

# Climatography of the United States

No. 20

1971-2000

Station: SPARTA, TN

COOP ID: 408522

Climate Division: TN 2

NWS Call Sign:

Elevation: 1,020 Feet Lat: 35° 57N Lon: 85° 29W

## 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	28.4	38.7	74+	1972	25	47.2	1974	-15	1963	24	24.8	1977	817	0	.0	.0	14.3	3.8	20.7	.8
Feb	53.7	30.6	42.2	81	1996	23	50.9	1990	-20	1996	5	30.4	1978	640	0	.0	.0	16.9	2.4	17.2	.3
Mar	63.3	37.7	50.5	86	1986	31	56.0	1973	6	1993	15	43.1	1971	456	7	.0	.0	26.3	.3	11.2	@
Apr	73.0	43.9	58.5	91+	1986	27	63.0	1991	21	1973	11	53.6	1983	215	18	.0	.1	29.1	.0	4.0	.0
May	79.4	52.5	66.0	94+	1962	20	73.0	1987	28	1971	4	60.0	1971	97	126	.0	.6	31.0	.0	.2	.0
Jun	86.3	60.9	73.6	101+	1988	24	76.7	1986	34	1966	1	69.2	1972	5	262	.1	7.0	30.0	.0	.0	.0
Jul	89.3	65.2	77.3	104	1980	17	80.6	1993	47+	1961	10	74.3	1972	0	380	.2	14.6	31.0	.0	.0	.0
Aug	88.5	63.4	76.0	103	1983	21	80.5	1983	46	1965	30	71.4	1976	0	341	.1	11.1	31.0	.0	.0	.0
Sep	82.9	57.1	70.0	100	1990	7	74.2	1998	29	1967	30	64.6	1976	28	177	@	4.0	30.0	.0	.0	.0
Oct	73.3	44.8	59.1	89+	1971	1	66.5	1985	19	1961	27	53.4	1976	226	42	.0	.0	30.9	.0	3.7	.0
Nov	62.0	37.5	49.8	83+	1987	1	59.3	1985	7	1976	30	39.8	1976	464	7	.0	.0	24.8	.1	11.4	.0
Dec	52.7	31.3	42.0	77	1998	4	49.9	1984	-16	1962	13	32.5	1989	714	0	.0	.0	18.5	1.9	18.3	.2
Ann	71.1	46.1	58.6	104	Jul 1980	17	80.6	Jul 1993	-20	Feb 1996	5	24.8	Jan 1977	3662	1360	.4	37.4	313.8	8.5	86.7	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/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: 1948-2001

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

071-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: SPARTA, TN**

**COOP ID: 408522**

**Climate Division: TN 2**

**NWS Call Sign:**

**Elevation: 1,020 Feet Lat: 35°57N**

**Lon: 85°29W**

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	5.30	5.18	4.00	1949	5	11.15	1974	.72	1986	11.5	8.7	4.0	1.3	1.95	2.45	3.16	3.76	4.33	4.91	5.55	6.28	7.22	8.67	9.99
Feb	4.22	3.78	4.12	1956	18	8.48	1991	1.44	1978	9.3	7.4	2.9	.9	1.59	1.98	2.54	3.01	3.46	3.92	4.41	4.99	5.72	6.84	7.87
Mar	6.02	4.97	4.63	1963	12	16.26	1975	1.88	1983	11.0	8.8	3.8	1.6	1.83	2.40	3.25	3.99	4.70	5.44	6.25	7.21	8.45	10.38	12.17
Apr	4.19	3.61	3.10	1969	10	9.48	1994	.81	1986	9.7	6.8	2.6	1.0	1.33	1.73	2.32	2.82	3.31	3.81	4.36	5.01	5.85	7.14	8.34
May	5.68	5.45	3.38	1995	9	11.79	1995	1.77	1985	10.4	8.1	3.6	1.7	1.81	2.35	3.15	3.83	4.49	5.17	5.92	6.79	7.92	9.67	11.29
Jun	4.80	4.29	3.90	1957	10	13.87	1998	.04	1988	10.2	7.4	3.3	1.4	.60	.98	1.66	2.33	3.04	3.82	4.74	5.86	7.39	9.89	12.32
Jul	4.54	4.50	6.10	1957	24	11.49	1979	.56	1997	9.7	7.6	3.0	1.3	1.40	1.84	2.48	3.03	3.56	4.11	4.72	5.43	6.35	7.79	9.11
Aug	3.94	4.11	3.60	1970	12	7.51	2000	.72	1990	7.7	5.5	2.4	1.2	1.16	1.53	2.09	2.58	3.05	3.54	4.09	4.73	5.56	6.85	8.05
Sep	3.78	3.78	4.65	1964	29	8.67	1989	.49	1984	7.5	5.8	2.6	1.1	.94	1.29	1.84	2.33	2.81	3.32	3.89	4.57	5.45	6.85	8.17
Oct	3.39	2.91	4.05	1962	3	7.07	1976	.43	2000	6.8	4.9	2.5	1.0	.82	1.13	1.63	2.07	2.51	2.97	3.49	4.10	4.91	6.18	7.38
Nov	4.95	4.76	4.29	1975	12	8.26	1973	.97	1971	9.4	6.8	3.4	1.5	1.92	2.38	3.03	3.58	4.09	4.62	5.18	5.84	6.67	7.95	9.12
Dec	5.77	5.12	4.70	1969	30	17.66	1990	1.85	1985	10.2	7.8	3.7	1.6	1.73	2.28	3.10	3.81	4.49	5.21	5.99	6.92	8.11	9.98	11.72
Ann	56.58	54.08	6.10	Jul 1957	24	17.66	Dec 1990	.04	Jun 1988	113.4	85.6	37.8	15.6	41.83	44.73	48.41	51.19	53.65	56.02	58.46	61.14	64.39	69.07	73.11

