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: OCONALUFTEE, NC **COOP ID: 316341**

Climate Division: NC 1 **NWS Call Sign:** **Elevation: 2,040 Feet** **Lat: 35˚31N** **Lon: 83˚18W**

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	47.9	21.3	34.6	73+	1999	29	47.0	1974	-23	1985	21	24.4	1977	943	0	.0	.0	14.6	2.3	25.7	1.1
Feb	52.6	23.6	38.1	80+	1996	24	45.1	1990	-8	1967	26	31.2	1978	754	0	.0	.0	17.6	1.3	22.6	.4
Mar	60.8	29.9	45.4	85	1985	31	51.0	1989	-4	1980	3	39.3	1999	608	0	.0	.0	25.6	.2	19.7	.1
Apr	69.0	36.6	52.8	91	1986	28	57.5	1981	14	1987	1	48.3	1983	368	1	.0	.1	28.8	.0	10.8	.0
May	76.3	45.6	61.0	94	1996	20	66.9	1991	20	1989	8	55.1	1997	171	46	.0	.3	30.9	.0	2.1	.0
Jun	82.4	53.5	68.0	94	1988	27	71.4	1981	32	1972	1	63.8	1972	29	117	.0	2.0	30.0	.0	@	.0
Jul	85.5	57.8	71.7	98	1993	9	76.5	1993	40	1988	2	68.7	1976	2	207	.0	6.3	31.0	.0	.0	.0
Aug	84.7	56.6	70.7	100	1983	22	73.3	1988	39	1997	23	67.0	1997	2	178	@	4.5	31.0	.0	.0	.0
Sep	80.1	50.3	65.2	96+	1998	15	69.6	1998	23	1999	24	61.7	1976	63	70	.0	1.3	30.0	.0	.7	.0
Oct	71.1	37.7	54.4	86+	1998	5	61.7	1984	17+	1997	24	46.6	1987	340	12	.0	.0	30.8	.0	10.6	.0
Nov	60.8	29.9	45.4	84	1984	1	54.2	1985	7	1970	25	38.2	1997	589	0	.0	.0	26.0	.1	19.3	.0
Dec	51.3	23.5	37.4	76	1967	22	45.3	1971	-8+	1983	25	29.9	1989	855	0	.0	.0	18.5	1.3	25.0	.4
Ann	68.5	38.9	53.7	100	Aug 1983	22	76.5	Jul 1993	-23	Jan 1985	21	24.4	Jan 1977	4724	631	@	14.5	314.8	5.2	136.5	2.0

\+ 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: 1958-2001

(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	5.97	5.68	3.85	1978	13	12.49	1998	.51	1986
Feb	4.94	5.18	3.05	1990	16	8.64	1975	.52	1978
Mar	6.13	5.59	5.02	1990	17	12.63	1975	1.59	1988
Apr	4.57	4.07	3.30	1977	5	9.38	1998	.22	1976
May	5.48	5.20	3.20	1973	28	10.36	1984	2.88	1985
Jun	4.71	4.42	3.32	1994	27	11.41	1994	1.01	1986
Jul	4.79	4.07	3.70	1984	13	9.82	1984	1.47	1983
Aug	4.34	3.85	3.54	1991	9	11.83	1991	.51	1987
Sep	4.07	4.07	2.85	1997	25	7.66	1975	.25	1984
Oct	3.42	3.35	3.54	1972	5	8.98	1972	.30	1991
Nov	4.75	4.48	3.07	1991	22	8.20	1986	2.41	1981
Dec	5.21	5.21	4.08	1961	12	9.25	1992	1.35	1985
Ann	58.38	58.94	5.02	Mar 1990	17	12.63	Mar 1975	.22	Apr 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.5	9.2	4.2	2.1
Feb	9.9	7.3	3.2	1.3
Mar	12.0	9.1	4.3	1.7
Apr	10.3	7.4	2.9	1.2
May	13.1	9.1	4.0	1.2
Jun	11.9	8.5	3.2	1.2
Jul	13.6	9.4	3.2	.9
Aug	11.7	7.9	2.9	.9
Sep	9.8	6.6	2.7	.8
Oct	7.7	4.9	2.1	.8
Nov	10.5	7.2	3.2	1.4
Dec	11.5	8.2	3.5	1.5
Ann	133.5	94.8	39.4	15.0

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	1.48	2.04	2.91	3.68	4.44	5.25	6.15	7.22	8.61	10.83	12.90
Feb	1.71	2.18	2.86	3.43	3.98	4.54	5.16	5.88	6.80	8.22	9.52
Mar	2.19	2.77	3.60	4.30	4.97	5.66	6.41	7.28	8.39	10.10	11.68
Apr	1.17	1.60	2.27	2.86	3.43	4.04	4.72	5.53	6.58	8.23	9.79
May	2.77	3.23	3.85	4.35	4.81	5.26	5.75	6.30	6.99	8.02	8.94
Jun	1.49	1.94	2.60	3.17	3.71	4.28	4.90	5.63	6.57	8.03	9.38
Jul	1.52	1.98	2.65	3.23	3.78	4.36	4.99	5.73	6.68	8.16	9.53
Aug	1.07	1.48	2.11	2.67	3.23	3.82	4.47	5.25	6.28	7.90	9.41
Sep	1.05	1.44	2.03	2.55	3.06	3.60	4.20	4.91	5.84	7.31	8.68
Oct	.72	1.04	1.54	2.00	2.46	2.95	3.50	4.16	5.04	6.43	7.75
Nov	2.51	2.90	3.42	3.83	4.21	4.58	4.98	5.43	5.99	6.82	7.56
Dec	2.05	2.53	3.22	3.78	4.32	4.86	5.45	6.13	7.00	8.32	9.53
Ann	44.10	46.93	50.52	53.22	55.60	57.89	60.24	62.83	65.95	70.44	74.29

