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: FAIRBURY, NE **COOP ID: 252820**

Climate Division: NE 9 **NWS Call Sign:** **Elevation: 1,315 Feet** **Lat: 40˚08N** **Lon: 97˚11W**

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	35.3	13.0	24.2	78	1990	11	34.0+	1992	-25	1912	12	10.8	1979	1267	0	.0	.0	4.7	13.3	30.3	6.3
Feb	41.6	17.2	29.4	79+	1995	26	39.3	1999	-38	1899	11	14.2	1979	998	0	.0	.0	8.8	9.0	26.1	3.9
Mar	52.9	27.4	40.2	93+	1946	31	46.0	1986	-18+	1978	5	32.6	1975	770	0	.0	.0	17.2	2.5	21.5	.6
Apr	64.6	37.8	51.2	103	1902	20	59.2	1981	9+	1975	4	45.1	1983	419	5	.0	.5	25.7	.1	8.9	.0
May	74.4	49.2	61.8	103+	1934	31	68.0	1977	25+	1909	1	55.5	1995	166	67	.0	.8	30.8	.0	.7	.0
Jun	84.8	59.4	72.1	111	1911	25	77.3	1988	34	1903	5	66.4	1982	20	234	.6	7.5	30.0	.0	.0	.0
Jul	90.2	65.0	77.6	114	1936	17	84.1	1974	34	1924	25	72.7	1992	0	390	3.1	14.9	31.0	.0	.0	.0
Aug	87.9	62.7	75.3	114	1936	13	82.2	2000	35	1919	18	69.9	1992	12	331	2.0	12.1	31.0	.0	.0	.0
Sep	80.2	52.7	66.5	112	1947	3	72.0	1998	23	1899	28	60.1	1993	71	113	.4	5.7	29.8	.0	.3	.0
Oct	68.1	40.3	54.2	100	1947	5	58.8	2000	9	1925	30	48.8	1987	339	5	.0	.4	28.8	@	6.8	.0
Nov	51.0	27.2	39.1	86	1950	1	48.6	1999	-9	1976	28	31.7	1985	778	0	.0	.0	15.9	2.8	21.3	.1
Dec	38.8	17.6	28.2	80	1964	24	34.7	1999	-26+	1989	23	9.5	1983	1141	0	.0	.0	6.2	9.6	29.7	3.1
Ann	64.2	39.1	51.7	114+	Aug 1936	13	84.1	Jul 1974	-38	Feb 1899	11	9.5	Dec 1983	5981	1145	6.1	41.9	259.9	37.3	145.6	14.0

\+ 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/normals/usnormals.html

(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

Issue Date: February 2004

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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	.74	.66	2.00	1894	24	1.99	1979	.00+	1986
Feb	.76	.77	1.85	1919	12	2.38	1971	.00+	1996
Mar	2.34	1.88	2.12	1976	30	7.46	1987	.02	1994
Apr	2.76	2.58	3.45	1906	27	5.39	1984	.18	1989
May	4.18	3.53	4.50	1918	26	10.86	1995	.91	1998
Jun	4.08	3.66	5.61	1941	9	11.14	1993	.61	1991
Jul	4.51	3.74	7.65	1950	9	14.63	1993	.22	1974
Aug	3.94	3.77	6.26	1927	5	9.41	1977	.87	1971
Sep	2.99	2.77	5.20	1941	15	9.11	1973	.24	1974
Oct	2.05	1.93	3.21	1973	11	5.09	1973	.02+	1999
Nov	1.70	1.33	3.25	1909	12	4.00	1996	.02	1989
Dec	.93	.81	1.81	1984	16	2.84	1984	.02	1976
Ann	30.98	31.39	7.65	Jul 1950	9	14.63	Jul 1993	.00+	Feb 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.4	2.4	.2	@
Feb	5.3	2.3	.3	.1
Mar	7.8	4.6	1.8	.5
Apr	10.1	6.0	1.8	.5
May	12.3	8.4	2.7	1.0
Jun	9.1	6.2	3.1	1.0
Jul	9.2	6.2	2.8	1.3
Aug	9.1	6.1	2.7	1.2
Sep	8.0	4.9	1.7	.7
Oct	7.1	3.9	1.2	.4
Nov	6.4	3.7	1.2	.3
Dec	4.9	2.4	.5	.1
Ann	94.7	57.1	20.0	7.1

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	.13	.27	.39	.51	.63	.77	.93	1.14	1.49	1.82
Feb	.00	.11	.26	.38	.50	.63	.77	.94	1.18	1.55	1.91
Mar	.16	.31	.60	.92	1.28	1.69	2.20	2.83	3.72	5.21	6.69
Apr	.81	1.07	1.46	1.80	2.14	2.48	2.87	3.32	3.90	4.82	5.67
May	1.44	1.83	2.41	2.89	3.36	3.84	4.36	4.97	5.75	6.96	8.07
Jun	1.11	1.50	2.09	2.60	3.11	3.64	4.22	4.91	5.81	7.23	8.55
Jul	.64	1.01	1.66	2.28	2.94	3.66	4.49	5.52	6.89	9.14	11.31
Aug	1.18	1.56	2.12	2.60	3.07	3.56	4.09	4.72	5.54	6.82	8.00
Sep	.51	.77	1.21	1.61	2.03	2.49	3.01	3.64	4.49	5.85	7.15
Oct	.13	.26	.52	.79	1.11	1.47	1.92	2.48	3.26	4.59	5.91
Nov	.11	.22	.43	.66	.92	1.23	1.59	2.06	2.71	3.80	4.89
Dec	.06	.11	.22	.35	.49	.66	.86	1.13	1.49	2.11	2.72
Ann	20.27	22.27	24.87	26.88	28.67	30.42	32.23	34.25	36.72	40.34	43.50

