

Climatology of the United States

No. 20

1971-2000

Station: WOOD, SD

COOP ID: 399442

Climate Division: SD 8

NWS Call Sign:

Elevation: 2,180 Feet Lat: 43° 30N

Lon: 100° 29W

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	32.3	8.5	20.4	76	1974	16	33.1	1990	-30	1966	29	5.9	1979	1382	0	.0	.0	4.9	13.5	29.8	8.5
Feb	37.8	13.6	25.7	78	1995	22	36.5	1999	-32	1994	9	11.1	1978	1101	0	.0	.0	8.2	9.5	25.9	4.7
Mar	47.3	22.6	35.0	87+	1995	12	41.3	1986	-29	1998	11	24.8	1996	932	0	.0	.0	15.3	4.5	24.6	1.2
Apr	58.8	34.2	46.5	97	1980	21	54.7	1981	7	1997	8	39.6	1995	557	1	.0	.4	23.6	.5	12.7	.0
May	70.1	45.8	58.0	100	1969	27	63.3	1985	19	1980	8	52.8	1995	244	24	.0	1.0	30.2	.0	2.0	.0
Jun	80.2	55.5	67.9	109	1988	24	76.2	1988	34+	1969	14	62.2	1998	60	145	.9	6.5	29.9	.0	.0	.0
Jul	87.5	61.2	74.4	110+	1977	18	80.7	1974	37	1971	30	65.5	1992	15	305	3.8	15.6	31.0	.0	.0	.0
Aug	86.2	59.1	72.7	112	1965	13	79.1	1983	36+	1988	29	66.0	1992	20	258	2.4	14.6	31.0	.0	.0	.0
Sep	76.8	48.8	62.8	107	1952	4	69.1	1998	20	1991	19	56.4	1993	144	78	.7	6.2	29.6	.0	1.3	.0
Oct	63.3	36.0	49.7	98+	1963	5	53.2	1973	3	1991	31	45.6	1976	475	0	.0	.6	26.9	.3	9.0	.0
Nov	44.7	22.2	33.5	88	1999	9	45.1	1999	-22	1959	16	19.9	1985	945	0	.0	.0	12.4	5.6	24.3	1.1
Dec	35.0	11.9	23.5	76	1948	3	32.6	1999	-31	1989	23	4.6	1983	1288	0	.0	.0	6.0	11.1	29.7	5.5
Ann	60.0	35.0	47.5	112	Aug 1965	13	80.7	Jul 1974	-32	Feb 1994	9	4.6	Dec 1983	7163	811	7.8	44.9	249.0	45.0	159.3	21.0

+ 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: WOOD, SD

COOP ID: 399442

Climate Division: SD 8

NWS Call Sign:

Elevation: 2,180 Feet Lat: 43°30N

Lon: 100°29W

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	.36	.28	.77	2001	30	1.00	1979	.00+	1990	4.4	1.2	.1	.0	.00	.03	.09	.14	.20	.27	.35	.44	.58	.80	1.02
Feb	.53	.37	1.47	1977	23	1.79	1977	.00	1983	4.1	1.5	.2	.1	.02	.07	.14	.22	.30	.40	.51	.65	.85	1.17	1.49
Mar	1.30	1.14	1.75	1977	12	5.24	1977	.11	1997	6.5	3.4	.8	.2	.14	.23	.41	.60	.79	1.01	1.27	1.59	2.03	2.76	3.47
Apr	2.09	1.93	2.89	1970	12	4.25	1986	.26	1998	8.5	5.1	1.4	.2	.39	.58	.89	1.17	1.46	1.77	2.12	2.55	3.12	4.03	4.90
May	3.42	2.85	2.84	1973	27	8.30	1982	.53	1992	10.1	7.0	2.0	.9	.81	1.13	1.63	2.08	2.52	2.99	3.52	4.14	4.96	6.26	7.48
Jun	2.79	2.50	3.52	1991	4	6.17	1992	.52	1976	9.7	5.8	1.9	.6	.73	.99	1.40	1.75	2.10	2.47	2.88	3.37	4.01	5.01	5.95
Jul	2.84	2.61	4.30	1989	14	6.79	1989	.44	1991	9.1	5.8	1.9	.6	.83	1.10	1.51	1.86	2.20	2.56	2.95	3.41	4.01	4.94	5.81
Aug	1.61	1.51	3.82	1968	9	3.16	1980	.29	2000	6.8	3.9	.9	.2	.50	.65	.88	1.07	1.26	1.46	1.67	1.92	2.25	2.76	3.23
Sep	1.63	1.28	1.93	1963	1	5.73	1996	.07	1981	5.8	3.3	1.1	.4	.16	.28	.50	.73	.97	1.25	1.58	1.99	2.56	3.49	4.41
Oct	1.56	1.41	2.22	1949	10	4.70	1998	.09	1992	5.3	3.4	1.0	.3	.17	.29	.51	.72	.96	1.22	1.52	1.90	2.42	3.27	4.10
Nov	.73	.65	1.83	1956	2	1.64	1985	.13	1990	5.0	2.5	.3	.0	.18	.24	.35	.44	.54	.64	.75	.88	1.05	1.33	1.58
Dec	.45	.43	1.26	1951	6	1.09	1980	.02	1991	4.6	1.4	@	.0	.05	.09	.15	.21	.28	.35	.44	.54	.69	.92	1.15
Ann	19.31	19.20	4.30	Jul 1989	14	8.30	May 1982	.00+	Jan 1990	79.9	44.3	11.6	3.5	12.55	13.82	15.46	16.72	17.85	18.96	20.11	21.39	22.95	25.24	27.24

