

Climatology of the United States

No. 20

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

Station: MARTINSVILLE FILTER PLT, VA

1971-2000

COOP ID: 445300

Climate Division: VA 3

NWS Call Sign:

Elevation: 760 Feet

Lat: 36° 42N

Lon: 79° 52W

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	46.2	21.5	33.9	75+	1997	3	45.5	1974	-7+	1988	11	23.0	1977	966	0	.0	.0	11.8	2.6	25.4	.5
Feb	50.3	22.2	36.3	82	1977	27	42.2	1976	-5	1996	5	25.9	1978	804	0	.0	.0	15.1	1.4	22.0	@
Mar	59.3	29.5	44.4	88	1990	12	49.8	1990	-3	1993	15	39.6	1978	640	0	.0	.0	25.8	.2	15.4	@
Apr	69.1	37.6	53.4	92+	1990	25	58.0	1999	18+	1989	12	48.5	1983	351	2	.0	.4	29.3	.0	7.4	.0
May	76.5	48.2	62.4	95+	1962	19	68.0	1991	26	1963	2	58.6	1997	137	54	.0	.8	30.9	.0	.7	.0
Jun	83.7	57.4	70.6	101+	1952	27	74.4	1981	35+	1972	11	66.1	1974	18	185	.0	5.5	30.0	.0	.0	.0
Jul	87.3	62.7	75.0	104+	1952	29	78.4	1986	44+	1988	2	72.0	1976	0	309	.1	11.3	31.0	.0	.0	.0
Aug	85.6	61.0	73.3	101+	1988	17	76.5	1988	41+	1968	29	70.2	1992	1	258	.1	7.6	31.0	.0	.0	.0
Sep	79.3	54.2	66.8	101	1954	6	71.2	1998	30	1951	30	63.3	1984	44	97	.0	2.5	30.0	.0	.1	.0
Oct	69.8	40.5	55.2	95+	1954	5	62.6	1984	14	1952	21	49.1	1987	322	16	.0	.1	30.6	.0	5.9	.0
Nov	59.7	31.4	45.6	86	1971	2	53.7	1985	5	1950	27	38.0	1976	585	0	.0	.0	24.9	.0	15.8	.0
Dec	49.8	24.4	37.1	82	1994	7	45.2	1971	-2	1989	24	29.1	1989	866	0	.0	.0	15.5	1.3	23.0	.1
Ann	68.1	40.9	54.5	104+	Jul 1952	29	78.4	Jul 1986	-7+	Jan 1988	11	23.0	Jan 1977	4734	921	.2	28.2	305.9	5.5	115.7	.6

+ 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

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

038-A

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NWS Call Sign:

Elevation: 760 Feet Lat: 36°42N

Lon: 79°52W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	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	3.80	3.84	2.88	1978	26	8.11	1978	.86	1981	9.7	6.9	2.5	.8	1.23	1.60	2.13	2.58	3.02	3.47	3.96	4.54	5.29	6.45	7.52
Feb	3.38	3.18	2.65	1984	13	6.49	1990	.68+	1980	9.0	6.3	2.3	.8	.93	1.25	1.73	2.16	2.58	3.01	3.50	4.07	4.81	5.98	7.07
Mar	4.46	3.85	3.58	1990	17	9.46	1993	1.65	1995	10.2	7.0	3.1	1.1	1.63	2.05	2.65	3.16	3.64	4.13	4.67	5.29	6.09	7.31	8.44
Apr	3.73	3.61	3.33	1978	27	7.74	1987	.22	1976	9.6	6.7	2.2	.7	.94	1.29	1.83	2.31	2.79	3.29	3.84	4.51	5.37	6.74	8.02
May	4.32	4.24	2.60	1949	11	8.29	1990	.65	1997	12.2	8.1	3.1	1.0	1.35	1.76	2.37	2.89	3.39	3.92	4.49	5.17	6.04	7.39	8.65
Jun	3.95	3.58	3.44	1972	21	11.08	1972	.62	1984	10.7	7.3	2.6	.9	1.22	1.60	2.16	2.63	3.10	3.58	4.11	4.73	5.53	6.77	7.93
Jul	4.42	3.97	3.68	1988	13	9.28	1989	1.47	1998	10.7	7.3	2.9	1.5	1.67	2.08	2.67	3.16	3.63	4.11	4.62	5.22	5.99	7.17	8.24
Aug	3.50	3.57	5.60	1964	31	6.19	1982	1.44	1980	9.6	5.6	2.5	.9	1.55	1.86	2.29	2.65	2.98	3.31	3.67	4.08	4.59	5.38	6.08
Sep	4.27	3.08	5.00	1979	22	11.88	1996	.52	1985	9.1	6.1	2.5	.9	.76	1.14	1.77	2.35	2.94	3.58	4.32	5.20	6.38	8.28	10.10
Oct	3.47	3.03	6.40	1954	15	11.45	1976	.00	2000	7.7	5.5	2.4	.9	.28	.66	1.23	1.73	2.26	2.83	3.49	4.29	5.36	7.10	8.77
Nov	3.05	2.59	2.42	1964	25	8.20	1985	.71	1998	8.8	5.6	1.9	.8	.85	1.14	1.58	1.96	2.33	2.72	3.16	3.67	4.33	5.38	6.35
Dec	3.26	3.44	2.57	1958	28	6.75	1973	.43	1980	9.3	6.2	2.2	.9	.82	1.12	1.60	2.02	2.43	2.87	3.36	3.94	4.69	5.89	7.01
Ann	45.61	44.77	6.40	Oct 1954	15	11.88	Sep 1996	.00	Oct 2000	116.6	78.6	30.2	11.2	34.03	36.31	39.21	41.39	43.32	45.18	47.09	49.20	51.73	55.40	58.54

