

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: MOREHEAD CITY 2 WNW, NC

1971-2000

COOP ID: 315830

Climate Division: NC 7

NWS Call Sign:

Elevation: 10 Feet

Lat: 34°44N

Lon: 76°44W

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	57.0	35.5	46.3	78	1999	22	57.8	1974	1	1985	21	36.5	1977	587	0	.0	.0	24.5	.2	12.7	.0
Feb	59.0	36.8	47.9	77+	1996	24	55.3	1990	8	1996	5	37.6	1978	479	0	.0	.0	22.5	.3	10.6	.0
Mar	65.1	43.0	54.1	86+	1990	14	58.6	1974	12	1980	3	48.5	1999	347	8	.0	.0	30.0	@	4.8	.0
Apr	72.0	50.6	61.3	92	1985	23	65.0	1991	27+	1983	20	57.7	1997	137	27	.0	.1	30.0	.0	.8	.0
May	78.8	59.9	69.4	96+	1988	30	74.1	1991	35	1997	11	64.4	1997	22	157	.0	.2	31.0	.0	.0	.0
Jun	84.9	67.8	76.4	107	1952	26	81.0	1981	44	1997	5	70.7	1997	1	342	.0	2.0	30.0	.0	.0	.0
Jul	88.6	72.3	80.5	100+	1987	22	83.5	1986	54	1975	2	77.7	2000	0	478	.1	7.5	31.0	.0	.0	.0
Aug	88.0	71.1	79.6	98	1983	21	82.2	1978	55	1979	17	76.0	1996	0	450	.0	4.8	31.0	.0	.0	.0
Sep	84.5	66.2	75.4	94	1952	14	78.8	1977	41	1949	25	72.5	1984	2	312	.0	1.3	30.0	.0	.0	.0
Oct	76.5	55.1	65.8	95	1986	5	72.2	1985	27	1976	29	61.0+	1992	92	116	.0	.1	31.0	.0	.1	.0
Nov	68.3	46.3	57.3	84	1989	12	67.0	1985	19	1976	9	50.3	1976	262	32	.0	.0	29.6	.0	3.2	.0
Dec	60.3	38.9	49.6	79	1998	1	57.1	1971	3	1983	25	38.9	1989	487	9	.0	.0	26.9	.1	9.7	.0
Ann	73.6	53.6	63.6	107	Jun 1952	26	83.5	Jul 1986	1	Jan 1985	21	36.5	Jan 1977	2416	1931	.1	16.0	347.5	.6	41.9	.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/normal/usnormals.html

Issue Date: February 2004

(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

065-A

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Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	5.38	4.82	4.64	1982	4	9.55	1979	1.93	1981	10.5	8.3	3.7	1.4	2.20	2.69	3.38	3.96	4.50	5.05	5.64	6.32	7.18	8.50	9.70
Feb	4.03	3.63	5.11	1998	4	12.36	1998	1.38	1991	8.4	6.4	2.6	.9	.99	1.36	1.95	2.47	2.99	3.54	4.15	4.88	5.83	7.34	8.75
Mar	4.27	3.95	2.90	1985	22	10.02	1983	1.66	1986	9.0	7.1	3.2	1.2	1.76	2.15	2.70	3.15	3.58	4.01	4.48	5.02	5.70	6.73	7.68
Apr	2.94	3.04	2.97	2000	15	7.51	2000	.33	1986	6.7	5.1	2.0	.9	.51	.76	1.19	1.59	2.01	2.46	2.97	3.59	4.42	5.76	7.04
May	4.66	4.40	4.05	1981	10	10.53	1981	1.10	1987	8.9	7.1	3.2	1.3	1.27	1.71	2.39	2.97	3.55	4.16	4.82	5.62	6.65	8.27	9.78
Jun	4.04	4.01	8.50	1966	11	8.42	1995	.28	1990	8.0	6.2	2.7	1.1	1.01	1.39	1.98	2.50	3.02	3.56	4.17	4.89	5.83	7.32	8.71
Jul	5.94	5.97	4.55	1951	25	14.49	1996	1.74	1973	10.4	8.6	4.0	1.9	1.92	2.49	3.32	4.03	4.71	5.42	6.19	7.10	8.26	10.07	11.75
Aug	7.55	6.71	7.78	1999	30	15.49	1998	2.11	1980	10.9	8.7	4.8	2.3	2.01	2.73	3.82	4.78	5.72	6.71	7.81	9.11	10.81	13.47	15.96
Sep	6.47	5.67	8.91	1996	4	15.77	1996	.31	1978	9.1	7.5	3.8	2.0	1.06	1.62	2.57	3.46	4.37	5.37	6.51	7.90	9.76	12.77	15.65
Oct	4.36	3.87	7.05	1985	31	11.55	1985	.54	2000	6.5	4.8	2.3	1.2	.74	1.12	1.76	2.35	2.97	3.63	4.39	5.32	6.55	8.54	10.45
Nov	4.07	3.38	4.48	1985	4	10.64	1985	.92	1973	7.6	6.3	2.9	1.1	1.16	1.55	2.13	2.64	3.13	3.65	4.22	4.89	5.76	7.13	8.40
Dec	4.54	4.49	5.90	1980	28	11.48	1973	1.13	1985	8.6	6.8	3.3	1.4	1.28	1.71	2.37	2.93	3.49	4.06	4.70	5.46	6.44	7.97	9.40
Ann	58.25	56.24	8.91	Sep 1996	4	15.77	Sep 1996	.28	Jun 1990	104.6	82.9	38.5	16.7	44.48	47.22	50.69	53.30	55.60	57.80	60.07	62.56	65.55	69.86	73.56

