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: ROGERSVILLE 1 NE, TN **COOP ID: 407884**

Climate Division: TN 1 **NWS Call Sign:** **Elevation: 1,355 Feet** **Lat: 36˚25N** **Lon: 82˚59W**

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	45.7	26.4	36.1	80	1950	25	45.2	1974	-23	1985	21	24.0	1977	898	0	.0	.0	12.3	3.1	21.8	.5
Feb	51.2	29.0	40.1	81	1977	26	47.6	1997	-11	1996	5	30.5	1978	697	0	.0	.0	16.6	1.6	17.4	.2
Mar	60.9	36.2	48.6	85+	1929	24	56.5	1997	-4	1980	3	42.9	1971	510	0	.0	.0	26.3	.2	11.4	@
Apr	69.8	43.1	56.5	91+	1941	19	61.7	1991	20+	1964	1	51.5	1983	262	6	.0	.0	29.2	@	3.8	.0
May	76.9	51.8	64.4	96	1941	22	69.9	1991	27	1966	10	59.9	1989	111	91	.0	.1	31.0	.0	.3	.0
Jun	83.5	59.6	71.6	104	1936	29	74.7	1998	33	1966	2	66.6	1972	10	206	.0	2.9	30.0	.0	.0	.0
Jul	86.8	63.7	75.3	102	1952	29	79.4	1993	44+	1972	6	71.3	1976	0	318	.0	9.3	31.0	.0	.0	.0
Aug	85.9	62.5	74.2	102	1930	5	79.5	1995	44	1986	29	70.9	1981	1	286	.0	6.1	31.0	.0	.0	.0
Sep	80.3	56.6	68.5	101+	1954	5	74.2	1998	31	1967	30	64.1	1974	37	141	.0	1.9	30.0	.0	@	.0
Oct	70.3	44.0	57.2	95	1941	6	62.8	1984	16	1962	27	50.4	1988	274	30	.0	.0	30.7	.0	3.6	.0
Nov	58.9	36.2	47.6	84+	1936	3	55.7	1985	5	1950	25	39.5	1976	524	1	.0	.0	24.0	.1	11.4	.0
Dec	49.3	29.3	39.3	81	1951	7	47.8	1971	-8+	1962	13	28.6	1989	798	0	.0	.0	16.2	1.6	19.7	.2
Ann	68.3	44.9	56.6	104	Jun 1936	29	79.5	Aug 1995	-23	Jan 1985	21	24.0	Jan 1977	4122	1079	.0	20.3	308.3	6.6	89.4	.9

\+ 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: 1927-2001

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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	4.04	3.99	2.65	1954	16	8.82	1979	.98	1988
Feb	3.49	2.97	3.10	1993	21	8.92	1994	.51	1977
Mar	4.26	3.66	3.68	1963	12	11.62	1975	.86	1986
Apr	3.69	3.75	3.15	1970	28	11.37	1998	.45	1976
May	4.83	4.68	6.24	1993	31	9.85	1974	1.32	1985
Jun	3.52	3.66	3.60	1928	29	7.05	1977	.80	1973
Jul	4.06	4.21	3.25	2001	25	7.41	1979	1.05	1975
Aug	3.46	3.43	3.93	1957	15	8.89	1977	.43	1972
Sep	3.14	3.19	3.81	1993	30	5.97	1980	.61	1998
Oct	2.66	2.69	3.45	1989	18	5.15	1989	.07	2000
Nov	3.64	3.09	3.02	1977	6	9.61	1977	.85	1990
Dec	4.37	3.95	4.10	1969	30	9.69	2000	.92	1984
Ann	45.16	44.00	6.24	May 1993	31	11.62	Mar 1975	.07	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	7.7	3.4	.9
Feb	9.3	7.1	2.7	.9
Mar	10.8	8.1	3.0	1.1
Apr	9.6	7.0	2.8	.9
May	10.1	7.3	3.5	1.5
Jun	9.3	6.8	2.5	.8
Jul	9.2	6.4	3.0	1.3
Aug	7.4	5.5	2.5	1.0
Sep	6.2	4.6	2.2	1.1
Oct	6.0	4.7	1.9	.8
Nov	8.3	6.6	2.7	1.0
Dec	8.8	6.7	3.3	1.3
Ann	104.9	78.5	33.5	12.6

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	1.12	1.50	2.08	2.59	3.08	3.60	4.18	4.86	5.74	7.13	8.43
Feb	.82	1.15	1.66	2.12	2.57	3.05	3.59	4.23	5.08	6.41	7.67
Mar	1.18	1.58	2.19	2.73	3.26	3.81	4.41	5.13	6.07	7.54	8.91
Apr	1.02	1.37	1.90	2.37	2.82	3.30	3.82	4.44	5.25	6.51	7.69
May	1.78	2.23	2.88	3.43	3.94	4.47	5.05	5.72	6.57	7.89	9.09
Jun	1.09	1.43	1.93	2.35	2.77	3.20	3.67	4.22	4.93	6.04	7.07
Jul	1.75	2.11	2.62	3.04	3.43	3.83	4.26	4.75	5.36	6.30	7.15
Aug	.96	1.29	1.79	2.22	2.64	3.09	3.58	4.16	4.92	6.10	7.21
Sep	.79	1.09	1.55	1.95	2.35	2.77	3.24	3.80	4.52	5.67	6.75
Oct	.63	.88	1.26	1.61	1.96	2.32	2.74	3.23	3.87	4.89	5.85
Nov	.99	1.34	1.86	2.32	2.77	3.25	3.77	4.39	5.20	6.46	7.65
Dec	1.25	1.66	2.29	2.83	3.36	3.92	4.53	5.26	6.19	7.66	9.03
Ann	33.01	35.39	38.42	40.71	42.74	44.70	46.72	48.94	51.63	55.52	58.88

