

# Climatology of the United States

No. 20

1971-2000

Station: HATTERAS, NC

COOP ID: 313897

Climate Division: NC 8

NWS Call Sign:

Elevation: 15 Feet

Lat: 35° 13N

Lon: 75° 43W

## 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	39.6	46.5	80	1995	15	56.6	1974	7	1985	21	35.8	1977	583	0	.0	.0	21.2	.4	7.1	.0
Feb	53.9	40.6	47.3	76	1971	22	54.0	1990	15	1958	18	35.4	1978	497	0	.0	.0	19.9	.1	5.6	.0
Mar	60.1	45.8	53.0	76+	1978	24	57.9	1976	21	1980	3	47.7	1981	378	4	.0	.0	28.2	.0	1.4	.0
Apr	66.6	53.7	60.2	90	1976	24	66.6	1994	32+	1982	7	55.1	1975	173	27	.0	@	30.0	.0	.1	.0
May	74.4	61.8	68.1	91	1988	31	73.5	1991	40	1978	1	64.5	1992	31	127	.0	.1	31.0	.0	.0	.0
Jun	80.7	69.3	75.0	97	1952	27	79.6	1994	49+	1966	3	71.6	1979	1	300	.0	.7	30.0	.0	.0	.0
Jul	84.9	73.7	79.3	97	1988	26	82.4	1993	55	1978	13	77.0	1975	0	443	.0	2.9	31.0	.0	.0	.0
Aug	84.5	73.0	78.8	97+	2000	12	81.3	1999	55	1980	23	75.8	1981	0	427	.0	2.4	31.0	.0	.0	.0
Sep	81.0	69.3	75.2	91+	1986	27	77.8	1998	44	2000	22	72.0	1982	1	304	.0	.5	30.0	.0	.0	.0
Oct	72.6	60.4	66.5	89+	1986	4	72.1	1985	34	1979	28	61.0	1981	80	126	.0	.0	31.0	.0	.0	.0
Nov	64.3	51.7	58.0	81	1971	1	66.5	1985	26	1950	25	50.1	1976	240	29	.0	.0	29.1	.0	.2	.0
Dec	57.0	44.0	50.5	76+	2001	2	56.2	1998	12	1983	25	40.5	1989	457	8	.0	.0	24.9	.1	3.5	.0
Ann	69.5	56.9	63.2	97+	Aug 2000	12	82.4	Jul 1993	7	Jan 1985	21	35.4	Feb 1978	2441	1795	.0	6.6	337.3	.6	17.9	.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](http://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

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## No. 20

### 1971-2000

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

Station: HATTERAS, NC

COOP ID: 313897

Climate Division: NC 8

NWS Call Sign:

Elevation: 15 Feet

Lat: 35°13N

Lon: 75°43W

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	5.37	5.30	4.80	1979	13	9.59	1987	.00	1998	11.1	7.9	3.5	1.4	1.75	2.52	3.34	3.97	4.55	5.12	5.74	6.44	7.33	8.68	9.90
Feb	3.62	3.24	3.01	1970	3	8.52	1983	.91	1999	8.6	6.2	2.6	.9	1.32	1.66	2.15	2.56	2.95	3.35	3.79	4.29	4.93	5.92	6.83
Mar	4.53	4.22	5.40	1997	15	10.89	1983	.00	1998	9.3	6.8	2.9	1.3	.99	1.63	2.38	2.98	3.55	4.14	4.78	5.52	6.49	7.98	9.36
Apr	3.19	3.48	3.33	1971	6	6.35	1989	.00	1998	7.1	4.5	2.1	.8	.36	.74	1.28	1.74	2.20	2.70	3.26	3.93	4.83	6.26	7.63
May	3.63	3.63	4.97	1957	19	11.02	1972	.55	1987	8.8	6.0	2.4	.9	.77	1.10	1.63	2.11	2.60	3.12	3.70	4.41	5.33	6.81	8.21
Jun	4.19	4.00	14.34	1949	30	12.58	1974	.86	1978	9.1	6.4	2.6	1.1	1.30	1.70	2.29	2.80	3.29	3.80	4.35	5.01	5.86	7.18	8.40
Jul	4.29	3.86	6.37	1953	20	9.70	1996	.40	1995	9.8	7.2	3.5	1.4	1.15	1.56	2.18	2.72	3.25	3.81	4.44	5.17	6.13	7.64	9.05
Aug	5.43	4.59	6.10	1962	28	13.27	1976	.52	1993	10.3	7.2	3.0	1.6	.78	1.23	2.01	2.77	3.55	4.41	5.41	6.63	8.27	10.95	13.53
Sep	4.63	4.59	5.79	1952	22	9.38	1979	.26	1978	9.5	6.3	2.8	1.5	.91	1.33	2.01	2.64	3.27	3.94	4.71	5.63	6.86	8.82	10.68
Oct	4.78	4.12	4.26	1996	9	10.38	1971	.53	1984	7.6	5.4	2.5	1.5	1.05	1.49	2.19	2.83	3.46	4.13	4.89	5.80	7.00	8.90	10.70
Nov	4.76	4.60	4.83	1952	20	11.91	1985	.61	1998	8.6	6.4	3.2	1.5	1.32	1.77	2.46	3.06	3.64	4.25	4.93	5.73	6.77	8.41	9.93
Dec	4.29	4.39	4.35	1981	2	9.51	1981	.61	1988	9.1	6.6	2.9	1.2	1.24	1.65	2.26	2.79	3.31	3.85	4.45	5.15	6.06	7.49	8.81
Ann	52.71	54.35	14.34	Jun 1949	30	13.27	Aug 1976	.00+	Apr 1998	108.9	76.9	34.0	15.1	38.82	41.54	45.01	47.62	49.94	52.17	54.47	57.00	60.06	64.47	68.28

