

# Climatography of the United States

No. 20

1971-2000

Station: HARTINGTON, NE

COOP ID: 253630

Climate Division: NE 3

NWS Call Sign:

Elevation: 1,370 Feet Lat: 42° 37N

Lon: 97° 16W

## 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	29.7	9.9	19.8	74	1981	24	32.7	1990	-38	1912	12	5.1	1979	1400	0	.0	.0	2.4	16.0	30.1	8.4
Feb	36.5	16.1	26.3	76	1982	22	35.9	1987	-33	1899	11	10.8	1979	1084	0	.0	.0	6.2	10.8	25.8	4.5
Mar	48.1	25.8	37.0	92	1943	30	43.1	2000	-17+	1960	4	27.7	1984	869	0	.0	.0	14.3	3.7	22.6	.8
Apr	62.0	37.1	49.6	102	1910	28	57.8	1981	1+	1975	3	42.9	1997	470	6	.0	.5	25.5	.3	9.4	.0
May	73.4	48.7	61.1	108	1934	29	67.0	1977	19+	1907	3	55.2	1995	178	54	.0	1.0	30.8	.0	.9	.0
Jun	82.9	58.2	70.6	107	1936	25	77.4	1988	35	1903	12	66.5	1982	23	190	.5	6.8	30.0	.0	.0	.0
Jul	87.1	62.9	75.0	118	1936	17	80.6	1974	38	1895	9	67.4	1992	6	317	1.4	12.3	31.0	.0	.0	.0
Aug	85.3	61.2	73.3	111	1936	24	79.9	1983	35+	1950	20	68.4	1986	17	272	.4	9.8	31.0	.0	.0	.0
Sep	77.5	51.4	64.5	105	1913	5	70.5	1998	20	1893	25	59.0	1984	104	88	.1	3.9	29.7	.0	.4	.0
Oct	64.9	39.3	52.1	97	1963	1	56.1	1973	5	1925	28	46.0	1976	401	2	.0	.2	28.3	.1	6.6	.0
Nov	44.9	24.6	34.8	82	1904	1	47.1	1999	-17	1959	14	24.1	1985	908	0	.0	.0	11.5	4.9	23.4	.9
Dec	32.8	14.0	23.4	72	1939	6	30.8	1999	-33	1917	29	5.0	1983	1290	0	.0	.0	3.3	13.4	29.9	5.1
Ann	60.4	37.4	49.0	118	Jul 1936	17	80.6	Jul 1974	-38	Jan 1912	12	5.0	Dec 1983	6750	929	2.4	34.5	244.0	49.2	149.1	19.7

+ 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](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1893-2001

(3) Derived from 1971-2000 serially complete daily data

053-A

# 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: HARTINGTON, NE**

**COOP ID: 253630**

**Climate Division: NE 3**

**NWS Call Sign:**

**Elevation: 1,370 Feet Lat: 42°37N**

**Lon: 97°16W**

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	.49	.37	1.62	1949	3	1.39	1982	.00+	2000	3.6	1.7	.2	@	.00	.04	.12	.19	.27	.37	.48	.61	.79	1.10	1.41
Feb	.60	.52	2.03	1971	19	2.45	1971	.00	1988	3.3	1.8	.3	@	.02	.06	.14	.23	.33	.44	.57	.73	.96	1.35	1.73
Mar	2.12	1.60	2.50	1984	8	5.60	1987	.11	1994	5.4	4.2	1.6	.5	.19	.34	.63	.92	1.24	1.61	2.04	2.58	3.32	4.56	5.77
Apr	2.71	2.32	2.40	1920	11	5.71	1984	.23	1981	8.5	5.7	1.8	.4	.68	.94	1.33	1.68	2.02	2.39	2.79	3.27	3.90	4.90	5.83
May	3.80	3.51	3.55	1915	26	7.75	1972	.90	1994	9.4	7.0	2.5	.8	1.15	1.51	2.05	2.52	2.97	3.43	3.95	4.55	5.33	6.55	7.68
Jun	4.16	4.42	3.90	1983	27	9.85	1999	.82	1988	8.3	6.2	3.0	1.2	1.19	1.58	2.18	2.70	3.20	3.73	4.31	5.00	5.89	7.29	8.59
Jul	3.17	2.27	5.58	1999	20	10.97	1999	.49	1980	7.5	5.0	2.1	.7	.51	.78	1.24	1.68	2.13	2.62	3.18	3.87	4.79	6.29	7.72
Aug	2.78	2.42	4.05	1906	23	7.37	1980	.15	1973	6.9	4.5	1.9	.8	.42	.66	1.06	1.45	1.85	2.28	2.79	3.40	4.23	5.57	6.86
Sep	2.37	2.34	4.10	1901	11	5.92	1973	.32	1999	6.4	4.2	1.8	.6	.50	.72	1.07	1.39	1.70	2.04	2.42	2.88	3.48	4.45	5.36
Oct	1.96	1.40	3.40	1992	8	5.69	1992	.10	1988	5.5	3.5	1.3	.5	.17	.30	.56	.83	1.13	1.47	1.87	2.38	3.08	4.25	5.40
Nov	1.47	1.10	2.31	2000	6	3.96	1996	.03	1976	5.1	2.9	.9	.3	.08	.16	.33	.53	.75	1.02	1.35	1.77	2.36	3.37	4.37
Dec	.62	.48	1.40	1893	24	2.61	1982	.00+	1985	3.2	1.6	.4	.1	.00	.03	.12	.21	.31	.43	.58	.76	1.01	1.44	1.87
Ann	26.25	26.13	5.58	Jul 1999	20	10.97	Jul 1999	.00+	Jan 2000	73.1	48.3	17.8	5.9	16.31	18.13	20.52	22.37	24.04	25.67	27.37	29.28	31.62	35.06	38.08

