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: FLETCHER 3 W, NC **COOP ID: 313106**

Climate Division: NC 1 **NWS Call Sign:** **Elevation: 2,070 Feet** **Lat: 35˚26N** **Lon: 82˚33W**

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	46.0	23.0	34.5	80	1999	28	46.2	1974	-16	1985	21	22.2	1977	945	0	.0	.0	12.5	2.9	23.9	.6
Feb	50.1	25.3	37.7	80+	1996	28	44.0	1990	-7	1996	5	30.5	1978	765	0	.0	.0	15.7	2.1	20.9	.1
Mar	57.9	32.3	45.1	83+	1995	24	51.9	1997	-1	1993	15	40.0	1993	616	0	.0	.0	24.4	.3	14.5	@
Apr	66.6	39.0	52.8	89+	1963	22	57.9	1999	19	1960	11	48.2	1983	367	1	.0	.0	28.3	@	5.7	.0
May	73.9	48.2	61.1	95	1996	20	65.8	2000	25	1971	4	56.6	1992	165	43	.0	.2	30.9	.0	.7	.0
Jun	80.3	56.0	68.2	94+	1996	24	72.0	1981	35+	1984	1	64.3	1972	25	120	.0	1.5	30.0	.0	.0	.0
Jul	84.0	60.3	72.2	98	1993	12	75.6	1993	42	1988	2	69.2	1979	3	224	.0	4.9	31.0	.0	.0	.0
Aug	82.5	59.0	70.8	99	1983	22	74.2	1995	41	1986	29	67.6	1992	6	185	.0	2.7	31.0	.0	.0	.0
Sep	77.1	52.4	64.8	93	1998	7	68.6	1998	29	1967	30	61.0	1976	71	62	.0	.5	30.0	.0	@	.0
Oct	68.0	39.0	53.5	87	1986	4	60.1	1984	18+	1976	29	47.2	1987	365	8	.0	.0	30.4	.0	6.1	.0
Nov	58.2	31.6	44.9	84	1996	1	53.6	1985	6	1970	25	38.1	1976	603	0	.0	.0	24.2	@	14.7	.0
Dec	49.4	25.1	37.3	77	1998	8	44.1	1971	-8	1989	23	28.8	1989	862	0	.0	.0	16.2	1.8	22.5	.2
Ann	66.2	40.9	53.6	99	Aug 1983	22	75.6	Jul 1993	-16	Jan 1985	21	22.2	Jan 1977	4793	643	.0	9.8	304.6	7.1	109.0	.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: 1959-2001

(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	4.55	3.96	5.10	1998	8	11.66	1998	.42	1981
Feb	4.09	4.51	3.48	1982	3	8.50	1990	.50	1978
Mar	5.13	4.48	5.70	1968	12	11.45	1975	.94	1985
Apr	3.75	3.56	2.96	1974	4	8.58	1998	.16	1976
May	4.79	4.43	4.32	1976	29	10.21	1976	1.61	1988
Jun	4.81	4.28	5.81	1987	2	13.28	1987	.82	1988
Jul	4.35	3.78	3.85	1969	27	8.76	1973	.67	1986
Aug	4.98	5.05	4.65	1961	24	10.83	1995	.09	1997
Sep	4.05	3.68	4.25	1964	29	10.15	1977	.08	1984
Oct	3.47	3.29	5.27	1964	4	9.63	1990	.00	2000
Nov	4.08	3.74	4.05	1977	6	8.64	1979	.79	1981
Dec	3.84	3.76	2.87+	1973	26	9.03	1983	.60	1980
Ann	51.89	52.11	5.81	Jun 1987	2	13.28	Jun 1987	.00	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.8	7.1	3.5	1.2
Feb	9.6	6.6	2.8	1.1
Mar	11.8	7.9	3.4	1.6
Apr	10.4	6.4	2.3	1.3
May	12.4	8.1	2.9	1.3
Jun	12.4	8.1	2.9	1.3
Jul	12.3	8.1	3.0	1.0
Aug	13.2	8.5	2.9	1.3
Sep	11.4	6.7	2.7	1.0
Oct	8.7	5.2	2.4	1.1
Nov	10.0	6.7	2.4	1.2
Dec	10.5	6.8	2.4	1.2
Ann	133.5	86.2	33.6	14.6

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	1.28	1.71	2.37	2.94	3.49	4.08	4.72	5.48	6.46	8.01	9.45
Feb	.95	1.33	1.93	2.46	3.00	3.57	4.20	4.96	5.96	7.54	9.03
Mar	1.56	2.05	2.77	3.40	4.01	4.64	5.34	6.15	7.21	8.86	10.39
Apr	.75	1.09	1.64	2.14	2.65	3.20	3.81	4.56	5.54	7.12	8.62
May	1.60	2.06	2.72	3.28	3.83	4.38	4.99	5.71	6.62	8.04	9.35
Jun	1.05	1.49	2.20	2.83	3.47	4.16	4.92	5.84	7.05	8.99	10.81
Jul	1.19	1.60	2.23	2.78	3.31	3.88	4.50	5.24	6.20	7.71	9.12
Aug	.85	1.28	2.01	2.69	3.39	4.15	5.02	6.08	7.49	9.77	11.95
Sep	.72	1.08	1.67	2.22	2.79	3.40	4.10	4.94	6.07	7.88	9.61
Oct	.32	.72	1.30	1.80	2.32	2.88	3.51	4.29	5.31	6.98	8.57
Nov	1.44	1.83	2.39	2.85	3.30	3.76	4.27	4.85	5.60	6.75	7.81
Dec	.99	1.36	1.91	2.40	2.89	3.40	3.96	4.64	5.51	6.90	8.19
Ann	36.54	39.50	43.30	46.19	48.76	51.25	53.82	56.66	60.11	65.12	69.46

