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: ALBEMARLE, NC **COOP ID: 310090**

Climate Division: NC 5 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 35˚24N** **Lon: 80˚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	50.5	27.8	39.2	82	1944	28	49.5	1974	-7	1940	28	28.4	1977	801	0	.0	.0	17.2	.9	18.6	@
Feb	54.7	29.6	42.2	83	1962	28	50.5	1976	1	1936	1	34.7	1978	640	0	.0	.0	19.4	.4	15.3	.0
Mar	62.9	36.7	49.8	92	1945	17	54.9	1976	5	1980	3	44.8	1996	471	1	.0	.0	28.5	.1	8.7	.0
Apr	71.6	43.9	57.8	93	1942	25	62.0	1977	21+	1943	16	53.3	1997	227	10	.0	.2	29.8	.0	2.5	.0
May	78.7	54.4	66.6	102+	1941	23	71.2	1991	29	1989	8	61.3	1997	59	107	.0	1.4	31.0	.0	.1	.0
Jun	85.4	63.0	74.2	106	1954	27	78.7	1981	42+	1984	1	70.2	1972	4	279	.0	8.4	30.0	.0	.0	.0
Jul	88.9	67.5	78.2	109	1940	28	82.5	1993	47	1933	5	75.5	1975	0	409	.8	14.7	31.0	.0	.0	.0
Aug	87.3	66.0	76.7	107	1983	21	79.6	1983	42	1941	14	73.8	1997	0	361	.3	11.3	31.0	.0	.0	.0
Sep	81.4	59.4	70.4	104	1939	9	74.2	1973	33	1942	30	66.9	1984	15	178	.0	3.7	30.0	.0	.0	.0
Oct	72.3	46.7	59.5	102	1954	6	64.8	1971	21	1952	30	53.6	1988	205	35	.0	.2	30.9	.0	1.7	.0
Nov	62.6	37.4	50.0	88	1961	2	57.8	1985	11	1970	25	43.3	1976	452	2	.0	.0	27.5	.0	9.3	.0
Dec	53.5	30.4	42.0	80	1984	19	50.8	1971	0	1958	12	33.8	1989	715	0	.0	.0	20.7	.3	17.4	.0
Ann	70.8	46.9	58.9	109	Jul 1940	28	82.5	Jul 1993	-7	Jan 1940	28	28.4	Jan 1977	3589	1382	1.1	39.9	327.0	1.7	73.6	@

\+ 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

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	4.37	3.98	3.15	1962	6	10.07	1998	.71	1981
Feb	3.64	3.73	2.85+	1979	24	8.23	1979	.99+	1978
Mar	4.83	4.29	3.53	1952	3	11.52	1980	1.18	1985
Apr	3.33	3.59	4.67	1992	21	6.38	1997	.18	1994
May	4.24	3.67	4.45	1942	21	10.02	1990	1.18	1986
Jun	4.38	4.10	4.40	1979	16	9.32	1989	.07	1990
Jul	5.23	4.36	5.47	1959	9	16.06	1997	.78	1983
Aug	4.13	3.80	5.00	1946	25	10.62	1985	.37	1997
Sep	4.45	4.00	6.51	1979	5	10.80	2000	.05	1985
Oct	3.56	2.49	9.32	1990	11	16.15	1990	.00	2000
Nov	3.30	2.97	3.10	1962	9	7.44	1985	.38	1973
Dec	3.30	3.12	3.04	1958	28	8.10	1983	.84	1985
Ann	48.76	49.34	9.32	Oct 1990	11	16.15	Oct 1990	.00	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.6	7.7	3.3	1.2
Feb	9.3	6.1	2.5	1.1
Mar	10.4	7.3	3.7	1.5
Apr	8.6	5.9	2.1	.7
May	10.1	6.6	3.1	1.4
Jun	9.4	6.1	2.7	1.2
Jul	11.3	7.7	3.3	1.3
Aug	9.1	6.1	2.6	1.1
Sep	8.7	5.7	2.7	1.5
Oct	6.9	4.6	2.1	1.0
Nov	8.6	5.5	2.4	.9
Dec	9.9	6.6	2.2	.7
Ann	113.9	75.9	32.7	13.6

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	1.30	1.71	2.33	2.87	3.39	3.94	4.53	5.24	6.15	7.57	8.90
Feb	1.06	1.40	1.92	2.37	2.81	3.27	3.78	4.38	5.15	6.36	7.49
Mar	1.48	1.94	2.62	3.21	3.78	4.37	5.02	5.78	6.77	8.31	9.74
Apr	.74	1.05	1.54	1.98	2.42	2.88	3.41	4.04	4.86	6.18	7.42
May	1.27	1.68	2.28	2.80	3.30	3.83	4.41	5.09	5.97	7.34	8.61
Jun	.63	1.00	1.63	2.24	2.87	3.57	4.37	5.36	6.68	8.84	10.93
Jul	.92	1.39	2.15	2.87	3.60	4.39	5.29	6.38	7.84	10.19	12.43
Aug	1.05	1.44	2.04	2.57	3.09	3.64	4.26	4.99	5.94	7.45	8.85
Sep	.53	.87	1.50	2.12	2.78	3.51	4.37	5.43	6.87	9.25	11.56
Oct	.26	.64	1.21	1.73	2.28	2.88	3.56	4.40	5.53	7.37	9.15
Nov	.84	1.15	1.63	2.05	2.47	2.91	3.40	3.99	4.75	5.95	7.08
Dec	.91	1.23	1.70	2.11	2.52	2.94	3.41	3.97	4.69	5.82	6.88
Ann	36.86	39.22	42.21	44.45	46.44	48.34	50.30	52.45	55.05	58.79	61.99

