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: WASHINGTON REAGAN NTL AP, VA **COOP ID: 448906**

Climate Division: VA 4 **NWS Call Sign: DCA** **Elevation: 10 Feet** **Lat: 38˚52N** **Lon: 77˚02W**

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	42.5	27.3	34.9	79	1950	26	43.6	1990	-5	1982	17	23.0	1977	917	0	.0	.0	7.9	4.6	20.7	.1
Feb	46.5	29.7	38.1	79	1976	17	45.2	1990	4	1961	2	26.2	1979	742	0	.0	.0	10.8	2.3	16.9	.0
Mar	55.7	37.3	46.5	89	1990	12	51.7	2000	14+	1986	8	41.6	1984	563	4	.0	.0	21.9	.3	7.7	.0
Apr	66.3	45.9	56.1	95+	1976	18	62.0	1994	24+	1982	7	52.0	1975	272	21	.0	.5	29.1	.0	.6	.0
May	75.4	55.8	65.6	99	1991	31	73.0	1991	36+	1966	11	61.7	1973	73	107	.0	1.5	31.0	.0	.0	.0
Jun	83.9	65.0	74.5	101+	1994	15	79.4	1994	47+	1972	11	69.1	1972	5	304	.1	6.9	30.0	.0	.0	.0
Jul	88.3	70.1	79.2	104	1988	16	83.1	1993	54	1988	1	74.7	2000	0	456	.8	14.5	31.0	.0	.0	.0
Aug	86.3	68.6	77.4	105	1997	17	81.3	1995	49	1986	29	74.0	1992	7	407	.3	9.9	31.0	.0	.0	.0
Sep	79.3	61.8	70.5	101	1980	2	75.4	1980	39+	1963	25	66.8	1975	19	200	@	3.3	30.0	.0	.0	.0
Oct	68.0	49.6	58.8	94+	1954	4	64.7	1984	29	1969	24	53.5	1976	205	28	.0	.1	30.8	.0	.2	.0
Nov	57.3	40.0	48.7	86	1974	1	54.0	1985	16	1955	29	40.8	1976	477	4	.0	.0	23.8	@	4.4	.0
Dec	47.0	32.0	39.5	79	1998	7	45.3	1984	3	1983	25	27.9	1989	775	0	.0	.0	12.9	2.1	13.9	.0
Ann	66.4	48.6	57.5	105	Aug 1997	17	83.1	Jul 1993	-5	Jan 1982	17	23.0	Jan 1977	4055	1531	1.2	36.7	290.2	9.3	64.4	.1

\+ 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

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: WASHINGTON REAGAN NTL AP, VA **COOP ID: 448906**

Climate Division: VA 4 **NWS Call Sign: DCA** **Elevation: 10 Feet** **Lat: 38˚52N** **Lon: 77˚02W**

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	3.21	2.88	1.84	1992	4	7.11	1978	.38	1981
Feb	2.63	2.48	2.02	1998	4	5.62	1979	.42	1978
Mar	3.60	3.54	2.29	1993	13	8.45	1994	.74	1986
Apr	2.77	2.48	3.04	1970	14	6.88	1983	.03	1985
May	3.82	3.69	3.24	1953	5	7.77	1989	.75	1986
Jun	3.13	2.43	6.11	1972	21	11.53	1972	.95	1988
Jul	3.66	3.77	4.69	1970	9	7.16	1975	1.01	1999
Aug	3.44	3.07	5.44	1955	12	7.18	1971	.59	1998
Sep	3.79	2.87	4.76	1976	16	12.36	1975	.32	1977
Oct	3.22	2.61	3.36	1995	14	8.65	1995	.02	2000
Nov	3.03	2.76	2.58	1963	6	6.05	1972	.29	1981
Dec	3.05	2.53	2.81	1977	18	6.03	1973	.65	1980
Ann	39.35	37.65	6.11	Jun 1972	21	12.36	Sep 1975	.02	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.5	6.4	2.3	.7
Feb	9.3	5.5	1.8	.4
Mar	10.6	6.7	2.5	.9
Apr	9.6	5.8	2.1	.5
May	11.2	7.3	2.7	.8
Jun	10.2	5.9	2.0	.7
Jul	10.4	6.6	2.9	1.0
Aug	8.6	5.5	2.2	1.1
Sep	8.1	5.4	2.4	1.1
Oct	7.8	4.7	2.3	1.0
Nov	8.5	5.4	2.1	.8
Dec	9.5	5.5	2.2	.6
Ann	114.3	70.7	27.5	9.6

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	1.07	1.37	1.82	2.20	2.56	2.93	3.34	3.82	4.44	5.39	6.27
Feb	.69	.94	1.32	1.66	1.98	2.33	2.71	3.17	3.76	4.69	5.57
Mar	1.21	1.55	2.05	2.47	2.88	3.30	3.76	4.29	4.98	6.05	7.04
Apr	.61	.87	1.27	1.64	2.01	2.40	2.84	3.36	4.06	5.16	6.20
May	1.39	1.75	2.27	2.70	3.11	3.54	4.00	4.53	5.22	6.27	7.24
Jun	.82	1.11	1.57	1.97	2.36	2.77	3.24	3.78	4.49	5.62	6.67
Jul	1.30	1.64	2.14	2.56	2.96	3.37	3.82	4.34	5.01	6.04	6.98
Aug	.98	1.31	1.80	2.23	2.65	3.09	3.57	4.14	4.88	6.03	7.11
Sep	.50	.81	1.35	1.88	2.43	3.05	3.76	4.63	5.81	7.74	9.61
Oct	.43	.69	1.15	1.60	2.07	2.59	3.20	3.94	4.94	6.59	8.18
Nov	.67	.95	1.39	1.79	2.19	2.62	3.10	3.68	4.43	5.64	6.78
Dec	.77	1.06	1.50	1.90	2.28	2.69	3.14	3.68	4.39	5.50	6.54
Ann	28.85	30.91	33.53	35.51	37.26	38.95	40.69	42.61	44.93	48.28	51.17

