

Climatography of the United States

No. 20

1971-2000

Station: MELLETTE, SD

COOP ID: 395456

Climate Division: SD 3

NWS Call Sign:

Elevation: 1,290 Feet Lat: 45°09N

Lon: 98°30W

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	21.2	-1.0	10.1	63	1981	25	25.3	1990	-45	1912	12	-4.2	1978	1704	0	.0	.0	.5	23.0	30.9	16.1
Feb	28.5	6.5	17.5	71	1958	25	30.7	1987	-45	1994	9	2.1	1979	1330	0	.0	.0	2.4	15.9	28.1	9.6
Mar	40.3	19.3	29.8	87+	1946	31	38.3	2000	-29	1897	13	21.0	1996	1092	0	.0	.0	7.8	7.9	28.0	3.3
Apr	57.3	32.2	44.8	99	1980	22	51.5	1977	-7	1975	1	38.8	1995	608	1	.0	.2	21.7	.8	16.8	.1
May	70.2	44.5	57.4	108	1934	30	64.7	1977	15	1981	10	51.1	1983	266	30	.0	.7	30.3	.0	3.5	.0
Jun	79.2	54.2	66.7	110+	1988	25	75.3	1988	29+	1897	6	61.1	1982	74	124	.3	3.8	30.0	.0	.0	.0
Jul	84.9	58.8	71.9	112+	1966	10	77.7	1974	34	1917	3	63.5	1992	25	238	1.6	9.5	31.0	.0	.0	.0
Aug	83.8	56.2	70.0	114	1965	13	76.5	1983	32	1907	20	64.4	1992	39	194	1.1	8.3	31.0	.0	.0	.0
Sep	73.5	44.7	59.1	106	1931	10	65.2	1998	16+	1939	30	53.3	1984	207	30	.2	2.4	29.6	.0	3.1	.0
Oct	59.7	32.1	45.9	96	1905	6	50.9	1973	-8	1919	28	41.7	1976	592	0	.0	.2	24.8	.3	16.6	.0
Nov	39.4	18.1	28.8	79	1999	9	39.5	1999	-26	1905	30	17.6	1985	1087	0	.0	.0	7.7	9.3	28.2	2.3
Dec	26.1	4.8	15.5	68	1939	6	26.0	1997	-38	1983	22	-1.5	1983	1536	0	.0	.0	1.1	19.4	31.0	11.1
Ann	55.3	30.9	43.1	114	Aug 1965	13	77.7	Jul 1974	-45+	Feb 1994	9	-4.2	Jan 1978	8560	617	3.2	25.1	217.9	76.6	186.2	42.5

+ 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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**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: MELLETTE, SD

COOP ID: 395456

Climate Division: SD 3

NWS Call Sign:

Elevation: 1,290 Feet Lat: 45°09N

Lon: 98°30W

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	.54	.42	2.23	1939	9	1.98	1997	.02	1974	5.2	1.8	.1	.0	.05	.09	.17	.24	.32	.41	.52	.66	.84	1.14	1.44
Feb	.56	.47	1.28	1958	27	1.40	1977	.03	1985	5.1	1.8	.1	@	.08	.13	.21	.29	.37	.46	.56	.68	.85	1.12	1.38
Mar	1.39	1.16	2.00	1900	28	5.10	1977	.02	1971	7.0	3.5	.9	.1	.17	.28	.47	.66	.87	1.10	1.36	1.69	2.14	2.87	3.58
Apr	2.14	1.98	2.85	1912	13	7.66	1986	.13	1996	8.3	5.0	1.1	.4	.30	.48	.78	1.08	1.39	1.73	2.13	2.61	3.27	4.33	5.36
May	2.82	2.39	3.63	1986	9	6.04	1978	.42	1992	10.1	6.1	1.6	.4	.65	.91	1.32	1.69	2.06	2.45	2.89	3.42	4.11	5.21	6.24
Jun	3.39	2.95	3.90	1935	16	8.20	1984	.96	1972	9.9	6.6	2.1	.6	.94	1.26	1.75	2.18	2.59	3.03	3.51	4.08	4.82	5.98	7.06
Jul	2.86	2.68	3.10	1919	3	8.91	1993	.23	1975	9.3	5.4	1.7	.7	.63	.89	1.31	1.69	2.07	2.48	2.93	3.48	4.19	5.34	6.42
Aug	2.94	2.86	4.59	1984	20	7.06	1984	.25	1996	8.2	4.5	1.7	.9	.62	.89	1.33	1.72	2.11	2.53	3.01	3.58	4.33	5.53	6.66
Sep	1.96	1.56	5.50	1926	2	5.99	1996	.01	1979	6.3	3.7	1.0	.6	.11	.23	.47	.73	1.03	1.39	1.82	2.37	3.14	4.45	5.76
Oct	1.67	1.21	3.52	1998	17	8.68	1998	.11	1978	5.8	3.2	1.0	.4	.08	.17	.37	.59	.85	1.15	1.53	2.01	2.69	3.84	5.00
Nov	.84	.65	1.28	1952	17	3.06	1977	.00+	1999	5.5	2.3	.3	.1	.00	.00	.15	.29	.43	.60	.80	1.05	1.38	1.95	2.52
Dec	.43	.31	1.20	1931	30	1.41	1977	.00+	1986	4.6	1.2	.1	.0	.00	.01	.06	.12	.19	.28	.38	.52	.71	1.04	1.38
Ann	21.54	21.81	5.50	Sep 1926	2	8.91	Jul 1993	.00+	Nov 1999	85.3	45.1	11.7	4.2	12.87	14.44	16.51	18.11	19.57	21.00	22.50	24.18	26.25	29.30	31.99

