

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: MOUNT PLEASANT 1 SSW, IA

1971-2000

COOP ID: 135796

Climate Division: IA 9

NWS Call Sign:

Elevation: 730 Feet

Lat: 40°57N

Lon: 91°34W

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	31.4	13.6	22.5	68	1989	31	33.8	1990	-26	1999	5	9.2	1979	1318	0	.0	.0	2.2	16.2	29.3	6.4
Feb	37.2	19.4	28.3	72	1976	27	38.8	1998	-27	1996	3	15.0	1979	1028	0	.0	.0	5.0	10.7	24.2	3.4
Mar	49.4	29.6	39.5	87	1986	29	46.4	2000	-15+	1960	5	31.4	1984	791	0	.0	.0	14.7	3.0	18.7	.2
Apr	62.1	40.2	51.2	90	1952	29	56.8	1977	9	1982	6	44.7	1983	421	6	.0	.0	25.7	.1	5.6	.0
May	72.3	50.8	61.6	94	1956	12	69.2	1987	29+	1966	10	56.8	1990	178	71	.0	.1	30.8	.0	.3	.0
Jun	81.3	59.8	70.6	102	1988	25	75.5	1987	40+	1956	2	65.4	1982	20	186	.1	3.1	30.0	.0	.0	.0
Jul	85.4	64.0	74.7	106	1983	22	79.5	1983	43	1967	4	70.0	1971	4	305	.4	8.1	31.0	.0	.0	.0
Aug	83.4	62.2	72.8	105	1983	17	80.5	1983	39	1967	31	67.3	1986	18	260	.6	5.8	31.0	.0	.0	.0
Sep	76.8	54.0	65.4	101+	1953	1	71.4	1998	29+	1949	29	59.7	1974	82	94	@	2.0	30.0	.0	.2	.0
Oct	65.5	43.2	54.4	96	1953	2	61.2	1971	13	1952	29	47.7	1988	343	12	.0	@	28.7	@	4.7	.0
Nov	49.4	31.2	40.3	80	1950	1	47.3	1999	-5	1976	29	32.8	1976	741	0	.0	.0	14.1	2.2	17.2	.1
Dec	35.7	19.1	27.4	72	1998	4	35.1	1982	-25	1989	23	13.4	2000	1166	0	.0	.0	3.5	11.6	27.8	3.5
Ann	60.8	40.6	50.7	106	Jul 1983	22	80.5	Aug 1983	-27	Feb 1996	3	9.2	Jan 1979	6110	934	1.1	19.1	246.7	43.8	128.0	13.6

+ 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

079-A

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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	1.31	1.28	1.69	1958	21	3.19	1974	.04	1981	6.7	4.1	.8	.1	.22	.33	.52	.70	.88	1.08	1.31	1.60	1.97	2.58	3.16
Feb	1.36	1.16	2.00	2001	9	3.30	1998	.25	1987	5.6	3.9	.9	.1	.39	.52	.71	.88	1.04	1.22	1.41	1.63	1.92	2.38	2.80
Mar	2.55	2.13	2.55	1959	5	6.10	1990	.16	1981	7.9	5.9	1.6	.5	.39	.61	.98	1.33	1.69	2.09	2.55	3.11	3.87	5.09	6.27
Apr	3.28	2.85	4.23	1950	24	10.97	1973	.78	1985	9.4	6.5	2.2	.7	.90	1.21	1.68	2.10	2.50	2.93	3.40	3.96	4.68	5.82	6.88
May	4.42	3.71	4.00	2001	14	11.45	1996	1.45	1987	10.4	8.0	3.0	1.0	1.30	1.72	2.35	2.89	3.42	3.98	4.59	5.31	6.24	7.69	9.05
Jun	4.14	3.81	4.82	1993	25	14.10	1993	.68	1988	8.7	6.6	2.8	1.3	.84	1.21	1.82	2.38	2.94	3.54	4.22	5.04	6.12	7.86	9.50
Jul	4.73	4.25	3.20	1986	12	13.63	1993	.64	1983	8.3	6.6	3.4	1.5	.68	1.08	1.76	2.41	3.10	3.85	4.72	5.78	7.21	9.54	11.78
Aug	4.24	3.26	5.70	1970	5	11.34	1980	.80	2000	8.1	6.5	2.7	1.4	.97	1.36	1.98	2.54	3.10	3.69	4.35	5.14	6.17	7.82	9.38
Sep	4.28	3.45	5.53	1961	13	12.05	1986	.29	1979	7.7	6.4	2.8	1.2	.88	1.27	1.90	2.48	3.05	3.67	4.37	5.20	6.31	8.08	9.75
Oct	2.62	2.31	3.40	1954	10	6.96	1984	.25	1987	6.8	5.2	1.9	.6	.38	.60	.97	1.34	1.71	2.13	2.61	3.20	3.98	5.27	6.51
Nov	2.64	2.46	2.85	1984	1	6.59	1991	.00	1999	7.5	5.6	2.0	.4	.21	.49	.92	1.30	1.71	2.14	2.64	3.26	4.08	5.42	6.70
Dec	1.81	1.48	2.30	1971	15	5.53	1982	.25	1996	6.1	4.6	1.0	.3	.32	.48	.75	.99	1.25	1.52	1.83	2.21	2.71	3.53	4.30
Ann	37.38	36.73	5.70	Aug 1970	5	14.10	Jun 1993	.00	Nov 1999	93.2	69.9	25.1	9.1	23.85	26.36	29.63	32.15	34.42	36.64	38.95	41.52	44.67	49.30	53.34

