

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

LATITUDE 43° 52'  
 LONGITUDE 82° 41'  
 ELEV. (GROUND) 620 Feet

CLIMATOLOGICAL SUMMARY

STATION Harbor Beach, Michigan

MEANS AND EXTREMES FOR PERIOD 1932 - 1961

| Month     | Temperature (°F) |               |         |                |           |               |                |      |               | **<br>Mean degree days | Precipitation Totals (Inches) |      |                |           |             |           |                 | Mean number of days |                          |                |      |               |               | Month |               |              |
|-----------|------------------|---------------|---------|----------------|-----------|---------------|----------------|------|---------------|------------------------|-------------------------------|------|----------------|-----------|-------------|-----------|-----------------|---------------------|--------------------------|----------------|------|---------------|---------------|-------|---------------|--------------|
|           | Means            |               |         | Extremes       |           |               | Record highest | Year | Record lowest |                        | Year                          | 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 | Max.          |               |       | Min.          |              |
|           |                  |               |         |                |           |               |                |      |               |                        |                               |      |                |           |             |           |                 |                     |                          |                |      | 90° and above | 32° and below |       | 32° and below | 0° and below |
| (a)       | 30               | 30            | 30      | 30             | 1944      | 30            | 1948           | 30   | 1933          | 30                     | 30                            | 1954 | 30             | 30        | 1959        | 30        | 1954            | 30                  | 30                       | 30             | 30   | 30            | JANUARY       |       |               |              |
| JANUARY   | 29.6             | 16.9          | 23.3    | 62             | 1944      | -14           | 1948           | 1260 | 2.01          | 1.25                   | 1954                          | 13.5 | 28.0           | 1959      | 12.5        | 1954      | 6               | 0                   | 19                       | 30             | 3    | JANUARY       |               |       |               |              |
| FEBRUARY  | 30.3             | 15.4          | 22.9    | 58             | 1933      | -22           | 1934           | 1240 | 1.98          | 1.75                   | 1932                          | 13.4 | 31.0           | 1959+     | 9.0         | 1935      | 6               | 0                   | 16                       | 27             | 3    | FEBRUARY      |               |       |               |              |
| MARCH     | 37.6             | 23.1          | 30.4    | 80             | 1938      | -12           | 1948           | 1040 | 1.98          | 2.41                   | 1942                          | 8.6  | 33.5           | 1954      | 11.5        | 1954      | 6               | 0                   | 10                       | 27             | 1    | MARCH         |               |       |               |              |
| APRIL     | 51.3             | 33.5          | 42.4    | 84             | 1960      | 10            | 1936           | 680  | 2.63          | 2.26                   | 1957                          | 2.7  | 13.9           | 1943      | 4.0         | 1938+     | 7               | 0                   | 1                        | 15             | 0    | APRIL         |               |       |               |              |
| MAY       | 63.1             | 42.6          | 52.9    | 90             | 1949      | 24            | 1946           | 380  | 3.14          | 1.52                   | 1945                          | 0.2  | 6.0            | 1961      | 4.0         | 1961      | 7               | *                   | 0                        | 2              | 0    | MAY           |               |       |               |              |
| JUNE      | 74.2             | 53.0          | 63.6    | 100            | 1934      | 33            | 1949           | 120  | 3.05          | 4.00                   | 1935                          | T    | T              | 1953      | T           | 1953      | 6               | 1                   | 0                        | 0              | 0    | JUNE          |               |       |               |              |
| JULY      | 79.4             | 58.6          | 69.0    | 105            | 1936      | 41            | 1936           | 30   | 2.85          | 2.71                   | 1955                          | T    | T              | 1953+     | T           | 1953+     | 6               | 3                   | 0                        | 0              | 0    | JULY          |               |       |               |              |
| AUGUST    | 78.5             | 58.4          | 68.5    | 99             | 1948      | 38            | 1934           | 40   | 2.83          | 2.83                   | 1951                          | T    | T              | 1949      | T           | 1949      | 6               | 2                   | 0                        | 0              | 0    | AUGUST        |               |       |               |              |
| SEPTEMBER | 71.0             | 51.5          | 61.3    | 98             | 1953      | 27            | 1942           | 160  | 3.06          | 2.96                   | 1932                          | T    | T              | 1959+     | T           | 1959+     | 7               | 1                   | 0                        | *              | 0    | SEPTEMBER     |               |       |               |              |
| OCTOBER   | 59.7             | 42.0          | 50.9    | 86             | 1953+     | 17            | 1952           | 430  | 2.63          | 1.71                   | 1951                          | 0.5  | 6.0            | 1957      | 3.0         | 1957      | 7               | 0                   | 0                        | 4              | 0    | OCTOBER       |               |       |               |              |
| NOVEMBER  | 44.8             | 31.2          | 38.0    | 80             | 1950      | 4             | 1950+          | 810  | 2.40          | 1.51                   | 1951                          | 5.3  | 23.5           | 1951      | 7.4         | 1940      | 6               | 0                   | 3                        | 18             | 0    | NOVEMBER      |               |       |               |              |
| DECEMBER  | 32.8             | 20.6          | 26.7    | 60             | 1953      | -14           | 1960           | 1160 | 2.18          | 1.36                   | 1949                          | 11.2 | 34.1           | 1951      | 14.5        | 1960      | 7               | 0                   | 15                       | 28             | 1    | DECEMBER      |               |       |               |              |
| Year      | 54.4             | 37.2          | 45.8    | 105            | July 1936 | -22           | Feb. 1934      | 7350 | 30.74         | 4.00                   | June 1935                     | 55.4 | 34.1           | Dec. 1951 | 14.5        | Dec. 1960 | 77              | 7                   | 64                       | 151            | 8    | 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 HARBOR BEACH, MICHIGAN

