

Climatology of the United States

No. 20

1971-2000

Station: GLEN 2 E, MT

COOP ID: 243570

Climate Division: MT 2

NWS Call Sign:

Elevation: 4,960 Feet Lat: 45° 28N

Lon: 112° 39W

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	35.2	6.7	21.0	63	1987	27	30.0	1994	-36	1962	22	3.1	1979	1366	0	.0	.0	2.5	10.9	30.3	8.5
Feb	40.9	10.9	25.9	65	1986	25	35.2	1991	-39	1989	4	8.8	1989	1095	0	.0	.0	5.8	5.2	27.3	4.6
Mar	48.5	18.6	33.6	74	1966	30	41.1	1992	-23	1989	4	25.9	1976	976	0	.0	.0	13.6	1.8	29.1	1.2
Apr	57.4	25.6	41.5	84	1987	28	48.4	1987	1	1997	6	32.3	1975	705	0	.0	.0	22.9	.3	22.0	.0
May	65.7	33.7	49.7	92+	1986	30	55.2	1992	12	1967	2	46.0	1974	476	0	.0	.2	29.3	.0	9.2	.0
Jun	74.7	39.8	57.3	97+	1990	30	63.3	1988	25+	1999	9	53.1	1998	249	16	.0	1.1	30.0	.0	1.5	.0
Jul	83.8	43.4	63.6	101	1960	26	68.6	1988	28	1981	8	55.4	1993	118	75	@	6.4	31.0	.0	.2	.0
Aug	83.1	40.9	62.0	100	1961	4	66.2	1971	27	1992	25	57.0	1993	141	47	.0	4.3	31.0	.0	.6	.0
Sep	73.0	32.4	52.7	95	1998	2	58.8	1990	11	1999	28	47.2	1985	377	8	.0	.3	29.1	.0	8.9	.0
Oct	61.4	24.3	42.9	86	1979	4	47.4	1979	-7	1991	30	37.7	1984	687	0	.0	.0	25.8	.3	22.9	.1
Nov	44.1	14.4	29.3	75	1965	2	37.2	1999	-29	1959	16	18.4	1985	1072	0	.0	.0	8.7	4.7	27.4	2.4
Dec	35.3	6.8	21.1	60+	1980	27	31.2	1980	-39	1990	22	9.8	1983	1362	0	.0	.0	2.1	10.9	30.1	7.4
Ann	58.6	24.8	41.7	101	Jul 1960	26	68.6	Jul 1988	-39+	Dec 1990	22	3.1	Jan 1979	8624	146	@	12.3	231.8	34.1	209.5	24.2

+ 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: 1958-2001

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

064-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: GLEN 2 E, MT

COOP ID: 243570

Climate Division: MT 2

NWS Call Sign:

Elevation: 4,960 Feet Lat: 45°28N

Lon: 112°39W

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	.24	.13	.55	2000	11	.78	1980	.00+	1991	2.7	.8	@	.0	.00	.00	.02	.07	.11	.16	.22	.30	.41	.58	.75
Feb	.18	.12	.47	1963	1	.63	1978	.00+	1991	2.2	.4	.0	.0	.00	.00	.00	.06	.10	.14	.18	.23	.30	.41	.51
Mar	.42	.38	.59	1987	13	1.01	1996	.00	1978	4.0	1.5	@	.0	.06	.11	.18	.24	.30	.36	.43	.52	.63	.80	.97
Apr	.68	.69	.85	1980	30	1.51	1978	.00	1983	4.4	2.4	.1	.0	.04	.10	.20	.30	.41	.53	.66	.83	1.07	1.45	1.82
May	1.67	1.56	1.46	1980	23	4.20	1980	.15	1979	7.9	4.9	.7	.1	.47	.63	.87	1.08	1.28	1.49	1.73	2.01	2.38	2.95	3.48
Jun	1.82	1.90	1.36	1993	16	4.42	1993	.05	1974	7.1	5.1	.8	.1	.33	.49	.76	1.01	1.26	1.53	1.84	2.21	2.71	3.51	4.28
Jul	1.08	.80	1.59	1975	30	3.64	1987	.00	1988	5.5	3.4	.5	.1	.04	.12	.27	.43	.60	.80	1.03	1.32	1.73	2.40	3.07
Aug	1.24	1.09	.93	1984	31	3.51	1993	.00	1988	5.6	3.8	.5	.0	.14	.30	.50	.68	.86	1.05	1.27	1.53	1.87	2.42	2.94
Sep	.90	.69	1.62	1976	18	2.98	1976	.00+	1987	3.9	2.7	.3	.1	.00	.00	.10	.23	.38	.56	.79	1.09	1.51	2.24	2.98
Oct	.48	.32	1.10	2000	12	2.12	1975	.00+	1990	2.8	1.7	.1	@	.00	.00	.09	.16	.25	.34	.45	.59	.78	1.10	1.42
Nov	.34	.25	.55	1981	14	1.09+	1991	.00+	1987	3.5	1.1	.1	.0	.00	.04	.10	.15	.21	.27	.34	.42	.53	.72	.89
Dec	.17	.14	.50	1998	4	.50	1998	.00+	1986	2.4	.5	@	.0	.00	.03	.06	.09	.12	.14	.18	.22	.27	.35	.43
Ann	9.22	9.15	1.62	Sep 1976	18	4.42	Jun 1993	.00+	Feb 1991	52.0	28.3	3.1	.4	4.92	5.66	6.66	7.45	8.17	8.88	9.64	10.50	11.56	13.15	14.56

