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: BLOWING ROCK 1 NW, NC **COOP ID: 310901**

Climate Division: NC 2 **NWS Call Sign:** **Elevation: 3,850 Feet** **Lat: 36˚09N** **Lon: 81˚42W**

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	38.7	21.3	30.0	69	1950	26	42.2	1974	-24	1985	21	18.8	1977	1086	0	.0	.0	5.2	8.4	25.7	1.6
Feb	42.2	23.2	32.7	74	1977	27	40.1	1990	-11+	1967	25	23.6	1978	906	0	.0	.0	7.6	5.9	22.2	.9
Mar	50.0	30.4	40.2	74+	1977	16	45.6	1976	-5	1980	3	34.0	1996	769	0	.0	.0	16.6	2.0	17.3	.1
Apr	58.9	38.3	48.6	82	1986	28	54.1	1981	13	1982	7	43.2	1983	493	0	.0	.0	24.6	.3	9.0	.0
May	66.4	47.0	56.7	87+	1996	20	62.0	1991	23	1966	10	51.6	1994	270	13	.0	.0	30.4	.0	1.0	.0
Jun	72.6	54.4	63.5	89	1978	30	67.9	1981	33	1972	11	59.0	1974	94	48	.0	.0	30.0	.0	.0	.0
Jul	76.4	58.6	67.5	92+	1993	22	71.5	1986	43+	1963	11	64.1	1994	28	106	.0	.1	31.0	.0	.0	.0
Aug	75.1	57.3	66.2	91	1956	6	69.2	1988	39	1986	29	62.0	1994	46	83	.0	.1	31.0	.0	.0	.0
Sep	69.2	51.6	60.4	88	1978	20	65.4	1998	31+	1983	24	57.6	1974	153	16	.0	.0	29.9	.0	.1	.0
Oct	60.1	40.5	50.3	80	1973	5	57.0	1984	17+	1976	29	44.8	1988	455	1	.0	.0	28.0	.0	6.5	.0
Nov	51.4	32.9	42.2	74	1950	1	51.1	1985	-7	1950	25	35.4	1995	686	0	.0	.0	18.3	1.3	15.2	.0
Dec	42.6	24.9	33.8	69	1956	8	41.9	1984	-14	1983	25	24.5	1989	970	0	.0	.0	8.7	5.5	23.9	.8
Ann	58.6	40.0	49.3	92+	Jul 1993	22	71.5	Jul 1986	-24	Jan 1985	21	18.8	Jan 1977	5956	267	.0	.2	261.3	23.4	120.9	3.4

\+ 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: 1948-2001

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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	5.56	5.10	8.20	1995	15	13.25	1995	1.07	1981
Feb	4.72	4.99	4.95	1966	13	9.57	1981	.69	1978
Mar	6.67	6.38	6.18	1979	24	15.95	1979	1.23	1988
Apr	5.87	6.29	4.67	1992	21	10.69	1991	.70	1986
May	6.48	5.82	6.41	1973	28	11.63	1975	2.44	2000
Jun	6.48	6.30	5.40	1976	17	14.16	1976	.80	1986
Jul	5.87	5.95	3.90	1964	19	11.86	1994	1.94	1983
Aug	5.75	4.51	7.04	1994	17	13.91	1994	.92	1997
Sep	5.52	4.68	6.28	1959	30	20.73	1979	.15	1984
Oct	4.78	3.94	5.05	1975	18	16.31	1990	.02	2000
Nov	5.82	5.32	5.86	1996	8	16.01	1992	1.29	1981
Dec	4.43	4.41	3.45	1996	1	10.39	1973	.97	1980
Ann	67.95	67.07	8.20	Jan 1995	15	20.73	Sep 1979	.02	Oct 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.3	8.3	3.4	1.6
Feb	11.5	8.1	3.4	1.1
Mar	13.1	9.3	3.8	1.9
Apr	11.8	8.2	3.4	1.8
May	14.6	10.1	4.2	1.7
Jun	13.7	9.3	4.2	2.0
Jul	14.3	9.7	3.8	1.5
Aug	13.5	9.0	3.7	1.3
Sep	11.0	7.3	3.3	1.7
Oct	9.3	5.8	2.5	1.3
Nov	11.1	6.9	3.3	2.0
Dec	11.8	7.6	2.8	1.1
Ann	148.0	99.6	41.8	19.0

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	1.90	2.42	3.19	3.84	4.46	5.11	5.81	6.62	7.67	9.29	10.79
Feb	1.65	2.10	2.74	3.29	3.81	4.35	4.93	5.61	6.48	7.83	9.06
Mar	1.99	2.63	3.57	4.39	5.19	6.01	6.93	8.00	9.38	11.55	13.56
Apr	1.49	2.04	2.90	3.65	4.40	5.19	6.06	7.10	8.46	10.60	12.61
May	2.67	3.26	4.09	4.78	5.43	6.09	6.79	7.61	8.64	10.22	11.65
Jun	1.66	2.27	3.22	4.05	4.87	5.73	6.69	7.83	9.32	11.68	13.88
Jul	2.07	2.62	3.43	4.10	4.75	5.41	6.13	6.97	8.05	9.71	11.24
Aug	1.24	1.77	2.62	3.38	4.15	4.96	5.88	6.98	8.44	10.75	12.94
Sep	.71	1.15	1.94	2.71	3.52	4.42	5.46	6.75	8.49	11.35	14.11
Oct	.52	.88	1.54	2.20	2.92	3.72	4.66	5.83	7.43	10.07	12.64
Nov	1.54	2.09	2.93	3.67	4.40	5.17	6.01	7.02	8.33	10.39	12.32
Dec	1.15	1.57	2.21	2.78	3.34	3.92	4.57	5.35	6.35	7.94	9.43
Ann	46.58	50.66	55.92	59.93	63.51	66.98	70.58	74.57	79.42	86.49	92.63