+ 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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Climate Division: VA 3

NWS Call Sign:

Elevation: 760 Feet

Lat: 36°42N

Lon: 79°52W

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	1.8	.0	0	0	7.0	1971	1	7.0	1971	13	1996	7	1	1996	.5	.4	.2	.1	.0	.0	.0	.0	.0
Feb	.5	.0	#	0	4.4	1975	5	4.4	1975	3	1978	22	3	1978	.2	.2	.1	.0	.0	.1	.0	.0	.0
Mar	3.0	.0	0	0	19.0	1993	13	22.5	1993	0	0	0	0	0	.3	.3	.3	.2	.1	.0	.0	.0	.0
Apr	#	.0	0	0	#	1989	6	#	1989	0	0	0	0	0	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1989	22	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.8	.0	#	0	8.0	1973	16	8.0	1973	1	1974	1	#	1974	.2	.1	.1	.1	.0	.1	.0	.0	.0
Ann	6.1	.0	N/A	N/A	19.0	Mar 1993	13	22.5	Mar 1993	13	Jan 1996	7	3	Feb 1978	1.2	1.0	.7	.4	.1	.2	.0	.0	.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

Complete documentation available from:

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No. 20 1971-2000

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COOP ID: 445300

Climate Division: VA 3

NWS Call Sign:

Elevation: 760 Feet

Lat: 36° 42N

Lon: 79° 52W

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	5/26	5/20	5/16	5/12	5/08	5/04	5/01	4/26	4/20
32	5/13	5/08	5/05	5/02	4/29	4/26	4/23	4/20	4/15
28	4/27	4/22	4/18	4/15	4/12	4/09	4/06	4/02	3/27
24	4/15	4/10	4/06	4/03	3/31	3/28	3/25	3/21	3/16
20	4/04	3/28	3/23	3/19	3/15	3/11	3/07	3/02	2/24
16	3/21	3/13	3/07	3/02	2/26	2/21	2/16	2/11	2/03
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	9/24	9/28	10/01	10/04	10/06	10/09	10/11	10/15	10/19
32	10/01	10/06	10/10	10/13	10/16	10/18	10/22	10/25	10/30
28	10/13	10/19	10/22	10/26	10/29	10/31	11/04	11/07	11/13
24	10/22	10/27	11/01	11/04	11/08	11/11	11/15	11/19	11/25
20	11/02	11/08	11/13	11/17	11/20	11/24	11/28	12/02	12/09
16	11/13	11/22	11/28	12/03	12/08	12/13	12/18	12/24	1/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	165	160	155	151	146	141	136	128
32	188	182	177	173	169	165	161	156	149
28	218	211	206	203	199	195	191	186	180
24	242	235	229	225	221	217	212	207	200
20	276	266	260	254	249	244	238	232	223
16	314	303	296	290	284	279	272	265	255

* 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/normal/usnormals.html

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Station: MARTINSVILLE FILTER PLT, VA

COOP ID: 445300

Climate Division: VA 3 NWS Call Sign: Elevation: 760 Feet Lat: 36° 42N Lon: 79° 52W

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	966	804	640	351	137	18	0	1	44	322	585	866	4734
60	811	664	485	215	59	3	0	0	11	201	437	711	3597
57	718	580	395	146	29	0	0	0	4	143	352	618	2985
55	664	524	337	107	17	0	0	0	2	110	299	562	2622
50	520	394	206	39	3	0	0	0	0	50	180	418	1810
32	141	64	6	0	0	0	0	0	0	0	4	74	289

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	198	183	390	641	940	1157	1332	1280	1042	717	410	231	8521
55	9	0	8	59	244	467	619	567	354	114	14	7	2462
57	0	0	3	37	194	408	557	505	296	85	8	0	2093
60	0	0	0	16	131	320	464	412	213	50	3	0	1609
65	0	0	0	2	54	185	309	258	97	16	0	0	921
70	0	0	0	0	15	82	165	120	25	3	0	0	410

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	59	91	249	460	732	946	1117	1072	835	506	234	93	59	150	399	859	1591	2537	3654	4726	5561	6067	6301	6394
45	28	46	142	317	578	796	962	917	685	355	135	43	28	74	216	533	1111	1907	2869	3786	4471	4826	4961	5004
50	6	15	66	196	426	646	807	762	535	221	66	17	6	21	87	283	709	1355	2162	2924	3459	3680	3746	3763
55	0	2	31	106	278	496	652	607	386	120	25	5	0	2	33	139	417	913	1565	2172	2558	2678	2703	2708
60	0	0	6	44	157	349	497	452	245	49	4	0	0	0	6	50	207	556	1053	1505	1750	1799	1803	1803
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	53	84	186	318	475	629	761	731	546	340	175	70	53	137	323	641	1116	1745	2506	3237	3783	4123	4298	4368

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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