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: DEVILS TOWER 2, WY **COOP ID: 482466**

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 3,862 Feet** **Lat: 44˚35N** **Lon: 104˚43W**

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	31.0	3.0	17.0	65	1981	23	27.7	1981	-41	1963	23	.0	1979	1488	0	.0	.0	1.9	11.2	30.9	11.0
Feb	37.4	9.7	23.6	71	1995	25	33.2	1992	-44	1996	2	9.2	1989	1160	0	.0	.0	6.8	6.9	28.0	5.7
Mar	46.5	19.3	32.9	80+	1986	30	40.6	1986	-29	1978	3	24.5	1996	996	0	.0	.0	16.1	3.7	29.4	2.3
Apr	57.0	28.7	42.9	90	1980	21	48.3	1987	-12	1975	2	36.4	1997	665	0	.0	@	23.0	.6	20.8	.2
May	66.4	38.7	52.6	97	1969	27	57.3	1985	11	1967	4	47.4	1983	390	4	.0	.4	29.6	.0	8.4	.0
Jun	76.8	48.3	62.6	105	1961	29	72.8	1988	26+	1974	1	55.6	1998	143	68	.2	4.0	29.9	.0	1.1	.0
Jul	84.4	53.8	69.1	108	1981	6	73.2	1988	31	1987	12	62.9	1993	42	169	1.0	12.0	31.0	.0	.1	.0
Aug	83.6	51.4	67.5	103+	1969	11	75.0	1983	29	1992	30	61.2	1974	69	147	.3	11.3	31.0	.0	.3	.0
Sep	72.9	40.1	56.5	103	1978	6	63.6	1998	14	1984	25	51.3	1993	276	21	.1	3.2	28.9	.0	6.9	.0
Oct	60.7	29.2	45.0	91+	1963	5	48.5	1983	-20	1991	30	41.3	1987	623	0	.0	@	25.8	.5	21.8	@
Nov	42.7	16.6	29.7	80	1999	1	41.1	1999	-35	1959	16	15.1	1985	1062	0	.0	.0	10.8	5.1	28.3	2.7
Dec	33.5	6.6	20.1	67	1973	1	28.1	1994	-48	1983	24	2.3	1983	1394	0	.0	.0	3.5	10.6	30.8	7.9
Ann	57.7	28.8	43.3	108	Jul 1981	6	75.0	Aug 1983	-48	Dec 1983	24	.0	Jan 1979	8308	409	1.6	30.9	238.3	38.6	206.8	29.8

\+ 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: 1959-2001

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

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: DEVILS TOWER 2, WY

COOP ID: 482466

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 3,862 Feet** **Lat: 44˚35N** **Lon: 104˚43W**

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	.60	.52	.54	1986	21	1.57	1994	.11	1995
Feb	.59	.53	.80	1981	10	1.31	1998	.06	1983
Mar	1.00	.80	1.12	1973	14	1.89	1996	.03	1981
Apr	1.83	1.83	1.74	1971	19	3.41	1991	.18	1987
May	2.56	2.13	1.83	1995	9	7.24	1978	.95	1983
Jun	3.15	3.07	2.62	1964	22	7.03	1993	.61	1974
Jul	2.05	2.03	2.00	1966	22	4.06	1981	.36	1971
Aug	1.54	1.33	2.43	1960	17	3.01	1974	.26	1986
Sep	1.28	1.09	2.73	1966	13	4.41	1986	.07	1990
Oct	1.54	1.33	3.02	1971	2	4.49	1971	.15	1992
Nov	.79	.67	1.75	2000	1	3.15	2000	.00	1987
Dec	.71	.73	.58	1990	14	1.66	1996	.07	1991
Ann	17.64	16.68	3.02	Oct 1971	2	7.24	May 1978	.00	Nov 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.7	2.3	@	.0
Feb	5.5	1.8	.2	.0
Mar	7.9	2.9	.5	.1
Apr	8.4	5.1	1.0	.2
May	10.7	6.0	1.5	.4
Jun	11.0	6.5	1.8	.9
Jul	8.9	4.6	1.1	.4
Aug	6.9	3.4	.7	.3
Sep	6.6	3.4	.5	.2
Oct	6.8	3.4	.7	.3
Nov	6.5	2.5	.2	@
Dec	7.5	2.6	.1	.0
Ann	94.4	44.5	8.3	2.8

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	.13	.18	.27	.35	.43	.51	.61	.73	.88	1.13	1.36
Feb	.12	.17	.26	.33	.41	.50	.60	.71	.87	1.12	1.35
Mar	.17	.25	.40	.54	.68	.83	1.01	1.22	1.51	1.97	2.41
Apr	.39	.55	.82	1.06	1.31	1.57	1.86	2.22	2.68	3.43	4.13
May	.75	.99	1.36	1.68	1.98	2.31	2.66	3.08	3.62	4.47	5.26
Jun	.88	1.18	1.63	2.03	2.42	2.82	3.27	3.80	4.48	5.56	6.57
Jul	.59	.79	1.08	1.34	1.58	1.84	2.13	2.47	2.90	3.59	4.22
Aug	.32	.46	.68	.89	1.10	1.32	1.57	1.87	2.26	2.90	3.50
Sep	.23	.34	.53	.70	.88	1.07	1.29	1.56	1.92	2.49	3.03
Oct	.19	.31	.53	.74	.97	1.22	1.52	1.88	2.38	3.19	3.98
Nov	.09	.18	.31	.43	.55	.67	.81	.98	1.20	1.56	1.91
Dec	.13	.19	.30	.39	.49	.60	.72	.87	1.06	1.37	1.67
Ann	12.47	13.47	14.75	15.72	16.59	17.43	18.29	19.25	20.41	22.09	23.55

