

Climatography of the United States

No. 20

1971-2000

Station: MANSFIELD LAHM AP, OH

COOP ID: 334865

Climate Division: OH 6

NWS Call Sign: MFD

Elevation: 1,295 Feet Lat: 40°49N

Lon: 82°31W

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	32.4	16.2	24.3	69	1950	25	33.9	1989	-22+	1994	19	7.6	1977	1246	0	.0	.0	2.8	15.4	27.9	3.5
Feb	35.9	18.7	27.3	71	2000	26	37.3	1998	-11+	1982	10	14.2	1978	1045	0	.0	.0	4.3	11.9	23.9	2.2
Mar	46.6	26.8	36.7	82	1986	30	45.5	1973	-6	1980	2	27.3	1984	862	1	.0	.0	12.4	4.4	20.4	.3
Apr	58.4	36.1	47.2	86+	1990	27	53.0	1985	8	1982	7	40.8	1975	525	7	.0	.0	23.1	.2	9.1	.0
May	69.3	46.7	58.0	92	1962	18	66.7	1991	25	1966	10	52.1	1997	240	39	.0	@	30.6	.0	.6	.0
Jun	77.8	55.8	66.8	101	1988	25	70.9	1984	37	1990	5	61.0	1982	59	129	@	1.1	30.0	.0	.0	.0
Jul	81.8	60.3	71.0	100	1988	7	74.8	1988	43	1988	1	67.4	1979	24	226	@	3.0	31.0	.0	.0	.0
Aug	79.7	58.9	69.3	97	1988	17	75.5	1995	40	1965	29	64.8	1976	23	172	.0	1.4	31.0	.0	.0	.0
Sep	73.0	52.1	62.6	97+	1953	3	67.5	1978	33+	1995	23	57.6	1975	128	72	.0	.4	30.0	.0	.0	.0
Oct	61.7	41.3	51.5	85+	1963	7	58.9	1971	20+	1988	30	44.3	1976	410	7	.0	.0	27.5	.0	4.1	.0
Nov	48.7	32.2	40.5	78	1968	1	45.7	1994	2	1976	30	30.3	1976	720	0	.0	.0	14.2	2.0	15.2	.0
Dec	37.2	22.0	29.6	73	1982	3	38.5	1982	-17	1989	22	16.4	1989	1082	0	.0	.0	5.1	10.7	25.2	1.2
Ann	58.5	38.9	48.7	101	Jun 1988	25	75.5	Aug 1995	-22+	Jan 1994	19	7.6	Jan 1977	6364	653	.0	5.9	242.0	44.6	126.4	7.2

+ 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: 1948-2001

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

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No. 20 1971-2000

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

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COOP ID: 334865

Climate Division: OH 6

NWS Call Sign: MFD

Elevation: 1,295 Feet Lat: 40°49N

Lon: 82°31W

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	2.63	2.59	2.68	1950	15	5.69	1995	.41	1981	14.2	6.3	1.4	.5	.73	.98	1.36	1.69	2.01	2.35	2.73	3.17	3.75	4.65	5.50
Feb	2.17	1.98	2.76	1961	25	4.74	1990	.29	1978	12.1	5.4	1.2	.2	.67	.88	1.19	1.45	1.70	1.97	2.26	2.60	3.04	3.72	4.36
Mar	3.36	3.14	2.40	1964	4	6.17	1985	1.56	1999	14.1	7.8	2.0	.6	1.41	1.72	2.15	2.50	2.83	3.16	3.52	3.93	4.46	5.25	5.97
Apr	4.17	4.27	2.66	1996	23	8.68	1996	.75	1971	14.1	8.8	2.7	.9	1.42	1.82	2.39	2.88	3.35	3.82	4.35	4.96	5.74	6.95	8.07
May	4.42	4.08	2.62	1989	23	8.83	1989	1.95	1998	13.1	8.9	3.4	.8	1.95	2.35	2.90	3.34	3.76	4.19	4.64	5.16	5.81	6.81	7.71
Jun	4.52	4.74	3.72	1978	18	10.00	1981	.56	1988	11.4	7.6	3.1	1.1	1.09	1.52	2.18	2.76	3.35	3.96	4.65	5.47	6.54	8.25	9.84
Jul	4.23	3.61	3.39	1990	11	13.23	1992	.94	1975	10.0	6.6	2.8	1.3	1.24	1.65	2.25	2.77	3.28	3.80	4.39	5.07	5.96	7.35	8.64
Aug	4.60	4.53	3.85	1972	17	8.65	1995	.64	1989	10.9	7.2	3.0	1.5	1.52	1.95	2.59	3.14	3.66	4.21	4.80	5.49	6.39	7.77	9.05
Sep	3.44	3.10	2.26	1979	14	7.76	1986	.70	1998	9.5	6.1	2.4	1.1	.89	1.22	1.72	2.16	2.59	3.04	3.55	4.15	4.93	6.17	7.33
Oct	2.68	2.43	3.33	1995	5	6.45	1995	.79	1974	10.2	6.0	1.9	.4	.86	1.12	1.49	1.81	2.12	2.44	2.79	3.20	3.73	4.56	5.32
Nov	3.76	3.12	3.11	1993	14	12.82	1985	.70	1976	12.9	7.4	2.3	.7	.81	1.16	1.71	2.21	2.71	3.24	3.84	4.56	5.51	7.03	8.46
Dec	3.26	2.89	2.62	1990	3	11.19	1990	.74	1976	14.2	7.1	1.8	.7	1.24	1.54	1.98	2.34	2.68	3.03	3.42	3.86	4.42	5.28	6.07
Ann	43.24	41.78	3.85	Aug 1972	17	13.23	Jul 1992	.29	Feb 1978	146.7	85.2	28.0	9.8	30.26	32.75	35.96	38.40	40.58	42.68	44.85	47.26	50.19	54.43	58.12

