5.8	21.2	1959	14.5	1944	6	0	3	23	1	NOVEMBER		
DECEMBER	31.8	14.3	23.1	66	1936	-33	1933	1270	1.29	1.56	1942	10.0	22.0	1933	8.0	1940	4	0	17	30	5	DECEMBER		
Year	55.0	30.5	42.8	112	July 1936	-45	Feb. 1934	8260	25.79	3.03	Aug. 1947	55.2	30.6	1959	18.0	Mar. 1942	64	10	68	192	28	Year		

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

T Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

CLIMATE OF MIO, MICHIGAN

Mio is located in the northeastern portion of Michigan's Lower Peninsula, about 80 miles south southeast of the straits of Mackinac and 40 miles west of Lake Huron. The topography of the area is generally quite level but some sections are hilly. The soil is mostly sand. There is some grazing and only a slight area under cultivation. Forests cover much of the land and most of the county is included in National and State Forests.

Weather data for the Mio area show that the highest temperature ever recorded here is 112° on July 13, 1936. The lowest temperature of record is 47° below zero on February 1, 1918. Temperatures reach the 100° mark in about one summer out of ten, and days with 90° or over average ten per summer. At the other extreme the temperature falls to zero or lower on an average of 28 times during the winter season. On the basis of mean temperature, February 1936 with a mean reading of 4.4° is the coldest of record and July, 1955 is warmest with a mean reading of 72.4°. The average dates of the last freezing temperature in the spring and the first in the fall are June 6th and September 8th, respectively.

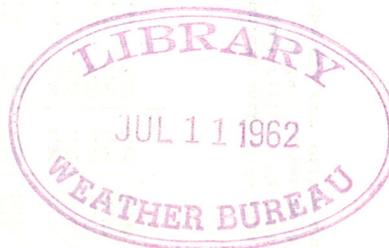
Precipitation is heaviest during the growing months, or "crop season", averaging 63% of the annual total in the six months period April-September. Heaviest rainfall is in September which shows an average of 3.01 inches. The greatest monthly rainfall of record is 7.70 inches in August, 1940 and the least of record is 0.04 inch in March 1889. The heaviest intensity of rainfall occurs in connection with summertime thundershower activity and the heaviest recorded 24-hour amount is 3.03 inches on August 20, 1947. Hourly intensity of as much as 1.10 inches occurs with a frequency of once in two years and thunderstorms have a frequency of 29 per year as shown by Weather Bureau records at Alpena (nearest First Order Weather Bureau Office).

Snowfall totals 54.9 inches during an average winter but there is wide variation from winter to winter. Seasonal totals have ranged from as little as 18.6 inches in 1936-37 to as much as 88.3 inches in the 1951-52 season. Nine

months of the year have had measurable amounts of snow but usually six months and occasionally seven months have measurable amounts.

Wind, sunshine and cloudiness observations are not available for Mio but the records at Alpena (nearest Weather Bureau Office) should offer a fair approximation. As shown by these records the prevailing wind direction is northwest. Mean hourly velocity varies from 9.2 miles in July to 12.3 miles in March. Highest wind ever recorded is 61 MPH from the northwest in November, 1940. Sunshine ranges from 22% of possible in December to 70% of the possible in July. December has an average of 2 clear days, 7 partly cloudy days and 22 cloudy days; July has an average of 11 clear days, 13 partly cloudy days and 7 cloudy days.

Degree day data is provided as an index of heating requirements for buildings. For example, October averages 550 degree days and March, 1160, which means that for an average March, fuel necessary for heating will be about twice that required for October. Degree days for a single day are obtained by subtracting the mean temperature from 65. The need for the heating of buildings is considered none or slight if a day has an average temperature of 65° or higher.



