

Climatography of the United States

No. 20

1971-2000

Station: CHATHAM, VA

COOP ID: 441614

Climate Division: VA 3

NWS Call Sign:

Elevation: 640 Feet

Lat: 36°49N

Lon: 79°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	46.4	22.8	34.6	77+	1943	18	43.0	1974	-9+	1987	28	26.6	1977	942	0	.0	.0	12.0	3.0	26.4	.9
Feb	50.6	24.2	37.4	82	1930	25	44.1	1990	-3+	1996	6	29.4	1979	774	0	.0	.0	14.8	1.8	23.6	.1
Mar	59.0	31.1	45.1	88+	1990	15	50.1	1977	0+	1993	16	39.8	1996	618	0	.0	.0	24.4	.2	19.0	.1
Apr	69.0	38.7	53.9	93	1930	12	58.6	1985	17+	1992	3	48.8	1975	337	3	.0	.5	28.9	.0	9.8	.0
May	76.4	48.8	62.6	99+	1982	31	69.2	1991	25	1986	4	57.0	1997	135	60	.0	.7	30.9	.0	1.4	.0
Jun	83.5	58.4	71.0	103+	1945	30	75.1	1981	33	1977	8	65.9	1974	18	196	.0	5.3	30.0	.0	.0	.0
Jul	87.2	63.2	75.2	104+	1952	30	80.1	1993	43	1988	2	71.0	1974	0	316	.1	11.5	31.0	.0	.0	.0
Aug	85.8	61.1	73.5	105	1930	5	77.3+	1987	38+	1986	31	68.1	1974	7	270	.2	9.0	31.0	.0	.0	.0
Sep	79.9	53.9	66.9	104	1954	7	72.4	1980	26	1983	25	63.1	1974	53	110	.0	3.1	30.0	.0	.3	.0
Oct	69.6	40.1	54.9	98	1941	7	64.0	1984	19	1992	21	48.9	1987	329	16	.0	@	30.6	.0	8.9	.0
Nov	60.0	31.7	45.9	85+	1974	2	53.6	1985	10+	1991	6	40.5	1996	575	0	.0	.0	25.1	.0	18.3	.0
Dec	50.3	25.5	37.9	79+	1998	8	45.2	1984	-3+	1983	26	29.0	2000	840	0	.0	.0	16.2	1.3	24.5	.2
Ann	68.1	41.6	54.9	105	Aug 1930	5	80.1	Jul 1993	-9+	Jan 1987	28	26.6	Jan 1977	4628	971	.3	30.1	304.9	6.3	132.2	1.3

+ 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/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1930-2001

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

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No. 20 1971-2000

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

Station: CHATHAM, VA

COOP ID: 441614

Climate Division: VA 3

NWS Call Sign:

Elevation: 640 Feet Lat: 36°49N

Lon: 79°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	3.92	3.87	3.21	1992	4	8.53	1978	.55	1981	11.1	7.5	2.7	1.0	1.12	1.49	2.05	2.54	3.02	3.51	4.06	4.71	5.55	6.87	8.10
Feb	3.27	2.89	2.61	1984	14	5.91	1982	.82	1978	9.7	7.0	2.2	.7	1.09	1.40	1.86	2.24	2.62	3.00	3.42	3.90	4.53	5.50	6.40
Mar	4.40	3.69	3.58	1975	30	11.76	1975	1.15	1986	10.9	7.7	3.0	1.0	1.22	1.64	2.27	2.83	3.37	3.93	4.56	5.29	6.25	7.76	9.16
Apr	3.73	3.46	4.72	1987	16	9.53	1987	.71	1985	10.2	6.7	2.2	.7	1.03	1.38	1.92	2.39	2.85	3.33	3.86	4.49	5.31	6.59	7.79
May	4.07	3.90	4.44	1971	13	10.73	1971	.52	1997	11.4	7.6	2.8	.9	1.18	1.57	2.15	2.65	3.14	3.66	4.22	4.89	5.75	7.10	8.35
Jun	3.76	2.99	3.75	1931	22	11.64	1995	1.02	1998	9.8	6.2	2.4	1.0	.93	1.28	1.83	2.32	2.80	3.31	3.87	4.55	5.43	6.83	8.14
Jul	4.05	4.21	2.78	1964	13	8.17	1988	.51	1983	11.1	7.2	3.0	.9	1.33	1.71	2.27	2.75	3.22	3.69	4.22	4.83	5.62	6.84	7.96
Aug	3.34	2.70	6.47	1964	31	9.01	1985	.30	1980	9.1	5.9	2.1	.9	.74	1.05	1.54	1.98	2.42	2.89	3.42	4.05	4.88	6.20	7.45
Sep	4.52	3.62	8.73	1996	4	15.96	1996	.21	1985	8.9	5.6	2.7	1.4	.51	.86	1.49	2.12	2.80	3.55	4.43	5.53	7.01	9.47	11.86
Oct	3.67	3.23	4.20	1990	11	11.09	1990	.01	2000	8.1	5.3	2.4	1.2	.28	.52	.99	1.50	2.06	2.71	3.48	4.46	5.82	8.09	10.34
Nov	3.26	2.98	3.46	1962	10	9.84	1985	.78	1998	9.3	5.6	2.0	1.0	.94	1.25	1.72	2.12	2.52	2.93	3.38	3.91	4.61	5.69	6.70
Dec	3.29	3.59	4.44	1958	29	5.89	1973	.54	1980	9.7	6.4	2.1	.9	.82	1.13	1.61	2.03	2.45	2.89	3.39	3.97	4.74	5.96	7.10
Ann	45.28	44.69	8.73	Sep 1996	4	15.96	Sep 1996	.01	Oct 2000	119.3	78.7	29.6	11.6	33.76	36.03	38.91	41.08	43.00	44.85	46.75	48.84	51.37	55.01	58.15

