

Climatology of the United States

No. 20

1971-2000

Station: WINTERSET 2 NNW, IA

COOP ID: 139132

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,070 Feet Lat: 41° 22N

Lon: 94° 02W

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	29.2	9.1	19.2	65	1989	31	31.1	1989	-31	1970	21	4.9	1979	1422	0	.0	.0	2.1	16.2	29.9	8.3
Feb	35.3	14.5	24.9	73	1972	29	35.2	1998	-31+	1958	17	11.0	1979	1124	0	.0	.0	5.1	11.7	25.7	4.4
Mar	47.8	26.2	37.0	89	1986	29	45.2	2000	-35	1962	1	28.2	1975	869	0	.0	.0	14.2	3.7	21.1	.7
Apr	60.7	37.1	48.9	92	1980	22	55.9	1981	10+	1970	2	42.5	1983	486	3	.0	.2	25.3	.1	8.5	.0
May	71.2	49.7	60.5	97	1967	25	66.6	1977	24	1981	10	55.4	1997	190	49	.0	.3	30.8	.0	.9	.0
Jun	80.1	58.9	69.5	103	1977	6	74.4	1971	34	1969	3	64.3	1982	26	161	.2	3.5	30.0	.0	.0	.0
Jul	84.4	63.9	74.2	106	1974	22	79.0	1974	41+	1971	30	69.7	1992	5	289	.8	9.0	31.0	.0	.0	.0
Aug	82.8	61.6	72.2	106	1983	16	81.3	1983	38	1986	28	66.4	1992	22	244	.4	6.2	31.0	.0	.0	.0
Sep	75.5	51.6	63.6	100+	1953	28	68.9	1998	26	1974	30	58.4	1974	115	70	@	2.0	29.9	.0	.8	.0
Oct	64.2	40.1	52.2	93+	1953	2	59.2	1973	12+	1997	27	45.0	1976	403	5	.0	.1	28.3	.1	7.2	.0
Nov	46.8	26.6	36.7	80+	1999	9	45.6	1999	-8+	1976	28	28.6	1991	850	0	.0	.0	13.3	3.5	20.2	.3
Dec	33.2	14.7	24.0	67	2001	6	30.6	1979	-25	1989	23	8.6	1983	1273	0	.0	.0	3.3	13.0	29.1	4.7
Ann	59.3	37.8	48.6	106+	Aug 1983	16	81.3	Aug 1983	-35	Mar 1962	1	4.9	Jan 1979	6785	821	1.4	21.3	244.3	48.3	143.4	18.4

+ 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: WINTERSET 2 NNW, IA

COOP ID: 139132

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,070 Feet Lat: 41°22N

Lon: 94°02W

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	.75	2.96	1960	12	2.34	1973	.02	1986	5.4	2.9	.5	.1	.09	.16	.29	.42	.56	.72	.91	1.15	1.47	2.01	2.53
Feb	1.06	1.00	1.59	1973	1	2.90	1976	.11	1991	5.7	3.0	.5	.1	.19	.28	.43	.58	.73	.89	1.07	1.30	1.59	2.07	2.53
Mar	2.24	1.98	2.26	1990	8	5.93	1990	.00	1994	7.4	4.7	1.4	.4	.17	.41	.77	1.10	1.44	1.81	2.24	2.76	3.47	4.61	5.72
Apr	3.51	3.03	3.44	1976	18	8.23	1976	.93	1988	9.6	6.5	2.3	.7	1.01	1.34	1.85	2.28	2.71	3.15	3.64	4.22	4.97	6.15	7.24
May	4.24	4.42	3.15	1996	10	10.64	1996	1.73	1977	11.3	8.4	3.0	1.0	1.54	1.93	2.51	2.99	3.45	3.92	4.43	5.03	5.79	6.96	8.04
Jun	4.64	3.98	5.25	1952	21	10.61	1990	.37	1988	9.6	6.8	2.9	1.4	.92	1.34	2.02	2.65	3.28	3.96	4.72	5.64	6.86	8.82	10.68
Jul	4.15	3.72	4.50	1948	21	9.86	1993	.48	1975	9.3	7.3	3.1	1.1	1.06	1.45	2.05	2.59	3.11	3.67	4.28	5.02	5.97	7.49	8.90
Aug	3.97	3.29	4.70	1977	28	13.18	1977	.72	1984	8.4	6.0	2.2	1.1	.75	1.10	1.68	2.22	2.77	3.36	4.03	4.83	5.91	7.63	9.27
Sep	3.68	3.17	4.99	1992	15	10.28	1972	1.02	1991	8.0	6.1	2.3	1.0	.77	1.11	1.65	2.14	2.63	3.16	3.75	4.47	5.41	6.92	8.35
Oct	2.50	2.51	3.08	1979	22	5.94	1977	.20	1992	6.5	4.9	1.6	.6	.32	.52	.87	1.22	1.59	2.00	2.47	3.05	3.84	5.14	6.39
Nov	2.24	2.11	3.22	1952	17	5.93	1992	.00	1989	7.2	4.9	1.8	.5	.21	.46	.83	1.16	1.49	1.85	2.26	2.76	3.43	4.50	5.53
Dec	1.14	1.01	1.55	1982	28	3.51	1982	.00	1989	6.4	3.1	.7	.1	.10	.23	.42	.59	.76	.94	1.15	1.41	1.75	2.30	2.83
Ann	34.31	34.85	5.25	Jun 1952	21	13.18	Aug 1977	.00+	Mar 1994	94.8	64.6	22.3	8.1	23.21	25.32	28.04	30.12	31.98	33.78	35.65	37.73	40.26	43.95	47.16

