

Climatology of the United States

No. 20

1971-2000

Station: SOUTH HAVEN, MI

COOP ID: 207690

Climate Division: MI 8

NWS Call Sign:

Elevation: 620 Feet Lat: 42° 24N Lon: 86° 17W

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	31.5	20.1	25.8	67+	1950	25	34.6	1990	-14	1994	16	14.7	1977	1216	0	.0	.0	.9	15.7	28.1	1.3
Feb	34.7	22.5	28.6	71	1999	11	38.1	1998	-17	1934	9	18.2	1978	1019	0	.0	.0	2.1	11.6	23.7	.9
Mar	44.1	29.8	37.0	81+	1981	31	45.5	1973	-8	1969	12	29.8	1978	869	0	.0	.0	8.5	3.5	20.3	.0
Apr	54.6	38.8	46.7	87	1986	25	52.1	1977	13	1982	7	42.0	1982	550	0	.0	.0	18.8	.2	7.0	.0
May	65.5	48.9	57.2	93	1934	31	64.4	1977	24+	1947	10	51.6	1984	280	37	.0	.1	29.3	.0	.7	.0
Jun	74.4	58.5	66.5	100	1953	20	70.6	1971	35+	1945	4	60.7	1982	71	113	.0	.4	30.0	.0	.0	.0
Jul	78.4	64.3	71.4	99+	1934	21	75.4	1999	39	1979	6	67.1	1979	11	207	.0	.7	31.0	.0	.0	.0
Aug	77.6	63.6	70.6	99	1934	1	76.9	1995	37	1927	2	65.9	1992	23	196	.0	.7	31.0	.0	.0	.0
Sep	71.7	56.2	64.0	97	1939	15	68.4	1978	26	1942	29	60.2	1975	87	55	.0	.0	30.0	.0	@	.0
Oct	61.2	46.3	53.8	86	1951	4	60.6	1971	17	1976	27	48.2	1976	356	7	.0	.0	28.1	.0	1.9	.0
Nov	48.0	36.1	42.1	78	1961	3	47.5	1975	-10	1950	25	34.5	1976	689	0	.0	.0	12.4	1.1	12.0	.0
Dec	36.2	25.9	31.1	71	2001	5	38.4	1982	-12	1935	30	21.6	2000	1052	0	.0	.0	2.4	8.7	24.0	.3
Ann	56.5	42.6	49.6	100	Jun 1953	20	76.9	Aug 1995	-17	Feb 1934	9	14.7	Jan 1977	6223	615	.0	1.9	224.5	40.8	117.7	2.5

+ 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/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1926-2001

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

092-A

Climatography of the United States

No. 20

1971-2000

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

Station: SOUTH HAVEN, MI

COOP ID: 207690

Climate Division: MI 8

NWS Call Sign:

Elevation: 620 Feet Lat: 42°24N

Lon: 86°17W

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	2.09	2.25	2.18	1960	12	4.60	1979	.09	1987	13.5	6.8	.9	.2	.47	.66	.97	1.25	1.52	1.82	2.15	2.54	3.06	3.89	4.67
Feb	1.59	1.40	1.82	1954	16	5.64	1997	.20	1983	9.1	4.8	.5	@	.34	.49	.72	.94	1.15	1.37	1.63	1.93	2.34	2.98	3.59
Mar	2.08	2.13	2.77	1948	19	3.90	1982	.38	1987	10.0	5.7	1.1	.1	.66	.86	1.15	1.40	1.64	1.89	2.16	2.48	2.90	3.54	4.14
Apr	3.25	3.05	3.02	1975	19	6.06+	1993	.83	1971	11.4	7.4	2.0	.7	1.32	1.61	2.04	2.38	2.71	3.04	3.40	3.82	4.34	5.14	5.87
May	3.10	3.12	2.50	1981	11	6.22	1981	.70	1994	10.7	6.7	2.0	.6	.92	1.21	1.66	2.04	2.41	2.79	3.22	3.72	4.37	5.39	6.33
Jun	3.15	2.51	5.00	1937	21	7.11	1980	.33	1988	9.5	6.2	2.0	.7	.69	.98	1.44	1.86	2.28	2.73	3.23	3.83	4.62	5.88	7.07
Jul	3.48	3.13	4.02	1971	5	10.59	1986	.71	1974	8.3	5.8	2.1	.9	.98	1.32	1.82	2.25	2.68	3.12	3.61	4.19	4.94	6.13	7.23
Aug	3.56	3.19	4.86	1987	14	10.77	1987	.84	1996	9.2	6.7	2.3	.8	.95	1.28	1.80	2.25	2.70	3.16	3.68	4.30	5.10	6.36	7.54
Sep	4.08	3.79	5.02	1986	25	12.65	1986	.00	1979	9.8	6.7	2.6	1.0	.76	1.32	2.01	2.57	3.11	3.67	4.28	5.01	5.95	7.42	8.79
Oct	2.78	2.33	2.46	1941	23	6.26	1990	1.03	1989	11.1	6.5	1.6	.4	1.05	1.31	1.68	1.99	2.28	2.58	2.90	3.28	3.76	4.49	5.16
Nov	3.27	2.89	2.85	1990	5	8.08	1990	.90	1999	11.4	7.1	2.0	.5	1.17	1.48	1.92	2.30	2.65	3.02	3.42	3.88	4.48	5.39	6.23
Dec	2.75	2.65	2.33	1982	3	5.61	1982	1.06	1986	13.1	7.8	1.2	.3	1.06	1.32	1.68	1.98	2.27	2.56	2.88	3.25	3.71	4.43	5.08
Ann	35.18	34.45	5.02	Sep 1986	25	12.65	Sep 1986	.00	Sep 1979	127.1	78.2	20.3	6.2	25.71	27.57	29.93	31.72	33.30	34.83	36.40	38.14	40.24	43.27	45.89

