

Climatology of the United States

No. 20

1971-2000

Station: IOWA FALLS, IA

COOP ID: 134142

Climate Division: IA 5

NWS Call Sign:

Elevation: 1,130 Feet Lat: 42° 31N

Lon: 93° 15W

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	25.3	5.5	15.4	60	1981	24	27.9	1990	-30	1967	18	3.2	1979	1539	0	.0	.0	.5	21.1	30.6	10.1
Feb	31.7	11.4	21.6	65	1990	12	32.6	1998	-30	1996	3	9.7	1979	1217	0	.0	.0	2.3	13.8	27.1	5.7
Mar	44.2	23.6	33.9	86	1986	29	41.5	2000	-31	1962	1	24.4	1975	965	0	.0	.0	10.4	5.2	23.7	.9
Apr	58.4	34.5	46.5	97	1980	22	53.3	1977	5	1982	6	40.4	1975	558	2	.0	.2	23.5	.3	9.8	.0
May	71.2	47.5	59.4	98	1967	25	66.5	1977	24	1966	10	52.3	1997	224	48	.0	.9	30.8	.0	.9	.0
Jun	80.5	57.6	69.1	104	1985	8	74.6	1971	36	1964	1	64.4	1982	31	153	.1	3.8	30.0	.0	.0	.0
Jul	83.9	61.9	72.9	104	1955	30	76.8	1980	43	1958	16	66.6	1992	9	253	.3	7.2	31.0	.0	.0	.0
Aug	81.2	59.6	70.4	107	1988	15	76.3	1988	34	1950	20	65.5	1992	26	192	.3	4.1	31.0	.0	.0	.0
Sep	74.3	49.7	62.0	99	1978	7	67.1	1978	25+	1949	29	55.9	1993	139	49	.0	1.6	29.9	.0	.7	.0
Oct	62.2	38.3	50.3	95	1963	5	57.2	1973	12	1952	29	44.8	1976	460	2	.0	.1	27.7	@	8.4	.0
Nov	43.4	24.4	33.9	79	1999	9	42.5	1999	-13	1977	26	26.1	1991	934	0	.0	.0	9.9	5.6	22.7	.5
Dec	29.4	11.6	20.5	65	1962	1	28.1	1998	-23+	1963	22	6.6	1983	1380	0	.0	.0	1.2	16.8	30.1	5.7
Ann	57.1	35.5	46.3	107	Aug 1988	15	76.8	Jul 1980	-31	Mar 1962	1	3.2	Jan 1979	7482	699	.7	17.9	228.2	62.8	154.0	22.9

+ 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

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

061-A

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: IOWA FALLS, IA

COOP ID: 134142

Climate Division: IA 5

NWS Call Sign:

Elevation: 1,130 Feet Lat: 42°31N

Lon: 93°15W

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	1.09	1.03	1.95	1971	4	3.09	1982	.04	1976	6.3	2.9	.6	.1	.15	.24	.40	.55	.71	.89	1.09	1.34	1.67	2.22	2.75
Feb	1.00	.92	1.21	1975	17	3.26	1971	.03	1995	5.5	2.9	.4	.1	.13	.22	.36	.50	.64	.80	.99	1.22	1.52	2.03	2.51
Mar	2.16	2.13	1.72	1996	25	4.99	1991	.13	1994	7.8	5.0	1.3	.3	.45	.65	.96	1.25	1.54	1.85	2.20	2.63	3.18	4.07	4.92
Apr	3.32	2.88	3.72	1976	18	7.82	1991	.74	1996	9.4	6.7	2.1	.6	.96	1.28	1.75	2.17	2.57	2.99	3.45	3.99	4.70	5.80	6.83
May	4.37	4.11	2.97	1983	19	9.60	1991	.94	1988	11.9	8.0	2.9	1.0	1.55	1.96	2.56	3.06	3.54	4.03	4.57	5.19	5.99	7.23	8.36
Jun	5.36	5.21	4.35	1997	21	15.40	1998	1.76	1988	10.5	7.5	3.5	1.4	1.85	2.36	3.09	3.72	4.31	4.93	5.60	6.38	7.38	8.93	10.35
Jul	3.96	3.92	6.25	1964	31	8.53	1993	.76	1998	9.0	6.3	2.6	1.2	1.24	1.62	2.18	2.66	3.12	3.60	4.12	4.74	5.54	6.78	7.92
Aug	4.35	4.11	3.90	1958	15	13.58	1993	1.17	1971	9.3	6.6	3.0	1.4	1.22	1.63	2.26	2.80	3.33	3.89	4.51	5.23	6.18	7.66	9.04
Sep	3.11	2.91	4.15	1950	21	6.96	1973	.75	1999	8.3	5.5	2.0	.9	.94	1.23	1.67	2.05	2.42	2.81	3.23	3.72	4.37	5.37	6.30
Oct	2.76	2.68	2.30	1986	12	5.51	1984	.47	1999	7.6	5.0	1.9	.7	.54	.79	1.20	1.57	1.95	2.35	2.81	3.36	4.09	5.26	6.37
Nov	2.18	2.01	2.00	1991	1	5.51	1992	.00	1976	7.4	4.6	1.6	.4	.28	.55	.92	1.23	1.54	1.87	2.25	2.69	3.27	4.21	5.09
Dec	1.27	.96	1.86	1982	28	4.47	1982	.26	1989	6.6	3.5	.6	.2	.22	.34	.52	.70	.87	1.07	1.29	1.55	1.91	2.48	3.03
Ann	34.93	31.92	6.25	Jul 1964	31	15.40	Jun 1998	.00	Nov 1976	99.6	64.5	22.5	8.3	23.52	25.68	28.48	30.62	32.53	34.39	36.32	38.46	41.07	44.88	48.19

