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: PAVILLION, WY **COOP ID: 487115**

Climate Division: WY 9 **NWS Call Sign:** **Elevation: 5,420 Feet** **Lat: 43˚14N** **Lon: 108˚42W**

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	9.2	20.8	63	1953	9	31.0	1999	-36+	1979	1	.0	1979	1371	0	.0	.0	2.4	13.9	30.3	8.1
Feb	38.4	14.0	26.2	70	1951	11	34.8	1991	-27	1989	4	8.3	1989	1087	0	.0	.0	5.5	7.6	27.4	4.7
Mar	48.9	22.6	35.8	76	1966	30	42.9	1986	-17+	1965	25	29.3	1973	906	0	.0	.0	15.5	2.0	28.1	.7
Apr	58.5	30.3	44.4	81+	1992	29	50.7	1987	0	1975	2	37.8+	1975	617	0	.0	.0	24.4	.3	19.5	@
May	67.5	39.2	53.4	90	1954	20	58.2	1994	17	1984	6	48.8	1995	364	2	.0	.0	29.7	.0	5.9	.0
Jun	77.5	47.2	62.4	96	1954	23	69.3	1988	20	1982	1	55.1	1998	143	63	.0	1.8	29.9	.0	.4	.0
Jul	84.5	52.7	68.6	98	1954	11	72.5	1989	35	1986	6	62.0	1993	33	144	.0	5.8	31.0	.0	.0	.0
Aug	82.8	51.3	67.1	98+	1979	5	70.9	1983	34	1962	31	63.5	1974	47	111	.0	2.4	31.0	.0	.0	.0
Sep	72.1	42.0	57.1	97	1950	6	62.3	1979	15	1985	30	52.6	1971	256	16	.0	.2	28.9	@	3.3	.0
Oct	59.5	32.5	46.0	83	1980	1	53.4	1988	-5	1971	30	41.2	1971	590	0	.0	.0	26.0	.4	16.4	.1
Nov	41.8	19.5	30.7	69+	1999	4	43.3	1999	-22+	1985	20	16.6	2000	1031	0	.0	.0	9.0	6.7	27.6	3.1
Dec	33.1	10.5	21.8	65	1980	17	34.4	1980	-40	1983	23	6.1	1983	1339	0	.0	.0	2.7	14.6	30.4	6.4
Ann	58.1	30.9	44.5	98+	Aug 1979	5	72.5	Jul 1989	-40	Dec 1983	23	.0	Jan 1979	7784	336	.0	10.2	236.0	45.5	189.3	23.1

\+ 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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Climate Division: WY 9 **NWS Call Sign:** **Elevation: 5,420 Feet** **Lat: 43˚14N** **Lon: 108˚42W**

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	.19	.11	.42	1993	3	.89	1993	.00+	1999
Feb	.19	.15	.45	1996	26	.66	1987	.00+	1999
Mar	.36	.29	.70	1977	25	1.17	1998	.00	1988
Apr	.97	.75	1.20	1952	16	4.04	1999	.00+	2000
May	1.79	1.53	1.68	1989	29	4.94	1971	.00	1984
Jun	.93	.61	2.01	1993	3	3.14	1993	.00+	1981
Jul	.79	.76	2.05	1977	25	2.35	1992	.00+	2000
Aug	.57	.45	1.20	1976	1	1.82	1976	.00	1985
Sep	.90	.68	2.01	1982	14	4.54	1973	.00+	1992
Oct	.57	.37	1.16	1951	4	2.59	1971	.00+	2000
Nov	.36	.30	1.25	2001	24	1.17	1985	.00+	1999
Dec	.19	.17	.44	1967	17	.91	1997	.00+	1998
Ann	7.81	7.66	2.05	Jul 1977	25	4.94	May 1971	.00+	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	1.8	.6	.0	.0
Feb	1.3	.6	@	.0
Mar	2.3	1.2	.1	.0
Apr	4.3	2.8	.4	.0
May	5.5	4.0	1.0	.2
Jun	3.4	2.0	.4	.1
Jul	3.0	1.9	.4	.1
Aug	3.2	1.7	.2	@
Sep	2.9	2.0	.5	.2
Oct	2.3	1.4	.2	.0
Nov	2.1	1.1	.1	@
Dec	1.9	.7	.0	.0
Ann	34.0	20.0	3.3	.6

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	.00	.00	.00	.04	.07	.12	.17	.23	.32	.48	.63
Feb	.00	.00	.00	.07	.11	.15	.20	.25	.32	.44	.55
Mar	.01	.04	.09	.14	.20	.26	.34	.44	.57	.80	1.02
Apr	.00	.14	.32	.48	.63	.80	.99	1.21	1.51	2.00	2.47
May	.11	.28	.56	.82	1.10	1.41	1.77	2.21	2.81	3.81	4.77
Jun	.00	.00	.08	.26	.44	.64	.88	1.18	1.58	2.25	2.93
Jul	.00	.00	.07	.22	.37	.54	.74	.99	1.34	1.90	2.48
Aug	.05	.11	.20	.28	.37	.46	.57	.70	.88	1.16	1.44
Sep	.00	.00	.06	.22	.39	.58	.82	1.12	1.53	2.22	2.94
Oct	.00	.00	.07	.16	.25	.37	.51	.69	.94	1.38	1.82
Nov	.00	.00	.05	.13	.20	.27	.36	.47	.61	.84	1.07
Dec	.00	.00	.00	.05	.10	.14	.19	.25	.33	.47	.60
Ann	3.47	4.17	5.13	5.91	6.65	7.38	8.17	9.08	10.22	11.95	13.51

