

Climatography of the United States

No. 20

1971-2000

Station: ATHENS, TN

COOP ID: 400284

Climate Division: TN 1

NWS Call Sign:

Elevation: 940 Feet Lat: 35°26N Lon: 84°35W

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	46.7	26.2	36.5	73+	1985	1	47.2	1974	-16+	1966	30	23.9	1977	886	0	.0	.0	13.0	3.2	22.6	.5
Feb	51.7	28.6	40.2	79	1977	27	47.3	1990	-14	1966	1	31.4	1978	697	0	.0	.0	16.6	1.6	18.7	.1
Mar	60.7	36.0	48.4	85+	1982	20	53.8	1997	2	1980	3	42.5	1971	517	2	.0	.0	25.9	.2	11.8	.0
Apr	69.9	43.2	56.6	90+	1965	25	62.0	1999	22+	1987	1	51.1	1983	265	12	.0	.1	29.2	.0	4.1	.0
May	77.3	52.4	64.9	95	1962	20	71.1	1987	29	1971	4	60.7	1976	102	97	.0	.4	30.9	.0	.1	.0
Jun	84.5	61.2	72.9	101	1988	25	75.4	1981	36	1966	1	68.4	1974	5	240	@	6.4	30.0	.0	.0	.0
Jul	87.9	65.8	76.9	105+	1980	17	80.9	1993	48	1967	15	73.7	1979	0	367	.3	13.9	31.0	.0	.0	.0
Aug	87.1	64.7	75.9	102+	1983	22	79.6	1980	48	1964	13	72.2	1992	0	339	.2	10.9	31.0	.0	.0	.0
Sep	81.5	58.2	69.9	99	1975	5	75.6	1998	29	1967	30	66.3	1976	26	171	.0	3.6	30.0	.0	.0	.0
Oct	71.3	44.7	58.0	89	1981	2	64.5	1984	23	1962	27	52.4	1987	249	31	.0	.0	30.8	.0	2.9	.0
Nov	60.2	36.2	48.2	82	1984	1	56.5	1985	9	1970	24	40.4	1976	505	2	.0	.0	24.4	.1	12.2	.0
Dec	50.3	29.1	39.7	76+	1982	4	47.7	1971	-4	1962	13	31.1	1989	784	0	.0	.0	17.0	1.5	20.4	.2
Ann	69.1	45.5	57.3	105+	Jul 1980	17	80.9	Jul 1993	-16+	Jan 1966	30	23.9	Jan 1977	4036	1261	.5	35.3	309.8	6.6	92.8	.8

+ 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: 1962-2001

(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: ATHENS, TN

COOP ID: 400284

Climate Division: TN 1

NWS Call Sign:

Elevation: 940 Feet Lat: 35°26N

Lon: 84°35W

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	6.09	6.01	3.35	2001	19	11.95	1974	1.44	1981	11.7	9.2	4.6	1.6	2.21	2.78	3.61	4.30	4.96	5.63	6.36	7.22	8.30	9.98	11.52	
Feb	4.91	5.12	3.05	1994	11	8.71	1990	.79	1978	10.1	7.7	3.7	1.6	1.92	2.37	3.02	3.56	4.06	4.58	5.14	5.78	6.60	7.86	9.00	
Mar	6.32	5.86	5.46	1973	16	14.48	1973	1.77	1985	11.8	9.2	4.3	1.8	2.11	2.71	3.58	4.33	5.04	5.78	6.59	7.53	8.74	10.62	12.35	
Apr	4.80	4.62	4.93	1994	16	12.00	1994	1.34	1976	10.1	7.7	3.4	1.2	1.63	2.08	2.75	3.31	3.85	4.41	5.01	5.72	6.63	8.04	9.34	
May	4.86	4.35	3.78	1984	8	12.50	1984	1.41	1988	10.6	7.9	3.1	1.3	1.48	1.94	2.63	3.23	3.80	4.40	5.05	5.83	6.82	8.38	9.82	
Jun	4.08	3.43	3.58	1996	9	12.26	1989	.93	1988	9.9	7.1	2.9	1.0	1.07	1.46	2.05	2.57	3.08	3.62	4.21	4.92	5.84	7.30	8.66	
Jul	4.65	4.15	4.00	1967	6	11.50	1994	1.19	1985	10.0	7.7	3.1	1.3	1.23	1.67	2.35	2.94	3.52	4.13	4.80	5.61	6.65	8.29	9.83	
Aug	3.69	3.43	4.40	1987	7	6.91	1978	.47	1997	7.8	5.9	2.6	.9	1.24	1.59	2.10	2.53	2.95	3.38	3.85	4.40	5.10	6.19	7.20	
Sep	5.04	4.45	4.86	2000	25	14.42	1977	1.32	1985	7.7	6.2	3.3	1.5	1.06	1.52	2.26	2.94	3.61	4.33	5.15	6.12	7.41	9.47	11.42	
Oct	3.61	3.74	2.87	1995	5	6.15	1995	.00	2000	7.2	5.1	2.4	1.1	.61	1.09	1.71	2.20	2.69	3.20	3.76	4.43	5.30	6.67	7.95	
Nov	5.01	4.99	3.40	1962	9	8.40	1979	2.39	1987	10.0	7.5	3.6	1.5	2.37	2.80	3.40	3.88	4.33	4.77	5.25	5.80	6.48	7.51	8.43	
Dec	5.33	5.59	3.07	1982	1	10.26	1973	1.09	1980	10.9	8.1	3.5	1.5	1.57	2.08	2.84	3.50	4.14	4.80	5.54	6.40	7.52	9.27	10.90	
Ann	58.39	58.18	5.46	Mar 1973	16	14.48	Mar 1973	.00	Oct 2000	117.8	89.3	40.5	16.3	41.00	44.35	48.64	51.91	54.82	57.64	60.55	63.76	67.67	73.35	78.27	

