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: ALGONA 3 W, IA **COOP ID: 130133**

Climate Division: IA 2 **NWS Call Sign:** **Elevation: 1,230 Feet** **Lat: 43˚04N** **Lon: 94˚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	22.7	3.1	12.9	66	1944	25	25.1	1990	-35	1912	12	.7	1979	1614	0	.0	.0	.3	22.8	30.9	11.3
Feb	29.0	9.9	19.5	70	1896	26	31.3	1987	-36+	1899	9	7.9	1979	1275	0	.0	.0	1.6	15.2	27.1	6.0
Mar	41.9	22.0	32.0	87	1895	29	40.9	2000	-25	1962	1	23.1	1975	1024	0	.0	.0	9.0	6.0	24.5	1.2
Apr	57.0	32.9	45.0	95	1910	28	52.0	1977	6	1975	3	37.3	1975	602	1	.0	.2	22.7	.3	10.4	.0
May	70.5	46.1	58.3	106	1934	30	65.2	1977	21	1967	3	53.1	1997	252	44	.0	.9	30.7	.0	1.1	.0
Jun	79.8	55.9	67.9	105	1985	8	71.9	1987	35	1945	3	63.6	1982	37	121	.1	4.2	30.0	.0	.0	.0
Jul	82.7	60.4	71.6	108	1936	14	75.6	1977	42	1967	4	64.9	1992	14	218	.1	5.8	31.0	.0	.0	.0
Aug	80.3	57.8	69.1	110	1930	3	75.9	1983	37	1915	30	64.2	1992	37	162	.1	3.6	31.0	.0	.0	.0
Sep	72.9	47.9	60.4	99+	1922	6	67.0	1998	22	1942	28	55.6	1974	173	36	.0	1.3	29.8	.0	.8	.0
Oct	60.4	36.0	48.2	94	1997	4	53.2	1973	3	1925	30	42.8	1976	521	0	.0	.1	26.7	.2	8.2	.0
Nov	41.3	22.4	31.9	81+	1931	8	41.8	1999	-17	1898	26	21.9	1985	995	0	.0	.0	8.8	6.9	23.6	1.0
Dec	26.5	9.0	17.8	68	1998	2	26.4	1997	-30	1990	23	1.5	1983	1465	0	.0	.0	.8	19.5	30.6	6.9
Ann	55.4	33.6	44.6	110	Aug 1930	3	75.9	Aug 1983	-36+	Feb 1899	9	.7	Jan 1979	8009	582	.3	16.1	222.4	70.9	157.2	26.4

\+ 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

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: ALGONA 3 W, IA **COOP ID: 130133**

Climate Division: IA 2 **NWS Call Sign:** **Elevation: 1,230 Feet** **Lat: 43˚04N** **Lon: 94˚18W**

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	.73	.51	1.36	1933	22	2.45	1975	.00	1981
Feb	.71	.65	1.55	1893	27	3.45	1971	.00	1985
Mar	1.83	1.32	2.74	1924	3	4.68	1979	.07	1994
Apr	3.10	2.71	3.72	1922	11	7.22	1999	.73	1971
May	3.74	3.46	3.49	1959	21	7.77	1982	1.53	1979
Jun	4.93	3.86	6.18	1954	18	11.02	1994	1.29	1980
Jul	4.18	3.82	4.70	1978	6	8.99	1978	1.11	1995
Aug	3.72	3.59	7.17	1962	31	8.53	1979	.27	1999
Sep	2.85	2.40	5.43	1941	8	7.21	1973	.56	1979
Oct	2.26	1.96	1.94	1970	8	5.47	1971	.27	1975
Nov	1.77	1.43	2.42	1991	30	5.62	1991	.02	1976
Dec	.87	.66	1.87	1911	10	3.41	1982	.08	1989
Ann	30.69	30.63	7.17	Aug 1962	31	11.02	Jun 1994	.00+	Feb 1985

