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: SUMMERVILLE, SC **COOP ID: 388426**

Climate Division: SC 7 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 32˚59N** **Lon: 80˚11W**

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	58.2	34.8	46.5	84	1932	15	59.9	1974	5+	1985	22	36.4	1977	586	0	.0	.0	24.6	.3	13.7	.0
Feb	61.8	36.4	49.1	87	1989	17	56.6	1990	4	1973	12	40.1	1978	447	2	.0	.0	23.2	.2	9.7	.0
Mar	69.3	43.1	56.2	93	1935	24	62.5	1997	19	1998	14	50.3	1971	289	17	.0	.0	29.8	.0	4.5	.0
Apr	76.2	48.9	62.6	96	1990	27	68.3	1991	28+	1983	20	57.7	1983	122	48	.0	.7	30.0	.0	.6	.0
May	82.8	58.5	70.7	100	1941	24	75.9	1991	33	1963	2	66.6	1997	18	193	.0	3.9	31.0	.0	.0	.0
Jun	87.8	66.6	77.2	104+	1952	28	81.9	1981	45	1930	1	72.7	1972	0	367	.3	11.8	30.0	.0	.0	.0
Jul	90.8	70.8	80.8	104+	1996	3	84.8	1993	51	1974	13	77.7	1974	0	490	1.0	19.7	31.0	.0	.0	.0
Aug	89.4	70.1	79.8	106	1954	18	82.5	1980	53	1966	2	77.0	1976	0	456	.1	16.4	31.0	.0	.0	.0
Sep	85.0	65.1	75.1	102+	1944	7	79.3	1980	40	1967	30	71.4	1984	2	304	.0	6.4	30.0	.0	.0	.0
Oct	76.8	52.8	64.8	99	1954	6	70.8	1985	26	1976	29	58.9	1987	109	102	.0	.5	31.0	.0	.4	.0
Nov	69.4	44.3	56.9	90	1961	1	65.7	1985	12	1970	25	50.1	1976	275	29	.0	.0	29.5	.0	4.4	.0
Dec	61.0	37.0	49.0	85	1931	21	58.0	1971	9	1983	26	40.5	1989	504	8	.0	.0	27.4	.1	10.5	.0
Ann	75.7	52.4	64.1	106	Aug 1954	18	84.8	Jul 1993	4	Feb 1973	12	36.4	Jan 1977	2352	2016	1.4	59.4	348.5	.6	43.8	.0

\+ 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: 1930-2000

(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	4.82	4.76	3.60	1995	15	9.29	1991	1.00	1981
Feb	3.41	2.95	3.33	1944	14	8.93	1998	.91	2000
Mar	4.40	3.65	4.45	1980	13	11.58	1980	1.27	1985
Apr	3.15	2.94	3.89	1958	16	6.48	1982	.01	1976
May	3.70	3.08	4.70	1965	29	8.38	1991	.46	2000
Jun	6.00	5.11	8.80	1941	27	19.42	1973	1.41	1980
Jul	6.09	5.85	7.90	1966	2	14.40	1994	1.32	1988
Aug	6.64	6.14	10.23	1940	12	16.26	1988	1.71	1980
Sep	5.83	5.11	6.80	1945	17	14.00	1979	.03	1990
Oct	3.22	2.61	5.20	1962	2	9.29	1990	.00	2000
Nov	2.79	2.52	4.41	1963	6	7.24	1992	.75	1973
Dec	3.42	2.92	4.23	1941	24	6.12	1972	.56	1984
Ann	53.47	53.51	10.23	Aug 1940	12	19.42	Jun 1973	.00	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.6	8.2	3.3	1.1
Feb	8.5	5.7	2.3	.8
Mar	8.6	6.2	3.2	1.3
Apr	7.1	4.9	2.1	.9
May	8.3	6.1	2.4	1.0
Jun	10.9	8.2	3.5	1.7
Jul	11.6	8.7	3.9	1.7
Aug	13.0	9.2	4.3	2.3
Sep	10.0	6.6	3.4	1.8
Oct	6.2	4.5	1.8	.9
Nov	7.9	4.8	1.8	.7
Dec	9.7	6.7	2.6	.8
Ann	113.4	79.8	34.6	15.0

