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: GREENSBORO RGNL AP, NC **COOP ID: 313630**

Climate Division: NC 3 **NWS Call Sign: GSO** **Elevation: 897 Feet** **Lat: 36˚06N** **Lon: 79˚57W**

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	47.2	28.2	37.7	78+	1975	29	46.1	1974	-8	1985	21	27.0	1977	851	0	.0	.0	12.6	2.6	21.3	.2
Feb	51.7	30.6	41.2	81	1977	26	49.4	1976	-4	1936	1	31.7	1978	679	0	.0	.0	16.1	1.4	17.6	.0
Mar	60.3	37.8	49.1	90	1945	17	53.7	1976	5	1960	6	43.6	1971	501	4	.0	.0	25.9	.2	9.2	.0
Apr	69.7	45.5	57.6	91+	1990	26	61.7	1981	21	1943	4	53.1	1983	245	25	.0	.3	29.2	.0	2.0	.0
May	76.9	54.7	65.8	98	1941	29	71.5	1991	32+	1989	8	62.0	1997	77	97	.0	.8	30.9	.0	@	.0
Jun	83.8	63.5	73.6	102	1954	27	77.8	1981	42+	1977	8	68.6	1972	8	263	.0	5.6	30.0	.0	.0	.0
Jul	87.6	68.1	77.9	102+	1977	8	82.0	1993	48	1933	5	74.7	1984	0	398	.2	11.8	31.0	.0	.0	.0
Aug	85.7	66.8	76.2	103	1988	18	80.1	1975	45	1986	30	72.9	1992	1	345	.1	8.4	31.0	.0	.0	.0
Sep	79.4	60.1	69.8	100	1954	6	73.3	1980	35	1942	29	66.2	1984	32	172	.0	2.2	30.0	.0	.0	.0
Oct	69.6	47.5	58.5	95	1954	5	66.0	1984	20	1962	27	53.2	1988	232	24	.0	.2	30.7	.0	1.1	.0
Nov	59.9	38.6	49.2	85+	1974	2	56.6	1985	10	1970	25	42.2	1976	480	3	.0	.0	24.7	.0	9.5	.0
Dec	50.6	31.4	41.0	78+	1998	7	49.1	1971	0	1962	13	32.7	1989	742	1	.0	.0	16.1	1.2	18.4	.0
Ann	68.5	47.7	58.1	103	Aug 1988	18	82.0	Jul 1993	-8	Jan 1985	21	27.0	Jan 1977	3848	1332	.3	29.3	308.2	5.4	79.1	.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: 1933-2001

(3) Derived from 1971-2000 serially complete daily data

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: GREENSBORO RGNL AP, NC **COOP ID: 313630**

Climate Division: NC 3 **NWS Call Sign: GSO** **Elevation: 897 Feet** **Lat: 36˚06N** **Lon: 79˚57W**

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	3.54	3.60	2.55	1978	25	7.70	1978	.66	1981
Feb	3.10	3.42	2.51	1946	10	5.25	1984	.73	1978
Mar	3.85	3.28	3.60	1991	29	8.76	1975	.67	1985
Apr	3.43	3.06	3.97	1992	21	8.03	1987	.41	1995
May	3.95	3.93	3.24	1989	1	8.35	1982	.70	1977
Jun	3.53	3.17	4.20	1969	15	9.53	1995	.00	1990
Jul	4.44	3.87	3.61	1978	16	12.72	1984	1.50	1990
Aug	3.71	3.24	4.52	1995	27	9.60	1978	.71	1972
Sep	4.30	3.01	7.46	1947	24	13.08	1979	.00	1985
Oct	3.27	2.50	6.24	1954	15	12.59	1990	.00	2000
Nov	2.96	2.58	3.30	1962	9	8.26	1985	.35	1981
Dec	3.06	3.34	3.06	1958	28	6.44	1973	.60	1994
Ann	43.14	42.40	7.46	Sep 1947	24	13.08	Sep 1979	.00+	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.6	7.1	2.4	.8
Feb	9.3	6.4	2.2	.7
Mar	10.9	7.1	2.6	.7
Apr	9.3	6.4	2.3	.6
May	10.0	6.6	3.1	1.0
Jun	9.9	6.3	2.6	.8
Jul	11.1	7.3	2.7	1.2
Aug	9.5	5.7	2.3	1.2
Sep	7.9	5.1	2.9	1.4
Oct	7.1	4.9	2.2	1.1
Nov	8.1	5.4	2.1	.8
Dec	10.0	6.0	2.1	.7
Ann	113.7	74.3	29.5	11.0

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	1.05	1.39	1.89	2.33	2.75	3.19	3.68	4.25	4.99	6.14	7.22
Feb	1.09	1.39	1.81	2.17	2.51	2.86	3.24	3.68	4.25	5.13	5.94
Mar	1.26	1.62	2.16	2.62	3.06	3.51	4.01	4.59	5.34	6.50	7.58
Apr	.66	.97	1.47	1.94	2.41	2.91	3.49	4.18	5.10	6.57	7.97
May	1.13	1.51	2.07	2.57	3.05	3.55	4.10	4.75	5.60	6.92	8.16
Jun	.84	1.34	1.92	2.38	2.82	3.26	3.74	4.29	5.01	6.12	7.14
Jul	1.21	1.63	2.27	2.83	3.38	3.96	4.59	5.34	6.32	7.86	9.29
Aug	.94	1.29	1.83	2.31	2.78	3.28	3.83	4.49	5.34	6.70	7.96
Sep	.41	.90	1.61	2.24	2.88	3.57	4.35	5.30	6.57	8.63	10.59
Oct	.31	.68	1.22	1.70	2.19	2.72	3.31	4.04	5.01	6.57	8.07
Nov	.88	1.16	1.58	1.95	2.30	2.67	3.08	3.56	4.18	5.15	6.05
Dec	.86	1.15	1.59	1.97	2.35	2.74	3.17	3.69	4.35	5.40	6.38
Ann	32.29	34.43	37.15	39.20	41.01	42.76	44.55	46.52	48.90	52.33	55.28