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.5	2.3	.2	@
Feb	4.6	2.3	.2	.1
Mar	7.3	4.4	1.1	.4
Apr	10.2	6.5	2.2	.4
May	11.5	7.8	2.7	.9
Jun	11.0	7.2	3.5	1.3
Jul	10.5	7.0	2.9	1.1
Aug	9.3	6.3	2.4	1.0
Sep	8.9	5.2	1.6	.8
Oct	7.5	4.4	1.5	.5
Nov	6.5	3.7	1.2	.4
Dec	5.2	2.8	.4	@
Ann	98.0	59.9	19.9	6.9

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	.05	.13	.25	.35	.47	.59	.73	.90	1.14	1.52	1.88
Feb	.02	.07	.17	.27	.38	.51	.67	.87	1.15	1.61	2.07
Mar	.21	.35	.60	.86	1.13	1.44	1.79	2.24	2.85	3.85	4.82
Apr	.92	1.21	1.65	2.03	2.40	2.79	3.22	3.72	4.36	5.37	6.31
May	1.73	2.06	2.51	2.88	3.22	3.56	3.93	4.35	4.87	5.67	6.38
Jun	1.35	1.81	2.53	3.15	3.76	4.40	5.10	5.94	7.03	8.74	10.34
Jul	1.29	1.69	2.28	2.79	3.28	3.79	4.35	5.01	5.86	7.18	8.41
Aug	.61	.93	1.48	1.99	2.51	3.09	3.74	4.54	5.61	7.33	8.99
Sep	.48	.72	1.14	1.53	1.93	2.37	2.87	3.47	4.28	5.59	6.85
Oct	.46	.67	1.00	1.30	1.61	1.93	2.30	2.75	3.33	4.27	5.17
Nov	.18	.31	.55	.80	1.06	1.36	1.71	2.15	2.76	3.76	4.73
Dec	.08	.14	.25	.38	.51	.66	.84	1.06	1.37	1.89	2.40
Ann	19.94	21.95	24.56	26.57	28.37	30.13	31.96	34.00	36.49	40.14	43.32

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: ALGONA 3 W, IA **COOP ID: 130133**

Climate Division: IA 2 **NWS Call Sign:** **Elevation: 1,230 Feet** **Lat: 43˚04N** **Lon: 94˚18W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	7.5	6.0	6	4
Feb	6.5	6.9	6	4
Mar	5.1	5.0	3	1
Apr	2.0	1.0	#	#
May	.0	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.2	.0	#	0
Nov	3.7	2.0	1	#
Dec	5.9	6.0	4	2
Ann	30.9	26.9	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	13.0	1975	11	25.8	1975	32	1979	31	22	1979
Feb	13.0	1993	21	15.2	1994	38	1979	19	35	1979
Mar	8.0	1979	4	12.0	1979	39	1979	4	22	1979
Apr	8.0	2000	8	9.0	1983	7	1982	9	1	1982
May	.0	0	0	.0	0	#	1984	1	#	1984
Jun	.0	0	0	.0	0	#	1994	28	#	1994
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	2.0	1981	25	2.0+	1990	#+	1999	2	#+	1999
Nov	8.0	1983	28	18.0	1983	14	1983	30	5	1991
Dec	7.0	1987	28	19.9	1972	38	2000	31	19	2000
Ann	13.0+	Feb 1993	21	25.8	Jan 1975	39	Mar 1979	4	35	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.0	3.3	.8	.3	@
Feb	3.3	2.6	.8	.2	@
Mar	2.5	1.8	.7	.2	.0
Apr	1.1	.9	.3	.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	.0	.0
Nov	2.4	2.0	.5	.2	.0
Dec	3.8	3.2	.9	.4	.0
Ann	17.3	13.9	4.0	1.4	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	21.0	14.5	9.2	4.0
Feb	19.0	13.9	8.4	2.8
Mar	7.7	4.9	3.0	1.0
Apr	1.1	.3	.1	.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	.0	.0	.0	.0
Nov	5.2	2.9	2.0	.1
Dec	15.5	8.5	4.3	1.8
Ann	69.5	45.0	27.0	9.7