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	6.7	5.1	2	1
Feb	5.8	4.4	2	1
Mar	4.5	3.8	1	#
Apr	1.0	.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	.4	.0	#	0
Nov	3.3	1.4	#	#
Dec	5.0	3.8	1	1
Ann	26.7	18.5	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	7.4	1993	20	22.6	1993	20	1984	1	9	1984
Feb	13.6	1971	22	21.2	1971	15	1971	23	8	1979
Mar	8.0	1971	25	14.4	1984	11	1978	5	4	1978
Apr	6.0	1997	11	11.8	1997	11	1997	12	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	#	1985	30	#	1985	0	0	0	0	0
Oct	6.0	1997	26	7.2	1997	6	1997	26	1	1997
Nov	6.6	1975	26	16.2	1991	8	1992	26	2	1991
Dec	7.0	1983	21	16.3	1983	20	1983	31	11	1983
Ann	13.6	Feb 1971	22	22.6	Jan 1993	20+	Jan 1984	1	11	Dec 1983

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.6	2.3	.8	.2	.0
Feb	3.5	1.8	.6	.2	.1
Mar	2.2	1.4	.5	.3	.0
Apr	.6	.3	.1	.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	.1	@	@	.0
Nov	1.6	1.0	.4	.3	.0
Dec	3.4	1.9	.8	.1	.0
Ann	16.1	8.8	3.2	1.2	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	14.0	9.2	5.3	1.4
Feb	9.9	6.7	3.7	1.0
Mar	3.4	2.1	1.2	.2
Apr	.4	.1	.1	@
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	.1	.0
Nov	2.4	1.1	.6	.0
Dec	8.0	4.6	2.5	.4
Ann	38.3	23.9	13.5	3.0

+ 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	5/18	5/13	5/09	5/06	5/03	5/01	4/28	4/24	4/19
32	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/16	4/11
28	4/26	4/21	4/18	4/16	4/13	4/11	4/08	4/05	3/31
24	4/13	4/09	4/06	4/04	4/01	3/30	3/28	3/25	3/21
20	4/07	4/01	3/28	3/24	3/21	3/18	3/15	3/11	3/05
16	4/01	3/24	3/19	3/14	3/10	3/06	3/01	2/24	2/16

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	9/14	9/19	9/22	9/25	9/28	9/30	10/03	10/06	10/11
32	9/24	9/29	10/03	10/06	10/09	10/13	10/16	10/20	10/25
28	10/04	10/10	10/14	10/18	10/21	10/25	10/28	11/01	11/07
24	10/15	10/22	10/26	10/30	11/03	11/07	11/11	11/15	11/22
20	10/21	10/28	11/02	11/06	11/10	11/14	11/18	11/23	11/30
16	10/31	11/07	11/13	11/17	11/21	11/25	11/30	12/05	12/12

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	159	154	150	146	143	139	134	128
32	184	178	173	170	166	162	158	154	148
28	208	202	198	194	191	187	183	179	173
24	237	229	224	219	215	210	206	200	193
20	263	253	245	239	233	227	221	214	203
16	287	276	268	261	255	249	242	235	224

***** 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	1267	998	770	419	166	20	0	12	71	339	778	1141	5981
60	1112	864	616	284	85	4	0	2	22	206	628	986	4809
57	1019	785	529	213	51	1	0	0	9	140	541	893	4181
55	959	733	471	172	34	0	0	0	4	104	487	832	3796
50	809	605	334	88	10	0	0	0	0	44	353	688	2931
32	339	245	50	0	0	0	0	0	0	0	58	248	940

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	95	171	303	576	924	1204	1413	1342	1033	688	271	130	8150
55	1	15	11	57	245	514	700	629	347	80	9	1	2609
57	0	12	7	39	199	455	638	567	292	54	4	0	2267
60	0	6	1	20	140	368	545	475	215	27	0	0	1797
65	0	0	0	5	67	234	390	331	113	5	0	0	1145
70	0	0	0	0	24	125	246	203	49	0	0	0	647

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	8	45	145	358	672	958	1155	1093	790	447	118	19	8	53	198	556	1228	2186	3341	4434	5224	5671	5789	5808
45	0	16	81	236	518	808	1000	938	641	312	59	3	0	16	97	333	851	1659	2659	3597	4238	4550	4609	4612
50	0	4	40	142	369	658	845	783	499	196	22	0	0	4	44	186	555	1213	2058	2841	3340	3536	3558	3558
55	0	1	11	79	234	508	690	628	365	103	5	0	0	1	12	91	325	833	1523	2151	2516	2619	2624	2624
60	0	0	1	35	127	362	535	474	241	46	1	0	0	0	1	36	163	525	1060	1534	1775	1821	1822	1822
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	17	49	119	237	418	631	767	718	507	294	93	23	17	66	185	422	840	1471	2238	2956	3463	3757	3850	3873

(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