

# Climatology of the United States

No. 20

1971-2000

Station: KAYCEE, WY

COOP ID: 485055

Climate Division: WY 5

NWS Call Sign:

Elevation: 4,660 Feet Lat: 43° 43N

Lon: 106° 38W

## 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	35.2	5.5	20.4	71	1981	23	30.1	1990	-45	1949	24	1.4	1979	1384	0	.0	.0	5.5	9.6	30.6	9.6
Feb	40.0	11.8	25.9	71	1958	22	36.4	1991	-37	1996	3	10.1	1989	1095	0	.0	.0	8.8	5.8	27.5	5.1
Mar	48.4	20.5	34.5	76+	1986	30	41.2	1986	-23+	1960	3	26.9	1996	947	0	.0	.0	16.9	2.6	28.2	1.2
Apr	56.9	28.6	42.8	87	1992	30	48.5	1992	-5	1975	2	36.7	1997	667	0	.0	.0	22.2	.6	19.6	.1
May	66.4	38.3	52.4	92	1984	30	59.4	1994	12+	1968	11	46.9	1995	396	4	.0	.1	29.1	.0	6.2	.0
Jun	78.6	47.7	63.2	104	1954	23	72.1	1988	25+	1969	14	57.8	1993	134	77	.2	4.6	29.8	.0	.2	.0
Jul	86.5	53.3	69.9	105+	1981	6	74.2	2000	31	1972	4	63.7	1993	31	182	.7	13.5	31.0	.0	@	.0
Aug	85.7	51.0	68.4	107	1979	5	72.9	1983	28+	1964	30	64.1	1974	45	150	.1	12.3	31.0	.0	.0	.0
Sep	74.7	39.6	57.2	101	1978	6	65.0	1998	13	1965	18	51.5	1985	262	26	.1	2.6	29.0	.1	4.7	.0
Oct	61.9	29.3	45.6	88	1992	2	48.8	1988	-5+	1991	31	40.9	1984	601	0	.0	.0	26.2	.4	18.8	.1
Nov	45.3	16.2	30.8	78+	1999	12	44.7	1999	-37	1955	15	14.3	1985	1027	0	.0	.0	12.6	4.5	28.1	2.9
Dec	37.4	8.2	22.8	70	1999	1	33.4	1980	-42	1964	17	5.9	1983	1307	0	.0	.0	6.5	8.2	30.3	6.6
Ann	59.8	29.2	44.5	107	Aug 1979	5	74.2	Jul 2000	-45	Jan 1949	24	1.4	Jan 1979	7896	439	1.1	33.1	248.6	31.8	194.2	25.6

+ 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](http://www.ncdc.noaa.gov/oa/climate/normals/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

050-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: KAYCEE, WY**

**COOP ID: 485055**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 4,660 Feet Lat: 43°43N**

**Lon: 106°38W**

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	.44	.41	.66	1987	6	1.28	1972	.02	1992	5.0	1.6	.1	.0	.07	.10	.17	.23	.29	.36	.44	.53	.66	.87	1.07
Feb	.40	.33	.65	1998	9	.99	1993	.00	1992	5.0	1.4	.1	.0	.07	.12	.19	.24	.30	.35	.41	.48	.58	.73	.86
Mar	.81	.67	.69	1977	25	1.75	1972	.27	1994	6.8	2.8	.2	.0	.28	.36	.47	.57	.66	.75	.85	.97	1.12	1.35	1.56
Apr	1.49	1.30	1.41	1964	2	4.62	1973	.00	1987	9.2	4.3	.6	.1	.25	.45	.70	.90	1.11	1.32	1.55	1.83	2.19	2.75	3.29
May	2.56	2.45	1.89	2000	17	7.05	1978	.76	1973	10.7	6.0	1.6	.4	.73	.97	1.34	1.65	1.97	2.29	2.65	3.08	3.63	4.49	5.30
Jun	2.09	1.68	3.62	1964	22	5.47	1995	.35	1979	9.2	5.0	1.2	.2	.44	.63	.94	1.22	1.50	1.80	2.13	2.54	3.08	3.93	4.74
Jul	1.25	1.01	1.25	1982	28	2.80	1982	.11	1996	7.1	3.4	.7	@	.22	.33	.51	.68	.86	1.05	1.27	1.53	1.88	2.44	2.98
Aug	.87	.69	1.46	1960	17	2.48	1980	.12	1985	5.4	2.4	.4	.1	.13	.20	.33	.45	.57	.71	.87	1.06	1.32	1.74	2.15
Sep	1.11	.83	1.19	1962	22	3.74	1982	.20	1983	5.8	3.2	.6	.1	.19	.28	.45	.60	.75	.92	1.12	1.35	1.66	2.17	2.66
Oct	1.28	.90	2.79	1994	17	7.11	1994	.20	1992	5.7	3.2	.8	.2	.16	.26	.45	.63	.81	1.02	1.27	1.57	1.98	2.65	3.29
Nov	.56	.51	.65	1987	2	1.29	1983	.00	1997	5.4	2.0	@	.0	.14	.22	.31	.38	.45	.52	.59	.68	.79	.97	1.13
Dec	.40	.33	.63	1982	2	1.14	1978	.07	1987	5.6	1.5	@	.0	.06	.10	.16	.21	.27	.33	.40	.49	.60	.79	.97
Ann	13.26	12.67	3.62	Jun 1964	22	7.11	Oct 1994	.00+	Nov 1997	80.9	36.8	6.3	1.1	8.07	9.01	10.25	11.22	12.09	12.94	13.84	14.83	16.06	17.88	19.47

