

Climatology of the United States

No. 20

1971-2000

Station: POLSON, MT

COOP ID: 246635

Climate Division: MT 1

NWS Call Sign:

Elevation: 2,990 Feet Lat: 47°40N

Lon: 114°12W

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	32.6	20.5	26.6	58	1953	24	35.8	1994	-30	1950	31	7.1	1979	1192	0	.0	.0	1.0	12.8	26.7	2.2
Feb	38.2	23.5	30.9	66+	1995	25	37.2	1983	-27+	1936	17	18.1	1989	956	0	.0	.0	2.3	6.8	23.4	1.4
Mar	46.7	28.7	37.7	74	1986	27	44.7	1986	-10	1956	11	31.7	1989	846	0	.0	.0	11.7	1.4	21.9	.1
Apr	57.2	34.9	46.1	84	1926	29	51.0	1987	-1	1936	2	39.6	1975	568	0	.0	.0	24.7	.0	10.2	.0
May	65.8	41.9	53.9	91	1986	31	58.4	1992	17	1954	1	49.4	1996	347	3	.0	.1	30.5	.0	1.6	.0
Jun	73.5	48.6	61.1	98	1919	26	67.5	1986	26	1920	24	56.5	1981	158	40	.0	.7	30.0	.0	.0	.0
Jul	81.5	53.5	67.5	104+	1960	19	73.3	1985	37+	1973	2	59.8	1993	62	139	.0	4.8	31.0	.0	.0	.0
Aug	81.2	53.5	67.4	101	1961	5	71.4	1971	31+	1910	29	61.4	1980	59	132	.0	4.8	31.0	.0	.0	.0
Sep	70.0	45.2	57.6	93	1931	3	65.1	1998	16	1926	24	51.6	1985	250	28	.0	.3	29.7	.0	1.2	.0
Oct	56.6	36.5	46.6	83	1963	1	51.9	1988	1	1935	31	42.6	1972	573	0	.0	.0	24.5	.1	8.2	.0
Nov	41.1	28.1	34.6	71	1999	12	41.0	1999	-21	1959	16	22.0	1985	913	0	.0	.0	4.6	4.5	20.4	.3
Dec	33.1	21.6	27.4	62+	1956	3	35.3	1980	-25	1964	17	16.7	1983	1168	0	.0	.0	1.4	14.1	26.5	1.3
Ann	56.5	36.4	46.5	104+	Jul 1960	19	73.3	Jul 1985	-30	Jan 1950	31	7.1	Jan 1979	7092	342	.0	10.7	222.4	39.7	140.1	5.3

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1906-2001

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

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: POLSON, MT

COOP ID: 246635

Climate Division: MT 1

NWS Call Sign:

Elevation: 2,990 Feet Lat: 47°40N

Lon: 114°12W

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	1.11	.98	.98	1948	7	2.38	1974	.16	1985	12.6	3.8	.2	.0	.32	.42	.58	.72	.86	1.00	1.15	1.34	1.58	1.96	2.31
Feb	.88	.80	1.18	1915	3	1.95	1986	.14	1990	9.9	3.5	.1	.0	.25	.33	.46	.57	.67	.79	.91	1.06	1.25	1.55	1.83
Mar	1.04	1.05	1.04	1934	29	2.43	1981	.11	1994	10.5	3.7	.1	.0	.32	.42	.56	.69	.81	.94	1.08	1.24	1.45	1.78	2.09
Apr	1.33	1.24	1.66	1951	30	3.25	1984	.10	1977	8.6	3.6	.5	.1	.33	.45	.65	.82	.99	1.17	1.37	1.61	1.93	2.42	2.89
May	2.32	2.14	2.60	1985	30	6.45	1980	1.00	1999	12.0	5.8	1.1	.2	.96	1.17	1.47	1.71	1.94	2.17	2.43	2.72	3.08	3.64	4.15
Jun	2.14	1.87	2.50	1964	8	5.60	1991	.47	1979	11.5	5.9	1.0	.4	.72	.93	1.22	1.47	1.72	1.96	2.24	2.55	2.96	3.59	4.17
Jul	1.31	1.08	1.76	1956	3	3.84	1987	.04	1973	7.3	3.9	.5	.1	.14	.23	.41	.60	.79	1.02	1.28	1.60	2.05	2.78	3.50
Aug	1.32	1.23	1.81	1986	31	3.82	1989	.02	1998	7.1	3.6	.6	.1	.14	.23	.41	.60	.80	1.02	1.29	1.61	2.06	2.81	3.54
Sep	1.30	1.05	1.38	1986	9	3.96	1985	.11	1990	7.6	3.8	.4	.1	.21	.32	.51	.69	.87	1.07	1.30	1.59	1.96	2.58	3.16
Oct	1.07	.88	2.14	1946	2	3.16	1994	.12	1978	7.8	3.7	.3	@	.16	.26	.41	.56	.71	.88	1.07	1.31	1.62	2.14	2.63
Nov	1.15	1.09	.95+	1999	26	2.36	1973	.28	1979	11.6	4.3	.2	.0	.38	.49	.65	.79	.92	1.05	1.20	1.37	1.59	1.93	2.25
Dec	1.18	.82	1.07	1929	12	5.08	1977	.18	1985	11.9	4.0	.2	.0	.24	.35	.52	.68	.84	1.01	1.20	1.43	1.74	2.22	2.69
Ann	16.15	15.73	2.60	May 1985	30	6.45	May 1980	.02	Aug 1998	118.4	49.6	5.2	1.0	11.62	12.50	13.63	14.48	15.24	15.97	16.73	17.56	18.57	20.03	21.30

