

# Climatography of the United States No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: DETOUR VILLAGE, MI

1971-2000

COOP ID: 202094

Climate Division: MI 2

NWS Call Sign:

Elevation: 595 Feet

Lat: 46°00N

Lon: 83°54W

Temperature ( ° F)																					
Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	23.7	6.8	15.3	53	1966	1	24.1	1990	-27	1994	15	1.4	1994	1543	0	.0	.0	.0	23.3	30.8	9.8
Feb	25.7	6.8	16.3	52+	1984	24	28.7	1998	-39	1979	17	4.3	1979	1365	0	.0	.0	.2	19.7	27.7	8.9
Mar	34.2	16.3	25.3	60	1977	30	33.8	2000	-32	1972	3	17.2	1972	1233	0	.0	.0	2.2	10.8	28.4	2.5
Apr	46.4	29.6	38.0	83	1990	26	43.4	1999	1+	1972	6	31.8	1975	811	0	.0	.0	11.8	1.6	18.3	.0
May	60.0	40.8	50.4	88	1988	31	57.3	1998	22+	1966	7	44.2	1997	456	4	.0	.0	27.9	.0	3.6	.0
Jun	69.4	50.1	59.8	96	1964	29	65.2	1991	32+	1964	2	55.2	1982	184	26	.0	.2	30.0	.0	@	.0
Jul	75.2	56.6	65.9	102	1966	3	71.8	1983	38+	1968	11	59.1	1992	65	93	.0	.5	31.0	.0	.0	.0
Aug	73.8	56.6	65.2	95	1975	1	70.9	1983	36	1982	29	61.6	1982	82	87	.0	.4	31.0	.0	.0	.0
Sep	64.6	49.0	56.8	91	1983	4	61.9	1996	27	1986	16	52.3	1974	254	8	.0	@	29.5	.0	.2	.0
Oct	52.8	38.1	45.5	80	1971	2	51.5	1971	19+	1969	23	39.8	1980	607	0	.0	.0	22.4	.0	5.4	.0
Nov	40.9	28.6	34.8	70	1964	4	39.9	1999	-5	1964	22	28.5	1995	908	0	.0	.0	5.5	4.1	19.0	.0
Dec	30.2	16.4	23.3	58+	1982	4	31.3	1994	-24	1993	26	10.2	1989	1293	0	.0	.0	.7	16.1	28.9	3.4
Ann	49.7	33.0	41.4	102	Jul 1966	3	71.8	Jul 1983	-39	Feb 1979	17	1.4	Jan 1994	8801	218	.0	1.1	192.2	75.6	162.3	24.6

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: [www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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**Lon: 83°54W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.89	1.85	1.68	1997	5	4.27	1997	.52	1981	10.9	6.8	.6	.1	.65	.83	1.09	1.31	1.52	1.73	1.97	2.25	2.60	3.15	3.66
Feb	1.21	1.12	1.23	1949	24	2.92	1981	.20	1987	7.8	4.5	.4	@	.25	.36	.54	.70	.86	1.04	1.23	1.47	1.78	2.27	2.75
Mar	2.20	1.95	2.30	1979	4	5.30	1979	.25	1993	9.0	5.9	1.4	.2	.46	.66	.98	1.27	1.57	1.88	2.24	2.67	3.23	4.14	5.00
Apr	2.27	2.16	1.78	1954	27	4.68	1981	.63	1997	7.9	6.0	1.3	.3	.71	.93	1.25	1.52	1.79	2.06	2.37	2.72	3.18	3.89	4.54
May	2.57	2.43	2.10	1964	9	4.85	1973	.34	1992	8.8	6.1	1.6	.4	.81	1.05	1.42	1.73	2.03	2.34	2.68	3.07	3.59	4.39	5.13
Jun	2.61	2.59	3.20	1960	24	6.06	1990	.41	1988	8.5	6.3	1.7	.3	.91	1.15	1.51	1.81	2.10	2.40	2.72	3.10	3.59	4.34	5.02
Jul	3.09	2.76	6.72	1986	5	9.41	1986	.03	1989	8.8	6.4	2.0	.7	.47	.73	1.18	1.61	2.05	2.54	3.10	3.78	4.70	6.18	7.61
Aug	2.95	2.97	2.73	1963	13	5.71	1994	.42	1991	8.8	6.6	2.2	.5	.88	1.16	1.58	1.94	2.29	2.66	3.06	3.53	4.15	5.11	6.00
Sep	3.67	3.53	2.71	1993	14	7.43	1977	1.40+	1979	10.5	7.9	2.3	.8	1.34	1.69	2.18	2.60	2.99	3.40	3.84	4.35	5.00	6.01	6.93
Oct	2.63	2.67	1.90	1951	4	5.01	1996	.90	1972	10.3	6.8	1.5	.4	1.05	1.29	1.63	1.92	2.19	2.46	2.75	3.09	3.53	4.19	4.79
Nov	2.41	2.20	2.50	1964	28	5.93	1988	.51	1999	9.7	6.7	1.4	.4	.74	.96	1.31	1.60	1.88	2.18	2.51	2.89	3.38	4.15	4.87
Dec	2.03	1.94	1.60	1968	29	4.40	1971	.42	1994	10.7	6.8	.7	.1	.65	.84	1.13	1.37	1.60	1.84	2.11	2.42	2.82	3.45	4.02
Ann	29.53	29.68	6.72	Jul 1986	5	9.41	Jul 1986	.03	Jul 1989	111.7	76.8	17.1	4.2	21.79	23.31	25.24	26.70	27.99	29.23	30.51	31.92	33.63	36.09	38.21

