

Climatography of the United States

No. 20

1971-2000

Station: BLACKSBURG, VA

COOP ID: 440766

Climate Division: VA 6

NWS Call Sign: RNK

Elevation: 2,100 Feet Lat: 37° 12N

Lon: 80° 25W

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	41.1	20.6	30.9	73	1975	30	41.6	1974	-18	1985	21	18.9	1977	1059	0	.0	.0	7.9	7.1	27.6	1.4
Feb	44.8	22.1	33.5	75	1977	27	41.5	1976	-12	1970	4	23.0	1978	883	0	.0	.0	10.9	4.8	23.6	.4
Mar	53.3	29.4	41.4	85	1985	31	48.0	1976	2	1969	11	35.3	1996	733	0	.0	.0	20.0	1.3	19.0	.0
Apr	62.9	37.0	50.0	95+	1957	29	55.0	1994	14	1982	7	46.2	1997	452	0	.0	.0	26.3	.1	9.1	.0
May	71.5	46.3	58.9	89+	1996	20	64.3	1991	23	1973	5	53.6	1973	219	31	.0	.0	30.6	.0	1.5	.0
Jun	78.6	55.2	66.9	94	1988	27	70.7	1994	30	1972	11	61.6	1974	47	104	.0	.4	30.0	.0	@	.0
Jul	82.5	59.7	71.1	99	1954	15	75.4	1993	41+	1972	7	68.0	1984	7	196	.0	3.0	31.0	.0	.0	.0
Aug	81.3	57.8	69.6	99	1983	23	73.0	1975	36	1986	29	67.2	1985	11	151	.0	2.1	31.0	.0	.0	.0
Sep	75.3	50.7	63.0	96	1953	2	67.8	1978	22	1983	24	59.6	1976	106	46	.0	.6	29.9	.0	.3	.0
Oct	65.3	38.0	51.7	88	1954	6	59.7	1984	13	1962	27	44.4	1988	418	5	.0	.0	29.3	.0	8.9	.0
Nov	55.0	30.6	42.8	79	1961	6	49.0	1985	0	1970	25	35.9	1976	665	0	.0	.0	20.5	.5	18.2	.0
Dec	44.9	23.2	34.1	75+	2001	6	43.4	1984	-10	1989	23	24.0	1989	959	0	.0	.0	11.1	4.7	26.0	.5
Ann	63.0	39.2	51.2	99+	Aug 1983	23	75.4	Jul 1993	-18	Jan 1985	21	18.9	Jan 1977	5559	533	.0	6.1	278.5	18.5	134.2	2.3

+ 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

Issue Date: February 2004

008-A

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

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1971-2000**

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

Station: BLACKSBURG, VA

COOP ID: 440766

Climate Division: VA 6

NWS Call Sign: RNK

Elevation: 2,100 Feet Lat: 37°12N

Lon: 80°25W

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	3.37	3.15	2.26	1992	4	7.41	1998	.60	1981	11.0	7.2	2.4	.7	1.13	1.45	1.92	2.32	2.69	3.09	3.51	4.01	4.65	5.64	6.56
Feb	3.02	2.81	2.32	1994	11	6.28	1982	.38	1980	10.3	7.0	2.2	.3	.92	1.21	1.64	2.01	2.36	2.73	3.14	3.62	4.24	5.21	6.10
Mar	3.83	3.32	2.00	1975	14	8.33	1975	1.33	1988	11.2	8.1	3.0	.7	1.48	1.84	2.34	2.76	3.16	3.57	4.01	4.52	5.17	6.16	7.07
Apr	3.83	3.58	3.42	1992	22	7.75	1987	1.21	1976	11.5	7.7	2.2	.8	1.40	1.76	2.28	2.71	3.13	3.55	4.01	4.54	5.22	6.27	7.23
May	4.39	4.38	2.92	1975	26	9.75	1971	1.41	1994	12.9	9.0	3.3	.9	1.57	1.98	2.58	3.08	3.56	4.05	4.59	5.21	6.01	7.23	8.36
Jun	3.93	3.64	3.80	1976	17	8.66	1976	.91	1990	10.6	7.5	2.5	1.0	.96	1.33	1.90	2.41	2.92	3.45	4.05	4.76	5.68	7.15	8.53
Jul	4.17	3.97	3.33	1996	9	9.35	1992	1.56	1998	12.7	8.9	3.0	.7	1.74	2.12	2.65	3.09	3.50	3.92	4.37	4.89	5.55	6.55	7.46
Aug	3.68	3.50	3.44	1992	27	7.46	1985	1.64	1987	10.2	6.6	2.6	.8	1.63	1.96	2.42	2.79	3.14	3.49	3.86	4.29	4.84	5.66	6.40
Sep	3.39	3.36	3.42	1959	30	8.09	1989	.49	1991	9.9	6.2	2.7	.9	.62	.92	1.42	1.88	2.35	2.85	3.43	4.13	5.05	6.54	7.96
Oct	3.19	2.92	2.94	1966	19	9.14	1976	.02	2000	8.6	6.0	2.4	.7	.38	.63	1.07	1.52	1.99	2.52	3.14	3.90	4.93	6.64	8.29
Nov	2.96	2.71	2.55+	1989	16	7.41	1977	.49	1981	9.4	6.3	2.1	.5	.82	1.10	1.52	1.89	2.26	2.64	3.06	3.56	4.21	5.23	6.18
Dec	2.87	2.59	3.18	1958	29	6.03	1973	.32	1989	10.3	6.7	2.0	.3	.70	.97	1.39	1.76	2.13	2.52	2.96	3.48	4.16	5.24	6.26
Ann	42.63	42.35	3.80	Jun 1976	17	9.75	May 1971	.02	Oct 2000	128.6	87.2	30.4	8.3	32.47	34.49	37.05	38.97	40.67	42.30	43.97	45.80	48.02	51.20	53.93