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	1.4	.0	#	0
Feb	2.1	.5	#	0
Mar	1.2	.0	#	0
Apr	#	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	#	.0	0	0
Dec	.7	.0	#	0
Ann	5.4	.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	9.1	1988	7	9.1	1988	9	1988	7	1	1988
Feb	12.0	1979	18	20.0	1979	12	1979	18	2	1979
Mar	7.2	1983	24	7.8	1980	7	1983	24	#+	1993
Apr	#	1984	10	#	1984	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	#	1987	11	#+	1987	0	0	0	0	0
Dec	7.5	1971	3	7.5	1971	6	1971	3	#+	1997
Ann	12.0	Feb 1979	18	20.0	Feb 1979	12	Feb 1979	18	2	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.6	.4	.1	@	.0
Feb	.8	.5	.2	.1	@
Mar	.4	.3	.2	.1	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.2	.1	.1	@	.0
Ann	2.0	1.3	.6	.2	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.5	.2	.1	.0
Feb	.8	.5	.2	.1
Mar	.2	.2	@	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.2	.1	@	.0
Ann	1.7	1.0	.3	.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	5/11	5/06	5/02	4/29	4/26	4/24	4/21	4/17	4/12
32	4/27	4/21	4/18	4/14	4/11	4/08	4/04	3/31	3/26
28	4/12	4/06	4/02	3/30	3/27	3/24	3/21	3/17	3/11
24	3/30	3/24	3/19	3/16	3/12	3/08	3/05	2/28	2/22
20	3/16	3/09	3/04	2/28	2/24	2/20	2/15	2/10	2/03
16	3/07	2/24	2/17	2/10	2/04	1/30	1/23	1/16	1/05

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	10/02	10/07	10/10	10/13	10/16	10/19	10/22	10/25	10/30
32	10/11	10/16	10/20	10/23	10/26	10/30	11/02	11/06	11/11
28	10/23	10/28	10/31	11/04	11/07	11/10	11/13	11/16	11/22
24	11/08	11/12	11/15	11/18	11/21	11/23	11/26	11/30	12/04
20	11/15	11/23	11/29	12/05	12/10	12/15	12/20	12/26	1/04
16	12/01	12/11	12/19	12/25	12/31	1/06	1/13	1/21	1/31

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	185	180	176	172	168	164	159	152
32	219	212	207	202	198	194	189	184	176
28	248	239	234	228	224	219	214	208	200
24	274	267	262	257	253	249	244	239	232
20	315	306	299	294	288	283	277	271	261
16	>365	352	339	330	323	316	309	301	290

***** 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	801	640	471	227	59	4	0	0	15	205	452	715	3589
60	646	500	326	112	15	0	0	0	2	108	313	561	2583
57	562	418	246	64	5	0	0	0	1	67	236	476	2075
55	503	367	199	41	2	0	0	0	0	46	191	418	1767
50	366	243	105	9	0	0	0	0	0	14	101	287	1125
32	55	15	1	0	0	0	0	0	0	0	1	28	100

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	277	299	553	773	1071	1266	1432	1384	1152	853	540	336	9936
55	12	7	39	124	360	576	719	671	462	187	40	14	3211
57	9	2	24	87	301	516	657	609	403	145	25	9	2787
60	0	0	11	46	218	426	564	516	315	93	12	1	2202
65	0	0	1	10	107	279	409	361	178	35	2	0	1382
70	0	0	0	1	38	149	256	210	72	9	0	0	735

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	133	189	385	589	848	1046	1199	1160	936	633	356	176	133	322	707	1296	2144	3190	4389	5549	6485	7118	7474	7650
45	66	107	255	441	693	896	1044	1005	786	478	231	97	66	173	428	869	1562	2458	3502	4507	5293	5771	6002	6099
50	30	55	150	300	538	746	889	850	636	332	132	50	30	85	235	535	1073	1819	2708	3558	4194	4526	4658	4708
55	4	18	73	180	385	596	734	695	486	203	61	23	4	22	95	275	660	1256	1990	2685	3171	3374	3435	3458
60	0	3	28	91	244	447	579	540	340	102	24	3	0	3	31	122	366	813	1392	1932	2272	2374	2398	2401
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	87	132	249	382	554	715	824	799	631	404	227	115	87	219	468	850	1404	2119	2943	3742	4373	4777	5004	5119

(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