

# Climatology of the United States

No. 20

1971-2000

Station: ST IGNATIUS, MT

COOP ID: 247286

Climate Division: MT 1

NWS Call Sign:

Elevation: 2,900 Feet Lat: 47° 19N

Lon: 114° 06W

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	33.8	19.4	26.6	63	1914	6	36.6	1994	-34	1937	7	3.9	1979	1190	0	.0	.0	2.2	12.2	27.0	3.7
Feb	39.6	22.6	31.1	69	1950	26	39.1	1991	-36	1936	15	16.2	1989	949	0	.0	.0	4.8	6.0	23.7	1.9
Mar	49.4	28.2	38.8	82	1986	28	46.0	1986	-17+	1932	11	33.2	1989	812	0	.0	.0	15.8	1.3	22.8	.2
Apr	59.3	33.8	46.6	89	1910	25	52.3	1987	-5	1936	2	40.5	1975	553	0	.0	.0	25.8	.0	14.1	.0
May	67.7	40.5	54.1	96	1936	30	58.4	1987	19	1954	1	49.4	1996	342	3	.0	.1	30.6	.0	4.2	.0
Jun	75.3	47.1	61.2	98	1926	27	67.4	1986	27	1930	4	56.8	1976	157	44	.0	2.0	30.0	.0	.2	.0
Jul	83.2	50.8	67.0	103+	1960	20	74.1	1985	32	1936	28	59.0	1993	69	132	.1	7.6	31.0	.0	.0	.0
Aug	83.5	50.3	66.9	103	1897	11	71.2	1971	27	1910	25	61.5	1980	59	117	@	7.9	31.0	.0	@	.0
Sep	71.8	42.6	57.2	98+	1998	4	63.9	1998	4	1926	24	52.9	1971	254	18	.0	.7	29.7	.0	2.9	.0
Oct	58.2	34.0	46.1	87	1980	7	52.5	1988	-7	1935	31	42.8	1971	586	0	.0	.0	25.3	.2	15.1	.1
Nov	42.1	26.8	34.5	75	1916	6	40.8	1999	-27	1959	16	22.6	1985	916	0	.0	.0	6.6	4.3	22.6	.6
Dec	34.0	20.1	27.1	67	1941	19	34.4	1980	-35	1927	31	15.1	1983	1177	0	.0	.0	2.7	12.7	26.7	2.1
Ann	58.2	34.7	46.4	103+	Jul 1960	20	74.1	Jul 1985	-36	Feb 1936	15	3.9	Jan 1979	7064	314	.1	18.3	235.5	36.7	159.3	8.6

+ 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/normals/usnormals.html](http://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: 1896-2001

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

# Climatology 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: ST IGNATIUS, MT**

**COOP ID: 247286**

**Climate Division: MT 1**

**NWS Call Sign:**

**Elevation: 2,900 Feet Lat: 47°19N**

**Lon: 114°06W**

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	.99	.88	.86	1959	28	2.63	1974	.17	1987	10.1	3.5	.1	.0	.20	.29	.43	.56	.70	.84	1.00	1.20	1.46	1.87	2.26
Feb	.77	.68	.90	1926	13	2.19	2000	.16	1973	8.3	2.6	.1	.0	.22	.29	.40	.50	.60	.69	.80	.93	1.10	1.36	1.60
Mar	1.16	1.15	1.42	1946	12	2.47	1987	.25	1973	8.9	4.0	.4	@	.33	.44	.60	.75	.89	1.03	1.20	1.39	1.64	2.03	2.39
Apr	1.42	1.22	2.14	1951	30	3.11	1984	.08	1977	9.3	4.0	.6	.1	.28	.41	.61	.81	1.00	1.21	1.44	1.73	2.10	2.71	3.28
May	2.59	2.32	1.99	1980	25	8.19	1980	.89	1974	11.8	6.9	1.3	.3	.85	1.09	1.45	1.76	2.06	2.36	2.70	3.09	3.60	4.38	5.11
Jun	2.30	2.16	2.56	1964	8	5.21	1980	.23	1979	11.6	6.2	1.1	.2	.58	.80	1.13	1.43	1.72	2.03	2.37	2.78	3.31	4.15	4.94
Jul	1.39	1.30	2.68	1987	22	3.84	1987	.00	1985	7.8	3.9	.6	.1	.11	.26	.49	.69	.90	1.13	1.40	1.72	2.15	2.84	3.51
Aug	1.28	1.04	2.09	1923	20	3.84	1985	.06	2000	7.1	3.5	.6	@	.17	.27	.46	.63	.82	1.03	1.27	1.56	1.96	2.61	3.24
Sep	1.36	1.14	1.86	1959	15	3.93	1985	.00	1990	8.0	3.9	.6	.2	.18	.35	.58	.78	.97	1.17	1.40	1.67	2.03	2.61	3.15
Oct	1.18	1.15	1.96	1946	2	3.32	1975	.05	1978	7.8	3.6	.4	.1	.19	.29	.46	.62	.79	.97	1.18	1.44	1.78	2.34	2.87
Nov	1.03	.99	1.24	1927	4	2.30	1986	.23	1987	10.3	3.2	.3	.1	.26	.36	.51	.64	.77	.91	1.06	1.24	1.48	1.86	2.21
Dec	1.07	.89	1.18	1996	23	4.65	1996	.22	1976	10.0	3.4	.3	.1	.20	.29	.45	.60	.74	.90	1.08	1.30	1.59	2.06	2.51
Ann	16.54	16.05	2.68	Jul 1987	22	8.19	May 1980	.00+	Sep 1990	111.0	48.7	6.4	1.2	11.04	12.08	13.42	14.45	15.37	16.26	17.19	18.22	19.48	21.32	22.92

