

# 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: SHERIDAN FIELD STN, WY

1971-2000

COOP ID: 488160

Climate Division: WY 5

NWS Call Sign:

Elevation: 3,750 Feet Lat: 44° 50N

Lon: 106° 50W

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	33.4	6.7	20.1	70	1931	29	32.2	1981	-40	1997	12	4.9	1979	1393	0	.0	.0	3.0	12.8	30.9	11.0
Feb	38.7	11.7	25.2	80	1940	23	34.8	1992	-38	1936	17	12.4	1975	1115	0	.0	.0	5.3	8.2	27.8	6.0
Mar	47.7	20.7	34.2	80	1978	31	43.1	1986	-24+	1978	3	26.3	1996	955	0	.0	.0	13.8	3.9	29.0	2.0
Apr	57.9	29.8	43.9	88	1989	22	50.6	1987	-14	1936	2	35.0	1975	635	0	.0	.0	21.5	.8	19.8	.1
May	67.5	38.9	53.2	96+	1980	24	58.2	1994	16	1950	1	48.4	1996	372	6	.0	.4	28.8	.0	6.6	.0
Jun	77.9	48.2	63.1	106	1936	27	74.0	1988	28	1998	6	55.6	1998	136	76	.2	3.3	29.8	.0	.6	.0
Jul	87.2	53.1	70.2	107+	1959	25	74.5	1989	32	1971	29	62.7	1993	33	193	1.7	12.9	31.0	.0	@	.0
Aug	87.1	51.3	69.2	105+	2001	4	76.0	1983	29	1920	30	62.7	1974	50	179	.9	13.3	31.0	.0	.1	.0
Sep	75.4	40.6	58.0	104	1954	1	64.5	1998	4	1984	25	53.5	1986	240	30	.2	3.6	28.8	.0	6.2	.0
Oct	61.9	30.3	46.1	92+	1992	2	50.6	1979	-18	1991	30	42.6	1984	586	0	.0	.2	25.3	.7	21.1	.1
Nov	45.2	18.4	31.8	80+	1999	13	41.1	1999	-26	1985	23	15.9	1985	996	0	.0	.0	10.7	5.3	28.5	2.9
Dec	36.0	9.1	22.6	78	1939	5	31.3	1979	-44	1989	22	3.3	1983	1316	0	.0	.0	4.0	10.9	30.6	8.4
Ann	59.7	29.9	44.8	107+	Jul 1959	25	76.0	Aug 1983	-44	Dec 1989	22	3.3	Dec 1983	7827	484	3.0	33.7	233.0	42.6	201.2	30.5

+ 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](http://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: 1920-2001

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

082-A

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## No. 20 1971-2000

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**Station: SHERIDAN FIELD STN, WY**

**COOP ID: 488160**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 3,750 Feet Lat: 44° 50N**

**Lon: 106° 50W**

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	.51	.47	.60	1946	25	1.07	1977	.00+	1992	5.3	2.0	.1	.0	.00	.12	.23	.31	.38	.46	.54	.63	.76	.96	1.14
Feb	.38	.36	.54	1945	15	.97	1986	.00+	1998	4.1	1.5	.0	.0	.00	.06	.14	.20	.26	.32	.39	.48	.59	.78	.95
Mar	.86	.82	1.80	1946	21	2.19	1973	.12	1978	6.2	2.9	.1	@	.19	.27	.40	.51	.62	.74	.88	1.04	1.26	1.60	1.93
Apr	1.56	1.23	2.77	1948	19	3.65	1971	.03	1987	8.3	4.6	.7	.1	.20	.33	.55	.76	.99	1.24	1.54	1.90	2.39	3.19	3.97
May	2.68	2.37	2.18	1978	19	9.09	1978	.08	1998	10.8	6.5	1.6	.4	.57	.82	1.21	1.57	1.93	2.31	2.74	3.26	3.94	5.04	6.07
Jun	2.49	2.40	4.30	1986	4	5.08	1986	.55+	1988	9.8	5.6	1.4	.4	.76	1.00	1.35	1.65	1.95	2.25	2.59	2.99	3.50	4.30	5.04
Jul	1.25	.93	2.85	1948	14	4.96	1997	.00	1986	6.3	2.9	.7	.1	.03	.10	.26	.44	.64	.87	1.15	1.51	2.02	2.88	3.73
Aug	.84	.80	1.95	1953	2	4.12	1998	.10	1995	5.5	2.3	.4	.0	.10	.17	.29	.41	.53	.67	.83	1.03	1.30	1.75	2.18
Sep	1.38	1.23	2.30	1982	14	3.44	1973	.16	1975	6.5	3.7	.6	.1	.35	.48	.68	.86	1.04	1.22	1.43	1.67	1.99	2.50	2.97
Oct	1.30	1.10	1.95	1974	31	3.16	1974	.29+	1987	6.3	3.6	.6	.1	.29	.41	.60	.77	.94	1.12	1.33	1.57	1.89	2.40	2.89
Nov	.67	.55	1.23	1978	9	2.50	1978	.10	1981	4.7	2.2	.2	@	.13	.19	.29	.38	.47	.57	.68	.82	1.00	1.29	1.56
Dec	.50	.48	.85	1937	13	1.57	1989	.00+	1993	5.2	1.9	@	.0	.00	.04	.12	.20	.28	.37	.48	.62	.80	1.11	1.42
Ann	14.42	13.65	4.30	Jun 1986	4	9.09	May 1978	.00+	Feb 1998	79.0	39.7	6.4	1.2	10.30	11.10	12.12	12.90	13.59	14.25	14.94	15.70	16.62	17.95	19.10

+ 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: 1920-2001

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

Complete documentation available from:  
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**Station: SHERIDAN FIELD STN, WY**

