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: COSHOCTON AGR RES STN, OH **COOP ID: 331905**

Climate Division: OH 6 **NWS Call Sign:** **Elevation: 1,140 Feet** **Lat: 40˚22N** **Lon: 81˚48W**

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	33.7	17.6	25.7	68	1999	23	35.6	1990	-26+	1994	20	10.2	1977	1220	0	.0	.0	3.5	14.3	28.2	3.3
Feb	37.2	20.2	28.7	75	2000	27	38.4	1998	-15	1972	9	15.7	1978	1017	0	.0	.0	5.1	10.7	23.7	1.9
Mar	47.9	28.8	38.4	82	1998	31	46.7	1973	1	1986	8	29.8	1984	826	0	.0	.0	12.9	3.6	20.4	.0
Apr	59.2	39.1	49.2	85	1990	26	53.7	1999	14+	1982	7	42.2	1975	476	1	.0	.0	23.0	.3	6.9	.0
May	69.6	50.0	59.8	91+	1991	30	68.0	1991	26	1966	10	54.9	1997	217	55	.0	.1	30.4	.0	.2	.0
Jun	78.2	58.4	68.3	98	1988	26	72.3	1991	38+	1990	5	63.1	1972	41	139	.0	1.2	30.0	.0	.0	.0
Jul	81.9	62.6	72.3	101	1988	17	76.7	1999	47+	1983	6	69.2	1976	6	231	.1	2.7	31.0	.0	.0	.0
Aug	80.4	61.6	71.0	97+	1991	3	76.0	1995	39	1986	29	67.3	1976	15	201	.0	1.8	31.0	.0	.0	.0
Sep	73.9	54.9	64.4	94+	1993	1	68.8	1998	32	1983	26	58.9	1975	83	67	.0	.5	30.0	.0	@	.0
Oct	62.6	43.2	52.9	84+	1963	8	60.2	1971	20+	1962	28	46.6	1988	387	12	.0	.0	27.8	.0	3.0	.0
Nov	50.1	33.6	41.9	80	1961	4	47.4	1994	-2	1958	29	33.7	1976	695	0	.0	.0	14.9	1.3	14.9	.0
Dec	38.6	23.6	31.1	74	1982	4	39.2	1982	-17	1989	22	18.6	1989	1051	0	.0	.0	5.6	9.4	25.1	1.0
Ann	59.4	41.1	50.3	101	Jul 1988	17	76.7	Jul 1999	-26+	Jan 1994	20	10.2	Jan 1977	6034	706	.1	6.3	245.2	39.6	122.4	6.2

+ 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

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1956-2001

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

Issue Date: February 2004

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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	2.32	2.20	2.21	2000	4	4.23	1995	.54	1981
Feb	2.06	1.95	2.20	1988	2	4.54	1988	.19	1987
Mar	2.90	2.81	3.40	1964	10	5.02	1980	1.12	1990
Apr	3.29	3.13	2.04	1970	2	6.64	1981	.67	1971
May	3.83	4.23	2.95	1971	6	7.80	1990	1.00	1977
Jun	4.01	4.17	3.84	1986	28	7.15	1989	.60	1984
Jul	4.05	3.65	4.63	1969	5	9.90	1992	1.47	1998
Aug	3.68	3.56	2.98	1998	25	9.39	1980	.34	1993
Sep	2.95	2.61	4.47	1979	14	6.77	1977	.65	1985
Oct	2.31	1.99	2.68	1998	8	4.92	1978	.66	1982
Nov	3.05	2.77	2.61	1985	12	11.00	1985	.45	1976
Dec	2.69	2.44	2.64	1998	22	8.26	1990	.83	1992
Ann	37.14	37.36	4.63	Jul 1969	5	11.00	Nov 1985	.19	Feb 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.5	5.5	1.2	.3
Feb	9.5	5.0	1.2	.2
Mar	12.0	7.0	1.9	.3
Apr	11.6	7.3	2.2	.5
May	11.3	7.5	2.9	.7
Jun	9.8	7.1	2.7	.9
Jul	9.3	6.9	3.0	1.2
Aug	8.9	5.9	2.7	.9
Sep	8.6	5.5	1.8	.6
Oct	8.7	5.5	1.3	.4
Nov	10.6	6.4	1.9	.6
Dec	11.5	6.1	1.6	.3
Ann	123.3	75.7	24.4	6.9

