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: CODY 21 SW, WY **COOP ID: 481855**

Climate Division: WY 4 **NWS Call Sign:** **Elevation: 5,840 Feet** **Lat: 44˚20N** **Lon: 109˚23W**

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	37.6	14.1	25.9	67	1981	22	37.0	1986	-29	1980	28	8.9	1979	1215	0	.0	.0	5.3	8.5	27.5	6.1
Feb	41.1	16.8	29.0	68+	1992	27	38.1	1991	-47	1989	3	11.9	1989	1009	0	.0	.0	7.5	5.6	25.2	3.7
Mar	46.9	21.9	34.4	73	1978	29	42.3	1986	-23	1989	4	28.3	1996	948	0	.0	.0	13.6	2.9	26.7	1.5
Apr	54.8	28.3	41.6	87	1980	21	49.5	1987	-2	1984	28	33.7	1975	704	0	.0	.0	20.1	1.0	20.6	.1
May	63.4	36.2	49.8	87	1972	31	54.7	1987	12	1984	7	45.7	1975	472	1	.0	.0	27.6	@	9.5	.0
Jun	74.0	43.0	58.5	97+	1990	30	67.3	1988	27+	2000	1	51.4	1998	226	32	.0	1.2	29.7	.0	1.7	.0
Jul	82.0	47.9	65.0	99+	1998	18	69.1	1989	30	1986	6	58.0	1993	88	85	.0	4.4	31.0	.0	.1	.0
Aug	81.1	47.0	64.1	97+	2001	6	69.7	1971	28	1992	26	59.3	1987	107	77	.0	3.1	31.0	.0	.3	.0
Sep	70.5	38.9	54.7	94	2000	15	61.6	1990	5	1965	18	47.5	1985	328	18	.0	.5	28.2	.1	6.1	.0
Oct	59.4	30.8	45.1	86	1993	3	52.0	1988	-12	1991	30	40.2	1984	617	0	.0	.0	24.7	.7	17.1	.1
Nov	44.6	21.1	32.9	74+	2001	4	44.0	1999	-24	1985	26	18.8	1985	965	0	.0	.0	10.9	4.1	24.9	2.2
Dec	38.2	15.0	26.6	63+	1999	28	35.8	1980	-40	1990	21	13.5	1983	1191	0	.0	.0	5.9	8.5	27.4	4.8
Ann	57.8	30.1	44.0	99+	Jul 1998	18	69.7	Aug 1971	-47	Feb 1989	3	8.9	Jan 1979	7870	213	.0	9.2	235.5	31.4	187.1	18.5

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1958-2001

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

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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	.48	.40	.60	2000	11	1.53	1972	.02	1986
Feb	.46	.29	.79	1986	19	1.83	1986	.02	1990
Mar	.86	.75	1.11	1980	31	2.37	1980	.16	1978
Apr	1.51	1.21	3.10	1963	27	3.85	1971	.06	1985
May	2.04	1.80	2.52	1978	18	7.63	1978	.53	1973
Jun	1.47	1.31	1.83	1992	15	3.70	1992	.15	1978
Jul	1.34	1.30	1.95	1975	2	3.97	1975	.16	1996
Aug	.99	.89	.96	1961	7	4.11	1972	.20	1978
Sep	1.42	1.19	1.60	1961	18	3.71	1982	.06	1979
Oct	1.28	1.02	1.47	1989	28	3.61	1975	.08	1984
Nov	.72	.72	.88	1985	8	1.77	1985	.00	1999
Dec	.52	.40	.61	1964	23	1.64	1978	.00	1986
Ann	13.09	12.88	3.10	Apr 1963	27	7.63	May 1978	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.3	1.9	.1	.0
Feb	4.7	1.4	.1	.0
Mar	6.7	3.0	.2	@
Apr	8.0	4.1	.7	.2
May	10.9	5.3	1.0	.2
Jun	9.8	4.3	.5	.1
Jul	9.3	4.0	.4	.1
Aug	8.8	3.2	.3	.0
Sep	7.5	3.6	.8	.2
Oct	6.2	3.3	.7	.1
Nov	5.7	2.4	.2	.0
Dec	4.9	2.1	.1	.0
Ann	86.8	38.6	5.1	.9

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	.05	.09	.16	.23	.30	.38	.47	.59	.75	1.02	1.27
Feb	.05	.09	.15	.21	.28	.36	.45	.56	.71	.96	1.21
Mar	.24	.33	.45	.56	.66	.77	.90	1.04	1.23	1.52	1.79
Apr	.20	.32	.53	.74	.96	1.21	1.50	1.85	2.32	3.11	3.86
May	.50	.70	.99	1.26	1.52	1.80	2.10	2.47	2.95	3.71	4.42
Jun	.31	.45	.66	.86	1.06	1.27	1.50	1.79	2.16	2.76	3.32
Jul	.26	.38	.58	.76	.94	1.14	1.36	1.63	1.99	2.56	3.11
Aug	.25	.34	.48	.61	.74	.87	1.02	1.20	1.43	1.79	2.14
Sep	.16	.27	.46	.66	.88	1.11	1.39	1.74	2.21	2.99	3.75
Oct	.22	.33	.51	.69	.87	1.06	1.29	1.56	1.92	2.50	3.06
Nov	.07	.15	.27	.37	.48	.59	.73	.89	1.10	1.45	1.78
Dec	.03	.09	.17	.25	.33	.42	.52	.65	.82	1.10	1.37
Ann	9.41	10.13	11.04	11.74	12.36	12.95	13.57	14.25	15.07	16.26	17.29

