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: CLARKSVILLE 3 NNE, MD **COOP ID: 181862**

Climate Division: MD 6 **NWS Call Sign:** **Elevation: 370 Feet** **Lat: 39˚15N** **Lon: 76˚56W**

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	40.7	22.0	31.4	74+	1975	29	40.6	1990	-18	1984	22	20.2	1977	1043	0	.0	.0	7.0	5.9	26.4	.9
Feb	45.0	23.5	34.3	80	1985	24	41.8	1976	-17	1979	18	21.7	1979	861	0	.0	.0	10.0	3.4	22.9	.5
Mar	54.5	31.1	42.8	89	1998	30	47.4	1977	3+	1984	10	37.0	1984	688	0	.0	.0	21.3	.5	18.3	.0
Apr	65.6	39.1	52.4	93+	1976	18	57.3	1994	16	1969	1	47.7	1975	380	1	.0	.3	28.7	.0	7.7	.0
May	75.1	49.3	62.2	96+	1991	30	68.6	1991	26	1970	7	58.5	1994	129	42	.0	1.2	31.0	.0	.8	.0
Jun	83.1	58.2	70.7	100	1988	22	74.1	1994	34+	1972	11	67.5	1992	10	181	@	4.9	30.0	.0	.0	.0
Jul	87.1	63.1	75.1	103+	1988	16	78.5	1999	40	1988	1	71.2	2000	0	313	.4	10.5	31.0	.0	.0	.0
Aug	85.3	61.2	73.3	103	1983	20	77.0	1980	37	1982	29	69.5	1992	3	259	.2	6.8	31.0	.0	.0	.0
Sep	79.1	54.2	66.7	99+	1980	1	71.0	1980	30	1974	24	63.9	1975	41	91	.0	2.5	30.0	.0	.1	.0
Oct	67.7	41.7	54.7	88	1986	1	61.5	1984	17	1969	24	49.4	1988	330	11	.0	.0	30.7	.0	5.8	.0
Nov	56.0	33.5	44.8	84	1982	1	50.3	1985	11	1976	30	38.2	1976	607	0	.0	.0	22.8	@	14.7	.0
Dec	45.4	26.2	35.8	78+	1984	29	43.4	1984	-6	1989	25	23.1	1989	905	0	.0	.0	10.6	2.6	22.9	.3
Ann	65.4	41.9	53.7	103+	Jul 1988	16	78.5	Jul 1999	-18	Jan 1984	22	20.2	Jan 1977	4997	898	.6	26.2	284.1	12.4	119.6	1.7

\+ 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: 1967-2001

(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	3.42	3.23	2.43	1976	1	8.56	1979	.38	1981
Feb	2.97	2.71	1.82	1982	3	6.52	1971	.48	1978
Mar	4.15	4.03	2.68	1978	26	7.93	1994	.94	1986
Apr	3.51	3.22	2.09	1983	15	8.13	1983	.80	1985
May	4.71	4.67	3.80	1989	6	10.84	1989	.77	1986
Jun	3.84	3.27	9.13	1972	22	15.10	1972	.49	1988
Jul	4.03	3.91	2.90	1996	13	8.24	1996	.44	1983
Aug	3.90	3.45	4.30	1971	27	12.70	1971	.66	1987
Sep	4.17	2.97	5.28	1975	26	14.13	1975	.59	1977
Oct	3.49	2.85	2.40	1996	19	7.74	1976	.28	2000
Nov	3.56	3.25	2.58	1971	25	7.80	1972	.67	1981
Dec	3.52	2.76	3.09	1977	18	7.08	1996	.79	1980
Ann	45.27	43.04	9.13	Jun 1972	22	15.10	Jun 1972	.28	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.7	6.8	2.6	.7
Feb	9.5	5.9	2.4	.6
Mar	10.4	6.9	2.8	1.0
Apr	10.4	6.8	2.3	.7
May	11.9	8.2	3.2	1.2
Jun	9.3	5.8	2.3	.8
Jul	9.5	6.3	2.5	.9
Aug	9.8	6.3	2.5	1.0
Sep	8.2	5.3	2.4	1.2
Oct	7.9	4.9	2.2	1.0
Nov	8.3	5.5	2.4	.8
Dec	10.3	5.9	2.4	.8
Ann	116.2	74.6	30.0	10.7

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	.98	1.30	1.79	2.22	2.63	3.06	3.54	4.11	4.84	5.98	7.05
Feb	.81	1.09	1.52	1.90	2.26	2.65	3.08	3.58	4.24	5.28	6.24
Mar	1.44	1.83	2.40	2.88	3.34	3.82	4.33	4.93	5.70	6.89	7.99
Apr	1.25	1.58	2.06	2.46	2.84	3.24	3.66	4.16	4.80	5.78	6.69
May	1.46	1.90	2.57	3.14	3.69	4.27	4.90	5.63	6.59	8.08	9.45
Jun	.85	1.20	1.77	2.27	2.78	3.32	3.93	4.66	5.61	7.14	8.58
Jul	1.17	1.55	2.13	2.63	3.11	3.62	4.18	4.84	5.69	7.03	8.27
Aug	1.16	1.53	2.09	2.57	3.03	3.52	4.05	4.68	5.50	6.77	7.95
Sep	.65	1.01	1.61	2.19	2.78	3.43	4.18	5.09	6.31	8.29	10.19
Oct	.88	1.21	1.72	2.17	2.61	3.08	3.60	4.22	5.03	6.31	7.51
Nov	1.02	1.36	1.87	2.31	2.75	3.20	3.69	4.28	5.04	6.23	7.34
Dec	.73	1.05	1.56	2.03	2.51	3.02	3.59	4.28	5.18	6.64	8.01
Ann	30.54	33.33	36.94	39.69	42.16	44.55	47.03	49.79	53.15	58.04	62.30

