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: LAFAYETTE, TN **COOP ID: 404987**

Climate Division: TN 3 **NWS Call Sign:** **Elevation: 975 Feet** **Lat: 36˚31N** **Lon: 86˚02W**

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	46.6	28.4	37.5	73+	1972	24	47.5	1989	-20	1963	24	22.3	1977	853	0	.0	.0	12.1	4.6	20.9	.8
Feb	52.4	32.2	42.3	79	1962	13	50.4	1990	-3	1965	2	28.1	1978	636	0	.0	.0	16.0	2.3	15.8	.1
Mar	62.2	39.8	51.0	85+	1963	31	56.1	1995	-1	1980	3	44.3	1996	444	9	.0	.0	26.6	.2	9.2	@
Apr	71.6	47.2	59.4	90	1989	27	64.5	1986	22	1973	11	52.9	1983	203	35	.0	@	29.2	.0	2.0	.0
May	78.7	55.4	67.1	96	1962	18	74.1	1987	29	1963	1	61.9	1973	83	147	.0	.7	31.0	.0	@	.0
Jun	85.6	63.5	74.6	103	1988	23	78.0	1998	38	1966	1	68.4	1974	6	292	.2	6.4	30.0	.0	.0	.0
Jul	89.1	67.5	78.3	104	1988	8	83.6	1986	45	1968	5	74.6	1976	0	413	.4	13.5	31.0	.0	.0	.0
Aug	88.2	65.6	76.9	102	1999	1	81.5	1995	45+	1964	13	72.0	1982	2	371	.2	10.9	31.0	.0	.0	.0
Sep	82.2	59.2	70.7	100	1990	7	76.8	1998	31	1967	29	65.3	1974	28	198	@	3.4	30.0	.0	.0	.0
Oct	72.3	47.8	60.1	91	1959	4	65.9	1971	21	1962	26	52.2	1976	203	49	.0	@	30.8	.0	1.3	.0
Nov	60.6	39.6	50.1	82+	1961	2	56.6	1985	6	1976	30	41.0	1976	454	6	.0	.0	24.4	@	8.5	.0
Dec	50.5	31.6	41.1	77	1984	15	48.2	1984	-13	1989	22	27.1	2000	743	0	.0	.0	16.7	2.4	17.4	.3
Ann	70.0	48.2	59.1	104	Jul 1988	8	83.6	Jul 1986	-20	Jan 1963	24	22.3	Jan 1977	3655	1520	.8	34.9	308.8	9.5	75.1	1.2

\+ 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: 1955-2001

(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	4.63	4.24	4.89	1956	30	9.17	1974	.55	1986
Feb	4.37	3.68	3.68	1962	27	10.51	1994	1.93	1978
Mar	5.71	4.11	4.10	1975	12	15.46	1975	2.23	1983
Apr	4.34	3.86	3.75	1984	22	9.58	1998	1.25	1986
May	5.65	5.42	4.25	1996	28	12.11	1983	1.63	1977
Jun	4.54	4.09	6.80	1969	23	10.52	1998	.16	1988
Jul	4.76	4.73	3.10	1998	24	9.19	1998	1.75	1974
Aug	3.86	3.12	4.80	1982	16	13.56	1982	.56	1983
Sep	4.40	4.08	5.41	1979	14	12.13	1979	.10	1998
Oct	3.62	3.57	5.20	1971	16	8.49	1995	.46	2000
Nov	4.93	5.03	3.40	1986	9	10.78	1986	1.18	1998
Dec	5.57	4.94	4.50	1978	4	16.11	1978	1.53	1980
Ann	56.38	56.85	6.80	Jun 1969	23	16.11	Dec 1978	.10	Sep 1998

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.4	7.5	3.4	1.3
Feb	7.9	6.8	2.8	1.3
Mar	9.4	8.5	4.1	1.8
Apr	8.3	7.2	3.3	1.2
May	8.7	7.6	4.0	1.8
Jun	8.0	7.0	3.2	1.4
Jul	7.2	6.5	3.8	1.6
Aug	6.2	5.4	2.7	1.2
Sep	6.1	5.4	3.0	1.6
Oct	6.0	5.2	2.4	1.2
Nov	7.5	6.7	3.6	1.6
Dec	8.5	7.3	3.6	1.9
Ann	92.2	81.1	39.9	17.9

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	1.51	1.95	2.59	3.14	3.68	4.22	4.82	5.53	6.43	7.84	9.13
Feb	1.59	2.00	2.59	3.09	3.56	4.05	4.57	5.19	5.97	7.17	8.28
Mar	2.00	2.54	3.32	3.98	4.61	5.25	5.96	6.78	7.83	9.46	10.96
Apr	1.55	1.96	2.55	3.05	3.52	4.01	4.53	5.15	5.94	7.15	8.27
May	2.45	2.96	3.67	4.25	4.79	5.34	5.93	6.60	7.45	8.75	9.92
Jun	.94	1.35	2.02	2.63	3.24	3.90	4.64	5.53	6.70	8.58	10.36
Jul	1.96	2.39	3.01	3.51	3.99	4.47	4.99	5.59	6.35	7.51	8.56
Aug	.74	1.08	1.65	2.17	2.70	3.27	3.92	4.70	5.73	7.39	8.97
Sep	.58	.94	1.57	2.18	2.82	3.54	4.36	5.38	6.75	9.01	11.18
Oct	.80	1.13	1.66	2.14	2.62	3.13	3.70	4.39	5.30	6.74	8.10
Nov	1.62	2.09	2.78	3.36	3.92	4.51	5.14	5.89	6.84	8.33	9.70
Dec	1.55	2.08	2.88	3.58	4.26	4.98	5.77	6.71	7.92	9.83	11.61
Ann	42.58	45.31	48.78	51.39	53.70	55.91	58.19	60.69	63.71	68.05	71.78

