

# Climatology of the United States

## No. 20

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

Station: HOFMANN FOREST, NC

1971-2000

COOP ID: 314144

Climate Division: NC 6

NWS Call Sign:

Elevation: 44 Feet

Lat: 34° 50N

Lon: 77° 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	56.9	34.2	45.6	81	1993	5	57.0	1974	2	1985	21	35.0	1977	613	0	.0	.0	23.8	.3	13.9	.0
Feb	60.5	35.8	48.2	85	1989	3	57.3	1990	10	1996	5	38.6	1978	473	0	.0	.0	22.9	.2	12.3	.0
Mar	67.4	41.2	54.3	92	1990	13	59.4	1990	16	1998	13	49.6	1999	340	8	.0	.1	30.0	@	7.2	.0
Apr	75.7	48.0	61.9	97	1990	27	66.3	1991	25	1997	10	57.6	1997	133	38	.0	.8	29.9	.0	1.4	.0
May	81.7	56.8	69.3	98	1991	31	76.1	1991	32	1986	11	64.4	1994	28	159	.0	3.5	31.0	.0	@	.0
Jun	87.3	64.6	76.0	104	1990	21	80.6	1989	37	1996	1	72.1	1972	2	331	.3	9.8	30.0	.0	.0	.0
Jul	90.4	69.8	80.1	102+	1992	13	83.9	1992	50	1988	2	77.8	2000	0	468	.7	18.6	31.0	.0	.0	.0
Aug	88.8	68.9	78.9	104	1999	1	82.3	1988	50	1994	25	75.7	1996	0	430	.2	13.8	31.0	.0	.0	.0
Sep	84.7	63.2	74.0	98+	1993	1	78.7	1987	38+	1993	30	69.1	1994	5	273	.0	5.5	30.0	.0	.0	.0
Oct	76.3	51.0	63.7	93+	1997	7	69.3	1984	27	2001	29	58.4	1976	120	78	.0	.6	31.0	.0	.5	.0
Nov	68.8	43.1	56.0	87+	1992	24	64.6	1985	16	1949	23	48.8	1996	296	23	.0	.0	29.5	.0	6.2	.0
Dec	60.0	36.0	48.0	82+	1998	9	56.8	1971	-2	1989	25	39.3	1989	535	9	.0	.0	26.3	.1	12.5	@
Ann	74.9	51.1	63.0	104+	Aug 1999	1	83.9	Jul 1992	-2	Dec 1989	25	35.0	Jan 1977	2545	1817	1.2	52.7	346.4	.6	54.0	@

+ 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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**Lat: 34°50N**

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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	5.09	4.74	4.19	1992	3	8.16	1978	1.43	1981	12.8	8.8	3.4	1.4	2.29	2.74	3.37	3.88	4.35	4.83	5.34	5.92	6.66	7.77	8.78
Feb	3.85	3.45	5.15	1984	14	11.30	1998	1.10	1978	11.4	6.8	2.6	1.0	.95	1.31	1.87	2.37	2.86	3.38	3.96	4.65	5.55	6.98	8.32
Mar	4.58	4.33	5.10	1994	2	9.77	1993	2.42	1981	11.6	7.6	3.0	1.2	2.14	2.54	3.09	3.54	3.95	4.36	4.80	5.31	5.94	6.90	7.76
Apr	3.11	2.77	3.05	2000	15	7.45+	2000	.31	1995	9.0	5.6	2.3	.7	.68	.97	1.43	1.84	2.25	2.69	3.18	3.77	4.55	5.79	6.96
May	4.01	3.92	2.25	1992	30	7.33	1981	1.43	1983	12.2	7.8	2.8	1.1	1.70	2.06	2.57	2.99	3.38	3.78	4.20	4.69	5.31	6.25	7.11
Jun	4.85	4.51	3.35	1995	26	16.96	1995	.86	1990	12.0	7.6	2.6	1.2	1.46	1.92	2.61	3.20	3.78	4.38	5.04	5.82	6.82	8.39	9.85
Jul	6.72	6.37	7.00	1996	13	14.35	1991	2.21	1990	15.6	10.7	4.5	1.8	2.54	3.17	4.07	4.81	5.52	6.25	7.04	7.95	9.11	10.89	12.52
Aug	6.82	5.72	6.20	1981	20	16.41	1992	2.61	1980	14.6	10.0	4.6	2.0	2.20	2.85	3.81	4.62	5.41	6.22	7.11	8.15	9.49	11.58	13.51
Sep	6.45	5.45	7.75	1996	4	19.58	1999	.33	1990	11.6	7.3	3.1	1.8	.92	1.46	2.38	3.28	4.21	5.24	6.42	7.87	9.83	13.02	16.09
Oct	3.65	3.37	6.11	1996	8	9.35	1985	.26	2000	8.4	5.1	2.3	1.0	.52	.82	1.34	1.85	2.38	2.96	3.63	4.46	5.56	7.37	9.12
Nov	3.71	3.09	3.46	1990	10	6.79	1985	.97	1981	9.4	5.8	2.4	.9	1.26	1.61	2.12	2.56	2.97	3.40	3.87	4.42	5.13	6.22	7.22
Dec	3.65	3.79	2.94	1989	8	7.91	1973	.40	1988	11.4	6.6	2.5	.8	1.00	1.34	1.87	2.33	2.78	3.25	3.78	4.40	5.20	6.47	7.65
Ann	56.49	56.19	7.75	Sep 1996	4	19.58	Sep 1999	.26	Oct 2000	140.0	89.7	36.1	14.9	43.58	46.16	49.42	51.86	54.01	56.07	58.19	60.51	63.30	67.31	70.75

