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: TOLEDO BLADE, OH **COOP ID: 338366**

Climate Division: OH 1 **NWS Call Sign:** **Elevation: 600 Feet** **Lat: 41˚39N** **Lon: 83˚32W**

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	33.2	21.7	27.5	65+	1973	19	36.5	1990	-16+	1985	21	14.2	1977	1163	0	.0	.0	1.9	15.6	28.1	2.4
Feb	37.9	24.2	31.1	71	1999	12	39.6	1998	-5+	1971	2	18.5	1978	951	0	.0	.0	3.4	10.6	23.6	1.2
Mar	47.7	32.6	40.2	82+	1963	30	48.2	1973	4	1962	1	32.8	1978	771	0	.0	.0	10.9	3.5	20.1	.0
Apr	61.2	41.9	51.6	90+	1986	28	57.8	1985	15+	1982	8	45.9	1975	406	3	.0	@	22.9	.3	6.2	.0
May	74.2	53.1	63.7	99+	1978	30	70.4	1982	28	1966	10	55.1	1997	150	108	.0	1.7	30.5	.0	.2	.0
Jun	83.3	63.1	73.2	104	1971	29	80.2	1984	39	1966	1	67.3	1972	19	265	.2	5.4	30.0	.0	.0	.0
Jul	87.1	68.1	77.6	105	1999	31	83.4	1983	47+	1967	15	73.2	1992	0	391	.8	10.8	31.0	.0	.0	.0
Aug	84.2	66.4	75.3	103	1965	16	82.4	1983	36	1982	29	72.0+	1997	4	323	.2	6.6	31.0	.0	.0	.0
Sep	77.1	58.6	67.9	101+	1953	3	73.8	1978	36+	1995	23	61.4	1975	55	139	.0	2.0	30.0	.0	.0	.0
Oct	64.2	47.9	56.1	91+	1971	3	63.9	1971	24	1962	26	50.0	1976	304	28	.0	.1	28.0	.0	2.8	.0
Nov	50.7	37.9	44.3	80+	1968	2	51.2	1990	6	1958	30	36.8	1976	621	0	.0	.0	14.0	1.1	12.5	.0
Dec	37.5	26.8	32.2	70	1982	4	41.7	1982	-13	1989	23	20.7	1989	1020	0	.0	.0	3.8	9.6	25.4	.9
Ann	61.5	45.2	53.4	105	Jul 1999	31	83.4	Jul 1983	-16+	Jan 1985	21	14.2	Jan 1977	5464	1257	1.2	26.6	237.4	40.7	118.9	4.5

\+ 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: 1948-2000

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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	2.00	1.89	2.54	1999	17	4.96	1999	.60	1977
Feb	2.02	1.82	2.58	1998	18	5.57	1990	.07	1995
Mar	2.63	2.52	2.11	1954	30	4.62	1980	.91	1981
Apr	3.29	3.54	3.75	1977	23	7.25	1977	.79	1997
May	3.00	2.73	2.08	1949	19	5.36	1991	.80	1988
Jun	3.84	3.38	3.20	1983	28	7.18	1981	.65	1988
Jul	3.12	2.92	5.10	1969	5	7.10	1977	.34	1974
Aug	2.97	2.82	3.10	1957	25	7.60	1977	.78+	1996
Sep	2.59	2.17	2.40	1981	4	6.89	1981	.42	1994
Oct	2.43	1.85	3.10	1991	25	7.80	1991	.59	1994
Nov	3.01	2.52	2.70	1982	2	7.53	1982	.73	1980
Dec	2.62	2.66	3.53	1967	22	6.35	1990	.18	1998
Ann	33.52	33.14	5.10	Jul 1969	5	7.80	Oct 1991	.07	Feb 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.1	4.6	1.1	.2
Feb	8.2	4.5	1.4	.3
Mar	9.4	5.3	1.6	.2
Apr	9.8	6.2	1.7	.4
May	9.7	6.1	1.6	.4
Jun	8.1	5.8	2.4	1.2
Jul	7.7	5.4	2.1	.8
Aug	7.7	5.4	1.9	.6
Sep	7.8	4.9	1.7	.5
Oct	8.5	4.7	1.3	.5
Nov	10.0	5.8	1.9	.6
Dec	10.5	5.7	1.1	.1
Ann	106.5	64.4	19.8	5.8

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	.60	.79	1.07	1.32	1.55	1.80	2.07	2.39	2.81	3.46	4.06
Feb	.26	.42	.70	.98	1.28	1.61	1.99	2.47	3.11	4.16	5.18
Mar	1.17	1.40	1.73	1.99	2.24	2.49	2.76	3.07	3.45	4.04	4.57
Apr	1.25	1.55	1.99	2.36	2.70	3.06	3.44	3.88	4.45	5.32	6.11
May	1.07	1.35	1.76	2.11	2.43	2.77	3.14	3.56	4.11	4.95	5.72
Jun	1.12	1.49	2.04	2.51	2.97	3.46	3.99	4.62	5.43	6.70	7.88
Jul	.86	1.16	1.61	2.00	2.38	2.78	3.23	3.75	4.43	5.51	6.51
Aug	.78	1.06	1.49	1.87	2.24	2.63	3.07	3.58	4.25	5.31	6.31
Sep	.51	.74	1.12	1.47	1.83	2.20	2.63	3.15	3.83	4.93	5.97
Oct	.61	.84	1.19	1.51	1.81	2.14	2.50	2.93	3.50	4.39	5.23
Nov	.83	1.12	1.55	1.93	2.30	2.69	3.11	3.62	4.28	5.31	6.27
Dec	.61	.86	1.24	1.58	1.92	2.29	2.69	3.17	3.80	4.81	5.75
Ann	25.34	26.95	29.01	30.55	31.91	33.22	34.56	36.04	37.82	40.39	42.59