+ 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: 1962-2001

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

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Station: ATHENS, TN

COOP ID: 400284

Climate Division: TN 1

NWS Call Sign:

Elevation: 940 Feet

Lat: 35°26N

Lon: 84°35W

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	3.0	1.0	#	#	6.5	1979	22	20.0	1977	10	1988	8	2	1988	1.6	1.2	.3	.1	.0	2.0	.8	.4	@
Feb	2.3	.7	#	#	7.0	1985	12	15.0	1979	7	1985	12	1	1996	1.1	.8	.2	.1	.0	1.4	.4	.2	.0
Mar	1.0	.0	#	0	11.5	1993	13	19.0	1993	14	1993	15	2	1993	.4	.2	.1	.1	@	.2	.2	.2	.2
Apr	.4	.0	#	0	8.0	1987	3	11.0	1987	5	1987	3	#+	1989	.1	.1	.1	@	.0	.1	.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	.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	2.0	1991	9	2.0	1991	#+	2000	20	#+	2000	.1	@	.0	.0	.0	.0	.0	.0	.0
Dec	.3	.0	#	0	1.5	1983	17	2.5	1997	1	1997	31	#+	2000	.4	.2	.0	.0	.0	.2	.0	.0	.0
Ann	7.1	1.7	N/A	N/A	11.5	Mar 1993	13	20.0	Jan 1977	14	Mar 1993	15	2+	Mar 1993	3.7	2.5	.7	.3	@	3.9	1.5	.8	.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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Climate Division: TN 1

NWS Call Sign:

Elevation: 940 Feet

Lat: 35°26N

Lon: 84°35W

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	5/16	5/10	5/05	5/01	4/28	4/24	4/21	4/16	4/10
32	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
28	4/16	4/10	4/06	4/03	3/31	3/28	3/25	3/21	3/15
24	4/06	3/30	3/25	3/21	3/17	3/13	3/08	3/03	2/24
20	3/17	3/10	3/05	3/01	2/25	2/22	2/18	2/13	2/06
16	3/10	3/02	2/24	2/19	2/15	2/10	2/05	1/30	1/22
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	10/04	10/07	10/09	10/11	10/13	10/15	10/17	10/19	10/23
32	10/11	10/15	10/18	10/21	10/24	10/26	10/29	11/01	11/06
28	10/24	10/29	11/01	11/04	11/07	11/10	11/13	11/16	11/21
24	11/07	11/12	11/15	11/19	11/22	11/24	11/28	12/01	12/06
20	11/20	11/27	12/01	12/06	12/09	12/13	12/17	12/22	12/29
16	11/25	12/05	12/12	12/18	12/24	12/30	1/05	1/12	1/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	182	177	172	168	163	159	153	146
32	207	201	197	193	190	187	183	179	173
28	239	232	228	224	220	217	213	208	202
24	272	264	259	254	249	245	240	234	226
20	306	299	294	290	286	282	278	273	266
16	352	334	324	316	309	302	295	287	275

* 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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Climate Division: TN 1 NWS Call Sign: Elevation: 940 Feet Lat: 35° 26N Lon: 84° 35W

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	886	697	517	265	102	5	0	0	26	249	505	784	4036
60	737	557	372	148	41	0	0	0	6	144	364	629	2998
57	650	474	292	95	20	0	0	0	2	96	285	543	2457
55	592	423	243	66	12	0	0	0	1	71	237	485	2130
50	454	294	144	21	2	0	0	0	0	27	138	347	1427
32	114	28	4	0	0	0	0	0	0	0	3	49	198

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	251	255	511	736	1018	1225	1390	1362	1134	805	489	288	9464
55	16	6	38	112	317	535	677	649	445	163	34	11	3003
57	12	1	25	81	263	475	615	587	386	127	22	8	2602
60	6	0	12	44	191	385	522	494	300	81	10	0	2045
65	0	0	2	12	97	240	367	339	171	31	2	0	1261
70	0	0	0	1	37	115	217	193	73	8	0	0	644

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	90	135	316	521	791	1013	1163	1131	909	569	286	125	90	225	541	1062	1853	2866	4029	5160	6069	6638	6924	7049
45	43	69	198	378	636	863	1008	976	759	416	177	63	43	112	310	688	1324	2187	3195	4171	4930	5346	5523	5586
50	17	29	110	257	482	713	853	821	609	280	96	32	17	46	156	413	895	1608	2461	3282	3891	4171	4267	4299
55	2	10	50	148	338	563	698	666	460	162	46	11	2	12	62	210	548	1111	1809	2475	2935	3097	3143	3154
60	0	0	15	70	206	414	543	511	316	74	10	0	0	0	15	85	291	705	1248	1759	2075	2149	2159	2159
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	55	101	209	335	514	685	792	774	605	369	188	86	55	156	365	700	1214	1899	2691	3465	4070	4439	4627	4713

(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/normal/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