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: STANTON, NE **COOP ID: 258110**

Climate Division: NE 3 **NWS Call Sign:** **Elevation: 1,490 Feet** **Lat: 41˚57N** **Lon: 97˚14W**

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	9.1	19.4	72	1981	24	31.4	1990	-27+	1968	7	5.1	1979	1414	0	.0	.0	3.0	15.4	30.6	7.4
Feb	36.4	15.6	26.0	73+	1982	22	35.6	1987	-27	1996	2	11.2	1979	1091	0	.0	.0	6.9	10.5	25.9	4.2
Mar	47.9	25.6	36.8	90	1986	29	42.3	1986	-20	1960	4	28.4	1984	877	0	.0	@	15.2	3.5	22.2	.7
Apr	61.1	37.2	49.2	95	1980	22	57.4	1981	5	1975	3	41.9	1983	480	5	.0	.6	25.7	.2	9.4	.0
May	71.6	49.0	60.3	104	1967	25	66.2	1988	22	1967	2	54.7	1995	196	50	.0	.8	30.8	.0	1.2	.0
Jun	81.3	58.6	70.0	105	1988	21	76.8	1988	35	1969	3	65.1	1982	28	176	.3	6.5	30.0	.0	.0	.0
Jul	85.1	63.5	74.3	112	1954	11	80.7	1974	40+	1972	5	67.5	1992	9	298	1.1	12.2	31.0	.0	.0	.0
Aug	82.6	61.6	72.1	106	1964	2	79.0	1983	36	1950	20	66.4	1992	21	242	.5	8.8	31.0	.0	.0	.0
Sep	75.3	51.7	63.5	102	1956	2	69.0	1998	22	1984	29	58.4	1993	111	66	.1	3.2	29.8	.0	.9	.0
Oct	63.5	39.1	51.3	92	1963	5	55.1	1973	10+	1993	31	46.0	1976	427	1	.0	.2	28.2	.1	7.4	.0
Nov	45.0	25.3	35.2	83+	1999	14	45.9	1999	-15	1964	30	24.7	1985	895	0	.0	.0	12.4	4.0	23.2	.5
Dec	32.4	13.2	22.8	71	1984	7	30.4	1999	-33	1989	22	4.3	1983	1310	0	.0	.0	3.7	12.9	29.9	4.5
Ann	59.3	37.5	48.4	112	Jul 1954	11	80.7	Jul 1974	-33	Dec 1989	22	4.3	Dec 1983	6859	838	2.0	32.3	247.7	46.6	150.7	17.3

\+ 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: 1948-2001

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

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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	.57	.52	1.60	1949	3	1.55	1975	.00+	2000
Feb	.74	.53	1.82	1984	18	2.96	1971	.00	1974
Mar	2.16	1.81	2.65	1987	23	7.16	1987	.00	1994
Apr	2.94	2.84	2.40	1998	15	9.11	1984	.55	1981
May	4.56	4.25	2.80	1970	31	9.65	1982	1.88	1989
Jun	4.31	3.98	3.80	1990	16	12.31	1984	.62	1987
Jul	3.91	3.74	4.15	1955	13	10.16	1993	.59	1974
Aug	3.00	2.89	4.50	1996	5	6.78	1981	.50	2000
Sep	2.40	2.28	2.34	1951	12	5.27	1989	.37	1999
Oct	1.88	1.73	3.03	1968	16	5.25	1979	.00	1999
Nov	1.59	1.46	2.00	1996	16	5.38	1983	.00+	1997
Dec	.76	.59	1.35	1982	28	3.77	1982	.00	2000
Ann	28.82	28.78	4.50	Aug 1996	5	12.31	Jun 1984	.00+	Dec 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.1	1.8	.3	@
Feb	3.6	2.3	.3	.1
Mar	5.8	4.4	1.5	.6
Apr	8.0	6.0	2.2	.7
May	9.8	7.9	3.2	1.5
Jun	8.2	7.0	2.9	1.2
Jul	8.2	6.3	2.8	1.1
Aug	7.0	5.1	1.8	.8
Sep	6.1	4.7	1.5	.7
Oct	5.3	4.0	1.2	.5
Nov	4.4	3.4	1.1	.5
Dec	3.9	2.3	.3	.1
Ann	73.4	55.2	19.1	7.8

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	.00	.00	.14	.25	.35	.46	.58	.73	.93	1.23	1.52
Feb	.03	.09	.20	.31	.42	.56	.71	.91	1.18	1.62	2.06
Mar	.05	.19	.47	.77	1.12	1.52	2.01	2.63	3.50	4.97	6.44
Apr	.52	.78	1.21	1.62	2.02	2.47	2.97	3.58	4.40	5.71	6.96
May	1.87	2.29	2.88	3.36	3.82	4.28	4.78	5.36	6.09	7.20	8.21
Jun	.94	1.34	1.97	2.55	3.12	3.73	4.41	5.23	6.31	8.04	9.66
Jul	.90	1.26	1.84	2.35	2.86	3.41	4.01	4.74	5.70	7.21	8.64
Aug	.63	.90	1.34	1.74	2.14	2.57	3.06	3.64	4.41	5.65	6.81
Sep	.42	.63	.98	1.31	1.65	2.01	2.43	2.93	3.61	4.69	5.73
Oct	.07	.21	.48	.75	1.05	1.39	1.80	2.31	3.02	4.20	5.37
Nov	.00	.13	.40	.65	.91	1.21	1.55	1.97	2.56	3.52	4.46
Dec	.03	.09	.21	.32	.44	.58	.74	.94	1.22	1.68	2.13
Ann	17.80	19.82	22.47	24.53	26.38	28.19	30.09	32.21	34.82	38.65	42.02