+ 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: 1906-2001

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

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1971-2000

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Station: POLSON, MT

COOP ID: 246635

Climate Division: MT 1

NWS Call Sign:

Elevation: 2,990 Feet

Lat: 47° 40N

Lon: 114° 12W

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	67.8	-99.9	7	4	8.0	1982	23	67.8	1971	25	1978	3	18	1978	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	.6	-99.9	2	0	2.3	1973	10	2.3	1973	19	1978	2	13	1978	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	.6	.0	1	0	3.5	1975	8	3.5	1975	15	1978	5	4	1978	.5	.4	.3	.0	.0	-9.9	-9.9	-9.9	-9.9
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	#	.0	#	0	#	1994	30	#	1994	1	1975	23	#	1975	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.0	-99.9	1	#	6.0	1996	19	6.0	1996	14	1985	30	9	1985	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Dec	4.0	-99.9	3	2	4.0	1996	24	4.0	1996	33	1977	30	13	1996	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	75.0	-9.9	N/A	N/A	8.0	Jan 1982	23	67.8	Jan 1971	33	Dec 1977	30	18	Jan 1978	-9.9	-9.9	-9.9	-9.9	-9.9	-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

Complete documentation available from:

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Climate Division: MT 1

NWS Call Sign:

Elevation: 2,990 Feet

Lat: 47° 40N

Lon: 114° 12W

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	6/10	6/05	6/01	5/29	5/26	5/23	5/19	5/16	5/10
32	5/21	5/16	5/12	5/08	5/05	5/02	4/29	4/25	4/19
28	5/06	4/30	4/26	4/23	4/19	4/16	4/12	4/08	4/02
24	4/21	4/14	4/09	4/04	3/31	3/27	3/22	3/17	3/10
20	4/08	3/30	3/24	3/19	3/14	3/09	3/03	2/25	2/16
16	3/31	3/19	3/11	3/04	2/25	2/19	2/12	2/03	1/23
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	9/06	9/11	9/14	9/17	9/19	9/22	9/25	9/28	10/03
32	9/16	9/21	9/25	9/29	10/02	10/05	10/08	10/12	10/17
28	9/25	10/01	10/06	10/09	10/13	10/16	10/20	10/24	10/30
24	10/06	10/13	10/18	10/22	10/26	10/30	11/04	11/09	11/16
20	10/21	10/29	11/04	11/09	11/14	11/19	11/24	11/30	12/09
16	10/22	11/02	11/10	11/17	11/23	11/30	12/07	12/15	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	138	130	125	120	116	112	107	102	94
32	174	165	159	154	149	143	138	132	123
28	204	195	188	181	176	170	164	157	147
24	236	227	220	214	209	203	197	191	181
20	275	265	257	251	245	239	232	225	214
16	314	297	286	277	268	260	252	241	228

* 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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Climate Division: MT 1

NWS Call Sign:

Elevation: 2,990 Feet Lat: 47° 40N Lon: 114° 12W

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	1192	956	846	568	347	158	62	59	250	573	913	1168	7092
60	1037	816	691	418	209	72	19	18	144	419	763	1013	5619
57	944	732	598	332	140	37	8	7	95	328	673	920	4814
55	882	676	536	276	102	22	4	3	68	269	613	858	4309
50	736	542	388	155	35	4	0	0	23	142	472	703	3200
32	279	149	40	1	0	0	0	0	0	1	98	231	799

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	110	117	217	423	679	872	1100	1096	768	451	176	86	6095
55	0	0	0	8	67	204	391	386	146	6	0	0	1208
57	0	0	0	4	43	160	334	328	112	3	0	0	984
60	0	0	0	1	19	104	251	246	72	1	0	0	694
65	0	0	0	0	3	40	139	132	28	0	0	0	342
70	0	0	0	0	0	10	62	55	8	0	0	0	135

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	5	12	53	204	440	645	857	859	536	229	38	8	5	17	70	274	714	1359	2216	3075	3611	3840	3878	3886
45	0	0	9	98	289	495	702	704	389	118	8	1	0	0	9	107	396	891	1593	2297	2686	2804	2812	2813
50	0	0	1	40	162	345	547	549	254	47	0	0	0	0	1	41	203	548	1095	1644	1898	1945	1945	1945
55	0	0	0	12	73	208	393	398	139	13	0	0	0	0	0	12	85	293	686	1084	1223	1236	1236	1236
60	0	0	0	0	28	101	247	249	62	1	0	0	0	0	0	0	28	129	376	625	687	688	688	688
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	3	33	128	258	385	541	542	318	126	10	0	0	3	36	164	422	807	1348	1890	2208	2334	2344	2344

(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