

# Climatography of the United States

No. 20

1971-2000

Station: EVANSTON 1 E, WY

COOP ID: 483100

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,825 Feet Lat: 41° 16N

Lon: 110° 57W

## 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	29.5	9.5	19.5	57	1981	23	26.6	1981	-35+	1963	12	9.8	1979	1411	0	.0	.0	.2	16.5	30.8	7.2
Feb	34.0	11.7	22.9	60+	1986	28	29.7	1995	-38	1905	12	15.1	1989	1181	0	.0	.0	1.4	10.0	28.0	4.8
Mar	41.6	19.3	30.5	75	1985	25	36.9	1986	-30	1917	2	23.5	1976	1070	0	.0	.0	7.4	3.2	30.0	1.0
Apr	51.9	25.9	38.9	77+	2000	28	47.5	1992	-7	1920	1	31.5	1975	783	0	.0	.0	18.6	.6	24.8	.1
May	61.5	33.4	47.5	92	1911	9	51.7	1994	9	1965	6	42.5	1975	544	0	.0	.0	27.8	.0	13.9	.0
Jun	71.9	39.9	55.9	94	1988	24	61.6	1988	19	1960	21	51.0	1975	285	13	.0	.2	29.8	.0	3.6	.0
Jul	79.3	45.5	62.4	99	1985	7	66.0	1985	24	1921	3	55.3	1993	117	37	.0	1.8	31.0	.0	.2	.0
Aug	77.7	45.0	61.4	94+	1979	5	65.1	1994	23	1962	31	56.9	1993	139	26	.0	.5	31.0	.0	.7	.0
Sep	68.4	37.1	52.8	89+	1955	2	58.3	1990	5	1926	25	47.8	1986	370	3	.0	.0	29.1	.0	7.9	.0
Oct	56.7	28.2	42.5	80	1980	6	48.6	1988	-8	1972	31	36.4	1984	700	0	.0	.0	24.6	.6	22.7	.0
Nov	40.0	17.8	28.9	69+	1999	15	38.1	1999	-22+	1955	16	21.8	2000	1083	0	.0	.0	7.6	6.9	28.5	2.0
Dec	31.5	10.1	20.8	64	1939	5	28.2	1980	-34	1951	9	13.3	1990	1371	0	.0	.0	1.3	13.9	30.7	6.2
Ann	53.7	27.0	40.3	99	Jul 1985	7	66.0	Jul 1985	-38	Feb 1905	12	9.8	Jan 1979	9054	79	.0	2.5	209.8	51.7	221.8	21.3

+ 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: 1890-2001

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

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# 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: EVANSTON 1 E, WY

