

Climatography of the United States

No. 20

1971-2000

Station: SIGOURNEY, IA

COOP ID: 137678

Climate Division: IA 9

NWS Call Sign:

Elevation: 800 Feet

Lat: 41° 20N

Lon: 92° 12W

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	28.5	9.8	19.2	70	1989	31	31.0	1989	-24+	1970	21	4.5	1979	1422	0	.0	.0	1.8	17.0	29.6	7.6
Feb	34.8	15.1	25.0	72	1976	27	37.2	1998	-27	1996	4	10.9	1979	1121	0	.0	.0	4.7	11.3	25.3	4.0
Mar	47.1	26.2	36.7	86	1986	29	43.4	2000	-20	1962	1	28.7	1975	880	0	.0	.0	14.0	3.5	19.6	.4
Apr	60.3	37.6	49.0	93	1965	30	56.1	1981	7	1982	6	43.9	1983	486	4	.0	.1	24.7	.3	7.0	.0
May	71.2	49.1	60.2	94	1956	12	66.8	1977	29	1970	2	54.3	1997	202	52	.0	.4	30.8	.0	.1	.0
Jun	80.8	58.4	69.6	105	1988	25	74.9	1971	41	1993	1	64.7	1982	29	165	.1	4.0	30.0	.0	.0	.0
Jul	85.4	63.1	74.3	107	1988	31	79.1	1983	45	1972	5	68.6	1992	7	292	.7	9.6	31.0	.0	.0	.0
Aug	83.3	60.6	72.0	107	1988	15	81.4	1983	40	1950	20	65.8	1992	30	245	.8	6.6	31.0	.0	.0	.0
Sep	75.3	51.5	63.4	99	1955	9	68.4	1998	28	1964	28	57.7	1993	118	70	.0	2.0	29.9	.0	.2	.0
Oct	63.4	40.2	51.8	93	1953	2	57.3	1971	14	1972	19	45.9	1976	412	3	.0	.1	28.5	.0	4.8	.0
Nov	46.6	27.6	37.1	79	1999	9	45.5	1999	-5	1976	29	30.0	1991	837	0	.0	.0	13.3	3.1	18.3	.2
Dec	33.1	16.0	24.6	71	1998	5	31.6	1982	-23	1989	24	11.4	2000	1254	0	.0	.0	2.9	12.3	28.5	3.8
Ann	59.2	37.9	48.6	107+	Aug 1988	15	81.4	Aug 1983	-27	Feb 1996	4	4.5	Jan 1979	6798	831	1.6	22.8	242.6	47.5	133.4	16.0

+ 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

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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No. 20 1971-2000

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

Station: SIGOURNEY, IA

COOP ID: 137678

Climate Division: IA 9

NWS Call Sign:

Elevation: 800 Feet Lat: 41°20N

Lon: 92°12W

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	1.08	.98	1.68	1971	4	3.07	1979	.02	1986	5.8	2.9	.5	.1	.11	.19	.33	.48	.65	.83	1.05	1.32	1.69	2.31	2.92
Feb	1.01	.95	1.66	2001	9	3.48	1997	.11	1987	5.1	3.0	.4	@	.16	.25	.40	.53	.68	.83	1.01	1.23	1.52	1.99	2.45
Mar	2.34	1.80	2.25	1982	19	6.14	1982	.12	1971	7.9	5.3	1.3	.5	.25	.42	.75	1.07	1.42	1.82	2.28	2.86	3.64	4.94	6.22
Apr	3.61	3.01	4.58	1976	24	10.07	1981	1.14	1985	9.8	6.6	2.4	.8	.87	1.21	1.74	2.21	2.67	3.17	3.72	4.37	5.23	6.59	7.86
May	4.28	3.57	3.61	1996	10	11.84	1996	.46	1992	11.9	8.0	3.0	1.0	.95	1.35	1.97	2.54	3.10	3.71	4.38	5.19	6.26	7.95	9.56
Jun	4.18	3.78	3.24	1990	20	9.45	2000	.53	1988	10.6	7.1	2.6	1.0	.90	1.28	1.89	2.45	3.01	3.60	4.28	5.08	6.14	7.84	9.44
Jul	4.11	3.35	3.85	1992	26	13.78	1992	.18	1975	9.1	6.3	2.9	1.4	.50	.82	1.40	1.97	2.58	3.26	4.05	5.03	6.35	8.53	10.65
Aug	4.31	4.24	4.75	1965	30	10.24	1993	.52	1976	9.3	6.7	2.8	1.3	1.20	1.61	2.23	2.77	3.30	3.85	4.47	5.19	6.14	7.62	9.00
Sep	3.74	3.65	3.52	1992	10	9.00	1992	.18	1979	8.6	6.4	2.6	1.0	1.02	1.37	1.91	2.38	2.85	3.33	3.87	4.51	5.35	6.65	7.87
Oct	2.76	2.46	2.42	1998	5	7.39	1998	.49	1975	8.2	5.4	1.9	.5	.60	.86	1.26	1.63	2.00	2.39	2.83	3.35	4.05	5.16	6.20
Nov	2.59	2.30	3.43	1952	17	6.83	1992	.10	1989	8.3	5.3	1.7	.6	.36	.57	.94	1.30	1.68	2.10	2.58	3.17	3.97	5.27	6.53
Dec	1.33	1.22	2.07	1971	15	2.97	1982	.26	1976	6.8	3.7	.6	.2	.31	.43	.63	.80	.97	1.16	1.36	1.61	1.93	2.45	2.93
Ann	35.34	35.29	4.75	Aug 1965	30	13.78	Jul 1992	.02	Jan 1986	101.4	66.7	22.7	8.4	22.49	24.88	27.99	30.39	32.55	34.66	36.85	39.30	42.31	46.72	50.57

