

Climatography of the United States

No. 20

1971-2000

Station: CRESTON 2 SW, IA

COOP ID: 131962

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,320 Feet Lat: 41°02N

Lon: 94°24W

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	28.9	10.0	19.5	65	1989	31	31.2	1989	-23+	1966	29	5.1	1979	1412	0	.0	.0	1.9	16.3	30.0	6.7
Feb	35.4	15.1	25.3	74	1972	29	35.8	1998	-26+	1996	2	10.7	1979	1114	0	.0	.0	5.5	11.2	25.3	3.8
Mar	48.1	26.3	37.2	86	1986	29	43.4	1977	-20	1960	5	29.2	1984	861	0	.0	.0	14.9	3.2	20.3	.5
Apr	60.2	36.9	48.6	93	1952	30	55.3	1981	7	1975	3	41.7	1983	497	3	.0	.2	25.3	.2	7.5	.0
May	71.3	49.7	60.5	95+	1953	25	67.6	1977	27+	1954	4	55.5	1997	195	55	.0	.1	31.0	.0	.4	.0
Jun	80.8	59.1	70.0	101+	1952	13	75.4	1988	38+	1956	1	65.5	1982	24	172	.2	4.4	30.0	.0	.0	.0
Jul	84.9	64.1	74.5	106	1955	31	78.7	1980	40	1971	30	70.4	1992	4	298	.7	9.5	31.0	.0	.0	.0
Aug	82.7	61.6	72.2	103	1983	16	80.1	1983	39+	1950	20	66.8	1992	22	244	.3	6.7	31.0	.0	.0	.0
Sep	75.0	51.8	63.4	100+	1953	28	70.2	1998	24	1984	29	57.8	1993	117	70	@	2.1	29.9	.0	.4	.0
Oct	63.6	40.5	52.1	92+	1953	2	57.7	1971	13+	1980	28	47.0	1976	404	3	.0	.1	28.3	.1	5.3	.0
Nov	45.9	26.7	36.3	79+	1952	1	45.7	1999	-18	1964	30	28.0	1991	861	0	.0	.0	13.5	3.3	19.5	.3
Dec	32.8	14.9	23.9	66+	1984	28	29.7	1998	-26	1989	22	8.4	1983	1276	0	.0	.0	3.2	12.8	29.2	4.0
Ann	59.1	38.1	48.6	106	Jul 1955	31	80.1	Aug 1983	-26+	Feb 1996	2	5.1	Jan 1979	6787	845	1.2	23.1	245.5	47.1	137.9	15.3

+ 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/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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Climatology 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: CRESTON 2 SW, IA

COOP ID: 131962

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,320 Feet Lat: 41°02N

Lon: 94°24W

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	.80	.85	2.56	1960	12	1.98	1982	.00+	2000	6.2	2.6	.3	.0	.00	.00	.19	.33	.47	.62	.80	1.02	1.30	1.77	2.23
Feb	.92	.66	2.35	1973	1	3.39	1973	.01	1994	6.4	2.8	.4	.1	.08	.15	.27	.40	.54	.70	.89	1.12	1.45	2.00	2.54
Mar	2.07	1.73	1.80	1990	8	5.94	1990	.06	1999	8.9	4.6	1.3	.4	.21	.36	.65	.93	1.25	1.60	2.01	2.53	3.23	4.40	5.55
Apr	3.37	3.02	2.29	1976	17	6.76	1986	.84	1985	10.5	6.5	2.2	.8	.87	1.19	1.68	2.11	2.53	2.98	3.48	4.07	4.85	6.06	7.21
May	4.57	4.50	4.40	1950	9	10.98	1982	1.02	1992	11.9	8.2	3.3	1.2	1.28	1.72	2.37	2.94	3.50	4.09	4.73	5.50	6.49	8.04	9.49
Jun	4.30	4.35	3.61	1967	21	7.59	1984	.82	1992	10.2	7.0	2.8	1.4	1.30	1.71	2.32	2.84	3.36	3.89	4.47	5.16	6.05	7.43	8.72
Jul	4.38	4.42	4.15	1979	24	14.01	1993	.34	1975	9.3	6.4	2.8	1.3	.80	1.18	1.82	2.42	3.03	3.69	4.43	5.34	6.54	8.48	10.32
Aug	3.76	2.76	4.92	1977	27	13.51	1977	.46	1984	9.5	6.0	2.2	1.0	.67	1.00	1.55	2.06	2.59	3.16	3.81	4.59	5.64	7.33	8.94
Sep	3.97	3.05	7.29	1992	17	11.41	1992	.59	1998	8.5	5.8	2.4	1.2	.72	1.07	1.66	2.20	2.75	3.34	4.02	4.84	5.94	7.69	9.37
Oct	2.59	2.82	3.46	1973	11	5.00	1977	.10	1975	8.1	4.9	1.6	.5	.37	.59	.96	1.32	1.69	2.10	2.58	3.16	3.94	5.22	6.45
Nov	2.25	1.97	4.06	1952	17	5.23	1983	.03	1976	7.5	4.6	1.7	.5	.24	.41	.72	1.04	1.37	1.75	2.20	2.75	3.50	4.75	5.97
Dec	.98	.76	1.46	1982	28	3.53	1982	.00	1998	7.2	3.2	.4	.1	.03	.10	.23	.37	.53	.71	.92	1.20	1.57	2.21	2.84
Ann	33.96	32.72	7.29	Sep 1992	17	14.01	Jul 1993	.00+	Jan 2000	104.2	62.6	21.4	8.5	21.67	23.96	26.93	29.23	31.29	33.31	35.41	37.75	40.62	44.83	48.51