\+ 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: 1927-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	2.0	1.0	1	0	5.0	1985	17	7.5	1986	12	1996	7	6	1988	.9	.8	.3	.1	.0	.6	.2	.1	.0
Feb	1.0	.0	#	0	5.0	1980	6	9.0	1980	16	1996	2	2	1980	.4	.3	.1	.1	.0	.9	.7	.3	.0
Mar	.3	.0	#	0	3.5	1980	1	3.5	1980	4	1980	2	#+	1999	.1	.1	.1	.0	.0	.2	.1	.0	.0
Apr	.2	.0	#	0	5.0	1983	18	5.0	1983	#	2000	9	#	2000	.1	.1	.1	.1	.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	#	.0	0	0	#	1988	28	#+	1988	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.4	.0	#	0	3.0	1989	11	3.0	1989	4	1982	13	#+	1999	.3	.2	.1	.0	.0	.1	.0	.0	.0
Ann	3.9	1.0	N/A	N/A	5.0+	Jan 1985	17	9.0	Feb 1980	16	Feb 1996	2	6	Jan 1988	1.8	1.5	.7	.3	.0	1.8	1.0	.4	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	5/17	5/11	5/07	5/03	4/30	4/26	4/23	4/18	4/12
32	5/06	4/29	4/25	4/21	4/17	4/14	4/10	4/05	3/30
28	4/21	4/15	4/11	4/07	4/04	3/31	3/28	3/24	3/18
24	4/07	4/01	3/28	3/25	3/21	3/18	3/14	3/10	3/04
20	3/26	3/18	3/13	3/09	3/04	2/28	2/24	2/18	2/11
16	3/16	3/08	3/02	2/25	2/21	2/16	2/11	2/05	1/28

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	9/30	10/03	10/06	10/08	10/11	10/13	10/15	10/18	10/21
32	10/01	10/06	10/10	10/14	10/17	10/20	10/24	10/28	11/02
28	10/14	10/20	10/24	10/28	10/31	11/03	11/07	11/11	11/17
24	10/24	10/30	11/03	11/07	11/11	11/14	11/18	11/22	11/28
20	11/08	11/14	11/18	11/22	11/25	11/28	12/02	12/06	12/12
16	11/22	11/30	12/07	12/12	12/17	12/22	12/27	1/02	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	186	178	173	168	163	159	154	148	140
32	206	198	192	187	182	177	172	166	158
28	232	224	219	214	210	205	201	195	188
24	256	249	243	238	234	229	225	219	211
20	288	280	274	270	265	261	256	250	242
16	335	321	312	304	297	290	283	274	263

***** 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	898	697	510	262	111	10	0	1	37	274	524	798	4122
60	749	557	364	138	45	1	0	0	10	165	380	643	3052
57	661	476	282	82	22	0	0	0	4	115	299	559	2500
55	603	425	232	53	13	0	0	0	2	87	249	501	2165
50	465	299	131	12	2	0	0	0	0	37	144	364	1454
32	120	34	3	0	0	0	0	0	0	0	3	60	220

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	246	260	516	734	1004	1186	1341	1308	1094	780	469	285	9223
55	16	8	32	97	303	496	628	595	406	153	26	13	2773
57	12	3	19	65	251	436	566	533	348	119	16	9	2377
60	6	0	9	31	181	347	473	440	264	77	6	0	1834
65	0	0	0	6	91	206	318	286	141	30	1	0	1079
70	0	0	0	0	34	93	173	144	54	9	0	0	507

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	80	129	306	511	770	955	1106	1070	866	546	266	119	80	209	515	1026	1796	2751	3857	4927	5793	6339	6605	6724
45	33	65	192	369	615	805	951	915	716	397	161	55	33	98	290	659	1274	2079	3030	3945	4661	5058	5219	5274
50	14	24	102	242	461	655	796	760	566	252	86	24	14	38	140	382	843	1498	2294	3054	3620	3872	3958	3982
55	0	5	42	134	310	505	641	605	419	141	37	2	0	5	47	181	491	996	1637	2242	2661	2802	2839	2841
60	0	0	10	58	178	358	486	450	281	60	5	0	0	0	10	68	246	604	1090	1540	1821	1881	1886	1886
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	48	89	206	328	497	647	760	736	575	355	166	69	48	137	343	671	1168	1815	2575	3311	3886	4241	4407	4476

(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:
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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