

**Climatography  
of the United States  
No. 20**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

**Station: ROCKVILLE 1 NE, MD**

**1971-2000**

**COOP ID: 187705**

**Climate Division: MD 6**

**NWS Call Sign:**

**Elevation: 440 Feet**

**Lat: 39°06N**

**Lon: 77°09W**

**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	39.7	23.8	31.8	78	1950	26	41.9	1990	-13+	1985	21	20.8	1977	1032	0	.0	.0	6.6	5.7	24.4	.7
Feb	43.3	25.8	34.6	82	1985	24	42.6	1990	-12	1979	10	21.1	1979	853	0	.0	.0	9.9	3.5	20.8	.2
Mar	52.8	33.6	43.2	89+	1986	30	49.4	2000	5	1980	3	37.4	1984	676	0	.0	.0	20.9	.4	14.2	.0
Apr	64.1	42.4	53.3	95+	1976	18	60.0	1994	18	1969	1	45.9	1975	360	6	.0	.4	28.6	.0	4.2	.0
May	72.8	51.7	62.3	96+	1987	29	70.8	1991	28	1976	9	58.4	1973	149	63	.0	1.4	31.0	.0	.3	.0
Jun	81.0	60.3	70.7	100+	1959	29	76.1	1987	35	1977	8	65.1	1980	33	202	.0	4.7	30.0	.0	.0	.0
Jul	85.4	65.1	75.3	105	1954	31	82.2	1987	38	1979	6	70.1	1979	10	328	.1	10.2	31.0	.0	.0	.0
Aug	83.4	63.2	73.3	102	1954	1	78.1	1987	39	1979	17	68.4	1981	10	268	.1	6.0	31.0	.0	.0	.0
Sep	76.6	56.3	66.5	99	1954	6	72.4	1998	28	1974	24	61.8	1975	59	101	.0	1.9	30.0	.0	.1	.0
Oct	65.8	44.4	55.1	91	1954	4	61.6	1984	20+	1974	22	50.6	1976	323	15	.0	.0	30.4	.0	3.1	.0
Nov	54.7	35.7	45.2	85+	1950	1	51.0	1999	10+	1970	25	38.6	1976	594	0	.0	.0	21.4	.2	11.9	.0
Dec	44.4	28.1	36.3	80	1984	29	43.2	1984	-1	1980	27	25.3	1989	891	0	.0	.0	10.6	2.9	21.4	.1
Ann	63.7	44.2	54.0	105	Jul 1954	31	82.2	Jul 1987	-13+	Jan 1985	21	20.8	Jan 1977	4990	983	.2	24.6	281.4	12.7	100.4	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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(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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**Lon: 77°09W**

### Precipitation (inches)

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days <sup>(3)</sup>				Precipitation Probabilities <sup>(1)</sup> Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians <sup>(1)</sup>		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily <sup>(2)</sup>	Year	Day	Highest Monthly <sup>(1)</sup>	Year	Lowest Monthly <sup>(1)</sup>	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	3.34	2.99	2.42	1976	1	8.17	1979	.30	1981	10.5	6.7	2.4	.8	.90	1.22	1.70	2.12	2.54	2.97	3.46	4.03	4.77	5.94	7.03
Feb	2.85	2.52	1.92	1985	12	6.31	1972	.25	1978	8.8	5.9	2.0	.7	.67	.94	1.35	1.73	2.10	2.49	2.93	3.45	4.14	5.23	6.25
Mar	3.89	3.70	2.75	1991	23	8.02	1993	1.10	1986	11.2	7.3	2.5	1.0	1.44	1.81	2.33	2.77	3.18	3.61	4.07	4.61	5.29	6.34	7.30
Apr	3.19	2.82	2.20	1970	14	7.62	1973	.35	1985	10.1	6.7	2.2	.7	1.03	1.34	1.78	2.16	2.53	2.91	3.32	3.81	4.43	5.41	6.30
May	4.38	4.34	3.15	1989	5	8.92	1989	.97	1977	12.2	8.2	3.2	1.0	1.54	1.96	2.55	3.06	3.54	4.04	4.58	5.21	6.01	7.26	8.40
Jun	3.74	3.45	7.90	1972	22	14.72	1972	.67	1984	10.3	6.2	2.5	1.0	.86	1.21	1.76	2.25	2.74	3.25	3.84	4.53	5.44	6.89	8.25
Jul	3.91	3.99	4.32	1958	9	9.79	1975	.36	1997	10.2	6.6	2.7	1.1	.91	1.27	1.85	2.36	2.87	3.41	4.01	4.73	5.68	7.18	8.60
Aug	3.72	3.06	4.50	1978	1	9.58	1978	.33	1989	9.3	5.9	2.5	1.0	.75	1.09	1.63	2.13	2.64	3.18	3.79	4.52	5.49	7.05	8.52
Sep	4.09	3.18	4.46	1975	26	11.37	1979	.50	1977	8.7	5.6	2.5	1.2	.49	.81	1.38	1.95	2.56	3.23	4.02	5.00	6.32	8.50	10.62
Oct	3.36	2.80	4.36	1990	23	7.22	1976	.12	2000	8.2	5.1	2.5	1.0	.65	.95	1.44	1.90	2.36	2.86	3.42	4.10	5.00	6.44	7.82
Nov	3.44	3.05	3.50	1993	27	7.11	1972	.39	1981	8.7	5.9	2.4	.9	.79	1.11	1.62	2.07	2.52	2.99	3.53	4.17	5.00	6.34	7.59
Dec	3.17	2.30	2.28	1986	24	6.39	1972	.98	1980	9.8	5.9	2.5	.8	.78	1.08	1.54	1.95	2.36	2.79	3.27	3.84	4.58	5.76	6.87
Ann	43.08	40.84	7.90	Jun 1972	22	14.72	Jun 1972	.12	Oct 2000	118.0	76.0	29.9	11.2	29.34	31.95	35.33	37.90	40.20	42.43	44.75	47.31	50.44	54.99	58.95