Harbor Beach is in the Thumb Area of Lower Michigan and is also on the Lake Huron shore line. The surface of the ground in the area is flat and the soil is mostly heavy clay loam. Major crops are navy beans, wheat and sugar beets.

(nearest 1st Order Weather Bureau Office).

The influence of Lake Huron is strong whenever winds are from the northeast quadrant. Harbor Beach, although a considerable distance from Lake Michigan, is also influenced by that lake because of its moderation of the prevailing westerly winds.

Snowfall totals 55.4 inches during an average winter at Harbor Beach. January has the heaviest snowfall, averaging 13.5 inches. Seasonal snowfall has ranged from as little as 14.0 inches in 1932-33 to as much as 95.7 inches in the 1958-59 season.

Available weather data for the Harbor Beach area shows that the highest temperature ever recorded here is 105° on July 10, 1936, and the lowest is 24° below zero on February 5, 1918. Temperatures seldom reach 100° and days with 90° or above average seven per summer. At the other extreme, temperatures fall to zero or lower on an average of seven times during the winter season.

Cloudiness is greatest in the late fall and early winter. Flint (nearest Weather Bureau Office) records show December averages 22 cloudy, 7 partly cloudy and 2 clear days. July records show 10 cloudy days, 13 partly cloudy days and 8 clear days.

On the basis of mean temperature, January, 1912 with 8.0° is the coldest month of record, and July, 1921 is warmest with 75.5°. The average dates of the last freezing temperature in the spring and first in the fall are May 8th and October 13th, respectively.

Prevailing wind direction is south. Average hourly velocity is greatest in March, 12.2 MPH and lowest in August 7.2 MPH. Highest wind ever recorded in the area is 81 MPH from the northwest in May, 1956. (Wind data from Weather Bureau location at Flint).

Precipitation is heaviest during the growing months, or "crop season" averaging 57% of the annual total during the six months April - September. The heaviest rainfall is in May with an average of 3.14 inches. Summer rains fall mostly as showers with great variation between one locality and another. The likelihood of 1 inch or more of rain falling in a seven day period is greater during June than in the rest of the summer; the chance is one out of four years. The likelihood of a dry seven day period, trace or less, is greater the last week of July and 1st week of August than any other time of the summer. The chance of having only a trace or less in this period during seven days is about one in twenty. Hourly intensity of as much as 1.0 occurs with a frequency of once in two years and thunderstorms have a frequency of 32 a year as shown by Weather Bureau records at Flint

Degree day data is provided as an index of heating requirements for buildings. For example, October averages 430 degree days and November 810 which means that for an average November, fuel necessary for heating will be approximately 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

M82.2/73  
 45870  
 no. 20.20

Total Precipitation (Inches)

