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: MARYSVILLE, OH **COOP ID: 334979**

Climate Division: OH 5 **NWS Call Sign:** **Elevation: 1,000 Feet** **Lat: 40˚14N** **Lon: 83˚22W**

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	33.5	18.1	25.8	72	1950	25	35.7	1990	-23	1982	10	11.1	1977	1216	0	.0	.0	2.6	13.9	27.7	3.5
Feb	38.0	21.1	29.6	73	2000	25	39.2	1998	-19	1948	9	14.2	1978	993	0	.0	.0	4.9	9.7	23.7	2.3
Mar	49.4	29.9	39.7	83	1939	24	47.7	1973	-11	1984	9	30.1	1984	786	0	.0	.0	14.6	2.7	20.3	.2
Apr	61.3	39.4	50.4	89	1942	30	56.9	1985	12+	1982	7	44.9	1975	441	2	.0	.0	24.9	.1	7.4	.0
May	72.1	50.2	61.2	94	1949	5	69.1	1991	22	1966	10	55.3	1997	192	73	.0	.4	30.7	.0	.4	.0
Jun	80.5	59.3	69.9	101	1988	25	73.3	1991	36	1972	11	65.7	1972	25	172	@	2.7	30.0	.0	.0	.0
Jul	84.2	63.5	73.9	109	1936	14	77.8	1999	42	1968	4	70.3	1984	0	274	@	5.5	31.0	.0	.0	.0
Aug	82.2	61.4	71.8	103+	1936	22	77.4	1995	36	1946	30	67.8	1976	12	224	.0	3.2	31.0	.0	.0	.0
Sep	75.6	54.0	64.8	102+	1953	2	69.9	1998	27	1942	29	60.1	1974	81	75	.0	.9	30.0	.0	.1	.0
Oct	63.6	42.7	53.2	92+	1953	3	60.2	1971	17	1952	21	46.1	1976	380	13	.0	.0	28.2	.0	3.9	.0
Nov	49.9	33.5	41.7	80	1950	1	46.9	1994	-6	1958	30	33.9	1976	699	0	.0	.0	15.1	1.2	15.5	.0
Dec	38.3	24.0	31.2	74	2001	5	39.1	1982	-20+	1983	24	17.9	1989	1051	0	.0	.0	5.1	8.7	24.7	1.0
Ann	60.7	41.4	51.1	109	Jul 1936	14	77.8	Jul 1999	-23	Jan 1982	10	11.1	Jan 1977	5876	833	.0	12.7	248.1	36.3	123.7	7.0

\+ 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: 1936-2001

(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	2.30	2.07	2.80	1959	21	4.64	1975	.44	1981
Feb	1.97	1.81	2.07	1948	13	4.35	1975	.23	1987
Mar	2.60	2.51	2.63	1964	10	4.54	1982	1.00	1981
Apr	3.36	3.09	2.83	1972	13	8.08	1972	.69	1971
May	3.89	3.75	2.45	1956	28	7.72	1996	.60	1988
Jun	4.35	4.25	4.82	1997	2	9.01	1997	.92	1988
Jul	4.04	3.63	3.50	1999	2	9.97	1992	.31	1974
Aug	3.37	3.06	3.22	1943	4	7.73	1979	.57	1983
Sep	2.73	2.49	3.50	1979	14	7.34	1986	.11	1978
Oct	2.41	2.04	2.11	1995	6	6.08	1983	.63	1994
Nov	2.96	2.61	2.27	1950	20	8.51	1985	.43	1976
Dec	2.64	2.35	1.65	1937	17	8.74	1990	.70	1976
Ann	36.62	35.76	4.82	Jun 1997	2	9.97	Jul 1992	.11	Sep 1978

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.8	5.8	1.3	.3
Feb	9.7	4.9	1.1	.2
Mar	10.5	6.6	1.7	.2
Apr	11.7	7.2	1.9	.5
May	12.2	7.7	3.0	.8
Jun	10.1	7.0	2.9	1.1
Jul	10.1	6.7	2.6	.9
Aug	9.7	6.8	2.1	.9
Sep	8.6	5.1	1.8	.6
Oct	8.9	5.6	1.4	.4
Nov	10.6	6.5	2.0	.6
Dec	10.6	6.1	1.6	.4
Ann	123.5	76.0	23.4	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	.62	.84	1.17	1.46	1.75	2.05	2.38	2.78	3.30	4.10	4.86
Feb	.49	.67	.96	1.21	1.47	1.73	2.03	2.39	2.85	3.58	4.27
Mar	1.12	1.36	1.68	1.95	2.20	2.45	2.72	3.03	3.43	4.02	4.56
Apr	1.03	1.35	1.83	2.24	2.63	3.04	3.49	4.02	4.71	5.78	6.77
May	1.18	1.55	2.10	2.58	3.04	3.52	4.05	4.66	5.46	6.71	7.87
Jun	1.37	1.79	2.40	2.92	3.43	3.95	4.53	5.20	6.07	7.42	8.67
Jul	1.08	1.46	2.05	2.56	3.06	3.59	4.18	4.88	5.79	7.21	8.54
Aug	.84	1.16	1.65	2.09	2.51	2.97	3.47	4.07	4.85	6.09	7.25
Sep	.41	.64	1.04	1.42	1.81	2.24	2.73	3.33	4.14	5.46	6.72
Oct	.69	.92	1.26	1.56	1.85	2.16	2.49	2.89	3.41	4.21	4.96
Nov	.76	1.04	1.47	1.85	2.23	2.62	3.06	3.58	4.26	5.33	6.33
Dec	.96	1.20	1.56	1.86	2.15	2.44	2.76	3.13	3.60	4.33	5.00
Ann	26.12	28.16	30.76	32.74	34.49	36.19	37.94	39.87	42.22	45.61	48.55

