U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: STEUBENVILLE, OH **COOP ID: 338025**

Climate Division: OH 7 **NWS Call Sign:** **Elevation: 992 Feet** **Lat: 40˚23N** **Lon: 80˚38W**

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	36.4	20.0	28.2	75	1950	25	38.1	1990	-22+	1994	19	14.0	1977	1141	0	.0	.0	4.6	11.5	26.6	1.8
Feb	40.3	22.6	31.5	77	2000	26	38.9	1998	-8+	1985	4	19.6	1978	940	0	.0	.0	7.0	7.9	22.4	.9
Mar	50.7	30.2	40.5	84+	1950	27	48.2	1973	-1+	1980	2	33.5	1984	761	0	.0	.0	16.1	2.2	19.1	.1
Apr	61.7	39.0	50.4	89+	1990	27	54.4	1991	15	1950	14	45.1	1975	441	1	.0	.0	25.8	.1	7.5	.0
May	71.5	49.2	60.4	93	1962	18	68.4	1991	24	1947	10	55.2	1997	195	51	.0	.1	30.8	.0	.5	.0
Jun	79.5	58.2	68.9	98+	1971	28	72.0	1991	34	1972	11	64.4	1972	30	146	.0	1.5	30.0	.0	.0	.0
Jul	82.9	62.8	72.9	102	1988	16	77.7	1999	43	1945	12	69.4	1976	5	248	.1	4.1	31.0	.0	.0	.0
Aug	81.5	61.7	71.6	100+	1955	5	76.4	1995	40	1944	25	68.1	1992	9	214	.0	2.2	31.0	.0	.0	.0
Sep	74.9	55.0	65.0	101+	1953	3	68.5	1978	33+	1956	21	60.6	1975	77	75	.0	.7	30.0	.0	.0	.0
Oct	63.8	43.0	53.4	91	1949	10	60.1	1971	19	1952	21	47.7	1988	367	8	.0	.0	28.7	.0	2.5	.0
Nov	51.7	34.2	43.0	85	1948	5	48.1	1985	-1	1958	30	34.6	1976	663	0	.0	.0	16.7	.7	13.2	.0
Dec	41.0	25.1	33.1	77	1982	3	40.6	1982	-14	1989	22	20.3	1989	991	0	.0	.0	7.0	6.9	23.7	.5
Ann	61.3	41.8	51.6	102	Jul 1988	16	77.7	Jul 1999	-22+	Jan 1994	19	14.0	Jan 1977	5620	743	.1	8.6	258.7	29.3	115.5	3.3

\+ 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: 1941-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.85	2.41	2.76	1952	26	6.31	1999	.55	1981
Feb	2.46	2.35	1.83	1966	13	5.23	1975	.36	1978
Mar	3.29	3.30	2.45	1945	6	6.07	1989	1.36	1979
Apr	3.20	3.26	2.02	1948	12	5.58	1981	.52	1971
May	4.11	4.12	2.43	1971	6	6.96	1990	1.43	1986
Jun	4.37	4.02	3.66	1954	16	9.08	1974	.97	1999
Jul	4.26	3.91	6.81	1943	7	8.23	1990	1.50	1995
Aug	3.84	3.26	3.50	1952	16	10.32	1980	1.31	1993
Sep	3.26	3.04	5.05	1990	7	10.46	1990	.57	1985
Oct	2.53	2.46	3.62	1954	15	5.12	1983	.12	1982
Nov	3.38	2.92	2.90	1985	4	13.49	1985	.69	1976
Dec	3.00	2.63	1.80	1990	18	7.42	1990	1.70	1976
Ann	40.55	40.36	6.81	Jul 1943	7	13.49	Nov 1985	.12	Oct 1982

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.8	7.2	1.5	.4
Feb	12.7	6.2	1.3	.2
Mar	14.3	8.4	2.2	.2
Apr	14.3	8.0	1.8	.3
May	13.9	8.9	2.6	.7
Jun	12.8	8.2	3.3	.9
Jul	11.5	7.6	3.0	1.0
Aug	10.1	6.7	2.7	1.0
Sep	10.9	6.2	2.3	.6
Oct	11.1	6.1	1.5	.4
Nov	14.0	7.5	2.1	.5
Dec	15.5	7.4	1.7	.5
Ann	155.9	88.4	26.0	6.7

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.92	1.19	1.59	1.93	2.26	2.60	2.97	3.41	3.97	4.84	5.65
Feb	.77	1.01	1.35	1.65	1.94	2.23	2.56	2.94	3.44	4.21	4.92
Mar	1.51	1.80	2.20	2.52	2.82	3.12	3.45	3.81	4.28	4.98	5.61
Apr	1.20	1.50	1.93	2.29	2.63	2.97	3.35	3.79	4.35	5.20	5.99
May	1.48	1.87	2.42	2.89	3.34	3.79	4.29	4.87	5.61	6.75	7.79
Jun	1.33	1.75	2.37	2.90	3.42	3.95	4.55	5.24	6.14	7.53	8.83
Jul	1.77	2.16	2.70	3.15	3.58	4.00	4.47	5.00	5.67	6.70	7.63
Aug	1.07	1.43	1.99	2.47	2.94	3.43	3.97	4.62	5.45	6.76	7.99
Sep	.82	1.13	1.60	2.02	2.44	2.87	3.36	3.94	4.69	5.89	7.00
Oct	.58	.81	1.18	1.51	1.84	2.20	2.59	3.06	3.68	4.67	5.60
Nov	.92	1.24	1.72	2.15	2.57	3.01	3.49	4.07	4.82	6.00	7.10
Dec	1.42	1.68	2.04	2.33	2.59	2.86	3.15	3.48	3.89	4.51	5.07
Ann	30.78	32.72	35.17	37.02	38.65	40.21	41.81	43.58	45.71	48.77	51.39