+ 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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**Elevation: 44 Feet**

**Lat: 34° 50N**

**Lon: 77° 18W**

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	.4	.0	0	0	4.0	2000	25	6.0	2000	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Feb	.2	.0	0	0	2.0	1989	24	2.0	1989	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Mar	.1	.0	0	0	2.0	1983	25	2.0	1983	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	.1	.0	0	0	1.0	1989	11	1.0	1989	0	0	0	0	0	.1	.1	.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	#	1987	11	#	1987	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	#	0	.0	0	0	.0	0	3	2000	4	#	2000	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.8	.0	N/A	N/A	4.0	Jan 2000	25	6.0	Jan 2000	3	Dec 2000	4	#	Dec 2000	.4	.4	.1	.0	.0	.0	.0	.0	.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	5/07	5/01	4/26	4/22	4/19	4/15	4/11	4/06	3/31
32	4/23	4/17	4/12	4/08	4/05	4/01	3/28	3/24	3/17
28	4/05	3/30	3/25	3/22	3/18	3/15	3/11	3/06	2/28
24	3/17	3/12	3/07	3/04	2/28	2/25	2/21	2/17	2/11
20	3/07	2/27	2/21	2/15	2/10	2/05	1/31	1/24	1/14
16	2/23	2/15	2/09	2/04	1/29	1/24	1/17	1/08	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	10/06	10/12	10/16	10/19	10/22	10/25	10/29	11/02	11/07
32	10/18	10/23	10/27	10/31	11/03	11/06	11/10	11/14	11/20
28	11/03	11/09	11/13	11/16	11/20	11/23	11/27	12/01	12/06
24	11/13	11/20	11/25	11/30	12/04	12/08	12/13	12/18	12/26
20	11/27	12/07	12/14	12/20	12/26	1/01	1/08	1/15	1/28
16	12/19	12/28	1/04	1/10	1/16	1/22	1/29	2/10	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	212	203	197	191	186	181	175	169	160
32	239	230	223	217	212	206	201	194	185
28	271	262	256	251	246	241	236	229	221
24	304	295	289	283	278	273	268	262	253
20	>365	346	333	323	316	308	301	292	281
16	>365	>365	>365	364	351	341	333	324	313

\* 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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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	613	473	340	133	28	2	0	0	5	120	296	535	2545
60	470	343	208	54	5	0	0	0	0	53	186	394	1713
57	390	270	145	25	1	0	0	0	0	28	134	317	1310
55	341	225	110	14	0	0	0	0	0	17	104	271	1082
50	236	135	46	2	0	0	0	0	0	4	47	175	645
32	25	4	0	0	0	0	0	0	0	0	0	11	40

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	445	456	692	895	1154	1319	1491	1453	1259	982	717	507	11370
55	48	33	89	218	441	629	778	740	569	285	131	54	4015
57	35	21	62	170	380	569	716	678	509	234	101	38	3513
60	22	11	32	108	291	479	623	585	419	166	63	22	2821
65	0	0	8	38	159	331	468	430	273	78	23	9	1817
70	0	0	0	8	66	192	313	276	145	26	7	0	1033

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	233	281	457	667	900	1089	1250	1206	1032	755	489	291	233	514	971	1638	2538	3627	4877	6083	7115	7870	8359	8650
45	137	173	313	517	745	939	1095	1051	882	600	347	179	137	310	623	1140	1885	2824	3919	4970	5852	6452	6799	6978
50	68	98	192	371	590	789	940	896	732	447	228	101	68	166	358	729	1319	2108	3048	3944	4676	5123	5351	5452
55	30	46	105	239	435	639	785	741	582	304	137	49	30	76	181	420	855	1494	2279	3020	3602	3906	4043	4092
60	3	16	44	135	288	489	630	586	432	177	64	17	3	19	63	198	486	975	1605	2191	2623	2800	2864	2881
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	150	191	299	435	596	747	863	843	712	498	317	188	150	341	640	1075	1671	2418	3281	4124	4836	5334	5651	5839

(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)