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: CONOWINGO DAM, MD **COOP ID: 182060**

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 40 Feet** **Lat: 39˚39N** **Lon: 76˚10W**

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	39.9	21.9	30.9	74	1950	26	40.2	1998	-9+	1961	22	19.6	1977	1057	0	.0	.0	5.6	7.0	27.8	.7
Feb	43.5	23.8	33.7	77	1949	15	41.4	1998	-10	1979	14	22.4	1978	878	0	.0	.0	7.5	4.1	23.5	.3
Mar	53.0	31.7	42.4	90	1998	30	47.3	2000	4	1943	4	36.3	1984	703	0	.0	@	18.6	.5	16.5	.0
Apr	64.2	40.5	52.4	93	1990	26	59.3	1994	19	1982	7	48.1	1975	382	1	.0	.2	28.3	.0	4.7	.0
May	74.2	51.0	62.6	99	1996	20	68.9	1998	29	1978	1	58.9	1973	133	58	.0	1.4	30.9	.0	.2	.0
Jun	82.8	60.1	71.5	109	1988	21	77.4	1994	42+	1980	18	66.9	1972	18	211	.3	5.5	30.0	.0	.0	.0
Jul	87.6	64.7	76.2	106	1994	13	81.2	1995	48+	1952	2	72.7	1976	1	346	1.0	12.2	31.0	.0	.0	.0
Aug	86.0	63.6	74.8	104	1993	26	79.7	1995	40	1987	30	70.9	1992	1	305	.3	9.6	31.0	.0	.0	.0
Sep	78.8	56.5	67.7	99	1993	3	73.2	1998	34+	1951	30	63.6	1975	44	123	.0	2.3	30.0	.0	.0	.0
Oct	67.3	43.9	55.6	90+	1997	6	61.6	1984	20	1987	26	48.8	1987	316	24	.0	.1	30.6	.0	3.0	.0
Nov	55.4	34.4	44.9	83	1950	1	52.1	1999	11+	1955	29	37.5	1976	603	0	.0	.0	22.2	@	12.9	.0
Dec	44.7	26.8	35.8	77+	1998	6	42.8	1998	-2	1963	31	23.8	1989	908	0	.0	.0	8.9	2.6	23.4	@
Ann	64.8	43.2	54.0	109	Jun 1988	21	81.2	Jul 1995	-10	Feb 1979	14	19.6	Jan 1977	5044	1068	1.6	31.3	274.6	14.2	112.0	1.0

+ 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: 1941-2001

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

Issue Date: February 2004

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: CONOWINGO DAM, MD

COOP ID: 182060

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 40 Feet** **Lat: 39˚39N** **Lon: 76˚10W**

Precipitation (inches)

Precipitation Totals

	Means/ Medians(1)		Extremes							Mean Number of Days (3)				Precipitation Probabilities (1)								
										Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution								
Month	Mean	Median	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	3.98	3.57	2.38	1948	2	10.41	1979	.43	1981	11.0	7.4	2.9	1.0	1.08	1.45	2.03	2.53	3.03	3.54	4.12	4.79	5.68	7.06	8.36
Feb	2.92	2.61	2.06	1966	13	6.04	1979	.85	1980	9.6	5.4	2.0	.6	.88	1.16	1.57	1.93	2.28	2.64	3.04	3.50	4.11	5.05	5.92
Mar	4.16	4.64	3.66	1958	20	7.15	1993	1.26	1979	11.4	7.3	3.1	1.2	1.38	1.77	2.35	2.84	3.32	3.81	4.34	4.97	5.77	7.02	8.17
Apr	3.65	3.39	2.61	1983	15	9.65	1983	1.16	1985	11.2	7.0	2.7	.7	1.38	1.72	2.21	2.61	3.00	3.39	3.82	4.32	4.95	5.92	6.80
May	4.58	4.83	2.73	1947	1	8.15	1989	1.77	1986	12.6	8.2	3.4	1.2	1.87	2.29	2.88	3.37	3.83	4.29	4.79	5.37	6.11	7.23	8.25
Jun	4.15	4.07	4.32	1972	22	10.27	1972	.48	1988	10.7	6.8	2.9	1.0	1.04	1.43	2.03	2.57	3.10	3.66	4.28	5.02	5.99	7.53	8.96
Jul	4.20	3.44	5.55	1952	8	10.28	1975	.61	1983	10.5	6.8	2.6	1.2	1.05	1.44	2.06	2.60	3.14	3.70	4.33	5.09	6.07	7.62	9.08
Aug	4.41	3.87	5.03	1971	27	11.38	1971	.96	1995	10.5	6.4	2.7	1.2	1.51	1.93	2.54	3.05	3.54	4.05	4.60	5.25	6.08	7.36	8.54
Sep	4.92	4.49	8.25	1999	16	17.54	1999	.41	1986	9.5	6.3	2.8	1.3	.81	1.23	1.95	2.62	3.32	4.08	4.95	6.01	7.42	9.72	11.91
Oct	3.47	3.27	3.16	1996	19	7.37	1976	.36	2000	9.1	5.3	2.5	1.1	1.00	1.33	1.83	2.26	2.68	3.12	3.60	4.17	4.91	6.07	7.14
Nov	3.76	3.57	3.33	1950	25	9.05	1972	.66	1976	10.4	6.5	2.5	1.1	1.01	1.36	1.91	2.38	2.85	3.34	3.89	4.53	5.38	6.70	7.94
Dec	3.89	3.12	3.28	1993	5	8.22	1996	.98	1980	11.1	6.4	2.5	1.1	.95	1.32	1.89	2.39	2.89	3.42	4.01	4.71	5.63	7.08	8.44
Ann	48.09	47.23	8.25	Sep 1999	16	17.54	Sep 1999	.36	Oct 2000	127.6	79.8	32.6	12.7	35.59	38.05	41.18	43.54	45.63	47.64	49.71	51.99	54.74	58.72	62.15

