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: SNOW HILL 4 N, MD **COOP ID: 188380**

Climate Division: MD 5 **NWS Call Sign:** **Elevation: 30 Feet** **Lat: 38˚14N** **Lon: 75˚23W**

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	46.7	27.3	37.0	76	1950	25	44.6	1974	-6	1957	18	26.6	1977	868	0	.0	.0	11.2	3.4	21.6	.2
Feb	49.2	28.7	39.0	78	1997	27	46.6	1976	-2+	1979	10	27.9	1979	729	0	.0	.0	12.8	2.3	19.0	.2
Mar	57.5	35.5	46.5	88	1990	14	51.2	1977	8	1960	11	41.5	1996	573	0	.0	.0	23.0	.2	13.4	.0
Apr	67.8	43.1	55.5	94	1985	22	60.0	1994	22	1969	1	51.1	1975	291	4	.0	.2	29.0	.0	4.4	.0
May	76.3	53.2	64.8	98	1991	31	71.2	1991	30	1956	9	60.8	1992	81	74	.0	1.4	31.0	.0	.1	.0
Jun	84.0	61.8	72.9	100	1988	23	76.6	1989	40+	1967	1	68.8	1992	5	242	@	5.2	30.0	.0	.0	.0
Jul	87.7	66.2	77.0	102	1993	10	80.0	1994	45+	1978	13	73.8	2000	0	371	.2	10.5	31.0	.0	.0	.0
Aug	86.3	64.2	75.3	99	1998	25	78.4	1988	41+	1986	29	72.3	1981	0	318	.0	7.5	31.0	.0	.0	.0
Sep	81.4	57.8	69.6	99	1983	11	73.3	1998	31	1978	29	67.2	1984	16	155	.0	2.4	30.0	.0	@	.0
Oct	70.8	46.0	58.4	93	1954	4	65.3	1971	22	1969	24	52.5	1988	234	29	.0	.1	30.8	.0	2.7	.0
Nov	60.7	38.1	49.4	84+	1950	1	57.0	1985	15+	1956	24	42.7	1976	468	1	.0	.0	25.4	.0	9.9	.0
Dec	51.1	30.9	41.0	78+	1998	6	47.9	1971	-2	1958	16	29.5	1989	743	0	.0	.0	16.5	1.4	18.3	.0
Ann	68.3	46.1	57.2	102	Jul 1993	10	80.0	Jul 1994	-6	Jan 1957	18	26.6	Jan 1977	4008	1194	.2	27.3	301.7	7.3	89.4	.4

\+ 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: 1948-2001

(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	4.02	3.69	4.75	1998	28	8.16	1998	.35	1981
Feb	3.41	3.13	2.87	1973	2	7.90	1998	.95	1991
Mar	4.67	4.14	4.00	1993	13	10.49	1994	.24	1986
Apr	3.24	3.15	2.70+	1958	11	6.93	1983	.44	1985
May	3.64	3.72	2.39	1992	8	6.64	1990	.66	1991
Jun	3.43	2.71	4.32	1962	13	13.02	1972	.55	1994
Jul	4.48	4.69	5.05	1959	15	8.79	1996	.85	1993
Aug	5.40	4.72	9.07	1953	14	16.66	1989	.34	1995
Sep	3.75	3.48	5.92	1985	27	7.80	1999	1.00	1978
Oct	3.42	3.62	4.94	1960	28	9.51	1971	.01	2000
Nov	3.31	2.93	3.24	1990	10	7.71	1997	.70	1974
Dec	3.41	3.28	3.09	1977	19	8.92	1977	.37	1988
Ann	46.18	45.38	9.07	Aug 1953	14	16.66	Aug 1989	.01	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	7.0	2.9	1.1
Feb	9.8	6.2	2.5	.7
Mar	10.9	7.7	3.2	1.3
Apr	10.2	5.7	2.2	.9
May	10.7	6.7	2.5	.8
Jun	8.4	5.8	2.3	.9
Jul	10.1	7.4	2.9	1.2
Aug	8.8	6.2	3.2	1.8
Sep	7.5	5.2	2.4	1.0
Oct	7.7	5.3	2.4	1.1
Nov	8.7	5.7	2.1	1.1
Dec	10.5	6.8	2.2	.8
Ann	114.2	75.7	30.8	12.7

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	1.30	1.68	2.24	2.72	3.19	3.67	4.19	4.81	5.60	6.83	7.97
Feb	1.15	1.47	1.94	2.34	2.73	3.12	3.55	4.06	4.71	5.71	6.64
Mar	1.14	1.58	2.26	2.87	3.47	4.10	4.81	5.65	6.76	8.50	10.14
Apr	1.08	1.39	1.84	2.22	2.59	2.96	3.38	3.86	4.48	5.44	6.33
May	1.01	1.35	1.88	2.33	2.78	3.25	3.77	4.38	5.18	6.42	7.59
Jun	.77	1.09	1.59	2.05	2.50	2.98	3.52	4.17	5.02	6.37	7.64
Jul	1.39	1.81	2.45	2.99	3.52	4.06	4.67	5.37	6.28	7.70	9.01
Aug	1.00	1.48	2.28	3.01	3.76	4.56	5.48	6.59	8.06	10.42	12.67
Sep	1.02	1.38	1.92	2.39	2.86	3.34	3.88	4.52	5.36	6.66	7.88
Oct	.46	.74	1.23	1.70	2.20	2.75	3.39	4.18	5.23	6.96	8.64
Nov	.97	1.29	1.76	2.17	2.57	2.98	3.44	3.98	4.68	5.77	6.79
Dec	.94	1.26	1.76	2.19	2.61	3.05	3.54	4.11	4.86	6.04	7.14
Ann	34.47	36.78	39.72	41.94	43.90	45.78	47.72	49.85	52.43	56.14	59.34

