

Climatology of the United States

No. 20

1971-2000

Station: BIG PINEY, WY

COOP ID: 480695

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,820 Feet Lat: 42° 32N

Lon: 110° 07W

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	25.1	-4.9	10.1	48+	1971	17	20.3	1994	-49	1962	22	-.5	1979	1703	0	.0	.0	.0	22.2	31.0	19.7
Feb	29.8	-.6	14.6	54+	1988	29	23.2	2000	-44	1985	1	2.0	1993	1414	0	.0	.0	.3	15.2	28.3	14.3
Mar	40.1	11.8	26.0	64	1964	31	32.2	1986	-32+	1969	11	17.9	1976	1210	0	.0	.0	4.1	5.1	31.0	4.0
Apr	51.8	21.0	36.4	75+	1994	21	42.1	1992	-10	1964	7	30.8	1983	857	0	.0	.0	16.5	.6	29.1	.2
May	61.8	30.1	46.0	84	1954	19	50.7	1992	6	1983	16	40.6	1977	592	0	.0	.0	27.4	.0	20.8	.0
Jun	72.2	37.8	55.0	91	1970	26	59.1	1977	19+	2000	1	49.8	1998	306	5	.0	.3	29.7	.0	5.9	.0
Jul	79.6	41.3	60.5	96	1976	13	63.7	1998	23	1987	19	53.9	1993	158	16	.0	1.1	31.0	.0	1.3	.0
Aug	78.5	37.8	58.2	93	1983	4	61.2	1994	16+	1966	22	54.9	1975	217	5	.0	.3	31.0	.0	6.4	.0
Sep	68.4	28.5	48.5	89	1950	5	54.2	1998	-15	1983	20	43.4	1971	497	0	.0	.0	28.7	@	19.9	.0
Oct	56.8	19.6	38.2	79	1956	6	43.4	1988	-15	1971	30	32.2	1984	831	0	.0	.0	23.7	.6	29.9	.3
Nov	38.3	7.9	23.1	67	1978	4	30.5	1995	-34	1955	16	17.3	1985	1257	0	.0	.0	4.7	8.1	29.9	6.7
Dec	27.7	-2.6	12.6	55	1995	1	23.4	1980	-50	1983	23	2.5	1990	1627	0	.0	.0	.1	20.7	31.0	16.8
Ann	52.5	19.0	35.8	96	Jul 1976	13	63.7	Jul 1998	-50	Dec 1983	23	-.5	Jan 1979	10669	26	.0	1.7	197.2	72.5	264.5	62.0

+ 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

007-A

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No. 20
1971-2000**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: BIG PINEY, WY

COOP ID: 480695

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,820 Feet Lat: 42°32N

Lon: 110°07W

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	.28	.41	1962	20	3.05	1980	.00+	1994	4.8	1.2	.0	.0	.00	.04	.11	.18	.26	.34	.44	.56	.73	1.00	1.27
Feb	.34	.26	.57	1995	13	1.08	1975	.00+	1988	5.8	1.4	.1	.0	.00	.02	.07	.12	.17	.24	.31	.41	.55	.78	1.01
Mar	.58	.41	2.30	1983	31	2.81	1983	.00	1979	5.4	1.4	.1	@	.02	.07	.15	.23	.32	.43	.55	.71	.93	1.29	1.64
Apr	.52	.43	.69	1971	22	2.33	1971	.00	1979	5.8	2.1	.1	.0	.03	.08	.16	.23	.31	.40	.51	.63	.81	1.10	1.38
May	1.01	.83	1.43	1976	22	3.67	1987	.07	1997	8.0	2.9	.3	.1	.14	.22	.37	.51	.66	.82	1.00	1.23	1.54	2.05	2.54
Jun	.72	.46	1.36	1970	11	2.96	1972	.06	1978	5.0	2.2	.2	@	.07	.12	.22	.32	.42	.55	.69	.87	1.12	1.54	1.94
Jul	.87	.83	.76	1950	3	1.83	1984	.00	1988	6.3	2.8	.0	.0	.16	.28	.42	.54	.66	.78	.91	1.06	1.27	1.59	1.88
Aug	.80	.66	2.48	1997	5	3.82	1997	.00+	1996	5.7	2.1	.2	@	.00	.11	.26	.39	.52	.66	.82	1.00	1.26	1.67	2.06
Sep	.82	.67	1.35	1966	1	3.17	1982	.00	1974	4.8	2.5	.3	.1	.06	.15	.28	.40	.52	.66	.82	1.02	1.28	1.71	2.12
Oct	.59	.53	1.62	1960	9	1.92	1971	.00+	1996	4.6	1.8	.3	.0	.00	.00	.07	.17	.28	.41	.55	.74	.99	1.41	1.83
Nov	.37	.34	1.00	1950	8	1.03	1978	.00	1999	4.3	1.2	@	.0	.03	.07	.14	.19	.24	.30	.37	.45	.56	.74	.91
Dec	.32	.27	1.05	1983	15	1.39	1983	.00+	1989	5.4	1.5	.1	@	.00	.01	.04	.09	.14	.20	.28	.38	.53	.78	1.03
Ann	7.39	6.82	2.48	Aug 1997	5	3.82	Aug 1997	.00+	Nov 1999	65.9	23.1	1.7	.2	3.87	4.48	5.29	5.93	6.52	7.11	7.73	8.43	9.31	10.62	11.79

