

Climatography of the United States No. 20

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

Station: POWELL, ID

1971-2000

COOP ID: 107320

Climate Division: ID 4

NWS Call Sign:

Elevation: 3,530 Feet Lat: 46° 31N

Lon: 114° 43W

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	30.9	17.3	24.1	50+	1994	25	31.4	1994	-28+	1979	2	11.8	1979	1268	0	.0	.0	.1	12.1	31.0	4.2
Feb	37.0	19.3	28.2	64	1988	29	34.2	1991	-25+	1989	5	19.3	1989	1033	0	.0	.0	2.2	5.0	28.2	2.6
Mar	44.6	24.5	34.6	74	1994	31	40.6	1992	-12	1965	18	29.0	1976	944	0	.0	.0	10.3	1.2	30.6	.4
Apr	53.5	29.2	41.4	87+	1987	29	46.3	1987	8	1982	20	35.2	1975	710	0	.0	.0	19.0	.0	25.3	.0
May	63.3	34.7	49.0	96	1986	31	54.3	1993	20+	1985	12	43.2	1975	496	0	.0	.4	27.7	.0	13.3	.0
Jun	71.4	41.4	56.4	99	1970	25	62.6	1986	24+	1999	6	52.4	1981	268	11	.0	1.9	29.8	.0	1.9	.0
Jul	80.4	44.8	62.6	102	1973	11	69.0	1998	28	1971	7	55.4	1993	138	63	.3	7.8	31.0	.0	.2	.0
Aug	80.4	43.7	62.1	105	1969	24	67.2	1971	21	1992	25	57.0	1980	142	51	.2	8.0	31.0	.0	.7	.0
Sep	69.4	36.4	52.9	102	1988	3	59.2	1998	18	1985	29	47.7	1985	370	7	.1	1.2	29.0	.0	10.0	.0
Oct	56.2	30.0	43.1	88	1992	2	49.6	1988	2+	1971	30	38.6	1985	679	0	.0	.0	23.0	.2	23.8	.0
Nov	37.8	24.2	31.0	67+	1988	1	34.9	1981	-12	1985	23	22.2	1985	1020	0	.0	.0	2.6	3.8	28.0	.7
Dec	30.0	17.3	23.7	47	1988	12	29.3	1973	-31	1990	22	13.6	1990	1282	0	.0	.0	.0	14.5	30.9	2.6
Ann	54.6	30.2	42.4	105	Aug 1969	24	69.0	Jul 1998	-31	Dec 1990	22	11.8	Jan 1979	8350	132	.6	19.3	205.7	36.8	223.9	10.5

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1962-2001

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

082-A

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Elevation: 3,530 Feet Lat: 46°31N

Lon: 114°43W

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	5.16	4.80	1.80	1989	10	11.52	1971	.90	1981	19.3	13.2	3.4	.8	1.48	1.97	2.70	3.35	3.97	4.63	5.35	6.20	7.31	9.04	10.65	
Feb	3.86	3.73	2.63	1996	7	9.95	1972	1.01	1973	15.8	10.4	2.4	.4	1.18	1.55	2.09	2.56	3.02	3.49	4.02	4.63	5.42	6.66	7.80	
Mar	3.20	2.62	1.58	1999	1	7.03	1972	1.17	1996	16.5	10.5	1.4	.2	1.21	1.50	1.93	2.29	2.63	2.97	3.35	3.78	4.34	5.19	5.97	
Apr	2.65	2.52	2.13	1965	20	6.99	1992	.39	1977	15.0	8.4	1.0	.2	.84	1.09	1.46	1.78	2.09	2.41	2.75	3.16	3.69	4.51	5.26	
May	2.96	2.69	1.73	1980	26	5.93	1984	1.38	1979	14.3	8.8	1.5	.2	1.31	1.57	1.94	2.24	2.52	2.80	3.11	3.45	3.89	4.56	5.16	
Jun	2.82	2.69	2.00	1994	14	7.48	1981	.73	1977	14.0	7.8	1.5	.2	1.10	1.36	1.74	2.04	2.33	2.63	2.95	3.32	3.79	4.51	5.16	
Jul	1.58	1.44	1.25	1995	3	4.14	1992	.09	1985	8.7	5.1	.8	.1	.16	.27	.49	.71	.95	1.22	1.53	1.93	2.47	3.37	4.25	
Aug	1.57	1.19	1.32	1975	24	4.31	1985	.00	1994	7.8	4.3	.9	@	.14	.32	.58	.81	1.05	1.30	1.59	1.94	2.42	3.18	3.91	
Sep	2.15	2.06	1.80	1962	11	5.94	1985	.13	1979	9.0	5.6	1.4	.2	.21	.37	.67	.96	1.29	1.65	2.08	2.62	3.36	4.58	5.78	
Oct	2.77	2.49	1.75	1997	31	6.17	1995	.02	1987	11.4	7.1	1.6	.2	.36	.58	.98	1.36	1.77	2.22	2.74	3.38	4.25	5.68	7.06	
Nov	4.82	4.54	2.30	1995	30	13.68	1995	.79	1979	17.6	12.1	3.0	.7	1.31	1.77	2.47	3.07	3.67	4.30	4.99	5.81	6.88	8.55	10.12	
Dec	5.35	5.32	2.73	1964	23	11.87	1996	.84	1986	18.6	12.8	3.3	.5	1.73	2.24	2.99	3.63	4.24	4.88	5.58	6.39	7.44	9.07	10.57	
Ann	38.89	38.04	2.73	Dec 1964	23	13.68	Nov 1995	.00	Aug 1994	168.0	106.1	22.2	3.7	27.72	29.89	32.66	34.76	36.63	38.43	40.29	42.35	44.85	48.46	51.59	