\+ 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: 1948-2001
(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	9.8	7.5	2	1	13.0	1996	7	33.5	1977	24	1996	9	12	1982	3.6	2.7	1.1	.5	.2	7.5	5.1	3.7	1.8
Feb	10.4	8.0	1	1	15.0	1983	10	31.0	1979	17	1979	19	6	1980	2.9	2.1	1.0	.6	.1	5.5	3.5	2.5	.6
Mar	5.4	2.0	1	#	13.0	1981	23	19.7	1981	36	1993	15	7	1993	2.1	1.3	.4	.2	@	2.1	1.1	.6	.0
Apr	1.2	.0	#	0	5.0	1983	19	8.0	1983	21	1987	5	3	1987	.6	.5	.1	@	.0	.3	.1	@	.0
May	#	.0	#	0	#	1979	26	#+	1979	1	1989	7	#	1989	.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	.1	.0	#	0	2.5	1977	17	2.5	1977	3	1977	17	#+	1989	.1	@	.0	.0	.0	@	@	.0	.0
Nov	1.5	1.0	#	#	4.0	1981	24	5.1	1981	6	1995	15	#+	1997	.9	.6	.1	.0	.0	.6	.1	.0	.0
Dec	6.3	5.4	1	#	12.0	1993	21	23.0	1981	13	1974	2	12	1974	2.5	1.4	.6	.3	.1	3.0	1.3	.8	.1
Ann	34.7	23.9	N/A	N/A	15.0	Feb 1983	10	33.5	Jan 1977	36	Mar 1993	15	12+	Jan 1982	12.7	8.6	3.3	1.6	.4	19.0	11.2	7.6	2.5

+ 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	6/02	5/26	5/21	5/17	5/13	5/09	5/05	4/29	4/22
32	5/18	5/12	5/08	5/05	5/02	4/29	4/26	4/22	4/16
28	5/07	5/01	4/26	4/22	4/18	4/15	4/11	4/06	3/30
24	4/18	4/13	4/10	4/07	4/05	4/02	3/30	3/27	3/23
20	4/15	4/09	4/05	4/01	3/29	3/25	3/22	3/17	3/12
16	4/07	3/31	3/26	3/21	3/17	3/13	3/08	3/03	2/24

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	9/27	9/29	10/02	10/04	10/07	10/10	10/14
32	9/29	10/03	10/06	10/09	10/11	10/14	10/16	10/19	10/24
28	10/06	10/12	10/16	10/19	10/22	10/25	10/29	11/02	11/07
24	10/18	10/25	10/30	11/03	11/07	11/11	11/15	11/20	11/27
20	10/27	11/02	11/07	11/12	11/15	11/19	11/24	11/28	12/05
16	11/07	11/14	11/19	11/23	11/27	11/30	12/05	12/09	12/16

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	163	155	150	145	141	137	132	127	119
32	182	175	170	165	161	157	153	148	141
28	211	203	197	191	186	181	176	170	161
24	243	233	227	221	216	210	205	198	189
20	259	249	242	237	231	226	220	213	204
16	276	269	263	258	254	249	244	239	231

***** 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	1086	906	769	493	270	94	28	46	153	455	686	970	5956
60	931	766	614	349	150	29	4	7	58	311	537	815	4571
57	838	682	525	268	96	11	0	1	27	232	452	722	3854
55	776	626	466	219	68	5	0	0	14	186	397	660	3417
50	633	486	328	119	21	0	0	0	2	97	269	515	2470
32	205	96	34	1	0	0	0	0	0	1	22	120	479

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	142	115	288	499	766	945	1101	1060	853	569	326	174	6838
55	0	0	7	26	121	259	388	347	177	41	11	0	1377
57	0	0	4	15	88	205	326	286	130	25	6	0	1085
60	0	0	0	6	48	133	237	199	71	11	2	0	707
65	0	0	0	0	13	48	106	83	16	1	0	0	267
70	0	0	0	0	1	9	29	19	1	0	0	0	59

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	28	47	131	299	533	709	866	819	622	337	156	56	28	75	206	505	1038	1747	2613	3432	4054	4391	4547	4603
45	3	18	63	184	382	559	711	664	472	207	79	24	3	21	84	268	650	1209	1920	2584	3056	3263	3342	3366
50	0	1	27	100	244	411	556	509	325	109	31	4	0	1	28	128	372	783	1339	1848	2173	2282	2313	2317
55	0	0	4	44	129	268	401	354	191	38	5	0	0	0	4	48	177	445	846	1200	1391	1429	1434	1434
60	0	0	0	7	51	136	249	201	82	3	0	0	0	0	0	7	58	194	443	644	726	729	729	729
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	7	24	73	166	293	425	557	512	355	181	81	27	7	31	104	270	563	988	1545	2057	2412	2593	2674	2701

(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

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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