+ 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:
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Station: MELLETTE, SD

COOP ID: 395456

Climate Division: SD 3

NWS Call Sign:

Elevation: 1,290 Feet

Lat: 45°09N

Lon: 98°30W

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	6.6	5.8	6	4	9.0	1982	22	21.0	1982	30	1997	30	29	1997	4.6	2.8	.9	.3	.0	22.3	12.9	8.5	1.9
Feb	6.5	6.1	6	2	9.0	1996	27	14.1	1986	29	1997	13	25	1997	4.1	2.0	.7	.3	.0	15.4	11.1	8.1	3.2
Mar	6.2	5.0	3	2	8.8	1985	2	19.7	1985	25	1978	2	16	1997	3.0	1.6	.7	.3	.0	9.4	7.1	4.4	1.7
Apr	3.6	1.8	#	#	13.0	1986	14	16.1	1986	11	1986	15	1	1995	1.3	1.1	.4	.2	@	1.2	.7	.2	.1
May	#	.0	#	0	#	1976	2	#	1976	#	1976	1	#	1976	.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	.3	.0	#	0	3.0	1971	28	3.5	1971	4	1971	29	2	1971	.2	.1	@	.0	.0	.1	.0	.0	.0
Nov	7.0	5.1	1	1	15.0	1993	25	29.1	1993	20	1993	27	7	2000	3.6	2.2	.9	.3	@	7.8	4.3	3.1	.9
Dec	5.9	4.0	4	1	9.0	1984	1	19.3	1977	21	1996	31	14	1996	4.3	2.4	.7	.2	.0	13.7	8.6	6.0	3.5
Ann	36.1	27.8	N/A	N/A	15.0	Nov 1993	25	29.1	Nov 1993	30	Jan 1997	30	29	Jan 1997	21.1	12.2	4.3	1.6	@	69.9	44.7	30.3	11.3

+ 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: 1,290 Feet

Lat: 45°09N

Lon: 98°30W

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	6/15	6/07	6/01	5/28	5/23	5/19	5/14	5/08	4/30
32	5/25	5/20	5/17	5/14	5/11	5/09	5/06	5/02	4/28
28	5/15	5/11	5/08	5/05	5/02	4/30	4/27	4/24	4/20
24	5/04	4/29	4/26	4/23	4/20	4/18	4/15	4/11	4/07
20	4/24	4/19	4/15	4/12	4/09	4/05	4/02	3/29	3/24
16	4/18	4/13	4/09	4/05	4/02	3/30	3/26	3/22	3/17
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	9/01	9/05	9/08	9/11	9/13	9/16	9/19	9/22	9/26
32	9/13	9/16	9/19	9/21	9/23	9/25	9/27	9/30	10/04
28	9/18	9/22	9/25	9/28	10/01	10/03	10/06	10/09	10/14
24	9/21	9/27	10/02	10/06	10/10	10/13	10/17	10/22	10/28
20	10/02	10/08	10/12	10/16	10/19	10/23	10/26	10/31	11/06
16	10/11	10/17	10/22	10/26	10/29	11/02	11/05	11/10	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	141	131	124	118	113	107	101	94	84
32	154	147	142	138	134	130	126	121	114
28	168	162	158	154	151	147	143	139	133
24	198	189	182	177	172	166	161	154	145
20	217	209	203	198	193	188	183	177	169
16	232	224	218	214	209	205	200	195	187

* 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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Elevation: 1,290 Feet Lat: 45°09N Lon: 98°30W

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	1704	1330	1092	608	266	74	25	39	207	592	1087	1536	8560
60	1549	1190	937	463	158	26	7	11	106	437	937	1381	7202
57	1456	1106	844	380	108	12	0	4	62	347	847	1288	6454
55	1394	1050	782	328	81	6	0	1	41	289	787	1226	5985
50	1239	923	635	214	33	0	0	0	9	164	643	1073	4933
32	719	486	200	13	0	0	0	0	0	4	214	570	2206

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	38	79	131	396	787	1040	1236	1178	813	436	117	57	6308
55	0	0	0	22	155	356	523	466	163	7	0	0	1692
57	0	0	0	13	120	302	461	407	125	3	0	0	1431
60	0	0	0	6	77	225	375	321	79	1	0	0	1084
65	0	0	0	1	30	124	238	194	30	0	0	0	617
70	0	0	0	0	8	54	133	101	8	0	0	0	304

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	34	205	547	810	1000	942	585	243	28	0	0	1	35	240	787	1597	2597	3539	4124	4367	4395	4395
45	0	0	10	115	401	660	845	787	441	139	9	0	0	0	10	125	526	1186	2031	2818	3259	3398	3407	3407
50	0	0	2	60	266	510	690	632	307	69	2	0	0	0	2	62	328	838	1528	2160	2467	2536	2538	2538
55	0	0	0	27	155	363	535	477	191	26	0	0	0	0	0	27	182	545	1080	1557	1748	1774	1774	1774
60	0	0	0	9	80	230	384	330	107	8	0	0	0	0	0	9	89	319	703	1033	1140	1148	1148	1148
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	6	37	153	344	513	651	607	385	184	32	1	0	6	43	196	540	1053	1704	2311	2696	2880	2912	2913

(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/normal/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