COOP ID: 483100

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,825 Feet Lat: 41°16N

Lon: 110°57W

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	.68	.57	.85	1912	7	2.81	1980	.00	1985	7.1	2.5	.1	.0	.04	.11	.22	.32	.42	.54	.68	.84	1.07	1.44	1.80
Feb	.62	.56	1.32	1917	23	1.93	1986	.00	1985	6.4	2.3	.1	.0	.05	.12	.22	.31	.41	.51	.62	.76	.95	1.26	1.55
Mar	.89	.79	2.00	1899	23	2.40	1981	.02	1992	6.9	2.8	.4	.0	.18	.26	.39	.51	.63	.76	.91	1.08	1.31	1.69	2.04
Apr	1.13	1.11	1.50	1986	2	2.85	1986	.00	1985	7.6	3.6	.4	@	.07	.19	.37	.53	.71	.90	1.12	1.39	1.76	2.36	2.94
May	1.47	1.43	2.63	1924	30	4.12	1993	.07	1972	8.6	4.5	.7	.1	.21	.33	.54	.75	.96	1.20	1.47	1.80	2.25	2.98	3.68
Jun	.96	.76	1.56	1941	9	3.79	1998	.00	1988	5.4	2.6	.4	.1	.02	.08	.20	.33	.49	.67	.89	1.17	1.56	2.23	2.90
Jul	.91	.66	1.87	1965	19	2.67	1984	.00	1988	5.0	2.5	.3	.1	.02	.08	.19	.32	.47	.64	.84	1.11	1.48	2.10	2.72
Aug	.94	.78	1.54	1926	3	2.91	1991	.00	1985	7.1	3.2	.4	.1	.02	.07	.19	.32	.47	.65	.86	1.14	1.53	2.19	2.85
Sep	1.27	1.16	1.38	1908	24	4.26	1982	.00	1988	7.0	3.3	.9	@	.06	.17	.36	.55	.75	.97	1.24	1.56	2.01	2.75	3.47
Oct	1.15	1.02	1.42	1992	30	2.68	1981	.00+	2000	6.0	3.5	.5	@	.00	.14	.35	.53	.72	.92	1.16	1.44	1.82	2.45	3.05
Nov	.84	.78	1.26	1958	15	1.99	1996	.04+	1999	7.3	3.5	.1	.0	.14	.21	.34	.45	.57	.70	.85	1.03	1.27	1.65	2.03
Dec	.67	.61	.86	1921	19	2.21	1983	.00	1986	7.0	2.6	.1	.0	.04	.10	.20	.30	.40	.52	.66	.83	1.06	1.45	1.82
Ann	11.53	11.96	2.63	May 1924	30	4.26	Sep 1982	.00+	Oct 2000	81.4	36.9	4.4	.4	6.45	7.35	8.54	9.48	10.34	11.19	12.08	13.09	14.33	16.19	17.83

+ 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: 1890-2001

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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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### 1971-2000

National Climatic Data Center  
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Station: EVANSTON 1 E, WY

COOP ID: 483100

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,825 Feet

Lat: 41°16N

Lon: 110°57W

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	9.1	9.0	9	9	10.0	1996	25	13.5	1990	28	1993	12	21	1993	5.2	3.4	1.3	.6	.1	-9.9	-9.9	-9.9	-9.9
Feb	8.3	8.8	8	7	13.0	1989	2	20.0	1989	27	1989	8	20	1993	3.4	2.8	.6	.1	.1	-9.9	-9.9	-9.9	-9.9
Mar	4.9	5.5	2	1	8.0	1975	21	9.5	1999	24	1993	1	8	1993	1.8	1.4	.7	.4	.0	6.9	4.6	2.5	.4
Apr	1.9	.0	#	0	8.0	1975	16	8.0	1975	6	1991	11	1	1991	.6	.5	.3	.1	.0	.4	.3	.1	.0
May	.9	.0	#	0	7.0	1986	5	12.0	1986	4+	1993	4	#+	1995	.3	.3	.2	@	.0	.4	.2	.0	.0
Jun	.2	.0	#	0	4.5	1998	17	4.5	1998	5	1998	17	#	1998	@	@	@	.0	.0	.1	.1	.1	.0
Jul	.0	.0	#	0	.0	0	0	.0	0	#	1986	22	#	1986	.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	4.0	2000	23	4.0	2000	4	2000	23	#+	2000	@	@	@	.0	.0	.1	.1	.0	.0
Oct	2.1	.7	#	0	12.0	1971	27	12.0	1971	8	1991	28	1	1991	.8	.6	.3	.2	@	1.3	.3	.2	.0
Nov	5.9	5.0	1	1	12.0	1994	17	24.3	1994	14	1994	17	6	1985	2.8	2.0	.6	.2	.1	7.4	4.1	1.5	.3
Dec	8.5	11.0	4	4	9.0	1990	19	12.0+	1987	19	1985	9	15	1985	3.2	2.2	1.3	.7	.0	18.3	13.9	8.2	2.5
Ann	42.0	40.0	N/A	N/A	13.0	Feb 1989	2	24.3	Nov 1994	28	Jan 1993	12	21	Jan 1993	18.1	13.2	5.3	2.3	.3	-9.9	-9.9	-9.9	-9.9

