

# Climatography of the United States

No. 20

1971-2000

Station: UPTON, WY

COOP ID: 489205

Climate Division: WY 7

NWS Call Sign:

Elevation: 4,320 Feet Lat: 44°06N

Lon: 104°37W

## 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	31.8	5.9	18.9	65	1989	30	30.0	1981	-42	1963	19	2.4	1979	1431	0	.0	.0	1.3	15.1	30.8	10.1
Feb	36.8	11.8	24.3	68+	1995	25	36.5	1992	-33	1996	2	11.9+	1993	1140	0	.0	.0	4.2	9.6	27.9	5.8
Mar	46.8	20.8	33.8	78+	1986	30	41.5	1992	-23	1960	3	26.0	1996	966	0	.0	.0	13.2	4.4	28.6	1.7
Apr	57.4	29.6	43.5	88	1989	22	50.0	1987	-11	1975	2	36.6	1997	644	0	.0	.0	21.9	.7	19.9	.1
May	67.7	39.8	53.8	95	1969	27	59.6	1987	5	1954	3	49.2	1983	358	9	.0	.1	29.4	.0	5.8	.0
Jun	78.3	49.2	63.8	103	1954	23	73.2	1988	24	1969	24	56.6	1998	125	87	.1	4.0	29.9	.0	.5	.0
Jul	86.3	55.4	70.9	110	1954	9	74.2	1989	30	1971	29	64.4	1993	23	204	.7	12.0	31.0	.0	.1	.0
Aug	85.2	53.7	69.5	102+	2001	7	76.0	1983	32+	1976	27	62.2	1974	49	188	.2	10.1	31.0	.0	@	.0
Sep	74.6	42.6	58.6	101	1958	8	66.3	1998	15+	1972	26	53.3	1974	233	41	@	2.3	29.2	.1	4.2	.0
Oct	60.9	31.2	46.1	89	1963	4	50.8	1992	-6	1991	30	42.2	1971	587	0	.0	.0	25.1	.6	17.8	.1
Nov	43.0	18.3	30.7	76+	1999	8	41.7	1999	-33	1975	30	15.3	1985	1031	0	.0	.0	8.9	6.8	28.1	2.2
Dec	33.5	8.4	21.0	66	1995	1	29.1	1999	-42	1983	24	3.4	1983	1365	0	.0	.0	2.3	13.9	30.6	7.5
Ann	58.5	30.6	44.6	110	Jul 1954	9	76.0	Aug 1983	-42+	Dec 1983	24	2.4	Jan 1979	7952	529	1.0	28.5	227.4	51.2	194.3	27.5

+ 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

094-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: UPTON, WY**

**COOP ID: 489205**

**Climate Division: WY 7**

**NWS Call Sign:**

**Elevation: 4,320 Feet Lat: 44°06N**

**Lon: 104°37W**

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	.41	.33	.80	1950	24	1.48	1994	.00	1995	4.7	1.4	.0	.0	.03	.07	.14	.20	.26	.33	.41	.51	.64	.85	1.05
Feb	.45	.37	1.05	1966	12	1.48	1987	.00	1983	4.1	1.6	.1	.0	.05	.11	.18	.24	.31	.38	.46	.55	.67	.87	1.06
Mar	.66	.64	.76	1952	12	1.52+	1998	.00+	1979	4.8	2.5	.1	.0	.00	.09	.21	.32	.42	.54	.67	.82	1.03	1.36	1.68
Apr	1.56	1.55	1.91	1971	19	3.74	1971	.11	1987	7.2	4.4	.8	.1	.31	.45	.68	.89	1.10	1.33	1.59	1.89	2.30	2.96	3.58
May	2.44	2.08	1.95	2001	28	6.25	1991	.76	1985	9.2	6.0	1.5	.3	.83	1.06	1.40	1.68	1.96	2.24	2.54	2.90	3.36	4.07	4.73
Jun	2.46	2.09	2.25	1976	14	6.51	1999	.39	1987	8.7	5.8	1.6	.5	.47	.69	1.05	1.39	1.72	2.09	2.50	3.00	3.66	4.72	5.72
Jul	2.02	1.74	3.15	1976	21	5.20	1976	.47	1980	6.5	4.3	1.2	.4	.50	.69	.98	1.24	1.50	1.77	2.08	2.44	2.92	3.68	4.38
Aug	1.39	1.34	2.32	1957	16	3.00	1998	.26	1991	5.9	3.4	.9	.2	.39	.52	.72	.90	1.07	1.24	1.44	1.67	1.98	2.45	2.89
Sep	1.01	.77	1.35	1986	2	4.40	1986	.00	1975	4.0	3.0	.6	.1	.07	.17	.33	.48	.63	.81	1.00	1.25	1.58	2.12	2.64
Oct	1.37	.87	2.10	1994	6	6.10	1998	.00	1999	5.0	3.1	1.0	.3	.09	.23	.44	.64	.86	1.09	1.36	1.69	2.15	2.88	3.60
Nov	.64	.60	.76	2000	1	1.66	2000	.07	1981	4.4	2.2	.2	.0	.15	.21	.30	.38	.47	.55	.65	.77	.92	1.17	1.40
Dec	.54	.50	1.00	1949	11	1.69	1996	.04	1986	5.2	2.1	@	.0	.09	.14	.21	.29	.36	.45	.54	.65	.81	1.05	1.29
Ann	14.95	14.37	3.15	Jul 1976	21	6.51	Jun 1999	.00+	Oct 1999	69.7	39.8	8.0	1.9	9.39	10.41	11.75	12.78	13.71	14.62	15.57	16.63	17.93	19.85	21.52