+ 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: WOOD, SD

COOP ID: 399442

Climate Division: SD 8

NWS Call Sign:

Elevation: 2,180 Feet

Lat: 43°30N

Lon: 100°29W

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	6.6	2	2	7.0	1996	18	19.1	1996	12	1996	31	6	1996	3.2	2.5	.7	.2	.0	12.3	8.1	4.2	.3
Feb	6.7	4.5	3	1	14.0	1977	23	21.0	1978	23	1978	20	12	1978	2.8	2.2	.6	.4	.1	10.7	7.1	5.5	2.6
Mar	9.1	6.0	1	1	16.0	1975	27	38.0	1977	21	1975	29	6	1996	3.0	2.6	1.1	.4	.1	8.0	4.7	2.9	1.3
Apr	5.1	2.5	#	#	16.0	1995	18	38.6	1995	18	1995	12	6	1995	1.6	1.4	.8	.4	@	2.1	1.3	1.0	.6
May	.2	.0	0	0	4.0	1979	10	4.0	1979	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	2.0	.0	#	0	9.0	1995	23	10.9	1995	8	1995	23	1	1995	.5	.4	.3	.2	.0	.8	.5	.2	.0
Nov	5.8	5.5	1	#	7.0	1996	17	14.9	1993	11+	2000	18	6	2000	2.4	2.0	.6	.4	.0	6.5	3.7	1.9	.8
Dec	6.8	7.0	2	1	9.5	1989	10	17.0	1996	15	1996	31	8	1996	3.3	2.7	.6	.2	.0	13.5	8.6	4.9	.6
Ann	41.9	32.1	N/A	N/A	16.0+	Apr 1995	18	38.6	Apr 1995	23	Feb 1978	20	12	Feb 1978	16.8	13.8	4.7	2.2	.2	53.9	34.0	20.6	6.2

+ 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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Elevation: 2,180 Feet

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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	6/02	5/28	5/24	5/21	5/18	5/15	5/11	5/08	5/02
32	5/21	5/16	5/12	5/09	5/06	5/03	4/30	4/26	4/21
28	5/14	5/09	5/05	5/02	4/29	4/26	4/23	4/19	4/14
24	5/07	5/01	4/27	4/24	4/21	4/18	4/15	4/11	4/05
20	4/29	4/23	4/18	4/14	4/10	4/06	4/02	3/29	3/22
16	4/16	4/10	4/06	4/03	3/31	3/27	3/24	3/20	3/15
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	9/07	9/11	9/13	9/16	9/18	9/20	9/22	9/24	9/28
32	9/15	9/19	9/23	9/25	9/28	9/30	10/02	10/06	10/10
28	9/20	9/25	9/30	10/03	10/07	10/10	10/14	10/18	10/24
24	10/01	10/07	10/11	10/14	10/17	10/20	10/24	10/28	11/02
20	10/08	10/14	10/18	10/22	10/25	10/28	11/01	11/05	11/10
16	10/22	10/28	11/01	11/05	11/09	11/12	11/16	11/20	11/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	142	135	130	126	122	118	114	109	103
32	164	157	152	148	144	140	135	130	123
28	183	175	170	165	160	156	151	145	137
24	199	192	187	183	178	174	170	165	158
20	223	214	207	202	197	192	186	180	171
16	248	239	233	227	222	217	212	205	196

* 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	1382	1101	932	557	244	60	15	20	144	475	945	1288	7163
60	1227	961	777	414	135	19	3	4	68	323	795	1133	5859
57	1134	884	684	334	87	8	0	1	38	237	705	1040	5152
55	1074	832	623	284	62	4	0	0	23	184	653	978	4717
50	930	701	478	176	21	0	0	0	6	83	513	834	3742
32	451	309	100	7	0	0	0	0	0	1	147	362	1377

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	92	133	191	442	804	1075	1313	1261	924	549	191	97	7072
55	2	12	1	28	152	389	600	548	258	19	7	0	2016
57	0	7	0	18	115	333	538	487	212	10	0	0	1720
60	0	0	0	8	71	254	448	397	152	3	0	0	1333
65	0	0	0	1	24	145	305	258	78	0	0	0	811
70	0	0	0	0	5	69	184	144	33	0	0	0	435

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	15	36	103	275	593	870	1105	1060	724	371	85	16	15	51	154	429	1022	1892	2997	4057	4781	5152	5237	5253
45	1	9	50	174	445	720	950	905	577	249	41	3	1	10	60	234	679	1399	2349	3254	3831	4080	4121	4124
50	1	0	18	98	301	572	795	750	432	147	14	0	1	1	19	117	418	990	1785	2535	2967	3114	3128	3128
55	0	0	5	51	184	424	640	596	305	72	4	0	0	0	5	56	240	664	1304	1900	2205	2277	2281	2281
60	0	0	0	23	93	283	485	441	196	27	0	0	0	0	0	23	116	399	884	1325	1521	1548	1548	1548
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	16	40	92	197	369	554	711	683	458	252	69	23	16	56	148	345	714	1268	1979	2662	3120	3372	3441	3464

(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.

- a. Temperature/ Precipitation Tables
 - 1. 1971-2000 Monthly Normals
 - 2. Cooperative Summary of the Day
 - 3. National Weather Service station records
 - 4. 1971-2000 serially complete daily data
- b. Degree Day Table
 - 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
 - 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. 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