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: LENOIR CITY, TN **COOP ID: 405158**

Climate Division: TN 1 **NWS Call Sign:** **Elevation: 785 Feet** **Lat: 35˚47N** **Lon: 84˚16W**

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	47.2	27.4	37.3	75	1999	23	48.5	1974	-14	1985	21	24.9	1977	859	0	.0	.0	12.8	3.1	21.9	.5
Feb	52.2	29.5	40.9	80+	1977	27	47.6	1990	-7	1996	5	33.1	1978	675	0	.0	.0	16.1	1.5	17.8	.1
Mar	61.4	37.4	49.4	84+	1963	31	54.8	1973	1	1980	3	43.8	1996	485	3	.0	.0	25.7	.2	10.7	.0
Apr	70.6	44.9	57.8	91+	1986	28	62.6	1981	24+	1969	1	52.5	1983	232	15	.0	.1	29.2	.0	2.7	.0
May	78.3	54.5	66.4	91+	1970	23	72.3	1987	32	1971	4	62.2	1997	80	123	.0	.2	31.0	.0	@	.0
Jun	85.6	63.7	74.7	101	1988	25	78.2	1986	39	1966	1	70.5	1974	2	291	.1	5.8	30.0	.0	.0	.0
Jul	89.0	68.3	78.7	104	1980	17	82.8	1993	50+	1967	15	75.5+	1984	0	423	.2	13.4	31.0	.0	.0	.0
Aug	88.2	67.0	77.6	102+	1968	24	81.8	1995	48	1968	29	73.7	1992	0	391	.2	11.3	31.0	.0	.0	.0
Sep	82.5	60.3	71.4	98+	1998	6	76.5	1998	33	1967	30	67.9	1976	14	208	.0	4.2	30.0	.0	.0	.0
Oct	71.9	46.7	59.3	91	1970	3	66.4	1984	24	1962	27	53.1	1988	222	44	.0	.1	30.8	.0	1.8	.0
Nov	60.7	37.9	49.3	81+	1974	1	59.0	1985	11	1976	30	41.6	1976	474	3	.0	.0	24.6	.1	11.1	.0
Dec	51.0	30.4	40.7	77+	1982	4	48.4	1971	-5+	1983	25	31.5	1989	753	0	.0	.0	16.8	1.3	19.9	.1
Ann	69.9	47.3	58.6	104	Jul 1980	17	82.8	Jul 1993	-14	Jan 1985	21	24.9	Jan 1977	3796	1501	.5	35.1	309.0	6.2	85.9	.7

+ 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: 1962-2001

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

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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	5.08	5.44	2.55	1965	10	9.37	1974	1.06	1981
Feb	4.63	4.52	3.81	1994	11	9.00	1994	1.00	1978
Mar	5.78	4.95	4.87	1963	12	13.68	1975	1.81	1986
Apr	4.43	3.91	3.96	1994	11	11.31	1998	.65	1976
May	5.03	4.41	3.21	1984	3	10.34	1984	2.46	1985
Jun	4.15	3.64	2.36	1967	4	8.91	1997	1.00	1980
Jul	4.45	3.78	3.04	1984	18	9.10	1971	.92	1995
Aug	3.59	3.51	3.07	1992	7	7.73	1982	.79	1984
Sep	3.26	3.00	3.45	1988	4	7.93	1977	.63	1999
Oct	3.05	2.86	2.15	1989	1	7.17	1972	.09	2000
Nov	4.28	4.20	3.73	1973	28	7.96	1973	1.71	1987
Dec	5.12	4.90	3.76	1993	5	11.72	1991	1.25	1999
Ann	52.85	52.54	4.87	Mar 1963	12	13.68	Mar 1975	.09	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.0	9.0	4.1	1.4
Feb	10.4	8.0	3.4	1.2
Mar	12.3	9.3	3.8	1.5
Apr	9.8	7.8	3.0	1.1
May	11.0	8.2	3.3	1.5
Jun	9.7	7.3	3.2	1.0
Jul	10.2	8.0	3.1	1.1
Aug	8.9	6.6	2.5	.7
Sep	7.8	5.6	2.4	.9
Oct	7.5	5.0	2.2	.7
Nov	10.0	7.0	3.2	1.3
Dec	11.6	8.5	3.4	1.3
Ann	121.2	90.3	37.6	13.7

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	1.81	2.28	2.98	3.56	4.12	4.69	5.31	6.03	6.96	8.39	9.70
Feb	1.83	2.26	2.87	3.37	3.85	4.33	4.85	5.45	6.22	7.39	8.46
Mar	2.04	2.58	3.37	4.04	4.68	5.33	6.04	6.87	7.93	9.58	11.08
Apr	1.48	1.90	2.51	3.03	3.54	4.05	4.62	5.28	6.13	7.45	8.66
May	2.18	2.63	3.26	3.78	4.26	4.75	5.27	5.87	6.63	7.78	8.82
Jun	1.06	1.46	2.06	2.59	3.12	3.67	4.29	5.02	5.97	7.48	8.88
Jul	1.37	1.80	2.43	2.97	3.49	4.03	4.63	5.33	6.23	7.64	8.95
Aug	1.00	1.34	1.86	2.31	2.75	3.21	3.72	4.32	5.11	6.34	7.48
Sep	.92	1.23	1.70	2.11	2.51	2.92	3.38	3.93	4.63	5.74	6.77
Oct	.59	.86	1.31	1.72	2.14	2.59	3.10	3.71	4.53	5.84	7.08
Nov	1.83	2.21	2.76	3.20	3.62	4.04	4.49	5.01	5.67	6.67	7.58
Dec	1.40	1.88	2.62	3.27	3.90	4.56	5.30	6.16	7.29	9.07	10.72
Ann	38.47	41.28	44.87	47.58	49.98	52.30	54.69	57.33	60.52	65.14	69.12