\+ 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

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: WASHINGTON REAGAN NTL AP, VA **COOP ID: 448906**

Climate Division: VA 4 **NWS Call Sign: DCA** **Elevation: 10 Feet** **Lat: 38°52N** **Lon: 77°02W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	5.9	4.0	1	0
Feb	5.1	2.9	1	0
Mar	1.6	.2	#	0
Apr	.0	.0	#	0
May	.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	.7	.0	#	0
Dec	1.4	.3	#	0
Ann	14.7	7.4	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	13.0	1996	7	23.8	1996	20	1996	10	5	1996
Feb	16.4	1983	11	30.6	1979	22	1979	20	5+	1980
Mar	8.4	1999	9	8.7	1999	8	1999	10	1+	1993
Apr	.6	1972	7	.6	1972	1	1972	8	#	1972
May	.0	0	0	.0	0	0	0	0	#	2000
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	.3	1979	10	.3	1979	0	0	0	0	0
Nov	11.5	1987	11	11.5	1987	12	1987	12	1	1987
Dec	6.6	1982	12	11.0	1973	8	1973	17	2	1989
Ann	16.4	Feb 1983	11	30.6	Feb 1979	22	Feb 1979	20	5+	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.1	1.6	.7	.2	.1
Feb	2.2	1.2	.7	.3	.1
Mar	1.1	.4	.2	.1	.0
Apr	.1	.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	.5	.2	@	@	@
Dec	1.1	.4	.2	.1	.0
Ann	8.1	3.8	1.8	.7	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	5.5	3.1	1.7	.6
Feb	3.9	2.3	1.1	.3
Mar	1.0	.4	.2	.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	.2	.1	.1	@
Dec	1.4	.7	.2	.0
Ann	12.0	6.6	3.3	.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

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: WASHINGTON REAGAN NTL AP, VA **COOP ID: 448906**

Climate Division: VA 4 **NWS Call Sign: DCA** **Elevation: 10 Feet** **Lat: 38˚52N** **Lon: 77˚02W**

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	4/20	4/16	4/13	4/11	4/09	4/07	4/04	4/02	3/29
32	4/10	4/06	4/03	4/01	3/29	3/27	3/24	3/21	3/17
28	3/30	3/25	3/22	3/19	3/16	3/13	3/10	3/07	3/02
24	3/24	3/17	3/12	3/08	3/04	2/28	2/24	2/19	2/12
20	3/11	3/05	2/28	2/24	2/21	2/17	2/13	2/08	2/02
16	3/04	2/23	2/16	2/10	2/04	1/29	1/22	1/10	0/00

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	10/17	10/22	10/27	10/30	11/02	11/06	11/09	11/13	11/19
32	10/27	11/03	11/07	11/11	11/15	11/18	11/22	11/27	12/03
28	11/10	11/16	11/21	11/25	11/29	12/03	12/07	12/12	12/19
24	11/27	12/02	12/06	12/09	12/12	12/15	12/18	12/22	12/27
20	12/08	12/14	12/18	12/22	12/26	12/30	1/03	1/07	1/13
16	12/15	12/24	12/31	1/05	1/11	1/17	1/25	2/05	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	228	221	215	211	207	202	198	192	185
32	256	247	241	235	230	225	219	213	204
28	284	275	268	263	258	252	247	240	231
24	309	300	294	288	283	277	272	265	256
20	329	322	317	312	308	303	299	293	286
16	>365	>365	>365	>365	341	330	321	312	301

***** 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: WASHINGTON REAGAN NTL AP, VA **COOP ID: 448906**

Climate Division: VA 4 **NWS Call Sign: DCA** **Elevation: 10 Feet** **Lat: 38˚52N** **Lon: 77˚02W**

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	917	742	563	272	73	5	0	7	19	205	477	775	4055
60	777	613	419	152	25	0	0	0	3	123	348	636	3096
57	684	532	333	95	10	0	0	0	1	79	269	550	2553
55	630	480	277	66	5	0	0	0	0	56	221	492	2227
50	486	352	158	19	0	0	0	0	0	19	123	354	1511
32	115	56	4	0	0	0	0	0	0	0	2	51	228

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	185	227	476	741	1060	1292	1482	1429	1177	854	525	288	9736
55	3	5	33	123	351	602	769	716	487	178	44	7	3318
57	2	3	22	92	293	542	707	654	428	136	30	4	2913
60	0	1	12	56	214	452	614	561	341	86	15	2	2354
65	0	0	4	21	107	304	456	407	200	28	4	0	1531
70	0	0	1	6	43	175	305	255	104	8	1	0	898

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	63	104	264	510	825	1060	1243	1189	945	614	306	118	63	167	431	941	1766	2826	4069	5258	6203	6817	7123	7241
45	27	50	153	364	670	910	1088	1034	795	459	189	52	27	77	230	594	1264	2174	3262	4296	5091	5550	5739	5791
50	8	21	82	232	515	760	933	879	645	312	99	24	8	29	111	343	858	1618	2551	3430	4075	4387	4486	4510
55	0	5	38	128	362	610	778	724	497	185	50	5	0	5	43	171	533	1143	1921	2645	3142	3327	3377	3382
60	0	0	9	61	219	461	623	569	352	91	18	1	0	0	9	70	289	750	1373	1942	2294	2385	2403	2404
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	32	56	140	280	513	732	872	840	634	352	154	54	32	88	228	508	1021	1753	2625	3465	4099	4451	4605	4659

(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