| Year | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|
| 1932 | 3.53 | 2.05 | 0.83 | 2.08 | 2.56 | 2.32 | 3.84 | 1.80 | 4.25  | 3.94 | 1.67 | 2.21 | 31.08 |
| 1933 | 0.69 | 1.67 | 2.31 | 3.27 | 3.59 | 1.75 | 1.40 | 1.80 | 2.26  | 4.48 | 1.27 | 2.48 | 26.20 |
| 1934 | 1.37 | 0.33 | 1.37 | 1.69 | 0.61 | 1.77 | 1.90 | 1.90 | 3.53  | 1.36 | 1.90 | 1.80 | 19.53 |
| 1935 | 2.29 | 1.05 | 1.94 | 1.27 | 2.22 | 5.52 | 1.15 | 1.72 | 3.06  | 1.31 | 2.83 | 1.44 | 25.80 |
| 1936 | 1.78 | 1.05 | 0.84 | 2.12 | 1.49 | 1.11 | 0.65 | 1.83 | 2.08  | 1.78 | 1.17 | 1.41 | 17.34 |
| 1937 | 1.40 | 1.40 | 0.56 | 5.24 | 1.14 | 3.71 | 1.74 | 3.30 | 2.46  | 2.11 | 1.56 | 1.05 | 25.67 |
| 1938 | 1.51 | 3.52 | 1.98 | 1.54 | 4.95 | 0.48 | 2.05 | 3.53 | 1.98  | 0.63 | 0.60 | 1.84 | 24.61 |
| 1939 | 1.71 | 1.84 | 1.07 | 2.59 | 2.72 | 3.73 | 2.67 | 2.00 | 2.49  | 3.00 | 0.91 | 1.02 | 25.75 |
| 1940 | 0.88 | 1.11 | 1.21 | 1.71 | 2.99 | 3.10 | 1.13 | 4.36 | 3.71  | 2.75 | 2.67 | 2.40 | 28.02 |
| 1941 | 1.47 | 1.12 | 0.93 | 1.38 | 2.44 | 1.79 | 1.88 | 2.73 | 3.95  | 5.72 | 3.14 | 1.64 | 28.19 |
| 1942 | 1.54 | 0.78 | 4.16 | 1.31 | 6.25 | 4.12 | 2.54 | 2.53 | 4.76  | 3.81 | 1.93 | 1.45 | 35.08 |
| 1943 | 1.94 | 1.95 | 2.83 | 3.05 | 4.45 | 4.23 | 3.87 | 4.00 | 2.78  | 2.73 | 2.02 | 0.65 | 34.50 |
| 1944 | 0.81 | 1.70 | 2.07 | 1.56 | 1.83 | 4.36 | 2.74 | 1.45 | 2.46  | 1.08 | 0.99 | 1.78 | 23.58 |
| 1945 | 0.45 | 1.45 | 1.56 | 4.13 | 7.32 | 5.34 | 4.88 | 3.48 | 7.41  | 3.85 | 1.59 | 4.12 | 43.24 |
| 1946 | 1.92 | 2.00 | 0.72 | 0.27 | 4.40 | 3.46 | 1.29 | 1.70 | 3.05  | 1.55 | 2.06 | 4.12 | 26.54 |
| 1947 | 2.21 | 2.24 | 1.11 | 3.59 | 5.83 | 2.78 | 3.59 | 1.10 | 3.80  | 1.57 | 1.82 | 1.62 | 31.26 |
| 1948 | 2.36 | 1.60 | 3.66 | 1.03 | 2.55 | 2.75 | 1.65 | 1.97 | 0.77  | 1.81 | 3.93 | 1.92 | 26.70 |
| 1949 | 2.83 | 2.13 | 1.59 | 1.81 | 2.09 | 2.38 | 3.05 | 1.81 | 3.00  | 2.12 | 2.45 | 3.67 | 35.12 |
| 1950 | 3.16 | 4.45 | 2.37 | 2.70 | 0.54 | 3.91 | 5.44 | 1.91 | 3.77  | 3.90 | 2.14 | 3.45 | 36.67 |
| 1951 | 4.12 | 2.53 | 2.33 | 4.37 | 1.74 | 2.07 | 2.20 | 4.39 | 2.17  | 3.56 | 3.74 | 3.45 | 36.67 |
| 1952 | 2.96 | 1.74 | 2.59 | 2.91 | 3.45 | 0.74 | 4.76 | 3.43 | 1.91  | 0.71 | 3.14 | 1.64 | 29.98 |
| 1953 | 2.01 | 1.44 | 3.51 | 3.10 | 4.94 | 2.30 | 4.77 | 3.97 | 2.85  | 2.97 | 2.16 | 2.64 | 36.76 |
| 1954 | 2.37 | 2.94 | 4.38 | 3.18 | 1.12 | 5.22 | 2.21 | 1.07 | 3.65  | 6.72 | 2.99 | 4.02 | 39.87 |
| 1955 | 1.51 | 3.01 | 1.77 | 2.53 | 2.85 | 1.90 | 4.28 | 2.38 | 0.95  | 3.01 | 1.97 | 3.01 | 30.06 |
| 1956 | 2.14 | 3.06 | 2.44 | 4.13 | 3.29 | 4.84 | 4.76 | 7.48 | 1.82  | 0.55 | 2.18 | 3.37 | 40.06 |
| 1957 | 2.14 | 1.31 | 1.60 | 5.41 | 2.87 | 5.27 | 1.64 | 0.83 | 4.48  | 3.97 | 3.28 | 2.92 | 35.72 |
| 1958 | 2.58 | 2.09 | 0.43 | 1.57 | 1.05 | 2.96 | 2.52 | 2.71 | 3.95  | 3.25 | 4.61 | 1.62 | 25.10 |
| 1959 | 3.08 | 3.02 | 1.47 | 3.52 | 5.57 | 1.50 | 4.39 | 6.35 | 2.75  | 4.14 | 4.62 | 4.62 | 44.42 |
| 1960 | 2.66 | 1.85 | 2.11 | 1.79 | 4.77 | 2.73 | 1.57 | 2.27 | 2.04  | 2.66 | 2.31 | 2.31 | 29.04 |
| 1961 | 0.85 | 3.07 | 3.73 | 2.78 | 2.69 | 3.32 | 4.81 | 5.98 | 4.66  | 1.95 | 2.24 | 1.18 | 37.26 |

