

Climatology of the United States

No. 20

1971-2000

Station: SARATOGA, WY

COOP ID: 487990

Climate Division: WY10

NWS Call Sign:

Elevation: 6,790 Feet Lat: 41° 27N

Lon: 106° 49W

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	33.3	11.1	22.2	57+	1956	12	28.6	1998	-42	1963	12	9.4	1979	1327	0	.0	.0	.9	13.2	30.5	6.2
Feb	37.3	13.9	25.6	62	1954	9	31.6	2000	-39+	1989	6	15.4	1989	1104	0	.0	.0	2.4	8.2	27.5	4.3
Mar	45.4	21.5	33.5	69+	1986	30	39.6	1986	-23	1955	21	27.7	1973	979	0	.0	.0	10.5	2.8	28.5	.7
Apr	54.9	27.6	41.3	78	2000	28	47.2	1992	-12	1975	2	34.5	1973	713	0	.0	.0	21.0	.7	22.1	.2
May	65.4	35.8	50.6	86	1954	21	55.3	2000	12	1990	9	45.6	1995	448	0	.0	.0	29.0	.0	9.3	.0
Jun	76.3	44.0	60.2	97	1971	26	65.4	1988	23	1954	3	54.8	1998	173	27	.0	.5	29.9	.0	.9	.0
Jul	82.4	49.8	66.1	100+	1954	13	68.7	1976	30	1968	1	61.5	1993	42	76	.0	2.1	31.0	.0	.0	.0
Aug	80.9	47.9	64.4	95	1979	5	67.7	1983	25	1956	31	61.2	1974	71	51	.0	.9	31.0	.0	.1	.0
Sep	71.8	39.0	55.4	90	1950	2	60.0+	1998	10	1985	30	51.9	1985	292	5	.0	.0	29.2	@	6.6	.0
Oct	59.5	29.4	44.5	81+	1976	1	49.1	1988	-8	1972	31	38.7	1984	637	0	.0	.0	25.8	.6	20.1	.1
Nov	42.6	19.1	30.9	70	1999	15	39.3	1999	-20	1983	30	19.2	2000	1025	0	.0	.0	8.9	6.0	27.2	2.0
Dec	34.7	11.7	23.2	58+	1995	1	33.1	1980	-33	1990	22	15.5	1978	1296	0	.0	.0	1.8	11.7	30.2	5.9
Ann	57.0	29.2	43.2	100+	Jul 1954	13	68.7	Jul 1976	-42	Jan 1963	12	9.4	Jan 1979	8107	159	.0	3.5	221.4	43.2	203.0	19.4

+ 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

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

080-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: SARATOGA, WY

COOP ID: 487990

Climate Division: WY10

NWS Call Sign:

Elevation: 6,790 Feet Lat: 41°27N

Lon: 106°49W

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	.45	.33	.75	1992	7	2.03	1980	.02	1983	5.1	1.5	.1	.0	.04	.07	.13	.19	.26	.34	.43	.55	.72	.99	1.26
Feb	.46	.39	.81	1989	2	1.92	1989	.13	1983	4.9	1.6	.1	.0	.10	.14	.21	.27	.33	.39	.47	.56	.67	.86	1.04
Mar	.73	.63	.96	1973	14	1.71	1988	.20	1997	6.1	2.6	.1	.0	.23	.30	.40	.49	.57	.66	.76	.87	1.01	1.23	1.44
Apr	1.00	.87	1.26	1984	25	2.22	1984	.06	1989	7.3	3.1	.2	@	.19	.28	.42	.56	.70	.84	1.01	1.22	1.49	1.92	2.33
May	1.61	1.59	1.90	1977	15	5.45	1995	.09	1974	9.7	4.6	.8	.1	.20	.33	.56	.79	1.02	1.29	1.59	1.97	2.48	3.32	4.13
Jun	.93	.80	1.66	1970	12	3.01	1998	.00+	1981	6.0	2.7	.4	@	.00	.07	.23	.37	.52	.70	.90	1.15	1.49	2.06	2.62
Jul	1.18	.99	1.73	1982	27	3.45	1984	.15	1979	7.5	3.1	.4	.1	.18	.28	.45	.62	.78	.97	1.18	1.44	1.78	2.34	2.88
Aug	.90	.78	1.03	1984	15	2.29	1984	.22	1985	7.5	2.7	.2	@	.25	.33	.46	.58	.69	.81	.94	1.09	1.29	1.60	1.89
Sep	.89	.70	1.61	1965	16	2.32	2000	.15	1979	6.3	2.8	.4	@	.20	.28	.41	.53	.65	.77	.91	1.08	1.31	1.66	2.00
Oct	.98	.90	1.00	1972	21	3.24	1972	.01	1988	6.2	3.3	.4	@	.08	.14	.27	.41	.56	.73	.93	1.20	1.56	2.16	2.76
Nov	.65	.59	.86	1973	3	2.28	1983	.00	1976	5.8	2.1	.2	.0	.08	.16	.27	.36	.45	.55	.66	.80	.97	1.25	1.52
Dec	.45	.38	.68	1987	27	1.10	1978	.00	1977	5.0	1.7	@	.0	.06	.12	.19	.26	.32	.39	.46	.55	.67	.86	1.04
Ann	10.23	9.87	1.90	May 1977	15	5.45	May 1995	.00+	Jun 1981	77.4	31.8	3.3	.2	6.60	7.28	8.16	8.83	9.44	10.03	10.65	11.34	12.18	13.41	14.49