+ 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: 1896-2001

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

Complete documentation available from:  
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**Station: ST IGNATIUS, MT**

**COOP ID: 247286**

**Climate Division: MT 1**

**NWS Call Sign:**

**Elevation: 2,900 Feet**

**Lat: 47° 19N**

**Lon: 114° 06W**

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	10.3	7.8	3	2	13.6	1975	26	33.4	1996	16	1978	3	10	1979	6.6	3.2	.9	.4	.1	16.8	10.3	6.2	2.2
Feb	6.9	5.8	2	1	11.5	1975	7	20.5	1975	17+	1979	3	8	1978	4.1	2.4	.9	.3	@	9.3	6.0	3.3	1.0
Mar	6.4	5.4	1	#	8.2	1980	4	16.2	1975	12	1989	3	4	1989	2.9	2.2	.8	.3	.0	4.5	2.0	1.1	.0
Apr	1.2	.0	#	0	4.2	1975	1	8.5	1982	3	1982	7	#+	2000	.7	.5	@	.0	.0	.2	.1	.0	.0
May	.1	.0	#	0	2.8	1978	23	2.8	1978	3	1978	23	#+	1996	@	@	.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	#	1972	27	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.6	.0	#	0	4.0	1971	27	7.0	1971	4	1991	31	#+	1996	.4	.2	.1	.0	.0	.5	.1	.0	.0
Nov	4.7	3.0	1	#	8.5	1996	19	17.1	1973	9+	1996	20	3	1996	3.4	1.8	.4	.2	.0	5.3	2.1	.9	.0
Dec	10.9	9.1	2	2	13.0	1990	24	36.6	1977	23	1996	23	7	1985	6.5	3.1	1.2	.5	.1	13.5	8.5	4.9	.5
Ann	41.1	31.1	N/A	N/A	13.6	Jan 1975	26	36.6	Dec 1977	23	Dec 1996	23	10	Jan 1979	24.6	13.4	4.3	1.7	.2	50.1	29.1	16.4	3.7

+ 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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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	7/02	6/25	6/20	6/15	6/11	6/07	6/03	5/29	5/22
32	6/04	5/30	5/26	5/23	5/20	5/17	5/14	5/10	5/05
28	5/17	5/13	5/09	5/07	5/04	5/02	4/29	4/26	4/21
24	5/02	4/26	4/21	4/17	4/14	4/10	4/06	4/02	3/27
20	4/16	4/09	4/04	3/31	3/27	3/23	3/18	3/13	3/06
16	3/28	3/20	3/15	3/10	3/06	3/02	2/25	2/20	2/13
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	8/29	9/02	9/05	9/08	9/10	9/13	9/16	9/19	9/23
32	9/05	9/10	9/13	9/16	9/19	9/21	9/24	9/28	10/02
28	9/18	9/22	9/25	9/28	10/01	10/03	10/06	10/09	10/14
24	9/26	10/02	10/06	10/10	10/13	10/17	10/20	10/24	10/30
20	10/12	10/18	10/22	10/26	10/30	11/02	11/06	11/10	11/16
16	10/20	10/30	11/06	11/11	11/17	11/22	11/28	12/05	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	116	107	101	95	90	85	80	74	65
32	145	137	131	126	121	116	111	105	97
28	169	162	157	153	149	145	141	136	129
24	208	199	193	187	182	177	171	165	156
20	242	233	227	221	216	211	206	199	191
16	289	278	269	262	255	248	241	233	221

\* 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	1190	949	812	553	342	157	69	59	254	586	916	1177	7064
60	1035	809	657	404	202	73	22	16	142	431	766	1022	5579
57	942	725	564	319	134	38	10	6	90	339	676	929	4772
55	886	669	502	264	96	23	5	2	62	279	616	867	4271
50	741	539	354	147	32	5	0	0	19	147	477	714	3175
32	300	161	29	1	0	0	0	0	0	2	107	250	850

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	132	136	240	437	684	876	1086	1081	755	439	180	96	6142
55	6	0	0	11	67	209	378	370	127	3	0	0	1171
57	0	0	0	5	43	164	321	311	94	1	0	0	939
60	0	0	0	1	18	109	240	229	57	0	0	0	654
65	0	0	0	0	3	44	132	117	18	0	0	0	314
70	0	0	0	0	0	12	57	44	4	0	0	0	117

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	10	21	71	207	435	628	826	819	500	207	45	15	10	31	102	309	744	1372	2198	3017	3517	3724	3769	3784
45	0	3	20	100	286	478	671	664	357	102	15	0	0	3	23	123	409	887	1558	2222	2579	2681	2696	2696
50	0	0	1	44	159	330	516	510	222	45	3	0	0	0	1	45	204	534	1050	1560	1782	1827	1830	1830
55	0	0	0	14	70	192	361	356	117	10	0	0	0	0	0	14	84	276	637	993	1110	1120	1120	1120
60	0	0	0	0	27	96	218	213	43	0	0	0	0	0	0	0	27	123	341	554	597	597	597	597
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	9	56	153	286	394	524	519	338	151	18	1	0	9	65	218	504	898	1422	1941	2279	2430	2448	2449

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)