

Climatology of the United States

No. 20

1971-2000

Station: FORT DODGE, IA

COOP ID: 132999

Climate Division: IA 5

NWS Call Sign:

Elevation: 1,115 Feet Lat: 42° 30N

Lon: 94° 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	24.9	5.8	15.4	64	1981	24	29.6	1990	-27+	1970	21	2.8	1979	1539	0	.0	.0	.9	20.7	30.7	10.8
Feb	31.5	11.6	21.6	67+	1981	17	33.1	1987	-30	1996	2	7.6	1979	1217	0	.0	.0	3.1	13.9	27.0	6.2
Mar	44.5	23.4	34.0	88	1986	29	41.9	2000	-22	1962	1	23.6	1975	963	0	.0	.0	11.0	5.2	23.6	1.0
Apr	59.1	34.6	46.9	100	1980	22	53.4	1977	6+	1975	3	40.0	1975	547	2	@	.2	23.5	.4	10.7	.0
May	71.7	47.6	59.7	100	1967	25	67.1	1977	25	1966	1	52.4	1997	226	59	.0	.8	30.6	.0	1.1	.0
Jun	81.0	57.4	69.2	103+	1985	8	74.7	1988	36	1969	3	63.7	1982	35	160	.3	4.6	30.0	.0	.0	.0
Jul	84.3	61.8	73.1	103+	1955	31	76.8	1980	43	1972	5	67.3	1992	9	259	.4	7.5	31.0	.0	.0	.0
Aug	81.6	59.6	70.6	106	1988	17	78.2	1983	38	1950	20	65.9	1992	31	203	.4	4.5	31.0	.0	.0	.0
Sep	74.6	49.5	62.1	98+	1955	9	68.3	1998	26+	1949	29	56.1	1975	150	61	.0	1.9	29.8	.0	.8	.0
Oct	61.8	37.8	49.8	95	1997	4	54.7	1973	14	1972	19	43.2	1976	473	2	.0	.2	27.4	@	8.4	.0
Nov	43.3	24.3	33.8	77+	1953	2	43.2	1999	-9	1977	26	24.2	1991	937	0	.0	.0	10.7	5.5	22.8	.8
Dec	28.9	11.7	20.3	67	1998	2	27.8	1998	-26	1983	24	4.8	1983	1386	0	.0	.0	1.5	16.7	30.3	6.5
Ann	57.3	35.4	46.4	106	Aug 1988	17	78.2	Aug 1983	-30	Feb 1996	2	2.8	Jan 1979	7513	746	1.1	19.7	230.5	62.4	155.4	25.3

+ 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

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: FORT DODGE, IA

COOP ID: 132999

Climate Division: IA 5

NWS Call Sign:

Elevation: 1,115 Feet Lat: 42°30N

Lon: 94°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	.94	.96	1.08	1960	15	2.64	1982	.03	1981	6.1	2.8	.4	.0	.11	.18	.31	.44	.58	.74	.92	1.15	1.46	1.97	2.47
Feb	.82	.70	1.25	1954	20	3.08	1971	.19	1995	5.5	2.7	.3	@	.17	.24	.36	.47	.58	.70	.83	.99	1.20	1.54	1.86
Mar	2.24	2.07	2.61	1966	23	6.14	1991	.05	1994	8.1	4.3	1.4	.5	.30	.48	.80	1.11	1.44	1.80	2.22	2.74	3.44	4.58	5.68
Apr	3.43	2.93	3.23	1964	13	8.51	1999	.60	2000	9.7	6.6	2.3	.8	1.01	1.33	1.82	2.25	2.66	3.09	3.56	4.12	4.84	5.98	7.03
May	4.38	4.31	3.28	1990	19	9.32	1982	1.70	1988	12.3	8.3	3.1	1.1	1.82	2.22	2.79	3.25	3.68	4.12	4.60	5.14	5.83	6.89	7.84
Jun	5.12	4.90	5.63	1954	21	10.86	1975	1.82	1977	11.2	8.1	3.7	1.5	1.89	2.37	3.06	3.64	4.19	4.75	5.36	6.07	6.97	8.36	9.63
Jul	4.48	4.07	3.85	1987	12	11.26	1992	1.10	1976	9.9	6.6	3.1	1.1	1.29	1.72	2.36	2.92	3.46	4.03	4.65	5.39	6.35	7.84	9.24
Aug	4.30	4.03	4.40	1985	22	11.41	1993	.49	1984	8.6	6.1	2.8	1.3	.73	1.11	1.74	2.33	2.93	3.59	4.34	5.25	6.46	8.43	10.31
Sep	3.27	2.69	3.23	1973	26	9.26	1986	.64	1999	8.9	5.7	2.4	.8	.65	.95	1.43	1.87	2.32	2.79	3.33	3.98	4.84	6.22	7.53
Oct	2.37	2.29	3.30	1968	17	5.29	1984	.14	1975	7.5	4.4	1.9	.4	.49	.71	1.06	1.38	1.70	2.04	2.42	2.89	3.50	4.48	5.40
Nov	1.92	1.57	2.00	1992	2	5.33	1991	.00	1976	7.4	4.5	1.3	.3	.20	.43	.75	1.03	1.31	1.61	1.95	2.36	2.91	3.79	4.62
Dec	1.12	1.03	1.48	1982	28	2.88	1982	.18	1979	6.8	3.4	.5	@	.31	.41	.58	.72	.86	1.00	1.16	1.35	1.60	1.99	2.35
Ann	34.39	34.22	5.63	Jun 1954	21	11.41	Aug 1993	.00	Nov 1976	102.0	63.5	23.2	7.8	23.63	25.69	28.34	30.37	32.17	33.92	35.74	37.75	40.19	43.75	46.84

