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: PISGAH FOREST 1 N, NC **COOP ID: 316805**

Climate Division: NC 1 **NWS Call Sign:** **Elevation: 2,110 Feet** **Lat: 35˚16N** **Lon: 82˚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	48.2	23.6	35.9	77	1952	1	48.5	1974	-15	1985	22	24.2	1977	902	0	.0	.0	14.6	2.0	24.5	.6
Feb	51.9	25.2	38.6	78+	1996	28	45.2	1990	-12+	1958	18	31.2	1978	740	0	.0	.0	17.4	1.0	22.3	.1
Mar	59.4	31.4	45.4	82	1995	24	50.7	1997	-2+	1993	16	40.3	1993	609	0	.0	.0	25.8	.3	17.7	.1
Apr	68.0	38.2	53.1	89	1970	30	58.2	1981	19+	1987	1	48.6	1983	360	2	.0	.0	28.9	.0	8.5	.0
May	74.6	47.1	60.9	93+	1996	20	65.9	1998	26	1971	4	56.5	1997	169	40	.0	.1	30.9	.0	1.2	.0
Jun	80.8	55.2	68.0	98	1964	23	71.7	1981	35+	1988	6	64.3	1972	27	117	.0	1.4	30.0	.0	.0	.0
Jul	84.1	59.7	71.9	97+	1952	29	74.5+	1993	40+	1988	3	68.9	1988	2	216	.0	4.5	31.0	.0	.0	.0
Aug	82.7	58.8	70.8	97+	1999	1	73.2	1995	40+	1968	30	68.2	1992	2	180	.0	2.3	31.0	.0	.0	.0
Sep	77.5	52.9	65.2	94	1954	6	69.7	1998	29+	1983	23	62.3	2000	66	73	.0	.5	30.0	.0	.2	.0
Oct	69.3	40.4	54.9	91	1951	5	61.2	1984	17+	1952	30	47.4	1987	327	12	.0	.0	30.8	.0	7.6	.0
Nov	60.0	31.9	46.0	81	1950	1	56.0	1985	2	1950	26	39.8	1976	571	0	.0	.0	25.8	.0	17.5	.0
Dec	51.3	25.8	38.6	76+	1984	16	45.5	1984	-7	1962	13	30.0	2000	820	0	.0	.0	18.8	.7	24.0	.2
Ann	67.3	40.9	54.1	98	Jun 1964	23	74.5+	Jul 1993	-15	Jan 1985	22	24.2	Jan 1977	4595	640	.0	8.8	315.0	4.0	123.5	1.0

\+ 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

(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	6.26	6.12	6.61	1998	8	13.59	1998	.60	1981
Feb	5.34	5.94	5.11	1966	13	10.35	1998	.40	1978
Mar	6.54	6.46	3.87	1991	30	12.44	1980	1.28	1985
Apr	4.59	4.46	5.30	1957	5	8.91	1979	.63	1986
May	5.83	5.28	6.48	1973	28	14.03	1975	1.71	1988
Jun	5.15	4.52	5.18	1967	4	15.08	1989	.34	1990
Jul	5.31	5.55	4.85	1964	19	11.43	1985	1.04	1992
Aug	5.53	4.65	6.59	1967	23	14.04	1978	.36	1997
Sep	5.08	4.24	6.12	1977	8	14.14	1977	.23	1984
Oct	4.53	5.12	5.85	1970	11	9.56	1995	.00	2000
Nov	5.47	5.22	3.50	1993	27	9.68	1992	2.06	1997
Dec	5.21	5.32	4.48	1961	12	11.80	1983	.98	1980
Ann	64.84	66.26	6.61	Jan 1998	8	15.08	Jun 1989	.00	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.7	7.7	4.0	2.0
Feb	10.1	7.1	3.8	1.7
Mar	11.7	8.7	4.3	2.1
Apr	10.3	7.0	3.3	1.3
May	13.2	9.3	3.6	1.7
Jun	13.3	8.8	3.0	1.4
Jul	13.9	8.5	3.9	1.6
Aug	13.9	8.7	3.2	1.6
Sep	11.4	7.0	3.1	1.5
Oct	8.2	5.4	3.1	1.6
Nov	10.2	7.2	3.5	2.0
Dec	11.2	7.9	3.3	1.6
Ann	139.1	93.3	42.1	20.1

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	2.11	2.70	3.57	4.31	5.01	5.74	6.53	7.46	8.65	10.50	12.20
Feb	1.34	1.84	2.62	3.31	3.99	4.71	5.51	6.46	7.71	9.68	11.52
Mar	2.32	2.93	3.83	4.58	5.30	6.03	6.84	7.77	8.96	10.81	12.50
Apr	1.16	1.59	2.26	2.85	3.43	4.05	4.73	5.55	6.61	8.30	9.87
May	1.93	2.48	3.30	3.99	4.65	5.33	6.08	6.96	8.08	9.83	11.44
Jun	1.41	1.90	2.64	3.29	3.93	4.59	5.34	6.21	7.35	9.14	10.81
Jul	1.67	2.17	2.92	3.56	4.18	4.82	5.53	6.36	7.43	9.09	10.63
Aug	1.24	1.75	2.56	3.29	4.02	4.79	5.67	6.71	8.08	10.27	12.33
Sep	.81	1.24	1.98	2.68	3.40	4.19	5.09	6.20	7.68	10.07	12.37
Oct	.35	.83	1.56	2.23	2.92	3.67	4.54	5.59	7.02	9.33	11.56
Nov	2.41	2.90	3.58	4.13	4.65	5.17	5.73	6.38	7.19	8.42	9.53
Dec	1.49	1.99	2.74	3.38	4.02	4.68	5.41	6.27	7.39	9.14	10.77
Ann	47.57	50.96	55.27	58.53	61.42	64.20	67.07	70.23	74.05	79.57	84.32