+ 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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Station: SIGOURNEY, IA

COOP ID: 137678

Climate Division: IA 9

NWS Call Sign:

Elevation: 800 Feet

Lat: 41°20N

Lon: 92°12W

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	7.3	7.1	3	3	7.0	1984	1	16.9	1996	15	1982	15	13	1982	3.8	2.5	1.0	.4	.0	12.3	8.0	5.1	.3
Feb	6.5	6.0	3	2	7.0	1994	23	17.0	1997	15	1982	6	9	1983	2.5	1.7	.8	.4	.0	9.3	6.2	2.4	.6
Mar	3.0	1.3	#	#	8.0	1999	9	15.5	1983	13	1999	9	4	1977	1.5	.9	.3	.2	.0	2.5	1.3	.7	.1
Apr	2.0	.0	#	0	9.3	1980	11	15.5	1973	16	1973	10	2	1973	.7	.5	.3	.1	.0	.5	.3	.3	.1
May	#	.0	0	0	#	1994	1	#	1994	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	#	1983	16	#	1983	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	#	0	7.5	1997	27	7.5	1997	8	1997	27	1	1997	.1	.1	.1	.1	.0	.1	.1	.1	.0
Nov	2.2	.3	#	#	7.0	1974	30	12.5	1974	9	1974	30	1	1995	1.0	.8	.3	.1	.0	1.7	.8	.2	.0
Dec	5.1	3.1	2	1	7.0	2000	12	24.0	2000	16	2000	31	11	2000	2.9	2.0	.6	.2	.0	8.6	4.1	2.1	1.2
Ann	26.5	17.8	N/A	N/A	9.3	Apr 1980	11	24.0	Dec 2000	16+	Dec 2000	31	13	Jan 1982	12.5	8.5	3.4	1.5	.0	35.0	20.8	10.9	2.3

+ 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:

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NWS Call Sign:

Elevation: 800 Feet

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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	5/14	5/10	5/07	5/04	5/01	4/28	4/26	4/22	4/18
32	5/02	4/27	4/24	4/22	4/19	4/16	4/14	4/11	4/06
28	4/21	4/17	4/14	4/12	4/10	4/07	4/05	4/02	3/29
24	4/16	4/12	4/09	4/06	4/04	4/02	3/30	3/27	3/23
20	4/08	4/04	3/31	3/28	3/26	3/23	3/20	3/16	3/12
16	3/29	3/23	3/18	3/14	3/11	3/07	3/03	2/27	2/21
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	9/22	9/25	9/28	10/01	10/03	10/05	10/08	10/10	10/14
32	9/28	10/03	10/07	10/10	10/13	10/16	10/20	10/23	10/29
28	10/08	10/14	10/18	10/21	10/24	10/28	10/31	11/04	11/10
24	10/16	10/22	10/26	10/30	11/02	11/05	11/09	11/13	11/19
20	10/28	11/02	11/06	11/09	11/12	11/15	11/18	11/22	11/27
16	11/03	11/10	11/14	11/18	11/22	11/25	11/29	12/04	12/10
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	165	161	157	154	151	148	144	138
32	199	191	186	181	177	172	168	162	155
28	218	211	206	201	197	193	189	183	176
24	230	223	219	215	211	208	204	199	193
20	253	245	240	235	231	226	222	216	209
16	283	273	267	261	255	250	244	237	227

* 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	1422	1121	880	486	202	29	7	30	118	412	837	1254	6798
60	1267	981	725	349	111	6	0	9	48	271	687	1099	5553
57	1174	897	633	274	72	2	0	3	23	199	598	1006	4881
55	1112	845	577	229	51	1	0	1	13	156	540	944	4469
50	958	715	434	135	18	0	0	0	2	75	403	797	3537
32	459	306	90	3	0	0	0	0	0	1	76	330	1265

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	59	110	234	511	873	1127	1308	1238	942	615	230	99	7346
55	0	4	7	47	211	437	595	525	265	57	4	0	2152
57	0	0	1	32	170	379	533	466	215	38	1	0	1835
60	0	0	0	17	116	293	440	378	150	17	0	0	1411
65	0	0	0	4	52	165	292	245	70	3	0	0	831
70	0	0	0	0	17	72	160	140	24	0	0	0	413

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	27	119	342	685	944	1114	1042	757	424	113	12	6	33	152	494	1179	2123	3237	4279	5036	5460	5573	5585
45	1	8	69	226	530	794	959	887	607	288	58	4	1	9	78	304	834	1628	2587	3474	4081	4369	4427	4431
50	0	0	32	135	379	644	804	732	459	175	26	0	0	0	32	167	546	1190	1994	2726	3185	3360	3386	3386
55	0	0	11	68	241	494	649	577	319	91	8	0	0	0	11	79	320	814	1463	2040	2359	2450	2458	2458
60	0	0	4	29	137	346	494	422	206	38	1	0	0	0	4	33	170	516	1010	1432	1638	1676	1677	1677
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	21	77	209	416	629	759	698	481	253	68	5	0	21	98	307	723	1352	2111	2809	3290	3543	3611	3616

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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