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: NEWPORT 1 NW, TN **COOP ID: 406534**

Climate Division: TN 1 **NWS Call Sign:** **Elevation: 1,036 Feet** **Lat: 35˚59N** **Lon: 83˚12W**

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	46.8	26.9	36.9	80+	1932	15	48.3	1974	-23	1985	21	24.7	1977	873	0	.0	.0	13.0	3.7	22.2	.4
Feb	52.3	28.5	40.4	84	1977	27	46.8	1990	-15	1996	5	31.3	1978	688	0	.0	.0	16.7	1.9	18.6	.2
Mar	61.3	36.0	48.7	87+	1929	25	54.0	1973	-4	1980	3	43.3	1996	507	0	.0	.0	25.4	.3	12.6	.1
Apr	70.3	43.3	56.8	93	1941	20	61.3	1981	20	1982	7	51.0	1983	255	10	.0	@	29.0	.0	4.3	.0
May	77.2	52.7	65.0	98	1941	23	70.9	1991	29+	1971	4	60.8	1997	101	100	.0	.2	31.0	.0	.2	.0
Jun	84.0	61.5	72.8	106	1936	30	75.9	1986	36	1966	1	68.5	1972	4	236	.0	4.4	30.0	.0	.0	.0
Jul	87.0	65.8	76.4	107+	1952	28	80.7	1993	47+	1961	10	73.0	1976	0	353	.1	11.6	31.0	.0	.0	.0
Aug	85.8	64.3	75.1	105	1930	9	79.3	1995	46	1968	29	72.3	1992	0	312	.1	8.6	31.0	.0	.0	.0
Sep	80.4	57.1	68.8	102+	1932	1	73.4	1978	32+	1928	26	64.6	1976	35	148	.0	3.2	30.0	.0	.0	.0
Oct	70.1	43.8	57.0	95	1941	1	63.2	1984	22+	1952	22	50.0	1988	276	27	.0	.0	30.8	.0	3.8	.0
Nov	59.7	35.2	47.5	85	1985	19	56.3	1985	5	1950	25	39.8	1976	527	1	.0	.0	24.7	.1	13.4	.0
Dec	50.2	28.7	39.5	82	1951	7	47.5	1971	-10+	1962	13	30.3	1989	792	0	.0	.0	17.1	1.7	21.1	.1
Ann	68.8	45.3	57.1	107+	Jul 1952	28	80.7	Jul 1993	-23	Jan 1985	21	24.7	Jan 1977	4058	1187	.2	28.0	309.7	7.7	96.2	.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/normals/usnormals.html

(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

Issue Date: February 2004

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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	3.78	3.89	3.02	1954	16	6.81	1974	1.01	1986
Feb	3.62	3.56	2.25	1990	16	7.05	1994	.53	1978
Mar	4.47	3.94	5.00	1994	27	11.11	1994	1.50	1985
Apr	3.70	3.42	2.45	1949	28	7.66	1998	.26	1976
May	4.80	4.39	3.75	1984	7	9.14	1984	1.99	1988
Jun	3.96	4.05	3.30	1953	22	7.57	2000	.60	1986
Jul	4.52	4.19	3.48	1984	16	11.80	1984	.79	1995
Aug	3.82	3.71	2.88	1982	1	7.18	1986	.60	1987
Sep	3.17	3.32	3.87	1944	30	6.16	1989	.54	1985
Oct	2.30	2.18	2.56	1949	31	5.16	1972	.01	1991
Nov	3.24	3.25	2.05	1977	6	5.63	1982	1.11	1987
Dec	3.76	3.59	2.59	1993	4	7.58	1991	1.19	1999
Ann	45.14	44.65	5.00	Mar 1994	27	11.80	Jul 1984	.01	Oct 1991

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	8.3	2.7	.5
Feb	10.3	7.4	2.5	.7
Mar	11.7	8.6	2.8	.9
Apr	9.8	7.5	2.5	.8
May	11.7	9.0	3.3	1.3
Jun	10.5	8.1	2.9	.8
Jul	10.5	8.2	3.3	1.1
Aug	9.1	6.8	2.7	1.0
Sep	8.2	6.1	2.2	.8
Oct	7.2	5.0	1.4	.3
Nov	8.8	6.8	2.2	.6
Dec	10.7	8.0	2.4	.7
Ann	119.6	89.8	30.9	9.5

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	1.48	1.83	2.33	2.74	3.13	3.52	3.95	4.45	5.08	6.05	6.93
Feb	1.28	1.62	2.12	2.53	2.93	3.34	3.78	4.30	4.96	5.98	6.92
Mar	1.54	1.96	2.58	3.10	3.60	4.11	4.67	5.32	6.16	7.45	8.64
Apr	1.06	1.42	1.94	2.40	2.85	3.32	3.83	4.44	5.23	6.46	7.61
May	2.42	2.83	3.37	3.81	4.21	4.61	5.03	5.51	6.12	7.02	7.83
Jun	1.39	1.77	2.31	2.77	3.20	3.65	4.14	4.71	5.44	6.56	7.60
Jul	1.43	1.86	2.50	3.04	3.57	4.11	4.71	5.41	6.31	7.72	9.01
Aug	1.20	1.57	2.10	2.56	3.01	3.47	3.97	4.56	5.33	6.52	7.61
Sep	.90	1.20	1.65	2.05	2.43	2.84	3.28	3.81	4.49	5.56	6.56
Oct	.25	.42	.74	1.06	1.40	1.79	2.24	2.81	3.58	4.85	6.09
Nov	1.41	1.70	2.11	2.44	2.75	3.06	3.40	3.78	4.27	5.01	5.68
Dec	1.38	1.73	2.24	2.66	3.07	3.48	3.94	4.46	5.13	6.16	7.10
Ann	35.01	37.04	39.60	41.51	43.20	44.82	46.48	48.29	50.48	53.62	56.31