\+ 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: 1959-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

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: DEVILS TOWER 2, WY **COOP ID: 482466**

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 3,862 Feet** **Lat: 44°35N** **Lon: 104°43W**

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	9.0	8.3	7	7	6.3	1986	21	28.2	1971	22+	1979	23	19	1979	6.4	3.8	.9	.1	.0	24.8	22.9	20.6	8.3
Feb	7.6	6.7	8	6	8.0	1998	26	17.0+	1998	25	1979	23	20	1979	4.3	2.7	.7	.2	.0	21.7	18.8	17.4	10.2
Mar	8.3	6.5	3	2	13.0	1987	21	19.0	1996	21	1979	4	12	1971	4.4	3.3	1.0	.3	.1	11.0	8.5	6.7	3.0
Apr	5.2	3.5	1	#	10.0	1989	27	15.0	1973	20	1984	27	4	1997	2.1	1.7	.8	.4	.1	2.3	1.3	.8	.1
May	.5	.0	#	0	4.0	1975	20	4.5	1975	4	1983	12	#+	1996	.3	.2	.1	.0	.0	.2	.0	.0	.0
Jun	#	.0	#	0	#	1995	10	#	1995	#	1995	10	#	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	.1	.0	#	0	1.5	1984	24	2.5	1984	2	1984	24	#+	1996	.1	.1	.0	.0	.0	@	.0	.0	.0
Oct	2.7	1.0	#	#	9.0	1971	2	17.5	1971	7	1989	29	1	1996	1.1	.8	.4	.1	.0	1.3	.9	.2	.0
Nov	7.4	6.8	1	1	7.0	1978	10	18.6	2000	11	1976	30	7	2000	4.5	2.5	.7	.2	.0	7.8	4.3	2.7	@
Dec	9.8	8.8	4	3	7.5	1985	24	25.2	1996	21	1985	25	13	1978	6.4	3.6	1.2	.4	.0	19.5	12.7	8.5	3.0
Ann	50.6	41.6	N/A	N/A	13.0	Mar 1987	21	28.2	Jan 1971	25	Feb 1979	23	20	Feb 1979	29.6	18.7	5.8	1.7	.2	88.6	69.4	56.9	24.6

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: DEVILS TOWER 2, WY **COOP ID: 482466**

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 3,862 Feet** **Lat: 44˚35N** **Lon: 104˚43W**

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	7/08	7/01	6/26	6/22	6/19	6/15	6/11	6/06	5/31
32	6/25	6/18	6/13	6/09	6/05	6/01	5/28	5/23	5/16
28	5/30	5/25	5/22	5/19	5/16	5/14	5/11	5/07	5/03
24	5/17	5/12	5/09	5/06	5/03	5/01	4/28	4/25	4/20
20	5/09	5/04	4/30	4/27	4/25	4/22	4/19	4/16	4/11
16	4/29	4/23	4/20	4/16	4/13	4/10	4/07	4/03	3/28

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	8/13	8/19	8/23	8/27	8/31	9/03	9/07	9/12	9/18
32	8/28	9/02	9/06	9/09	9/12	9/15	9/18	9/22	9/27
28	9/11	9/14	9/16	9/19	9/21	9/23	9/25	9/27	10/01
24	9/14	9/19	9/23	9/27	9/30	10/03	10/07	10/11	10/17
20	9/19	9/26	9/30	10/04	10/07	10/11	10/14	10/19	10/25
16	10/05	10/10	10/14	10/18	10/21	10/24	10/27	10/31	11/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	101	91	84	78	73	67	61	54	44
32	124	115	109	103	98	93	87	80	71
28	145	138	134	130	126	123	119	115	108
24	170	163	158	153	149	145	141	136	128
20	186	179	174	169	165	160	156	150	143
16	213	205	200	195	190	185	180	175	166

***** 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/normals/usnormals.html

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: DEVILS TOWER 2, WY **COOP ID: 482466**

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 3,862 Feet** **Lat: 44˚35N** **Lon: 104˚43W**

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	1488	1160	996	665	390	143	42	69	276	623	1062	1394	8308
60	1333	1020	841	515	251	68	12	25	162	468	912	1239	6846
57	1240	936	748	428	179	37	4	12	107	376	822	1146	6035
55	1178	880	686	372	138	24	1	6	78	316	762	1084	5525
50	1023	745	532	241	61	6	0	1	27	182	621	930	4369
32	507	314	112	11	0	0	0	0	0	5	203	431	1583

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	42	78	139	335	637	915	1150	1100	735	406	132	60	5729
55	0	0	0	7	61	249	438	393	123	3	0	0	1274
57	0	0	0	3	41	202	378	337	92	1	0	0	1054
60	0	0	0	0	20	143	293	257	57	0	0	0	770
65	0	0	0	0	4	68	169	147	21	0	0	0	409
70	0	0	0	0	0	24	82	69	6	0	0	0	181

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	7	53	187	438	700	931	890	540	228	34	4	0	7	60	247	685	1385	2316	3206	3746	3974	4008	4012
45	0	0	17	102	294	552	776	735	398	126	12	0	0	0	17	119	413	965	1741	2476	2874	3000	3012	3012
50	0	0	0	46	174	407	621	580	272	53	0	0	0	0	0	46	220	627	1248	1828	2100	2153	2153	2153
55	0	0	0	15	87	270	466	426	161	15	0	0	0	0	0	15	102	372	838	1264	1425	1440	1440	1440
60	0	0	0	2	35	152	316	278	79	3	0	0	0	0	0	2	37	189	505	783	862	865	865	865
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	16	78	178	311	453	585	569	392	221	54	7	0	16	94	272	583	1036	1621	2190	2582	2803	2857	2864

(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

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