

Climatology of the United States

No. 20

1971-2000

Station: CLARK, SD

COOP ID: 391739

Climate Division: SD 7

NWS Call Sign:

Elevation: 1,780 Feet Lat: 44° 53N

Lon: 97° 44W

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	20.4	.7	10.6	66	1981	24	24.2	1990	-42	1912	12	-2.0	1982	1688	0	.0	.0	.4	23.4	30.9	14.9
Feb	26.9	7.5	17.2	67	1958	23	30.3	1987	-40	1905	2	3.7	1989	1338	0	.0	.0	1.4	16.3	27.9	8.4
Mar	38.6	19.1	28.9	85	1943	30	38.1	2000	-27	1913	2	20.3	1996	1122	0	.0	.0	6.7	8.4	27.7	2.7
Apr	54.9	32.1	43.5	95+	1980	21	50.6	1977	-8	1975	3	36.0	1975	646	1	.0	.1	20.6	.8	15.8	.1
May	68.1	45.4	56.8	107	1934	30	64.6	1977	16+	1946	12	51.7	1979	278	23	.0	.1	29.8	.0	2.2	.0
Jun	76.9	54.9	65.9	108	1933	26	73.8	1988	28	1951	2	60.2	1982	81	107	.1	1.7	30.0	.0	.0	.0
Jul	82.7	59.8	71.3	110+	1940	24	76.7	1974	38+	1930	14	62.4	1992	29	223	.5	6.4	31.0	.0	.0	.0
Aug	80.7	57.2	69.0	108	1937	15	75.6	1983	32+	1935	28	63.3+	1992	48	170	.4	4.8	31.0	.0	.0	.0
Sep	71.3	46.7	59.0	104+	1931	10	65.8	1998	15	1926	25	53.2	1993	215	35	.1	1.8	29.3	.0	1.2	.0
Oct	58.0	34.1	46.1	96	1914	3	51.5	1973	-8	1925	29	41.6	1976	588	0	.0	.0	24.3	.4	12.1	.0
Nov	37.9	19.5	28.7	78	1999	9	40.7	1999	-22	1964	30	16.6	1985	1091	0	.0	.0	6.4	10.4	26.7	1.6
Dec	24.6	6.3	15.5	63+	1941	3	25.1	1997	-35+	1967	31	-1.8	1983	1538	0	.0	.0	.6	20.5	30.8	9.7
Ann	53.4	31.9	42.7	110+	Jul 1940	24	76.7	Jul 1974	-42	Jan 1912	12	-2.0	Jan 1982	8662	559	1.1	14.9	211.5	80.2	175.3	37.4

+ 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: 1896-2001

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

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No. 20 1971-2000

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

Station: CLARK, SD

COOP ID: 391739

Climate Division: SD 7

NWS Call Sign:

Elevation: 1,780 Feet Lat: 44°53N

Lon: 97°44W

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	.65	.59	1.12	1917	21	1.78+	1979	.00	1990	6.3	2.4	.1	@	.07	.15	.26	.35	.45	.55	.66	.80	.98	1.27	1.55
Feb	.61	.51	2.00	1946	5	1.39	1977	.02	1983	5.5	2.2	.1	.0	.13	.19	.28	.36	.44	.53	.62	.74	.89	1.14	1.37
Mar	1.31	1.14	1.46	1942	25	3.44	1977	.11	1971	7.1	3.9	.7	.0	.24	.36	.55	.73	.91	1.10	1.32	1.59	1.95	2.52	3.06
Apr	1.98	1.92	2.78	1912	13	6.68	1986	.24	1996	7.8	4.7	1.1	.3	.39	.57	.86	1.13	1.40	1.69	2.02	2.41	2.93	3.77	4.57
May	2.86	2.57	3.10	1945	31	9.26	1972	.49	1992	9.5	5.9	1.8	.5	.70	.97	1.38	1.75	2.12	2.51	2.94	3.46	4.13	5.20	6.20
Jun	3.75	2.92	3.75	1977	15	9.87	1993	.86	1987	10.2	6.5	2.5	1.0	.95	1.30	1.85	2.33	2.81	3.31	3.87	4.53	5.40	6.77	8.06
Jul	3.14	2.51	4.42	1997	25	7.74	1997	.09	1976	8.8	5.8	1.9	.7	.41	.67	1.11	1.55	2.01	2.52	3.11	3.84	4.82	6.44	7.99
Aug	2.90	2.86	4.01	1900	4	4.91	1994	1.00	1973	8.3	5.1	1.8	.8	1.05	1.32	1.71	2.04	2.36	2.68	3.03	3.43	3.95	4.75	5.48
Sep	1.99	1.72	4.70	1900	8	5.79	1986	.05	1998	6.6	4.2	1.2	.5	.21	.36	.64	.92	1.21	1.55	1.94	2.42	3.09	4.18	5.25
Oct	1.76	1.26	3.80	1946	6	6.60	1998	.08	1992	7.1	3.4	1.1	.3	.12	.23	.46	.70	.97	1.28	1.65	2.13	2.79	3.90	5.01
Nov	1.04	.82	1.28	1977	8	3.17	2000	.01	1990	6.3	3.0	.6	.1	.03	.08	.19	.32	.47	.67	.91	1.23	1.69	2.48	3.29
Dec	.47	.42	1.50	1949	11	1.54	1977	.00	1986	5.3	1.9	@	.0	.04	.09	.17	.24	.31	.39	.47	.58	.72	.95	1.17
Ann	22.46	23.66	4.70	Sep 1900	8	9.87	Jun 1993	.00+	Jan 1990	88.8	49.0	12.9	4.2	13.77	15.36	17.43	19.05	20.50	21.93	23.42	25.09	27.13	30.15	32.81

