

# Climatography of the United States

No. 20

1971-2000

Station: MIDWEST, WY

COOP ID: 486195

Climate Division: WY 5

NWS Call Sign:

Elevation: 4,860 Feet Lat: 43° 25N

Lon: 106° 17W

## 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	33.8	9.5	21.7	64	1981	23	31.8	1990	-39	1949	24	5.4	1979	1345	0	.0	.0	3.0	10.9	30.0	6.6
Feb	39.6	15.1	27.4	70	1982	21	36.1	1992	-31	1996	3	13.6	1989	1054	0	.0	.0	7.0	6.1	26.9	4.2
Mar	48.9	24.0	36.5	78+	1978	31	42.4	1986	-19	1960	3	29.1	1996	885	0	.0	.0	17.3	2.4	27.1	.7
Apr	57.3	30.6	44.0	89	1952	27	49.9	1981	-4	1975	2	37.3	1973	632	0	.0	.0	23.4	.6	18.2	.1
May	67.6	40.0	53.8	94+	1969	28	60.2	1994	15+	1967	1	46.1	1995	357	8	.0	.2	29.7	.0	4.6	.0
Jun	79.8	48.0	63.9	103	1990	30	73.6	1988	26+	1951	3	58.0	1998	118	86	.2	5.8	29.8	.0	.1	.0
Jul	87.8	53.6	70.7	106	1973	12	74.9	1988	33	1972	4	64.5	1993	20	196	1.2	16.1	31.0	.0	.0	.0
Aug	86.9	51.7	69.3	106	1979	5	74.2	1983	30	1978	19	64.4	1993	38	171	.2	12.7	31.0	.0	.5	.0
Sep	76.3	40.6	58.5	100	1950	4	65.4	1998	17	1961	30	53.7	1985	229	33	.0	4.1	29.1	.1	4.0	.0
Oct	63.0	31.1	47.1	89+	1957	1	51.3	1988	-3	1991	30	43.6	1984	556	0	.0	.0	26.8	.5	16.2	.1
Nov	44.3	18.8	31.6	76	1953	14	43.0	1999	-29	1985	30	17.4	1985	1004	0	.0	.0	11.8	5.0	25.8	1.7
Dec	35.4	10.8	23.1	69	1948	3	32.4	1980	-40	1990	28	7.6	1983	1299	0	.0	.0	4.0	9.4	29.3	4.7
Ann	60.1	31.2	45.6	106+	Aug 1979	5	74.9	Jul 1988	-40	Dec 1990	28	5.4	Jan 1979	7537	494	1.6	38.9	243.9	35.0	182.7	18.1

+ 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/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

062-A

# 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: MIDWEST, WY**

**COOP ID: 486195**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 4,860 Feet Lat: 43°25N**

**Lon: 106°17W**

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	.54	.36	2.00	1972	11	4.03	1972	.00	1987	4.8	1.8	.2	@	.00	.02	.08	.15	.23	.33	.46	.64	.88	1.32	1.76
Feb	.61	.48	2.05	1977	23	2.60	1977	.02	1992	4.7	1.7	.3	.1	.05	.09	.17	.25	.35	.45	.58	.74	.96	1.33	1.70
Mar	.95	.72	1.50	1954	18	2.27	1987	.09	1988	6.0	3.1	.3	.1	.18	.26	.40	.53	.66	.80	.96	1.16	1.41	1.82	2.21
Apr	1.71	1.46	2.00	1974	20	5.43	1973	.04	1988	7.6	3.9	1.0	.3	.19	.32	.55	.79	1.05	1.34	1.67	2.09	2.66	3.61	4.53
May	2.55	2.53	2.71	1962	21	6.10	1978	.33	1977	9.2	5.6	1.5	.6	.53	.77	1.14	1.48	1.82	2.19	2.60	3.09	3.75	4.79	5.78
Jun	1.95	1.81	2.03	1967	15	5.14	1993	.11	1996	8.4	4.7	1.2	.3	.31	.47	.76	1.03	1.30	1.61	1.95	2.38	2.94	3.87	4.75
Jul	1.35	1.17	2.59	1977	27	3.17	1973	.00	1971	5.2	3.0	1.0	.1	.13	.28	.50	.70	.90	1.12	1.37	1.67	2.07	2.72	3.33
Aug	.72	.63	2.69	1953	2	2.64	1972	.00+	1996	4.6	2.1	.3	.1	.00	.08	.21	.33	.45	.58	.72	.90	1.14	1.54	1.92
Sep	.86	.62	1.80	1982	14	3.64	1982	.05	1996	4.1	1.7	.4	.1	.06	.12	.23	.35	.48	.63	.81	1.05	1.37	1.91	2.45
Oct	1.13	1.00	1.86	1962	6	4.46	1994	.00+	2000	5.0	2.5	.8	.2	.00	.07	.24	.41	.60	.82	1.07	1.39	1.84	2.59	3.33
Nov	.69	.70	1.15	1973	3	1.63	1983	.01	1997	4.3	2.1	.3	@	.09	.15	.25	.34	.44	.56	.69	.85	1.06	1.42	1.76
Dec	.70	.47	1.84	1973	25	2.51	1973	.00	1985	4.7	2.0	.2	@	.03	.08	.18	.28	.39	.52	.67	.85	1.11	1.54	1.96
Ann	13.76	14.29	2.71	May 1962	21	6.10	May 1978	.00+	Oct 2000	68.6	34.2	7.5	1.9	7.12	8.26	9.79	11.00	12.12	13.24	14.42	15.75	17.42	19.92	22.14

+ 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

Complete documentation available from:

