

Climatology of the United States

No. 20

1971-2000

Station: TULLAHOMA, TN

COOP ID: 409155

Climate Division: TN 2

NWS Call Sign:

Elevation: 1,022 Feet Lat: 35° 21N Lon: 86° 13W

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	46.2	27.6	36.9	78	1943	24	45.9	1974	-20	1985	21	24.0	1977	871	0	.0	.0	14.0	3.2	20.2	.4
Feb	50.9	30.7	40.8	80	1962	13	48.8	1990	-9+	1951	2	29.5	1978	677	0	.0	.0	17.7	1.8	16.0	.1
Mar	60.0	38.2	49.1	87+	1928	29	55.7	1973	3	1980	3	44.0	1996	495	1	.0	.0	26.6	.2	9.6	.0
Apr	69.0	45.4	57.2	90+	1942	30	63.2	1981	20	1992	3	52.2	1983	248	14	.0	@	29.6	.0	2.7	.0
May	76.2	54.4	65.3	97	1941	22	69.6	1998	31	1928	9	61.0	1997	86	96	.0	.1	31.0	.0	.0	.0
Jun	83.9	62.5	73.2	102	1952	30	75.9	1981	39	1956	3	69.4	1974	3	249	.0	5.1	30.0	.0	.0	.0
Jul	87.1	66.9	77.0	106	1952	28	80.5	1980	47+	1937	1	74.1	1984	0	372	.1	10.8	31.0	.0	.0	.0
Aug	86.6	65.4	76.0	104	1943	27	80.0	1980	46	1946	31	71.2	1992	1	342	.1	9.3	31.0	.0	.0	.0
Sep	80.8	58.8	69.8	102+	1951	1	74.6	1998	35+	1928	26	66.1	1974	31	175	.0	3.5	30.0	.0	.0	.0
Oct	70.8	46.5	58.7	93+	1941	6	64.8	1971	19	1952	30	52.3	1987	229	32	.0	.0	30.8	.0	2.0	.0
Nov	59.3	38.1	48.7	83	1961	2	55.3	1985	-6	1950	25	40.2	1976	491	1	.0	.0	24.9	@	9.6	.0
Dec	49.8	30.9	40.4	76	1956	8	49.1	1984	-8	1989	23	30.4	1989	763	0	.0	.0	17.8	1.8	17.2	.1
Ann	68.4	47.1	57.8	106	Jul 1952	28	80.5	Jul 1980	-20	Jan 1985	21	24.0	Jan 1977	3895	1282	.2	28.8	314.4	7.0	77.3	.6

+ 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: 1928-2001

(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: TULLAHOMA, TN

COOP ID: 409155

Climate Division: TN 2

NWS Call Sign:

Elevation: 1,022 Feet Lat: 35°21N

Lon: 86°13W

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	5.51	5.00	4.68	1998	7	14.12	1974	1.06	1986	13.6	8.4	4.2	1.4	1.64	2.17	2.95	3.63	4.29	4.97	5.72	6.61	7.76	9.55	11.21
Feb	4.86	4.39	4.17	1994	10	11.41	1991	.85	1978	11.1	7.7	3.4	1.2	1.60	2.07	2.74	3.32	3.87	4.44	5.07	5.80	6.74	8.20	9.55
Mar	6.73	5.81	5.25	1973	16	14.85	1973	2.66	1983	12.9	9.4	4.2	1.8	2.49	3.12	4.03	4.79	5.51	6.24	7.04	7.97	9.15	10.98	12.65
Apr	4.94	4.23	5.93	1977	4	12.36	1977	.84	1976	10.6	7.0	3.2	1.5	1.37	1.84	2.55	3.17	3.78	4.41	5.12	5.95	7.02	8.71	10.29
May	5.28	5.30	5.87	1973	27	12.91	1983	1.05	1988	11.1	8.0	3.4	1.4	1.72	2.22	2.96	3.59	4.19	4.82	5.50	6.30	7.33	8.93	10.41
Jun	4.74	3.96	5.68	1999	28	12.48	1999	1.03	1988	10.6	7.2	3.0	1.6	1.22	1.67	2.35	2.96	3.56	4.19	4.89	5.72	6.81	8.53	10.13
Jul	4.80	4.76	8.25	1936	3	9.90	1989	.80	1997	11.6	8.0	3.2	1.4	1.21	1.66	2.36	2.98	3.59	4.23	4.95	5.81	6.92	8.69	10.34
Aug	3.52	3.47	3.56	1998	16	7.15	1982	.09	1999	9.0	5.7	2.3	1.0	.56	.86	1.37	1.85	2.35	2.90	3.53	4.29	5.32	6.98	8.58
Sep	4.33	4.34	4.45	1997	24	9.31	1989	.28	1978	9.2	6.6	2.8	1.3	.93	1.32	1.96	2.53	3.11	3.73	4.43	5.26	6.36	8.11	9.77
Oct	3.89	3.59	6.00	1928	17	9.75	1975	.50	2000	7.9	5.3	2.6	1.4	.88	1.24	1.81	2.32	2.83	3.38	3.99	4.72	5.67	7.20	8.63
Nov	5.47	4.93	4.77	1957	18	9.54	1996	1.86	1976	10.3	7.8	3.8	1.9	2.50	2.98	3.65	4.19	4.69	5.20	5.74	6.36	7.14	8.32	9.38
Dec	5.97	5.82	6.00	1969	30	18.97	1990	1.62	1980	12.4	8.7	4.0	1.6	1.67	2.24	3.10	3.84	4.58	5.34	6.19	7.19	8.48	10.52	12.42
Ann	60.04	61.70	8.25	Jul 1936	3	18.97	Dec 1990	.09	Aug 1999	130.3	89.8	40.1	17.5	43.66	46.86	50.94	54.03	56.77	59.41	62.13	65.13	68.76	74.02	78.55