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

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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	6.3	6.0	2	1	8.5	1979	8	18.0	1979	19	1978	27	11	1978	4.6	2.8	.9	.2	.0	11.4	6.0	4.0	.6
Feb	5.0	3.3	1	1	10.0	1971	9	16.8	1979	11	1979	19	6	1985	3.3	1.6	.4	.1	@	7.6	3.6	2.5	.3
Mar	3.1	2.5	#	#	6.0	1984	9	12.0	1984	10	1984	1	3	1984	2.2	1.3	.4	.1	.0	3.2	1.3	.8	@
Apr	.8	.0	#	0	7.0	1974	9	7.5	1982	7	1974	9	#+	2000	.3	.2	.1	.1	.0	.3	.1	.1	.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	.1	.0	#	0	2.5	1989	19	2.5	1989	3	1989	19	#+	1993	@	@	.0	.0	.0	@	@	.0	.0
Nov	1.0	.4	#	#	5.0	1980	18	6.2	1980	5	1980	18	#+	2000	.8	.5	.1	@	.0	.7	.1	@	.0
Dec	3.3	1.8	1	#	7.0	1974	1	11.0	1981	9	1995	30	5	1974	2.6	1.5	.4	.1	.0	4.4	1.8	.6	.0
Ann	19.6	14.0	N/A	N/A	10.0	Feb 1971	9	18.0	Jan 1979	19	Jan 1978	27	11	Jan 1978	13.8	7.9	2.3	.6	@	27.6	12.9	8.0	.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	5/12	5/09	5/06	5/03	4/29	4/26	4/20
32	5/06	5/02	4/29	4/27	4/24	4/22	4/20	4/17	4/13
28	4/23	4/19	4/16	4/13	4/11	4/09	4/06	4/03	3/30
24	4/14	4/09	4/06	4/03	3/31	3/29	3/26	3/22	3/18
20	4/06	3/31	3/27	3/23	3/20	3/16	3/12	3/08	3/02
16	3/26	3/20	3/16	3/12	3/09	3/05	3/02	2/26	2/20

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	9/23	9/27	9/30	10/03	10/05	10/07	10/10	10/13	10/17
32	9/28	10/04	10/09	10/13	10/16	10/20	10/23	10/28	11/03
28	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/10	11/15
24	10/25	10/31	11/04	11/07	11/11	11/14	11/18	11/22	11/28
20	11/04	11/11	11/16	11/20	11/24	11/28	12/03	12/08	12/15
16	11/17	11/24	11/29	12/03	12/07	12/11	12/15	12/19	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	172	165	160	156	152	147	143	138	131
32	198	190	184	179	174	169	164	158	149
28	220	214	210	206	203	200	196	192	186
24	246	238	233	228	224	219	215	209	202
20	276	267	260	254	249	243	238	231	222
16	296	288	282	277	272	268	263	257	249

***** 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	1216	993	786	441	192	25	0	12	81	380	699	1051	5876
60	1061	853	631	299	107	6	0	1	28	252	550	896	4684
57	968	769	545	222	69	2	0	0	12	188	462	803	4040
55	906	715	487	176	49	1	0	0	6	150	405	741	3636
50	760	585	350	85	18	0	0	0	1	78	274	599	2750
32	295	198	55	0	0	0	0	0	0	0	21	187	756

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	102	129	293	551	904	1137	1297	1235	984	655	312	160	7759
55	0	1	11	37	240	448	584	522	300	93	6	0	2242
57	0	0	7	23	198	389	522	460	246	68	3	0	1916
60	0	0	0	10	143	303	429	368	172	40	1	0	1466
65	0	0	0	2	73	172	274	224	75	13	0	0	833
70	0	0	0	0	29	73	133	109	21	3	0	0	368

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	16	37	134	333	660	900	1049	989	748	417	153	38	16	53	187	520	1180	2080	3129	4118	4866	5283	5436	5474
45	2	11	76	215	505	750	894	834	598	279	82	17	2	13	89	304	809	1559	2453	3287	3885	4164	4246	4263
50	0	3	39	125	357	600	739	679	449	163	39	4	0	3	42	167	524	1124	1863	2542	2991	3154	3193	3197
55	0	0	18	62	228	450	584	524	309	85	15	0	0	0	18	80	308	758	1342	1866	2175	2260	2275	2275
60	0	0	3	26	127	308	429	369	184	37	3	0	0	0	3	29	156	464	893	1262	1446	1483	1486	1486
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	21	87	201	405	594	716	668	473	241	83	20	2	23	110	311	716	1310	2026	2694	3167	3408	3491	3511

(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