+ 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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Lat: 40°57N

Lon: 91°34W

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	7.7	6.5	3	1	8.0	1979	1	28.8	1979	31	1979	31	21	1979	4.7	3.2	1.0	.4	.0	15.8	11.0	7.8	1.9
Feb	6.6	4.7	2	#	9.0	1988	11	20.8	1988	34	1979	14	28	1979	2.9	2.2	.8	.3	.0	12.8	8.9	5.9	1.6
Mar	3.1	2.5	#	0	6.0	1978	25	13.5	1984	11	1979	1	3	1978	1.7	1.3	.4	.1	.0	4.5	2.4	1.1	.1
Apr	1.4	.0	#	0	12.0	1997	11	18.0	1997	5+	1982	9	1	1982	.5	.3	.2	.1	@	.6	.4	.1	.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	.0	.0	#	0	1.0	1980	28	1.0	1980	1	1980	28	#	1980	@	@	.0	.0	.0	.1	.0	.0	.0
Nov	1.8	.5	#	0	8.0	1974	30	12.0	1974	8	1974	30	1	1972	.9	.7	.2	@	.0	1.5	.3	.1	.0
Dec	6.4	5.0	1	0	10.0	1987	15	16.5	1983	12	1983	31	5	1983	3.0	2.4	.8	.3	@	7.8	3.3	2.1	.6
Ann	27.0	19.2	N/A	N/A	12.0	Apr 1997	11	28.8	Jan 1979	34	Feb 1979	14	28	Feb 1979	13.7	10.1	3.4	1.2	@	43.1	26.3	17.1	4.2

+ 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	5/19	5/13	5/09	5/06	5/03	4/30	4/27	4/23	4/18
32	5/05	4/30	4/26	4/23	4/20	4/17	4/14	4/10	4/05
28	4/19	4/15	4/13	4/11	4/09	4/06	4/04	4/02	3/29
24	4/13	4/09	4/06	4/04	4/01	3/30	3/27	3/24	3/20
20	4/09	4/03	3/29	3/26	3/22	3/19	3/15	3/11	3/05
16	3/27	3/21	3/16	3/12	3/08	3/04	2/28	2/24	2/17
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	9/21	9/25	9/28	10/01	10/03	10/06	10/08	10/11	10/16
32	9/25	9/30	10/04	10/07	10/10	10/13	10/16	10/19	10/24
28	10/09	10/14	10/18	10/22	10/25	10/28	11/01	11/05	11/11
24	10/20	10/25	10/29	11/01	11/04	11/07	11/10	11/14	11/19
20	10/30	11/04	11/08	11/11	11/13	11/16	11/19	11/23	11/28
16	11/06	11/12	11/17	11/20	11/24	11/27	12/01	12/05	12/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	164	159	156	152	149	145	141	135
32	192	185	180	176	172	168	164	159	152
28	219	212	207	203	199	195	191	186	179
24	235	228	223	219	216	212	208	203	197
20	259	251	245	240	235	231	226	220	212
16	286	277	270	265	260	254	249	242	233

* 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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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	1318	1028	791	421	178	20	4	18	82	343	741	1166	6110
60	1163	888	636	288	96	4	0	4	29	217	592	1011	4928
57	1070	810	551	218	60	1	0	0	12	155	504	918	4299
55	1008	758	492	177	42	0	0	0	6	120	450	861	3914
50	858	628	355	93	15	0	0	0	1	56	317	717	3040
32	379	250	60	1	0	0	0	0	0	0	42	282	1014

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	84	146	292	575	916	1157	1324	1265	1001	692	291	139	7882
55	0	10	11	61	245	467	611	552	317	99	9	5	2387
57	0	6	8	43	202	408	549	490	264	72	3	0	2045
60	0	0	0	23	144	320	456	401	190	41	1	0	1576
65	0	0	0	6	71	186	305	260	94	12	0	0	934
70	0	0	0	1	27	84	168	147	34	2	0	0	463

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	7	30	135	369	692	942	1103	1041	776	458	135	22	7	37	172	541	1233	2175	3278	4319	5095	5553	5688	5710
45	0	14	78	246	537	792	948	886	627	321	73	6	0	14	92	338	875	1667	2615	3501	4128	4449	4522	4528
50	0	2	36	148	386	642	793	731	479	202	33	3	0	2	38	186	572	1214	2007	2738	3217	3419	3452	3455
55	0	0	15	75	247	492	638	576	338	111	11	0	0	0	15	90	337	829	1467	2043	2381	2492	2503	2503
60	0	0	5	32	138	348	483	422	214	53	3	0	0	0	5	37	175	523	1006	1428	1642	1695	1698	1698
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	22	88	221	428	632	755	706	498	273	74	9	1	23	111	332	760	1392	2147	2853	3351	3624	3698	3707

(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