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	6.3	4.5	2	1
Feb	5.1	4.5	2	1
Mar	4.3	4.0	1	#
Apr	1.9	.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
Oct	.7	.0	#	0
Nov	4.1	2.8	#	#
Dec	6.5	5.5	2	1
Ann	28.9	21.3	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	12.0	1982	22	18.5	1975	18	1982	25	9	1979
Feb	19.0	1984	18	21.0+	1984	21	1984	19	12	1979
Mar	9.0	1995	6	14.5+	1984	17	1993	1	4	1984
Apr	6.0	1986	14	8.5	1984	9	1997	11	1	1997
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	#	1983	20	#	1983	0	0	0	0	0
Oct	6.0	1980	27	6.0	1980	5	1991	31	#+	1997
Nov	13.0	1983	27	19.0	1983	18	1983	30	3	1993
Dec	13.0	1978	2	17.0	1978	18	1983	29	15	1983
Ann	19.0	Feb 1984	18	21.0+	Feb 1984	21	Feb 1984	19	15	Dec 1983

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.5	1.7	.8	.2	.0
Feb	2.4	1.8	.6	.2	.1
Mar	1.8	1.6	.6	.3	.0
Apr	.8	.8	.4	.1	.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	.2	.2	.1	@	.0
Nov	1.5	1.4	.4	.1	@
Dec	2.7	2.0	.7	.1	@
Ann	11.9	9.5	3.6	1.0	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	11.5	9.1	6.4	.7
Feb	10.4	7.4	5.2	2.2
Mar	5.1	3.2	1.6	.2
Apr	.4	.2	.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	.2	.1	@	.0
Nov	2.4	1.1	.7	.2
Dec	13.1	8.1	5.4	2.2
Ann	43.1	29.2	19.3	5.5

+ 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	5/25	5/19	5/16	5/12	5/09	5/06	5/03	4/29	4/24
32	5/17	5/11	5/08	5/04	5/01	4/28	4/25	4/21	4/16
28	5/08	5/02	4/28	4/25	4/22	4/19	4/16	4/12	4/07
24	4/21	4/17	4/14	4/12	4/09	4/07	4/04	4/01	3/28
20	4/13	4/09	4/06	4/04	4/01	3/30	3/27	3/24	3/20
16	4/04	3/30	3/26	3/23	3/20	3/17	3/14	3/10	3/05

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	9/12	9/16	9/19	9/21	9/23	9/26	9/28	10/01	10/05
32	9/17	9/22	9/25	9/28	10/01	10/04	10/07	10/10	10/15
28	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/22	10/27
24	10/07	10/12	10/16	10/19	10/21	10/24	10/27	10/31	11/05
20	10/15	10/22	10/27	10/31	11/04	11/08	11/12	11/17	11/24
16	10/22	10/29	11/02	11/06	11/10	11/14	11/18	11/23	11/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	150	145	140	136	132	128	123	116
32	173	166	161	156	152	148	144	139	131
28	192	185	180	176	172	168	164	159	152
24	212	206	202	198	194	191	187	183	176
20	242	233	227	221	216	211	206	200	191
16	262	252	246	240	235	229	223	217	207

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1414	1091	877	480	196	28	9	21	111	427	895	1310	6859
60	1259	951	722	343	106	6	0	4	42	281	745	1155	5614
57	1166	867	629	269	68	2	0	1	19	205	656	1062	4944
55	1104	818	569	224	48	1	0	0	10	160	599	1000	4533
50	953	687	427	131	16	0	0	0	1	76	460	846	3597
32	461	290	80	3	0	0	0	0	0	1	107	362	1304

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	70	122	227	518	877	1138	1312	1244	945	598	201	75	7327
55	0	7	3	49	212	448	599	531	265	44	3	0	2161
57	0	0	1	34	170	389	537	469	214	27	1	0	1842
60	0	0	0	18	116	303	444	380	147	10	0	0	1418
65	0	0	0	5	50	176	298	242	66	1	0	0	838
70	0	0	0	0	16	82	170	132	21	0	0	0	421

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	2	27	117	344	668	940	1099	1043	747	411	82	5	2	29	146	490	1158	2098	3197	4240	4987	5398	5480	5485
45	0	4	64	225	515	790	944	888	600	280	37	1	0	4	68	293	808	1598	2542	3430	4030	4310	4347	4348
50	0	0	23	134	366	640	789	733	454	169	13	0	0	0	23	157	523	1163	1952	2685	3139	3308	3321	3321
55	0	0	8	72	237	490	634	578	319	81	3	0	0	0	8	80	317	807	1441	2019	2338	2419	2422	2422
60	0	0	1	34	130	344	479	425	201	35	0	0	0	0	1	35	165	509	988	1413	1614	1649	1649	1649
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	5	31	92	229	421	616	736	698	481	269	63	9	5	36	128	357	778	1394	2130	2828	3309	3578	3641	3650

(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.
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