+ 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: 1962-2001

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

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

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Station: POWELL, ID

COOP ID: 107320

Climate Division: ID 4

NWS Call Sign:

Elevation: 3,530 Feet

Lat: 46°31N

Lon: 114°43W

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	43.1	39.9	30	28	16.2	1972	11	100.7	1972	65	1972	11	52	1972	15.6	12.3	6.3	3.1	.6	30.9	28.9	28.8	28.5
Feb	26.0	22.0	33	35	15.0	1975	8	50.7	1974	65	1972	25	56	1974	10.5	8.3	3.4	1.6	.1	28.0	28.0	27.3	26.5
Mar	21.1	19.5	23	22	11.0	1977	18	54.1	1977	70	1972	5	54	1997	9.5	7.0	2.6	1.0	@	25.4	25.2	24.9	23.6
Apr	8.7	7.1	7	2	8.8	1971	24	29.6	1982	40	1972	1	25	1972	4.3	2.9	.8	.2	.0	11.5	10.1	9.1	7.3
May	.9	.0	#	0	3.0	1974	15	6.0	1975	9	1975	1	2	1975	.8	.4	.1	.0	.0	1.0	.5	.3	.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	.0	.0	#	0	.5	1983	19	.5+	1984	1+	1984	23	#+	1984	.1	.0	.0	.0	.0	.1	.0	.0	.0
Oct	2.4	.3	#	#	7.0	1977	31	19.0	1984	7	1984	31	2	1975	1.2	.8	.4	.1	.0	1.4	.9	.5	.0
Nov	21.6	16.6	3	2	14.0	1971	2	72.6	1973	26	1973	7	12	1973	8.5	6.5	3.0	1.3	.2	15.6	11.0	8.5	3.4
Dec	44.8	50.8	15	14	17.0	1996	25	93.6	1971	64	1996	29	35	1996	15.6	12.7	6.2	3.0	.4	29.7	28.9	27.0	21.1
Ann	168.6	156.2	N/A	N/A	17.0	Dec 1996	25	100.7	Jan 1972	70	Mar 1972	5	56	Feb 1974	66.1	50.9	22.8	10.3	1.3	143.6	133.5	126.4	110.4

+ 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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Elevation: 3,530 Feet

Lat: 46°31N

Lon: 114°43W

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	7/05	7/01	6/28	6/23	6/17
32	7/01	6/25	6/21	6/17	6/13	6/10	6/06	6/02	5/26
28	6/11	6/04	5/30	5/25	5/21	5/17	5/13	5/08	5/01
24	5/14	5/08	5/04	4/30	4/26	4/23	4/19	4/15	4/08
20	4/27	4/19	4/14	4/09	4/05	4/01	3/27	3/22	3/14
16	4/09	4/02	3/28	3/23	3/19	3/15	3/10	3/05	2/26
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	8/03	8/09	8/13	8/17	8/20	8/24	8/27	8/31	9/06
32	8/25	8/29	9/01	9/04	9/07	9/09	9/12	9/15	9/20
28	9/01	9/07	9/12	9/15	9/19	9/22	9/26	10/01	10/07
24	9/20	9/27	10/02	10/06	10/10	10/14	10/18	10/23	10/30
20	10/06	10/12	10/17	10/21	10/25	10/29	11/02	11/06	11/13
16	10/23	10/30	11/04	11/08	11/12	11/16	11/20	11/25	12/02
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	74	64	57	51	45	40	34	26	17
32	108	100	94	89	85	80	75	69	61
28	149	139	132	126	120	114	108	101	91
24	198	187	179	172	166	159	152	144	133
20	232	222	215	208	202	196	190	182	172
16	269	258	250	244	237	231	225	217	206

* 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	1268	1033	944	710	496	268	138	142	370	679	1020	1282	8350
60	1113	893	789	560	345	149	61	62	239	524	870	1127	6732
57	1020	809	696	470	260	94	30	31	173	432	780	1034	5829
55	958	753	634	412	208	65	18	18	135	371	720	972	5264
50	803	613	480	273	104	19	3	3	61	228	570	817	3974
32	284	160	57	11	0	0	0	0	0	3	122	288	925

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	39	52	136	292	527	733	948	931	627	347	92	29	4753
55	0	0	0	2	22	108	253	237	71	2	0	0	695
57	0	0	0	0	12	77	204	187	50	1	0	0	531
60	0	0	0	0	4	42	141	125	26	0	0	0	338
65	0	0	0	0	0	11	63	51	7	0	0	0	132
70	0	0	0	0	0	1	19	13	1	0	0	0	34

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	2	14	106	302	514	728	714	418	154	7	0	0	2	16	122	424	938	1666	2380	2798	2952	2959	2959
45	0	0	0	44	177	365	573	559	278	69	0	0	0	0	0	44	221	586	1159	1718	1996	2065	2065	2065
50	0	0	0	15	84	234	419	406	162	19	0	0	0	0	0	15	99	333	752	1158	1320	1339	1339	1339
55	0	0	0	0	35	126	272	263	76	2	0	0	0	0	0	0	35	161	433	696	772	774	774	774
60	0	0	0	0	7	55	145	137	24	0	0	0	0	0	0	0	7	62	207	344	368	368	368	368
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	5	36	113	240	345	480	483	330	156	8	0	0	5	41	154	394	739	1219	1702	2032	2188	2196	2196

(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.

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| <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 |
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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