+ 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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**Station: UPTON, WY**

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**Climate Division: WY 7**

**NWS Call Sign:**

**Elevation: 4,320 Feet**

**Lat: 44°06N**

**Lon: 104°37W**

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	7.0	6.0	5	3	6.0	1971	29	20.6	1994	19	1986	5	16	1986	4.6	3.3	.8	.2	.0	19.3	14.3	9.7	4.6
Feb	6.6	5.3	4	2	8.0	1987	14	25.0	1987	25	1994	5	17	1994	3.5	2.9	.6	.2	.0	12.8	7.9	5.2	2.0
Mar	6.8	7.0	1	1	11.0	1989	17	19.5	1989	13	1998	8	5	1998	3.1	2.6	1.0	.4	@	7.6	4.2	2.5	.4
Apr	5.0	4.5	1	#	11.0	1997	5	20.5	1997	16	1997	10	8	1984	1.7	1.6	.7	.2	@	2.1	1.2	.6	.4
May	.1	.0	#	0	2.0	1988	1	2.0	1988	12	1986	9	#+	1995	.1	@	.0	.0	.0	@	.0	.0	.0
Jun	.1	.0	#	0	3.0	1998	3	3.0	1998	3	1998	3	#	1998	@	@	@	.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	#	.0	#	0	#	1996	25	#+	1996	2	1985	28	#+	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	2.5	.8	#	0	7.0	1971	2	15.0	1971	6	1971	29	1	1995	.8	.7	.4	.1	.0	.6	.4	.1	.0
Nov	7.2	6.0	1	1	6.5	1977	19	23.0	1985	13	1976	30	6	1985	3.5	2.9	1.0	.2	.0	7.2	4.0	1.3	.1
Dec	7.4	6.5	4	3	8.0	1996	25	17.2	1977	20	1996	26	15	1985	4.9	4.0	1.0	.2	.0	16.3	12.1	9.1	2.5
Ann	42.7	36.1	N/A	N/A	11.0+	Apr 1997	5	25.0	Feb 1987	25	Feb 1994	5	17	Feb 1994	22.2	18.0	5.5	1.5	@	65.9	44.1	28.5	10.0

+ 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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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	6/29	6/22	6/16	6/11	6/07	6/02	5/28	5/23	5/15
32	6/20	6/11	6/05	5/30	5/25	5/20	5/15	5/09	4/30
28	5/23	5/18	5/14	5/12	5/09	5/06	5/03	4/30	4/25
24	5/09	5/05	5/01	4/29	4/26	4/24	4/21	4/18	4/14
20	5/01	4/26	4/23	4/20	4/18	4/15	4/13	4/09	4/05
16	4/25	4/17	4/12	4/08	4/04	3/30	3/26	3/21	3/14
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	8/27	9/02	9/05	9/08	9/11	9/14	9/18	9/21	9/26
32	9/07	9/11	9/14	9/16	9/19	9/21	9/23	9/26	9/30
28	9/09	9/15	9/18	9/22	9/25	9/28	10/01	10/05	10/10
24	9/15	9/22	9/27	10/01	10/05	10/09	10/13	10/18	10/25
20	9/28	10/04	10/08	10/12	10/15	10/18	10/22	10/26	11/01
16	10/11	10/16	10/20	10/24	10/27	10/30	11/03	11/07	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	125	115	108	102	96	90	84	77	67
32	146	135	128	121	115	109	103	96	85
28	160	153	147	142	138	134	129	123	116
24	188	178	172	166	161	156	150	143	134
20	205	196	190	184	179	174	169	163	154
16	229	221	215	210	206	201	196	191	183

\* 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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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	1431	1140	966	644	358	125	23	49	233	587	1031	1365	7952
60	1276	1000	811	497	228	58	4	17	133	433	881	1210	6548
57	1183	916	718	412	163	31	1	7	87	342	791	1117	5768
55	1121	860	656	357	126	20	0	4	62	283	731	1055	5275
50	967	730	505	234	57	5	0	0	21	155	593	902	4169
32	464	310	101	13	0	0	0	0	0	4	191	411	1494

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	56	94	158	359	674	952	1205	1162	797	439	150	69	6115
55	0	0	0	13	87	282	492	453	169	6	0	0	1502
57	0	0	0	8	62	234	430	394	134	3	0	0	1265
60	0	0	0	3	34	170	341	310	91	1	0	0	950
65	0	0	0	0	9	87	204	188	41	0	0	0	529
70	0	0	0	0	1	34	102	97	14	0	0	0	248

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	48	174	437	725	965	923	567	230	32	1	0	7	55	229	666	1391	2356	3279	3846	4076	4108	4109
45	0	0	13	93	297	575	810	768	423	125	10	0	0	0	13	106	403	978	1788	2556	2979	3104	3114	3114
50	0	0	1	42	178	432	655	614	292	55	0	0	0	0	1	43	221	653	1308	1922	2214	2269	2269	2269
55	0	0	0	14	91	288	501	461	180	16	0	0	0	0	0	14	105	393	894	1355	1535	1551	1551	1551
60	0	0	0	3	33	168	353	312	96	3	0	0	0	0	0	3	36	204	557	869	965	968	968	968
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	9	60	149	291	455	617	589	381	188	33	4	0	9	69	218	509	964	1581	2170	2551	2739	2772	2776

(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> |
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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)