+ 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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Station: HATTERAS, NC

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Climate Division: NC 8

NWS Call Sign:

Elevation: 15 Feet

Lat: 35° 13N

Lon: 75° 43W

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	3.0	1981	31	3.0	1981	2	1980	31	#+	1985	.1	.1	.1	.0	.0	.1	.0	.0	.0
Feb	.1	.0	#	0	2.5	1978	22	2.5	1978	3	1978	22	#+	1996	.1	.1	.0	.0	.0	@	@	.0	.0
Mar	.6	.0	#	0	11.0	1980	3	11.0	1980	8	1980	3	#	1980	.1	.1	.1	.1	.1	@	@	@	.0
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	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	1.0	.0	N/A	N/A	11.0	Mar 1980	3	11.0	Mar 1980	8	Mar 1980	3	#+	Feb 1996	.3	.3	.2	.1	.1	.1	@	@	.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	4/09	4/02	3/28	3/24	3/20	3/16	3/12	3/07	2/28
32	3/29	3/21	3/15	3/10	3/06	3/01	2/25	2/19	2/11
28	3/13	3/03	2/24	2/17	2/11	2/05	1/29	1/19	0/00
24	2/20	2/11	2/04	1/28	1/21	1/12	0/00	0/00	0/00
20	1/30	1/21	1/13	12/31	0/00	0/00	0/00	0/00	0/00
16	1/14	0/00	0/00	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	11/10	11/18	11/23	11/27	12/01	12/05	12/09	12/15	12/22
32	11/26	12/04	12/09	12/14	12/18	12/23	12/28	1/02	1/10
28	12/10	12/20	12/27	1/03	1/09	1/16	1/23	2/03	0/00
24	12/27	1/05	1/11	1/18	1/25	2/05	0/00	0/00	0/00
20	1/01	1/11	1/20	2/03	0/00	0/00	0/00	0/00	0/00
16	1/13	0/00	0/00	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	284	274	267	261	255	250	244	237	227
32	319	308	300	293	287	280	273	265	254
28	>365	>365	344	332	324	318	311	303	293
24	>365	>365	>365	>365	>365	362	343	331	318
20	>365	>365	>365	>365	>365	>365	>365	>365	355
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

Complete documentation available from:  
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**Climate Division: NC 8      NWS Call Sign:      Elevation: 15 Feet      Lat: 35°13N      Lon: 75°43W**

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	583	497	378	173	31	1	0	0	1	80	240	457	2441
60	440	368	239	81	5	0	0	0	0	31	139	317	1620
57	361	293	170	44	1	0	0	0	0	15	92	244	1220
55	312	247	131	27	0	0	0	0	0	9	67	201	994
50	210	154	58	6	0	0	0	0	0	2	24	115	569
32	18	6	0	0	0	0	0	0	0	0	0	2	26

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	467	434	649	845	1119	1289	1466	1450	1293	1069	779	575	11435
55	48	31	67	182	407	599	753	737	603	366	156	61	4010
57	35	21	44	139	345	539	691	675	543	310	121	42	3505
60	21	11	21	86	256	449	598	582	453	232	78	23	2810
65	0	0	4	27	127	300	443	427	304	126	29	8	1795
70	0	0	0	5	43	164	288	272	161	53	9	0	995

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	245	265	431	642	894	1078	1244	1229	1077	835	569	356	245	510	941	1583	2477	3555	4799	6028	7105	7940	8509	8865
45	133	158	283	492	739	928	1089	1074	927	680	420	224	133	291	574	1066	1805	2733	3822	4896	5823	6503	6923	7147
50	60	77	163	346	584	778	934	919	777	525	283	125	60	137	300	646	1230	2008	2942	3861	4638	5163	5446	5571
55	24	32	74	212	430	628	779	764	627	373	164	55	24	56	130	342	772	1400	2179	2943	3570	3943	4107	4162
60	0	9	26	101	277	478	624	609	477	233	76	15	0	9	35	136	413	891	1515	2124	2601	2834	2910	2925
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	113	121	208	366	585	775	918	906	775	529	305	165	113	234	442	808	1393	2168	3086	3992	4767	5296	5601	5766

(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:  
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## 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](http://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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)