

# Climatology of the United States

No. 20

1971-2000

Station: SHELBY 2 NNE, NC

COOP ID: 317845

Climate Division: NC 5

NWS Call Sign:

Elevation: 920 Feet

Lat: 35°19N

Lon: 81°32W

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	48.9	27.4	38.2	81	1944	28	50.0	1974	-11	1966	31	28.1	1977	833	0	.0	.0	17.0	1.2	19.3	@
Feb	53.7	29.5	41.6	81	1944	27	48.0	1976	-9	1966	1	34.5	1978	656	0	.0	.0	19.6	.4	15.7	.0
Mar	61.8	36.6	49.2	91	1945	17	53.6	1997	5	1960	6	44.2	1996	489	0	.0	.0	28.4	.1	9.4	.0
Apr	69.9	43.9	56.9	93	1943	27	61.3	1981	20	1964	1	53.0	1983	248	7	.0	.1	29.7	.0	2.6	.0
May	77.0	53.7	65.4	100	1940	8	69.1	1982	29+	1989	8	60.1	1997	75	87	.0	.7	30.9	.0	@	.0
Jun	83.8	61.7	72.8	105+	1954	28	76.9	1981	37	1966	2	68.9	1997	6	239	@	7.2	30.0	.0	.0	.0
Jul	87.6	66.0	76.8	107	1952	30	81.3	1986	51+	1963	11	73.0	1979	0	366	.7	14.1	31.0	.0	.0	.0
Aug	86.2	64.7	75.5	105	1983	21	78.7	1980	48+	1999	31	72.6	1992	0	324	.3	9.9	31.0	.0	.0	.0
Sep	80.1	57.8	69.0	104	1939	9	72.6	1998	36	1983	23	66.4	1994	25	144	.0	3.3	30.0	.0	.0	.0
Oct	70.7	45.0	57.9	98+	1954	7	64.5	1984	19	1962	27	51.7	1987	246	24	.0	.1	30.9	.0	2.2	.0
Nov	60.8	36.3	48.6	86	1974	2	56.2	1985	11+	1970	25	42.7	1976	495	0	.0	.0	27.3	.0	10.4	.0
Dec	51.5	29.8	40.7	80	1955	26	49.2	1971	-2	1962	13	32.0	2000	755	0	.0	.0	19.4	.3	17.6	@
Ann	69.3	46.0	57.7	107	Jul 1952	30	81.3	Jul 1986	-11	Jan 1966	31	28.1	Jan 1977	3828	1191	1.0	35.4	325.2	2.0	77.2	.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/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: 1893-2001

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

081-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: SHELBY 2 NNE, NC**

**COOP ID: 317845**

**Climate Division: NC 5**

**NWS Call Sign:**

**Elevation: 920 Feet Lat: 35°19N**

**Lon: 81°32W**

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	4.31	3.92	3.50	1926	18	9.28	1978	.16	1981	10.7	7.4	3.3	1.5	1.06	1.47	2.10	2.65	3.20	3.79	4.44	5.21	6.22	7.83	9.33
Feb	3.84	3.68	3.50	1990	16	7.34	1990	1.27	1980	8.4	6.2	3.0	1.1	1.27	1.64	2.17	2.62	3.06	3.51	4.00	4.58	5.32	6.47	7.53
Mar	4.87	4.44	4.00	1990	17	8.65	1975	1.02	1985	10.7	7.6	3.6	1.4	1.63	2.09	2.77	3.34	3.89	4.46	5.08	5.80	6.73	8.17	9.50
Apr	3.39	3.18	2.90	1958	28	8.05	1997	.24+	1986	8.7	6.0	2.8	1.1	.60	.89	1.39	1.85	2.33	2.84	3.42	4.13	5.08	6.61	8.06
May	4.75	4.75	3.76	1973	28	9.49	1972	.73	1987	10.3	7.1	3.0	1.4	1.33	1.79	2.47	3.06	3.64	4.25	4.92	5.72	6.75	8.37	9.87
Jun	4.08	3.91	3.30	1980	25	11.13	1994	.00	1986	9.5	6.5	2.8	1.2	.63	1.17	1.87	2.43	3.00	3.59	4.24	5.02	6.03	7.64	9.14
Jul	4.13	3.99	5.60	1949	16	8.81	1971	.40+	1987	9.6	6.9	2.8	1.2	.67	1.02	1.62	2.19	2.78	3.42	4.15	5.05	6.24	8.18	10.04
Aug	4.41	4.31	5.82	1928	11	11.33	1986	.16	1997	9.2	6.3	3.0	1.4	.76	1.15	1.79	2.40	3.01	3.69	4.45	5.39	6.63	8.64	10.55
Sep	3.90	3.90	4.70+	1959	30	7.24	1977	.33	1985	8.2	5.5	2.7	1.4	.67	1.01	1.58	2.12	2.67	3.26	3.94	4.76	5.86	7.63	9.33
Oct	4.03	3.34	5.20	1929	1	10.77	1971	.00	2000	6.6	4.9	2.6	1.3	.11	.39	.94	1.52	2.16	2.90	3.79	4.92	6.50	9.15	11.78
Nov	3.69	3.48	3.36	1977	6	8.44	1985	.72	1973	8.2	6.0	2.6	1.1	1.03	1.38	1.91	2.37	2.82	3.30	3.82	4.45	5.25	6.52	7.70
Dec	3.80	3.89	3.76	1951	21	8.04	1983	.83	1985	9.7	6.7	2.9	1.0	1.15	1.51	2.05	2.51	2.96	3.43	3.95	4.55	5.33	6.55	7.68
Ann	49.20	49.39	5.82	Aug 1928	11	11.33	Aug 1986	.00+	Oct 2000	109.8	77.1	35.1	15.1	35.34	38.04	41.48	44.10	46.41	48.65	50.96	53.51	56.60	61.08	64.95

