

# Climatology of the United States

No. 20

1971-2000

Station: BEDFORD, VA

COOP ID: 440551

Climate Division: VA 3

NWS Call Sign:

Elevation: 975 Feet Lat: 37° 21N Lon: 79° 31W

## 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	44.2	24.9	34.6	78	1952	1	44.9	1974	-10	1985	21	22.1	1977	944	0	.0	.0	10.8	3.1	21.9	.3
Feb	48.4	26.1	37.3	79	1985	24	44.5	1976	-1	1996	5	27.9	1978	777	0	.0	.0	14.0	1.7	18.7	@
Mar	57.8	34.0	45.9	87+	1998	31	50.5	1990	4	1960	8	40.9	1996	592	0	.0	.0	24.9	.2	11.2	.0
Apr	67.3	42.3	54.8	94+	1990	27	60.6	1994	22+	1985	10	51.1	1988	311	5	.0	.5	28.9	.0	2.4	.0
May	74.3	52.3	63.3	95	1959	3	68.1	1982	30	1966	11	58.5	1989	113	60	.0	.3	31.0	.0	@	.0
Jun	81.8	60.7	71.3	100+	1959	29	76.0	1981	39	1977	8	66.6	1972	12	198	.0	2.6	30.0	.0	.0	.0
Jul	86.2	65.1	75.7	104	1954	14	79.3	1980	45	1988	2	72.2	2000	0	329	.0	8.0	31.0	.0	.0	.0
Aug	84.8	63.1	74.0	101	1953	31	79.0	1980	42+	1986	29	70.2	1989	6	283	@	5.0	31.0	.0	.0	.0
Sep	78.1	56.8	67.5	100	1953	1	73.7	1980	32	1956	21	62.4	1984	52	125	.0	1.1	30.0	.0	.0	.0
Oct	68.6	44.9	56.8	95	1951	5	62.5	1971	21	1952	21	48.2	1988	275	20	.0	.0	30.4	.0	1.9	.0
Nov	58.8	35.3	47.1	87	1958	16	54.4	1985	8	1950	26	40.4	1976	539	1	.0	.0	23.7	.1	10.4	.0
Dec	48.9	28.3	38.6	83	1971	16	46.1	1971	-6	1983	24	27.3	1989	818	0	.0	.0	14.6	1.8	17.9	.1
Ann	66.6	44.5	55.6	104	Jul 1954	14	79.3	Jul 1980	-10	Jan 1985	21	22.1	Jan 1977	4439	1021	@	17.5	300.3	6.9	84.4	.4

+ 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

006-A

**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: BEDFORD, VA**

**COOP ID: 440551**

**Climate Division: VA 3**

**NWS Call Sign:**

**Elevation: 975 Feet Lat: 37°21N**

**Lon: 79°31W**

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	3.46	3.23	2.30	1998	28	8.68	1998	.38	1981	9.2	7.3	2.3	.6	.95	1.28	1.78	2.22	2.64	3.09	3.58	4.16	4.92	6.11	7.23
Feb	3.20	2.95	2.52	1965	7	6.77	1998	.58	1978	8.1	6.2	2.4	.8	1.01	1.31	1.76	2.15	2.52	2.91	3.33	3.83	4.47	5.47	6.39
Mar	3.81	3.17	3.75	1949	23	8.96	1975	1.12	1988	9.8	7.5	2.6	.8	1.18	1.54	2.08	2.54	2.99	3.45	3.96	4.56	5.33	6.53	7.64
Apr	3.78	3.15	4.70	1992	22	12.21	1987	1.12	1995	9.7	6.4	2.1	.9	1.08	1.43	1.98	2.45	2.91	3.39	3.92	4.55	5.36	6.64	7.83
May	4.57	3.94	4.50	1989	6	10.19	1989	1.68	1994	11.3	8.1	3.2	1.2	1.68	2.11	2.73	3.24	3.73	4.23	4.78	5.41	6.22	7.46	8.60
Jun	4.24	4.23	3.77	1993	5	13.12	1995	.68	1986	9.6	6.9	2.7	1.2	.98	1.37	2.00	2.55	3.11	3.69	4.35	5.14	6.17	7.82	9.36
Jul	4.54	4.41	3.25	1990	14	8.31	1994	.84	1976	10.6	7.7	3.3	1.2	1.49	1.92	2.56	3.09	3.61	4.14	4.73	5.41	6.29	7.66	8.91
Aug	3.51	3.46	4.62	1948	4	7.59	1985	.85	1987	9.0	6.3	2.4	1.0	1.26	1.59	2.07	2.47	2.85	3.24	3.67	4.17	4.81	5.79	6.69
Sep	3.95	2.91	5.85	1987	8	11.27	1999	.28	1985	8.5	6.5	2.2	1.0	.47	.78	1.34	1.89	2.47	3.13	3.89	4.83	6.11	8.21	10.25
Oct	3.47	2.59	6.73	1954	15	13.86	1990	.00	2000	7.8	5.3	2.2	.9	.22	.56	1.11	1.62	2.16	2.75	3.44	4.29	5.43	7.31	9.13
Nov	3.16	2.71	3.90	1985	5	9.49	1985	1.17	1998	8.5	5.9	2.2	.8	1.04	1.34	1.78	2.15	2.52	2.89	3.30	3.78	4.39	5.35	6.23
Dec	3.11	2.98	2.50	1948	4	6.73	1983	.93	1980	9.1	6.0	2.3	.7	.95	1.24	1.68	2.06	2.43	2.82	3.24	3.73	4.37	5.37	6.30
Ann	44.80	44.69	6.73	Oct 1954	15	13.86	Oct 1990	.00	Oct 2000	111.2	80.1	29.9	11.1	33.62	35.83	38.64	40.76	42.62	44.42	46.26	48.29	50.74	54.28	57.31

