

Climatography of the United States

No. 20

1971-2000

Station: ATLANTA 5 WNW, MI

COOP ID: 200343

Climate Division: MI 4

NWS Call Sign:

Elevation: 1,170 Feet Lat: 45°02N Lon: 84°14W

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	24.7	7.9	16.3	57	1973	26	25.7	1990	-32	1951	30	5.4	1994	1509	0	.0	.0	.2	24.3	30.8	8.8
Feb	28.1	8.6	18.4	62	2000	27	29.6	1998	-34	1976	2	8.2	1979	1306	0	.0	.0	.9	19.0	27.7	8.4
Mar	38.5	18.5	28.5	82	2000	9	40.5	2000	-24	1982	8	20.7	1972	1132	0	.0	.0	5.5	8.7	28.1	3.3
Apr	52.3	30.5	41.4	90+	1962	26	46.6	1986	-4	1964	1	35.5	1972	708	0	.0	@	17.2	1.1	19.3	.1
May	66.8	41.6	54.2	95+	1975	21	61.0	1975	16	1966	7	46.3	1997	357	22	.0	.4	29.2	.0	6.0	.0
Jun	75.3	50.6	63.0	98+	1994	18	69.5	1995	24+	1949	8	57.7	2000	130	69	.0	1.5	30.0	.0	.5	.0
Jul	80.4	55.4	67.9	101	1966	2	73.0	1983	31+	1965	6	61.3	1992	38	128	@	3.4	31.0	.0	.1	.0
Aug	77.5	53.9	65.7	100	1964	2	70.2	1973	25	1982	29	61.7	1997	76	97	.0	1.3	31.0	.0	.2	.0
Sep	68.8	46.4	57.6	97	1953	1	61.3	1998	22	1980	28	52.6	1993	230	7	.0	.1	29.8	.0	2.2	.0
Oct	56.4	36.3	46.4	88	1950	18	54.7	1971	10	1969	23	41.1	1992	578	0	.0	.0	22.8	.2	10.9	.0
Nov	41.7	27.0	34.4	75	1950	1	41.6	1999	-9+	1949	26	27.9	1995	921	0	.0	.0	7.4	5.5	23.6	.1
Dec	29.7	15.7	22.7	64	2001	6	32.1	1982	-24+	1951	19	9.6	1976	1311	0	.0	.0	.9	19.0	29.9	3.9
Ann	53.4	32.7	43.0	101	Jul 1966	2	73.0	Jul 1983	-34	Feb 1976	2	5.4	Jan 1994	8296	323	@	6.7	205.9	77.8	179.3	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

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

007-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: ATLANTA 5 WNW, MI

COOP ID: 200343

Climate Division: MI 4

NWS Call Sign:

Elevation: 1,170 Feet Lat: 45°02N

Lon: 84°14W

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	1.38	1.31	.80+	1990	26	3.61	1974	.15	1991	13.6	4.1	.4	@	.25	.38	.58	.77	.96	1.17	1.40	1.69	2.06	2.67	3.25
Feb	.86	.63	1.45	1971	20	3.00	1971	.14	1998	9.1	2.8	.2	@	.13	.21	.33	.45	.57	.71	.86	1.05	1.30	1.71	2.11
Mar	1.43	1.13	2.55	1977	12	3.85	1977	.12	1999	8.4	4.5	.9	.1	.13	.22	.42	.61	.83	1.08	1.37	1.74	2.25	3.09	3.93
Apr	1.64	1.58	3.04	2001	12	5.16	1980	.16	1997	8.8	4.5	.8	.2	.43	.58	.82	1.03	1.23	1.45	1.69	1.97	2.34	2.93	3.47
May	2.39	2.07	2.51	1963	8	8.03	1983	.15	1977	9.6	6.4	1.5	.3	.48	.70	1.05	1.37	1.69	2.04	2.43	2.90	3.52	4.52	5.47
Jun	2.48	2.45	1.98+	1949	13	5.71	1999	.20	1991	10.1	5.6	1.2	.3	.57	.80	1.17	1.49	1.82	2.16	2.55	3.01	3.62	4.58	5.49
Jul	2.79	2.56	2.17	1972	20	6.40	1994	.67	1983	10.2	6.3	1.6	.5	1.03	1.29	1.67	1.98	2.28	2.58	2.91	3.30	3.79	4.54	5.23
Aug	3.39	3.17	2.60	1983	12	9.03	1995	.56	1999	10.4	7.8	2.1	.6	.76	1.07	1.57	2.02	2.46	2.94	3.47	4.11	4.96	6.30	7.56
Sep	3.10	2.84	2.54	1986	12	12.83	1986	.07	1979	11.9	7.7	1.6	.4	.60	.88	1.33	1.75	2.17	2.63	3.15	3.77	4.60	5.92	7.19
Oct	2.05	1.84	1.67	1969	13	4.08	1986	.57	2000	9.7	5.6	1.2	.2	.71	.90	1.18	1.42	1.65	1.88	2.14	2.44	2.82	3.41	3.95
Nov	1.81	2.01	1.92	1998	11	3.78	1988	.13	1996	10.5	4.6	.5	.2	.42	.59	.86	1.09	1.33	1.58	1.86	2.19	2.63	3.32	3.97
Dec	1.55	1.43	1.55	1971	11	4.39	1971	.22	1997	12.7	4.8	.6	.1	.27	.41	.63	.85	1.06	1.30	1.56	1.89	2.32	3.02	3.69
Ann	24.87	24.34	3.04	Apr 2001	12	12.83	Sep 1986	.07	Sep 1979	125.0	64.7	12.6	2.9	15.51	17.23	19.48	21.22	22.79	24.32	25.93	27.72	29.92	33.15	35.99