\+ 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: 1948-2001
(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	3.3	1.9	#	#
Feb	4.8	2.3	#	#
Mar	1.5	.2	#	0
Apr	.1	.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	1.6	.1	#	#
Ann	11.6	4.5	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	12.0	1987	26	15.6	1987	12	1987	27	2	1987
Feb	18.0	1979	19	26.2	1979	22	1979	19	4	1979
Mar	7.5	1980	2	8.1	1980	7	1980	2	1	1978
Apr	1.0	1985	9	1.0+	1997	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	.0	0	0	.0	0	0	0	0	0	0
Nov	3.0	1989	23	3.0	1989	3	1989	23	#+	1989
Dec	5.0	1995	7	11.3	1989	6	1989	9	2	1989
Ann	18.0	Feb 1979	19	26.2	Feb 1979	22	Feb 1979	19	4	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.4	1.1	.3	.1	@
Feb	2.2	1.3	.6	.1	.1
Mar	.9	.4	.2	@	.0
Apr	.1	.1	.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
Dec	1.1	.6	.2	@	.0
Ann	6.8	3.6	1.3	.2	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.2	1.0	.2	.2
Feb	2.8	1.6	.7	.1
Mar	.6	.3	.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
Dec	1.5	.5	.1	.0
Ann	7.2	3.4	1.1	.3

+ 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	5/15	5/11	5/08	5/05	5/03	4/30	4/28	4/24	4/20
32	4/30	4/26	4/24	4/21	4/19	4/17	4/15	4/12	4/08
28	4/15	4/11	4/08	4/05	4/03	3/31	3/29	3/25	3/21
24	3/31	3/26	3/23	3/20	3/18	3/15	3/12	3/09	3/05
20	3/22	3/17	3/12	3/09	3/06	3/02	2/27	2/22	2/17
16	3/13	3/05	2/27	2/22	2/17	2/13	2/08	2/02	1/25

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	9/28	10/01	10/04	10/06	10/09	10/11	10/13	10/16	10/20
32	10/08	10/12	10/15	10/18	10/20	10/23	10/25	10/28	11/02
28	10/15	10/21	10/25	10/28	10/31	11/03	11/07	11/11	11/16
24	11/02	11/07	11/11	11/14	11/18	11/21	11/24	11/28	12/03
20	11/26	12/01	12/05	12/09	12/12	12/16	12/19	12/23	12/29
16	12/04	12/10	12/15	12/19	12/22	12/26	12/30	1/03	1/10

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	171	166	162	158	155	151	146	139
32	200	194	190	187	183	180	177	172	167
28	228	222	218	214	211	207	204	199	193
24	265	258	252	248	244	240	236	231	224
20	301	294	289	285	281	277	273	268	261
16	337	327	319	313	307	301	295	288	277

***** 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	868	729	573	291	81	5	0	0	16	234	468	743	4008
60	713	589	418	162	24	0	0	0	3	130	327	591	2957
57	621	510	331	101	9	0	0	0	1	85	248	505	2411
55	566	457	274	69	4	0	0	0	0	61	202	448	2081
50	422	330	154	19	0	0	0	0	0	21	108	315	1369
32	75	46	3	0	0	0	0	0	0	0	1	39	164

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	231	241	453	703	1016	1227	1394	1341	1128	818	523	319	9394
55	8	8	12	82	307	537	681	628	438	166	34	15	2916
57	1	5	6	54	250	477	619	566	379	128	21	10	2516
60	0	0	1	25	172	387	526	473	291	80	10	3	1968
65	0	0	0	4	74	242	371	318	155	29	1	0	1194
70	0	0	0	0	21	120	218	172	53	7	0	0	591

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	85	102	234	456	754	979	1143	1095	888	574	303	137	85	187	421	877	1631	2610	3753	4848	5736	6310	6613	6750
45	37	52	131	314	599	829	988	940	738	421	189	71	37	89	220	534	1133	1962	2950	3890	4628	5049	5238	5309
50	14	24	67	192	444	679	833	785	588	282	106	34	14	38	105	297	741	1420	2253	3038	3626	3908	4014	4048
55	1	5	29	107	300	529	678	630	440	166	47	7	1	6	35	142	442	971	1649	2279	2719	2885	2932	2939
60	0	0	7	47	174	381	523	475	295	80	17	0	0	0	7	54	228	609	1132	1607	1902	1982	1999	1999
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	46	65	140	274	474	660	793	755	594	362	180	76	46	111	251	525	999	1659	2452	3207	3801	4163	4343	4419

(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