+ 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: 1948-2000
(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	4.1	-99.9	#	0
Feb	1.4	-99.9	0	0
Mar	.3	-99.9	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
Nov	.0	.0	0	0
Dec	3.9	-99.9	0	0
Ann	9.7	-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	5.0	1974	10	8.2	1974	#	1993	2	#	1993
Feb	5.5	1988	12	5.5	1988	0	0	0	0	0
Mar	1.0	1975	10	1.0	1975	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
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	#	1979	26	#+	1979	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	7.8	1973	21	7.8	1973	0	0	0	0	0
Ann	7.8	Dec 1973	21	8.2	Jan 1974	#	Jan 1993	2	#	Jan 1993

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	-9.9	-9.9	-9.9	-9.9	-9.9
Apr	-9.9	-9.9	-9.9	-9.9	-9.9
May	-9.9	-9.9	-9.9	-9.9	-9.9
Jun	-9.9	-9.9	-9.9	-9.9	-9.9
Jul	-9.9	-9.9	-9.9	-9.9	-9.9
Aug	-9.9	-9.9	-9.9	-9.9	-9.9
Sep	-9.9	-9.9	-9.9	-9.9	-9.9
Oct	-9.9	-9.9	-9.9	-9.9	-9.9
Nov	-9.9	-9.9	-9.9	-9.9	-9.9
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	-9.9	-9.9	-9.9	-9.9
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	5/09	5/05	5/02	4/29	4/27	4/24	4/22	4/19	4/15
32	5/01	4/26	4/23	4/20	4/18	4/15	4/12	4/09	4/04
28	4/17	4/13	4/11	4/08	4/06	4/03	4/01	3/29	3/25
24	4/12	4/07	4/04	4/01	3/29	3/27	3/24	3/20	3/16
20	4/04	3/29	3/25	3/22	3/19	3/16	3/12	3/08	3/03
16	3/28	3/20	3/14	3/09	3/04	2/27	2/22	2/16	2/07

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	10/02	10/07	10/11	10/15	10/19	10/23	10/28	11/03
32	10/09	10/15	10/19	10/22	10/26	10/29	11/01	11/05	11/11
28	10/21	10/28	11/02	11/06	11/10	11/13	11/17	11/22	11/29
24	11/06	11/12	11/16	11/20	11/23	11/26	11/30	12/04	12/09
20	11/17	11/22	11/26	11/30	12/03	12/06	12/09	12/13	12/19
16	11/28	12/04	12/08	12/12	12/15	12/18	12/22	12/26	1/01

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	186	180	175	170	166	161	155	147
32	213	205	200	195	190	186	181	175	167
28	241	233	227	222	217	213	208	202	194
24	257	251	246	242	238	234	230	225	218
20	282	274	268	263	258	253	248	243	234
16	314	305	297	291	286	280	274	267	257

***** 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	1163	951	771	406	150	19	0	4	55	304	621	1020	5464
60	1008	811	616	268	78	5	0	0	18	191	473	865	4333
57	915	727	529	196	47	2	0	0	7	136	387	772	3718
55	853	671	472	154	32	1	0	0	4	105	333	717	3342
50	708	540	335	72	11	0	0	0	1	48	211	572	2498
32	256	158	47	0	0	0	0	0	0	0	11	177	649

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	116	132	298	587	981	1236	1414	1342	1074	747	380	180	8487
55	0	0	11	51	300	546	701	629	388	139	12	7	2784
57	0	0	6	34	253	488	639	567	332	108	6	0	2433
60	0	0	0	16	190	401	546	474	252	70	2	0	1951
65	0	0	0	3	108	265	391	323	139	28	0	0	1257
70	0	0	0	0	51	152	244	188	60	8	0	0	703

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	10	22	97	299	675	935	1129	1050	784	432	150	30	10	32	129	428	1103	2038	3167	4217	5001	5433	5583	5613
45	1	4	51	190	522	785	974	895	634	294	73	11	1	5	56	246	768	1553	2527	3422	4056	4350	4423	4434
50	0	0	25	103	373	635	819	740	484	175	35	4	0	0	25	128	501	1136	1955	2695	3179	3354	3389	3393
55	0	0	11	56	242	486	664	585	339	91	12	1	0	0	11	67	309	795	1459	2044	2383	2474	2486	2487
60	0	0	1	26	140	342	509	432	213	40	3	0	0	0	1	27	167	509	1018	1450	1663	1703	1706	1706
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	11	56	169	401	613	774	715	487	238	70	16	0	11	67	236	637	1250	2024	2739	3226	3464	3534	3550

(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