STATION HISTORY

Weather records began at Harbor Beach in 1887 and were made by the Army Signal until 1889. Location was on Main Street. From 1889 to 1916 the observations were made by P. M. Railroad agents. During 1916, the station was moved to a location three miles east of the Harbor Beach Post Office and observations were made by the Coast Guard. In 1917, the station was moved 6 miles south of the Harbor Beach Post Office where it remained until 1936. In 1937 it was moved to 5 miles west of the Post Office and in 1944 to one mile west of the Post Office. In 1947 it was moved to 3 miles northwest of the Post Office to the Albert Schmucker farm and it is located there at the present time (1962).

Average Temperature (°F)

| Year | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Ann'l |
|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|
| 1932 | 33.9 | 29.5 | 27.8 | 39.8 | 54.8 | 64.1 | 68.5 | 70.2 | 62.1  | 59.4 | 36.5 | 28.1 | 47.1  |
| 1933 | 32.3 | 25.4 | 30.2 | 42.7 | 54.3 | 64.1 | 68.5 | 68.2 | 65.7  | 49.4 | 34.4 | 25.3 | 47.3  |
| 1934 | 26.6 | 12.2 | 27.2 | 41.7 | 58.3 | 66.6 | 69.5 | 64.3 | 62.3  | 50.2 | 31.4 | 22.5 | 45.1  |
| 1935 | 20.7 | 21.5 | 32.5 | 37.4 | 46.1 | 61.0 | 71.0 | 69.5 | 68.2  | 48.2 | 37.9 | 25.8 | 44.1  |
| 1936 | 20.0 | 11.8 | 33.6 | 39.4 | 56.8 | 60.7 | 72.0 | 67.8 | 64.0  | 48.2 | 31.8 | 22.7 | 44.3  |
| 1937 | 26.0 | 25.2 | 25.8 | 39.9 | 53.2 | 62.3 | 68.9 | 70.2 | 68.9  | 44.8 | 34.8 | 22.9 | 44.4  |
| 1938 | 19.7 | 26.1 | 36.0 | 43.1 | 52.6 | 62.6 | 69.9 | 72.5 | 68.2  | 46.8 | 40.3 | 27.6 | 46.7  |
| 1939 | 22.2 | 22.2 | 27.8 | 40.3 | 55.6 | 65.1 | 69.3 | 68.8 | 61.4  | 48.5 | 30.3 | 27.6 | 46.0  |
| 1940 | 18.1 | 22.6 | 24.1 | 38.2 | 50.6 | 61.2 | 67.2 | 67.1 | 66.1  | 48.2 | 34.8 | 27.8 | 43.4  |
| 1941 | 22.3 | 21.5 | 25.0 | 47.5 | 56.1 | 64.4 | 69.6 | 65.7 | 61.4  | 50.2 | 39.6 | 31.9 | 46.3  |
| 1942 | 21.9 | 19.4 | 33.4 | 48.0 | 52.9 | 63.5 | 67.7 | 66.8 | 66.8  | 49.1 | 37.1 | 22.8 | 45.1  |
| 1943 | 18.6 | 23.1 | 26.7 | 37.4 | 51.3 | 66.0 | 68.0 | 67.7 | 65.6  | 48.8 | 35.8 | 24.6 | 43.6  |
| 1944 | 27.3 | 22.5 | 27.1 | 38.4 | 57.4 | 65.1 | 68.1 | 69.5 | 69.5  | 48.4 | 40.8 | 22.7 | 45.6  |
| 1945 | 16.1 | 22.2 | 42.8 | 45.3 | 46.9 | 59.3 | 64.9 | 66.1 | 69.5  | 47.7 | 38.9 | 23.3 | 44.4  |
| 1946 | 22.2 | 17.8 | 40.4 | 40.7 | 49.3 | 60.6 | 68.8 | 65.4 | 62.8  | 56.8 | 41.3 | 28.0 | 44.4  |
| 1947 | 25.1 | 19.7 | 28.9 | 42.1 | 50.4 | 64.5 | 69.6 | 75.1 | 64.7  | 59.3 | 37.5 | 27.6 | 47.0  |