+ 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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Station: BEDFORD, VA

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Climate Division: VA 3

NWS Call Sign:

Elevation: 975 Feet

Lat: 37°21N

Lon: 79°31W

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	6.7	2.5	#	0	18.0	1996	7	32.5	1987	10	1982	15	1+	2000	1.4	1.2	.7	.4	.1	.1	.0	.0	.0
Feb	4.1	1.0	1	0	12.5	1987	17	17.0	1987	19	1983	12	14	1982	1.2	1.1	.7	.4	.1	.5	.2	.0	.0
Mar	1.9	.0	#	0	15.0	1993	14	15.0+	1993	15	1993	14	1	1993	.6	.6	.3	.2	@	.4	.2	.2	.0
Apr	#	.0	#	0	#	1987	3	#	1987	1	1982	9	#	1982	.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	#	1979	10	#	1979	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.4	.0	#	0	2.5	1981	24	5.0	1981	#	1996	14	#	1996	.3	.2	.0	.0	.0	.0	.0	.0	.0
Dec	1.5	.0	#	0	7.5	1997	30	11.0	1989	6	1993	21	1	1993	.7	.6	.2	.1	.0	.1	.0	.0	.0
Ann	14.6	3.5	N/A	N/A	18.0	Jan 1996	7	32.5	Jan 1987	19	Feb 1983	12	14	Feb 1982	4.2	3.7	1.9	1.1	.2	1.1	.4	.2	.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	5/12	5/07	5/03	4/30	4/27	4/24	4/20	4/17	4/11
32	4/24	4/19	4/16	4/14	4/11	4/09	4/06	4/03	3/30
28	4/14	4/09	4/06	4/03	3/31	3/28	3/25	3/21	3/17
24	4/07	3/30	3/24	3/19	3/14	3/10	3/05	2/27	2/19
20	3/23	3/16	3/10	3/06	3/01	2/25	2/20	2/15	2/07
16	3/12	3/04	2/26	2/21	2/16	2/11	2/06	1/31	1/23
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	9/29	10/03	10/07	10/10	10/12	10/15	10/18	10/22	10/26
32	10/09	10/15	10/19	10/22	10/25	10/29	11/01	11/05	11/10
28	10/15	10/22	10/27	10/31	11/04	11/08	11/13	11/18	11/25
24	10/27	11/04	11/09	11/14	11/18	11/23	11/28	12/03	12/11
20	11/13	11/20	11/26	11/30	12/04	12/09	12/13	12/18	12/26
16	11/26	12/06	12/13	12/19	12/25	12/31	1/06	1/13	1/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	187	181	176	172	168	164	160	156	149
32	217	210	205	201	197	192	188	183	176
28	244	235	228	223	218	213	207	201	192
24	280	269	261	255	248	242	236	228	217
20	307	297	290	283	277	271	265	257	247
16	345	331	323	315	309	302	295	287	276

\* 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	944	777	592	311	113	12	0	6	52	275	539	818	4439
60	789	637	438	181	43	1	0	0	14	161	397	663	3324
57	696	553	352	119	19	0	0	0	5	109	316	576	2745
55	642	498	296	85	10	0	0	0	2	80	266	518	2397
50	497	369	176	29	1	0	0	0	0	31	162	379	1644
32	123	54	5	0	0	0	0	0	0	0	5	61	248

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	202	201	436	684	970	1177	1352	1301	1063	768	457	265	8876
55	8	1	14	79	267	487	639	588	376	135	28	10	2632
57	0	0	8	53	214	427	577	526	318	101	18	6	2248
60	0	0	2	25	145	338	484	433	237	61	8	0	1733
65	0	0	0	5	60	198	329	283	125	20	1	0	1021
70	0	0	0	0	16	89	186	153	50	4	0	0	498

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	71	113	278	518	757	956	1109	1063	840	538	269	118	71	184	462	980	1737	2693	3802	4865	5705	6243	6512	6630
45	33	59	164	370	602	806	954	908	690	387	163	57	33	92	256	626	1228	2034	2988	3896	4586	4973	5136	5193
50	7	21	86	241	447	656	799	753	541	249	88	23	7	28	114	355	802	1458	2257	3010	3551	3800	3888	3911
55	1	5	35	136	303	506	644	598	394	135	37	6	1	6	41	177	480	986	1630	2228	2622	2757	2794	2800
60	0	1	11	69	171	358	489	443	253	54	8	0	0	1	12	81	252	610	1099	1542	1795	1849	1857	1857
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	44	75	176	320	475	647	766	731	544	320	163	63	44	119	295	615	1090	1737	2503	3234	3778	4098	4261	4324

(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](http://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](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> |
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## 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)