

Climatography of the United States

No. 20

1971-2000

Station: VIENNA, VA

COOP ID: 448737

Climate Division: VA 4

NWS Call Sign:

Elevation: 418 Feet Lat: 38° 54N Lon: 77° 16W

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	.0	.0	.0	72	1997	5	.0	0	4	1997	19	.0	0	0	0	.0	.0	7.3	3.2	29.0	.0
Feb	.0	.0	.0	79	2000	26	.0	0	-3	1996	5	.0	0	0	0	.0	.0	11.5	2.6	20.1	.1
Mar	.0	.0	.0	89	1998	31	.0	0	10	1996	10	.0	0	0	0	.0	.0	21.8	.3	13.1	.0
Apr	.0	.0	.0	87+	2001	10	.0	0	26	1997	10	.0	0	0	0	.0	.4	29.2	.0	2.9	.0
May	.0	.0	.0	91	1996	21	.0	0	35	1996	14	.0	0	0	0	.0	1.5	31.0	.0	.0	.0
Jun	.0	.0	.0	91+	2000	12	.0	0	45	2001	1	.0	0	0	0	.1	6.3	30.0	.0	.0	.0
Jul	.0	.0	.0	95	1999	7	.0	0	53	2000	8	.0	0	0	0	.5	12.8	31.0	.0	.0	.0
Aug	.0	.0	.0	95	1997	17	.0	0	51	1998	20	.0	0	0	0	.2	8.3	31.0	.0	.0	.0
Sep	.0	.0	.0	91	1998	7	.0	0	42+	2001	26	.0	0	0	0	.0	2.6	30.0	.0	.0	.0
Oct	.0	.0	.0	82+	2000	5	.0	0	29	1997	23	.0	0	0	0	.0	.0	30.9	.0	.2	.0
Nov	.0	.0	.0	77	2001	3	.0	0	17	2000	24	.0	0	0	0	.0	.0	28.6	.0	10.6	.0
Dec	.0	.0	.0	78	1998	8	.0	0	11	2000	23	.0	0	0	0	.0	.0	10.0	2.8	20.1	@
Ann	.0	.0	.0	95+	Jul 1999	7	-99.9	0	-3	Feb 1996	5	99.9	0	0	0	.8	31.9	292.3	8.9	96.0	.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/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

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**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: VIENNA, VA

COOP ID: 448737

Climate Division: VA 4

NWS Call Sign:

Elevation: 418 Feet Lat: 38°54N

Lon: 77°16W

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	3.41	3.21	1.66+	1979	2	7.40	1979	.44	1981	10.9	6.9	2.7	.6	1.12	1.44	1.92	2.32	2.71	3.11	3.55	4.07	4.73	5.76	6.70
Feb	2.85	2.42	2.43	1998	5	7.16	1998	.38	1978	9.0	5.6	1.8	.7	.62	.88	1.30	1.68	2.06	2.46	2.92	3.46	4.18	5.32	6.40
Mar	3.97	3.60	2.69	1993	13	9.05	1993	.78	1986	10.1	6.8	2.5	1.3	1.33	1.70	2.25	2.72	3.17	3.64	4.14	4.73	5.49	6.67	7.76
Apr	3.37	2.93	2.32	2000	18	7.56	1983	.42	1985	10.6	6.7	2.3	.8	1.03	1.35	1.82	2.24	2.63	3.05	3.50	4.03	4.72	5.80	6.80
May	4.60	4.57	4.65	1997	26	10.48	1989	1.21	1986	12.0	8.5	3.3	1.0	1.76	2.19	2.80	3.31	3.79	4.28	4.81	5.43	6.21	7.41	8.51
Jun	3.78	3.12	6.67	1972	22	15.14	1972	1.47	1986	11.1	6.9	2.6	.9	1.08	1.43	1.98	2.45	2.91	3.39	3.92	4.55	5.36	6.63	7.82
Jul	4.33	4.78	4.72	1969	23	7.27	1975	1.19	1999	11.5	7.1	3.1	1.2	1.43	1.84	2.44	2.96	3.45	3.96	4.51	5.16	6.00	7.30	8.49
Aug	4.06	3.72	4.40	2001	11	8.25	1990	.38	1989	10.2	6.3	2.4	1.1	1.04	1.42	2.01	2.53	3.05	3.59	4.19	4.91	5.84	7.32	8.70
Sep	4.49	3.83	7.10	1966	14	11.15	1999	.96	1986	9.6	6.1	2.8	1.4	.97	1.38	2.04	2.64	3.24	3.87	4.59	5.45	6.58	8.39	10.10
Oct	3.58	2.99	4.43	1990	23	7.94	1976	.04	2000	8.3	5.4	2.4	1.0	.60	.91	1.43	1.92	2.43	2.98	3.60	4.37	5.39	7.04	8.62
Nov	3.49	3.41	3.08	1993	28	6.95	1972	.43	1981	9.0	5.8	2.5	.8	.78	1.11	1.62	2.08	2.54	3.03	3.58	4.24	5.10	6.48	7.77
Dec	3.19	2.69	2.29	1977	18	6.47	1973	.69	1980	9.6	6.2	2.4	.8	.76	1.06	1.52	1.94	2.35	2.79	3.28	3.86	4.62	5.83	6.97
Ann	45.12	43.26	7.10	Sep 1966	14	15.14	Jun 1972	.04	Oct 2000	121.9	78.3	30.8	11.6	33.86	36.08	38.90	41.03	42.90	44.71	46.56	48.60	51.07	54.61	57.66