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Station: MIDWEST, WY

COOP ID: 486195

Climate Division: WY 5

NWS Call Sign:

Elevation: 4,860 Feet

Lat: 43°25N

Lon: 106°17W

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	8.4	7.0	2	1	11.0	1972	11	24.5	1972	13	1972	12	6	1978	3.9	2.8	.8	.1	@	14.2	7.5	3.2	.2
Feb	7.3	7.0	2	1	18.0	1977	23	24.3	1977	24	1977	23	5	1993	3.7	2.4	.8	.3	.1	9.0	4.9	2.1	.3
Mar	8.3	8.0	#	#	12.5	1987	21	30.0	1987	10	1999	31	2	1977	3.6	2.7	1.0	.4	.1	4.3	1.4	.6	.0
Apr	6.9	6.3	1	#	20.0	1973	19	20.0	1973	36	1973	20	7	1973	2.1	1.8	.9	.5	.2	1.7	1.1	.4	.3
May	1.6	.0	#	0	7.5	1978	7	15.5	1979	3	1975	21	#+	1988	.5	.4	.3	.2	.0	.1	.0	.0	.0
Jun	#	.0	0	0	#	1979	8	#	1979	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	.3	.0	#	0	8.0	1982	14	8.0	1982	7	1982	14	#+	1996	.1	@	@	@	.0	.1	@	@	.0
Oct	3.4	1.8	#	#	10.0	1993	9	13.0	1996	10	1993	9	1	1996	1.2	1.0	.4	.3	@	1.1	.4	.4	@
Nov	7.9	6.8	1	#	11.0	1977	19	16.5	1978	25	1985	30	8	1985	3.0	2.5	.9	.3	@	5.8	2.9	1.0	.1
Dec	8.9	7.3	2	1	8.0	1973	25	25.0	1978	12	1978	8	9	1978	3.8	2.6	1.1	.4	.0	11.9	6.4	3.5	1.1
Ann	53.0	44.2	N/A	N/A	20.0	Apr 1973	19	30.0	Mar 1987	36	Apr 1973	20	9	Dec 1978	21.9	16.2	6.2	2.5	.4	48.2	24.6	11.2	2.0

+ 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

Complete documentation available from:

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**NWS Call Sign:**

**Elevation: 4,860 Feet**

**Lat: 43° 25N**

**Lon: 106° 17W**

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	6/23	6/16	6/12	6/07	6/04	5/31	5/26	5/22	5/15
32	6/02	5/27	5/23	5/19	5/16	5/13	5/09	5/05	4/30
28	5/16	5/12	5/09	5/06	5/04	5/02	4/29	4/26	4/22
24	5/05	4/30	4/26	4/23	4/20	4/16	4/13	4/09	4/04
20	4/30	4/24	4/20	4/16	4/13	4/09	4/06	4/01	3/27
16	4/20	4/14	4/09	4/05	4/01	3/28	3/24	3/20	3/13
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	8/15	8/22	8/27	9/01	9/05	9/09	9/13	9/19	9/26
32	8/25	9/01	9/05	9/09	9/13	9/16	9/20	9/25	10/01
28	9/14	9/19	9/22	9/25	9/28	9/30	10/03	10/06	10/11
24	9/20	9/26	9/30	10/03	10/07	10/10	10/13	10/17	10/23
20	10/04	10/10	10/14	10/18	10/21	10/24	10/28	11/01	11/07
16	10/23	10/26	10/29	10/31	11/02	11/04	11/06	11/08	11/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	124	113	106	99	93	86	80	72	61
32	145	136	129	124	119	114	108	102	93
28	164	157	153	149	146	142	139	134	128
24	192	184	178	174	169	165	160	155	147
20	220	210	203	196	191	185	179	172	162
16	237	229	223	218	214	209	204	199	191

\* 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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No. 20  
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**Station: MIDWEST, WY**

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**NWS Call Sign:**

**Elevation: 4,860 Feet    Lat: 43° 25N    Lon: 106° 17W**

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	1345	1054	885	632	357	118	20	38	229	556	1004	1299	7537
60	1190	914	730	485	226	52	3	10	127	402	854	1144	6137
57	1097	830	637	400	161	28	1	4	81	311	764	1051	5365
55	1035	774	575	345	124	17	0	2	56	254	707	989	4878
50	881	639	422	222	56	4	0	0	17	133	568	837	3779
32	389	225	49	10	0	0	0	0	0	3	178	355	1209

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	67	95	187	368	675	958	1199	1156	794	470	164	80	6213
55	0	0	0	13	86	284	486	445	160	8	3	0	1485
57	0	0	0	8	61	235	425	385	124	3	0	0	1241
60	0	0	0	3	33	170	335	298	81	1	0	0	921
65	0	0	0	0	8	86	196	171	33	0	0	0	494
70	0	0	0	0	1	32	93	78	10	0	0	0	214

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	2	19	78	202	463	738	978	888	594	286	60	8	2	21	99	301	764	1502	2480	3368	3962	4248	4308	4316
45	0	1	31	111	319	588	823	733	451	168	22	0	0	1	32	143	462	1050	1873	2606	3057	3225	3247	3247
50	0	0	2	51	192	443	668	578	319	81	7	0	0	0	2	53	245	688	1356	1934	2253	2334	2341	2341
55	0	0	0	16	99	299	515	424	196	26	0	0	0	0	0	16	115	414	929	1353	1549	1575	1575	1575
60	0	0	0	1	36	175	362	277	103	4	0	0	0	0	0	1	37	212	574	851	954	958	958	958
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	24	83	172	316	468	611	574	414	242	60	7	0	24	107	279	595	1063	1674	2248	2662	2904	2964	2971

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