

Climatology of the United States

No. 20

1971-2000

Station: CENTERVILLE, IA

COOP ID: 131354

Climate Division: IA 8

NWS Call Sign:

Elevation: 980 Feet

Lat: 40°44N

Lon: 92°52W

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	31.0	12.2	21.6	70	1989	31	33.8	1990	-25	1974	12	7.1	1979	1346	0	.0	.0	2.4	15.3	29.2	6.0
Feb	37.4	17.4	27.4	72+	1972	28	38.3	1998	-24	1996	3	13.7	1979	1054	0	.0	.0	5.4	10.1	23.8	3.0
Mar	49.6	27.6	38.6	88	1986	29	44.9	1973	-16	1962	1	30.0	1984	820	0	.0	.0	15.2	2.7	18.6	.3
Apr	61.9	38.0	50.0	89+	1980	21	55.9	1981	12	1975	3	43.3	1983	457	4	.0	.0	25.8	.1	5.7	.0
May	72.3	49.7	61.0	96	1966	6	67.2	1977	27	1976	4	55.9	1997	183	59	.0	.2	30.9	.0	.2	.0
Jun	81.6	59.7	70.7	104	1988	25	76.4	1971	40+	1964	5	65.3	1982	20	189	.1	3.3	30.0	.0	.0	.0
Jul	86.4	64.9	75.7	106	1983	28	81.3	1983	45	1967	4	71.8	1992	1	331	.4	9.8	31.0	.0	.0	.0
Aug	84.5	62.7	73.6	107+	1983	17	82.8	1983	40	1950	20	67.8	1992	16	282	.8	6.4	31.0	.0	.0	.0
Sep	76.0	53.8	64.9	100	1984	1	69.8	1971	29+	1949	29	58.0	1993	96	94	@	1.9	29.9	.0	.2	.0
Oct	64.6	42.4	53.5	93+	1953	2	60.4	1971	17	1952	29	47.9	1976	364	7	.0	@	28.6	.0	4.1	.0
Nov	48.5	29.5	39.0	79	1999	9	48.4	1999	-11	1964	30	32.2	1985	781	0	.0	.0	14.5	2.3	17.6	.1
Dec	35.5	18.0	26.8	71	1998	5	33.3	1998	-23	1989	23	11.3	1983	1186	0	.0	.0	3.9	11.4	28.1	3.0
Ann	60.8	39.7	50.2	107+	Aug 1983	17	82.8	Aug 1983	-25	Jan 1974	12	7.1	Jan 1979	6324	966	1.3	21.6	248.6	41.9	127.5	12.4

+ 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/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

023-A

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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: CENTERVILLE, IA

COOP ID: 131354

Climate Division: IA 8

NWS Call Sign:

Elevation: 980 Feet Lat: 40°44N

Lon: 92°52W

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	.91	.67	1.54	1996	18	2.60	1996	.02	1986	5.6	2.5	.4	.1	.10	.17	.29	.42	.55	.71	.89	1.11	1.41	1.92	2.41
Feb	.98	.95	1.78	2001	9	2.99	1997	.06	1996	5.5	3.0	.4	@	.18	.27	.41	.54	.68	.83	.99	1.20	1.46	1.90	2.31
Mar	2.23	1.94	2.02	1976	5	6.00	1973	.21	1994	7.1	4.8	1.5	.4	.35	.55	.87	1.18	1.49	1.84	2.24	2.72	3.37	4.43	5.44
Apr	3.49	3.46	3.96	1992	11	7.20	1973	.60	1985	8.9	6.1	2.3	.8	.88	1.21	1.71	2.16	2.61	3.07	3.60	4.21	5.02	6.30	7.50
May	4.76	4.43	3.06	1973	27	9.34+	1996	1.14	1992	10.2	7.8	3.5	1.4	1.41	1.86	2.54	3.13	3.70	4.29	4.95	5.72	6.72	8.28	9.73
Jun	4.55	4.70	3.33	1975	25	10.56	1980	.57	1977	9.0	6.9	3.1	1.6	1.10	1.53	2.19	2.78	3.37	3.99	4.68	5.50	6.58	8.30	9.90
Jul	5.14	3.82	4.37	1981	4	16.94	1993	.33	1983	8.6	6.5	3.2	1.4	.78	1.22	1.96	2.67	3.41	4.22	5.15	6.28	7.81	10.28	12.66
Aug	4.07	3.55	4.49	1970	8	11.40	1977	.64	1984	7.9	5.8	2.9	1.2	1.23	1.62	2.19	2.69	3.17	3.67	4.23	4.87	5.71	7.02	8.23
Sep	4.01	4.02	3.00	1961	13	7.24	1973	.36	1979	7.2	6.3	3.0	1.3	1.34	1.72	2.28	2.75	3.20	3.67	4.18	4.78	5.54	6.73	7.82
Oct	2.91	2.72	4.25	1954	5	6.99	1984	.09	1987	6.6	4.8	1.7	.7	.32	.54	.94	1.35	1.78	2.27	2.84	3.55	4.52	6.12	7.67
Nov	2.36	2.25	2.28	1987	1	7.36	1983	.04	1989	7.1	4.9	1.6	.6	.25	.43	.76	1.09	1.44	1.84	2.31	2.89	3.68	4.99	6.27
Dec	1.31	1.20	2.32	1980	8	3.63	1980	.16	1976	5.6	3.1	.7	.2	.17	.27	.46	.64	.83	1.04	1.29	1.60	2.01	2.69	3.34
Ann	36.72	35.22	4.49	Aug 1970	8	16.94	Jul 1993	.02	Jan 1986	89.3	62.5	24.3	9.7	23.56	26.01	29.20	31.65	33.86	36.01	38.26	40.76	43.82	48.31	52.23

