

# Climatology of the United States

No. 20

1971-2000

Station: YODER 2 WSW, WY

COOP ID: 489925

Climate Division: WY 8

NWS Call Sign:

Elevation: 4,289 Feet Lat: 41° 54N

Lon: 104° 20W

## 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	39.8	13.5	26.7	71+	1987	12	35.8	1983	-35	1963	19	10.3	1979	1189	0	.0	.0	8.5	7.4	28.7	5.8
Feb	44.8	16.7	30.8	79	1962	11	39.5	1999	-32	1962	28	17.4	1993	959	0	.0	.0	12.0	4.6	25.6	3.5
Mar	52.6	22.8	37.7	81+	1995	21	44.9	1986	-23	1960	3	32.8	1996	846	0	.0	.0	19.6	1.8	25.9	.8
Apr	60.9	29.8	45.4	90	1989	22	52.1	1981	-22	1975	2	37.7	1983	589	0	.0	@	25.4	.4	18.8	.1
May	70.3	40.1	55.2	98	1969	27	60.3	1994	9	1983	12	50.5	1983	313	9	.0	.5	30.0	.0	4.4	.0
Jun	82.5	48.6	65.6	105	1954	23	72.0	1988	26	1969	2	60.1	1998	79	97	.4	8.4	29.9	.0	.1	.0
Jul	89.6	54.3	72.0	109	1973	6	77.5	1977	37+	1959	9	67.5	1992	9	225	2.0	17.5	31.0	.0	.0	.0
Aug	88.2	52.5	70.4	105	1975	7	75.6	1983	20	1952	11	66.5	1978	20	185	.8	14.5	31.0	.0	.0	.0
Sep	78.3	42.4	60.4	101	1998	4	66.3	1998	14	1985	30	54.7	1985	180	40	.1	4.0	29.5	.0	3.2	.0
Oct	66.1	32.2	49.2	94	1953	1	52.1	1983	-14	1997	26	45.7	1976	491	0	.0	.1	28.0	.2	14.9	.1
Nov	48.8	22.3	35.6	81	1999	8	43.9	1999	-21+	1985	30	24.8	1985	884	0	.0	.0	15.4	3.4	26.2	1.1
Dec	41.3	15.4	28.4	72+	1998	1	37.3	1980	-40	1989	22	16.3	1983	1136	0	.0	.0	9.5	6.3	28.8	4.3
Ann	63.6	32.6	48.1	109	Jul 1973	6	77.5	Jul 1977	-40	Dec 1989	22	10.3	Jan 1979	6695	556	3.3	45.0	269.8	24.1	176.6	15.7

+ 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: 1948-2001

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

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## No. 20 1971-2000

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

**Station: YODER 2 WSW, WY**

**COOP ID: 489925**

**Climate Division: WY 8**

**NWS Call Sign:**

**Elevation: 4,289 Feet Lat: 41°54N**

**Lon: 104°20W**

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	.33	.23	.70	1973	21	1.43	1973	.00+	1989	4.0	1.0	.1	.0	.00	.04	.10	.15	.20	.26	.33	.41	.52	.70	.87
Feb	.33	.21	.65	1993	10	1.52	1993	.00+	1996	3.0	1.5	.1	.0	.00	.00	.06	.11	.17	.23	.31	.41	.54	.77	1.00
Mar	.91	.69	2.00	1990	6	3.08	1990	.12	1985	5.1	2.7	.3	.1	.13	.20	.33	.46	.59	.74	.91	1.12	1.40	1.85	2.30
Apr	1.82	1.78	2.10	1988	22	3.62	1971	.15	1992	7.0	4.7	1.0	.1	.48	.65	.91	1.14	1.37	1.61	1.88	2.19	2.60	3.24	3.85
May	2.89	2.60	2.80	1971	5	6.05	1981	.52	1973	9.2	6.9	1.6	.6	.70	.97	1.40	1.77	2.14	2.54	2.98	3.50	4.19	5.28	6.30
Jun	2.15	1.83	2.78	1970	11	6.13	1993	.20	1980	6.4	4.8	1.4	.5	.43	.62	.94	1.23	1.52	1.83	2.19	2.61	3.18	4.09	4.95
Jul	1.74	1.45	1.98	1967	26	4.17	1984	.47	1991	5.9	4.2	1.2	.3	.49	.65	.90	1.12	1.34	1.56	1.81	2.10	2.48	3.07	3.63
Aug	1.17	1.09	1.83	1980	15	2.89	1987	.10	1971	5.7	3.8	.5	.1	.21	.32	.49	.65	.81	.98	1.18	1.42	1.74	2.26	2.75
Sep	1.40	1.10	2.26	1973	11	4.93	1973	.00	1980	4.5	3.4	1.0	.2	.06	.18	.39	.59	.81	1.06	1.35	1.72	2.22	3.05	3.86
Oct	.98	.77	1.85	1997	24	3.34	1986	.08	1973	4.2	2.8	.6	@	.09	.15	.29	.42	.57	.74	.94	1.20	1.55	2.13	2.70
Nov	.65	.65	1.30	1993	12	1.81	1983	.02+	1984	3.8	2.0	.2	.1	.04	.08	.16	.25	.35	.46	.60	.78	1.03	1.45	1.87
Dec	.35	.30	.80	1985	9	1.05+	1992	.00	1976	3.5	1.4	.1	.0	.01	.03	.08	.13	.18	.25	.32	.42	.56	.79	1.03
Ann	14.72	14.25	2.80	May 1971	5	6.13	Jun 1993	.00+	Feb 1996	62.3	39.2	8.1	2.0	10.08	10.97	12.11	12.98	13.75	14.50	15.28	16.15	17.20	18.73	20.06