+ 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

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Complete documentation available from:

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Station: BIG PINEY, WY

COOP ID: 480695

Climate Division: WY 3

NWS Call Sign:

Elevation: 6,820 Feet

Lat: 42° 32N

Lon: 110° 07W

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	3.4	2.5	4	4	5.0	1998	17	11.2	1996	16	1972	31	13	1972	2.6	2.1	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	4.0	2.9	4	2	10.0	1995	13	15.9	1995	18	1993	28	14+	1993	2.5	1.5	.4	.2	.1	-9.9	-9.9	-9.9	-9.9
Mar	3.7	1.5	2	1	9.0	1971	17	13.0	1975	18	1993	4	7	1993	1.8	1.5	.5	.2	.0	6.5	3.8	1.6	.4
Apr	2.8	2.5	#	#	4.0	1998	12	12.0	1998	5	1974	11	1	1974	1.7	1.4	.3	.0	.0	.8	.2	.0	.0
May	1.0	.0	#	0	4.4	2000	11	6.0	1975	5	1975	21	#+	2000	.5	.3	.1	.0	.0	.3	.2	.1	.0
Jun	.2	.0	#	0	2.6	1995	9	2.6	1995	#+	1993	3	#+	1993	.1	.1	.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	.9	.0	#	0	10.5	2000	23	10.5	2000	2	1978	19	#+	1999	.2	.2	.1	.1	@	.1	.0	.0	.0
Oct	2.3	.0	#	0	7.0	1971	2	17.0	1971	8	1971	29	2	1971	.9	.9	.3	.1	.0	.6	.1	.1	.0
Nov	1.8	1.5	1	#	5.0	1996	18	6.0	1972	7	1971	19	6	1971	1.7	1.1	.1	.1	.0	5.5	2.8	2.6	.0
Dec	2.6	2.0	2	#	4.0	1973	28	8.3	1992	9	1971	31	7	1971	2.1	1.6	.4	.0	.0	10.8	6.2	3.1	.0
Ann	22.7	12.9	N/A	N/A	10.5	Sep 2000	23	17.0	Oct 1971	18+	Mar 1993	4	14+	Feb 1993	14.1	10.7	2.6	.8	.1	-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

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Lat: 42° 32N

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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	8/04	7/30	7/26	7/23	7/20	7/17	7/14	7/10	7/05
32	7/27	7/20	7/15	7/10	7/06	7/02	6/27	6/22	6/15
28	7/08	6/30	6/24	6/20	6/15	6/10	6/05	5/31	5/23
24	6/15	6/08	6/03	5/30	5/26	5/22	5/17	5/12	5/05
20	5/27	5/22	5/17	5/14	5/11	5/07	5/04	4/29	4/24
16	5/13	5/08	5/04	5/01	4/28	4/25	4/22	4/18	4/13
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	7/28	7/31	8/03	8/06	8/08	8/10	8/13	8/16	8/20
32	8/02	8/06	8/09	8/11	8/14	8/16	8/19	8/22	8/26
28	8/09	8/15	8/20	8/24	8/28	8/31	9/04	9/09	9/16
24	8/22	8/28	9/01	9/04	9/07	9/10	9/14	9/18	9/23
20	8/31	9/06	9/11	9/15	9/18	9/22	9/25	9/30	10/06
16	9/14	9/20	9/24	9/27	10/01	10/04	10/07	10/11	10/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	40	33	27	23	18	14	9	4	0
32	66	56	49	44	38	33	27	20	11
28	105	94	86	79	73	67	60	52	41
24	132	122	115	109	104	98	92	85	75
20	157	148	141	135	130	124	119	112	103
16	175	168	163	159	155	151	146	141	134

* 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	1703	1414	1210	857	592	306	158	217	497	831	1257	1627	10669
60	1548	1274	1055	707	437	177	61	96	352	676	1107	1472	8962
57	1455	1190	962	617	347	115	25	49	270	583	1017	1379	8009
55	1393	1134	900	557	289	82	13	28	220	521	957	1317	7411
50	1238	994	745	412	162	26	1	5	117	368	807	1162	6037
32	688	503	247	52	1	0	0	0	0	20	291	616	2418

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	8	14	60	185	433	689	882	811	493	212	24	13	3824
55	0	0	0	0	7	80	181	126	23	0	0	0	417
57	0	0	0	0	3	54	132	84	13	0	0	0	286
60	0	0	0	0	1	25	75	39	5	0	0	0	145
65	0	0	0	0	0	5	16	5	0	0	0	0	26
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	45	210	458	655	577	297	65	0	0	0	0	0	45	255	713	1368	1945	2242	2307	2307	2307
45	0	0	0	13	100	313	500	422	170	18	0	0	0	0	0	13	113	426	926	1348	1518	1536	1536	1536
50	0	0	0	0	31	182	347	268	76	1	0	0	0	0	0	0	31	213	560	828	904	905	905	905
55	0	0	0	0	4	78	196	131	24	0	0	0	0	0	0	0	4	82	278	409	433	433	433	433
60	0	0	0	0	0	19	72	38	2	0	0	0	0	0	0	0	0	19	91	129	131	131	131	131
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	7	77	200	343	470	451	300	145	15	0	0	0	7	84	284	627	1097	1548	1848	1993	2008	2008

(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

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