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: ALGONA 3 W, IA **COOP ID: 130133**

Climate Division: IA 2 **NWS Call Sign:** **Elevation: 1,230 Feet** **Lat: 43˚04N** **Lon: 94˚18W**

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	5/14	5/11	5/09	5/07	5/05	5/02	4/30	4/26
32	5/13	5/08	5/04	5/01	4/28	4/25	4/22	4/19	4/14
28	4/29	4/24	4/21	4/18	4/15	4/12	4/09	4/06	4/01
24	4/16	4/12	4/09	4/06	4/04	4/02	3/30	3/27	3/23
20	4/13	4/09	4/05	4/02	3/31	3/28	3/25	3/22	3/17
16	4/07	4/02	3/28	3/25	3/22	3/19	3/15	3/11	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	9/13	9/17	9/21	9/23	9/26	9/28	10/01	10/04	10/09
32	9/20	9/25	9/28	9/30	10/03	10/05	10/08	10/11	10/16
28	9/28	10/04	10/08	10/12	10/15	10/19	10/22	10/26	11/01
24	10/10	10/15	10/20	10/23	10/26	10/30	11/02	11/06	11/12
20	10/21	10/26	10/30	11/02	11/04	11/07	11/10	11/13	11/18
16	10/29	11/03	11/07	11/10	11/13	11/16	11/19	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	158	152	148	145	141	138	134	130	124
32	174	168	164	160	157	153	150	145	139
28	204	196	191	187	183	178	174	169	161
24	223	217	212	208	205	201	197	192	186
20	239	232	227	222	218	214	209	204	196
16	259	251	245	240	236	231	226	221	213

***** 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/normals/usnormals.html

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: ALGONA 3 W, IA **COOP ID: 130133**

Climate Division: IA 2 **NWS Call Sign:** **Elevation: 1,230 Feet** **Lat: 43˚04N** **Lon: 94˚18W**

Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1614	1275	1024	602	252	37	14	37	173	521	995	1465	8009
60	1459	1135	869	457	153	8	0	9	82	371	845	1310	6698
57	1366	1051	776	375	106	3	0	2	46	287	755	1217	5984
55	1304	995	714	324	81	1	0	1	29	237	696	1155	5537
50	1149	855	569	209	36	0	0	0	6	131	554	1000	4509
32	623	408	157	11	0	0	0	0	0	3	159	493	1854

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	32	57	155	400	815	1075	1227	1148	852	506	154	51	6472
55	0	0	0	23	183	386	514	436	191	26	1	0	1760
57	0	0	0	14	146	327	452	376	148	15	0	0	1478
60	0	0	0	7	99	243	359	289	95	5	0	0	1097
65	0	0	0	1	44	121	218	162	36	0	0	0	582
70	0	0	0	0	15	41	107	74	9	0	0	0	246

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	0	3	65	266	631	888	1021	950	671	337	57	2	0	3	68	334	965	1853	2874	3824	4495	4832	4889	4891
45	0	0	28	165	476	738	866	795	523	214	25	0	0	0	28	193	669	1407	2273	3068	3591	3805	3830	3830
50	0	0	7	89	332	589	711	640	383	121	7	0	0	0	7	96	428	1017	1728	2368	2751	2872	2879	2879
55	0	0	2	43	211	439	556	485	249	55	2	0	0	0	2	45	256	695	1251	1736	1985	2040	2042	2042
60	0	0	0	16	114	295	401	333	143	22	0	0	0	0	0	16	130	425	826	1159	1302	1324	1324	1324
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	2	44	170	382	578	687	625	418	203	34	1	0	2	46	216	598	1176	1863	2488	2906	3109	3143	3144

(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

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