

Climatology of the United States

No. 20

1971-2000

Station: MANSFIELD 5 W, OH

COOP ID: 334874

Climate Division: OH 6

NWS Call Sign:

Elevation: 1,350 Feet Lat: 40°46N

Lon: 82°37W

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	31.8	15.4	23.6	69	1950	26	34.2	1990	-25	1994	19	9.9	1977	1284	0	.0	.0	2.7	15.8	28.8	4.7
Feb	36.0	18.5	27.3	72	2000	26	37.8	1998	-24	1963	27	13.3	1978	1057	0	.0	.0	4.3	11.8	24.5	3.2
Mar	46.8	27.1	37.0	81+	1990	13	43.9	1973	-19	1962	7	27.2	1984	869	0	.0	.0	12.5	4.6	22.2	.5
Apr	58.8	36.3	47.6	87+	1990	27	53.8	1985	-1	1964	1	40.6	1975	525	1	.0	.0	23.4	.2	11.8	.0
May	69.7	46.9	58.3	90	1962	18	66.9	1991	18+	1971	4	52.6	1997	254	47	.0	.0	30.6	.0	1.5	.0
Jun	78.0	55.5	66.8	100	1988	26	70.7	1991	28	1972	11	60.8	1972	61	113	@	1.1	30.0	.0	@	.0
Jul	81.7	59.5	70.6	99	1988	8	75.2	1999	36	1963	10	67.0	1984	11	184	.0	2.6	31.0	.0	.0	.0
Aug	79.7	58.1	68.9	97	1988	18	75.2	1995	34	1965	29	65.4	1976	31	153	.0	1.4	31.0	.0	.0	.0
Sep	73.0	51.5	62.3	97	1953	2	67.1	1978	24	1956	21	56.7	1974	127	45	.0	.4	30.0	.0	.5	.0
Oct	61.5	40.6	51.1	88	1953	3	56.5	1971	13	1952	21	44.6	1988	438	5	.0	.0	27.3	.0	6.4	.0
Nov	48.3	31.3	39.8	79	1950	1	45.6	1994	-17	1958	30	30.6	1976	755	0	.0	.0	13.9	2.2	17.5	.0
Dec	36.7	21.4	29.1	69	1982	2	37.1	1982	-29	1950	27	16.5	1989	1116	0	.0	.0	5.0	10.9	26.4	1.6
Ann	58.5	38.5	48.5	100	Jun 1988	26	75.2+	Jul 1999	-29	Dec 1950	27	9.9	Jan 1977	6528	548	@	5.5	241.7	45.5	139.6	10.0

+ 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

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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

Station: MANSFIELD 5 W, OH

COOP ID: 334874

Climate Division: OH 6

NWS Call Sign:

Elevation: 1,350 Feet Lat: 40°46N

Lon: 82°37W

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	2.24	2.11	2.47	1959	22	4.59	1995	.14	1988	10.5	5.4	1.1	.2	.43	.63	.96	1.26	1.57	1.90	2.28	2.73	3.33	4.30	5.22
Feb	1.75	1.63	1.95	1961	26	4.46	1990	.17	1987	9.4	5.1	.9	.2	.28	.43	.69	.93	1.18	1.45	1.75	2.13	2.63	3.45	4.23
Mar	2.61	2.51	2.66	1964	5	4.68	1977	.29	1999	11.8	6.7	1.3	.4	.73	.98	1.36	1.68	2.00	2.33	2.70	3.14	3.70	4.58	5.41
Apr	3.45	3.43	2.26	1972	20	6.47	1972	1.03	1971	12.3	7.7	1.8	.5	1.39	1.70	2.15	2.52	2.87	3.23	3.61	4.06	4.62	5.48	6.26
May	4.16	4.04	3.55	1971	6	7.95	1997	1.33	1988	12.5	8.6	2.5	.7	1.75	2.13	2.66	3.09	3.50	3.92	4.36	4.88	5.52	6.51	7.41
Jun	4.27	3.76	4.08	1981	9	10.90	1981	.47	1988	10.2	7.0	2.7	1.1	1.02	1.42	2.05	2.60	3.16	3.74	4.39	5.17	6.19	7.81	9.33
Jul	3.84	3.29	3.11+	1977	22	9.03	1992	1.14	1998	9.7	6.9	2.7	.9	1.30	1.66	2.20	2.65	3.08	3.52	4.01	4.58	5.30	6.43	7.47
Aug	3.81	3.38	2.77	1966	11	8.01	1974	.65	1993	9.7	7.2	2.8	.9	1.23	1.59	2.12	2.58	3.02	3.47	3.97	4.55	5.30	6.46	7.54
Sep	3.24	2.85	3.98	1957	20	8.76	1986	.83	1987	9.4	5.9	2.5	.8	.85	1.15	1.62	2.04	2.44	2.87	3.35	3.91	4.65	5.81	6.89
Oct	2.49	2.17	2.02	1995	5	5.17	1990	.87	1994	9.6	6.2	1.5	.4	.86	1.10	1.44	1.73	2.00	2.29	2.60	2.96	3.42	4.14	4.80
Nov	2.93	2.60	3.02	1955	16	8.69	1985	.35	1987	12.2	6.5	1.7	.5	.73	1.00	1.43	1.81	2.18	2.58	3.02	3.54	4.22	5.30	6.32
Dec	2.81	2.45	2.00	1990	3	8.61	1990	.66	1995	11.8	6.2	1.6	.4	.93	1.19	1.58	1.92	2.24	2.57	2.93	3.35	3.89	4.73	5.50
Ann	37.60	37.59	4.08	Jun 1981	9	10.90	Jun 1981	.14	Jan 1988	129.1	79.4	23.1	7.0	27.86	29.78	32.21	34.04	35.67	37.23	38.84	40.61	42.75	45.84	48.49

