U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: DALE ENTERPRISE, VA **COOP ID: 442208**

Climate Division: VA 5 **NWS Call Sign:** **Elevation: 1,400 Feet** **Lat: 38˚27N** **Lon: 78˚56W**

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	40.5	20.4	30.5	76	1950	26	40.0	1974	-13	1994	20	18.6	1977	1070	0	.0	.0	7.5	6.3	26.2	1.0
Feb	44.8	22.1	33.5	78	1985	24	41.9	1990	-13	1996	5	20.8	1978	884	0	.0	.0	10.4	3.9	22.4	.4
Mar	53.9	30.1	42.0	85	1986	31	47.6	1977	0	1960	8	35.8	1996	714	0	.0	.0	20.6	.6	17.1	.0
Apr	63.7	37.8	50.8	91+	1976	19	56.7	1994	14	1985	10	46.9	1975	428	1	.0	.1	27.6	.0	7.4	.0
May	73.1	48.4	60.8	96	1991	31	68.0	1991	26	1966	10	56.1	1994	171	39	.0	.5	30.9	.0	.8	.0
Jun	81.3	57.4	69.4	98	1999	9	73.0	1994	34	1972	11	64.6	1972	22	152	.0	4.0	30.0	.0	.0	.0
Jul	85.3	61.6	73.5	105	1999	6	77.6	1999	44+	1988	1	70.4	2000	5	267	.3	8.7	31.0	.0	.0	.0
Aug	83.7	59.9	71.8	102+	1988	17	75.9	1988	39+	1986	29	68.5	1974	10	220	.2	6.1	31.0	.0	.0	.0
Sep	76.7	52.8	64.8	100	1954	5	69.7	1998	26	1974	24	59.9	1974	79	72	.0	2.1	30.0	.0	.1	.0
Oct	66.0	41.0	53.5	92	1951	5	60.7	1984	15	1962	27	48.3	1988	364	7	.0	@	30.1	.0	5.5	.0
Nov	54.6	32.0	43.3	79+	1971	2	50.4	1985	7	1950	26	36.9	1976	651	0	.0	.0	20.7	.2	14.5	.0
Dec	45.1	24.6	34.9	78	2001	6	43.3	1984	-11	1989	22	21.7	1989	935	0	.0	.0	11.1	3.4	23.2	.5
Ann	64.1	40.7	52.4	105	Jul 1999	6	77.6	Jul 1999	-13+	Feb 1996	5	18.6	Jan 1977	5333	758	.5	21.5	280.9	14.4	117.2	1.9

\+ 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

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.55	2.00	2.05	1998	8	7.42	1998	.29	1981
Feb	2.14	2.06	1.91	1984	14	5.47	1998	.25	1978
Mar	2.86	2.56	2.32	1993	4	6.04	1994	.41	1981
Apr	2.64	2.17	2.28	1992	21	6.01	1987	.64	1971
May	3.67	3.86	3.39	1960	8	5.88	1971	.64	1977
Jun	3.56	3.37	3.17	1951	22	7.80	1972	.51	1980
Jul	3.78	3.97	2.35	1978	24	7.02	1991	.75	1998
Aug	3.42	2.88	4.21	1995	6	7.45	1996	1.10	1981
Sep	3.50	2.54	5.95	1996	6	12.22	1996	.05	1985
Oct	2.82	2.32	4.70	1954	15	8.40	1976	.07	2000
Nov	2.76	2.62	1.93	1952	20	8.59	1985	.68	1998
Dec	2.42	1.98	2.06	1973	26	5.90	1973	.17	1980
Ann	36.12	35.87	5.95	Sep 1996	6	12.22	Sep 1996	.05	Sep 1985

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.2	5.6	1.7	.5
Feb	8.6	4.9	1.4	.3
Mar	10.5	6.1	2.0	.7
Apr	10.5	6.1	1.5	.4
May	12.7	8.4	2.2	.7
Jun	11.2	7.1	2.6	.7
Jul	12.0	7.7	2.7	.8
Aug	11.6	6.0	2.2	.8
Sep	10.1	5.6	2.3	.8
Oct	8.2	4.6	2.0	.8
Nov	9.8	5.5	1.9	.5
Dec	9.6	4.6	1.9	.5
Ann	125.0	72.2	24.4	7.5

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.46	.68	1.06	1.40	1.76	2.14	2.58	3.10	3.81	4.94	6.02
Feb	.52	.72	1.03	1.31	1.59	1.88	2.20	2.58	3.09	3.89	4.64
Mar	.78	1.05	1.46	1.82	2.18	2.55	2.96	3.45	4.09	5.09	6.02
Apr	.65	.89	1.28	1.62	1.96	2.32	2.71	3.19	3.81	4.80	5.72
May	1.44	1.78	2.26	2.66	3.04	3.42	3.84	4.32	4.93	5.86	6.72
Jun	.80	1.13	1.65	2.12	2.59	3.09	3.65	4.32	5.20	6.60	7.92
Jul	1.11	1.47	2.01	2.47	2.93	3.40	3.92	4.53	5.33	6.57	7.72
Aug	1.12	1.44	1.92	2.33	2.72	3.12	3.57	4.09	4.75	5.79	6.75
Sep	.38	.64	1.13	1.62	2.14	2.73	3.42	4.28	5.45	7.38	9.27
Oct	.29	.49	.88	1.27	1.70	2.18	2.74	3.44	4.40	6.00	7.56
Nov	.74	1.01	1.40	1.75	2.10	2.46	2.86	3.33	3.95	4.91	5.81
Dec	.52	.74	1.10	1.42	1.74	2.09	2.47	2.94	3.55	4.53	5.45
Ann	25.14	27.24	29.95	32.01	33.85	35.63	37.47	39.51	41.98	45.58	48.70