+ 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: 1958-2001

(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: GLEN 2 E, MT

COOP ID: 243570

Climate Division: MT 2

NWS Call Sign:

Elevation: 4,960 Feet

Lat: 45° 28N

Lon: 112° 39W

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	4.4	4.7	#	#	7.0	2000	11	10.5	1989	7	2000	11	1+	2000	1.2	1.1	.5	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	1.4	.0	#	0	3.0	1979	15	8.0	1986	1	1999	10	#	1999	.7	.5	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Mar	2.0	1.2	#	0	4.0	1975	25	6.0	1975	4	1989	2	#+	2000	1.1	.9	.5	.0	.0	-9.9	-9.9	-9.9	-9.9
Apr	1.2	.0	#	0	6.0	1975	26	8.0	1975	5	1987	18	#+	1999	.3	.3	.1	.1	.0	-9.9	-9.9	-9.9	-9.9
May	.1	.0	0	0	2.0	1983	10	2.0	1983	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	.6	.0	0	0	9.0	1972	25	9.0	1972	0	0	0	0	0	.1	.1	@	@	.0	.0	.0	.0	.0
Oct	.5	.0	#	0	4.0	2000	12	4.0	2000	4	2000	12	#+	2000	.2	.2	.1	.0	.0	.3	.1	.0	.0
Nov	1.8	.0	#	0	5.5	2000	9	9.3	2000	6	2000	11	4	2000	1.0	.6	.3	.1	.0	-9.9	-9.9	-9.9	-9.9
Dec	2.4	2.2	#	0	5.0	1971	26	6.0	1978	5+	2000	18	4	2000	.9	.7	.3	.1	.0	-9.9	-9.9	-9.9	-9.9
Ann	14.4	8.1	N/A	N/A	9.0	Sep 1972	25	10.5	Jan 1989	7	Jan 2000	11	4+	Dec 2000	5.5	4.4	2.0	.4	.0	-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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NWS Call Sign:

Elevation: 4,960 Feet

Lat: 45°28N

Lon: 112°39W

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	7/21	7/15	7/10	7/06	7/02	6/28	6/24	6/19	6/13
32	7/06	6/28	6/22	6/17	6/12	6/07	6/02	5/27	5/19
28	6/17	6/09	6/03	5/29	5/24	5/20	5/15	5/09	5/01
24	5/21	5/16	5/12	5/09	5/06	5/03	4/29	4/25	4/20
20	5/08	5/03	4/29	4/26	4/23	4/21	4/17	4/14	4/09
16	4/24	4/19	4/16	4/13	4/10	4/07	4/04	4/01	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	8/08	8/14	8/19	8/22	8/26	8/29	9/02	9/06	9/12
32	8/19	8/25	8/29	9/02	9/05	9/09	9/12	9/16	9/22
28	9/03	9/08	9/11	9/13	9/16	9/18	9/21	9/24	9/28
24	9/14	9/19	9/23	9/26	9/28	10/01	10/04	10/08	10/12
20	9/22	9/28	10/02	10/05	10/08	10/11	10/14	10/18	10/24
16	9/25	10/01	10/06	10/10	10/14	10/17	10/21	10/26	11/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	72	65	59	54	48	43	36	26
32	116	105	97	91	85	78	72	64	53
28	143	133	126	119	114	108	102	95	85
24	167	159	154	149	145	141	136	131	123
20	192	184	177	172	167	162	156	150	141
16	212	203	197	191	186	181	175	169	160

* 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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NWS Call Sign:

Elevation: 4,960 Feet Lat: 45° 28N Lon: 112° 39W

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	1366	1095	976	705	476	249	118	141	377	687	1072	1362	8624
60	1211	955	821	555	325	137	47	60	247	532	922	1207	7019
57	1118	871	728	469	242	86	23	30	180	439	832	1114	6132
55	1056	815	666	412	192	59	13	18	142	378	772	1052	5575
50	901	675	512	280	93	17	2	3	66	230	625	897	4301
32	388	249	95	21	0	0	0	0	0	5	193	381	1332

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	45	79	142	307	547	757	979	929	621	341	111	42	4900
55	0	0	0	8	26	127	280	234	73	1	0	0	749
57	0	0	0	4	14	94	227	184	51	0	0	0	574
60	0	0	0	0	4	54	159	121	28	0	0	0	366
65	0	0	0	0	0	16	75	47	8	0	0	0	146
70	0	0	0	0	0	3	23	11	1	0	0	0	38

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	1	4	35	135	347	562	783	728	434	175	23	3	1	5	40	175	522	1084	1867	2595	3029	3204	3227	3230
45	0	0	7	65	212	412	628	573	294	86	5	0	0	0	7	72	284	696	1324	1897	2191	2277	2282	2282
50	0	0	0	22	110	272	473	418	172	27	0	0	0	0	0	22	132	404	877	1295	1467	1494	1494	1494
55	0	0	0	2	41	149	321	269	78	4	0	0	0	0	0	2	43	192	513	782	860	864	864	864
60	0	0	0	0	10	67	179	131	23	0	0	0	0	0	0	0	10	77	256	387	410	410	410	410
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	14	49	130	255	372	508	487	332	181	29	0	0	14	63	193	448	820	1328	1815	2147	2328	2357	2357

(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