\+ 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: 1933-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: GREENSBORO RGNL AP, NC **COOP ID: 313630**

Climate Division: NC 3 **NWS Call Sign: GSO** **Elevation: 897 Feet** **Lat: 36°06N** **Lon: 79°57W**

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	3.0	.4	#	0	10.2	1987	22	15.3	2000	9+	2000	26	2+	2000	1.4	.8	.4	.2	@	3.1	1.7	1.1	.0
Feb	3.5	1.1	#	0	16.4	1987	28	25.4	1987	9	1979	19	2	1979	1.5	1.0	.4	.2	@	2.1	.9	.4	.0
Mar	1.4	.0	#	0	5.7	1993	13	7.9	1980	8	1980	3	1	1980	.6	.4	.2	@	.0	.6	.3	.1	.0
Apr	#	.0	0	0	#	1992	4	#+	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	2000	.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	.1	.0	0	0	1.7	2000	19	1.7	2000	#+	2000	20	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.9	.0	#	0	5.2	1997	29	8.3	1973	6+	1973	18	1	1973	.8	.3	.1	@	.0	.6	.3	.1	.0
Ann	8.9	1.5	N/A	N/A	16.4	Feb 1987	28	25.4	Feb 1987	9+	Jan 2000	26	2+	Jan 2000	4.4	2.5	1.1	.4	@	6.4	3.2	1.7	.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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: GREENSBORO RGNL AP, NC **COOP ID: 313630**

Climate Division: NC 3 **NWS Call Sign: GSO** **Elevation: 897 Feet** **Lat: 36˚06N** **Lon: 79˚57W**

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	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/14	4/09
32	4/25	4/19	4/15	4/12	4/09	4/06	4/02	3/29	3/24
28	4/14	4/08	4/03	3/30	3/26	3/22	3/18	3/14	3/07
24	3/31	3/25	3/20	3/16	3/12	3/09	3/05	2/28	2/22
20	3/18	3/11	3/06	3/01	2/25	2/21	2/17	2/12	2/05
16	3/10	2/28	2/21	2/15	2/10	2/04	1/29	1/23	1/13

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	10/05	10/09	10/13	10/16	10/18	10/21	10/24	10/27	11/01
32	10/15	10/20	10/24	10/27	10/30	11/01	11/04	11/08	11/13
28	10/27	11/01	11/05	11/08	11/11	11/14	11/18	11/21	11/27
24	11/11	11/16	11/20	11/24	11/27	11/30	12/04	12/08	12/14
20	11/16	11/24	11/30	12/05	12/09	12/14	12/19	12/25	1/02
16	12/02	12/11	12/17	12/23	12/28	1/02	1/08	1/14	1/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	190	186	181	178	174	170	165	158
32	223	216	211	207	203	199	195	190	183
28	256	247	240	234	229	224	218	212	203
24	286	277	270	264	259	254	248	241	232
20	316	306	298	292	286	280	274	267	257
16	363	344	334	326	319	312	304	296	284

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: GREENSBORO RGNL AP, NC **COOP ID: 313630**

Climate Division: NC 3 **NWS Call Sign: GSO** **Elevation: 897 Feet** **Lat: 36˚06N** **Lon: 79˚57W**

Degree Days to Selected Base Temperatures (˚F)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	851	679	501	245	77	8	0	1	32	232	480	742	3848
60	692	527	348	122	27	1	0	0	3	127	333	589	2769
57	605	448	266	73	12	0	0	0	1	82	255	504	2246
55	546	396	217	48	6	0	0	0	0	58	208	446	1925
50	404	273	119	12	0	0	0	0	0	20	113	312	1253
32	69	25	2	0	0	0	0	0	0	0	1	35	132

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	226	281	535	769	1047	1247	1418	1367	1128	817	511	299	9645
55	4	9	48	146	340	557	705	654	439	157	41	11	3111
57	2	5	32	112	285	497	643	592	381	119	27	7	2702
60	1	2	17	71	206	408	550	499	296	73	13	3	2139
65	0	0	4	25	97	263	398	345	172	24	3	1	1332
70	0	0	0	4	32	136	245	197	75	4	0	0	693

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	88	140	313	541	810	1016	1181	1126	895	579	295	134	88	228	541	1082	1892	2908	4089	5215	6110	6689	6984	7118
45	42	76	197	393	655	866	1026	971	745	426	185	70	42	118	315	708	1363	2229	3255	4226	4971	5397	5582	5652
50	15	34	111	262	502	716	871	816	595	284	101	30	15	49	160	422	924	1640	2511	3327	3922	4206	4307	4337
55	0	10	53	155	349	566	716	661	447	162	46	13	0	10	63	218	567	1133	1849	2510	2957	3119	3165	3178
60	0	0	21	75	214	417	561	506	303	77	13	0	0	0	21	96	310	727	1288	1794	2097	2174	2187	2187
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	56	93	195	331	515	693	821	786	596	350	176	78	56	149	344	675	1190	1883	2704	3490	4086	4436	4612	4690

(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