\+ 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: 1955-2001
(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	4.6	2.0	#	0
Feb	3.9	2.0	#	0
Mar	1.1	.0	#	0
Apr	.1	.0	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	.2	.0	0	0
Dec	1.0	.0	#	0
Ann	10.9	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	6.0	1978	17	19.4	1977	7	1996	8	#+	2000
Feb	6.2	1979	7	21.7	1979	5	1971	8	2	1978
Mar	5.5	1980	2	8.0	1978	#+	1991	30	#+	1991
Apr	2.0	1983	18	2.0	1983	0	0	0	0	0
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	#	1993	31	#	1993	0	0	0	0	0
Nov	1.5	1976	12	3.0	1976	0	0	0	0	0
Dec	3.0	1992	26	6.5	1997	3	1976	31	#+	1997
Ann	6.2	Feb 1979	7	21.7	Feb 1979	7	Jan 1996	8	2	Feb 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.8	1.6	.6	.1	.0
Feb	1.7	1.3	.5	.1	.0
Mar	.6	.5	.2	.1	.0
Apr	@	@	.0	.0	.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	.1	.0	.0	.0
Dec	.6	.4	@	.0	.0
Ann	4.8	3.9	1.3	.3	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.7	.2	.0	.0
Feb	.4	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.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	.3	.1	.0	.0
Ann	1.4	.3	.0	.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	5/05	4/29	4/25	4/22	4/19	4/16	4/12	4/08	4/03
32	4/21	4/17	4/13	4/11	4/08	4/05	4/03	3/30	3/26
28	4/13	4/07	4/03	3/31	3/27	3/24	3/21	3/17	3/11
24	3/30	3/24	3/20	3/16	3/12	3/09	3/05	3/01	2/23
20	3/17	3/11	3/06	3/02	2/26	2/22	2/18	2/13	2/07
16	3/06	2/27	2/23	2/19	2/15	2/11	2/07	2/02	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	10/01	10/05	10/09	10/12	10/14	10/17	10/20	10/23	10/28
32	10/12	10/17	10/21	10/24	10/27	10/30	11/02	11/06	11/11
28	10/24	10/29	11/02	11/05	11/09	11/12	11/15	11/19	11/24
24	11/02	11/08	11/12	11/16	11/19	11/23	11/26	12/01	12/07
20	11/09	11/17	11/23	11/28	12/02	12/07	12/12	12/17	12/25
16	11/26	12/04	12/10	12/14	12/19	12/24	12/29	1/03	1/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	192	187	182	178	174	169	164	157
32	223	215	210	206	202	197	193	188	180
28	251	242	236	231	226	220	215	209	200
24	277	268	262	256	251	246	241	234	226
20	305	296	289	284	279	273	268	261	252
16	335	324	317	311	305	300	294	287	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

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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	853	636	444	203	83	6	0	2	28	203	454	743	3655
60	711	503	307	110	32	1	0	0	7	111	319	599	2700
57	625	425	236	68	16	0	0	0	2	71	248	513	2204
55	569	375	195	46	10	0	0	0	1	50	206	458	1910
50	437	262	111	14	2	0	0	0	0	17	120	332	1295
32	115	33	3	0	0	0	0	0	0	0	3	57	211

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	285	321	591	822	1087	1277	1436	1392	1160	869	546	337	10123
55	25	20	70	178	384	587	723	679	471	206	59	25	3427
57	19	14	49	140	328	527	661	617	412	165	41	18	2991
60	13	8	27	92	251	437	568	524	326	112	22	11	2391
65	0	0	9	35	147	292	413	371	198	49	6	0	1520
70	0	0	0	10	71	164	265	229	99	16	0	0	854

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	102	166	347	575	832	1035	1187	1143	918	619	322	145	102	268	615	1190	2022	3057	4244	5387	6305	6924	7246	7391
45	48	96	231	430	677	885	1032	988	768	465	212	76	48	144	375	805	1482	2367	3399	4387	5155	5620	5832	5908
50	23	42	138	293	522	735	877	833	618	320	123	35	23	65	203	496	1018	1753	2630	3463	4081	4401	4524	4559
55	6	13	70	182	369	585	722	678	470	194	62	9	6	19	89	271	640	1225	1947	2625	3095	3289	3351	3360
60	0	1	32	94	237	436	567	523	325	101	22	0	0	1	33	127	364	800	1367	1890	2215	2316	2338	2338
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	53	96	212	357	542	714	824	790	614	388	189	79	53	149	361	718	1260	1974	2798	3588	4202	4590	4779	4858

(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