

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: DUBUQUE AP, IA

1971-2000

COOP ID: 132367

Climate Division: IA 3

NWS Call Sign: DBQ

Elevation: 1,056 Feet Lat: 42° 24N Lon: 90° 42W

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	24.8	9.2	17.0	60	1989	31	28.7	1990	-28	1970	21	3.6	1977	1492	0	.0	.0	.6	21.9	30.5	9.1
Feb	30.8	15.4	23.1	66	2000	25	35.6	1998	-27+	1979	5	10.8	1979	1189	0	.0	.0	1.6	15.2	26.2	4.9
Mar	43.3	26.2	34.8	85	1986	29	42.5	1973	-20	1962	1	24.8	1975	949	0	.0	.0	9.0	5.8	22.9	.7
Apr	57.4	37.5	47.5	93	1980	22	54.5	1977	10	1982	6	41.6	1975	536	6	.0	@	22.6	.5	8.6	.0
May	69.3	48.8	59.1	91	1991	28	65.4	1977	24	1966	10	53.0	1997	226	37	.0	@	30.4	.0	.5	.0
Jun	78.6	57.9	68.3	100+	1988	20	73.5	1971	36	1972	11	63.2	1982	40	138	.1	1.5	30.0	.0	.0	.0
Jul	82.1	62.4	72.3	101	1988	31	76.1	1988	44+	1971	30	66.7	1992	8	233	@	3.9	31.0	.0	.0	.0
Aug	79.8	60.2	70.0	100	1988	1	76.9	1995	40	1986	28	64.4	1992	21	175	@	2.2	31.0	.0	.0	.0
Sep	71.9	51.7	61.8	97	1955	9	66.4	1978	28+	1956	20	57.3	1993	158	61	.0	.6	29.9	.0	.5	.0
Oct	60.3	40.5	50.4	90	1997	3	57.4	1971	13	1952	29	44.7	1987	465	6	.0	@	26.8	@	6.1	.0
Nov	43.6	27.8	35.7	75+	1999	8	43.0	1999	-17	1977	26	28.1	1976	879	0	.0	.0	9.3	5.3	20.9	.2
Dec	29.7	15.2	22.5	67	1998	4	30.5	1982	-25	1983	24	8.7	1985	1307	0	.0	.0	1.4	17.3	29.5	5.0
Ann	56.0	37.7	46.9	101	Jul 1988	31	76.9	Aug 1995	-28	Jan 1970	21	3.6	Jan 1977	7270	656	.1	8.2	223.6	66.0	145.7	19.9

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1951-2001

(3) Derived from 1971-2000 serially complete daily data

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Elevation: 1,056 Feet Lat: 42°24N

Lon: 90°42W

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	1.28	1.17	3.04	1960	12	2.65	1996	.34	1981	9.7	3.8	.4	.2	.44	.57	.74	.89	1.03	1.18	1.34	1.52	1.76	2.13	2.47
Feb	1.42	1.11	1.34	1981	22	2.96	1971	.07	1995	8.0	4.1	.7	.1	.26	.39	.60	.79	.99	1.20	1.44	1.73	2.12	2.74	3.34
Mar	2.57	2.32	2.54	1998	30	5.81	1991	.41	1981	10.5	5.8	1.5	.3	.58	.82	1.20	1.53	1.87	2.23	2.64	3.12	3.75	4.76	5.71
Apr	3.49	3.37	2.20	1964	2	6.65	1999	.81	1985	11.7	7.5	2.1	.7	1.33	1.65	2.12	2.51	2.87	3.25	3.65	4.13	4.72	5.65	6.49
May	4.12	4.33	4.37	1960	6	7.56	1996	.69	1992	12.2	8.0	2.8	.8	1.13	1.52	2.12	2.64	3.15	3.68	4.27	4.97	5.88	7.30	8.63
Jun	4.08	3.55	3.84	2000	13	8.04	1993	.70	1988	11.0	7.2	2.6	1.0	.99	1.38	1.97	2.50	3.03	3.58	4.20	4.94	5.90	7.44	8.87
Jul	3.73	2.88	6.28	1961	1	8.50	1993	.87	1991	9.6	6.2	2.5	.7	.99	1.34	1.88	2.36	2.82	3.31	3.85	4.49	5.33	6.65	7.88
Aug	4.59	3.98	3.45	1990	17	9.90	1987	.29	1995	9.6	6.8	3.3	1.2	.89	1.31	1.98	2.60	3.23	3.90	4.67	5.59	6.81	8.77	10.63
Sep	3.56	3.50	8.85	1967	14	13.06	1986	.07	1979	8.9	6.2	2.2	.9	.49	.78	1.29	1.78	2.30	2.87	3.53	4.35	5.44	7.24	8.97
Oct	2.50	2.41	2.58	1959	23	6.55	1984	.41	1975	9.3	5.4	1.7	.5	.56	.80	1.16	1.49	1.82	2.17	2.56	3.03	3.65	4.63	5.56
Nov	2.49	2.05	4.79	1961	2	6.84	1992	.37	1976	10.1	5.3	1.5	.4	.55	.78	1.14	1.47	1.80	2.15	2.55	3.03	3.65	4.65	5.59
Dec	1.69	1.60	2.00	1982	2	4.14	1982	.10	1995	10.0	4.0	.8	.2	.23	.37	.61	.85	1.10	1.37	1.68	2.07	2.59	3.43	4.25
Ann	35.52	37.08	8.85	Sep 1967	14	13.06	Sep 1986	.07+	Feb 1995	120.6	70.3	22.1	7.0	25.15	27.15	29.72	31.68	33.41	35.09	36.82	38.74	41.07	44.45	47.37