+ Also occurred on an earlier date(s)

# Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

\*\* Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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**Climate Division: MI 2**

**NWS Call Sign:**

**Elevation: 595 Feet**

**Lat: 46°00N**

**Lon: 83°54W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	19.3	20.0	11	10	12.0	1990	26	38.0	1982	35	1982	11	29	1982	8.8	7.1	2.7	.7	.1	29.4	26.9	24.0	14.8
Feb	11.8	11.0	15	14	9.0	1981	8	30.5	1972	43+	1985	20	36	1979	6.2	4.7	1.7	.5	.0	28.1	26.6	23.7	17.5
Mar	13.6	14.0	11	10	10.0	1975	22	27.5	1972	47	1972	8	27	1972	5.7	4.7	1.8	.6	@	23.9	21.5	18.9	12.6
Apr	3.5	2.3	2	1	10.0	1987	2	12.0	1987	20	1975	2	10	1997	1.6	1.2	.4	.2	@	7.2	5.6	4.4	1.4
May	.0	.0	#	0	.3	1990	11	.3	1990	#+	1996	9	#+	1996	@	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.1	.0	#	0	1.5	1993	10	1.5	1993	2	1993	10	#+	1997	.1	@	.0	.0	.0	.1	.0	.0	.0
Nov	4.3	3.0	1	#	13.5	1974	15	15.0	1974	14	1974	15	3	1991	2.8	2.0	.5	.1	@	5.4	1.7	.5	.2
Dec	14.5	14.0	5	3	13.0	1983	12	37.6	1983	32	1983	28	16	1995	7.5	5.6	2.0	.6	.1	19.5	12.7	8.6	3.4
Ann	67.1	64.3	N/A	N/A	13.5	Nov 1974	15	38.0	Jan 1982	47	Mar 1972	8	36	Feb 1979	32.7	25.3	9.1	2.7	.2	113.6	95.0	80.1	49.9

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

Complete documentation available from:

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**NWS Call Sign:**

**Elevation: 595 Feet**

**Lat: 46°00N**

**Lon: 83°54W**

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	6/07	6/02	5/30	5/27	5/24	5/21	5/18	5/15	5/10
32	5/25	5/20	5/16	5/13	5/10	5/07	5/04	4/30	4/25
28	5/13	5/07	5/03	4/30	4/27	4/23	4/20	4/16	4/11
24	4/29	4/25	4/22	4/19	4/16	4/14	4/11	4/08	4/03
20	4/20	4/16	4/13	4/10	4/08	4/06	4/03	3/31	3/27
16	4/11	4/07	4/04	4/01	3/30	3/27	3/25	3/22	3/18
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/13	9/18	9/22	9/25	9/28	9/30	10/03	10/07	10/12
32	9/26	10/02	10/06	10/10	10/13	10/17	10/20	10/24	10/30
28	10/07	10/13	10/18	10/22	10/26	10/30	11/03	11/07	11/14
24	10/20	10/26	10/31	11/03	11/07	11/10	11/14	11/18	11/24
20	10/27	11/02	11/07	11/11	11/15	11/19	11/23	11/28	12/05
16	11/10	11/15	11/19	11/23	11/26	11/29	12/02	12/06	12/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	147	140	135	130	126	122	117	112	105
32	181	172	166	161	156	150	145	139	130
28	207	198	192	187	181	176	171	165	156
24	229	221	214	209	204	199	193	187	178
20	248	239	232	226	221	215	210	203	194
16	262	255	249	244	240	236	231	226	218

\* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

**0/00** Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
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Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1543	1365	1233	811	456	184	65	82	254	607	908	1293	8801
60	1388	1225	1078	661	314	90	16	24	135	455	758	1138	7282
57	1295	1141	985	572	239	51	6	10	81	367	668	1045	6460
55	1233	1085	923	513	194	33	1	4	55	311	608	983	5943
50	1078	945	768	370	104	8	0	0	15	189	459	828	4764
32	538	459	260	40	1	0	0	0	0	4	61	334	1697

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	18	18	51	219	572	833	1051	1029	744	420	143	64	5162
55	0	0	0	2	52	175	339	320	109	14	0	0	1011
57	0	0	0	1	35	134	282	263	75	8	0	0	798
60	0	0	0	0	17	82	199	185	39	3	0	0	525
65	0	0	0	0	4	26	93	87	8	0	0	0	218
70	0	0	0	0	0	5	28	27	1	0	0	0	61

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	0	2	76	358	615	826	807	533	226	43	2	0	0	2	78	436	1051	1877	2684	3217	3443	3486	3488
45	0	0	0	26	218	465	671	652	385	114	13	0	0	0	0	26	244	709	1380	2032	2417	2531	2544	2544
50	0	0	0	8	116	319	516	497	247	44	1	0	0	0	0	8	124	443	959	1456	1703	1747	1748	1748
55	0	0	0	0	52	188	361	345	129	8	0	0	0	0	0	0	52	240	601	946	1075	1083	1083	1083
60	0	0	0	0	13	82	215	199	52	2	0	0	0	0	0	0	13	95	310	509	561	563	563	563
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	1	43	191	345	516	505	282	90	8	0	0	0	1	44	235	580	1096	1601	1883	1973	1981	1981

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

## Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.  
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.  
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.  
Documentation for the Snow Climatology project is available from the link under references.

## Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html)  
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,  
[www1.ncdc.noaa.gov/pub/data/special/serialcomplete\\_jam\\_0900.pdf](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)