+ 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

Complete documentation available from:

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## No. 20 1971-2000

**Station:** EVANSTON 1 E, WY

**COOP ID:** 483100

**Climate Division:** WY 3

**NWS Call Sign:**

**Elevation:** 6,825 Feet

**Lat:** 41° 16N

**Lon:** 110° 57W

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	7/23	7/17	7/13	7/09	7/06	7/03	6/29	6/25	6/19
32	7/11	7/03	6/27	6/22	6/18	6/13	6/08	6/02	5/25
28	6/19	6/12	6/07	6/03	5/30	5/26	5/22	5/17	5/10
24	6/02	5/27	5/22	5/18	5/14	5/10	5/06	5/01	4/24
20	5/18	5/12	5/07	5/03	4/29	4/26	4/22	4/17	4/10
16	5/04	4/28	4/23	4/19	4/15	4/11	4/07	4/02	3/26
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	8/06	8/13	8/18	8/22	8/26	8/29	9/02	9/07	9/14
32	8/16	8/23	8/28	9/01	9/05	9/09	9/13	9/18	9/24
28	9/01	9/06	9/10	9/13	9/16	9/19	9/22	9/26	10/01
24	9/16	9/20	9/24	9/26	9/29	10/01	10/04	10/07	10/12
20	9/21	9/28	10/03	10/08	10/12	10/16	10/20	10/25	11/01
16	10/05	10/11	10/15	10/19	10/23	10/26	10/30	11/03	11/09
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	80	69	62	56	50	44	37	30	20
32	110	99	91	85	78	72	65	58	47
28	133	124	118	113	109	104	99	93	84
24	160	152	147	142	137	133	128	122	114
20	198	187	178	171	165	158	151	143	131
16	218	208	201	195	190	184	178	171	162

\* 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**  
**1971-2000**

**Station: EVANSTON 1 E, WY**

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**Climate Division: WY 3**

**NWS Call Sign:**

**Elevation: 6,825 Feet    Lat: 41°16N    Lon: 110°57W**

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	1411	1181	1070	783	544	285	117	139	370	700	1083	1371	9054
60	1256	1041	915	633	390	167	40	52	233	545	933	1216	7421
57	1163	957	822	545	301	112	16	23	164	452	843	1123	6521
55	1101	901	760	489	246	82	8	12	124	391	783	1061	5958
50	946	761	606	351	127	29	1	1	51	249	633	906	4661
32	406	281	143	44	1	0	0	0	0	10	184	371	1440

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	18	24	97	251	480	718	943	910	623	333	91	23	4511
55	0	0	0	5	11	109	238	209	57	2	0	0	631
57	0	0	0	2	5	80	184	158	37	1	0	0	467
60	0	0	0	0	1	45	115	94	16	0	0	0	271
65	0	0	0	0	0	13	37	26	3	0	0	0	79
70	0	0	0	0	0	2	6	3	0	0	0	0	11

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	0	11	93	271	511	737	704	428	168	16	0	0	0	11	104	375	886	1623	2327	2755	2923	2939	2939
45	0	0	0	40	150	364	582	549	287	74	0	0	0	0	0	40	190	554	1136	1685	1972	2046	2046	2046
50	0	0	0	11	64	230	427	395	162	21	0	0	0	0	0	11	75	305	732	1127	1289	1310	1310	1310
55	0	0	0	0	14	116	274	244	66	0	0	0	0	0	0	0	14	130	404	648	714	714	714	714
60	0	0	0	0	1	38	134	108	16	0	0	0	0	0	0	0	1	39	173	281	297	297	297	297
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	18	93	211	364	499	478	325	164	26	0	0	0	18	111	322	686	1185	1663	1988	2152	2178	2178

(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.

- 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/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)