

Climatology of the United States

No. 20

1971-2000

Station: WAVERLY, OH

COOP ID: 338830

Climate Division: OH 9

NWS Call Sign:

Elevation: 560 Feet Lat: 39°07N Lon: 82°59W

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	37.9	17.8	27.9	77+	1950	26	38.1	1998	-31	1994	19	13.7	1977	1152	0	.0	.0	6.8	8.3	27.5	2.3
Feb	43.0	20.6	31.8	77	1999	12	40.8	1976	-25	1951	3	19.4	1978	929	0	.0	.0	9.4	4.9	23.3	1.4
Mar	53.5	28.6	41.1	88	1973	14	49.2	1973	-12	1980	3	33.1	1984	743	0	.0	.0	20.4	1.1	19.1	.2
Apr	64.6	37.8	51.2	94	1942	30	56.4	1985	14	1964	1	44.8	1975	418	3	.0	.1	27.3	.0	9.2	.0
May	74.2	48.8	61.5	96+	1975	25	69.4	1991	22	1966	10	57.0	1994	175	68	.0	.8	31.0	.0	1.0	.0
Jun	82.0	58.2	70.1	101	1988	24	73.4	1999	31	1972	11	64.4	1972	22	174	@	4.6	30.0	.0	@	.0
Jul	85.7	62.7	74.2	105	1940	30	79.7	1999	37	1937	22	71.2	1984	0	285	.2	8.9	31.0	.0	.0	.0
Aug	84.3	60.4	72.4	102+	1983	21	76.9	1983	38+	1986	29	67.2	1992	13	240	.2	6.6	31.0	.0	.0	.0
Sep	78.1	52.8	65.5	102	1939	14	71.0	1973	28+	1995	23	61.6	1975	83	97	.0	1.7	30.0	.0	.4	.0
Oct	67.1	39.3	53.2	93	1941	7	59.8	1971	14	1962	27	46.9	1988	375	10	.0	.0	30.3	.0	6.8	.0
Nov	54.6	31.2	42.9	84	1938	7	48.9	1985	-10	1958	30	36.5	1976	664	0	.0	.0	19.6	.2	16.9	.0
Dec	43.0	22.7	32.9	79	1982	3	40.3	1982	-21	1989	22	16.6	1989	997	0	.0	.0	9.8	4.9	24.1	.8
Ann	64.0	40.1	52.1	105	Jul 1940	30	79.7	Jul 1999	-31	Jan 1994	19	13.7	Jan 1977	5571	877	.4	22.7	276.6	19.4	128.3	4.7

+ 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: 1936-2001

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

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**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: WAVERLY, OH

COOP ID: 338830

Climate Division: OH 9

NWS Call Sign:

Elevation: 560 Feet Lat: 39°07N

Lon: 82°59W

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	2.74	2.97	2.75	1976	8	6.97	1978	.40	1986	8.7	6.1	2.0	.6	.54	.79	1.19	1.56	1.94	2.34	2.79	3.33	4.06	5.21	6.31
Feb	2.44	2.27	3.65	2000	19	6.60	2000	.10	1978	7.5	5.5	1.6	.4	.43	.65	1.00	1.34	1.68	2.04	2.46	2.97	3.65	4.74	5.78
Mar	3.61	3.33	4.52	1997	2	10.41	1997	1.02	1995	10.5	8.0	2.8	.5	1.09	1.43	1.94	2.38	2.81	3.26	3.75	4.33	5.07	6.24	7.32
Apr	3.46	3.17	3.10	1948	12	7.15	1998	.64	1971	10.9	7.9	2.5	.6	1.15	1.48	1.96	2.37	2.76	3.16	3.60	4.12	4.78	5.82	6.77
May	4.13	3.68	2.53	1961	8	8.83	1982	.78	1999	9.6	7.8	3.1	.9	1.10	1.49	2.09	2.62	3.13	3.67	4.27	4.99	5.92	7.37	8.74
Jun	3.87	3.62	3.38	1971	26	8.29	1998	.31	1988	9.8	7.4	2.7	.8	.93	1.29	1.86	2.36	2.86	3.39	3.98	4.69	5.62	7.08	8.46
Jul	4.02	3.51	2.85	1954	21	8.30	1990	1.45	1972	9.5	7.3	3.0	1.1	1.73	2.10	2.60	3.02	3.41	3.80	4.22	4.70	5.31	6.24	7.08
Aug	4.40	4.01	3.30	1995	6	9.12	1974	1.08	1993	8.5	6.4	3.0	1.4	1.30	1.72	2.35	2.89	3.42	3.96	4.57	5.28	6.20	7.64	8.98
Sep	2.63	2.60	3.38	1965	1	6.77	1979	.53	1985	7.1	5.5	1.8	.6	.67	.92	1.30	1.64	1.97	2.32	2.72	3.18	3.79	4.75	5.65
Oct	2.51	2.19	2.66	1959	8	7.10	1983	.37	1987	7.4	5.2	1.6	.5	.49	.71	1.08	1.42	1.76	2.13	2.55	3.06	3.73	4.80	5.82
Nov	3.04	2.86	2.55	1936	4	8.75	1985	.48	1976	9.2	6.8	2.1	.4	.80	1.09	1.53	1.92	2.30	2.70	3.14	3.66	4.35	5.42	6.43
Dec	3.02	2.92	2.62	1948	15	7.01	1990	.25	1989	9.0	6.5	2.0	.6	.86	1.15	1.58	1.96	2.32	2.71	3.13	3.63	4.28	5.30	6.25
Ann	39.87	38.81	4.52	Mar 1997	2	10.41	Mar 1997	.10	Feb 1978	107.7	80.4	28.2	8.4	28.97	31.10	33.81	35.87	37.69	39.45	41.26	43.26	45.68	49.18	52.20