+ 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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: CRESTON 2 SW, IA

COOP ID: 131962

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,320 Feet

Lat: 41°02N

Lon: 94°24W

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	5.5	3.8	2	#	9.0	1971	4	15.0	1971	16	1996	27	10	1971	2.8	1.7	.7	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	5.8	3.8	2	#	9.0	1993	26	13.8	1983	18	1993	26	8	1993	2.8	1.6	.7	.3	.0	-9.9	-9.9	-9.9	-9.9
Mar	1.4	.4	#	0	7.0	1983	27	7.6	1983	7	1995	7	1	1995	1.3	.6	.1	@	.0	1.2	.4	.3	.0
Apr	.7	.0	#	0	4.5	1979	2	4.5	1979	13	1997	12	1	1997	.4	.2	.1	.0	.0	.0	.0	.0	.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	.2	.0	#	0	3.5	1980	27	3.5	1980	4	1980	27	#	1980	.1	@	@	.0	.0	@	@	.0	.0
Nov	2.7	1.3	#	0	7.8	1987	29	10.4	1983	8	1987	30	4	1992	.8	.6	.2	.1	.0	.5	.4	.1	.0
Dec	4.7	2.3	1	0	5.0	1983	21	16.5	1983	15	1995	9	6	1972	1.6	1.2	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Ann	21.0	11.6	N/A	N/A	9.0+	Feb 1993	26	16.5	Dec 1983	18	Feb 1993	26	10	Jan 1971	9.8	5.9	2.2	.6	.0	-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

Complete documentation available from:

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Elevation: 1,320 Feet

Lat: 41°02N

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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	5/17	5/12	5/08	5/05	5/02	4/29	4/26	4/23	4/18
32	5/06	5/02	4/29	4/27	4/24	4/22	4/19	4/16	4/12
28	4/30	4/25	4/21	4/18	4/15	4/12	4/09	4/05	3/31
24	4/15	4/12	4/09	4/07	4/05	4/02	3/31	3/28	3/25
20	4/11	4/06	4/03	3/31	3/28	3/25	3/23	3/19	3/14
16	3/30	3/24	3/20	3/16	3/13	3/10	3/06	3/02	2/25
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	9/15	9/20	9/23	9/26	9/29	10/02	10/05	10/09	10/14
32	9/22	9/27	9/30	10/03	10/06	10/09	10/12	10/16	10/21
28	9/29	10/06	10/11	10/15	10/18	10/22	10/26	10/31	11/06
24	10/11	10/18	10/22	10/26	10/30	11/03	11/07	11/12	11/18
20	10/25	10/30	11/03	11/07	11/10	11/13	11/17	11/21	11/27
16	10/29	11/04	11/08	11/12	11/16	11/19	11/23	11/28	12/04
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	163	158	153	149	145	141	136	129
32	183	176	172	168	164	161	157	152	146
28	211	202	196	191	186	181	176	169	161
24	229	222	216	212	208	204	199	194	187
20	251	242	236	231	226	221	216	210	202
16	273	264	257	252	247	242	236	230	221

* 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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NWS Call Sign:

Elevation: 1,320 Feet Lat: 41°02N Lon: 94°24W

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	1412	1114	861	497	195	24	4	22	117	404	861	1276	6787
60	1257	974	706	358	107	5	0	5	48	264	711	1121	5556
57	1164	890	615	282	69	1	0	1	23	192	622	1028	4887
55	1102	838	560	235	49	0	0	0	13	150	565	966	4478
50	948	708	418	139	17	0	0	0	2	72	428	813	3545
32	448	302	84	4	0	0	0	0	0	1	90	333	1262

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	59	112	246	500	882	1138	1317	1245	943	623	220	80	7365
55	0	5	8	42	218	449	604	532	266	59	4	0	2187
57	0	0	2	28	176	390	542	471	216	39	2	0	1866
60	0	0	0	14	121	303	449	382	151	18	0	0	1438
65	0	0	0	3	55	172	298	244	70	3	0	0	845
70	0	0	0	0	18	75	160	135	24	0	0	0	412

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	3	26	129	350	675	937	1103	1031	753	428	103	7	3	29	158	508	1183	2120	3223	4254	5007	5435	5538	5545
45	0	9	69	234	521	787	948	876	604	294	52	4	0	9	78	312	833	1620	2568	3444	4048	4342	4394	4398
50	0	1	34	136	372	637	793	721	460	180	19	0	0	1	35	171	543	1180	1973	2694	3154	3334	3353	3353
55	0	0	9	69	242	488	638	566	323	95	3	0	0	0	9	78	320	808	1446	2012	2335	2430	2433	2433
60	0	0	2	30	126	340	483	412	205	40	0	0	0	0	2	32	158	498	981	1393	1598	1638	1638	1638
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	23	91	217	414	624	751	692	482	258	65	6	2	25	116	333	747	1371	2122	2814	3296	3554	3619	3625

(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.

- 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/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