+ 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: 1928-2001

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

Complete documentation available from:
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Station: TULLAHOMA, TN

COOP ID: 409155

Climate Division: TN 2

NWS Call Sign:

Elevation: 1,022 Feet

Lat: 35°21N

Lon: 86°13W

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	1.3	.0	#	#	5.0	1973	7	8.5	1978	9	1996	7	1	1996	.8	.5	.1	.1	.0	1.0	.3	.0	.0
Feb	1.5	.0	#	#	6.8	1996	2	8.2	1980	7	1996	2	1	1996	1.0	.7	.2	.1	.0	1.0	.2	.0	.0
Mar	.8	.0	#	0	6.0	1971	25	8.7	1993	9	1993	13	1	1993	.5	.2	.1	@	.0	.2	.1	@	.0
Apr	.1	.0	0	0	1.0	1971	7	1.0	1971	0	0	0	0	0	.1	.1	.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	#	1993	31	#	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	#	0	#	1989	16	#+	1989	#+	1995	14	#+	1995	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	#	0	4.5	1997	29	4.5	1997	5	1997	29	#+	2000	.3	.2	@	.0	.0	.1	.1	@	.0
Ann	3.9	.0	N/A	N/A	6.8	Feb 1996	2	8.7	Mar 1993	9+	Jan 1996	7	1+	Feb 1996	2.7	1.7	.4	.2	.0	2.3	.7	@	.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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Station: TULLAHOMA, TN

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Climate Division: TN 2

NWS Call Sign:

Elevation: 1,022 Feet

Lat: 35°21N

Lon: 86°13W

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	5/03	4/28	4/25	4/22	4/19	4/16	4/13	4/09	4/04
32	4/23	4/19	4/16	4/13	4/11	4/08	4/05	4/02	3/29
28	4/13	4/08	4/04	4/01	3/29	3/27	3/23	3/20	3/15
24	4/02	3/26	3/20	3/16	3/12	3/07	3/03	2/25	2/18
20	3/17	3/11	3/06	3/01	2/25	2/21	2/17	2/12	2/05
16	3/05	2/27	2/22	2/18	2/15	2/11	2/07	2/02	1/27
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	10/11	10/13	10/16	10/18	10/21	10/26
32	10/07	10/12	10/16	10/20	10/23	10/26	10/29	11/02	11/07
28	10/20	10/26	10/30	11/02	11/06	11/09	11/12	11/16	11/22
24	11/04	11/10	11/14	11/17	11/20	11/23	11/26	11/30	12/06
20	11/16	11/23	11/29	12/03	12/08	12/12	12/17	12/22	12/30
16	11/26	12/05	12/11	12/16	12/21	12/26	12/31	1/07	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	195	189	184	180	177	173	169	165	158
32	212	206	202	198	194	191	187	182	176
28	242	235	229	225	220	216	212	206	199
24	279	270	263	258	253	248	242	235	226
20	306	299	293	289	285	281	276	271	263
16	340	328	320	314	308	302	296	288	278

* 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 2 NWS Call Sign: Elevation: 1,022 Feet Lat: 35° 21N Lon: 86° 13W

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	871	677	495	248	86	3	0	1	31	229	491	763	3895
60	724	537	350	135	30	0	0	0	7	126	350	611	2870
57	635	459	270	84	13	0	0	0	2	81	272	526	2342
55	578	407	222	58	7	0	0	0	1	57	225	468	2023
50	441	284	125	17	1	0	0	0	0	19	128	335	1350
32	107	32	2	0	0	0	0	0	0	0	3	48	192

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	259	279	532	756	1033	1236	1395	1364	1134	827	503	308	9626
55	17	10	38	124	327	546	682	651	445	171	35	15	3061
57	13	7	24	90	271	486	620	589	386	132	22	10	2650
60	8	0	12	51	195	396	527	496	301	85	11	3	2085
65	0	0	1	14	96	249	372	342	175	32	1	0	1282
70	0	0	0	2	34	120	218	196	81	8	0	0	659

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	111	161	346	560	826	1019	1168	1137	922	610	316	159	111	272	618	1178	2004	3023	4191	5328	6250	6860	7176	7335
45	55	85	228	416	671	869	1013	982	772	458	201	85	55	140	368	784	1455	2324	3337	4319	5091	5549	5750	5835
50	24	42	129	282	516	719	858	827	622	315	118	41	24	66	195	477	993	1712	2570	3397	4019	4334	4452	4493
55	1	15	65	169	363	569	703	672	472	190	52	13	1	16	81	250	613	1182	1885	2557	3029	3219	3271	3284
60	0	2	23	83	221	419	548	517	327	97	16	0	0	2	25	108	329	748	1296	1813	2140	2237	2253	2253
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	63	103	215	357	532	698	815	789	614	389	192	88	63	166	381	738	1270	1968	2783	3572	4186	4575	4767	4855

(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

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.

- 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/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