+ 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: MANSFIELD 5 W, OH

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Climate Division: OH 6

NWS Call Sign:

Elevation: 1,350 Feet

Lat: 40°46N

Lon: 82°37W

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	7.3	8.7	1	#	6.0	1989	4	9.3	1975	11	1974	11	3	1974	3.4	2.2	.6	.2	.0	-9.9	-9.9	-9.9	-9.9
Feb	9.2	8.8	1	#	8.0	1971	9	13.8	1971	8+	2000	3	2	1975	3.9	2.5	.7	.2	.0	-9.9	-9.9	-9.9	-9.9
Mar	3.4	2.0	#	0	7.0	1988	4	8.0	1988	9	1978	6	3	1978	2.0	1.0	.3	.1	.0	1.9	.4	.1	.0
Apr	.5	.0	#	0	2.0	1974	9	2.5	1974	2	1974	9	#+	2000	.6	.1	.0	.0	.0	.3	.0	.0	.0
May	#	.0	0	0	#	1974	7	#	1974	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	.0	.0	#	0	.5	1972	19	.5	1972	#+	1980	26	#+	1980	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.2	.0	#	0	4.0	2000	29	5.0	1974	2	1975	27	#+	2000	1.1	.8	.1	.0	.0	.8	.0	.0	.0
Dec	7.1	6.1	#	0	10.0	1974	2	17.0	1974	14	1974	4	4	1974	2.9	1.9	.5	.3	.1	4.4	1.7	1.0	.4
Ann	28.7	25.6	N/A	N/A	10.0	Dec 1974	2	17.0	Dec 1974	14	Dec 1974	4	4	Dec 1974	14.0	8.5	2.2	.8	.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:

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Lat: 40° 46N

Lon: 82° 37W

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	6/05	5/30	5/25	5/21	5/18	5/14	5/10	5/06	4/30
32	5/22	5/16	5/12	5/09	5/05	5/02	4/29	4/24	4/19
28	5/14	5/08	5/03	4/29	4/26	4/22	4/18	4/14	4/08
24	4/30	4/24	4/20	4/16	4/13	4/09	4/05	4/01	3/26
20	4/21	4/15	4/11	4/07	4/04	3/31	3/28	3/24	3/18
16	4/09	4/02	3/29	3/25	3/22	3/18	3/14	3/10	3/04
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	9/16	9/20	9/23	9/25	9/28	9/30	10/02	10/05	10/09
32	9/21	9/25	9/29	10/01	10/04	10/07	10/09	10/13	10/17
28	10/01	10/08	10/12	10/16	10/19	10/23	10/26	10/31	11/06
24	10/18	10/24	10/28	11/01	11/04	11/07	11/11	11/15	11/21
20	10/27	11/03	11/07	11/11	11/14	11/18	11/22	11/26	12/02
16	11/06	11/13	11/18	11/23	11/27	12/01	12/05	12/10	12/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	153	146	141	136	132	128	123	118	111
32	173	166	160	155	151	147	142	136	129
28	205	195	188	181	176	170	164	156	146
24	231	222	216	210	205	199	194	187	178
20	251	242	235	229	224	218	213	206	196
16	278	268	261	255	249	243	237	230	220

* 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	1284	1057	869	525	254	61	11	31	127	438	755	1116	6528
60	1129	917	714	381	155	19	0	6	51	299	605	961	5237
57	1036	833	623	300	107	8	0	1	25	226	517	868	4544
55	974	777	567	250	81	4	0	0	14	183	459	806	4115
50	819	643	424	144	34	1	0	0	2	97	324	662	3150
32	333	233	84	2	0	0	0	0	0	1	36	226	915

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	73	100	238	468	816	1043	1197	1145	908	590	271	133	6982
55	0	0	8	26	184	357	484	432	232	59	4	0	1786
57	0	0	2	16	149	301	422	371	183	40	2	0	1486
60	0	0	0	7	103	221	329	283	119	20	0	0	1082
65	0	0	0	1	47	113	184	153	45	5	0	0	548
70	0	0	0	0	17	41	77	64	10	0	0	0	209

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	13	30	111	277	579	816	962	912	685	371	133	33	13	43	154	431	1010	1826	2788	3700	4385	4756	4889	4922
45	4	10	64	171	429	666	807	757	535	236	70	13	4	14	78	249	678	1344	2151	2908	3443	3679	3749	3762
50	0	2	34	96	291	517	652	602	390	141	30	2	0	2	36	132	423	940	1592	2194	2584	2725	2755	2757
55	0	0	18	50	177	370	497	447	253	69	10	0	0	0	18	68	245	615	1112	1559	1812	1881	1891	1891
60	0	0	2	20	91	236	343	294	142	28	1	0	0	0	2	22	113	349	692	986	1128	1156	1157	1157
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	4	16	72	175	353	531	641	602	429	215	72	14	4	20	92	267	620	1151	1792	2394	2823	3038	3110	3124

(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