+ 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: 1936-2001

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Station: WAVERLY, OH

COOP ID: 338830

Climate Division: OH 9

NWS Call Sign:

Elevation: 560 Feet

Lat: 39°07N

Lon: 82°59W

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	2.1	1.1	#	#	3.0	1979	28	6.0	1971	3	1986	20	1	1984	1.0	.5	@	.0	.0	1.2	.0	.0	.0
Feb	3.1	1.7	#	0	7.3	1971	9	12.2	1971	9	1971	9	4	1985	1.3	.8	.2	.1	.0	2.0	.5	.3	.0
Mar	2.3	.0	#	0	8.0	1980	1	10.8	1971	5	1972	3	1	1971	.6	.4	.2	.1	.0	.5	.2	.1	.0
Apr	.1	.0	#	0	3.0	1977	6	3.0	1977	12	1987	4	1	1987	@	@	@	.0	.0	.0	.0	.0	.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	#	.0	0	0	#	1974	20	#	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	2.5	1977	27	2.5	1977	2	1971	25	#+	1996	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	.8	.0	#	0	5.0	1984	6	5.0	1984	6	1989	27	2	1989	.4	.3	.1	@	.0	.0	.0	.0	.0
Ann	8.5	2.8	N/A	N/A	8.0	Mar 1980	1	12.2	Feb 1971	12	Apr 1987	4	4	Feb 1985	3.4	2.1	.5	.2	.0	3.8	.7	.4	.0

+ 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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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	5/26	5/21	5/17	5/14	5/10	5/07	5/04	4/30	4/25
32	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/23	4/18
28	5/02	4/28	4/24	4/21	4/18	4/15	4/12	4/09	4/04
24	4/21	4/16	4/12	4/09	4/06	4/04	3/31	3/28	3/23
20	4/11	4/05	4/01	3/29	3/25	3/22	3/19	3/14	3/09
16	3/31	3/23	3/17	3/12	3/08	3/03	2/26	2/20	2/12
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	9/20	9/24	9/26	9/29	10/01	10/03	10/06	10/08	10/12
32	9/25	9/30	10/03	10/06	10/09	10/11	10/14	10/18	10/22
28	10/06	10/12	10/16	10/20	10/23	10/27	10/30	11/03	11/09
24	10/15	10/22	10/27	10/31	11/04	11/08	11/12	11/17	11/24
20	10/24	10/31	11/05	11/09	11/13	11/18	11/22	11/27	12/04
16	11/11	11/17	11/22	11/25	11/29	12/03	12/07	12/11	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	162	155	151	147	143	139	135	131	124
32	176	169	165	161	158	154	151	146	140
28	213	204	198	192	187	183	177	171	162
24	239	229	222	216	211	205	199	192	182
20	262	252	244	238	232	227	220	213	203
16	293	284	277	271	266	260	254	248	238

* 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	1152	929	743	418	175	22	0	13	83	375	664	997	5571
60	997	789	589	281	92	4	0	2	31	244	514	842	4385
57	904	705	502	208	57	1	0	0	14	178	425	754	3748
55	842	650	445	166	39	0	0	0	8	139	370	697	3356
50	697	520	310	82	13	0	0	0	1	66	238	553	2480
32	249	148	37	0	0	0	0	0	0	0	13	169	616

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	120	143	316	576	916	1142	1308	1250	1003	658	339	195	7966
55	0	1	11	52	241	453	595	537	321	84	6	10	2311
57	0	0	7	34	197	394	533	475	267	60	2	5	1974
60	0	0	1	17	140	307	440	384	194	34	0	0	1517
65	0	0	0	3	68	174	285	240	97	10	0	0	877
70	0	0	0	0	25	75	145	123	36	2	0	0	406

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	37	58	187	391	700	928	1081	1025	786	458	189	63	37	95	282	673	1373	2301	3382	4407	5193	5651	5840	5903
45	14	25	111	262	547	778	926	870	636	315	107	29	14	39	150	412	959	1737	2663	3533	4169	4484	4591	4620
50	3	6	59	154	393	628	771	715	486	190	57	6	3	9	68	222	615	1243	2014	2729	3215	3405	3462	3468
55	0	0	27	81	252	478	616	560	343	99	19	1	0	0	27	108	360	838	1454	2014	2357	2456	2475	2476
60	0	0	8	36	139	331	461	406	216	41	5	0	0	0	8	44	183	514	975	1381	1597	1638	1643	1643
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	28	53	142	270	449	616	738	688	518	308	131	45	28	81	223	493	942	1558	2296	2984	3502	3810	3941	3986

(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