+ 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: 1926-2001

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Climatography of the United States

No. 20 1971-2000

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

Station: SOUTH HAVEN, MI

COOP ID: 207690

Climate Division: MI 8

NWS Call Sign:

Elevation: 620 Feet

Lat: 42° 24N

Lon: 86° 17W

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	13.6	7.0	6	3	12.0	1994	14	40.9	1979	38	1979	17	22	1979	4.9	4.1	1.1	.5	.0	-9.9	-9.9	-9.9	-9.9
Feb	8.2	7.8	4	2	7.5	1990	22	22.0	1990	30	1977	6	17	1979	4.6	2.7	.7	.2	.0	-9.9	-9.9	-9.9	-9.9
Mar	4.0	2.1	1	#	8.0	1983	21	10.0	1972	15	1982	9	4	1982	1.6	.9	.3	.1	.0	2.3	1.0	.4	.0
Apr	.7	.0	#	0	5.5	1975	3	8.5	1975	9	1982	6	1	1982	.3	.2	.1	@	.0	.4	.2	.1	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.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	3.0	1972	18	3.0	1972	2	1972	18	#	1972	@	@	@	.0	.0	@	.0	.0	.0
Nov	2.3	.1	#	0	6.0	1972	14	11.5	1971	9	1971	22	2	1971	.9	.7	.2	.1	.0	1.4	.8	.3	.0
Dec	16.0	13.4	2	1	11.0	1989	22	35.9	1983	28	1983	31	12	1983	5.1	4.2	1.9	.4	.1	-9.9	-9.9	-9.9	-9.9
Ann	44.9	30.4	N/A	N/A	12.0	Jan 1994	14	40.9	Jan 1979	38	Jan 1979	17	22	Jan 1979	17.4	12.8	4.3	1.3	.1	-9.9	-9.9	-9.9	-9.9

+ 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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: SOUTH HAVEN, MI

COOP ID: 207690

Climate Division: MI 8

NWS Call Sign:

Elevation: 620 Feet

Lat: 42° 24N

Lon: 86° 17W

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	5/28	5/21	5/16	5/12	5/08	5/04	4/29	4/24	4/17
32	5/11	5/05	5/01	4/27	4/24	4/20	4/17	4/12	4/06
28	4/26	4/21	4/17	4/14	4/11	4/08	4/05	4/02	3/28
24	4/19	4/14	4/10	4/06	4/03	3/31	3/28	3/24	3/19
20	4/06	4/01	3/28	3/24	3/21	3/18	3/15	3/11	3/05
16	4/01	3/26	3/21	3/17	3/13	3/09	3/05	3/01	2/22
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	9/23	9/28	10/02	10/06	10/09	10/12	10/16	10/20	10/25
32	10/07	10/13	10/17	10/21	10/24	10/28	10/31	11/05	11/10
28	10/20	10/26	10/30	11/03	11/07	11/10	11/14	11/18	11/25
24	10/28	11/04	11/09	11/13	11/17	11/21	11/26	12/01	12/08
20	11/11	11/18	11/23	11/27	12/01	12/05	12/09	12/14	12/21
16	11/24	11/30	12/04	12/08	12/12	12/15	12/19	12/24	12/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	174	166	160	154	148	141	134	123
32	211	201	194	188	183	177	171	164	154
28	237	227	220	214	208	203	197	190	180
24	259	248	240	234	227	221	214	207	196
20	283	273	266	260	254	248	242	234	224
16	299	290	283	278	273	268	262	255	246

* 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:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: SOUTH HAVEN, MI

COOP ID: 207690

Climate Division: MI 8

NWS Call Sign:

Elevation: 620 Feet Lat: 42° 24N Lon: 86° 17W

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	1216	1019	869	550	280	71	11	23	87	356	689	1052	6223
60	1061	879	714	403	174	25	0	5	26	224	539	897	4947
57	968	795	621	319	123	11	0	0	9	159	451	804	4260
55	906	739	560	267	94	6	0	0	4	122	395	742	3835
50	751	601	416	154	41	1	0	0	0	55	264	595	2878
32	265	188	65	2	0	0	0	0	0	0	18	170	708

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	72	93	218	442	781	1032	1220	1196	959	674	320	140	7147
55	0	0	1	18	162	348	507	483	273	83	6	0	1881
57	0	0	0	10	129	293	445	421	218	58	3	0	1577
60	0	0	0	4	86	217	352	332	145	30	1	0	1167
65	0	0	0	0	37	113	207	196	55	7	0	0	615
70	0	0	0	0	13	43	95	97	13	0	0	0	261

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	3	16	80	235	531	792	968	943	711	422	134	25	3	19	99	334	865	1657	2625	3568	4279	4701	4835	4860
45	1	5	43	136	378	642	813	788	561	281	68	5	1	6	49	185	563	1205	2018	2806	3367	3648	3716	3721
50	0	0	19	72	251	493	658	633	414	166	26	1	0	0	19	91	342	835	1493	2126	2540	2706	2732	2733
55	0	0	4	32	145	349	503	478	276	85	6	0	0	0	4	36	181	530	1033	1511	1787	1872	1878	1878
60	0	0	0	11	74	219	349	325	158	34	0	0	0	0	0	11	85	304	653	978	1136	1170	1170	1170
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	5	46	123	292	502	654	631	436	216	55	5	0	5	51	174	466	968	1622	2253	2689	2905	2960	2965

(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

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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, 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