+ 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

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Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: SARATOGA, WY

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Climate Division: WY10

NWS Call Sign:

Elevation: 6,790 Feet

Lat: 41°27N

Lon: 106°49W

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	9.6	7.8	3	3	11.0	1992	7	24.5	1980	17	1980	29	9	1988	5.0	4.2	.9	.3	@	21.0	12.6	6.9	1.1
Feb	8.3	6.8	3	2	16.0	1989	2	35.0	1989	18	1989	6	11	1989	4.7	3.7	.7	.2	@	18.8	11.8	4.7	.5
Mar	9.2	7.0	1	#	14.0	1988	11	26.5	1988	16	1988	12	7	1988	4.4	3.9	1.0	.4	.1	8.9	3.4	1.2	.4
Apr	6.9	6.1	#	#	8.0	1984	25	18.5	1984	8	1984	27	4	1984	3.3	3.0	1.0	.2	.0	2.8	1.3	.3	.0
May	1.9	.0	#	0	6.0	1978	17	10.0	1978	6	1978	17	#+	2000	.7	.7	.3	.1	.0	.2	.1	@	.0
Jun	.1	.0	#	0	2.0	1974	8	2.0	1974	#+	1998	17	#+	1998	@	@	.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	1.1	.0	#	0	4.8	1999	28	12.0	2000	1	1996	26	#+	1996	.3	.3	.1	.0	.0	@	.0	.0	.0
Oct	4.5	3.5	#	#	10.0	1995	22	14.5	1995	9	1980	16	1	1998	2.0	1.8	.4	.2	@	1.9	.8	.2	.0
Nov	10.1	9.5	1	1	12.5	1983	21	41.1	1983	13+	1983	30	4	1993	4.3	3.5	1.2	.5	.1	10.2	4.9	1.6	.2
Dec	9.2	7.5	3	2	12.0	1982	24	21.0	1972	13+	1987	29	7	1983	4.6	3.6	1.0	.4	.1	19.0	11.5	5.7	.5
Ann	60.9	48.2	N/A	N/A	16.0	Feb 1989	2	41.1	Nov 1983	18	Feb 1989	6	11	Feb 1989	29.3	24.7	6.6	2.3	.3	82.8	46.4	20.6	2.7

+ 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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NWS Call Sign:

Elevation: 6,790 Feet

Lat: 41° 27N

Lon: 106° 49W

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	6/30	6/26	6/22	6/19	6/17	6/14	6/11	6/08	6/03
32	6/17	6/12	6/08	6/05	6/02	5/30	5/26	5/23	5/17
28	6/07	5/31	5/27	5/23	5/19	5/15	5/11	5/06	4/30
24	5/17	5/13	5/10	5/08	5/06	5/04	5/01	4/29	4/25
20	5/10	5/05	5/02	4/28	4/26	4/23	4/20	4/16	4/11
16	4/28	4/23	4/19	4/15	4/12	4/09	4/06	4/02	3/27
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	8/16	8/22	8/26	8/29	9/01	9/05	9/08	9/12	9/18
32	9/01	9/05	9/08	9/11	9/13	9/15	9/18	9/21	9/25
28	9/12	9/16	9/18	9/21	9/23	9/25	9/28	10/01	10/05
24	9/16	9/20	9/24	9/26	9/29	10/02	10/05	10/08	10/13
20	9/22	9/29	10/04	10/08	10/12	10/16	10/20	10/25	10/31
16	10/04	10/10	10/15	10/19	10/22	10/26	10/30	11/03	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	98	90	85	80	76	72	67	61	54
32	123	116	111	106	102	98	94	89	82
28	148	141	136	131	127	122	118	112	105
24	165	158	153	149	146	142	138	133	126
20	195	186	179	174	169	163	158	151	142
16	214	207	201	197	192	188	184	178	171

* 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

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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	1327	1104	979	713	448	173	42	71	292	637	1025	1296	8107
60	1172	964	824	563	297	80	6	16	165	482	875	1141	6585
57	1079	880	731	475	214	43	1	5	104	390	785	1048	5755
55	1017	824	669	419	165	26	0	2	71	329	725	986	5233
50	862	684	516	284	72	5	0	0	20	192	577	831	4043
32	338	221	92	21	0	0	0	0	0	4	152	304	1132

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	34	41	135	298	576	844	1057	1003	702	390	117	31	5228
55	0	0	0	6	28	180	345	292	84	2	0	0	937
57	0	0	0	2	15	137	284	233	56	1	0	0	728
60	0	0	0	0	4	84	195	152	27	0	0	0	462
65	0	0	0	0	0	27	76	51	5	0	0	0	159
70	0	0	0	0	0	5	14	7	0	0	0	0	26

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	26	128	344	613	817	762	475	197	27	1	0	0	26	154	498	1111	1928	2690	3165	3362	3389	3390
45	0	0	4	55	212	463	662	607	335	94	2	0	0	0	4	59	271	734	1396	2003	2338	2432	2434	2434
50	0	0	0	15	105	319	507	452	208	31	0	0	0	0	0	15	120	439	946	1398	1606	1637	1637	1637
55	0	0	0	0	39	191	355	301	100	3	0	0	0	0	0	0	39	230	585	886	986	989	989	989
60	0	0	0	0	4	86	205	155	31	0	0	0	0	0	0	0	4	90	295	450	481	481	481	481
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	36	116	255	408	535	503	339	179	32	0	0	1	37	153	408	816	1351	1854	2193	2372	2404	2404

(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

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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, 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