\+ 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: 1958-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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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	2.7	.7	#	0
Feb	2.0	.0	#	0
Mar	.6	.0	#	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	.1	.0	#	0
Dec	.3	.0	#	0
Ann	5.7	.7	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	7.0	1996	12	10.1	1977	6+	2000	31	1+	2000
Feb	6.0	1979	18	14.0	1979	12	1985	13	1	1985
Mar	6.0	1971	26	9.0	1971	5	1991	8	#+	2000
Apr	.5	1989	7	.5	1989	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	3.0	1975	14	3.0	1975	3	1996	10	#+	1996
Dec	1.5	1995	9	2.0	1982	9	1997	31	1+	2000
Ann	7.0	Jan 1996	12	14.0	Feb 1979	12	Feb 1985	13	1+	Dec 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.0	.6	.3	.2	.0
Feb	.8	.6	.3	.1	.0
Mar	.2	.2	.1	.1	.0
Apr	@	.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	.1	.1	@	.0	.0
Dec	.2	.1	.0	.0	.0
Ann	2.3	1.6	.7	.4	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.4	.1	.0	.0
Mar	.1	.1	.0	.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	.1	.0	.0	.0
Ann	.6	.2	.0	.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

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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	6/01	5/26	5/22	5/19	5/16	5/13	5/09	5/05	4/30
32	5/25	5/18	5/14	5/10	5/06	5/02	4/28	4/24	4/17
28	5/09	5/03	4/29	4/26	4/23	4/19	4/16	4/12	4/06
24	4/25	4/19	4/15	4/11	4/07	4/04	3/31	3/27	3/20
20	4/14	4/07	4/02	3/28	3/24	3/20	3/16	3/11	3/04
16	3/24	3/17	3/11	3/07	3/03	2/26	2/22	2/16	2/09

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	9/13	9/18	9/21	9/24	9/27	9/29	10/02	10/05	10/10
32	9/22	9/27	9/30	10/02	10/05	10/07	10/10	10/13	10/17
28	10/01	10/06	10/09	10/12	10/14	10/17	10/20	10/23	10/28
24	10/08	10/14	10/18	10/22	10/25	10/28	11/01	11/05	11/11
20	10/23	10/30	11/03	11/07	11/10	11/13	11/17	11/21	11/28
16	11/06	11/13	11/18	11/22	11/26	11/30	12/04	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	153	146	141	137	133	129	125	120	113
32	174	166	160	155	151	146	141	136	128
28	196	188	183	178	174	170	165	160	152
24	226	217	211	205	200	195	189	183	174
20	255	246	240	235	230	225	220	213	205
16	298	288	280	274	268	262	256	248	238

***** 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	943	754	608	368	171	29	2	2	63	340	589	855	4724
60	788	614	457	227	83	5	0	0	18	213	444	700	3549
57	699	530	370	154	47	1	0	0	7	152	361	607	2928
55	642	474	315	113	29	0	0	0	3	118	309	551	2554
50	498	343	194	41	7	0	0	0	0	55	194	407	1739
32	127	36	7	0	0	0	0	0	0	0	8	66	244

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	207	207	422	623	897	1079	1229	1198	997	695	409	234	8197
55	9	0	16	46	214	389	516	485	310	100	20	6	2111
57	4	0	10	27	169	330	454	423	253	72	13	0	1755
60	0	0	4	11	112	243	361	330	175	40	5	0	1281
65	0	0	0	1	46	117	207	178	70	12	0	0	631
70	0	0	0	0	13	35	78	56	14	1	0	0	197

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	56	86	219	398	654	845	989	963	766	455	215	82	56	142	361	759	1413	2258	3247	4210	4976	5431	5646	5728
45	22	35	122	266	499	695	834	808	616	308	121	36	22	57	179	445	944	1639	2473	3281	3897	4205	4326	4362
50	2	8	53	151	351	545	679	653	466	182	55	10	2	10	63	214	565	1110	1789	2442	2908	3090	3145	3155
55	0	0	16	73	211	395	524	498	321	86	18	1	0	0	16	89	300	695	1219	1717	2038	2124	2142	2143
60	0	0	1	23	103	252	369	343	188	32	3	0	0	0	1	24	127	379	748	1091	1279	1311	1314	1314
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	53	97	193	300	436	554	658	638	510	343	183	78	53	150	343	643	1079	1633	2291	2929	3439	3782	3965	4043

(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