\+ 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: 1941-2001
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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	2.2	-99.9	#	0	11.0	1994	4	11.0	1994	3	1972	28	1	1971	3.8	2.5	.6	.3	.1	-9.9	-9.9	-9.9	-9.9
Feb	6.1	3.4	#	#	6.0	1971	8	14.0	1971	7	1971	8	2	1995	1.9	1.2	.4	.2	.0	-9.9	-9.9	-9.9	-9.9
Mar	3.5	.0	#	0	6.5	1971	3	15.5	1971	18	1993	13	4	1994	1.2	.8	.3	.1	.0	1.1	.4	.2	.0
Apr	.1	.0	#	0	1.5	1972	7	1.5	1972	1	1972	7	#	1972	.1	.1	.0	.0	.0	.1	.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	.3	.0	0	0	6.0	1993	31	6.0	1993	0	0	0	0	0	.1	.1	.1	.1	.0	.0	.0	.0	.0
Nov	.4	.0	#	0	3.5	1971	24	3.5	1971	3	1971	24	#+	1999	.3	.2	.1	.0	.0	.2	.1	.0	.0
Dec	2.0	1.3	#	0	4.0	1977	8	6.0	1977	1	1971	17	#+	1991	1.4	.7	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Ann	14.6	-9.9	N/A	N/A	11.0	Jan 1994	4	15.5	Mar 1971	18	Mar 1993	13	4	Mar 1994	8.8	5.6	1.7	.7	.1	-9.9	-9.9	-9.9	-9.9

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	5/24	5/19	5/15	5/12	5/09	5/05	5/02	4/28	4/23
32	5/09	5/05	5/02	4/30	4/27	4/25	4/23	4/20	4/15
28	4/25	4/21	4/18	4/16	4/13	4/11	4/08	4/05	4/01
24	4/18	4/13	4/09	4/06	4/04	4/01	3/29	3/25	3/21
20	4/10	4/04	3/31	3/27	3/24	3/20	3/17	3/12	3/06
16	3/27	3/21	3/17	3/14	3/11	3/08	3/05	3/01	2/23

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	9/26	9/30	10/04	10/06	10/09	10/12	10/14	10/18	10/22
32	10/08	10/13	10/17	10/20	10/23	10/26	10/29	11/01	11/06
28	10/21	10/25	10/29	11/01	11/04	11/06	11/09	11/13	11/17
24	11/01	11/06	11/10	11/13	11/16	11/19	11/22	11/26	12/01
20	11/10	11/16	11/21	11/24	11/28	12/01	12/05	12/10	12/16
16	11/20	11/27	12/02	12/07	12/11	12/16	12/20	12/25	1/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	165	160	157	153	149	145	140	134
32	195	189	185	181	178	174	171	166	161
28	221	215	211	207	204	200	196	192	186
24	248	240	235	230	226	221	217	211	203
20	271	263	258	253	249	244	240	234	226
16	298	290	284	279	275	270	265	259	251

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1141	940	761	441	195	30	5	9	77	367	663	991	5620
60	986	800	606	296	104	6	0	0	25	236	514	836	4409
57	893	716	518	217	64	2	0	0	10	170	428	743	3761
55	831	660	460	169	44	1	0	0	5	132	373	683	3358
50	689	528	323	77	13	0	0	0	1	63	246	540	2480
32	250	148	40	0	0	0	0	0	0	0	16	147	601

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	132	132	302	550	879	1106	1266	1228	988	664	343	180	7770
55	0	0	10	29	209	417	553	515	303	83	10	2	2131
57	0	0	5	17	168	358	491	453	248	58	5	0	1803
60	0	0	0	6	114	272	398	360	173	31	1	0	1355
65	0	0	0	1	51	146	248	214	75	8	0	0	743
70	0	0	0	0	16	58	119	98	21	1	0	0	313

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	35	52	152	346	651	885	1039	999	768	437	178	52	35	87	239	585	1236	2121	3160	4159	4927	5364	5542	5594
45	13	21	86	221	497	735	884	844	618	298	103	27	13	34	120	341	838	1573	2457	3301	3919	4217	4320	4347
50	2	6	48	133	350	585	729	689	469	176	50	6	2	8	56	189	539	1124	1853	2542	3011	3187	3237	3243
55	0	0	24	68	220	438	574	534	325	88	21	1	0	0	24	92	312	750	1324	1858	2183	2271	2292	2293
60	0	0	4	32	119	292	419	380	195	37	6	0	0	0	4	36	155	447	866	1246	1441	1478	1484	1484
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	17	32	99	213	401	587	711	680	486	247	100	31	17	49	148	361	762	1349	2060	2740	3226	3473	3573	3604

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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