+ 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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**NWS Call Sign:**

**Elevation: 440 Feet**

**Lat: 39°06N**

**Lon: 77°09W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	8.1	4.6	1	1	19.3	1996	7	35.6	1996	30	1996	12	9	1996	2.7	1.9	.9	.4	.1	6.8	2.9	1.7	.8
Feb	3.7	1.3	1	#	6.7	1996	16	15.0	1986	27	1979	20	8	1979	2.1	1.4	.7	.2	.0	5.5	2.6	1.2	.1
Mar	2.8	.2	#	#	14.2	1993	13	18.8	1999	11	1993	14	2	1993	1.2	.7	.3	.1	@	1.2	.6	.3	.1
Apr	.1	.0	#	0	1.5	1990	6	2.0	1990	#+	2000	21	#+	2000	.1	@	.0	.0	.0	.0	.0	.0	.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	#	.0	0	0	#	1974	20	#+	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	.0	#	0	4.5	1987	11	4.5	1987	5	1987	11	#+	1995	.3	.3	@	.0	.0	.3	.1	@	.0
Dec	1.6	.2	#	#	6.0	1990	27	7.1	1973	6	1990	28	2	1989	1.1	.7	.2	@	.0	1.8	.9	.3	.0
Ann	16.9	6.3	N/A	N/A	19.3	Jan 1996	7	35.6	Jan 1996	30	Jan 1996	12	9	Jan 1996	7.5	5.0	2.1	.7	.1	15.6	7.1	3.5	1.0

+ 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	5/13	5/08	5/03	4/29	4/25	4/20	4/15	4/07
32	5/07	4/30	4/25	4/20	4/16	4/12	4/08	4/02	3/26
28	4/23	4/16	4/12	4/08	4/04	3/31	3/27	3/23	3/17
24	4/11	4/05	3/31	3/27	3/24	3/20	3/16	3/12	3/06
20	3/31	3/25	3/20	3/16	3/12	3/08	3/04	2/27	2/21
16	3/25	3/15	3/07	3/01	2/23	2/18	2/11	2/04	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	9/23	9/29	10/03	10/07	10/10	10/14	10/17	10/22	10/28
32	10/03	10/09	10/14	10/18	10/21	10/25	10/29	11/03	11/09
28	10/12	10/19	10/24	10/28	11/01	11/05	11/09	11/14	11/21
24	10/21	10/30	11/06	11/12	11/17	11/23	11/28	12/05	12/15
20	11/06	11/15	11/21	11/26	12/01	12/06	12/12	12/18	12/27
16	11/24	12/02	12/07	12/12	12/16	12/20	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	198	186	178	170	164	157	150	141	129
32	222	211	202	195	188	181	173	165	153
28	243	232	224	217	210	204	197	189	178
24	278	264	254	246	238	230	221	211	197
20	298	286	278	270	264	257	250	241	229
16	334	320	311	302	295	287	279	269	256

\* 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:

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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	1032	853	676	360	149	33	10	10	59	323	594	891	4990
60	877	713	521	229	69	9	0	0	17	201	446	736	3818
57	784	629	431	163	38	3	0	0	6	142	362	643	3201
55	730	580	375	126	23	1	0	0	3	109	309	587	2843
50	584	449	243	56	5	0	0	0	0	49	190	442	2018
32	184	111	15	0	0	0	0	0	0	0	6	87	403

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	176	182	362	637	937	1160	1341	1281	1032	715	403	219	8445
55	8	7	10	73	247	470	628	568	345	111	15	6	2488
57	0	0	4	50	200	412	566	506	289	82	8	0	2117
60	0	0	1	25	138	329	473	413	209	48	3	0	1639
65	0	0	0	6	63	202	328	268	101	15	0	0	983
70	0	0	0	0	21	108	199	145	35	3	0	0	511

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	44	73	209	442	732	956	1118	1060	817	497	221	75	44	117	326	768	1500	2456	3574	4634	5451	5948	6169	6244
45	25	34	115	303	577	806	963	905	667	350	129	38	25	59	174	477	1054	1860	2823	3728	4395	4745	4874	4912
50	3	13	62	183	423	656	808	750	519	213	65	13	3	16	78	261	684	1340	2148	2898	3417	3630	3695	3708
55	0	2	27	95	281	506	653	595	373	115	26	4	0	2	29	124	405	911	1564	2159	2532	2647	2673	2677
60	0	0	11	48	158	359	498	440	235	51	8	0	0	0	11	59	217	576	1074	1514	1749	1800	1808	1808
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	28	49	136	270	457	642	769	725	529	299	132	48	28	77	213	483	940	1582	2351	3076	3605	3904	4036	4084

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)