+ 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: 1893-2001

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

Complete documentation available from:  
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Station: SHELBY 2 NNE, NC

COOP ID: 317845

Climate Division: NC 5

NWS Call Sign:

Elevation: 920 Feet

Lat: 35°19N

Lon: 81°32W

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	1.4	.0	#	0	5.0	1973	8	7.5	1982	5+	2000	22	1	1973	.5	.3	.2	@	.0	.1	.1	.0	.0
Feb	2.4	.3	#	0	13.0	1979	18	20.0	1979	3	1984	6	#+	1999	.6	.5	.2	.1	@	.2	.1	.0	.0
Mar	1.2	.0	#	0	7.0	1983	24	7.0	1983	7	1983	24	#+	1996	.4	.3	.2	@	.0	.1	@	@	.0
Apr	#	.0	0	0	#	1983	18	#+	1983	0	0	0	0	0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	0	0	2.0	2000	19	2.0	2000	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Dec	.5	.0	#	0	8.0	1971	3	8.0	1971	2	1993	23	#+	1999	.2	.1	@	@	.0	@	.0	.0	.0
Ann	5.6	.3	N/A	N/A	13.0	Feb 1979	18	20.0	Feb 1979	7	Mar 1983	24	1	Jan 1973	1.7	1.2	.6	.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

Complete documentation available from:

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**Elevation: 920 Feet**

**Lat: 35° 19N**

**Lon: 81° 32W**

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	5/08	5/04	5/01	4/28	4/25	4/23	4/20	4/17	4/12
32	4/28	4/24	4/20	4/17	4/14	4/12	4/09	4/05	3/31
28	4/15	4/09	4/05	4/01	3/29	3/26	3/22	3/18	3/13
24	3/28	3/22	3/17	3/13	3/09	3/05	3/01	2/24	2/18
20	3/13	3/06	3/01	2/25	2/21	2/17	2/12	2/07	1/31
16	3/07	2/26	2/18	2/12	2/07	2/01	1/26	1/19	1/09
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	10/01	10/05	10/08	10/10	10/13	10/15	10/17	10/20	10/24
32	10/10	10/14	10/18	10/21	10/23	10/26	10/29	11/01	11/06
28	10/14	10/20	10/25	10/29	11/02	11/06	11/10	11/15	11/22
24	11/06	11/12	11/16	11/19	11/22	11/25	11/29	12/02	12/08
20	11/15	11/23	11/28	12/03	12/07	12/12	12/17	12/22	12/30
16	11/24	12/05	12/14	12/21	12/27	1/03	1/10	1/18	1/29
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	180	176	173	170	166	163	159	153
32	209	203	198	195	191	188	184	180	174
28	242	234	228	222	217	212	207	201	192
24	281	273	267	262	258	253	248	242	234
20	312	304	298	293	289	284	279	273	265
16	>365	346	333	324	316	309	302	293	282

\* 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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**No. 20**  
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**Station: SHELBY 2 NNE, NC**

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**NWS Call Sign:**

**Elevation: 920 Feet    Lat: 35°19N    Lon: 81°32W**

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	833	656	489	248	75	6	0	0	25	246	495	755	3828
60	678	516	341	128	22	0	0	0	5	137	352	600	2779
57	591	432	259	75	8	0	0	0	1	89	272	514	2241
55	533	378	209	49	4	0	0	0	0	64	223	456	1916
50	393	250	110	11	0	0	0	0	0	22	123	319	1228
32	65	12	0	0	0	0	0	0	0	0	1	36	114

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	254	280	534	748	1035	1224	1389	1347	1109	801	497	304	9522
55	10	2	30	107	326	534	676	634	420	152	28	11	2930
57	6	0	18	74	268	474	614	572	360	116	17	7	2526
60	0	0	7	36	189	384	521	479	274	71	7	0	1968
65	0	0	0	7	87	239	366	324	144	24	0	0	1191
70	0	0	0	0	28	118	217	176	51	5	0	0	595

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	116	180	367	572	830	1019	1170	1131	908	607	328	158	116	296	663	1235	2065	3084	4254	5385	6293	6900	7228	7386
45	55	97	235	423	675	869	1015	976	758	454	205	81	55	152	387	810	1485	2354	3369	4345	5103	5557	5762	5843
50	24	43	134	286	521	719	860	821	608	306	109	38	24	67	201	487	1008	1727	2587	3408	4016	4322	4431	4469
55	1	14	64	167	367	569	705	666	458	181	47	12	1	15	79	246	613	1182	1887	2553	3011	3192	3239	3251
60	0	0	25	80	228	420	550	511	312	85	13	1	0	0	25	105	333	753	1303	1814	2126	2211	2224	2225
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	76	130	240	364	542	693	800	780	606	389	212	101	76	206	446	810	1352	2045	2845	3625	4231	4620	4832	4933

(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> |
|---|---|

## 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)