+ 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: KAYCEE, WY**

**COOP ID: 485055**

**Climate Division: WY 5**

**NWS Call Sign:**

**Elevation: 4,660 Feet**

**Lat: 43° 43N**

**Lon: 106° 38W**

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	6.2	5.9	2	1	10.0	2000	27	18.0	2000	16	2000	27	12	1979	4.5	2.8	.5	.2	@	15.8	9.7	6.3	1.8
Feb	5.6	4.0	2	1	11.0	1998	9	15.0	1993	14	1979	2	11	1993	3.9	2.2	.7	.2	@	10.3	4.9	2.8	1.1
Mar	7.6	6.4	1	#	9.0	1989	30	18.9	1977	11	1993	2	3	1993	4.4	2.8	1.1	.2	.0	4.5	1.9	.5	.1
Apr	6.3	5.0	#	#	18.0	1973	19	43.3	1973	20	1973	20	3	1973	3.1	2.1	.7	.3	.1	2.2	1.1	.4	.1
May	.9	.0	#	0	5.0	1975	20	5.5	1979	2	1983	11	#+	1983	.4	.4	.1	@	.0	.1	.0	.0	.0
Jun	.1	.0	#	0	2.0	1998	3	2.0	1998	2	1998	3	#	1998	@	@	.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	.0	#	0	2.0	1995	19	3.0	1995	4+	2000	22	#+	2000	.2	.2	.0	.0	.0	.1	.0	.0	.0
Oct	2.3	1.0	#	#	11.0	1993	9	11.0	1993	11	1993	9	2	1998	1.0	.8	.2	.1	@	1.1	.4	.3	@
Nov	5.5	4.5	1	#	6.0	1985	13	13.0	2000	9	1985	18	4+	2000	3.4	2.3	.7	.2	.0	6.7	3.0	1.0	.0
Dec	6.0	5.1	2	1	8.0	1988	25	15.1	1978	13	1978	14	11	1978	4.8	2.6	.6	.2	.0	12.6	5.8	2.5	1.0
Ann	40.7	31.9	N/A	N/A	18.0	Apr 1973	19	43.3	Apr 1973	20	Apr 1973	20	12	Jan 1979	25.7	16.2	4.6	1.4	.1	53.4	26.8	13.8	4.1

+ 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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**Elevation: 4,660 Feet**

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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	7/01	6/22	6/17	6/11	6/07	6/02	5/28	5/22	5/14
32	6/09	6/02	5/29	5/25	5/21	5/17	5/14	5/09	5/02
28	5/18	5/14	5/11	5/09	5/07	5/04	5/02	4/29	4/25
24	5/05	5/02	4/29	4/27	4/25	4/23	4/21	4/18	4/14
20	5/01	4/26	4/21	4/18	4/15	4/11	4/08	4/04	3/29
16	4/20	4/14	4/09	4/06	4/03	3/30	3/27	3/22	3/16
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	8/28	9/01	9/05	9/07	9/10	9/13	9/16	9/19	9/23
32	9/08	9/11	9/14	9/16	9/18	9/20	9/22	9/25	9/29
28	9/14	9/19	9/23	9/26	9/29	10/02	10/05	10/09	10/14
24	9/19	9/25	9/29	10/03	10/06	10/10	10/13	10/18	10/24
20	9/30	10/05	10/09	10/12	10/15	10/18	10/22	10/25	10/31
16	10/10	10/16	10/19	10/23	10/26	10/29	11/01	11/05	11/10
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	123	113	106	100	95	89	83	76	66
32	141	133	128	123	119	115	110	105	98
28	167	159	154	149	145	140	136	130	123
24	185	178	173	168	164	159	155	149	142
20	207	199	193	188	183	178	173	167	159
16	230	222	216	210	205	200	195	189	180

\* 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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**NWS Call Sign:**

**Elevation: 4,660 Feet    Lat: 43° 43N    Lon: 106° 38W**

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	1384	1095	947	667	396	134	31	45	262	601	1027	1307	7896
60	1229	955	792	517	257	62	7	12	153	446	877	1152	6459
57	1136	871	699	431	186	34	2	5	101	354	791	1059	5669
55	1074	815	637	375	144	21	1	2	73	294	736	997	5169
50	921	681	482	245	66	5	0	0	26	162	596	847	4031
32	430	260	69	11	0	0	0	0	0	5	208	368	1351

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	68	90	145	335	632	934	1174	1128	754	427	170	84	5941
55	0	0	0	8	63	265	461	417	137	3	9	0	1363
57	0	0	0	4	42	217	401	358	105	1	4	0	1132
60	0	0	0	1	21	155	313	272	67	0	0	0	829
65	0	0	0	0	4	77	182	150	26	0	0	0	439
70	0	0	0	0	0	29	88	64	8	0	0	0	189

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	18	64	179	423	716	950	908	551	246	50	12	2	20	84	263	686	1402	2352	3260	3811	4057	4107	4119
45	0	0	22	93	278	569	795	753	412	137	18	0	0	0	22	115	393	962	1757	2510	2922	3059	3077	3077
50	0	0	1	37	163	422	641	598	279	59	4	0	0	0	1	38	201	623	1264	1862	2141	2200	2204	2204
55	0	0	0	9	75	280	487	445	167	13	0	0	0	0	0	9	84	364	851	1296	1463	1476	1476	1476
60	0	0	0	0	26	165	336	293	79	0	0	0	0	0	0	0	26	191	527	820	899	899	899	899
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	11	29	85	159	289	451	596	569	388	225	65	21	11	40	125	284	573	1024	1620	2189	2577	2802	2867	2888

(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)