

Climatology of the United States

No. 20

1971-2000

Station: DECORAH, IA

COOP ID: 132110

Climate Division: IA 3

NWS Call Sign:

Elevation: 860 Feet Lat: 43° 18N Lon: 91° 48W

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	24.7	6.6	15.7	56	1981	25	28.2	1990	-43	1951	30	2.1	1977	1530	0	.0	.0	.3	22.3	30.6	11.0
Feb	31.1	13.0	22.1	62+	1981	17	33.3	1998	-41	1996	3	10.9	1979	1202	0	.0	.0	1.2	14.8	26.6	6.3
Mar	43.6	24.5	34.1	84	1986	30	42.1	2000	-33	1962	1	23.2	1975	960	0	.0	.0	9.0	5.9	23.9	1.5
Apr	59.0	36.1	47.6	93	1980	22	54.7	1977	5	1982	6	40.3	1975	526	3	.0	.1	23.1	.4	11.0	.0
May	71.6	47.6	59.6	93+	1948	20	67.1	1977	22	1966	10	54.0	1997	219	51	.0	.3	30.8	.0	1.5	.0
Jun	80.1	56.9	68.5	101	1988	22	73.5	1971	33	1993	1	63.4	1982	39	144	.1	2.9	30.0	.0	.0	.0
Jul	83.6	61.5	72.6	102	1995	13	76.5	1987	41	1967	4	66.8	1992	10	244	.1	4.4	31.0	.0	.0	.0
Aug	81.5	59.6	70.6	104	1955	21	76.5	1995	35	1958	25	65.0	1992	26	198	.1	2.7	31.0	.0	.0	.0
Sep	73.8	50.9	62.4	100	1955	9	67.9	1998	21	1949	29	56.6	1993	133	53	.0	1.0	29.9	.0	.7	.0
Oct	61.4	39.6	50.5	94	1963	6	56.7	1971	10	1952	29	44.8	1976	452	2	.0	.1	26.7	.1	8.2	.0
Nov	43.2	26.7	35.0	78	1999	8	42.3	1999	-16	1977	26	27.5	1991	901	0	.0	.0	9.0	5.3	21.7	.7
Dec	29.2	13.0	21.1	64	2001	5	30.1	1998	-36	1950	27	8.8	2000	1362	0	.0	.0	.9	18.3	29.9	6.2
Ann	56.9	36.3	46.7	104	Aug 1955	21	76.5+	Aug 1995	-43	Jan 1951	30	2.1	Jan 1977	7360	695	.3	11.5	222.9	67.1	154.1	25.7

+ 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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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: DECORAH, IA

COOP ID: 132110

Climate Division: IA 3

NWS Call Sign:

Elevation: 860 Feet Lat: 43°18N

Lon: 91°48W

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	.93	.89	1.25	1967	25	3.73	1996	.11	1981	6.6	3.2	.3	@	.15	.23	.37	.49	.63	.77	.93	1.13	1.40	1.84	2.25
Feb	.85	.75	1.17+	1971	19	2.69	1998	.00	1987	5.0	2.7	.4	.1	.04	.11	.24	.36	.49	.64	.82	1.05	1.35	1.86	2.35
Mar	1.82	1.87	1.97	1956	28	3.83	1990	.00	1999	6.7	4.7	1.3	.2	.28	.52	.83	1.08	1.33	1.60	1.89	2.24	2.69	3.41	4.09
Apr	3.69	3.14	3.74	1968	23	8.45	1973	.99	1980	10.4	7.6	2.6	.6	1.26	1.61	2.12	2.55	2.96	3.38	3.85	4.39	5.09	6.16	7.15
May	3.88	3.71	2.97	1968	16	7.71	1991	1.22	1988	11.7	8.0	2.5	.8	1.55	1.91	2.41	2.83	3.23	3.63	4.06	4.56	5.19	6.16	7.04
Jun	4.61	3.97	4.99	1964	23	11.80	1993	.60	1988	10.7	7.3	3.3	1.3	1.19	1.63	2.29	2.88	3.47	4.08	4.76	5.56	6.61	8.28	9.83
Jul	4.11	3.72	6.08	1970	29	9.86	1999	1.16	1996	9.7	6.5	2.6	1.2	1.25	1.64	2.23	2.73	3.22	3.72	4.28	4.93	5.78	7.10	8.32
Aug	4.59	4.61	3.64	1951	6	10.12	1980	.95	1971	10.2	6.6	3.3	1.3	1.69	2.12	2.74	3.26	3.75	4.26	4.80	5.44	6.25	7.50	8.65
Sep	3.44	2.27	4.79	1986	21	11.21	1972	.30	1979	9.2	6.3	2.0	.7	.55	.84	1.34	1.82	2.31	2.84	3.46	4.21	5.21	6.84	8.40
Oct	2.31	2.47	1.77	1948	7	4.25	1998	.32	1975	8.1	5.0	1.5	.5	.57	.79	1.13	1.43	1.72	2.03	2.38	2.80	3.34	4.20	5.00
Nov	2.15	2.13	2.62	1975	10	4.85	1992	.00	1976	7.3	4.7	1.4	.4	.25	.52	.88	1.19	1.50	1.83	2.21	2.66	3.25	4.20	5.10
Dec	1.08	1.05	1.36	1973	5	2.34	1973	.09	1998	6.0	3.0	.6	.1	.19	.29	.45	.59	.74	.90	1.09	1.31	1.61	2.09	2.54
Ann	33.46	33.17	6.08	Jul 1970	29	11.80	Jun 1993	.00+	Mar 1999	101.6	65.6	21.8	7.2	24.45	26.22	28.46	30.16	31.67	33.12	34.61	36.26	38.25	41.14	43.62

