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: W KERR SCOTT RESERVOIR, NC **COOP ID: 319555**

Climate Division: NC 2 **NWS Call Sign:** **Elevation: 1,070 Feet** **Lat: 36˚08N** **Lon: 81˚14W**

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	46.9	23.4	35.2	76+	1975	30	43.5	1974	-10	1985	21	23.6	1977	925	0	.0	.0	13.3	2.1	25.0	.4
Feb	51.5	25.7	38.6	82	1989	16	45.0	1990	-6+	1996	6	30.5	1978	739	0	.0	.0	15.8	1.2	21.8	.1
Mar	59.7	33.2	46.5	87+	1990	14	51.7	1990	1	1993	15	40.8	1980	576	0	.0	.0	25.4	.2	14.4	.0
Apr	69.3	40.8	55.1	94+	1989	28	59.3	1986	20	1972	9	49.9	1983	303	3	.0	.3	29.0	.0	5.3	.0
May	77.1	50.4	63.8	96+	1996	20	69.5	1991	29+	1989	8	59.3	1997	114	75	.0	.8	30.9	.0	.2	.0
Jun	84.0	59.2	71.6	98+	1988	27	74.9	1986	35	1966	2	67.1	1972	12	210	.0	6.7	30.0	.0	.0	.0
Jul	87.7	63.4	75.6	100+	1993	9	79.2	1993	46	1988	2	72.2	1979	0	328	.2	13.1	31.0	.0	.0	.0
Aug	86.1	62.0	74.1	102+	1988	19	77.0	1995	44+	1986	30	71.1	1992	0	281	.2	9.1	31.0	.0	.0	.0
Sep	80.1	55.4	67.8	97+	1993	2	73.2	1998	31	1967	30	64.7	1981	38	119	.0	2.7	30.0	.0	.0	.0
Oct	70.5	41.9	56.2	91	1986	5	63.9	1984	21	1965	30	50.6	1987	297	24	.0	.1	30.7	.0	4.0	.0
Nov	60.3	33.8	47.1	84+	1974	3	56.0	1985	7	1970	25	40.5	1976	540	1	.0	.0	25.6	.0	14.1	.0
Dec	50.8	26.4	38.6	80	1998	8	46.9	1984	-3	1983	25	31.5	1989	819	0	.0	.0	17.3	.8	23.4	@
Ann	68.7	43.0	55.9	102+	Aug 1988	19	79.2	Jul 1993	-10	Jan 1985	21	23.6	Jan 1977	4363	1041	.4	32.8	310.0	4.3	108.2	.5

\+ 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: 1965-2001

(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	4.54	4.19	3.11	1995	15	9.61	1996	.62	1981
Feb	3.86	3.99	4.00	1984	14	7.24	1990	.43	1978
Mar	5.12	4.77	3.48	1979	24	11.73	1975	1.23	1985
Apr	4.51	4.55	5.20	1983	10	10.44	1983	.38	1986
May	4.91	4.98	2.96	1981	28	8.61	1992	1.60	1997
Jun	4.75	4.53	4.11	1972	21	9.32	1976	.57	1986
Jul	4.54	4.34	3.33	1978	16	11.41	1984	.47	1983
Aug	4.84	4.37	7.30	1970	10	12.49	1996	1.17	1980
Sep	4.92	4.43	5.36	1977	8	11.74	1979	.22	1985
Oct	3.81	3.26	4.36	1975	18	10.83	1990	.06	2000
Nov	3.67	3.30	3.80	1977	6	8.89	1977	.68	1981
Dec	3.77	3.70	2.58	1998	13	8.16	1973	.71	1980
Ann	53.24	53.44	7.30	Aug 1970	10	12.49	Aug 1996	.06	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.0	7.4	3.1	1.2
Feb	10.3	6.8	2.6	1.0
Mar	12.0	8.2	3.6	1.6
Apr	10.4	7.3	2.7	1.3
May	12.5	8.3	3.2	1.5
Jun	11.8	7.6	3.2	1.3
Jul	13.0	8.3	3.1	1.2
Aug	11.4	7.4	3.2	1.5
Sep	11.2	6.9	3.2	1.6
Oct	8.7	5.3	2.4	1.2
Nov	10.7	6.4	2.6	1.0
Dec	11.4	6.6	2.2	1.2
Ann	134.4	86.5	35.1	15.6

