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: KINSTON 5 SE, NC **COOP ID: 314684**

Climate Division: NC 7 **NWS Call Sign:** **Elevation: 55 Feet** **Lat: 35˚13N** **Lon: 77˚32W**

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	51.9	30.8	41.4	81+	1950	27	52.7	1974	-2	1985	21	31.5	1977	734	0	.0	.0	17.8	1.4	18.2	.1
Feb	55.5	32.3	43.9	84	1989	4	51.6	1990	4+	1996	5	33.7	1978	591	0	.0	.0	18.6	.6	15.2	.0
Mar	63.4	39.5	51.5	90+	1985	31	56.5	1997	15+	1980	4	46.6	1981	423	2	.0	.1	27.5	.1	8.1	.0
Apr	72.3	47.3	59.8	95+	1990	28	64.3	1977	22	1985	10	55.9	1983	177	20	.0	.9	29.7	.0	1.5	.0
May	79.0	56.6	67.8	98	1953	27	72.5	1991	34+	1989	8	63.2	1992	38	125	.0	2.9	31.0	.0	.0	.0
Jun	85.3	65.0	75.2	105	1954	28	78.7	1981	42+	1984	1	70.6	1979	2	306	@	9.5	30.0	.0	.0	.0
Jul	88.5	69.4	79.0	104	1993	11	82.5	1993	47	1988	2	76.6	1979	0	434	.4	16.8	31.0	.0	.0	.0
Aug	86.9	67.3	77.1	104	1983	23	80.2	1983	42	1986	30	73.8	1976	0	375	.2	12.6	31.0	.0	.0	.0
Sep	82.2	61.3	71.8	100+	1983	12	75.1	1980	35	1981	24	68.3	1981	10	213	@	4.6	30.0	.0	.0	.0
Oct	73.2	48.4	60.8	98	1954	6	67.2	1971	23	1976	29	55.2	1988	183	53	.0	.3	30.9	.0	1.4	.0
Nov	64.7	40.5	52.6	86+	1974	4	61.3	1985	15	1950	26	46.0	1976	380	8	.0	.0	27.7	.0	8.1	.0
Dec	55.3	33.2	44.3	82+	1991	4	52.7	1971	1+	1989	26	33.4	1989	644	0	.0	.0	21.6	.4	16.5	.0
Ann	71.5	49.3	60.4	105	Jun 1954	28	82.5	Jul 1993	-2	Jan 1985	21	31.5	Jan 1977	3182	1536	.6	47.7	326.8	2.5	69.0	.1

\+ 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	4.44	4.50	2.17	1982	4	7.24	1987	1.69	1981
Feb	3.42	2.97	3.60	1984	14	6.94	1998	1.20	1978
Mar	4.26	4.21	3.21	1991	30	7.96	1980	1.44	1981
Apr	3.44	3.45	4.55	1991	20	7.34	1973	.64+	1985
May	4.10	4.42	3.99	1969	20	8.19	1981	1.44+	1993
Jun	4.64	4.32	4.52	1961	22	13.89	1995	1.13	1985
Jul	5.88	5.98	4.58	1996	13	10.86	1971	.91	1992
Aug	5.62	5.30	7.83	1955	13	12.10	1992	1.07	1996
Sep	5.45	4.57	11.80	1999	16	23.03	1999	.56	1990
Oct	3.51	3.01	4.05	1971	1	10.66	1971	.14	2000
Nov	2.80	2.82	4.81	1969	2	6.18	1992	.54	1981
Dec	3.56	3.60	2.99	1973	9	7.40	1983	.64	1988
Ann	51.12	50.73	11.80	Sep 1999	16	23.03	Sep 1999	.14	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.2	8.6	3.2	1.1
Feb	9.5	6.4	2.4	.6
Mar	10.7	7.0	3.1	1.2
Apr	7.7	6.0	2.2	.9
May	10.4	7.2	2.9	.9
Jun	9.4	6.9	3.3	1.4
Jul	11.7	8.3	3.9	1.8
Aug	11.8	7.6	3.6	1.7
Sep	8.4	6.1	3.5	1.4
Oct	7.6	4.8	2.2	1.0
Nov	7.5	4.7	2.1	.9
Dec	10.2	6.5	2.4	.8
Ann	117.1	80.1	34.8	13.7