\+ 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: 1959-2001
(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	3.9	2.5	#	0	8.0	1988	8	15.5	1996	12	1988	8	2	1996	1.3	1.2	.6	.2	.0	2.3	1.3	.8	.1
Feb	2.6	1.5	#	0	6.5	1979	7	15.5	1979	3	1986	15	1	1996	1.3	.9	.4	.1	.0	.9	.1	.0	.0
Mar	1.9	.0	#	0	14.0	1993	13	18.0	1993	18	1993	14	3	1993	.8	.5	.2	.1	@	.6	.4	.3	.2
Apr	.5	.0	#	0	7.5	1987	4	10.5	1987	11	1987	4	1	1987	.2	.2	.1	@	.0	.1	.0	.0	.0
May	#	.0	0	0	#	1992	8	#	1992	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	.3	.0	#	0	5.0	1975	23	5.0	1975	#+	1999	3	#+	1999	.1	.1	@	@	.0	.0	.0	.0	.0
Dec	1.1	.0	#	0	13.5	1971	3	14.5	1971	6	1993	21	1	1993	.4	.4	.1	.1	@	.5	.1	@	.0
Ann	10.3	4.0	N/A	N/A	14.0	Mar 1993	13	18.0	Mar 1993	18	Mar 1993	14	3	Mar 1993	4.1	3.3	1.4	.5	@	4.4	1.9	1.1	.3

+ 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	5/23	5/18	5/15	5/12	5/09	5/06	5/04	4/30	4/26
32	5/12	5/07	5/04	5/01	4/28	4/26	4/23	4/19	4/15
28	4/29	4/23	4/19	4/16	4/13	4/10	4/06	4/02	3/28
24	4/11	4/05	3/31	3/28	3/24	3/21	3/17	3/12	3/06
20	3/24	3/18	3/14	3/10	3/06	3/03	2/27	2/23	2/16
16	3/11	3/02	2/24	2/19	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	9/20	9/24	9/28	9/30	10/03	10/05	10/08	10/11	10/15
32	10/01	10/05	10/08	10/11	10/13	10/15	10/18	10/21	10/25
28	10/09	10/14	10/17	10/20	10/23	10/25	10/28	10/31	11/05
24	10/19	10/25	10/29	11/02	11/06	11/09	11/13	11/17	11/23
20	11/04	11/10	11/14	11/17	11/20	11/23	11/26	11/30	12/05
16	11/20	11/27	12/02	12/07	12/11	12/16	12/20	12/26	1/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	164	158	153	149	146	142	139	134	128
32	185	179	174	170	167	163	160	155	149
28	207	202	198	195	192	189	186	182	176
24	252	243	237	231	226	220	215	208	199
20	282	274	268	263	258	253	248	242	233
16	328	317	309	303	297	292	286	279	270

***** 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	945	765	616	367	165	25	3	6	71	365	603	862	4793
60	790	625	464	226	77	4	0	0	21	234	455	707	3603
57	704	541	376	153	42	1	0	0	8	169	370	614	2978
55	646	485	320	111	26	0	0	0	4	132	316	554	2594
50	502	353	197	39	6	0	0	0	0	63	194	412	1766
32	134	39	6	0	0	0	0	0	0	0	5	66	250

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	211	198	413	624	901	1085	1244	1202	981	666	392	227	8144
55	10	0	14	45	213	395	531	489	295	85	12	3	2092
57	6	0	8	26	168	336	469	427	239	60	7	0	1746
60	0	0	2	10	110	249	376	334	162	32	2	0	1277
65	0	0	0	1	43	120	224	185	62	8	0	0	643
70	0	0	0	0	11	36	94	71	13	1	0	0	226

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	70	97	242	422	685	874	1027	993	783	473	227	100	70	167	409	831	1516	2390	3417	4410	5193	5666	5893	5993
45	30	42	138	288	532	724	872	838	633	325	128	47	30	72	210	498	1030	1754	2626	3464	4097	4422	4550	4597
50	5	12	63	167	378	574	717	683	483	197	61	19	5	17	80	247	625	1199	1916	2599	3082	3279	3340	3359
55	0	1	23	81	238	424	562	528	339	98	21	2	0	1	24	105	343	767	1329	1857	2196	2294	2315	2317
60	0	0	3	25	119	280	407	373	203	36	3	0	0	0	3	28	147	427	834	1207	1410	1446	1449	1449
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	49	83	166	278	431	580	697	673	505	309	157	75	49	132	298	576	1007	1587	2284	2957	3462	3771	3928	4003

(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