+ 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:
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Station: WINTERSET 2 NNW, IA

COOP ID: 139132

Climate Division: IA 8

NWS Call Sign:

Elevation: 1,070 Feet

Lat: 41°22N

Lon: 94°02W

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	6.2	4.7	3	3	12.5	1996	27	15.8	1982	17	1996	27	11	1982	3.8	2.9	.8	.3	@	15.6	9.0	3.8	.0
Feb	6.9	5.0	3	2	8.5	1994	23	17.5	1975	15+	1996	6	11	1979	3.3	2.7	.9	.3	.0	14.6	8.7	4.9	1.0
Mar	3.0	1.5	1	#	10.0	1999	9	13.5	1999	14	1998	13	5	1998	1.8	1.2	.3	.2	@	5.0	2.6	1.6	.5
Apr	1.0	.0	#	0	5.5	1979	2	6.5	1979	8	1997	12	1	1997	.7	.5	.2	.1	.0	.9	.4	.2	.0
May	.1	.0	0	0	1.5	1994	1	1.5	1994	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	.4	.0	#	0	5.5	1997	26	7.0	1997	6	1997	27	1	1997	.1	.1	.1	@	.0	.3	.2	.1	.0
Nov	3.0	1.0	#	#	8.0	1991	23	13.0	1991	10	1972	14	3	1972	1.5	1.0	.3	.1	.0	3.1	1.0	.6	@
Dec	5.2	4.0	2	1	8.5	1972	12	13.0	1997	23	2000	31	13	2000	3.2	2.4	.5	.2	.0	10.8	5.1	3.5	1.0
Ann	25.8	16.2	N/A	N/A	12.5	Jan 1996	27	17.5	Feb 1975	23	Dec 2000	31	13	Dec 2000	14.4	10.8	3.1	1.2	@	50.3	27.0	14.7	2.5

+ 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	5/23	5/17	5/14	5/10	5/07	5/04	5/01	4/27	4/21
32	5/12	5/08	5/04	5/01	4/29	4/26	4/23	4/20	4/15
28	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
24	4/21	4/16	4/13	4/10	4/07	4/05	4/02	3/29	3/25
20	4/15	4/09	4/04	4/01	3/28	3/25	3/21	3/17	3/11
16	4/05	3/30	3/26	3/22	3/18	3/15	3/11	3/07	3/01
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	9/14	9/18	9/21	9/23	9/25	9/28	9/30	10/03	10/06
32	9/20	9/25	9/28	9/30	10/03	10/06	10/08	10/11	10/16
28	9/29	10/04	10/08	10/12	10/15	10/18	10/22	10/26	10/31
24	10/08	10/14	10/18	10/22	10/25	10/29	11/02	11/06	11/12
20	10/19	10/25	10/29	11/02	11/05	11/09	11/12	11/16	11/22
16	10/28	11/04	11/08	11/12	11/16	11/20	11/24	11/29	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	159	153	148	144	141	137	133	129	122
32	174	168	164	160	157	153	149	145	139
28	204	196	191	186	181	177	172	166	159
24	222	215	209	205	200	196	192	186	179
20	247	238	232	226	221	216	211	205	196
16	270	260	253	248	242	237	231	224	214

* 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	1422	1124	869	486	190	26	5	22	115	403	850	1273	6785
60	1267	984	714	347	101	5	0	5	47	266	700	1118	5554
57	1174	900	624	271	63	1	0	1	23	196	611	1025	4889
55	1112	847	568	226	43	0	0	0	13	155	554	963	4481
50	959	717	427	131	14	0	0	0	2	77	418	814	3559
32	464	307	92	3	0	0	0	0	0	1	85	341	1293

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	65	107	246	510	881	1125	1307	1246	945	626	225	91	7374
55	0	3	10	42	212	435	594	533	268	67	4	0	2168
57	0	0	3	28	169	376	532	472	218	46	2	0	1846
60	0	0	0	14	114	290	439	382	152	23	0	0	1414
65	0	0	0	3	49	161	289	244	70	5	0	0	821
70	0	0	0	0	15	68	156	135	24	0	0	0	398

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	4	27	119	342	656	908	1079	1016	741	412	103	11	4	31	150	492	1148	2056	3135	4151	4892	5304	5407	5418
45	0	7	67	224	502	758	924	861	591	280	48	4	0	7	74	298	800	1558	2482	3343	3934	4214	4262	4266
50	0	1	31	130	352	608	769	706	444	170	17	0	0	1	32	162	514	1122	1891	2597	3041	3211	3228	3228
55	0	0	10	67	222	458	614	551	306	90	4	0	0	0	10	77	299	757	1371	1922	2228	2318	2322	2322
60	0	0	4	29	121	313	459	397	189	36	0	0	0	0	4	33	154	467	926	1323	1512	1548	1548	1548
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	24	87	218	408	601	731	683	476	258	61	7	1	25	112	330	738	1339	2070	2753	3229	3487	3548	3555

(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