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: CEDAR ISLAND, NC **COOP ID: 311606**

Climate Division: NC 7 **NWS Call Sign:** **Elevation: 8 Feet** **Lat: 34˚59N** **Lon: 76˚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	53.4	37.9	45.7	78	1957	28	56.8	1974	2	1985	21	34.8	1977	607	0	.0	.0	19.0	.7	10.8	.0
Feb	55.6	39.5	47.6	85	1962	28	56.0	1990	12	1958	18	36.8	1978	488	0	.0	.0	19.4	.3	8.6	.0
Mar	62.9	45.7	54.3	87	1990	13	58.9	1976	10	1980	3	50.3	1984	338	7	.0	.0	28.6	.0	2.5	.0
Apr	71.7	52.9	62.3	93	1985	23	66.0	1981	28	1972	10	58.1	1975	121	41	.0	.5	29.9	.0	.3	.0
May	79.1	61.1	70.1	98	1991	31	75.0	1991	39	1987	6	66.0	1992	15	173	.0	2.0	31.0	.0	.0	.0
Jun	85.4	68.6	77.0	101	1985	10	81.0	1981	46	1972	12	73.1	1972	0	360	.1	8.0	30.0	.0	.0	.0
Jul	89.0	72.7	80.9	102+	1993	12	83.8	1986	51	1988	2	78.4	1984	0	491	.4	15.1	31.0	.0	.0	.0
Aug	87.0	72.1	79.6	102	1999	1	81.8	1980	55+	1959	4	76.7	1976	0	452	.1	9.8	31.0	.0	.0	.0
Sep	82.2	68.4	75.3	98	1983	5	78.2	1977	44	1990	25	72.4	1984	1	310	.0	2.5	30.0	.0	.0	.0
Oct	73.1	58.1	65.6	95	1986	4	71.6	1985	27	1962	28	60.5	1988	92	111	.0	.2	31.0	.0	.0	.0
Nov	64.8	49.1	57.0	84+	1986	8	65.7	1985	21	1967	17	49.2	1976	267	25	.0	.0	28.5	.0	1.8	.0
Dec	56.8	41.1	49.0	79	2001	1	56.3	1971	8	1983	25	39.0	1989	505	8	.0	.0	22.8	.3	7.4	.0
Ann	71.8	55.6	63.7	102+	Aug 1999	1	83.8	Jul 1986	2	Jan 1985	21	34.8	Jan 1977	2434	1978	.6	38.1	332.2	1.3	31.4	.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: 1955-2001

(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	5.29	5.15	2.75	1982	4	8.78	1991	1.74	1990
Feb	3.50	3.23	4.80	1970	3	7.51	1983	1.54	1977
Mar	4.64	4.07	3.95	1990	29	9.48	1983	1.44	1998
Apr	3.25	3.37	2.81	2000	18	7.37	2000	.62	1976
May	4.16	3.60	4.20	1984	30	7.79	1984	.93	1987
Jun	4.13	3.60	10.44	1962	30	10.81	1976	1.48	1990
Jul	6.23	5.98	4.85	1972	11	15.42	1972	1.48	1995
Aug	7.11	6.52	8.90	1998	27	17.20	1999	1.38	1993
Sep	6.49	6.10	9.20	1971	30	17.95	1971	.11	1986
Oct	4.42	3.53	7.45	1968	20	14.73	1985	.52	2000
Nov	3.84	3.15	4.80	1985	4	11.13	1985	1.01	1991
Dec	4.54	4.53	3.44	1973	8	9.49	1973	1.03	1988
Ann	57.60	55.01	10.44	Jun 1962	30	17.95	Sep 1971	.11	Sep 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.3	8.9	3.8	1.5
Feb	9.9	6.9	2.5	.8
Mar	11.1	7.3	3.3	1.2
Apr	8.3	5.4	2.4	.8
May	10.2	7.3	2.8	1.0
Jun	9.7	6.5	2.9	1.1
Jul	12.9	9.4	4.4	2.1
Aug	12.1	8.7	4.4	2.0
Sep	10.3	7.6	3.5	2.2
Oct	7.9	5.4	2.2	1.4
Nov	9.5	6.4	2.6	1.0
Dec	10.3	7.3	3.1	1.4
Ann	124.5	87.1	37.9	16.5

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	2.30	2.78	3.44	3.98	4.49	5.00	5.55	6.18	6.97	8.18	9.27
Feb	1.21	1.54	2.02	2.43	2.82	3.22	3.65	4.16	4.82	5.83	6.76
Mar	1.70	2.14	2.76	3.29	3.78	4.29	4.85	5.49	6.31	7.58	8.74
Apr	.66	.96	1.44	1.87	2.31	2.78	3.31	3.95	4.80	6.15	7.44
May	1.22	1.62	2.21	2.72	3.22	3.75	4.32	5.00	5.88	7.25	8.53
Jun	1.52	1.90	2.46	2.93	3.37	3.82	4.32	4.89	5.62	6.75	7.78
Jul	2.15	2.73	3.59	4.32	5.01	5.72	6.50	7.41	8.58	10.38	12.03
Aug	1.74	2.41	3.44	4.37	5.28	6.25	7.33	8.61	10.29	12.95	15.45
Sep	1.02	1.57	2.51	3.41	4.33	5.35	6.51	7.93	9.83	12.92	15.89
Oct	.59	.95	1.58	2.19	2.84	3.56	4.38	5.40	6.78	9.04	11.22
Nov	1.01	1.38	1.93	2.42	2.90	3.41	3.97	4.64	5.51	6.88	8.15
Dec	1.51	1.94	2.57	3.11	3.62	4.16	4.74	5.42	6.30	7.66	8.91
Ann	43.68	46.44	49.95	52.59	54.91	57.15	59.44	61.96	65.00	69.38	73.13