+ 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: 1896-2001

(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: CLARK, SD

COOP ID: 391739

Climate Division: SD 7

NWS Call Sign:

Elevation: 1,780 Feet

Lat: 44° 53N

Lon: 97° 44W

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	8.3	6.0	6	5	7.0	1997	4	24.2	1979	24	1997	12	19	1997	6.1	3.0	.8	.2	.0	24.2	20.5	14.9	4.5
Feb	6.1	6.1	7	5	10.5	1997	4	10.5	1997	28	1997	5	23	1997	4.5	2.2	.8	.1	@	23.5	20.1	14.9	7.4
Mar	5.7	3.1	4	2	9.0	1984	4	21.5	1975	24+	1997	7	18	1997	2.5	1.9	.6	.3	.0	11.4	8.8	6.2	2.7
Apr	1.0	.0	#	0	9.0	1995	12	9.0	1995	18	1975	1	4	1975	.6	.5	.2	.1	.0	1.1	.6	.3	.3
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	#	1995	21	#	1995	#	1995	21	#	1995	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.8	.0	#	0	7.0	1995	24	11.0	1995	7	1995	24	1	1995	.4	.3	@	@	.0	.3	.1	.1	.0
Nov	6.0	4.1	1	#	9.5	1993	25	18.8	1993	15+	1993	25	7	2000	3.3	2.3	.5	.3	.0	6.4	3.2	1.7	.4
Dec	6.2	4.3	4	2	7.5	1981	1	16.5	1981	17+	1996	25	12	1996	5.0	2.4	.3	.2	.0	15.2	10.6	8.3	1.6
Ann	34.1	23.6	N/A	N/A	10.5	Feb 1997	4	24.2	Jan 1979	28	Feb 1997	5	23	Feb 1997	22.4	12.6	3.2	1.2	@	82.1	63.9	46.4	16.9

+ 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

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NWS Call Sign:

Elevation: 1,780 Feet

Lat: 44° 53N

Lon: 97° 44W

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	5/28	5/24	5/20	5/18	5/15	5/13	5/10	5/07	5/02
32	5/17	5/13	5/10	5/07	5/05	5/03	4/30	4/27	4/23
28	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/17	4/12
24	4/29	4/24	4/21	4/18	4/15	4/12	4/10	4/06	4/02
20	4/16	4/12	4/09	4/06	4/03	4/01	3/29	3/26	3/22
16	4/10	4/06	4/03	3/31	3/29	3/26	3/23	3/20	3/16
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	9/13	9/16	9/19	9/21	9/23	9/25	9/27	9/30	10/03
32	9/20	9/23	9/26	9/28	9/30	10/01	10/03	10/06	10/09
28	9/24	9/28	10/01	10/04	10/07	10/09	10/12	10/15	10/19
24	10/07	10/11	10/14	10/17	10/20	10/22	10/25	10/28	11/02
20	10/11	10/17	10/21	10/25	10/28	10/31	11/04	11/08	11/14
16	10/25	10/30	11/02	11/05	11/07	11/10	11/13	11/16	11/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	148	142	137	134	130	127	123	118	112
32	162	157	153	150	147	144	140	137	131
28	182	175	171	167	163	159	155	151	144
24	207	200	195	191	187	183	179	174	167
20	230	222	217	212	207	202	197	191	183
16	242	235	231	227	223	219	215	211	204

* 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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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	1688	1338	1122	646	278	81	29	48	215	588	1091	1538	8662
60	1533	1198	967	502	167	28	8	15	117	434	941	1383	7293
57	1440	1114	874	419	114	13	1	5	73	344	851	1290	6538
55	1378	1058	812	367	86	6	0	3	50	287	791	1228	6066
50	1223	925	658	249	36	0	0	0	15	165	647	1073	4991
32	700	479	207	22	0	0	0	0	0	5	220	566	2199

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	35	64	108	367	768	1016	1217	1145	810	440	119	51	6140
55	0	0	0	22	141	333	504	435	170	10	0	0	1615
57	0	0	0	14	107	279	444	375	133	5	0	0	1357
60	0	0	0	7	67	204	358	292	87	1	0	0	1016
65	0	0	0	1	23	107	223	170	35	0	0	0	559
70	0	0	0	0	5	43	123	84	11	0	0	0	266

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	1	35	201	550	800	992	936	606	266	31	1	0	1	36	237	787	1587	2579	3515	4121	4387	4418	4419
45	0	0	9	119	401	650	837	781	465	158	12	0	0	0	9	128	529	1179	2016	2797	3262	3420	3432	3432
50	0	0	2	63	267	500	682	626	325	82	4	0	0	0	2	65	332	832	1514	2140	2465	2547	2551	2551
55	0	0	0	31	154	355	527	471	205	33	0	0	0	0	0	31	185	540	1067	1538	1743	1776	1776	1776
60	0	0	0	13	76	222	375	321	113	8	0	0	0	0	0	13	89	311	686	1007	1120	1128	1128	1128
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	31	139	333	507	656	607	374	169	27	0	0	0	31	170	503	1010	1666	2273	2647	2816	2843	2843

(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