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	1.37	1.80	2.44	3.00	3.54	4.10	4.72	5.44	6.38	7.84	9.20
Feb	.95	1.32	1.88	2.38	2.87	3.39	3.97	4.67	5.57	7.00	8.34
Mar	1.72	2.20	2.91	3.52	4.09	4.69	5.34	6.10	7.08	8.59	9.99
Apr	.94	1.35	2.01	2.61	3.22	3.87	4.61	5.49	6.65	8.52	10.28
May	2.33	2.76	3.34	3.81	4.24	4.68	5.15	5.68	6.34	7.35	8.25
Jun	1.47	1.92	2.59	3.17	3.72	4.30	4.94	5.69	6.65	8.15	9.55
Jul	1.42	1.85	2.49	3.04	3.57	4.12	4.73	5.44	6.36	7.78	9.10
Aug	1.05	1.50	2.21	2.85	3.49	4.18	4.95	5.87	7.09	9.03	10.87
Sep	.84	1.27	1.99	2.66	3.35	4.11	4.97	6.01	7.40	9.65	11.80
Oct	.47	.77	1.31	1.84	2.40	3.02	3.75	4.65	5.87	7.88	9.82
Nov	1.15	1.49	2.01	2.45	2.88	3.33	3.82	4.39	5.13	6.28	7.34
Dec	1.00	1.35	1.90	2.38	2.85	3.35	3.90	4.55	5.41	6.75	8.00
Ann	40.69	43.19	46.35	48.72	50.81	52.82	54.88	57.15	59.87	63.79	67.16

\+ 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: 1965-2001
(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	3.9	2.5	1	#
Feb	4.6	2.4	#	#
Mar	1.8	.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
Dec	1.4	.0	#	0
Ann	11.7	4.9	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	10.0	1988	8	18.5	1996	16	1987	26	4	1987
Feb	8.5	1983	11	19.8	1979	13	1979	19	3	1979
Mar	12.3	1993	13	12.3	1993	16	1993	14	2	1993
Apr	.0	0	0	.0	0	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	2	1971	25	#	1971
Dec	7.0	1971	4	8.0	1989	11	1993	21	2	1993
Ann	12.3	Mar 1993	13	19.8	Feb 1979	16+	Mar 1993	14	4	Jan 1987

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.3	1.2	.6	.3	.1
Feb	1.5	1.0	.5	.3	.0
Mar	.4	.4	.2	.1	.1
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	.5	.3	.2	.1	.0
Ann	3.7	2.9	1.5	.8	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.0	1.5	.9	.3
Feb	2.8	1.5	.7	.1
Mar	.6	.4	.2	.1
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	.4	.3	@	.0
Ann	6.8	3.7	1.8	.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	5/17	5/12	5/08	5/05	5/02	4/29	4/26	4/23	4/18
32	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/13	4/08
28	4/20	4/16	4/14	4/11	4/09	4/07	4/05	4/02	3/29
24	4/06	3/31	3/27	3/23	3/20	3/16	3/13	3/09	3/03
20	3/26	3/20	3/15	3/12	3/08	3/05	3/01	2/24	2/18
16	3/12	3/05	3/01	2/25	2/21	2/17	2/13	2/08	2/02

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	9/27	9/30	10/03	10/05	10/08	10/10	10/12	10/15	10/18
32	10/05	10/10	10/14	10/17	10/20	10/23	10/26	10/29	11/03
28	10/14	10/20	10/25	10/29	11/01	11/05	11/08	11/13	11/19
24	10/27	11/02	11/06	11/10	11/13	11/17	11/20	11/24	11/30
20	11/11	11/17	11/21	11/25	11/28	12/01	12/05	12/09	12/15
16	11/29	12/04	12/08	12/11	12/15	12/18	12/21	12/25	12/30

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	176	169	165	161	158	154	150	146	140
32	200	193	188	184	179	175	171	166	158
28	224	218	213	209	205	202	198	193	186
24	261	253	247	242	238	233	228	222	214
20	286	279	273	269	264	260	255	250	242
16	320	312	306	301	296	291	286	280	272

***** 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	925	739	576	303	114	12	0	0	38	297	540	819	4363
60	770	599	425	172	45	2	0	0	9	184	395	664	3265
57	677	515	340	109	21	0	0	0	3	130	313	571	2679
55	623	460	286	76	12	0	0	0	2	100	262	515	2336
50	479	331	172	23	2	0	0	0	0	45	153	372	1577
32	112	36	5	0	0	0	0	0	0	0	2	50	205

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	210	221	452	691	984	1188	1351	1303	1072	750	453	254	8929
55	8	1	20	76	282	498	638	590	383	137	22	6	2661
57	0	0	12	50	230	438	576	528	325	105	14	0	2278
60	0	0	5	22	161	349	483	435	241	66	5	0	1767
65	0	0	0	3	75	210	328	281	119	24	1	0	1041
70	0	0	0	0	25	98	181	138	37	6	0	0	485

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	68	103	262	477	751	968	1123	1078	849	531	262	102	68	171	433	910	1661	2629	3752	4830	5679	6210	6472	6574
45	28	47	152	338	597	818	968	923	699	376	155	47	28	75	227	565	1162	1980	2948	3871	4570	4946	5101	5148
50	4	13	77	208	444	668	813	768	549	243	77	20	4	17	94	302	746	1414	2227	2995	3544	3787	3864	3884
55	0	2	30	116	299	518	658	613	400	127	33	2	0	2	32	148	447	965	1623	2236	2636	2763	2796	2798
60	0	0	5	52	169	371	503	458	261	56	7	0	0	0	5	57	226	597	1100	1558	1819	1875	1882	1882
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	58	96	190	316	485	647	758	728	562	353	187	85	58	154	344	660	1145	1792	2550	3278	3840	4193	4380	4465

(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