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	2.31	2.68	3.17	3.56	3.92	4.27	4.65	5.08	5.61	6.41	7.12
Feb	1.09	1.41	1.89	2.30	2.70	3.11	3.56	4.09	4.77	5.83	6.80
Mar	1.75	2.14	2.69	3.14	3.57	4.00	4.46	5.00	5.68	6.72	7.66
Apr	.75	1.07	1.57	2.03	2.49	2.97	3.52	4.18	5.05	6.43	7.74
May	1.55	1.93	2.48	2.93	3.36	3.81	4.29	4.84	5.55	6.64	7.63
Jun	1.53	1.97	2.62	3.17	3.70	4.24	4.84	5.54	6.44	7.84	9.12
Jul	1.96	2.52	3.33	4.03	4.69	5.38	6.13	7.01	8.14	9.88	11.50
Aug	1.64	2.18	2.98	3.67	4.35	5.05	5.83	6.75	7.93	9.79	11.51
Sep	.85	1.31	2.10	2.85	3.63	4.48	5.46	6.66	8.26	10.86	13.36
Oct	.44	.71	1.21	1.70	2.22	2.80	3.47	4.29	5.42	7.26	9.05
Nov	.93	1.20	1.59	1.92	2.23	2.56	2.92	3.34	3.87	4.70	5.47
Dec	.96	1.30	1.81	2.26	2.71	3.17	3.68	4.29	5.08	6.32	7.48
Ann	40.88	42.96	45.56	47.50	49.20	50.83	52.49	54.31	56.50	59.62	62.28

\+ 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: 1948-2001
(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	.4	.0	#	0
Feb	1.1	.0	#	0
Mar	1.3	.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
Dec	.3	.0	#	0
Ann	3.1	.0	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	4.0	1981	31	4.0	1981	4+	1988	8	#+	1988
Feb	4.5	1980	7	8.0	1989	5	1980	7	#+	1980
Mar	10.5	1980	3	11.5	1980	13	1980	5	2	1980
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	0	0	0	0	0
Dec	6.0	1989	24	6.0	1989	6	1989	26	1	1989
Ann	10.5	Mar 1980	3	11.5	Mar 1980	13	Mar 1980	5	2	Mar 1980

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.2	.2	.1	.0	.0
Feb	.3	.3	.2	.0	.0
Mar	.3	.3	.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	.2	.2	.1	.1	.0
Ann	1.0	1.0	.6	.2	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.2	@	.0	.0
Feb	.2	@	@	.0
Mar	.1	@	@	.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	@	@	.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	5/08	5/01	4/26	4/22	4/18	4/14	4/10	4/05	3/29
32	4/22	4/16	4/12	4/08	4/04	4/01	3/28	3/24	3/18
28	4/08	4/01	3/27	3/23	3/19	3/15	3/10	3/05	2/26
24	3/23	3/16	3/11	3/06	3/02	2/26	2/22	2/16	2/09
20	3/06	2/27	2/22	2/17	2/13	2/09	2/05	1/30	1/22
16	2/19	2/12	2/06	1/31	1/26	1/19	1/07	0/00	0/00

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	10/03	10/09	10/13	10/17	10/20	10/23	10/27	10/31	11/06
32	10/10	10/16	10/21	10/25	10/29	11/02	11/06	11/10	11/17
28	10/20	10/27	11/01	11/06	11/10	11/14	11/19	11/24	12/01
24	11/04	11/13	11/19	11/24	11/29	12/04	12/09	12/15	12/24
20	11/20	11/29	12/06	12/12	12/18	12/24	12/30	1/06	1/18
16	12/16	12/25	1/01	1/07	1/14	1/22	0/00	0/00	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	210	201	195	189	184	179	174	167	158
32	237	227	219	213	207	201	194	187	176
28	270	258	250	242	236	229	221	213	201
24	302	291	284	277	271	265	259	251	241
20	>365	332	321	312	304	297	290	281	269
16	>365	>365	>365	>365	360	345	334	324	311

***** 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	734	591	423	177	38	2	0	0	10	183	380	644	3182
60	589	456	281	80	7	0	0	0	2	97	250	499	2261
57	502	377	206	42	2	0	0	0	0	60	185	414	1788
55	447	327	163	25	0	0	0	0	0	41	148	360	1511
50	319	214	80	5	0	0	0	0	0	13	73	242	946
32	46	15	0	0	0	0	0	0	0	0	0	22	83

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	335	348	603	833	1110	1294	1457	1398	1193	893	618	401	10483
55	23	16	52	168	397	604	744	685	503	221	76	26	3515
57	16	11	33	126	336	544	682	623	443	178	53	18	3063
60	10	6	15	73	248	454	589	530	354	121	28	10	2438
65	0	0	2	20	125	306	434	375	213	53	8	0	1536
70	0	0	0	3	44	170	279	222	95	17	1	0	831

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	159	203	381	596	858	1047	1207	1154	961	652	402	209	159	362	743	1339	2197	3244	4451	5605	6566	7218	7620	7829
45	87	121	253	446	703	897	1052	999	811	499	275	120	87	208	461	907	1610	2507	3559	4558	5369	5868	6143	6263
50	42	66	154	310	548	747	897	844	661	353	171	63	42	108	262	572	1120	1867	2764	3608	4269	4622	4793	4856
55	18	26	79	194	398	597	742	689	511	222	92	31	18	44	123	317	715	1312	2054	2743	3254	3476	3568	3599
60	0	8	35	104	256	448	587	534	363	120	43	10	0	8	43	147	403	851	1438	1972	2335	2455	2498	2508
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	107	140	246	379	557	712	828	796	645	421	258	136	107	247	493	872	1429	2141	2969	3765	4410	4831	5089	5225

(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