\+ 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	4.4	4.0	#	#	9.0	1985	29	16.0	1978	9	1985	29	1+	2000	2.0	1.6	.7	.4	.0	2.8	.8	.3	.0
Feb	2.9	1.5	#	#	6.0	1971	14	13.6	1979	9	1996	3	2	1996	1.4	1.1	.3	@	.0	2.0	.5	.1	.0
Mar	1.7	.0	#	#	16.0	1993	13	20.0	1993	20	1993	13	2	1993	.6	.6	.1	@	@	.6	.1	.1	.1
Apr	.1	.0	#	0	2.0	1971	7	2.0	1971	17	1987	4	2	1987	.1	@	.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	#	1993	31	#+	1993	#	1993	31	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	#	0	.5	1972	22	.5	1972	#+	1987	11	#+	1987	@	.0	.0	.0	.0	.0	.0	.0	.0
Dec	1.4	.0	#	0	6.5	1982	12	6.5	1982	4	1982	13	#+	2000	.6	.5	.2	@	.0	.7	.2	.0	.0
Ann	10.5	5.5	N/A	N/A	16.0	Mar 1993	13	20.0	Mar 1993	20	Mar 1993	13	2+	Feb 1996	4.7	3.8	1.3	.4	@	6.1	1.6	.5	.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	5/14	5/09	5/06	5/03	4/30	4/28	4/25	4/21	4/17
32	5/02	4/27	4/23	4/20	4/18	4/15	4/12	4/08	4/03
28	4/18	4/13	4/09	4/06	4/03	3/31	3/28	3/25	3/20
24	4/07	3/31	3/26	3/21	3/17	3/13	3/08	3/03	2/23
20	3/23	3/15	3/09	3/04	2/28	2/23	2/18	2/12	2/04
16	3/12	3/03	2/25	2/20	2/15	2/10	2/05	1/30	1/21

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	10/04	10/07	10/09	10/11	10/13	10/15	10/18	10/21
32	10/08	10/13	10/16	10/19	10/22	10/24	10/27	10/30	11/04
28	10/16	10/21	10/25	10/29	11/01	11/05	11/08	11/12	11/18
24	10/29	11/04	11/07	11/11	11/14	11/17	11/20	11/24	11/30
20	11/09	11/15	11/20	11/24	11/28	12/01	12/05	12/10	12/17
16	11/24	12/02	12/09	12/14	12/19	12/24	12/29	1/04	1/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	175	170	167	163	159	156	151	145
32	201	196	192	189	186	183	180	176	171
28	232	225	220	215	211	207	203	197	190
24	267	258	252	246	241	236	231	224	215
20	298	289	283	277	272	267	262	256	247
16	338	325	317	311	305	299	292	285	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

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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	873	688	507	255	101	4	0	0	35	276	527	792	4058
60	721	548	362	137	41	0	0	0	9	166	383	637	3004
57	635	466	280	84	20	0	0	0	3	115	303	547	2453
55	577	415	231	56	12	0	0	0	2	87	252	490	2122
50	439	289	132	15	2	0	0	0	0	36	147	350	1410
32	100	28	2	0	0	0	0	0	0	0	2	44	176

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	250	265	519	745	1022	1222	1376	1335	1102	774	466	274	9350
55	14	7	35	111	321	532	663	622	414	148	26	8	2901
57	10	2	22	79	267	472	601	560	356	114	16	3	2502
60	3	0	10	42	195	382	508	467	271	72	7	0	1957
65	0	0	0	10	100	236	353	312	148	27	1	0	1187
70	0	0	0	1	39	107	202	166	58	7	0	0	580

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	84	126	293	505	775	990	1140	1104	882	545	264	118	84	210	503	1008	1783	2773	3913	5017	5899	6444	6708	6826
45	37	65	182	361	620	840	985	949	732	392	164	59	37	102	284	645	1265	2105	3090	4039	4771	5163	5327	5386
50	13	25	96	236	466	690	830	794	582	256	85	27	13	38	134	370	836	1526	2356	3150	3732	3988	4073	4100
55	1	3	39	135	322	540	675	639	433	142	36	2	1	4	43	178	500	1040	1715	2354	2787	2929	2965	2967
60	0	0	6	61	189	391	520	484	292	63	6	0	0	0	6	67	256	647	1167	1651	1943	2006	2012	2012
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	55	100	198	324	500	676	783	763	585	357	183	80	55	155	353	677	1177	1853	2636	3399	3984	4341	4524	4604

(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