+ 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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NWS Call Sign:

Elevation: 10 Feet

Lat: 34° 44N

Lon: 76° 44W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.0	#	0	4.0	1973	8	4.0	1973	2	1988	15	#+	1996	.2	.1	@	.0	.0	.0	.0	.0	.0
Feb	.9	.0	#	0	10.0	1973	10	16.0	1973	3	1979	9	#	1979	.2	.1	.1	.1	@	@	@	.0	.0
Mar	.8	.0	0	0	22.0	1980	3	22.0	1980	22	1980	3	1	1980	@	@	@	@	@	.1	.1	.1	.1
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	#	0	.0	0	0	.0	0	16	1989	25	2	1989	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	2.0	.0	N/A	N/A	22.0	Mar 1980	3	22.0	Mar 1980	22	Mar 1980	3	2	Dec 1989	.4	.2	.1	.1	@	.1	.1	.1	.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

Complete documentation available from:

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NWS Call Sign:

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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	4/26	4/19	4/14	4/10	4/06	4/03	3/29	3/25	3/18
32	4/16	4/10	4/05	4/01	3/28	3/24	3/20	3/16	3/09
28	4/05	3/29	3/24	3/19	3/15	3/11	3/07	3/02	2/23
24	3/12	3/06	3/01	2/25	2/21	2/17	2/13	2/08	2/01
20	3/03	2/23	2/17	2/12	2/07	2/03	1/28	1/21	1/09
16	2/19	2/11	2/04	1/29	1/22	1/14	12/31	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	10/18	10/24	10/29	11/01	11/05	11/08	11/12	11/16	11/22
32	11/01	11/06	11/09	11/12	11/15	11/18	11/21	11/24	11/29
28	11/12	11/18	11/23	11/28	12/02	12/06	12/10	12/15	12/22
24	11/22	11/30	12/06	12/11	12/16	12/21	12/26	1/01	1/10
20	12/07	12/17	12/25	12/31	1/06	1/13	1/20	1/31	0/00
16	12/26	1/05	1/13	1/21	1/29	2/08	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	237	228	222	217	212	207	201	195	186
32	257	248	242	236	231	226	220	214	205
28	285	277	271	266	261	256	251	244	236
24	323	313	306	301	296	291	286	280	271
20	>365	>365	355	341	331	323	315	306	295
16	>365	>365	>365	>365	>365	358	343	332	319

* 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

Complete documentation available from:

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COOP ID: 315830

Climate Division: NC 7 NWS Call Sign: Elevation: 10 Feet Lat: 34°44N Lon: 76°44W

Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	587	479	347	137	22	1	0	0	2	92	262	487	2416
60	443	348	213	53	2	0	0	0	0	38	160	347	1604
57	362	273	150	24	0	0	0	0	0	19	112	273	1213
55	312	228	115	12	0	0	0	0	0	12	84	229	992
50	207	135	48	2	0	0	0	0	0	3	35	139	569
32	15	3	0	0	0	0	0	0	0	0	0	5	23

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	458	448	684	879	1159	1332	1501	1473	1300	1047	760	550	11591
55	41	29	85	202	446	642	788	760	610	346	154	61	4164
57	29	19	59	153	384	582	726	698	550	292	121	43	3656
60	17	9	29	92	293	492	633	605	460	217	80	24	2951
65	0	0	8	27	157	342	478	450	312	116	32	9	1931
70	0	0	0	3	62	201	323	295	172	48	11	0	1115

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	234	265	436	638	907	1087	1247	1216	1053	800	523	321	234	499	935	1573	2480	3567	4814	6030	7083	7883	8406	8727
45	131	159	294	489	752	937	1092	1061	903	645	381	199	131	290	584	1073	1825	2762	3854	4915	5818	6463	6844	7043
50	65	79	172	343	597	787	937	906	753	491	253	107	65	144	316	659	1256	2043	2980	3886	4639	5130	5383	5490
55	25	29	83	211	442	637	782	751	603	340	149	51	25	54	137	348	790	1427	2209	2960	3563	3903	4052	4103
60	0	5	31	108	290	487	627	596	453	207	72	16	0	5	36	144	434	921	1548	2144	2597	2804	2876	2892
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	133	153	256	390	603	780	903	880	747	517	319	184	133	286	542	932	1535	2315	3218	4098	4845	5362	5681	5865

(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/normal/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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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