A. H. Eichmeier
 State Climatologist
 Weather Bureau Office
 East Lansing, Michigan

1182.2/73
 U5870
 -no. 20-20

Average Temperature (*F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	21.5	25.0	27.3	42.2	53.4	64.4	70.1	65.2	62.6	49.6	42.8	29.5	46.1
1932	30.7	25.7	24.5	36.4	51.4	62.2	64.8	64.3	54.2	44.8	30.9	23.4	42.8
1933	26.1	16.7	26.2	38.9	54.4	67.0	66.6	62.1	58.2	43.7	27.9	19.7	42.5
1934	23.6	4.4	20.2	37.1	53.8	63.4	68.3	60.2	58.2	45.6	38.5	19.8	40.9
1935	15.3	15.3	29.2	38.7	46.8	58.3	68.5	64.5	53.5	46.2	34.4	18.4	40.8
1936	15.4	5.5	29.8	35.7	57.0	59.8	68.6	64.7	58.0	42.7	28.9	26.5	41.1
1937	20.7	22.0	32.5	39.6	54.4	61.6	67.3	67.5	54.8	42.4	32.9	18.6	42.1
1938	14.7	21.4	23.6	42.9	51.8	62.6	68.2	66.8	54.8	50.3	37.9	25.7	44.3
1939	21.4	16.3	24.2	39.2	56.2	63.4	68.1	64.0	58.1	47.3	33.0	28.6	43.5
1940	14.5	18.6	21.4	36.5	51.5	63.5	68.1	64.0	58.1	47.3	33.0	25.4	41.8
1941	17.7	18.8	21.7	46.7	56.9	64.1	69.0	63.8	59.4	47.6	38.5	29.0	44.4
1942	19.6	16.8	30.7	49.6	54.5	63.6	66.6	65.2	56.7	47.1	33.9	21.1	43.6
1943	13.4	20.2	22.2	38.1	51.6	66.3	66.7	65.6	54.5	44.5	34.0	19.6	41.6
1944	26.9	22.1	27.3	37.3	58.4	66.4	67.3	67.2	59.4	47.6	37.3	18.8	44.4
1945	10.8	19.8	40.0	45.2	47.0	58.9	64.1	65.3	55.9	44.5	36.1	18.9	42.2
1946	20.1	14.5	37.2	40.6	49.6	61.4	65.1	61.3	56.7	49.1	36.2	22.2	42.8
1947	20.3	16.2	23.9	39.9	46.7	59.0	64.8	71.2	58.4	54.2	39.0	23.1	42.0
1948	11.7	13.5	23.7	44.7	48.3	61.6	63.5	65.9	59.4	48.8	39.4	24.8	42.0
1949	23.9	22.6	27.3	40.9	52.7	66.7	68.5	65.9	54.1	48.8	37.7	24.9	44.0
1950	23.7	17.9	22.3	33.6	51.4	63.1	65.1	61.9	55.9	50.5	32.5	19.4	41.4
1951	18.0	20.3	28.6	41.6	56.0	61.2	65.9	62.7	55.4	48.2	27.5	23.6	42.4
1952	20.5	21.6	26.0	44.3	51.4	64.6	69.1	64.4	56.2	49.4	36.3	29.0	43.9
1953	22.5	22.9	30.4	38.6	53.5	64.6	67.2	66.2	58.2	49.4	39.6	28.2	44.9
1954	16.1	26.4	24.9	41.3	48.2	65.6	65.4	63.5	56.2	46.9	37.7	21.6	42.9
1955	17.7	18.7	25.6	47.1	55.5	63.3	72.4	70.9	55.8	49.0	31.2	20.1	43.9
1956	18.0	18.5	21.3	37.6	48.7	62.9	66.9	64.0	52.2	50.4	35.4	25.9	41.6
1957	13.0	22.4	28.5	43.4	50.5	63.1	66.5	62.5	55.4	44.1	35.6	25.5	42.5
1958	19.3	14.7	32.4	42.4	48.5	56.9	65.2	64.5	56.9	48.8	36.7	13.8	41.7
1959	12.4	12.9	25.1	40.9	57.4	64.4	67.2	70.6	60.1	45.3	28.8	27.3	42.7
1960	21.3	18.9	20.2	43.6	53.9	60.1	64.9	63.8	57.6	46.7	38.6	18.5	42.3

DATES OF FREEZING TEMPERATURES IN THE SPRING AND FALL (1921-1950)

Minimum Temperature	Last in Spring			First in Fall		
	Earliest	Average	Latest	Earliest	Average	Latest
32° or Lower	5/13/39	6/6	7/13/26	8/21/34	9/8	10/12/21
28° or Lower	4/20/21	5/23	6/10/41+	8/28/41	9/26	10/25/50
24° or Lower	4/17/21	5/13	5/28/27	9/12/43	10/6	10/26/50
20° or Lower	3/30/48	5/1	5/20/24	9/29/42	10/20	11/24/41
16° or Lower	3/11/45	4/14	4/29/50	10/7/23	11/5	12/10/41

* Also in 1937.