\+ 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: 1958-2001
(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	5.7	4.8	2	1	7.2	2000	11	16.7	1975	18	1979	27	16	1979	4.0	1.7	.6	.2	.0	14.7	6.9	2.9	1.2
Feb	5.3	3.6	1	1	11.0	1989	1	19.0	1986	17	1979	3	8	1979	4.2	1.6	.4	.2	@	9.9	4.9	2.5	.5
Mar	7.6	6.5	#	#	14.5	1980	31	26.7	1980	17	1980	31	2	1980	4.3	2.1	.7	.2	.1	5.2	1.9	.5	.1
Apr	8.0	5.8	1	#	15.6	1974	12	25.8	1974	19	1974	12	3	1974	3.0	2.3	1.0	.4	.1	3.5	2.2	1.2	.3
May	1.2	.0	#	0	6.6	1995	13	12.0	1978	7	1995	13	1	1978	.5	.4	.2	@	.0	.3	.2	.1	.0
Jun	.1	.0	#	0	2.0	1976	14	2.0	1976	#	1998	3	#	1998	@	@	.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	2.1	.0	#	0	10.6	1984	23	16.3	1982	12	1982	14	1+	2000	.7	.6	.2	.1	@	.6	.3	.3	.1
Oct	6.5	3.9	#	#	20.7	1989	28	22.5	1971	21	1989	28	2	1989	2.3	1.5	.7	.3	.1	2.0	1.2	.6	.2
Nov	7.5	6.5	1	1	11.0	1985	8	25.0	1985	13	1985	25	6	1985	4.1	2.1	1.0	.4	@	8.9	5.2	2.8	.3
Dec	6.5	5.2	2	1	8.4	1985	9	15.7	1978	19	1985	9	10	1978	4.4	2.3	.7	.2	.0	12.6	7.2	3.6	1.2
Ann	50.5	36.3	N/A	N/A	20.7	Oct 1989	28	26.7	Mar 1980	21	Oct 1989	28	16	Jan 1979	27.5	14.6	5.5	2.0	.3	57.7	30.0	14.5	3.9

+ 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	7/16	7/10	7/06	7/02	6/28	6/25	6/21	6/16	6/10
32	6/29	6/23	6/18	6/14	6/10	6/06	6/02	5/29	5/22
28	6/02	5/28	5/24	5/21	5/18	5/15	5/12	5/09	5/04
24	5/21	5/16	5/12	5/09	5/06	5/02	4/29	4/25	4/20
20	5/07	5/02	4/29	4/25	4/23	4/20	4/17	4/13	4/08
16	5/01	4/24	4/20	4/16	4/12	4/08	4/05	3/31	3/25

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	8/11	8/17	8/21	8/25	8/28	9/01	9/05	9/09	9/15
32	8/24	8/29	9/02	9/05	9/09	9/12	9/15	9/19	9/25
28	9/06	9/10	9/14	9/16	9/19	9/22	9/25	9/28	10/02
24	9/13	9/19	9/23	9/26	9/30	10/03	10/07	10/11	10/17
20	9/22	9/28	10/03	10/06	10/10	10/13	10/17	10/21	10/27
16	10/02	10/08	10/13	10/17	10/20	10/24	10/27	11/01	11/07

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	87	78	71	66	60	55	49	43	33
32	114	106	100	95	90	85	80	74	65
28	144	137	132	127	123	119	115	109	102
24	169	161	156	151	147	142	138	132	124
20	196	187	180	175	169	164	158	152	143
16	217	208	201	196	190	185	179	172	163

***** 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	1215	1009	948	704	472	226	88	107	328	617	965	1191	7870
60	1060	869	793	554	322	128	28	42	210	463	815	1036	6320
57	967	785	700	468	240	83	12	21	152	372	725	943	5468
55	905	729	638	412	191	58	6	12	119	313	665	881	4929
50	759	598	485	279	92	19	1	2	55	184	526	735	3735
32	296	200	81	21	0	0	0	0	0	4	141	274	1017

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	105	115	157	307	551	796	1021	993	681	410	166	106	5408
55	0	0	0	7	29	164	314	292	110	6	0	0	922
57	0	0	0	4	17	128	258	239	83	3	0	0	732
60	0	0	0	0	6	84	181	167	51	1	0	0	490
65	0	0	0	0	1	32	85	77	18	0	0	0	213
70	0	0	0	0	0	9	25	23	5	0	0	0	62

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	18	26	56	142	317	560	776	751	459	227	59	18	18	44	100	242	559	1119	1895	2646	3105	3332	3391	3409
45	1	3	19	66	192	413	621	596	326	128	24	3	1	4	23	89	281	694	1315	1911	2237	2365	2389	2392
50	0	0	1	24	93	274	466	441	204	61	8	0	0	0	1	25	118	392	858	1299	1503	1564	1572	1572
55	0	0	0	5	38	151	315	294	108	23	0	0	0	0	0	5	43	194	509	803	911	934	934	934
60	0	0	0	0	6	66	171	155	46	3	0	0	0	0	0	0	6	72	243	398	444	447	447	447
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	13	22	53	115	223	369	501	490	319	184	44	13	13	35	88	203	426	795	1296	1786	2105	2289	2333	2346

(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

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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