| 1948 | 16.6 | 20.6 | 30.6 | 46.5 | 49.8 | 61.7 | 70.4 | 68.8 | 65.3  | 50.1 | 43.2 | 30.2 | 46.2  |
| 1949 | 28.8 | 27.9 | 31.1 | 42.8 | 54.5 | 68.1 | 71.2 | 71.1 | 68.9  | 55.1 | 36.5 | 29.4 | 48.0  |
| 1950 | 29.2 | 23.1 | 26.2 | 36.8 | 52.5 | 64.0 | 66.8 | 65.3 | 65.3  | 59.1 | 36.2 | 24.0 | 44.8  |
| 1951 | 22.7 | 24.3 | 35.3 | 43.2 | 54.1 | 62.9 | 68.7 | 64.9 | 62.0  | 52.6 | 32.0 | 25.9 | 45.5  |
| 1952 | 26.1 | 26.9 | 30.3 | 46.1 | 51.1 | 66.8 | 71.5 | 68.0 | 62.2  | 45.5 | 40.2 | 32.9 | 47.3  |
| 1953 | 21.9 | 28.7 | 33.4 | 41.3 | 54.4 | 64.9 | 70.0 | 70.0 | 62.1  | 53.9 | 43.3 | 31.6 | 48.5  |
| 1954 | 22.9 | 29.8 | 29.0 | 45.0 | 50.4 | 66.1 | 67.5 | 67.4 | 62.6  | 48.8 | 40.8 | 27.2 | 46.7  |
| 1955 | 22.3 | 24.1 | 31.0 | 48.2 | 56.3 | 64.2 | 73.7 | 73.7 | 62.6  | 53.9 | 36.2 | 24.4 | 47.6  |
| 1956 | 24.8 | 22.6 | 27.8 | 40.4 | 50.9 | 63.9 | 66.5 | 67.3 | 67.3  | 57.1 | 38.9 | 30.2 | 45.4  |
| 1957 | 17.3 | 27.1 | 30.7 | 46.2 | 51.3 | 64.0 | 67.9 | 66.9 | 60.2  | 49.7 | 38.5 | 30.2 | 45.8  |
| 1958 | 22.5 | 18.6 | 33.6 | 44.9 | 52.1 | 59.0 | 67.6 | 68.8 | 64.0  | 51.9 | 40.2 | 31.7 | 48.5  |
| 1959 | 17.0 | 19.3 | 30.6 | 44.9 | 56.6 | 64.1 | 70.0 | 72.5 | 64.0  | 48.6 | 34.8 | 11.4 | 45.9  |
| 1960 | 24.3 | 24.8 | 22.0 | 44.8 | 53.1 | 60.8 | 65.3 | 67.0 | 67.0  | 49.7 | 42.2 | 22.2 | 44.9  |
| 1961 | 18.7 | 26.2 | 34.0 | 39.6 | 51.1 | 62.2 | 68.2 | 67.7 | 66.1  | 53.9 | 39.2 | 27.9 | 46.2  |

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        | 4/18/49*       | 5/8     | 5/23/35  | 9/23/42       | 10/13   | 11/3/27  |
| 28° or Lower        | 4/2/29         | 4/24    | 5/13/46* | 9/29/42       | 10/28   | 11/23/41 |
| 24° or Lower        | 3/10/42        | 4/10    | 5/13/46  | 10/12/36      | 11/12   | 12/6/34  |
| 20° or Lower        | 3/4/27         | 3/28    | 4/15/28  | 10/30/25      | 11/22   | 12/17/48 |
| 16° or Lower        | 2/28/45        | 3/20    | 4/4/36#  | 11/11/33      | 11/30   | 1/1/24   |

\* Also in 1921 and 1948.  
 # Also in 1926.

Example in using table: The average date of the last temperature of 32° or colder in the spring is May 8th. The earliest date of this event in all springs of the 1921-1950 period was April 18th in 1921, 1948, 1949. The latest date was May 23, 1935. In the fall, 32° or colder occurred for the first time as early as September 23, 1942 and as late as November 3, 1927. The average date is October 13th.