+ 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: FORT DODGE, IA

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Climate Division: IA 5

NWS Call Sign:

Elevation: 1,115 Feet

Lat: 42° 30N

Lon: 94° 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	8.7	7.7	4	4	9.5	1979	27	24.2	1982	13+	1999	8	12	1971	4.8	3.2	.8	.4	.0	19.0	14.6	11.2	3.7
Feb	6.9	5.5	4	2	9.0	1983	2	14.5+	1983	26	1979	8	18	1979	3.5	2.6	.9	.4	.0	-9.9	-9.9	-9.9	-9.9
Mar	5.7	6.2	1	#	10.0	1983	26	15.5	1983	12	1995	7	5	1971	2.7	1.9	.8	.3	.1	3.7	2.9	2.0	.0
Apr	2.0	.5	#	0	6.0	1983	14	15.5	1983	9	1973	10	1	1973	1.0	.7	.3	.1	.0	.5	.1	.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	.3	.0	#	0	1.5	1979	22	1.5+	1997	2	1995	31	#+	2000	.3	.1	.0	.0	.0	.1	.0	.0	.0
Nov	4.3	3.7	#	#	7.0	1983	28	19.5	1991	8	1991	30	5	1991	2.4	1.7	.5	.1	.0	4.2	2.2	.9	.0
Dec	7.2	7.0	2	1	8.0	1971	30	12.5	1994	14	2000	31	9	2000	4.4	3.0	1.0	.3	.0	-9.9	-9.9	-9.9	-9.9
Ann	35.1	30.6	N/A	N/A	10.0	Mar 1983	26	24.2	Jan 1982	26	Feb 1979	8	18	Feb 1979	19.1	13.2	4.3	1.6	.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

Complete documentation available from:

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NWS Call Sign:

Elevation: 1,115 Feet

Lat: 42° 30N

Lon: 94° 12W

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	5/13	5/10	5/07	5/05	5/03	4/30	4/27	4/23
32	5/13	5/09	5/05	5/02	4/29	4/27	4/24	4/20	4/15
28	5/01	4/26	4/22	4/19	4/17	4/14	4/11	4/07	4/02
24	4/16	4/12	4/10	4/07	4/05	4/03	3/31	3/29	3/25
20	4/13	4/09	4/06	4/03	3/31	3/29	3/26	3/22	3/18
16	4/06	3/31	3/27	3/24	3/21	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	9/11	9/15	9/18	9/21	9/23	9/26	9/28	10/01	10/05
32	9/18	9/23	9/27	10/01	10/04	10/07	10/11	10/15	10/21
28	9/26	10/01	10/06	10/09	10/13	10/16	10/20	10/24	10/30
24	10/14	10/18	10/22	10/25	10/27	10/30	11/02	11/05	11/10
20	10/21	10/26	10/30	11/02	11/05	11/07	11/10	11/14	11/19
16	10/27	11/02	11/07	11/10	11/14	11/17	11/21	11/25	12/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	152	148	144	141	137	133	129	123
32	177	170	165	161	157	153	149	144	137
28	198	191	186	182	178	174	170	166	159
24	222	216	212	208	205	201	198	194	188
20	236	230	225	221	218	214	210	206	200
16	263	254	248	242	237	232	227	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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Elevation: 1,115 Feet Lat: 42°30N Lon: 94°12W

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	963	547	226	35	9	31	150	473	937	1386	7513
60	1384	1077	808	404	134	9	0	8	71	327	787	1231	6240
57	1291	993	715	325	91	3	0	2	40	248	697	1138	5543
55	1229	937	656	275	68	2	0	1	25	201	639	1076	5109
50	1074	804	514	169	28	0	0	0	6	105	499	922	4121
32	560	369	134	6	0	0	0	0	0	2	127	426	1624

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	45	76	194	451	856	1115	1273	1195	901	553	180	63	6902
55	0	0	3	31	211	427	560	483	236	39	2	0	1992
57	0	0	0	20	172	368	498	422	191	24	0	0	1695
60	0	0	0	9	122	284	405	335	132	10	0	0	1297
65	0	0	0	2	59	160	259	203	61	2	0	0	746
70	0	0	0	0	22	71	136	104	21	0	0	0	354

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	13	79	288	643	909	1054	976	700	356	72	3	0	13	92	380	1023	1932	2986	3962	4662	5018	5090	5093
45	0	0	36	183	491	759	899	821	553	230	33	2	0	0	36	219	710	1469	2368	3189	3742	3972	4005	4007
50	0	0	13	103	346	609	744	666	409	132	13	0	0	0	13	116	462	1071	1815	2481	2890	3022	3035	3035
55	0	0	4	49	221	460	589	511	280	65	1	0	0	0	4	53	274	734	1323	1834	2114	2179	2180	2180
60	0	0	0	24	117	316	435	357	167	26	0	0	0	0	0	24	141	457	892	1249	1416	1442	1442	1442
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	11	56	188	396	597	710	649	447	223	48	2	0	11	67	255	651	1248	1958	2607	3054	3277	3325	3327

(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/normal/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