U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: SHERIDAN AP, WY **COOP ID: 488155**

Climate Division: WY 5 **NWS Call Sign: SHR** **Elevation: 3,964 Feet** **Lat: 44˚46N** **Lon: 106˚58W**

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	33.0	9.7	21.3	70+	1974	15	32.5	1983	-35+	1997	12	4.0	1979	1351	0	.0	.0	4.1	13.1	30.2	8.6
Feb	39.0	14.9	26.9	76	1982	21	37.2	1992	-32	1989	3	13.8	1989	1078	0	.0	.0	6.7	8.3	27.0	4.6
Mar	48.2	22.5	35.3	77+	1994	16	43.3	1986	-23	1965	25	27.6	1996	925	0	.0	.0	14.8	3.7	26.9	1.4
Apr	57.5	30.4	43.9	86+	1992	29	50.4	1987	-2	1975	2	36.8	1997	628	1	.0	.0	21.7	1.0	17.4	.1
May	66.4	38.6	52.5	95	1960	12	58.3	1994	13	1954	3	48.5	1995	376	4	.0	.2	28.9	.0	4.6	.0
Jun	76.4	46.8	61.6	105	1988	26	72.7	1988	27	1951	3	55.1	1998	136	50	.3	3.0	29.8	.0	.2	.0
Jul	85.2	52.4	68.8	106+	1989	8	73.0	1988	35	1971	29	61.0	1993	31	165	1.1	11.1	31.0	.0	.0	.0
Aug	84.9	51.5	68.2	106	1983	7	75.4	1983	33	1993	31	63.0	1974	36	150	.7	11.5	31.0	.0	.0	.0
Sep	73.1	41.0	57.1	103	1983	1	64.0	1998	6	1984	25	50.1	1985	249	28	.1	2.7	28.7	.1	3.3	.0
Oct	59.8	30.3	45.1	92	1992	1	49.3	1988	-9	1991	30	38.6	1984	602	0	.0	@	25.2	.6	15.5	.1
Nov	43.4	18.5	31.0	81	1999	12	42.4	1999	-25	1959	16	13.1	1985	1004	0	.0	.0	11.1	5.9	27.3	1.9
Dec	34.4	10.4	22.4	72	1981	6	31.8	1999	-37	1983	24	5.0	1983	1305	0	.0	.0	4.9	11.5	30.2	6.6
Ann	58.4	30.6	44.5	106+	Jul 1989	8	75.4	Aug 1983	-37	Dec 1983	24	4.0	Jan 1979	7721	398	2.2	28.5	237.9	44.2	182.6	23.3

\+ 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/normals/usnormals.html

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	.77	.63	1.31	2000	11	2.24	2000	.07	1983
Feb	.57	.48	.96	1954	26	1.52	1986	.05	1992
Mar	1.00	.97	.90	1954	18	2.11	1984	.14	1978
Apr	1.77	1.63	2.76	1963	27	4.05	1973	.18	1980
May	2.41	2.20	1.77	1981	16	6.80	1978	.29	1998
Jun	2.02	1.92	1.90	1992	15	4.56	1975	.28	1971
Jul	1.11	.73	1.98	1952	12	3.31	1993	.02	1999
Aug	.80	.65	1.03	1968	18	2.47	1998	.09	1995
Sep	1.38	1.14	2.02	1998	13	2.90	1982	.19	1975
Oct	1.41	1.16	1.60	1974	30	3.41	1994	.27	1978
Nov	.80	.70	.85	1978	9	2.41	1991	.10	1981
Dec	.68	.60	.68	1989	14	2.41	1989	.10	1986
Ann	14.72	15.08	2.76	Apr 1963	27	6.80	May 1978	.02	Jul 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.9	2.6	.1	@
Feb	7.8	1.7	.1	.0
Mar	10.2	3.6	.1	.0
Apr	11.0	5.2	.9	.1
May	11.9	5.6	1.3	.3
Jun	10.6	4.9	1.2	.3
Jul	8.1	3.0	.6	@
Aug	6.5	2.3	.3	.0
Sep	7.2	3.5	.7	.2
Oct	7.8	3.8	.7	.1
Nov	7.8	2.6	.2	.0
Dec	8.5	2.4	@	.0
Ann	106.3	41.2	6.2	1.0

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.15	.22	.33	.44	.54	.66	.79	.94	1.15	1.48	1.79
Feb	.09	.14	.22	.30	.38	.47	.57	.69	.86	1.13	1.39
Mar	.31	.40	.54	.66	.78	.90	1.03	1.19	1.40	1.71	2.01
Apr	.35	.51	.77	1.01	1.25	1.51	1.81	2.16	2.63	3.38	4.10
May	.60	.83	1.18	1.49	1.80	2.13	2.49	2.92	3.48	4.38	5.21
Jun	.47	.66	.95	1.22	1.48	1.76	2.08	2.45	2.95	3.73	4.47
Jul	.07	.14	.27	.42	.59	.79	1.03	1.34	1.77	2.49	3.21
Aug	.16	.23	.35	.46	.57	.68	.82	.98	1.19	1.53	1.86
Sep	.29	.42	.62	.81	.99	1.19	1.41	1.68	2.03	2.59	3.12
Oct	.34	.47	.68	.86	1.04	1.24	1.45	1.71	2.04	2.57	3.07
Nov	.17	.24	.36	.47	.58	.69	.82	.97	1.18	1.50	1.81
Dec	.13	.19	.29	.38	.48	.58	.69	.83	1.01	1.30	1.58
Ann	11.11	11.82	12.73	13.42	14.02	14.60	15.20	15.86	16.65	17.79	18.77