+ 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

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Climate Division: OH 6

NWS Call Sign: MFD

Elevation: 1,295 Feet

Lat: 40°49N

Lon: 82°31W

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	11.9	8.1	2	1	9.0	1996	2	43.0	1978	22+	1978	31	9	1978	10.0	3.7	1.1	.3	.0	16.1	10.0	6.3	1.8
Feb	9.4	9.6	2	2	9.3	1985	12	19.1	1984	20	1978	1	10	1978	8.3	3.2	.6	.2	.0	14.3	8.5	5.3	1.2
Mar	6.8	5.8	1	1	7.1	1996	20	17.1	1993	13+	1984	2	4	1984	5.9	2.2	.6	.2	.0	6.0	2.6	1.6	.3
Apr	2.0	.7	#	0	11.8	1987	4	13.4	1982	10	1987	5	1+	1987	2.0	.6	.1	@	@	.8	.3	.2	@
May	.0	.0	#	0	1.1	1989	7	1.1	1989	#+	1995	22	#	2000	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	#	1983	16	#	1983	.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	.6	.0	#	0	7.8	1993	31	10.3	1993	2+	1993	31	#	1993	.3	.2	@	@	.0	.1	.0	.0	.0
Nov	2.7	2.5	#	0	4.4	2000	29	8.7	2000	3+	1993	2	#	2000	3.4	1.0	.1	.0	.0	1.8	.2	.0	.0
Dec	9.7	8.0	1	1	12.9	1981	22	29.0	1981	15	1995	25	5	1995	7.9	2.9	.7	.2	.1	10.1	4.1	1.7	.6
Ann	43.1	34.7	N/A	N/A	12.9	Dec 1981	22	43.0	Jan 1978	22+	Jan 1978	31	10	Feb 1978	37.8	13.8	3.2	.9	.1	49.2	25.7	15.1	3.9

+ 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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Elevation: 1,295 Feet

Lat: 40° 49N

Lon: 82° 31W

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	5/20	5/16	5/13	5/11	5/09	5/06	5/04	5/01	4/27
32	5/09	5/05	5/02	4/30	4/28	4/25	4/23	4/20	4/16
28	4/28	4/24	4/21	4/19	4/17	4/15	4/13	4/10	4/07
24	4/18	4/13	4/10	4/07	4/04	4/01	3/29	3/26	3/21
20	4/11	4/06	4/02	3/30	3/28	3/25	3/22	3/18	3/13
16	4/01	3/26	3/23	3/20	3/17	3/14	3/11	3/07	3/02
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	9/21	9/25	9/28	9/30	10/03	10/05	10/07	10/10	10/14
32	10/02	10/07	10/11	10/15	10/18	10/21	10/24	10/28	11/03
28	10/16	10/21	10/24	10/27	10/30	11/01	11/04	11/07	11/12
24	10/29	11/02	11/06	11/09	11/11	11/14	11/17	11/20	11/25
20	11/06	11/12	11/17	11/21	11/25	11/28	12/02	12/07	12/13
16	11/17	11/23	11/27	12/01	12/04	12/07	12/11	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	160	155	152	149	146	144	141	137	133
32	193	186	181	177	173	168	164	159	152
28	214	207	203	199	195	191	187	182	176
24	242	234	229	225	221	217	212	207	200
20	268	259	252	247	241	236	231	224	215
16	284	276	271	266	262	257	253	247	240

* 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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Elevation: 1,295 Feet Lat: 40° 49N Lon: 82° 31W

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	1246	1045	862	525	240	59	24	23	128	410	720	1082	6364
60	1107	916	721	387	154	21	0	7	49	291	587	943	5183
57	1014	832	628	304	105	10	0	2	24	221	498	850	4488
55	952	776	570	252	78	5	0	0	14	180	441	788	4056
50	801	640	428	141	31	1	0	0	3	98	307	646	3096
32	328	227	80	2	0	0	0	0	0	1	30	219	887

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	64	89	244	492	838	1074	1239	1183	939	626	299	110	7197
55	0	1	15	49	180	388	526	470	265	73	14	2	1983
57	0	1	10	36	142	331	464	408	217	52	9	1	1671
60	0	0	5	21	95	251	371	317	153	29	3	1	1246
65	0	0	1	7	39	129	226	172	72	7	0	0	653
70	0	0	0	1	10	55	103	73	25	0	0	0	267

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	22	34	116	286	599	843	1000	943	707	397	147	38	22	56	172	458	1057	1900	2900	3843	4550	4947	5094	5132
45	4	11	69	182	445	693	845	788	557	261	84	18	4	15	84	266	711	1404	2249	3037	3594	3855	3939	3957
50	1	3	34	104	304	543	690	633	410	152	38	5	1	4	38	142	446	989	1679	2312	2722	2874	2912	2917
55	0	0	15	53	189	396	535	478	274	79	14	0	0	0	15	68	257	653	1188	1666	1940	2019	2033	2033
60	0	0	4	26	101	257	380	325	157	32	2	0	0	0	4	30	131	388	768	1093	1250	1282	1284	1284
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	3	14	69	169	357	548	676	631	438	216	74	17	3	17	86	255	612	1160	1836	2467	2905	3121	3195	3212

(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