\+ 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

Complete documentation available from:
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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	2.7	1.0	#	#
Feb	3.4	3.0	#	#
Mar	1.2	.0	#	#
Apr	.5	.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
Nov	.0	.0	#	0
Dec	.7	.0	#	#
Ann	8.5	4.0	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	7.5	1973	8	12.6	1977	6	1973	8	1	1996
Feb	6.0	1983	6	17.2	1979	8+	1996	6	2	1996
Mar	8.0	1993	13	11.0	1993	11	1993	15	1	1993
Apr	5.0	1987	3	10.0	1987	3	1987	4	#+	1987
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	#	1989	21	#	1989	0	0	0	0	0
Nov	1.0	1974	15	1.0	1974	#+	1997	17	#+	1997
Dec	5.0	1982	12	5.0	1982	2	1997	31	#+	1998
Ann	8.0	Mar 1993	13	17.2	Feb 1979	11	Mar 1993	15	2	Feb 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.5	1.2	.3	.1	.0
Feb	1.2	1.2	.5	.1	.0
Mar	.5	.5	.1	.1	.0
Apr	.1	.1	.1	.1	.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	.1	@	.0	.0	.0
Dec	.5	.4	@	@	.0
Ann	3.9	3.4	1.0	.4	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	1.7	.5	@	.0
Feb	1.5	.5	.1	.0
Mar	.4	.1	.1	.1
Apr	.1	.1	.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	.2	.0	.0	.0
Ann	3.9	1.2	.2	.1

+ 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	5/03	4/29	4/26	4/23	4/21	4/18	4/15	4/12	4/08
32	4/25	4/19	4/16	4/12	4/10	4/07	4/03	3/31	3/25
28	4/10	4/04	3/31	3/27	3/24	3/21	3/17	3/13	3/07
24	3/29	3/22	3/16	3/12	3/08	3/03	2/27	2/21	2/14
20	3/13	3/06	3/01	2/25	2/21	2/17	2/13	2/08	2/02
16	3/07	2/27	2/20	2/15	2/10	2/06	1/31	1/25	1/17

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	10/06	10/11	10/14	10/17	10/20	10/22	10/25	10/28	11/02
32	10/12	10/17	10/21	10/24	10/27	10/30	11/03	11/06	11/12
28	10/30	11/04	11/07	11/10	11/13	11/15	11/18	11/22	11/27
24	11/08	11/14	11/19	11/23	11/26	11/30	12/04	12/08	12/15
20	11/21	11/29	12/05	12/10	12/15	12/19	12/24	12/30	1/07
16	12/02	12/11	12/18	12/24	12/29	1/03	1/09	1/15	1/25

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	192	188	184	181	178	175	171	165
32	223	215	209	205	200	196	191	185	177
28	252	246	241	237	233	229	225	220	213
24	287	278	273	268	263	258	253	247	239
20	324	313	305	299	294	289	283	276	267
16	>365	345	332	324	316	310	303	295	284

***** 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	859	675	485	232	80	2	0	0	14	222	474	753	3796
60	709	535	342	121	29	0	0	0	3	127	336	598	2800
57	622	453	263	73	13	0	0	0	1	84	260	512	2281
55	564	401	217	48	8	0	0	0	0	62	215	454	1969
50	427	274	122	13	1	0	0	0	0	24	122	317	1300
32	95	22	2	0	0	0	0	0	0	0	1	35	155

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	259	271	542	773	1067	1279	1446	1414	1183	845	521	305	9905
55	15	6	44	131	361	589	733	701	493	194	44	10	3321
57	11	1	28	95	305	529	671	639	434	154	29	7	2903
60	5	0	14	54	228	439	578	546	346	104	15	0	2329
65	0	0	3	15	123	291	423	391	208	44	3	0	1501
70	0	0	0	2	52	153	268	240	95	14	0	0	824

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	89	134	314	529	812	1028	1186	1155	931	587	292	127	89	223	537	1066	1878	2906	4092	5247	6178	6765	7057	7184
45	40	68	200	389	657	878	1031	1000	781	436	184	63	40	108	308	697	1354	2232	3263	4263	5044	5480	5664	5727
50	13	27	108	258	502	728	876	845	631	293	99	26	13	40	148	406	908	1636	2512	3357	3988	4281	4380	4406
55	2	6	48	150	352	578	721	690	481	173	47	8	2	8	56	206	558	1136	1857	2547	3028	3201	3248	3256
60	0	0	11	68	219	429	566	535	338	81	11	0	0	0	11	79	298	727	1293	1828	2166	2247	2258	2258
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	54	99	202	331	528	708	821	797	623	375	187	84	54	153	355	686	1214	1922	2743	3540	4163	4538	4725	4809

(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.
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