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	.71	.93	1.26	1.54	1.82	2.10	2.42	2.78	3.26	4.00	4.69
Feb	.52	.71	1.01	1.28	1.54	1.82	2.13	2.50	2.98	3.74	4.45
Mar	1.32	1.58	1.93	2.22	2.49	2.76	3.05	3.38	3.79	4.42	4.99
Apr	1.20	1.51	1.96	2.33	2.68	3.05	3.44	3.90	4.48	5.38	6.20
May	1.46	1.82	2.33	2.75	3.16	3.56	4.01	4.52	5.18	6.18	7.10
Jun	.91	1.29	1.87	2.40	2.93	3.49	4.11	4.86	5.85	7.42	8.89
Jul	1.46	1.84	2.39	2.85	3.29	3.74	4.23	4.80	5.53	6.66	7.69
Aug	.95	1.29	1.83	2.30	2.76	3.25	3.80	4.44	5.29	6.62	7.86
Sep	.79	1.06	1.49	1.86	2.23	2.62	3.05	3.55	4.22	5.25	6.23
Oct	.74	.96	1.29	1.56	1.83	2.11	2.41	2.76	3.22	3.93	4.59
Nov	.77	1.06	1.51	1.90	2.29	2.69	3.15	3.69	4.39	5.51	6.55
Dec	.97	1.22	1.59	1.89	2.19	2.49	2.81	3.19	3.67	4.42	5.11
Ann	27.80	29.64	31.99	33.76	35.32	36.82	38.36	40.06	42.11	45.07	47.61

\+ 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: 1956-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	1.0	-99.9	1	#
Feb	.3	-99.9	1	#
Mar	#	#	#	0
Apr	#	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	0	0
Nov	.2	.0	#	0
Dec	-99.9	-99.9	#	0
Ann	-9.9	-9.9	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	1.0	1971	17	2.0	1971	14	1996	16	5	1996
Feb	1.0	1996	18	1.0	1996	9	1971	10	2	1972
Mar	#	1995	9	#+	1995	5	1971	4	1	1971
Apr	#	1997	10	#+	1997	3	1973	12	#+	1997
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1989	20	#+	1989	0	0	0	0	0
Nov	2.0	1971	7	2.0	1971	2	1972	30	#+	1996
Dec	#	1994	12	#	1994	11	1974	2	2	1974
Ann	2.0	Nov 1971	7	2.0+	Nov 1971	14	Jan 1996	16	5	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.1	.1	.0	.0	.0
Dec	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-9.9	-9.9

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-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

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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	5/17	5/13	5/09	5/06	5/03	5/01	4/28	4/24	4/19
32	5/04	4/30	4/26	4/23	4/21	4/18	4/15	4/11	4/07
28	4/23	4/18	4/15	4/13	4/10	4/08	4/05	4/02	3/29
24	4/14	4/09	4/06	4/04	4/01	3/30	3/27	3/24	3/19
20	4/09	4/04	3/31	3/28	3/25	3/22	3/19	3/15	3/10
16	3/31	3/25	3/20	3/16	3/13	3/09	3/06	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	9/25	9/29	10/02	10/04	10/07	10/09	10/12	10/15	10/19
32	10/04	10/09	10/13	10/16	10/18	10/21	10/24	10/28	11/02
28	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18
24	10/27	11/02	11/07	11/10	11/14	11/17	11/21	11/25	12/02
20	11/09	11/15	11/19	11/23	11/27	12/01	12/05	12/09	12/15
16	11/20	11/26	12/01	12/05	12/09	12/13	12/17	12/21	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	175	168	163	159	156	152	148	143	137
32	201	194	189	184	180	176	172	167	160
28	225	219	214	210	206	202	198	194	187
24	249	241	236	231	226	222	217	211	203
20	269	261	256	251	246	242	237	231	223
16	295	286	280	275	270	265	260	254	245

***** 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	1220	1017	826	476	217	41	6	15	83	387	695	1051	6034
60	1065	877	671	331	124	11	0	1	28	257	546	896	4807
57	972	793	583	251	81	4	0	0	12	192	458	803	4149
55	910	737	525	202	59	2	0	0	6	154	402	743	3740
50	764	602	386	102	22	0	0	0	1	80	272	600	2829
32	298	199	68	1	0	0	0	0	0	0	22	190	778

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	101	106	266	515	861	1089	1249	1209	973	648	317	162	7496
55	0	0	10	27	206	401	536	496	289	89	7	3	2064
57	0	0	5	16	167	343	474	434	235	65	3	0	1742
60	0	0	0	6	117	259	381	343	161	37	1	0	1305
65	0	0	0	1	55	139	231	201	67	12	0	0	706
70	0	0	0	0	20	56	107	94	17	2	0	0	296

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	20	34	125	317	635	868	1018	976	743	416	158	45	20	54	179	496	1131	1999	3017	3993	4736	5152	5310	5355
45	6	13	77	207	483	718	863	821	593	276	90	21	6	19	96	303	786	1504	2367	3188	3781	4057	4147	4168
50	0	2	40	119	337	568	708	666	445	164	40	4	0	2	42	161	498	1066	1774	2440	2885	3049	3089	3093
55	0	0	17	61	214	420	553	511	302	85	17	1	0	0	17	78	292	712	1265	1776	2078	2163	2180	2181
60	0	0	5	30	113	283	398	357	181	38	5	0	0	0	5	35	148	431	829	1186	1367	1405	1410	1410
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	6	17	75	180	371	568	699	659	459	228	85	23	6	23	98	278	649	1217	1916	2575	3034	3262	3347	3370

(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.
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