

Climatology of the United States

No. 20

1971-2000

Station: PHILLIPS, WY

COOP ID: 487200

Climate Division: WY 8

NWS Call Sign:

Elevation: 4,982 Feet Lat: 41° 38N

Lon: 104° 30W

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	40.3	13.8	27.1	71+	1997	3	37.1	1986	-32	1963	23	13.4	1979	1177	0	.0	.0	7.9	7.2	27.7	4.5
Feb	43.9	16.4	30.2	75	1962	11	37.7	1992	-26	1982	5	18.5	1989	976	0	.0	.0	10.5	4.9	25.0	2.7
Mar	51.1	21.8	36.5	80	1989	10	44.1	1986	-20	1960	3	32.3	1975	886	0	.0	.0	17.4	2.6	25.5	.8
Apr	59.2	29.0	44.1	88	1989	22	51.0	1981	-12	1975	2	37.3	1983	627	0	.0	.0	23.5	.6	16.5	.1
May	68.6	38.7	53.7	93+	1994	30	58.3	1994	12	1983	12	48.1	1995	356	4	.0	.2	29.5	@	4.5	.0
Jun	80.1	48.4	64.3	104+	1994	26	70.7	1988	27	1969	2	59.6	1982	99	77	.2	4.0	29.9	.0	.3	.0
Jul	87.3	53.4	70.4	105	1954	11	73.7	2000	36	1999	10	66.6	1990	13	177	.8	12.1	31.0	.0	.0	.0
Aug	85.7	51.5	68.6	102	1996	12	73.5	2000	25	1984	28	65.3	1974	33	143	.2	8.6	31.0	.0	.1	.0
Sep	76.5	41.4	59.0	100	1998	6	66.4	1998	11	1985	30	53.5	1984	216	33	@	2.6	29.4	.1	3.2	.0
Oct	64.9	31.0	48.0	89+	1996	11	50.8	1999	-4	1997	26	42.1	1984	528	0	.0	.0	27.8	.4	13.2	.1
Nov	49.1	20.7	34.9	82	1999	7	45.0	1999	-20	1976	27	27.0	1985	903	0	.0	.0	14.8	3.6	24.6	.9
Dec	42.0	15.1	28.6	73	1995	1	37.5	1980	-33	1990	22	15.1	1983	1130	0	.0	.0	9.2	6.4	28.1	3.5
Ann	62.4	31.8	47.1	105	Jul 1954	11	73.7	Jul 2000	-33	Dec 1990	22	13.4	Jan 1979	6944	434	1.2	27.5	261.9	25.8	168.7	12.6

+ 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/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

070-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: PHILLIPS, WY

COOP ID: 487200

Climate Division: WY 8

NWS Call Sign:

Elevation: 4,982 Feet Lat: 41°38N

Lon: 104°30W

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	.40	.40	.58	1974	18	.92	1974	.01	1989	5.1	1.5	@	.0	.08	.12	.18	.23	.29	.35	.41	.49	.60	.76	.92
Feb	.40	.26	.49	1961	17	1.14	1987	.00+	1999	4.4	1.5	.0	.0	.00	.03	.09	.15	.22	.29	.38	.49	.64	.89	1.14
Mar	.83	.74	1.44	1990	6	2.55+	1990	.14	1995	6.5	2.8	.2	@	.17	.25	.37	.48	.60	.71	.85	1.01	1.22	1.57	1.89
Apr	1.54	1.36	1.83	1988	22	3.80	1971	.16	1992	7.9	4.6	.7	.1	.38	.52	.74	.94	1.14	1.35	1.58	1.86	2.23	2.80	3.34
May	2.79	2.68	3.06	1967	29	5.57	1995	.38	1974	11.1	6.3	1.5	.5	.62	.88	1.28	1.65	2.02	2.42	2.86	3.39	4.08	5.19	6.23
Jun	2.27	1.84	2.81	1991	2	5.47	1991	.32	1980	8.7	4.8	1.5	.4	.34	.53	.86	1.17	1.50	1.86	2.27	2.77	3.45	4.55	5.61
Jul	2.14	1.98	2.80	1973	24	6.42	1973	.56	2000	8.8	5.0	1.1	.4	.59	.79	1.10	1.37	1.63	1.91	2.21	2.58	3.05	3.79	4.48
Aug	1.68	1.58	1.52	1985	2	3.84	1972	.29	1986	8.2	4.1	1.0	.2	.35	.50	.75	.97	1.20	1.44	1.71	2.04	2.48	3.17	3.83
Sep	1.27	1.10	1.20	1981	6	3.88	1973	.03	1992	6.0	3.2	.8	.1	.15	.24	.42	.60	.79	1.00	1.25	1.55	1.97	2.65	3.32
Oct	.87	.78	1.13	1986	2	3.28	1998	.11	1977	5.4	2.6	.3	.1	.12	.19	.31	.43	.56	.70	.87	1.07	1.34	1.78	2.20
Nov	.73	.50	1.69	2000	1	2.93	1979	.01	1971	4.6	2.2	.1	.1	.04	.08	.17	.27	.38	.51	.67	.88	1.17	1.67	2.17
Dec	.45	.41	.75	1975	31	1.08	1975	.02	1991	5.1	1.6	.1	.0	.04	.07	.13	.20	.26	.34	.43	.55	.71	.97	1.23
Ann	15.37	15.58	3.06	May 1967	29	6.42	Jul 1973	.00+	Feb 1999	81.8	40.2	7.3	1.9	9.79	10.82	12.17	13.21	14.15	15.07	16.02	17.09	18.39	20.30	21.98