+ 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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Station: CENTERVILLE, IA

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Climate Division: IA 8

NWS Call Sign:

Elevation: 980 Feet

Lat: 40°44N

Lon: 92°52W

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	5.8	4.5	2	1	10.0	1996	27	19.6	1996	13	1996	31	5	1999	4.3	2.8	1.0	.2	@	14.1	8.1	2.7	.2
Feb	4.7	5.0	1	1	6.7	1994	23	11.5	1989	12	1996	5	4+	1996	3.5	2.4	.6	.2	.0	10.4	5.9	3.0	.6
Mar	2.5	.8	#	#	7.0	1998	9	14.3	1984	7+	1999	10	1	1999	2.1	1.5	.6	.1	.0	4.2	2.2	1.1	.4
Apr	1.8	.0	#	0	15.0	1997	11	21.0	1997	20	1997	13	3	1997	.7	.5	.2	.1	.0	.8	.5	.3	@
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	.3	.0	#	0	4.7	1980	28	4.7	1980	5	1980	28	#+	1997	.2	.1	@	@	.0	.0	.0	.0	.0
Nov	1.4	.8	#	#	6.0	1974	30	9.0	1991	6	1974	30	1	1991	.9	.6	.3	.2	.0	1.7	.6	.2	.0
Dec	3.9	.7	1	#	8.0	1973	19	12.9	1983	13	2000	31	7	2000	2.7	1.9	.7	.1	.0	7.6	3.3	1.3	.2
Ann	20.4	11.8	N/A	N/A	15.0	Apr 1997	11	21.0	Apr 1997	20	Apr 1997	13	7	Dec 2000	14.4	9.8	3.4	.9	@	38.8	20.6	8.6	1.4

+ 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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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	5/11	5/07	5/04	5/01	4/29	4/27	4/24	4/21	4/17
32	5/03	4/28	4/25	4/22	4/20	4/17	4/15	4/11	4/07
28	4/19	4/16	4/13	4/11	4/09	4/07	4/04	4/02	3/29
24	4/13	4/09	4/06	4/03	4/01	3/29	3/27	3/24	3/20
20	4/08	4/02	3/28	3/24	3/20	3/17	3/13	3/08	3/01
16	3/28	3/21	3/17	3/13	3/09	3/05	3/01	2/24	2/18
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	9/20	9/24	9/28	9/30	10/03	10/05	10/08	10/11	10/15
32	9/24	9/30	10/04	10/08	10/11	10/15	10/18	10/22	10/28
28	10/11	10/16	10/20	10/23	10/25	10/28	10/31	11/04	11/08
24	10/19	10/25	10/29	11/02	11/05	11/08	11/12	11/16	11/22
20	10/30	11/05	11/09	11/12	11/16	11/19	11/23	11/27	12/03
16	11/10	11/15	11/19	11/23	11/26	11/29	12/02	12/06	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	171	166	162	159	156	153	150	146	140
32	196	188	183	178	174	169	165	159	152
28	218	211	207	203	199	195	191	187	180
24	237	230	226	221	218	214	210	205	198
20	270	260	252	246	240	234	227	220	209
16	288	279	272	266	261	256	250	244	235

* 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	1346	1054	820	457	183	20	1	16	96	364	781	1186	6324
60	1191	914	665	320	97	4	0	3	37	232	631	1031	5125
57	1098	832	580	246	61	1	0	0	18	166	544	938	4484
55	1036	781	521	202	42	0	0	0	10	128	488	876	4084
50	887	651	383	112	14	0	0	0	1	60	355	731	3194
32	406	262	72	2	0	0	0	0	0	0	58	277	1077

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	83	132	275	539	899	1160	1353	1289	988	666	267	115	7766
55	0	7	11	49	228	470	640	576	308	82	8	0	2379
57	0	2	8	33	184	411	578	515	256	57	4	0	2048
60	0	0	0	17	128	323	485	424	185	30	1	0	1593
65	0	0	0	4	59	189	331	282	94	7	0	0	966
70	0	0	0	0	20	87	192	164	37	1	0	0	501

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	38	148	377	695	949	1122	1061	775	454	128	17	6	44	192	569	1264	2213	3335	4396	5171	5625	5753	5770
45	0	11	82	253	541	799	967	906	625	311	69	6	0	11	93	346	887	1686	2653	3559	4184	4495	4564	4570
50	0	2	40	149	392	649	812	751	481	195	27	1	0	2	42	191	583	1232	2044	2795	3276	3471	3498	3499
55	0	0	18	76	252	499	657	596	343	103	10	0	0	0	18	94	346	845	1502	2098	2441	2544	2554	2554
60	0	0	6	35	134	350	502	442	217	45	3	0	0	0	6	41	175	525	1027	1469	1686	1731	1734	1734
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	3	23	96	226	421	638	773	724	497	264	73	8	3	26	122	348	769	1407	2180	2904	3401	3665	3738	3746

(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