+ 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: 1893-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:

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**Climate Division: NE 3**

**NWS Call Sign:**

**Elevation: 1,370 Feet**

**Lat: 42° 37N**

**Lon: 97° 16W**

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	6.6	4.0	2	#	14.0	1982	22	22.0	1982	10	1994	31	7	1994	2.9	2.3	.7	.2	.1	-9.9	-9.9	-9.9	-9.9
Feb	4.2	3.6	1	#	10.0	1997	4	13.6	1999	12	1997	8	6	1997	2.2	1.7	.4	.1	@	-9.9	-9.9	-9.9	-9.9
Mar	5.6	5.0	1	#	11.0	1983	26	21.5	1983	18	1983	26	10	1979	1.9	1.7	.8	.3	@	3.2	1.9	.9	.2
Apr	3.1	1.0	#	0	10.3	1988	22	16.6	1988	8	1997	12	1	1997	.8	.7	.5	.3	@	.4	.3	.3	.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	.3	.0	#	0	4.0	1980	27	4.0	1980	1	1995	31	#+	1999	.2	.1	@	.0	.0	@	.0	.0	.0
Nov	5.3	3.2	#	0	12.0	1975	20	17.0	1975	17	1975	30	5	1975	2.0	1.6	.7	.2	@	3.3	2.2	1.4	.7
Dec	5.8	5.8	1	#	10.0	1982	27	19.0	1982	14	1982	27	9	1978	2.7	1.8	.6	.3	@	4.6	1.2	.1	.0
Ann	30.9	22.6	N/A	N/A	14.0	Jan 1982	22	22.0	Jan 1982	18	Mar 1983	26	10	Mar 1979	12.7	9.9	3.7	1.4	.1	-9.9	-9.9	-9.9	-9.9

+ 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	5/20	5/15	5/12	5/09	5/06	5/04	5/01	4/27	4/23
32	5/13	5/08	5/04	5/01	4/28	4/25	4/22	4/19	4/14
28	5/05	4/30	4/26	4/23	4/21	4/18	4/15	4/11	4/07
24	4/22	4/18	4/15	4/12	4/09	4/07	4/04	3/31	3/27
20	4/15	4/10	4/06	4/03	3/31	3/28	3/25	3/21	3/16
16	4/05	3/31	3/27	3/24	3/21	3/18	3/15	3/11	3/06
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	9/11	9/15	9/18	9/21	9/24	9/26	9/29	10/02	10/07
32	9/20	9/26	9/29	10/02	10/05	10/08	10/12	10/15	10/21
28	9/28	10/03	10/07	10/10	10/13	10/16	10/20	10/24	10/29
24	10/10	10/15	10/18	10/21	10/24	10/27	10/30	11/02	11/07
20	10/17	10/23	10/26	10/30	11/02	11/05	11/08	11/12	11/17
16	10/24	10/31	11/05	11/09	11/13	11/17	11/21	11/26	12/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	152	147	143	140	136	132	127	121
32	176	170	166	163	159	156	153	148	143
28	195	188	183	179	175	171	167	162	155
24	218	211	206	201	197	193	189	183	176
20	238	230	225	220	215	210	206	200	192
16	260	252	246	241	236	231	226	220	212

\* 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:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	1400	1084	869	470	178	23	6	17	104	401	908	1290	6750
60	1245	944	714	334	92	4	0	3	40	257	758	1135	5526
57	1152	865	622	262	56	1	0	1	19	183	671	1042	4874
55	1092	814	566	218	39	0	0	0	10	140	614	980	4473
50	948	682	423	128	12	0	0	0	1	64	477	829	3564
32	465	292	84	3	0	0	0	0	0	1	125	354	1324

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	88	132	238	530	900	1157	1333	1277	974	624	206	88	7547
55	2	10	8	54	225	467	620	564	295	51	6	0	2302
57	0	5	2	38	181	408	558	503	243	32	2	0	1972
60	0	0	0	20	124	321	465	413	175	12	0	0	1530
65	0	0	0	6	54	190	317	272	88	2	0	0	929
70	0	0	0	1	17	91	183	155	35	0	0	0	482

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	6	29	108	329	672	939	1109	1053	758	417	77	7	6	35	143	472	1144	2083	3192	4245	5003	5420	5497	5504
45	0	5	55	213	517	789	954	898	608	279	35	1	0	5	60	273	790	1579	2533	3431	4039	4318	4353	4354
50	0	0	22	124	369	639	799	743	461	169	12	0	0	0	22	146	515	1154	1953	2696	3157	3326	3338	3338
55	0	0	6	66	236	489	644	588	326	85	3	0	0	0	6	72	308	797	1441	2029	2355	2440	2443	2443
60	0	0	1	30	130	345	489	433	205	32	0	0	0	0	1	31	161	506	995	1428	1633	1665	1665	1665
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	3	27	85	216	420	614	742	703	484	265	57	6	3	30	115	331	751	1365	2107	2810	3294	3559	3616	3622

(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](http://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.  
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> |
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## 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)