+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	6.1	5.6	1	#	19.0	1996	8	22.5	1978	30	1996	13	9	1996	3.2	2.0	1.0	.4	.1	6.3	3.4	1.8	1.1
Feb	6.5	4.5	1	#	20.0	1983	11	24.8	1983	21	1983	11	4	1983	2.5	1.9	.8	.4	@	6.1	3.3	1.6	.1
Mar	3.5	1.5	#	#	11.5	1994	3	18.6	1994	18	1994	3	2	1994	1.3	.9	.4	.2	@	1.8	1.0	.4	@
Apr	.8	.0	#	0	6.0	1990	6	10.5	1990	6	1990	6	#+	1990	.3	.3	.1	@	.0	.2	.1	@	.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	.3	.0	#	0	8.0	1979	10	8.0	1979	2	1979	10	#	1979	@	@	@	@	.0	@	.0	.0	.0
Nov	1.0	.0	#	0	8.0	1971	24	10.0	1971	8	1971	24	1	1971	.5	.4	.2	.1	.0	.4	.2	@	.0
Dec	4.0	2.0	1	#	12.0	1992	10	17.0	1973	9	1989	17	5	1989	1.9	1.1	.6	.3	@	3.4	2.0	1.4	.0
Ann	22.2	13.6	N/A	N/A	20.0	Feb 1983	11	24.8	Feb 1983	30	Jan 1996	13	9	Jan 1996	9.7	6.6	3.1	1.4	.1	18.2	10.0	5.2	1.2

+ 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	5/26	5/21	5/18	5/15	5/12	5/09	5/06	5/03	4/28
32	5/12	5/08	5/05	5/02	4/30	4/28	4/25	4/22	4/18
28	4/24	4/20	4/18	4/15	4/13	4/11	4/09	4/06	4/02
24	4/17	4/12	4/09	4/06	4/03	3/31	3/28	3/25	3/20
20	4/05	3/31	3/27	3/24	3/20	3/17	3/14	3/10	3/05
16	3/29	3/21	3/16	3/11	3/07	3/02	2/26	2/20	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	9/19	9/23	9/26	9/29	10/01	10/03	10/06	10/09	10/13
32	9/30	10/05	10/08	10/11	10/13	10/16	10/18	10/22	10/26
28	10/09	10/14	10/18	10/22	10/25	10/28	10/31	11/04	11/10
24	10/19	10/25	10/29	11/02	11/05	11/09	11/12	11/17	11/23
20	10/27	11/04	11/09	11/14	11/19	11/23	11/28	12/03	12/11
16	11/17	11/23	11/28	12/02	12/06	12/10	12/14	12/19	12/26

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	160	154	149	145	141	137	133	129	122
32	185	178	173	169	165	161	157	153	146
28	215	208	203	198	194	190	185	180	173
24	238	230	225	220	216	211	206	201	193
20	270	261	254	248	242	237	231	224	215
16	301	292	285	279	274	268	263	256	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

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Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1070	884	714	428	171	22	5	10	79	364	651	935	5333
60	915	744	559	284	80	3	0	0	26	231	501	780	4123
57	822	660	467	207	44	1	0	0	10	164	413	687	3475
55	760	604	410	161	28	0	0	0	5	127	359	629	3083
50	615	474	270	72	6	0	0	0	0	57	229	485	2208
32	189	116	18	0	0	0	0	0	0	0	10	110	443

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	142	156	327	563	892	1120	1285	1233	983	666	350	198	7915
55	0	0	6	33	206	430	572	520	298	80	8	4	2157
57	0	0	1	19	161	371	510	458	243	56	3	0	1822
60	0	0	0	7	104	283	417	365	169	29	0	0	1374
65	0	0	0	1	39	152	267	220	72	7	0	0	758
70	0	0	0	0	9	60	135	104	20	1	0	0	329

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	39	71	185	392	681	909	1058	1002	771	455	197	73	39	110	295	687	1368	2277	3335	4337	5108	5563	5760	5833
45	17	32	100	258	526	759	903	847	621	305	112	33	17	49	149	407	933	1692	2595	3442	4063	4368	4480	4513
50	1	11	49	151	372	609	748	692	473	184	50	13	1	12	61	212	584	1193	1941	2633	3106	3290	3340	3353
55	0	1	18	76	236	459	593	537	327	95	17	0	0	1	19	95	331	790	1383	1920	2247	2342	2359	2359
60	0	0	4	33	128	314	438	383	202	37	1	0	0	0	4	37	165	479	917	1300	1502	1539	1540	1540
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	29	50	126	253	428	599	713	669	493	285	126	46	29	79	205	458	886	1485	2198	2867	3360	3645	3771	3817

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

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