+ 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: IOWA FALLS, IA

COOP ID: 134142

Climate Division: IA 5

NWS Call Sign:

Elevation: 1,130 Feet

Lat: 42°31N

Lon: 93°15W

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	8.6	7.2	5	4	18.0	1971	4	31.1	1982	27	1982	26	20	1971	5.3	2.7	1.0	.4	@	-9.9	-9.9	-9.9	-9.9
Feb	6.9	7.2	4	2	9.0	1994	23	17.2	1972	19+	1982	14	16	1979	3.9	2.5	.6	.3	.0	-9.9	-9.9	-9.9	-9.9
Mar	5.2	5.7	1	0	7.5	1983	27	15.1	1983	12	1979	6	8	1975	2.4	1.8	.5	.4	.0	5.1	3.5	2.6	1.1
Apr	2.2	.0	#	0	7.0	1979	2	11.7	1982	7	1984	22	1	1984	.9	.8	.2	.1	.0	1.0	.4	.2	.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	.1	.0	#	0	1.5	1982	20	1.5	1982	1	1982	20	#+	1995	.1	@	.0	.0	.0	.1	.0	.0	.0
Nov	4.1	3.5	#	0	8.0	1977	23	13.5	1986	9	1977	25	2	1977	2.2	1.2	.6	.1	.0	2.2	1.3	.6	.0
Dec	6.5	7.3	2	1	13.0	1985	1	14.5	1987	13	2000	31	9	2000	4.7	2.7	1.1	.3	@	14.9	11.3	7.3	1.5
Ann	33.6	30.9	N/A	N/A	18.0	Jan 1971	4	31.1	Jan 1982	27	Jan 1982	26	20	Jan 1971	19.5	11.7	4.0	1.6	@	-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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Climate Division: IA 5

NWS Call Sign:

Elevation: 1,130 Feet

Lat: 42°31N

Lon: 93°15W

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	5/19	5/15	5/12	5/10	5/07	5/05	5/02	4/30	4/25
32	5/12	5/08	5/04	5/02	4/29	4/26	4/24	4/20	4/16
28	4/25	4/21	4/18	4/16	4/13	4/11	4/08	4/05	4/01
24	4/17	4/13	4/10	4/08	4/06	4/03	4/01	3/29	3/25
20	4/12	4/07	4/04	4/01	3/30	3/27	3/24	3/21	3/16
16	4/05	3/31	3/27	3/23	3/20	3/17	3/14	3/10	3/04
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	9/12	9/17	9/20	9/23	9/25	9/28	10/01	10/04	10/09
32	9/19	9/23	9/27	9/29	10/02	10/05	10/07	10/11	10/15
28	9/28	10/04	10/07	10/11	10/14	10/17	10/20	10/24	10/30
24	10/11	10/17	10/20	10/24	10/27	10/30	11/02	11/06	11/11
20	10/19	10/25	10/29	11/01	11/04	11/08	11/11	11/15	11/21
16	10/29	11/04	11/08	11/12	11/15	11/19	11/22	11/27	12/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	152	148	144	140	137	133	128	122
32	175	168	163	159	155	151	147	142	135
28	203	196	191	187	183	179	175	170	163
24	220	214	210	207	203	200	197	193	187
20	241	233	228	223	219	215	210	205	198
16	266	257	250	245	239	234	228	221	212

* 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: 1,130 Feet Lat: 42°31N Lon: 93°15W

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	1539	1217	965	558	224	31	9	26	139	460	934	1380	7482
60	1384	1077	810	415	129	7	0	5	60	316	784	1225	6212
57	1291	993	717	335	86	2	0	1	31	240	694	1132	5522
55	1229	937	656	285	63	1	0	0	18	195	635	1070	5089
50	1074	802	512	176	25	0	0	0	3	104	495	915	4106
32	553	364	126	7	0	0	0	0	0	2	121	416	1589

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	38	71	184	440	848	1112	1267	1190	900	567	178	59	6854
55	0	0	1	28	198	423	554	477	228	47	2	0	1958
57	0	0	0	18	158	364	492	416	181	30	0	0	1659
60	0	0	0	8	108	279	399	327	120	13	0	0	1254
65	0	0	0	2	48	153	253	192	49	2	0	0	699
70	0	0	0	0	16	64	130	93	13	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	9	77	291	640	906	1046	965	696	361	71	4	0	9	86	377	1017	1923	2969	3934	4630	4991	5062	5066
45	0	0	35	178	485	756	891	810	549	235	30	2	0	0	35	213	698	1454	2345	3155	3704	3939	3969	3971
50	0	0	14	96	341	606	736	655	403	133	13	0	0	0	14	110	451	1057	1793	2448	2851	2984	2997	2997
55	0	0	5	48	213	457	581	500	271	68	2	0	0	0	5	53	266	723	1304	1804	2075	2143	2145	2145
60	0	0	0	24	113	311	427	349	159	25	0	0	0	0	0	24	137	448	875	1224	1383	1408	1408	1408
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	2	52	183	396	594	708	643	443	222	43	2	0	2	54	237	633	1227	1935	2578	3021	3243	3286	3288

(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