**COOP ID: 488160**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 3,750 Feet**

**Lat: 44° 50N**

**Lon: 106° 50W**

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	8.0	6.8	4	4	11.0	2000	12	21.5	1977	13	1984	21	11	1984	3.2	3.0	1.0	.3	.1	14.2	11.8	6.9	.7
Feb	3.8	3.5	3	2	7.0	1986	5	15.0	1978	13	1986	15	9	1993	2.2	1.8	.5	@	.0	12.0	9.3	7.0	1.4
Mar	6.1	5.0	1	1	8.0	1973	23	14.0	1973	11	1993	1	3	1985	2.4	2.0	.8	.2	.0	4.7	3.3	1.1	.2
Apr	5.1	3.0	1	#	10.0	1973	20	15.0	1997	24	1984	27	19	1984	1.5	1.4	.8	.3	@	1.8	1.5	.8	.2
May	.2	.0	#	0	2.0	1975	25	3.0	1995	2+	1995	14	#+	1995	.2	.1	.0	.0	.0	.2	.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	.2	.0	0	0	3.5	1982	14	3.5	1982	0	0	0	0	0	.1	@	@	.0	.0	.0	.0	.0	.0
Oct	1.7	.0	#	#	6.0	1993	9	8.0	1993	14	1996	27	2	1996	.6	.5	.1	.1	.0	.6	.4	.2	.0
Nov	5.4	5.7	1	1	7.0	1973	1	13.0	1979	9+	1996	3	6	1996	2.0	1.8	.7	.3	.0	5.4	3.3	1.1	.0
Dec	7.9	6.0	3	2	6.0	1972	4	19.5	1977	16	1983	30	14	1983	3.8	3.2	.8	.3	.0	11.6	7.6	5.6	1.0
Ann	38.4	30.0	N/A	N/A	11.0	Jan 2000	12	21.5	Jan 1977	24	Apr 1984	27	19	Apr 1984	16.0	13.8	4.7	1.5	.1	50.5	37.2	22.7	3.5

+ 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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## No. 20 1971-2000

**Station: SHERIDAN FIELD STN, WY**

**COOP ID: 488160**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 3,750 Feet**

**Lat: 44° 50N**

**Lon: 106° 50W**

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	7/04	6/27	6/22	6/18	6/13	6/09	6/05	5/31	5/23
32	6/18	6/11	6/05	6/01	5/28	5/23	5/19	5/14	5/06
28	5/27	5/21	5/17	5/13	5/10	5/06	5/03	4/29	4/23
24	5/16	5/10	5/06	5/03	4/29	4/26	4/23	4/19	4/13
20	5/02	4/26	4/22	4/19	4/16	4/13	4/09	4/05	3/31
16	4/22	4/16	4/12	4/08	4/05	4/02	3/29	3/25	3/19
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	8/21	8/26	8/30	9/03	9/06	9/09	9/12	9/16	9/22
32	8/30	9/04	9/07	9/10	9/13	9/16	9/19	9/23	9/28
28	9/10	9/15	9/18	9/21	9/24	9/27	9/30	10/03	10/08
24	9/13	9/19	9/23	9/27	9/30	10/03	10/07	10/11	10/17
20	9/28	10/04	10/08	10/12	10/16	10/19	10/23	10/28	11/03
16	10/08	10/14	10/18	10/21	10/24	10/27	10/31	11/04	11/09
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	104	97	92	88	84	80	75	70	63
32	132	124	118	113	108	103	98	92	84
28	157	150	145	141	137	132	128	123	116
24	178	170	163	158	153	148	142	136	127
20	207	199	193	187	182	177	172	166	157
16	224	216	211	206	202	197	192	187	179

\* 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:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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**COOP ID: 488160**

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**NWS Call Sign:**

**Elevation: 3,750 Feet    Lat: 44° 50N**

**Lon: 106° 50W**

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	1393	1115	955	635	372	136	33	50	240	586	996	1316	7827
60	1238	975	800	487	237	63	9	16	135	431	846	1161	6398
57	1145	891	707	402	169	35	2	7	86	340	756	1068	5608
55	1083	835	645	348	130	22	1	3	60	281	702	1007	5117
50	930	707	498	225	58	5	0	0	19	154	561	863	4020
32	440	296	102	12	0	0	0	0	0	3	175	391	1419

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	70	105	170	367	657	930	1183	1152	779	441	170	98	6122
55	0	0	0	13	74	262	470	442	150	5	6	1	1423
57	0	0	0	8	50	215	410	384	115	2	0	0	1184
60	0	0	0	3	26	154	324	300	74	0	0	0	881
65	0	0	0	0	6	76	193	179	30	0	0	0	484
70	0	0	0	0	1	28	99	91	9	0	0	0	228

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	10	53	185	414	681	923	884	528	222	40	4	0	10	63	248	662	1343	2266	3150	3678	3900	3940	3944
45	0	0	18	96	277	531	768	729	387	121	11	0	0	0	18	114	391	922	1690	2419	2806	2927	2938	2938
50	0	0	2	46	163	387	614	575	261	55	2	0	0	0	2	48	211	598	1212	1787	2048	2103	2105	2105
55	0	0	0	14	80	252	459	421	152	17	0	0	0	0	0	14	94	346	805	1226	1378	1395	1395	1395
60	0	0	0	2	28	139	309	276	77	2	0	0	0	0	0	2	30	169	478	754	831	833	833	833
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	16	66	160	281	427	570	556	377	212	55	8	1	17	83	243	524	951	1521	2077	2454	2666	2721	2729

(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](http://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/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normals.html](http://www.ncdc.noaa.gov/normals.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)