+ 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: 1930-2001

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Station: CHATHAM, VA

COOP ID: 441614

Climate Division: VA 3

NWS Call Sign:

Elevation: 640 Feet

Lat: 36°49N

Lon: 79°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	3.6	.0	#	0	7.0	1971	1	16.2	2000	12	1996	8	2	2000	1.0	.6	.3	.2	.0	1.7	1.1	.6	.0
Feb	2.0	1.3	#	0	6.5	1972	2	11.0	1972	6	1972	2	4	1982	.9	.8	.2	.1	.0	1.3	.4	.1	.0
Mar	1.3	.0	#	0	8.5	1980	2	10.0	1993	3	1971	27	#+	1999	.4	.4	.3	.1	.0	.1	.1	.0	.0
Apr	#	.0	#	0	#	1996	7	#	1996	#	1996	7	#	1996	.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	#	1995	31	#	1995	#	1995	31	#	1995	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	2.5	1972	17	2.5	1972	2	1972	17	#+	1972	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	.8	.0	#	0	6.0	1973	17	6.1	1997	6	1997	30	1	1973	.4	.2	.1	.1	.0	.4	.2	.2	.0
Ann	7.9	1.3	N/A	N/A	8.5	Mar 1980	2	16.2	Jan 2000	12	Jan 1996	8	4	Feb 1982	2.8	2.1	.9	.5	.0	3.6	1.8	.9	.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

Station: CHATHAM, VA

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Climate Division: VA 3

NWS Call Sign:

Elevation: 640 Feet

Lat: 36° 49N

Lon: 79° 25W

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	5/21	5/17	5/14	5/11	5/08	5/04	5/01	4/25
32	5/13	5/09	5/06	5/03	5/01	4/28	4/26	4/23	4/19
28	5/02	4/26	4/22	4/18	4/15	4/11	4/08	4/03	3/29
24	4/19	4/13	4/09	4/05	4/01	3/28	3/24	3/20	3/13
20	4/01	3/27	3/23	3/19	3/16	3/13	3/09	3/05	2/27
16	3/24	3/17	3/12	3/07	3/03	2/27	2/22	2/17	2/10
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	9/21	9/25	9/28	10/01	10/04	10/06	10/09	10/12	10/16
32	9/26	9/30	10/04	10/07	10/09	10/12	10/15	10/18	10/22
28	10/04	10/10	10/13	10/17	10/20	10/23	10/26	10/30	11/04
24	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/11	11/16
20	10/28	11/04	11/08	11/12	11/16	11/20	11/23	11/28	12/04
16	11/16	11/23	11/28	12/02	12/06	12/10	12/15	12/20	12/27
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	166	159	154	149	145	141	136	131	124
32	182	174	169	165	161	156	152	147	139
28	212	204	197	192	187	182	177	170	162
24	237	229	223	218	214	209	204	198	190
20	271	262	255	250	244	239	233	227	218
16	308	298	290	284	278	272	265	257	247

* 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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Climate Division: VA 3 NWS Call Sign: Elevation: 640 Feet Lat: 36° 49N Lon: 79° 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	942	774	618	337	135	18	0	7	53	329	575	840	4628
60	787	634	464	203	58	3	0	0	15	207	427	685	3483
57	694	550	375	136	29	1	0	0	6	148	343	592	2874
55	632	494	319	99	17	0	0	0	3	114	290	535	2503
50	487	360	193	35	3	0	0	0	0	53	174	392	1697
32	98	39	5	0	0	0	0	0	0	0	4	57	203

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	179	189	410	656	948	1168	1339	1286	1047	710	419	239	8590
55	0	0	11	65	252	478	626	573	360	111	16	4	2496
57	0	0	5	42	202	419	564	511	303	82	9	0	2137
60	0	0	1	18	138	331	471	418	222	49	3	0	1651
65	0	0	0	3	60	196	316	270	110	16	0	0	971
70	0	0	0	0	18	93	174	142	39	3	0	0	469

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	54	81	214	428	695	918	1080	1029	805	467	219	84	54	135	349	777	1472	2390	3470	4499	5304	5771	5990	6074
45	21	35	123	289	540	768	925	874	655	321	127	39	21	56	179	468	1008	1776	2701	3575	4230	4551	4678	4717
50	5	12	60	174	388	618	770	719	505	198	59	18	5	17	77	251	639	1257	2027	2746	3251	3449	3508	3526
55	0	1	24	93	246	468	615	564	361	105	22	2	0	1	25	118	364	832	1447	2011	2372	2477	2499	2501
60	0	0	7	40	134	322	460	410	225	45	4	0	0	0	7	47	181	503	963	1373	1598	1643	1647	1647
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	51	82	177	305	456	607	722	691	528	330	174	75	51	133	310	615	1071	1678	2400	3091	3619	3949	4123	4198

(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/normal/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