+ 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: DECORAH, IA

COOP ID: 132110

Climate Division: IA 3

NWS Call Sign:

Elevation: 860 Feet

Lat: 43°18N

Lon: 91°48W

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	8.5	7.8	5	4	9.0	1978	1	20.9	1994	21	1971	7	17	1971	5.7	4.0	1.1	.4	.0	-9.9	-9.9	-9.9	-9.9
Feb	8.0	7.3	5	4	13.0	1994	23	19.4	1997	22	1971	5	18	1971	4.0	2.5	.7	.3	@	-9.9	-9.9	-9.9	-9.9
Mar	6.2	5.3	2	#	12.0	1971	19	19.5	1975	18	1975	13	11	1975	2.8	2.0	.7	.1	@	-9.9	-9.9	-9.9	-9.9
Apr	1.7	.0	#	0	10.5	1973	9	13.5	1973	5	1975	10	1	1975	.8	.7	.2	.1	@	.3	.1	.0	.0
May	#	.0	#	0	#	1997	15	#	1997	#	1997	15	#	1997	.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	2.0	1972	18	2.1	1972	#+	1997	26	#+	1997	.2	.1	.0	.0	.0	.0	.0	.0	.0
Nov	3.1	1.5	#	0	8.0	1985	9	14.5	1977	6	1996	28	2	1996	2.2	1.5	.4	.2	.0	.5	.5	.4	.0
Dec	7.6	7.0	2	#	14.5	1985	1	21.5	1987	19	2000	31	16	2000	4.8	3.0	.9	.3	.1	-9.9	-9.9	-9.9	-9.9
Ann	35.3	28.9	N/A	N/A	14.5	Dec 1985	1	21.5	Dec 1987	22	Feb 1971	5	18	Feb 1971	20.5	13.8	4.0	1.4	.1	-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

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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	5/30	5/25	5/21	5/18	5/15	5/12	5/08	5/05	4/29
32	5/20	5/15	5/11	5/08	5/05	5/02	4/29	4/26	4/21
28	5/07	5/02	4/28	4/24	4/21	4/18	4/15	4/11	4/05
24	4/21	4/17	4/14	4/11	4/09	4/07	4/04	4/01	3/28
20	4/17	4/12	4/08	4/05	4/02	3/29	3/26	3/22	3/17
16	4/08	4/03	3/30	3/27	3/24	3/21	3/18	3/15	3/10
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	9/18	9/20	9/22	9/24	9/26	9/28	9/30	10/03
32	9/22	9/26	9/29	10/01	10/03	10/06	10/08	10/11	10/15
28	9/25	9/30	10/04	10/08	10/11	10/15	10/18	10/22	10/28
24	10/09	10/14	10/18	10/21	10/24	10/28	10/31	11/04	11/09
20	10/20	10/25	10/29	11/01	11/04	11/07	11/10	11/13	11/18
16	10/31	11/04	11/08	11/11	11/14	11/16	11/19	11/23	11/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	149	143	139	135	132	128	125	121	115
32	170	163	158	154	150	147	143	138	131
28	194	187	181	177	172	168	163	158	150
24	219	212	206	202	198	194	189	184	177
20	238	231	225	220	216	211	206	200	193
16	257	249	243	238	234	229	224	218	210

* 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	1530	1202	960	526	219	39	10	26	133	452	901	1362	7360
60	1375	1062	805	387	126	9	0	5	56	309	751	1207	6092
57	1282	978	714	310	84	3	0	1	29	234	662	1114	5411
55	1220	922	654	263	62	1	0	0	16	189	604	1052	4983
50	1065	786	512	162	24	0	0	0	3	100	465	898	4015
32	551	350	133	7	0	0	0	0	0	2	106	406	1555

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	44	71	196	475	855	1095	1257	1196	911	575	194	67	6936
55	0	0	4	40	204	406	544	483	237	49	3	0	1970
57	0	0	1	27	164	348	482	422	189	32	1	0	1666
60	0	0	0	14	113	264	389	333	127	15	0	0	1255
65	0	0	0	3	51	144	244	198	53	2	0	0	695
70	0	0	0	0	18	60	124	99	15	0	0	0	316

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	5	68	267	607	858	1012	946	668	343	65	4	0	5	73	340	947	1805	2817	3763	4431	4774	4839	4843
45	0	1	27	161	452	708	857	791	518	218	28	2	0	1	28	189	641	1349	2206	2997	3515	3733	3761	3763
50	0	1	14	85	309	558	702	636	377	120	9	0	0	1	15	100	409	967	1669	2305	2682	2802	2811	2811
55	0	0	6	43	186	410	547	481	247	57	3	0	0	0	6	49	235	645	1192	1673	1920	1977	1980	1980
60	0	0	0	16	97	266	393	329	141	21	0	0	0	0	0	16	113	379	772	1101	1242	1263	1263	1263
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	44	170	371	557	684	631	420	204	35	1	0	1	45	215	586	1143	1827	2458	2878	3082	3117	3118

(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