Example in using table: The average date of the last temperature of 32° or colder in the spring is June 6th. The earliest date of this event in all springs of the 1921-50 period was May 13th in 1939, the latest date was July 13, 1926. In the fall, 32° or colder occurred for the first time as early as August 21 (1934), and as late as October 12, 1921. The average date is September 8th.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	1.20	0.48	1.97	1.46	3.27	5.13	1.14	2.05	4.62	3.93	3.13	1.71	30.09
1932	1.42	2.00	0.66	2.10	4.98	2.86	4.05	3.63	1.10	5.21	0.64	1.49	30.14
1933	1.05	1.66	1.95	3.77	2.73	2.36	2.39	0.47	2.41	3.59	1.61	2.21	26.20
1934	0.84	0.61	1.84	1.61	3.69	2.11	1.92	1.67	6.01	1.94	2.77	0.98	22.85
1935	1.42	1.19	1.92	0.66	1.07	3.75	2.82	3.92	1.24	1.53	1.88	0.55	21.95
1936	1.12	2.09	0.94	2.23	3.05	1.27	2.00	2.46	3.34	3.33	1.03	1.45	24.31
1937	1.59	1.11	0.29	2.54	1.52	1.77	2.58	2.44	4.85	1.75	1.65	1.03	23.70
1938	2.68	2.69	1.61	0.51	3.02	2.67	2.39	6.89	4.22	0.56	0.94	1.43	29.61
1939	1.52	1.55	1.24	1.63	2.94	3.04	0.70	4.09	3.13	1.59	0.85	1.03	23.31
1940	1.47	0.66	0.63	1.06	2.73	3.09	1.06	7.70	3.43	2.38	2.38	1.98	28.57
1941	1.23	1.03	0.97	1.45	1.28	0.84	3.74	2.08	4.07	4.33	2.44	1.09	24.55
1942	0.81	0.27	2.78	0.99	3.52	1.41	3.55	3.74	3.41	0.93	0.85	2.36	23.32
1943	1.16	1.29	2.04	1.63	2.57	4.63	4.88	2.50	1.18	0.87	1.82	0.66	25.23
1944	0.30	0.65	1.05	1.25	1.86	3.12	2.37	1.92	2.28	1.52	3.36	0.58	19.33
1945	0.51	0.78	0.86	2.36	3.45	3.10	1.47	4.14	4.64	2.60	1.80	0.49	26.20
1946	2.21	2.05	0.83	0.67	2.34	1.81	3.44	1.12	2.87	0.46	1.98	2.64	22.42
1947	2.06	0.91	2.84	3.26	4.99	1.90	3.15	4.43	4.38	0.16	2.45	1.00	30.93
1948	0.47	1.17	2.71	2.47	1.86	3.48	4.00	0.60	0.59	0.92	2.63	1.42	22.32
1949	1.68	1.76	1.04	2.01	1.51	2.75	2.30	1.87	1.49	1.52	1.55	1.73	21.21
1950	3.07	1.60	2.01	1.71	1.36	3.36	4.92	3.57	3.78	1.97	1.35	1.62	30.32
1951	1.45	1.64	1.74	3.44	2.74	3.65	3.48	1.78	3.35	4.52	1.56	1.99	31.34
1952	2.22	0.70	2.01	1.94	2.05	2.79	6.11	2.70	0.91	0.37	3.19	1.37	26.36
1953	1.19	2.19	1.63	2.90	3.59	2.80	3.02	3.23	4.46	1.40	1.30	0.97	28.68
1954	0.99	0.85	1.37	4.02	2.89	5.45	2.09	2.45	4.94	1.40	1.77	1.18	31.49
1955	0.64	0.80	1.73	1.36	1.99	1.30	1.95	2.93	0.43	2.09	2.31	1.04	18.57
1956	0.40	1.40	1.45	3.58	2.50	1.16	4.11	4.35	1.74	0.61	2.22	1.25	24.77
1957	0.93	0.34	0.81	2.44	3.85	4.65	2.98	1.33	2.73	1.77	2.23	1.23	25.29
1958	0.79	0.36	0.38	1.24	0.98	2.26	2.38	2.18	3.32	2.49	2.59	0.50	19.47
1959	1.25	2.13	1.75	4.42	2.95	1.13	2.30	4.49	2.95	4.83	2.62	1.95	32.77
1960	1.42	1.24	2.24	3.78	4.20	2.87	3.64	2.48	2.47	1.44	2.33	0.45	28.56

STATION HISTORY

The Mio station was established in 1888 but records were incomplete until 1896 when it was moved to Luzerne, nine miles west-southwest of the Mio Post Office. In 1901 the station was moved to another location in the Luzerne area. In 1917 it was moved to the Consumer Power Company installation 0.8 mile north of the Mio Post Office and it is still there at the present time (1962).