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: GREENVILLE WATER PLANT, OH **COOP ID: 333375**

Climate Division: OH 4 **NWS Call Sign:** **Elevation: 1,024 Feet** **Lat: 40˚06N** **Lon: 84˚39W**

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	32.4	15.1	23.8	71	1950	25	34.5	1990	-33	1994	19	6.8	1977	1280	0	.0	.0	2.6	14.9	28.7	5.5
Feb	36.9	18.0	27.5	73	2000	26	37.3	1998	-23	1985	3	11.0	1978	1053	0	.0	.0	4.8	10.7	25.2	4.0
Mar	48.1	27.7	37.9	85	1910	24	45.8	1973	-14	1984	9	27.3	1984	840	0	.0	.0	13.2	3.4	22.0	.5
Apr	60.3	37.5	48.9	90	1942	30	53.7	1985	10	1982	6	43.5	1982	485	1	.0	.0	24.2	.1	9.2	.0
May	71.4	48.1	59.8	98	1911	27	67.4	1991	23	1966	10	55.0	1997	218	55	.0	.1	30.5	.0	.8	.0
Jun	80.3	57.8	69.1	101	1988	26	72.9	1991	26	1923	29	64.3	1972	33	154	.1	3.2	30.0	.0	.0	.0
Jul	84.0	61.1	72.6	105	1934	21	76.2	1999	43+	1972	6	68.6	1984	5	239	.1	5.1	31.0	.0	.0	.0
Aug	82.2	58.2	70.2	101	1988	18	76.4	1995	36	1986	29	66.3	1992	25	187	.1	3.1	31.0	.0	.0	.0
Sep	76.3	50.3	63.3	100	1953	2	67.9	1998	26+	1942	29	59.3	1974	105	54	.0	1.4	30.0	.0	.4	.0
Oct	64.1	39.0	51.6	90	1951	4	58.4	1971	14+	1981	25	44.8	1976	423	7	.0	.0	27.9	.0	8.2	.0
Nov	50.0	31.0	40.5	79	1950	1	45.8	1975	-2	1929	30	32.1	1976	734	0	.0	.0	15.0	1.4	18.2	.0
Dec	37.7	21.0	29.4	72	1982	3	38.2	1982	-21	1989	22	16.5	1989	1105	0	.0	.0	5.0	9.3	26.4	2.0
Ann	60.3	38.7	49.6	105	Jul 1934	21	76.4	Aug 1995	-33	Jan 1994	19	6.8	Jan 1977	6306	697	.3	12.9	245.2	39.8	139.1	12.0

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1900-2001

(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	2.20	2.02	3.20	1937	15	4.88	1975	.27	1981
Feb	2.09	2.09	2.47	1956	25	4.75	1990	.21	1987
Mar	2.89	2.70	4.45	1913	25	5.97	1973	.79	1994
Apr	3.51	3.55	3.29	1925	22	6.85	1996	.90	1971
May	4.04	3.66	3.45	1933	13	7.47	1989	1.34	1977
Jun	4.07	3.96	4.54	1924	8	10.03	1980	1.39	1988
Jul	4.19	3.71	3.90	1987	2	10.04	1987	1.40	1976
Aug	3.26	3.01	5.19	1969	10	7.81	1979	.59	1971
Sep	2.55	2.12	4.55	1950	21	6.11	1972	.44	1985
Oct	2.70	2.32	2.90+	1995	6	6.91	1986	.63	1994
Nov	3.11	2.40	2.45	1993	14	8.38	1985	.64	1976
Dec	2.69	2.49	2.60	1967	3	8.27	1990	.66	1976
Ann	37.30	37.65	5.19	Aug 1969	10	10.04	Jul 1987	.21	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.8	5.5	1.2	.4
Feb	9.1	4.9	1.3	.3
Mar	11.2	6.8	2.0	.3
Apr	12.2	8.0	2.3	.6
May	11.9	8.2	2.8	.9
Jun	10.4	6.9	2.7	1.0
Jul	9.4	6.2	3.0	1.2
Aug	8.9	5.9	2.2	.9
Sep	8.2	5.0	1.7	.6
Oct	8.8	5.4	1.7	.6
Nov	10.5	6.5	2.2	.6
Dec	11.1	6.1	1.6	.5
Ann	122.5	75.4	24.7	7.9