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	12.5	10.7	4	4	12.5	2000	11	32.8	1994	19	1972	3	15	1979	9.8	4.1	1.0	.3	.1	23.7	16.4	11.1	3.4
Feb	9.8	8.8	4	2	9.6	1990	12	23.5	1986	20+	1978	17	17	1978	8.4	3.1	.7	.2	.0	18.4	11.6	7.4	3.2
Mar	11.6	10.1	1	1	9.4	1977	29	25.0	1977	17	1978	1	6	1978	9.3	4.1	1.0	.2	.0	10.9	4.7	1.9	.6
Apr	9.5	7.8	#	1	14.2	1991	12	37.5	1973	21	1984	28	3	1984	5.7	2.9	.9	.3	.1	3.0	1.8	1.4	.4
May	1.9	.0	#	1	7.2	1983	11	12.5	1979	9	1984	1	1	1984	1.0	.5	.2	.1	.0	.5	.3	.2	.0
Jun	.0	.0	#	0	.3	1998	2	.3	1998	0	0	0	#	1995	.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	12.9	1984	23	21.0	1984	12	1984	24	1+	1985	.9	.5	.2	.1	@	.6	.3	.1	@
Oct	5.8	4.5	#	0	13.0	1989	28	17.5	1989	9+	1993	9	1+	1993	3.3	1.5	.6	.3	.1	1.8	1.0	.5	.0
Nov	9.0	8.6	1	1	9.9	1986	6	22.1	1991	12	1978	13	9	1978	6.9	3.2	.7	.2	.0	10.4	5.1	2.1	.2
Dec	11.6	8.7	3	2	12.4	1989	14	43.5	1989	23+	1989	17	12	1978	8.5	3.8	1.1	.3	@	20.5	13.9	7.7	2.1
Ann	73.7	59.2	N/A	N/A	14.2	Apr 1991	12	43.5	Dec 1989	23+	Dec 1989	17	17	Feb 1978	53.8	23.7	6.4	2.0	.3	89.8	55.1	32.4	9.9

+ 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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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	6/26	6/20	6/15	6/11	6/07	6/03	5/30	5/25	5/18
32	6/02	5/28	5/24	5/21	5/18	5/15	5/12	5/08	5/03
28	5/18	5/13	5/10	5/08	5/05	5/03	4/30	4/27	4/22
24	5/06	4/30	4/27	4/24	4/21	4/18	4/15	4/11	4/06
20	4/25	4/20	4/17	4/14	4/11	4/08	4/05	4/01	3/27
16	4/20	4/12	4/07	4/02	3/29	3/24	3/20	3/14	3/06

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	9/03	9/06	9/09	9/11	9/13	9/14	9/16	9/19	9/22
32	9/10	9/13	9/16	9/18	9/19	9/21	9/23	9/25	9/29
28	9/13	9/18	9/22	9/25	9/28	10/01	10/05	10/09	10/14
24	9/20	9/26	9/30	10/04	10/07	10/11	10/14	10/19	10/25
20	10/06	10/11	10/14	10/17	10/20	10/23	10/26	10/29	11/03
16	10/10	10/16	10/20	10/24	10/27	10/31	11/04	11/08	11/14

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	118	111	106	101	97	93	88	83	76
32	140	134	130	127	124	120	117	113	107
28	165	158	153	149	146	142	138	133	127
24	194	185	179	174	169	164	159	153	144
20	213	206	200	196	191	187	183	177	170
16	239	230	223	217	212	207	201	194	185

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1351	1078	925	628	376	136	31	36	249	602	1004	1305	7721
60	1199	926	765	484	251	86	15	23	160	464	871	1164	6408
57	1106	842	672	398	178	51	6	11	108	373	781	1071	5597
55	1044	791	610	343	137	34	2	6	80	313	724	1009	5093
50	894	661	462	218	60	10	0	1	30	183	585	865	3969
32	411	266	80	9	0	0	0	0	0	5	189	390	1350

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	47	80	191	379	653	910	1164	1146	783	458	146	51	6008
55	0	0	1	14	68	238	452	434	165	22	1	0	1395
57	0	0	0	8	45	189	391	374	128	13	0	0	1148
60	0	0	0	4	22	125	302	287	81	6	0	0	827
65	0	0	0	1	4	50	165	150	28	0	0	0	398
70	0	0	0	0	0	15	63	58	8	0	0	0	144

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	5	25	65	186	418	680	924	907	554	250	55	11	5	30	95	281	699	1379	2303	3210	3764	4014	4069	4080
45	0	5	25	99	274	531	769	752	412	145	23	1	0	5	30	129	403	934	1703	2455	2867	3012	3035	3036
50	0	0	4	46	156	385	614	598	281	67	4	0	0	0	4	50	206	591	1205	1803	2084	2151	2155	2155
55	0	0	0	14	71	246	460	443	170	23	0	0	0	0	0	14	85	331	791	1234	1404	1427	1427	1427
60	0	0	0	3	26	132	310	297	85	6	0	0	0	0	0	3	29	161	471	768	853	859	859	859
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	8	27	69	154	274	424	578	565	367	203	58	18	8	35	104	258	532	956	1534	2099	2466	2669	2727	2745

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
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 are 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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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