+ 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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Station: ATLANTA 5 WNW, MI

COOP ID: 200343

Climate Division: MI 4

NWS Call Sign:

Elevation: 1,170 Feet

Lat: 45°02N

Lon: 84°14W

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	20.4	18.0	10	11	12.0	1990	26	33.2	1990	33	1982	29	24	1982	6.9	4.7	1.9	.5	.1	-9.9	-9.9	-9.9	-9.9
Feb	9.3	8.5	11	9	6.5	1992	16	19.0	1985	33	1982	8	27	1982	5.1	3.9	1.2	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	12.1	14.8	6	5	9.0	1989	11	18.5	1972	28	1982	10	20	1982	2.9	2.4	.9	.4	.0	-9.9	-9.9	-9.9	-9.9
Apr	3.1	2.0	1	#	10.5	1992	11	10.5	1992	13	1996	4	3	1996	1.2	1.1	.4	.2	.1	3.4	2.2	1.6	.1
May	#	.0	#	0	#	1997	9	#+	1997	#+	1997	9	#+	1997	.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	#	1975	13	#	1975	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.2	.0	#	0	3.0	1997	27	3.0	1997	3	1997	27	#+	1999	.2	.1	@	.0	.0	.2	.1	.0	.0
Nov	11.1	7.2	2	1	10.0	1985	10	22.6	1992	19	1995	28	6	1995	3.5	3.0	.9	.2	.1	7.9	4.7	2.5	.9
Dec	17.5	15.7	5	3	12.0	1989	15	38.5	1985	24	1985	29	16	1995	6.8	5.1	1.8	.5	.1	-9.9	-9.9	-9.9	-9.9
Ann	73.7	66.2	N/A	N/A	12.0+	Jan 1990	26	38.5	Dec 1985	33+	Feb 1982	8	27	Feb 1982	26.6	20.3	7.1	1.9	.4	-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

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NWS Call Sign:

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Lat: 45°02N

Lon: 84°14W

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	7/01	6/24	6/19	6/14	6/10	6/06	6/01	5/27	5/20
32	6/18	6/09	6/03	5/29	5/24	5/19	5/14	5/08	4/29
28	6/01	5/25	5/20	5/15	5/11	5/07	5/03	4/28	4/21
24	5/17	5/10	5/06	5/02	4/28	4/24	4/20	4/15	4/09
20	4/29	4/24	4/20	4/17	4/15	4/12	4/09	4/05	3/31
16	4/19	4/14	4/10	4/07	4/04	4/02	3/30	3/26	3/21
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	8/20	8/26	8/31	9/04	9/08	9/12	9/16	9/20	9/27
32	9/01	9/07	9/12	9/16	9/20	9/23	9/27	10/02	10/09
28	9/20	9/26	10/01	10/05	10/09	10/13	10/17	10/22	10/29
24	10/02	10/08	10/13	10/17	10/21	10/25	10/29	11/03	11/09
20	10/17	10/24	10/28	11/01	11/05	11/09	11/13	11/18	11/25
16	10/29	11/05	11/10	11/14	11/18	11/22	11/26	12/01	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	124	112	103	96	89	82	75	66	54
32	155	142	133	125	118	111	103	94	81
28	182	171	163	156	150	144	137	129	118
24	205	195	187	181	175	170	163	156	146
20	233	223	216	210	204	198	192	185	175
16	254	245	238	232	227	222	216	209	200

* 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

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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	1509	1306	1132	708	357	130	38	76	230	578	921	1311	8296
60	1354	1166	977	559	236	60	8	22	113	428	771	1156	6850
57	1261	1082	884	472	177	32	1	9	63	343	681	1063	6068
55	1199	1026	822	416	142	21	0	4	40	291	621	1001	5583
50	1044	886	669	285	73	5	0	0	9	177	473	846	4467
32	510	408	214	24	0	0	0	0	0	6	84	351	1597

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	24	26	105	307	688	929	1114	1044	768	452	154	63	5674
55	0	0	0	8	116	259	401	335	118	23	0	0	1260
57	0	0	0	4	89	211	339	278	81	14	0	0	1016
60	0	0	0	2	56	148	253	198	41	6	0	0	704
65	0	0	0	0	22	69	128	97	7	0	0	0	323
70	0	0	0	0	7	22	47	33	1	0	0	0	110

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	23	142	444	685	858	794	533	228	45	3	0	0	23	165	609	1294	2152	2946	3479	3707	3752	3755
45	0	0	7	79	305	537	703	639	385	130	17	1	0	0	7	86	391	928	1631	2270	2655	2785	2802	2803
50	0	0	2	44	189	390	548	485	255	62	4	0	0	0	2	46	235	625	1173	1658	1913	1975	1979	1979
55	0	0	0	21	109	256	393	338	146	28	0	0	0	0	0	21	130	386	779	1117	1263	1291	1291	1291
60	0	0	0	11	51	147	244	198	72	4	0	0	0	0	0	11	62	209	453	651	723	727	727	727
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	20	102	288	433	554	505	321	135	23	0	0	0	20	122	410	843	1397	1902	2223	2358	2381	2381

(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/normal/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