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

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: CONOWINGO DAM, MD **COOP ID: 182060**

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 40 Feet** **Lat: 39°39N** **Lon: 76°10W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.5	3.0	1	#
Feb	4.2	.3	1	#
Mar	.7	.0	#	0
Apr	.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	.3	.0	#	0
Dec	1.0	.0	#	0
Ann	10.7	3.3	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	20.0	1996	8	20.0	1996	8+	1982	26	4	1977
Feb	16.0	1979	19	28.0	1979	22	1979	19	11	1978
Mar	5.0	1984	8	5.0	1984	6+	1978	6	2	1978
Apr	.5	2000	9	.5	2000	#	1972	7	#	1972
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	.0	0	0	.0	0	0	0	0	0	0
Nov	5.0	1989	23	5.0	1989	1	1978	27	#	1978
Dec	6.0	1973	16	11.5	1973	5	1982	12	#+	1999
Ann	20.0	Jan 1996	8	28.0	Feb 1979	22	Feb 1979	19	11	Feb 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.8	1.5	.7	.3	.1
Feb	1.3	.7	.4	.2	.1
Mar	.5	.3	.1	@	.0
Apr	@	.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	.2	.1	.1	.1	.0
Dec	.3	.3	.1	.1	.0
Ann	4.1	2.9	1.4	.7	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.6	1.0	.4	.0
Feb	3.0	1.6	1.2	.8
Mar	1.0	.6	.1	.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	.1	.0	.0	.0
Dec	.4	.1	.1	.0
Ann	8.1	3.3	1.8	.8

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: CONOWINGO DAM, MD **COOP ID: 182060**

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 40 Feet** **Lat: 39˚39N** **Lon: 76˚10W**

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	5/10	5/06	5/03	5/01	4/28	4/26	4/24	4/21	4/17
32	5/03	4/28	4/24	4/21	4/18	4/15	4/12	4/08	4/03
28	4/17	4/12	4/08	4/05	4/03	3/31	3/28	3/24	3/19
24	4/03	3/30	3/27	3/24	3/21	3/18	3/15	3/12	3/07
20	3/30	3/23	3/17	3/13	3/08	3/04	2/27	2/22	2/14
16	3/17	3/09	3/04	2/27	2/23	2/18	2/13	2/08	1/31

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	10/01	10/06	10/10	10/13	10/16	10/19	10/23	10/26	10/31
32	10/10	10/15	10/19	10/22	10/25	10/28	11/01	11/04	11/10
28	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
24	10/31	11/06	11/10	11/14	11/18	11/22	11/25	11/30	12/06
20	11/13	11/21	11/26	12/01	12/05	12/09	12/14	12/19	12/26
16	11/28	12/05	12/10	12/14	12/17	12/21	12/25	12/30	1/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	185	179	175	170	166	161	156	148
32	214	206	200	194	190	185	179	173	165
28	243	235	229	223	218	213	208	202	193
24	265	257	251	246	241	237	232	226	218
20	305	293	285	278	271	264	257	249	237
16	325	315	308	303	297	292	286	279	269

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: CONOWINGO DAM, MD **COOP ID: 182060**

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 40 Feet** **Lat: 39˚39N** **Lon: 76˚10W**

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	1057	878	703	382	133	18	1	1	44	316	603	908	5044
60	902	738	548	242	56	3	0	0	12	200	455	753	3909
57	809	654	456	169	28	0	0	0	5	144	369	660	3294
55	747	598	397	127	16	0	0	0	2	113	315	598	2913
50	601	464	259	51	2	0	0	0	0	53	193	455	2078
32	177	99	13	0	0	0	0	0	0	0	5	86	380

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	144	145	333	610	948	1184	1368	1327	1070	730	392	201	8452
55	0	0	4	47	251	494	655	614	382	130	12	0	2589
57	0	0	1	29	201	434	593	552	324	100	6	0	2240
60	0	0	0	11	136	346	500	459	242	63	2	0	1759
65	0	0	0	1	58	211	346	305	123	24	0	0	1068
70	0	0	0	0	17	105	204	166	43	7	0	0	542

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	22	39	146	385	708	953	1132	1091	835	495	198	51	22	61	207	592	1300	2253	3385	4476	5311	5806	6004	6055
45	4	9	74	249	553	803	977	936	685	344	106	13	4	13	87	336	889	1692	2669	3605	4290	4634	4740	4753
50	0	2	31	135	400	653	822	781	535	211	46	5	0	2	33	168	568	1221	2043	2824	3359	3570	3616	3621
55	0	0	8	63	258	503	667	626	390	107	14	0	0	0	8	71	329	832	1499	2125	2515	2622	2636	2636
60	0	0	4	22	141	357	512	471	252	46	2	0	0	0	4	26	167	524	1036	1507	1759	1805	1807	1807
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	16	29	92	231	432	629	767	742	543	302	116	30	16	45	137	368	800	1429	2196	2938	3481	3783	3899	3929

(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