+ 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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**COOP ID: 489925**

**Climate Division: WY 8**

**NWS Call Sign:**

**Elevation: 4,289 Feet**

**Lat: 41° 54N**

**Lon: 104° 20W**

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	5.6	5.3	2	1	8.0	1992	7	16.0	1976	22	1988	9	9	1988	3.3	2.6	.7	.1	.0	9.4	4.2	2.2	.9
Feb	5.0	4.1	1	1	8.0	1998	25	16.2	1993	12	1993	18	8	1993	2.4	1.9	.8	.2	.0	5.1	2.8	1.1	.4
Mar	8.7	8.2	1	#	12.0	1988	10	23.0	1990	16	1990	7	4	1988	3.1	2.9	1.0	.4	.1	4.5	2.1	1.0	.4
Apr	6.4	4.5	#	#	14.0	1974	3	18.0+	1997	12	1974	3	2	1997	1.6	1.6	.8	.5	.1	1.8	1.0	.5	.1
May	.4	.0	#	0	6.0	1979	9	8.0	1979	2	1979	9	#	1979	.1	.1	.1	@	.0	.1	.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	.9	.0	#	0	6.0	1985	28	10.0	2000	5	1985	28	#+	2000	.2	.2	.2	@	.0	.2	.1	@	.0
Oct	2.9	1.0	#	#	18.0	1997	24	22.0	1997	22	1997	26	3	1997	.9	.9	.4	.1	@	1.0	.6	.3	.1
Nov	6.6	6.0	1	#	18.0	1979	20	19.0	1993	24	1979	23	11	1979	2.8	2.3	.9	.4	.1	5.5	2.7	1.2	.7
Dec	6.1	5.0	2	1	12.0	1975	31	18.0	1973	20	1987	31	6	1985	3.1	2.3	.7	.3	@	8.1	3.9	1.7	.3
Ann	42.6	34.1	N/A	N/A	18.0+	Oct 1997	24	23.0	Mar 1990	24	Nov 1979	23	11	Nov 1979	17.5	14.8	5.6	2.0	.3	35.7	17.4	8.0	2.9

+ 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	6/16	6/10	6/06	6/02	5/30	5/26	5/22	5/18	5/12
32	6/01	5/26	5/22	5/19	5/16	5/13	5/10	5/06	5/01
28	5/17	5/13	5/10	5/07	5/05	5/02	4/29	4/26	4/22
24	5/08	5/04	4/30	4/28	4/25	4/22	4/20	4/16	4/12
20	5/01	4/25	4/21	4/18	4/14	4/11	4/08	4/04	3/29
16	4/23	4/15	4/09	4/04	3/31	3/26	3/21	3/15	3/07
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	8/30	9/04	9/07	9/10	9/12	9/15	9/17	9/20	9/25
32	9/11	9/15	9/17	9/19	9/21	9/23	9/25	9/28	10/01
28	9/16	9/21	9/24	9/27	9/30	10/02	10/05	10/08	10/13
24	9/24	9/29	10/03	10/06	10/09	10/12	10/16	10/19	10/25
20	10/03	10/08	10/12	10/15	10/18	10/21	10/25	10/28	11/02
16	10/10	10/16	10/20	10/24	10/27	10/30	11/03	11/07	11/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	129	120	115	109	105	100	95	89	81
32	144	138	134	131	127	124	121	117	111
28	169	162	156	152	147	143	138	133	125
24	188	181	175	171	167	162	158	152	145
20	211	203	196	191	186	181	176	170	161
16	241	230	223	216	210	203	197	189	178

\* 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:

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**Lon: 104°20W**

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	1189	959	846	589	313	79	9	20	180	491	884	1136	6695
60	1034	819	691	444	187	27	1	3	88	337	734	981	5346
57	941	735	598	361	126	12	0	1	50	249	644	888	4605
55	880	679	536	308	93	6	0	0	31	195	587	826	4141
50	736	550	385	192	37	0	0	0	7	87	448	672	3114
32	285	172	33	7	0	0	0	0	0	1	97	217	812

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	119	137	210	407	719	1007	1239	1188	849	533	203	105	6716
55	1	0	0	18	99	323	526	476	191	14	4	0	1652
57	0	0	0	11	70	269	464	414	149	6	0	0	1383
60	0	0	0	5	37	195	371	324	97	1	0	0	1030
65	0	0	0	0	9	97	225	185	40	0	0	0	556
70	0	0	0	0	1	36	106	80	11	0	0	0	234

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	25	46	107	230	508	787	1003	953	631	314	80	30	25	71	178	408	916	1703	2706	3659	4290	4604	4684	4714
45	3	15	47	127	354	637	848	798	483	192	35	8	3	18	65	192	546	1183	2031	2829	3312	3504	3539	3547
50	0	1	13	59	218	489	693	643	343	91	9	0	0	1	14	73	291	780	1473	2116	2459	2550	2559	2559
55	0	0	0	19	115	344	538	488	216	32	0	0	0	0	0	19	134	478	1016	1504	1720	1752	1752	1752
60	0	0	0	3	44	211	385	333	110	6	0	0	0	0	0	3	47	258	643	976	1086	1092	1092	1092
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	29	53	116	207	346	498	622	591	431	266	85	35	29	82	198	405	751	1249	1871	2462	2893	3159	3244	3279

(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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/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)