

Climatography of the United States

No. 20

1971-2000

Station: CHARDON, OH

COOP ID: 331458

Climate Division: OH 3

NWS Call Sign:

Elevation: 1,130 Feet Lat: 41° 35N

Lon: 81° 11W

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	31.6	14.3	23.0	70	1950	25	32.9	1990	-23+	1984	22	8.1	1977	1303	0	.0	.0	2.5	16.4	29.3	4.8
Feb	34.6	15.1	24.9	73	2000	27	35.0	1998	-26	1979	17	12.5	1978	1124	0	.0	.0	3.2	13.0	26.0	4.4
Mar	44.3	23.9	34.1	82	1986	31	42.6	1973	-17	1980	2	25.1	1984	959	0	.0	.0	10.1	5.9	24.7	1.0
Apr	55.9	33.6	44.8	88	1986	29	50.0	1985	5	1982	8	36.4	1975	608	0	.0	.0	20.0	.7	14.6	.0
May	67.6	44.0	55.8	90	1962	18	63.9	1991	22	1978	1	49.6	1997	306	22	.0	.0	29.7	.0	3.1	.0
Jun	76.2	53.1	64.7	100	1988	26	67.9	1973	30	1972	11	59.3	1972	86	75	@	.6	30.0	.0	.1	.0
Jul	80.0	57.5	68.8	98	1988	17	73.0	1999	38	1979	6	66.2	1976	18	134	.0	1.9	31.0	.0	.0	.0
Aug	78.6	56.1	67.4	97	1969	29	72.6	1995	33	1982	29	63.8	1976	43	115	.0	1.1	31.0	.0	.0	.0
Sep	71.8	49.2	60.5	98	1953	2	64.2	1971	25	1974	24	55.5	1975	159	24	.0	.2	29.9	.0	.6	.0
Oct	60.4	39.0	49.7	87+	1953	3	56.8	1971	15	1975	31	44.7	1976	476	2	.0	.0	26.2	.0	6.7	.0
Nov	47.9	31.5	39.7	80	1950	1	44.3	1994	-2	1976	30	31.3	1976	760	0	.0	.0	12.5	1.8	18.1	@
Dec	36.7	21.5	29.1	73	1982	4	37.2	1982	-21+	1989	25	14.9	1989	1114	0	.0	.0	4.3	10.7	26.8	1.2
Ann	57.1	36.6	46.9	100	Jun 1988	26	73.0	Jul 1999	-26	Feb 1979	17	8.1	Jan 1977	6956	372	@	3.8	230.4	48.5	150.0	11.4

+ 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: 1945-2001

(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: CHARDON, OH

COOP ID: 331458

Climate Division: OH 3

NWS Call Sign:

Elevation: 1,130 Feet Lat: 41°35N

Lon: 81°11W

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	3.28	3.20	2.30	1959	21	6.39	1998	1.17	1983	18.3	9.6	1.7	.2	1.39	1.69	2.10	2.44	2.76	3.09	3.44	3.84	4.34	5.11	5.81
Feb	2.71	2.64	2.33	1997	27	4.95	1997	.43	1987	14.5	7.9	1.3	.2	.89	1.15	1.53	1.85	2.16	2.48	2.83	3.24	3.76	4.58	5.33
Mar	3.40	3.28	3.60	1954	1	5.43	1974	.64	1990	14.4	9.0	2.2	.3	1.40	1.71	2.15	2.51	2.85	3.19	3.56	3.99	4.53	5.36	6.11
Apr	3.84	3.85	3.80	1948	27	6.34	1996	1.39	1975	14.5	9.1	2.6	.6	1.94	2.26	2.70	3.05	3.37	3.69	4.03	4.41	4.89	5.62	6.26
May	4.17	3.60	3.13	2000	19	9.67	1989	.87	1993	13.0	8.7	2.5	1.0	1.18	1.58	2.18	2.70	3.20	3.73	4.32	5.01	5.91	7.31	8.62
Jun	4.53	4.61	3.66	1986	12	9.72	1986	.90	1988	11.5	8.1	3.3	1.0	1.50	1.93	2.56	3.10	3.61	4.14	4.73	5.41	6.28	7.64	8.89
Jul	3.94	3.61	2.43	1976	12	8.51	1976	1.12	1997	10.6	7.5	3.2	.9	1.48	1.85	2.38	2.82	3.24	3.66	4.12	4.66	5.34	6.40	7.36
Aug	4.62	3.88	4.00	1952	15	11.22	1977	1.59	1982	10.8	7.6	3.4	1.1	1.64	2.08	2.71	3.24	3.75	4.27	4.83	5.49	6.33	7.63	8.83
Sep	4.41	3.99	2.72	1959	30	9.91	1996	1.16	1995	11.6	8.4	3.1	1.0	1.60	2.02	2.61	3.11	3.59	4.08	4.61	5.23	6.02	7.23	8.34
Oct	3.84	3.63	3.62	1954	15	7.22	1988	1.83	1982	13.1	8.8	2.4	.7	1.94	2.27	2.70	3.05	3.37	3.69	4.03	4.41	4.89	5.61	6.26
Nov	4.30	4.30	2.89+	1999	3	9.21	1985	1.29	1976	15.5	10.4	2.5	.5	1.53	1.93	2.52	3.01	3.48	3.96	4.49	5.10	5.88	7.09	8.20
Dec	4.29	3.88	2.10	1990	30	8.33	1990	2.34	1980	17.6	11.4	2.7	.5	2.23	2.58	3.06	3.44	3.78	4.13	4.50	4.91	5.43	6.21	6.90
Ann	47.33	47.13	4.00	Aug 1952	15	11.22	Aug 1977	.43	Feb 1987	165.4	106.5	30.9	8.0	37.86	39.78	42.19	43.99	45.56	47.07	48.61	50.30	52.32	55.21	57.67