\+ 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)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	2.8	3.0	1	#
Feb	2.2	.5	1	#
Mar	2.9	1.0	1	#
Apr	2.7	.0	#	#
May	.3	.0	#	0
Jun	.2	.0	#	0
Jul	.0	.0	#	0
Aug	.0	.0	0	0
Sep	.5	.0	#	0
Oct	.9	.0	#	0
Nov	3.7	2.0	#	#
Dec	3.3	1.0	1	#
Ann	19.5	7.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	6.0	1972	12	8.0	1997	8	1995	16	7	1979
Feb	9.0	1996	26	10.0	1996	10	1996	29	10	1993
Mar	8.0	1998	28	16.0	1998	11	1998	29	6	1980
Apr	7.0	1999	22	22.5	1991	11	1983	3	2	1999
May	6.0	1975	20	8.0	1975	15	1983	11	1	1983
Jun	4.5	1998	4	4.5	1998	5	1998	4	#	1998
Jul	.0	0	0	.0	0	#	1989	8	#	1989
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	13.0	1982	14	13.0	1982	13	1982	14	1	1982
Oct	4.5	1996	20	4.5+	1996	7	1991	28	1	1991
Nov	12.0	1985	13	13.5	1985	7+	1992	28	1+	2000
Dec	8.0	1979	24	12.5	1997	9	1992	16	8	1992
Ann	13.0	Sep 1982	14	22.5	Apr 1991	15	May 1983	11	10	Feb 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.2	1.0	.4	.1	.0
Feb	.8	.5	.3	@	.0
Mar	.9	.7	.2	.2	.0
Apr	.7	.7	.2	.2	.0
May	.1	.1	@	@	.0
Jun	@	@	@	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	@	@	@
Oct	.4	.3	.2	.0	.0
Nov	1.2	.9	.3	.2	@
Dec	1.1	.8	.3	.2	.0
Ann	6.4	5.0	1.9	.9	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.7	1.6	.1	.0
Feb	.8	.5	.3	.2
Mar	.9	.6	.3	.1
Apr	.8	.5	.3	.0
May	.1	.1	.1	.0
Jun	@	@	@	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.4	.2	.1	.0
Nov	2.1	.9	.4	.0
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-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	6/12	6/08	6/04	6/01	5/27	5/21
32	6/06	5/31	5/28	5/25	5/22	5/19	5/16	5/12	5/07
28	5/25	5/19	5/14	5/10	5/06	5/03	4/29	4/24	4/17
24	5/10	5/04	4/30	4/26	4/23	4/19	4/16	4/11	4/05
20	5/03	4/26	4/21	4/17	4/13	4/09	4/05	3/31	3/24
16	4/19	4/13	4/09	4/06	4/03	3/31	3/27	3/23	3/18

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	9/10	9/12	9/15	9/17	9/20	9/24
32	9/12	9/15	9/18	9/20	9/22	9/24	9/27	9/29	10/03
28	9/16	9/22	9/26	9/29	10/03	10/06	10/09	10/13	10/19
24	9/26	10/02	10/06	10/09	10/13	10/16	10/20	10/24	10/30
20	10/08	10/13	10/17	10/20	10/23	10/26	10/30	11/03	11/08
16	10/21	10/25	10/28	10/31	11/02	11/05	11/07	11/11	11/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	117	109	104	100	95	91	87	81	74
32	140	134	130	126	123	120	116	112	106
28	176	167	160	154	149	143	137	130	121
24	197	189	183	177	172	168	162	156	148
20	223	212	205	199	193	187	180	173	162
16	235	228	222	217	213	208	204	198	190

***** 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	1371	1087	906	617	364	143	33	47	256	590	1031	1339	7784
60	1216	947	751	471	223	66	7	11	143	435	881	1184	6335
57	1123	863	658	386	152	36	2	4	90	344	791	1091	5540
55	1061	807	596	332	112	22	1	2	63	285	733	1029	5043
50	910	678	448	212	43	5	0	0	19	160	594	877	3946
32	421	269	70	10	0	0	0	0	0	5	195	391	1361

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	73	106	188	383	662	910	1134	1088	751	438	155	75	5963
55	0	0	0	15	61	242	422	376	124	6	2	0	1248
57	0	0	0	9	39	196	361	316	91	2	0	0	1014
60	0	0	0	4	17	136	273	231	53	0	0	0	714
65	0	0	0	0	2	63	144	111	16	0	0	0	336
70	0	0	0	0	0	21	57	36	3	0	0	0	117

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	55	189	430	676	889	844	522	224	29	2	0	10	65	254	684	1360	2249	3093	3615	3839	3868	3870
45	0	0	18	98	282	526	734	689	381	116	9	0	0	0	18	116	398	924	1658	2347	2728	2844	2853	2853
50	0	0	1	40	160	381	579	534	250	48	0	0	0	0	1	41	201	582	1161	1695	1945	1993	1993	1993
55	0	0	0	13	74	246	424	379	138	14	0	0	0	0	0	13	87	333	757	1136	1274	1288	1288	1288
60	0	0	0	0	19	130	272	232	52	0	0	0	0	0	0	0	19	149	421	653	705	705	705	705
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	12	62	158	286	433	574	545	349	178	30	3	0	12	74	232	518	951	1525	2070	2419	2597	2627	2630

(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