+ 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

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151 Patton Avenue
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Station: VIENNA, VA

COOP ID: 448737

Climate Division: VA 4

NWS Call Sign:

Elevation: 418 Feet

Lat: 38°54N

Lon: 77°16W

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	7.4	8.0	1	#	14.4	1987	22	26.4	1987	32	1996	12	7	1996	3.0	1.9	.9	.4	@	8.5	4.7	2.0	.5
Feb	4.8	1.1	1	#	23.0	1983	11	27.4	1983	27	1979	19	9	1979	2.2	1.4	.6	.3	.1	5.3	2.7	.8	.2
Mar	2.2	.2	#	#	10.7	1993	13	13.5	1999	11	1999	10	2	1993	1.1	.8	.4	.1	.1	1.6	.8	.3	.1
Apr	.1	.0	#	0	1.5	1971	7	1.5	1971	1	1993	16	#+	1993	.1	.1	.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	#	1974	20	#	1974	1	1979	10	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.8	.0	#	0	10.4	1987	11	10.4	1987	10	1987	11	1	1987	.3	.2	.1	@	@	.3	.1	.1	@
Dec	1.9	.0	#	#	7.5	1982	12	12.6	1989	8	1973	17	3	1989	.9	.6	.3	.1	.0	1.9	1.5	.4	.0
Ann	17.2	9.3	N/A	N/A	23.0	Feb 1983	11	27.4	Feb 1983	32	Jan 1996	12	9	Feb 1979	7.6	5.0	2.3	.9	.2	17.6	9.8	3.6	.8

+ 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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Elevation: 418 Feet

Lat: 38° 54N

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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	4/21	4/17	4/12
32	4/22	4/18	4/15	4/12	4/10	4/08	4/06	4/03	3/30
28	4/14	4/09	4/05	4/03	3/31	3/28	3/25	3/22	3/17
24	3/28	3/23	3/20	3/17	3/15	3/12	3/10	3/06	3/02
20	3/18	3/12	3/08	3/04	3/01	2/25	2/22	2/17	2/11
16	3/10	3/03	2/25	2/21	2/16	2/12	2/07	2/02	1/25
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	10/21	10/25	10/28	10/30	11/02	11/04	11/07	11/10	11/14
32	10/30	11/02	11/04	11/05	11/07	11/08	11/10	11/12	11/15
28	11/02	11/07	11/10	11/13	11/15	11/18	11/21	11/24	11/28
24	11/08	11/14	11/19	11/23	11/27	11/30	12/04	12/09	12/15
20	11/20	11/28	12/04	12/08	12/13	12/17	12/22	12/27	1/04
16	12/01	12/11	12/19	12/25	12/31	1/06	1/12	1/20	1/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	208	201	196	192	188	184	180	175	168
32	224	219	215	213	210	207	204	201	196
28	250	243	238	233	229	224	220	214	207
24	277	270	265	260	256	252	247	242	234
20	316	306	298	292	286	280	274	266	256
16	353	341	332	324	317	310	302	293	281

* 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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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	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	27	88	231	480	765	997	1173	1118	879	473	194	76	27	115	346	826	1591	2588	3761	4879	5758	6231	6425	6501
45	9	40	131	339	610	847	1018	963	729	318	79	31	9	49	180	519	1129	1976	2994	3957	4686	5004	5083	5114
50	3	17	68	211	455	697	863	808	579	167	24	8	3	20	88	299	754	1451	2314	3122	3701	3868	3892	3900
55	0	1	31	112	305	547	708	653	431	53	1	4	0	1	32	144	449	996	1704	2357	2788	2841	2842	2846
60	0	0	9	55	178	399	553	498	288	6	0	0	0	0	9	64	242	641	1194	1692	1980	1986	1986	1986
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	30	60	145	293	478	672	809	775	576	239	101	40	30	90	235	528	1006	1678	2487	3262	3838	4077	4178	4218

(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