\+ 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: 1967-2001
(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	7.4	6.5	2	#	12.5	1987	22	27.6	1987	29	1996	12	15	1996	3.7	2.1	.8	.4	@	8.1	4.3	2.2	.3
Feb	6.6	2.7	1	#	18.2	1987	23	32.7	1979	23	1979	19	8	1979	2.5	1.7	.8	.5	.1	6.2	3.2	1.8	.5
Mar	2.1	.5	#	#	5.9	1984	9	11.7	1978	5	1978	3	1	1978	1.4	.8	.2	.1	.0	1.3	.4	.1	.0
Apr	.2	.0	#	0	1.5	1985	9	1.5	1985	#+	1997	23	#+	1997	.2	.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	.1	.0	0	0	1.5	1979	10	1.5	1979	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Nov	.7	.0	#	0	8.0	1987	11	8.2	1987	8	1987	11	#+	1996	.4	.2	.1	@	.0	.2	.1	@	.0
Dec	2.5	.4	#	#	8.0	1982	12	11.7	1989	7	1973	17	3	1989	1.5	.6	.2	.1	.0	1.9	1.2	.3	.0
Ann	19.6	10.1	N/A	N/A	18.2	Feb 1987	23	32.7	Feb 1979	29	Jan 1996	12	15	Jan 1996	9.7	5.5	2.1	1.1	.1	17.7	9.2	4.4	.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

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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	5/28	5/22	5/18	5/14	5/11	5/07	5/04	4/29	4/23
32	5/17	5/11	5/07	5/03	4/30	4/27	4/23	4/19	4/13
28	5/01	4/26	4/21	4/18	4/15	4/11	4/08	4/03	3/29
24	4/19	4/13	4/09	4/06	4/02	3/30	3/27	3/23	3/17
20	4/06	3/31	3/26	3/21	3/18	3/14	3/09	3/05	2/26
16	3/22	3/17	3/12	3/09	3/06	3/02	2/27	2/23	2/17

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	9/16	9/21	9/25	9/29	10/02	10/05	10/08	10/12	10/18
32	9/27	10/03	10/07	10/11	10/15	10/18	10/22	10/26	11/01
28	10/06	10/13	10/17	10/21	10/25	10/28	11/01	11/06	11/12
24	10/16	10/24	10/30	11/03	11/08	11/13	11/17	11/23	12/01
20	10/31	11/07	11/13	11/17	11/21	11/26	11/30	12/06	12/13
16	11/07	11/17	11/25	12/01	12/07	12/13	12/19	12/27	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	170	161	154	148	143	138	133	126	117
32	196	186	179	173	167	161	155	148	138
28	224	213	205	199	193	186	180	172	161
24	252	241	233	225	219	212	205	197	185
20	280	269	261	254	248	242	235	227	216
16	310	298	290	282	276	269	262	253	241

***** 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	1043	861	688	380	129	10	0	3	41	330	607	905	4997
60	888	721	533	238	50	1	0	0	9	205	458	750	3853
57	795	637	441	165	23	0	0	0	3	144	372	657	3237
55	733	581	382	123	12	0	0	0	1	111	318	600	2861
50	589	452	244	47	2	0	0	0	0	50	194	456	2034
32	172	103	12	0	0	0	0	0	0	0	6	96	389

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	166	347	611	936	1161	1336	1279	1039	704	389	214	8334
55	0	0	4	44	235	471	623	566	351	102	11	6	2413
57	0	0	1	26	184	411	561	504	292	73	5	0	2057
60	0	0	0	10	117	321	468	411	209	41	1	0	1578
65	0	0	0	1	42	181	313	259	91	11	0	0	898
70	0	0	0	0	8	73	167	126	22	2	0	0	398

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	34	61	169	386	702	925	1097	1046	814	470	203	66	34	95	264	650	1352	2277	3374	4420	5234	5704	5907	5973
45	16	28	90	254	547	775	942	891	664	321	109	34	16	44	134	388	935	1710	2652	3543	4207	4528	4637	4671
50	2	9	44	144	394	625	787	736	514	195	52	8	2	11	55	199	593	1218	2005	2741	3255	3450	3502	3510
55	0	0	19	70	253	477	632	581	366	98	18	1	0	0	19	89	342	819	1451	2032	2398	2496	2514	2515
60	0	0	5	28	137	330	477	426	232	42	6	0	0	0	5	33	170	500	977	1403	1635	1677	1683	1683
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	28	47	123	259	448	617	743	712	531	304	132	42	28	75	198	457	905	1522	2265	2977	3508	3812	3944	3986

(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