+ 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: 1945-2001

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

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Station: CHARDON, OH

COOP ID: 331458

Climate Division: OH 3

NWS Call Sign:

Elevation: 1,130 Feet

Lat: 41°35N

Lon: 81°11W

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	24.3	20.6	6	5	13.0	1978	27	57.1	1978	26	1977	28	18	1977	12.8	8.5	3.4	1.1	.1	21.7	17.8	12.8	6.3
Feb	18.6	17.7	6	5	13.0	1971	8	47.8	1988	31	1977	7	21	1977	9.1	5.9	2.3	.9	.1	18.9	15.9	11.9	5.5
Mar	13.7	12.0	2	2	14.0	1983	22	24.5	1996	18	1984	4	9	1984	6.1	4.5	1.4	.7	.1	11.3	7.8	4.5	1.2
Apr	2.9	1.3	#	#	10.0	1987	5	18.0	1987	12	1987	4	2	1987	1.5	1.1	.3	.1	@	1.5	.7	.4	.2
May	#	.0	#	0	#	1989	7	#+	1989	#	1976	3	#	1976	.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	#	1998	22	#	1998	.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	.9	.0	#	0	7.0	1988	26	9.0	1988	7	1988	26	#+	2000	.5	.4	.1	@	.0	.5	.2	@	.0
Nov	10.5	5.5	1	#	11.0	1989	19	53.6	1996	47	1996	14	12	1996	4.0	3.2	1.2	.6	.2	4.8	2.7	1.2	.0
Dec	22.7	20.2	3	3	16.0	1989	16	48.5	2000	23	1993	30	9	1974	9.6	7.0	3.3	1.2	.2	15.8	11.3	7.5	2.2
Ann	93.6	77.3	N/A	N/A	16.0	Dec 1989	16	57.1	Jan 1978	47	Nov 1996	14	21	Feb 1977	43.6	30.6	12.0	4.6	.7	74.5	56.4	38.3	15.4

+ 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: 1,130 Feet

Lat: 41°35N

Lon: 81°11W

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	6/16	6/10	6/06	6/02	5/30	5/26	5/23	5/18	5/12
32	5/28	5/23	5/19	5/15	5/12	5/09	5/06	5/02	4/27
28	5/11	5/07	5/03	4/30	4/28	4/25	4/22	4/19	4/14
24	4/29	4/24	4/21	4/18	4/15	4/12	4/09	4/05	3/31
20	4/19	4/14	4/11	4/08	4/06	4/03	4/01	3/28	3/24
16	4/10	4/05	4/01	3/29	3/25	3/22	3/19	3/15	3/10
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	9/11	9/15	9/19	9/21	9/24	9/27	9/30	10/03	10/08
32	9/22	9/28	10/01	10/05	10/08	10/11	10/14	10/17	10/23
28	10/09	10/15	10/20	10/23	10/27	10/30	11/03	11/07	11/13
24	10/23	10/28	11/01	11/04	11/07	11/10	11/14	11/18	11/23
20	11/04	11/10	11/14	11/18	11/21	11/25	11/29	12/03	12/09
16	11/11	11/18	11/22	11/27	11/30	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	131	126	123	119	117	114	111	107	102
32	168	161	156	151	147	143	139	134	127
28	205	197	191	186	181	177	172	166	157
24	230	221	216	211	206	201	196	190	182
20	253	244	239	233	229	224	219	213	205
16	274	265	259	254	249	244	239	233	225

* 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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NWS Call Sign:

Elevation: 1,130 Feet Lat: 41°35N

Lon: 81°11W

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	1303	1124	959	608	306	86	18	43	159	476	760	1114	6956
60	1148	984	804	460	190	30	1	8	67	331	610	959	5592
57	1055	900	711	374	134	13	0	2	34	252	520	866	4861
55	993	844	649	319	103	7	0	0	20	205	462	804	4406
50	838	704	505	196	45	1	0	0	4	111	323	657	3384
32	344	267	116	6	0	0	0	0	0	1	29	218	981

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	65	67	180	387	739	980	1139	1095	854	550	259	127	6442
55	0	0	0	10	129	296	426	382	184	41	2	0	1470
57	0	0	0	5	98	242	364	322	138	26	0	0	1195
60	0	0	0	2	61	169	272	235	82	12	0	0	833
65	0	0	0	0	22	75	134	115	24	2	0	0	372
70	0	0	0	0	6	21	44	39	3	0	0	0	113

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	8	17	78	214	503	750	901	856	627	319	116	26	8	25	103	317	820	1570	2471	3327	3954	4273	4389	4415
45	0	3	44	127	358	601	746	701	477	199	58	9	0	3	47	174	532	1133	1879	2580	3057	3256	3314	3323
50	0	0	19	70	233	455	591	546	333	108	21	3	0	0	19	89	322	777	1368	1914	2247	2355	2376	2379
55	0	0	6	37	135	312	436	391	206	49	7	0	0	0	6	43	178	490	926	1317	1523	1572	1579	1579
60	0	0	1	10	59	191	287	246	112	11	0	0	0	0	1	11	70	261	548	794	906	917	917	917
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	11	53	139	307	479	590	554	386	190	65	13	2	13	66	205	512	991	1581	2135	2521	2711	2776	2789

(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