+ 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: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

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Climate Division: VA 6

NWS Call Sign: RNK

Elevation: 2,100 Feet

Lat: 37°12N

Lon: 80°25W

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	7.2	4.0	1	0	20.4	1998	28	39.2	1996	27	1996	8	6	1996	2.9	1.9	.7	.3	.1	7.8	4.0	2.4	.8
Feb	5.7	4.0	1	1	8.4	1996	2	21.5	1996	15	1982	28	4	1983	2.8	1.6	.7	.5	.0	7.1	3.2	1.6	.4
Mar	3.8	1.2	#	0	13.0	1981	23	18.0	1993	18+	1993	15	3	1993	1.3	.9	.4	.2	.1	2.2	1.1	.7	.2
Apr	1.1	.0	#	0	10.0	1971	7	10.0	1971	10	1971	7	#	1993	.5	.3	.1	.1	@	.4	.2	.1	@
May	#	.0	#	0	#	1989	7	#	1989	#	1987	2	#	2000	.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	#	1999	25	#+	1999	#+	1993	31	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.7	.0	#	0	3.2	1995	14	6.0	1971	6	1971	27	1	1971	.6	.3	.1	.0	.0	.7	.1	.1	.0
Dec	3.6	1.3	#	0	11.2	1997	30	16.4	1997	10+	1997	30	2	1989	1.5	1.1	.4	.2	.1	4.1	1.9	.7	.1
Ann	22.1	10.5	N/A	N/A	20.4	Jan 1998	28	39.2	Jan 1996	27	Jan 1996	8	6	Jan 1996	9.6	6.1	2.4	1.3	.3	22.3	10.5	5.6	1.5

+ 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	6/01	5/27	5/23	5/19	5/16	5/13	5/10	5/06	4/30
32	5/21	5/15	5/11	5/07	5/04	4/30	4/27	4/22	4/17
28	5/09	5/02	4/27	4/23	4/20	4/16	4/12	4/07	3/31
24	4/21	4/16	4/12	4/08	4/05	4/02	3/29	3/25	3/19
20	4/14	4/06	4/01	3/27	3/23	3/18	3/13	3/08	2/28
16	3/30	3/23	3/17	3/12	3/08	3/03	2/27	2/21	2/13
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	9/12	9/17	9/20	9/24	9/27	9/30	10/03	10/06	10/12
32	9/22	9/26	9/30	10/03	10/06	10/09	10/12	10/15	10/20
28	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/29	11/03
24	10/10	10/17	10/22	10/26	10/30	11/02	11/07	11/11	11/18
20	10/20	10/27	11/01	11/05	11/08	11/12	11/16	11/21	11/28
16	11/11	11/17	11/22	11/26	11/29	12/03	12/07	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	155	147	142	137	133	128	124	118	111
32	176	169	163	159	155	150	146	140	133
28	210	200	193	187	182	176	171	164	154
24	234	225	218	212	207	202	196	189	180
20	262	251	243	236	230	224	217	209	198
16	296	286	278	272	266	260	253	246	235

* 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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Climate Division: VA 6 NWS Call Sign: RNK Elevation: 2,100 Feet Lat: 37°12N Lon: 80°25W

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	1059	883	733	452	219	47	7	11	106	418	665	959	5559
60	904	743	578	307	118	11	0	0	39	280	516	804	4300
57	811	659	488	228	73	4	0	0	18	208	428	711	3628
55	749	603	430	180	50	2	0	0	10	166	373	654	3217
50	606	469	293	86	15	0	0	0	2	84	241	509	2305
32	188	100	24	0	0	0	0	0	0	0	12	128	452

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	140	314	539	834	1046	1211	1163	931	610	336	191	7467
55	0	0	7	29	171	358	498	450	250	63	7	5	1838
57	0	0	3	17	133	300	436	388	198	42	2	0	1519
60	0	0	0	6	84	217	343	296	129	21	0	0	1096
65	0	0	0	0	31	104	196	151	46	5	0	0	533
70	0	0	0	0	8	32	81	50	9	0	0	0	180

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	59	162	347	605	825	977	935	712	390	170	56	34	93	255	602	1207	2032	3009	3944	4656	5046	5216	5272
45	9	23	84	222	451	675	822	780	563	253	91	26	9	32	116	338	789	1464	2286	3066	3629	3882	3973	3999
50	0	5	34	128	306	525	667	625	416	142	40	4	0	5	39	167	473	998	1665	2290	2706	2848	2888	2892
55	0	0	8	58	180	375	512	470	278	63	13	0	0	0	8	66	246	621	1133	1603	1881	1944	1957	1957
60	0	0	2	21	86	235	357	317	153	23	0	0	0	0	2	23	109	344	701	1018	1171	1194	1194	1194
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	27	49	115	223	376	533	660	623	451	258	121	45	27	76	191	414	790	1323	1983	2606	3057	3315	3436	3481

(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