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	.54	.75	1.07	1.35	1.63	1.93	2.26	2.66	3.18	4.00	4.77
Feb	.48	.68	.98	1.26	1.53	1.82	2.15	2.53	3.04	3.85	4.62
Mar	1.09	1.36	1.75	2.07	2.38	2.69	3.03	3.42	3.92	4.69	5.39
Apr	1.33	1.66	2.13	2.52	2.89	3.27	3.67	4.15	4.75	5.68	6.52
May	1.56	1.93	2.47	2.92	3.34	3.77	4.23	4.77	5.46	6.51	7.47
Jun	1.56	1.94	2.48	2.93	3.35	3.79	4.26	4.80	5.49	6.56	7.53
Jul	1.43	1.83	2.41	2.90	3.36	3.85	4.38	4.99	5.78	7.00	8.13
Aug	.91	1.21	1.68	2.09	2.49	2.91	3.37	3.92	4.63	5.75	6.79
Sep	.48	.71	1.08	1.43	1.78	2.16	2.59	3.11	3.80	4.90	5.96
Oct	.81	1.07	1.45	1.78	2.10	2.44	2.80	3.24	3.79	4.66	5.47
Nov	.80	1.09	1.54	1.94	2.33	2.75	3.21	3.76	4.47	5.60	6.65
Dec	.85	1.11	1.49	1.81	2.12	2.44	2.80	3.21	3.75	4.58	5.35
Ann	27.99	29.83	32.16	33.92	35.48	36.97	38.51	40.20	42.23	45.17	47.70

\+ 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: 1900-2001
(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	6.7	4.2	2	1
Feb	5.2	3.1	1	#
Mar	3.4	2.9	#	#
Apr	.5	#	#	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	.2	.0	#	0
Nov	.8	.3	#	0
Dec	4.0	3.4	1	#
Ann	20.8	13.9	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	13.0	1978	27	39.9	1978	24	1996	10	15	1996
Feb	10.3	1984	28	15.1	1984	11	2000	4	4	2000
Mar	5.5	1999	9	11.9	1984	8	1993	1	1	1999
Apr	4.5	1982	9	6.5	1982	6	1974	9	#+	2000
May	.3	1989	7	.3	1989	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	3.3	1989	19	3.3	1989	#	1993	31	#	1993
Nov	5.0	1980	18	6.1	1980	2	1991	7	#+	1999
Dec	7.5	1974	1	13.8	1981	9	1995	27	3	1995
Ann	13.0	Jan 1978	27	39.9	Jan 1978	24	Jan 1996	10	15	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.4	2.9	.7	.4	.1
Feb	3.8	1.8	.6	.2	@
Mar	2.7	1.0	.3	.1	.0
Apr	.3	.2	@	.0	.0
May	@	.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	.1	.1	@	.0	.0
Nov	.7	.3	@	@	.0
Dec	3.1	1.5	.3	.1	.0
Ann	16.1	7.8	1.9	.8	.1

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	2.6	1.0	.4	.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	.6	.0	.0	.0
Dec	3.4	2.1	.9	.0
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	5/21	5/16	5/13	5/11	5/08	5/06	5/03	4/30	4/25
32	5/11	5/06	5/03	4/30	4/27	4/25	4/22	4/18	4/14
28	5/01	4/27	4/24	4/21	4/18	4/16	4/13	4/10	4/05
24	4/20	4/15	4/12	4/09	4/06	4/04	4/01	3/29	3/24
20	4/09	4/04	3/31	3/28	3/25	3/22	3/18	3/14	3/09
16	4/02	3/27	3/22	3/18	3/15	3/11	3/07	3/03	2/25

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	153	148	144	141	137	133	129	122
32	182	176	171	167	163	159	155	151	144
28	203	195	190	185	181	177	172	167	160
24	231	223	217	212	207	202	197	191	182
20	259	251	245	240	235	231	225	220	211
16	291	281	273	266	260	254	247	240	229

***** 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	1280	1053	840	485	218	33	5	25	105	423	734	1105	6306
60	1125	913	685	339	125	8	0	5	38	287	584	950	5059
57	1032	829	599	259	82	3	0	0	17	216	496	857	4390
55	970	774	540	210	60	2	0	0	9	174	438	800	3977
50	824	644	400	108	22	0	0	0	1	93	304	655	3051
32	347	245	79	1	0	0	0	0	0	1	30	233	936

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	91	117	261	507	860	1111	1257	1185	940	607	286	151	7373
55	0	2	10	26	207	423	544	472	259	68	4	5	2020
57	0	0	7	15	167	364	482	410	207	48	2	0	1702
60	0	0	0	5	117	279	389	321	138	25	0	0	1274
65	0	0	0	1	55	154	239	187	54	7	0	0	697
70	0	0	0	0	20	65	111	89	13	0	0	0	298

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	14	27	116	303	620	882	1017	946	711	381	138	35	14	41	157	460	1080	1962	2979	3925	4636	5017	5155	5190
45	3	7	66	192	468	732	862	791	562	248	76	13	3	10	76	268	736	1468	2330	3121	3683	3931	4007	4020
50	0	3	33	109	324	582	707	636	414	147	35	4	0	3	36	145	469	1051	1758	2394	2808	2955	2990	2994
55	0	0	13	54	205	432	552	481	277	76	13	0	0	0	13	67	272	704	1256	1737	2014	2090	2103	2103
60	0	0	2	23	112	295	397	330	161	27	3	0	0	0	2	25	137	432	829	1159	1320	1347	1350	1350
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	3	20	83	189	379	576	686	631	457	242	86	18	3	23	106	295	674	1250	1936	2567	3024	3266	3352	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