\+ 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	3.7	1.0	#	#	13.0	1988	8	16.5	1988	13	1988	8	2	1988	1.4	1.0	.5	.2	@	2.3	1.0	.5	.1
Feb	2.6	.9	#	#	7.5	1982	27	17.5	1979	11	1979	19	2	1979	.9	.7	.3	.1	.0	1.2	.5	.2	@
Mar	1.1	.0	#	0	7.5	1981	23	7.5	1981	12	1993	14	1	1993	.4	.3	.1	.1	.0	.4	.2	.1	.0
Apr	.4	.0	#	0	12.0	1987	4	12.5	1987	5	1987	4	#	1987	.1	@	@	@	@	.1	.1	@	.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	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	2.0	1975	23	2.0	1975	3	1974	30	#+	1975	.1	@	.0	.0	.0	@	.0	.0	.0
Dec	1.3	.0	#	0	11.0	1971	4	17.0	1971	9	1971	5	#+	1997	.5	.3	.2	.1	@	.1	@	.0	.0
Ann	9.2	1.9	N/A	N/A	13.0	Jan 1988	8	17.5	Feb 1979	13	Jan 1988	8	2+	Jan 1988	3.4	2.3	1.1	.5	@	4.1	1.8	.8	.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	5/27	5/21	5/18	5/14	5/11	5/08	5/05	5/01	4/26
32	5/16	5/11	5/07	5/04	5/01	4/28	4/25	4/22	4/17
28	5/03	4/27	4/23	4/20	4/16	4/13	4/10	4/06	3/31
24	4/11	4/05	3/31	3/28	3/24	3/21	3/17	3/13	3/07
20	3/29	3/23	3/18	3/15	3/11	3/07	3/03	2/27	2/20
16	3/15	3/07	3/02	2/25	2/21	2/16	2/11	2/06	1/29

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	9/21	9/26	9/29	10/02	10/04	10/07	10/09	10/12	10/17
32	9/27	10/02	10/05	10/08	10/10	10/13	10/16	10/19	10/24
28	10/09	10/14	10/18	10/21	10/24	10/27	10/30	11/03	11/08
24	10/18	10/24	10/29	11/02	11/06	11/10	11/14	11/19	11/26
20	11/04	11/11	11/15	11/19	11/23	11/26	11/30	12/05	12/11
16	11/20	11/27	12/02	12/06	12/10	12/13	12/18	12/22	12/29

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	157	152	149	145	142	138	134	128
32	179	173	169	165	162	158	155	150	145
28	213	205	199	194	190	185	180	175	167
24	253	244	237	231	226	221	215	208	199
20	281	273	266	261	256	251	246	239	231
16	320	310	303	297	291	286	279	272	262

***** 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	902	740	609	360	169	27	2	2	66	327	571	820	4595
60	747	600	455	222	80	4	0	0	19	202	425	665	3419
57	663	516	368	150	44	1	0	0	7	141	343	573	2806
55	604	460	312	111	27	0	0	0	4	108	290	517	2433
50	463	330	188	41	6	0	0	0	0	47	177	373	1625
32	111	33	5	0	0	0	0	0	0	0	5	50	204

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	232	217	419	632	894	1080	1237	1201	996	707	425	253	8293
55	12	0	13	53	208	390	524	488	310	102	19	6	2125
57	8	0	7	32	163	331	462	426	254	74	12	1	1770
60	0	0	2	13	106	244	369	333	176	41	5	0	1289
65	0	0	0	2	40	117	216	180	73	12	0	0	640
70	0	0	0	0	10	34	85	58	17	1	0	0	205

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	65	93	219	409	659	850	1000	961	771	472	222	94	65	158	377	786	1445	2295	3295	4256	5027	5499	5721	5815
45	29	45	118	270	504	700	845	806	621	326	123	44	29	74	192	462	966	1666	2511	3317	3938	4264	4387	4431
50	1	11	48	156	351	550	690	651	472	194	56	16	1	12	60	216	567	1117	1807	2458	2930	3124	3180	3196
55	0	0	17	74	212	400	535	496	324	94	16	1	0	0	17	91	303	703	1238	1734	2058	2152	2168	2169
60	0	0	1	23	99	256	380	341	190	34	1	0	0	0	1	24	123	379	759	1100	1290	1324	1325	1325
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	58	87	172	284	422	558	670	646	496	319	175	82	58	145	317	601	1023	1581	2251	2897	3393	3712	3887	3969

(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