+ 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: 1951-2001

(3) Derived from 1971-2000 serially complete daily data

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NWS Call Sign: DBQ

Elevation: 1,056 Feet

Lat: 42°24N

Lon: 90°42W

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	10.6	9.1	4	2	11.0	1979	13	29.3	1979	25+	1979	28	17	1979	7.8	3.4	1.0	.4	.1	21.4	15.4	10.6	3.2
Feb	8.7	8.6	4	2	10.2	1976	21	25.1	1975	21	1979	12	17	1979	6.2	2.7	1.1	.3	@	19.5	14.1	10.0	3.8
Mar	7.6	7.9	1	1	11.2	1991	12	18.4	1983	14	1975	7	6	1975	5.2	2.2	.8	.4	@	8.4	5.0	3.0	.7
Apr	3.2	1.4	#	0	9.4	1973	9	19.8	1973	17	1973	10	2	1973	1.8	.9	.3	.2	.0	1.4	.7	.3	.2
May	#	.0	#	0	#	1989	6	#	1989	3	1994	1	#	1995	.0	.0	.0	.0	.0	@	@	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1994	.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	0	1.5	1976	19	1.5	1976	3	1972	20	0	0	.2	.1	.0	.0	.0	@	@	.0	.0
Nov	4.5	2.9	#	0	10.3	1992	25	13.9	1986	9+	1986	20	2	1977	4.0	1.4	.5	.1	@	3.6	1.4	.8	.0
Dec	10.5	7.3	2	1	13.7	1990	3	37.6	2000	15	1977	9	10	1985	6.8	3.0	1.1	.5	.1	16.1	10.3	6.1	1.8
Ann	45.3	37.2	N/A	N/A	13.7	Dec 1990	3	37.6	Dec 2000	25+	Jan 1979	28	17+	Feb 1979	32.0	13.7	4.8	1.9	.2	70.4	46.9	30.8	9.7

+ 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: 1,056 Feet

Lat: 42° 24N

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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	5/25	5/20	5/16	5/13	5/10	5/07	5/04	4/30	4/25
32	5/09	5/05	5/01	4/28	4/25	4/22	4/20	4/16	4/11
28	4/29	4/24	4/21	4/18	4/15	4/13	4/10	4/06	4/01
24	4/16	4/12	4/10	4/07	4/05	4/03	4/01	3/30	3/26
20	4/10	4/05	4/02	3/31	3/28	3/25	3/23	3/19	3/15
16	4/06	3/31	3/27	3/23	3/20	3/16	3/13	3/09	3/03
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	9/16	9/21	9/25	9/28	10/01	10/03	10/06	10/10	10/15
32	9/22	9/27	10/01	10/04	10/07	10/10	10/13	10/17	10/22
28	10/02	10/07	10/11	10/14	10/18	10/21	10/24	10/28	11/02
24	10/17	10/22	10/26	10/29	11/01	11/04	11/07	11/11	11/16
20	10/25	10/30	11/02	11/05	11/07	11/10	11/13	11/16	11/20
16	11/05	11/10	11/14	11/17	11/20	11/23	11/26	11/30	12/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	157	152	147	143	139	134	129	121
32	185	178	173	168	164	160	156	151	144
28	204	198	193	188	185	181	177	172	165
24	228	221	217	213	209	205	201	197	190
20	244	237	232	228	224	219	215	210	203
16	271	262	255	250	245	239	234	227	218

* 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

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Climate Division: IA 3 NWS Call Sign: DBQ Elevation: 1,056 Feet Lat: 42° 24N Lon: 90° 42W

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	1492	1189	949	536	226	40	8	21	158	465	879	1307	7270
60	1333	1033	783	386	130	7	0	11	56	313	730	1164	5946
57	1240	949	691	306	87	3	0	4	27	238	640	1071	5256
55	1178	893	631	257	63	1	0	1	15	193	581	1009	4822
50	1023	757	488	152	24	0	0	0	2	103	442	859	3850
32	512	324	115	4	0	0	0	0	0	2	90	379	1426

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	41	181	470	831	1093	1246	1179	893	570	183	34	6735
55	0	0	6	37	171	405	533	466	231	55	3	0	1907
57	0	0	4	27	134	346	471	404	187	39	2	0	1614
60	0	0	2	16	88	263	378	313	130	21	1	0	1212
65	0	0	0	6	37	138	233	175	61	6	0	0	656
70	0	0	0	1	10	56	107	74	21	1	0	0	270

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	8	72	261	596	854	1002	938	661	342	70	7	0	8	80	341	937	1791	2793	3731	4392	4734	4804	4811
45	0	1	34	154	443	704	847	783	512	216	29	4	0	1	35	189	632	1336	2183	2966	3478	3694	3723	3727
50	0	0	15	82	300	554	692	628	369	120	12	0	0	0	15	97	397	951	1643	2271	2640	2760	2772	2772
55	0	0	4	41	180	405	537	473	236	59	2	0	0	0	4	45	225	630	1167	1640	1876	1935	1937	1937
60	0	0	0	13	93	261	382	320	136	23	0	0	0	0	0	13	106	367	749	1069	1205	1228	1228	1228
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	45	152	349	554	682	622	402	194	37	3	0	1	46	198	547	1101	1783	2405	2807	3001	3038	3041

(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.

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| <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 |
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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