+ 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:

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

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Station: PHILLIPS, WY

COOP ID: 487200

Climate Division: WY 8

NWS Call Sign:

Elevation: 4,982 Feet

Lat: 41°38N

Lon: 104°30W

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	7.4	7.0	2	1	8.0	1988	19	19.0	1980	15	1976	2	7	1976	4.7	2.9	.7	.2	.0	9.3	4.9	2.4	.2
Feb	5.9	4.8	1	#	7.0	1984	11	20.0	1984	10	1990	15	3	1993	3.6	2.2	.8	.2	.0	6.8	3.4	1.5	.1
Mar	7.7	5.2	1	#	16.0	1990	6	28.5	1983	17	1990	7	3	1990	4.0	2.6	1.1	.4	.1	4.9	2.9	1.4	.3
Apr	5.8	4.0	#	#	8.0	1973	7	20.5+	1984	12	1986	9	2	1983	2.3	1.9	.8	.4	.0	2.2	1.4	.9	.1
May	1.0	.0	#	0	8.0	1983	17	12.5	1983	8	1983	17	#+	1983	.5	.4	.2	@	.0	.2	.1	@	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.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	.6	.0	#	0	6.5	1985	28	7.0	1985	12	2000	23	1	2000	.3	.2	.1	.1	.0	.1	.1	@	.0
Oct	3.0	2.0	#	#	8.0	1997	24	9.0	1979	14	1997	25	2	1997	1.2	1.0	.5	.2	.0	1.1	.7	.4	.1
Nov	5.8	5.7	1	1	16.0	1993	12	16.5	1973	36	1979	22	9	1979	3.2	2.2	.8	.3	@	5.9	2.7	1.3	.6
Dec	8.2	6.5	2	1	13.0	1987	24	28.0	1987	17	1979	1	10	1979	4.5	3.0	.9	.4	.1	8.9	4.9	2.3	.2
Ann	45.4	35.2	N/A	N/A	16.0+	Nov 1993	12	28.5	Mar 1983	36	Nov 1979	22	10	Dec 1979	24.3	16.4	5.9	2.2	.2	39.4	21.1	10.2	1.6

+ 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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NWS Call Sign:

Elevation: 4,982 Feet

Lat: 41° 38N

Lon: 104° 30W

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	6/23	6/17	6/13	6/09	6/05	6/02	5/29	5/25	5/19
32	6/10	6/03	5/29	5/25	5/21	5/17	5/12	5/07	5/01
28	5/21	5/16	5/12	5/09	5/06	5/03	4/30	4/26	4/21
24	5/09	5/05	5/01	4/28	4/26	4/23	4/20	4/17	4/12
20	4/30	4/24	4/19	4/15	4/12	4/08	4/05	3/31	3/25
16	4/22	4/16	4/12	4/08	4/04	4/01	3/28	3/24	3/18
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	8/31	9/05	9/08	9/10	9/13	9/15	9/18	9/21	9/25
32	9/05	9/10	9/14	9/17	9/19	9/22	9/25	9/29	10/04
28	9/10	9/16	9/20	9/23	9/26	9/30	10/03	10/07	10/13
24	9/24	9/29	10/03	10/06	10/09	10/12	10/16	10/19	10/25
20	10/04	10/09	10/12	10/15	10/18	10/21	10/24	10/28	11/02
16	10/09	10/14	10/18	10/22	10/25	10/28	11/01	11/05	11/11
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	115	109	104	99	94	89	83	75
32	147	138	132	126	121	116	110	104	95
28	166	158	152	147	143	138	133	128	120
24	187	180	175	170	166	162	157	152	145
20	213	204	198	193	189	184	179	173	164
16	233	223	215	209	203	197	191	183	173

* 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	1177	976	886	627	356	99	13	33	216	528	903	1130	6944
60	1022	836	731	480	220	37	1	7	117	375	753	975	5554
57	929	752	638	395	151	17	0	2	73	286	663	882	4788
55	867	696	576	341	113	9	0	1	50	230	603	820	4306
50	717	556	424	220	47	1	0	0	15	116	465	666	3227
32	256	154	47	11	0	0	0	0	0	1	101	210	780

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	102	102	185	374	670	969	1188	1133	808	496	188	103	6318
55	0	0	0	14	71	287	475	421	168	12	0	0	1448
57	0	0	0	8	47	235	413	361	130	6	0	0	1200
60	0	0	0	3	22	166	321	273	84	2	0	0	871
65	0	0	0	0	4	77	177	143	33	0	0	0	434
70	0	0	0	0	0	25	71	53	9	0	0	0	158

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	27	42	99	220	468	739	956	913	611	316	92	36	27	69	168	388	856	1595	2551	3464	4075	4391	4483	4519
45	2	14	42	124	320	589	801	758	468	194	46	11	2	16	58	182	502	1091	1892	2650	3118	3312	3358	3369
50	0	0	14	57	194	445	647	603	333	99	14	2	0	0	14	71	265	710	1357	1960	2293	2392	2406	2408
55	0	0	0	19	97	299	492	449	209	38	1	0	0	0	0	19	116	415	907	1356	1565	1603	1604	1604
60	0	0	0	0	38	175	338	297	109	9	0	0	0	0	0	0	38	213	551	848	957	966	966	966
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	24	44	97	176	302	469	606	579	410	252	85	32	24	68	165	341	643	1112	1718	2297	2707	2959	3044	3076

(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