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	1.77	2.22	2.87	3.41	3.93	4.46	5.04	5.71	6.56	7.88	9.08
Feb	.96	1.28	1.77	2.20	2.62	3.05	3.53	4.10	4.84	6.00	7.09
Mar	1.30	1.72	2.34	2.89	3.41	3.96	4.57	5.28	6.20	7.65	8.99
Apr	.30	.53	.96	1.40	1.87	2.41	3.05	3.84	4.93	6.74	8.52
May	.75	1.09	1.63	2.13	2.63	3.16	3.77	4.50	5.46	7.00	8.46
Jun	1.22	1.76	2.64	3.45	4.26	5.13	6.12	7.30	8.87	11.37	13.75
Jul	1.86	2.44	3.30	4.05	4.77	5.51	6.34	7.30	8.55	10.50	12.31
Aug	2.03	2.66	3.60	4.41	5.20	6.01	6.91	7.96	9.32	11.45	13.42
Sep	.59	1.02	1.82	2.63	3.51	4.50	5.66	7.12	9.10	12.41	15.63
Oct	.14	.41	.88	1.35	1.86	2.43	3.11	3.96	5.12	7.05	8.94
Nov	.79	1.05	1.45	1.80	2.14	2.50	2.89	3.35	3.96	4.90	5.78
Dec	.87	1.19	1.69	2.13	2.56	3.02	3.53	4.14	4.93	6.18	7.35
Ann	38.91	41.76	45.39	48.13	50.56	52.91	55.33	58.00	61.23	65.90	69.93

\+ 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: 1930-2000
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.1	.0	#	0
Feb	.7	.0	#	0
Mar	.0	.0	#	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.0	.0	0	0
Dec	.4	.0	#	0
Ann	1.2	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	1.0	1988	12	1.0	1988	1+	1988	12	#+	1988
Feb	15.0	1973	10	15.0	1973	4	1979	19	#+	1989
Mar	.0	0	0	.0	0	1	1980	3	#	1980
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	3.3	1989	24	5.8	1989	5	1989	24	#+	1989
Ann	15.0	Feb 1973	10	15.0	Feb 1973	5	Dec 1989	24	#+	Dec 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.1	@	.0	.0	.0
Feb	.1	.1	@	@	@
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.1	.1	.1	.0	.0
Ann	.3	.2	.1	@	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.1	.0	.0	.0
Feb	.1	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.1	@	@	.0
Ann	.3	@	@	.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	4/29	4/22	4/17	4/13	4/09	4/05	3/31	3/26	3/19
32	4/16	4/09	4/05	4/01	3/28	3/24	3/20	3/14	3/06
28	3/30	3/22	3/15	3/10	3/04	2/27	2/21	2/14	2/04
24	3/10	3/02	2/25	2/21	2/16	2/12	2/07	2/01	1/23
20	3/01	2/19	2/12	2/06	1/31	1/24	1/15	12/31	0/00
16	2/07	1/28	1/21	1/12	12/29	0/00	0/00	0/00	0/00

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	10/10	10/17	10/22	10/26	10/29	11/02	11/06	11/11	11/17
32	10/20	10/28	11/02	11/06	11/11	11/15	11/20	11/25	12/04
28	11/07	11/15	11/21	11/25	11/30	12/05	12/10	12/17	12/30
24	11/17	11/29	12/07	12/14	12/21	12/28	1/05	1/15	2/03
20	12/03	12/16	12/25	1/02	1/11	1/20	2/01	0/00	0/00
16	12/31	1/10	1/19	1/28	2/12	0/00	0/00	0/00	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	237	225	217	210	203	197	190	181	170
32	266	250	241	234	228	222	215	208	198
28	317	297	286	277	270	262	255	245	233
24	>365	338	320	310	302	294	287	278	267
20	>365	>365	>365	>365	339	326	316	306	295
16	>365	>365	>365	>365	>365	>365	>365	>365	350

***** 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	586	447	289	122	18	0	0	0	2	109	275	504	2352
60	446	318	172	48	3	0	0	0	0	48	170	363	1568
57	369	246	118	22	0	0	0	0	0	26	120	286	1187
55	322	203	87	12	0	0	0	0	0	16	91	241	972
50	223	118	33	2	0	0	0	0	0	4	39	149	568
32	24	3	0	0	0	0	0	0	0	0	0	6	33

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	473	481	750	916	1198	1357	1513	1479	1291	1016	744	533	11751
55	58	38	125	239	485	667	800	766	601	319	146	55	4299
57	43	25	93	189	424	607	738	704	541	266	114	39	3783
60	27	13	54	125	333	517	645	611	451	196	74	22	3068
65	0	2	17	48	193	367	490	456	304	102	29	8	2016
70	0	0	3	11	88	223	335	301	167	40	9	0	1177

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	252	301	526	691	961	1125	1267	1237	1058	774	505	312	252	553	1079	1770	2731	3856	5123	6360	7418	8192	8697	9009
45	152	190	379	541	806	975	1112	1082	908	619	362	192	152	342	721	1262	2068	3043	4155	5237	6145	6764	7126	7318
50	80	106	248	395	651	825	957	927	758	465	240	106	80	186	434	829	1480	2305	3262	4189	4947	5412	5652	5758
55	36	49	139	256	497	675	802	772	608	322	136	54	36	85	224	480	977	1652	2454	3226	3834	4156	4292	4346
60	9	19	65	146	347	525	647	617	458	193	65	20	9	28	93	239	586	1111	1758	2375	2833	3026	3091	3111
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	166	196	333	446	643	777	883	860	732	505	327	199	166	362	695	1141	1784	2561	3444	4304	5036	5541	5868	6067

(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