\+ 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: 1955-2001
(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	.7	.0	#	0
Feb	.5	.0	#	0
Mar	.6	.0	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	.6	.0	#	0
Ann	2.4	.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	1976	17	4.0+	1981	3	1976	17	#+	2000
Feb	5.0	1973	10	6.5	1973	3	1973	11	#+	1999
Mar	12.0	1980	3	16.2	1980	12	1980	3	1	1980
Apr	.5	1989	11	.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	#	1987	11	#	1987	0	0	0	0	0
Dec	6.0	1989	23	12.2	1989	11	1989	24	2	1989
Ann	12.0	Mar 1980	3	16.2	Mar 1980	12	Mar 1980	3	2	Dec 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.6	.3	.1	.0	.0
Feb	.5	.2	@	@	.0
Mar	.1	.1	.1	@	@
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	.0	.0	.0	.0	.0
Dec	.1	.1	.1	.1	.0
Ann	1.3	.7	.3	.1	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.3	@	.0	.0
Feb	.3	.1	.0	.0
Mar	.1	.1	.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	.3	.2	.2	.1
Ann	1.0	.4	.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	4/20	4/14	4/10	4/07	4/04	3/31	3/28	3/24	3/18
32	4/08	4/02	3/28	3/23	3/19	3/15	3/11	3/06	2/27
28	3/20	3/13	3/08	3/04	2/28	2/25	2/20	2/16	2/09
24	2/28	2/20	2/14	2/09	2/04	1/30	1/24	1/17	1/04
20	2/18	2/10	2/04	1/29	1/22	1/13	0/00	0/00	0/00
16	2/04	1/21	1/07	0/00	0/00	0/00	0/00	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	10/24	10/31	11/05	11/09	11/13	11/17	11/21	11/26	12/03
32	11/08	11/15	11/20	11/24	11/28	12/02	12/06	12/11	12/18
28	11/18	11/26	12/02	12/07	12/12	12/16	12/21	12/27	1/05
24	12/14	12/22	12/27	1/01	1/06	1/11	1/17	1/25	0/00
20	12/23	1/02	1/10	1/18	1/27	2/13	0/00	0/00	0/00
16	1/02	1/16	1/30	0/00	0/00	0/00	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	247	239	233	228	223	218	213	207	198
32	283	273	265	259	253	247	241	233	223
28	314	304	297	291	285	280	273	266	256
24	>365	>365	354	340	332	326	319	312	303
20	>365	>365	>365	>365	>365	363	346	334	322
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

***** 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	607	488	338	121	15	0	0	0	1	92	267	505	2434
60	463	360	205	46	1	0	0	0	0	38	161	364	1638
57	382	286	142	21	0	0	0	0	0	19	111	288	1249
55	332	241	107	11	0	0	0	0	0	11	83	242	1027
50	226	149	44	1	0	0	0	0	0	3	33	150	606
32	21	6	0	0	0	0	0	0	0	0	0	6	33

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	444	442	692	910	1181	1350	1514	1475	1299	1042	748	532	11629
55	43	33	87	231	468	660	801	762	609	340	141	55	4230
57	31	22	59	181	406	600	739	700	549	286	109	38	3720
60	19	12	30	116	314	510	646	607	459	212	69	21	3015
65	0	0	7	41	173	360	491	452	310	111	25	8	1978
70	0	0	0	8	68	215	336	297	169	44	7	0	1144

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	218	250	445	672	935	1111	1265	1220	1049	778	494	287	218	468	913	1585	2520	3631	4896	6116	7165	7943	8437	8724
45	124	148	302	523	780	961	1110	1065	899	623	352	176	124	272	574	1097	1877	2838	3948	5013	5912	6535	6887	7063
50	60	76	184	376	625	811	955	910	749	468	227	93	60	136	320	696	1321	2132	3087	3997	4746	5214	5441	5534
55	25	33	93	240	470	661	800	755	599	321	130	44	25	58	151	391	861	1522	2322	3077	3676	3997	4127	4171
60	2	10	42	131	317	511	645	600	449	190	57	14	2	12	54	185	502	1013	1658	2258	2707	2897	2954	2968
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	107	130	243	408	622	778	889	873	739	488	267	142	107	237	480	888	1510	2288	3177	4050	4789	5277	5544	5686

(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