+ 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

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**Climate Division: TN 2**

**NWS Call Sign:**

**Elevation: 1,020 Feet**

**Lat: 35°57N**

**Lon: 85°29W**

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	2.9	1.0	#	#	7.0	1973	8	13.1	1977	7	1973	8	1	1997	1.2	1.0	.4	.1	.0	2.1	1.4	.6	.0
Feb	2.2	.0	#	#	8.2	1996	2	9.3	1996	9	1996	3	2	1996	.8	.7	.4	.2	.0	.9	.5	.3	.0
Mar	.4	.0	#	0	2.4	1996	20	3.6	1996	4	1996	20	#+	1999	.3	.2	.0	.0	.0	.1	.1	.0	.0
Apr	.0	.0	#	0	.0	0	0	.0	0	#	1998	3	#	1998	.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	.3	.0	#	0	4.2	1996	10	4.2	1996	2+	1996	10	#+	1996	.1	.1	@	.0	.0	.1	.0	.0	.0
Dec	.3	.0	#	0	3.0	1976	31	3.0	1976	3	1976	31	#+	2000	.2	.2	@	.0	.0	.2	@	.0	.0
Ann	6.1	1.0	N/A	N/A	8.2	Feb 1996	2	13.1	Jan 1977	9	Feb 1996	3	2	Feb 1996	2.6	2.2	.8	.3	.0	3.4	2.0	.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

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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	5/19	5/13	5/08	5/04	4/30	4/27	4/23	4/18	4/12
32	5/03	4/28	4/24	4/21	4/18	4/15	4/12	4/08	4/03
28	4/21	4/16	4/13	4/10	4/07	4/04	4/01	3/28	3/23
24	4/08	4/02	3/29	3/25	3/21	3/18	3/14	3/10	3/04
20	3/23	3/16	3/11	3/07	3/03	2/27	2/22	2/17	2/10
16	3/09	3/02	2/25	2/20	2/16	2/12	2/08	2/03	1/26
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	9/29	10/03	10/05	10/07	10/09	10/11	10/13	10/16	10/19
32	10/04	10/08	10/12	10/15	10/18	10/20	10/23	10/27	10/31
28	10/10	10/17	10/21	10/25	10/29	11/02	11/06	11/10	11/17
24	10/28	11/02	11/07	11/10	11/13	11/17	11/20	11/24	11/30
20	11/08	11/14	11/18	11/22	11/25	11/28	12/02	12/06	12/12
16	11/14	11/25	12/02	12/09	12/15	12/21	12/28	1/05	1/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	175	169	165	161	157	152	147	140
32	201	194	190	186	182	178	174	170	163
28	225	218	213	208	204	200	196	191	184
24	260	252	246	241	236	232	227	221	213
20	288	281	275	271	266	262	258	252	245
16	337	323	314	307	300	293	286	277	266

\* 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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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	817	640	456	215	97	5	0	0	28	226	464	714	3662
60	673	507	316	109	40	1	0	0	6	129	330	566	2677
57	586	428	243	64	21	0	0	0	2	86	258	479	2167
55	530	378	201	41	13	0	0	0	1	63	216	423	1866
50	399	263	115	10	3	0	0	0	0	24	128	295	1237
32	88	31	3	0	0	0	0	0	0	0	3	35	160

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	294	316	577	793	1052	1247	1403	1364	1140	839	536	344	9905
55	23	18	61	144	351	557	690	651	451	189	58	19	3212
57	17	13	42	107	297	497	628	589	392	151	41	13	2787
60	11	7	22	62	224	408	535	496	306	101	23	7	2202
65	0	0	7	18	126	262	380	341	177	42	7	0	1360
70	0	0	0	3	57	132	228	196	80	13	0	0	709

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	107	150	329	532	790	994	1152	1110	890	572	295	151	107	257	586	1118	1908	2902	4054	5164	6054	6626	6921	7072
45	50	84	211	389	635	844	997	955	740	419	186	75	50	134	345	734	1369	2213	3210	4165	4905	5324	5510	5585
50	23	37	117	260	480	694	842	800	590	280	103	34	23	60	177	437	917	1611	2453	3253	3843	4123	4226	4260
55	2	13	53	155	329	544	687	645	442	161	51	10	2	15	68	223	552	1096	1783	2428	2870	3031	3082	3092
60	0	1	20	73	198	395	532	490	297	81	16	0	0	1	21	94	292	687	1219	1709	2006	2087	2103	2103
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	62	109	218	351	516	671	784	755	588	381	194	91	62	171	389	740	1256	1927	2711	3466	4054	4435	4629	4720

(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)