U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: STEVENSVILLE, MT **COOP ID: 247894**

Climate Division: MT 1 **NWS Call Sign:** **Elevation: 3,375 Feet** **Lat: 46˚31N** **Lon: 114˚05W**

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	34.1	16.7	25.4	63	1992	31	35.2	1994	-36	1957	26	4.9	1979	1228	0	.0	.0	2.1	11.1	28.4	4.1
Feb	41.2	20.0	30.6	70+	1995	20	37.6	1991	-37	1936	15	17.4	1989	964	0	.0	.0	6.0	5.0	25.4	1.9
Mar	50.7	25.7	38.2	78+	1978	30	43.4	1986	-19	1922	1	32.6	1976	832	0	.0	.0	17.5	.7	26.0	.2
Apr	60.1	31.0	45.6	88	1977	26	50.7	2000	2+	2001	5	41.1	1997	585	0	.0	.0	26.2	.0	17.2	.0
May	68.1	38.2	53.2	98	1936	30	58.4	1993	17	1954	2	48.6	1978	369	2	.0	.3	30.7	.0	6.7	.0
Jun	75.6	45.0	60.3	101	1933	15	65.5	1986	27	1946	7	56.7	1975	164	23	.0	1.9	30.0	.0	.5	.0
Jul	83.4	48.0	65.7	104	1960	19	71.5	1985	30+	1971	7	58.2	1993	73	94	.1	7.8	31.0	.0	.1	.0
Aug	83.5	46.5	65.0	104	1961	4	68.5	1991	27	1992	25	61.0	1975	75	74	.0	7.5	31.0	.0	.3	.0
Sep	73.0	38.8	55.9	98	1967	1	61.0	1998	7	1926	24	51.1	1985	283	10	.0	.7	29.7	.0	6.3	.0
Oct	60.0	30.7	45.4	86	2001	1	51.2	1988	-2	1971	29	42.0	2000	608	0	.0	.0	26.7	.2	18.9	@
Nov	43.2	23.7	33.5	74	1999	12	39.3	1990	-28	1955	16	23.0	1985	947	0	.0	.0	7.6	3.7	25.6	.7
Dec	34.0	16.7	25.4	64	1980	15	34.5	1980	-36	1927	31	11.5	1983	1229	0	.0	.0	1.8	12.2	28.7	3.1
Ann	58.9	31.8	45.4	104+	Aug 1961	4	71.5	Jul 1985	-37	Feb 1936	15	4.9	Jan 1979	7357	203	.1	18.2	240.3	32.9	184.1	10.0

\+ 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

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1911-2001

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

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Climate Division: MT 1 **NWS Call Sign:** **Elevation: 3,375 Feet** **Lat: 46˚31N** **Lon: 114˚05W**

Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.14	.95	.96	1966	3	2.46	1982	.15	1981
Feb	.88	.73	1.00	1938	7	2.78	1986	.15	1991
Mar	.76	.69	.76	1955	1	2.74	1989	.08	1976
Apr	.89	.81	.95	1956	17	2.46	1996	.14+	1999
May	1.50	1.33	1.71	1927	29	4.59	1980	.27	1979
Jun	1.47	1.43	1.28	1915	1	3.24	1991	.29	2000
Jul	.87	.91	1.71	1946	30	2.27	1993	.08	1985
Aug	1.07	1.00	1.72	1983	1	3.74	1983	.07	1994
Sep	.97	.70	1.40	1915	2	3.58	1985	.02	1987
Oct	.71	.59	1.27	1993	7	2.08	2000	.00+	1987
Nov	1.12	.96	1.51	1921	21	3.25	1995	.25	1976
Dec	1.11	.78	1.35	1955	22	5.47	1996	.08	1976
Ann	12.49	11.38	1.72	Aug 1983	1	5.47	Dec 1996	.00+	Oct 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.7	3.2	.3	.0
Feb	7.9	2.9	.1	.0
Mar	9.2	2.8	.1	.0
Apr	8.3	3.1	.3	.0
May	10.0	4.8	.5	.2
Jun	10.3	4.5	.6	.0
Jul	8.6	2.7	.1	@
Aug	7.4	3.2	.4	.1
Sep	6.9	2.8	.5	@
Oct	6.8	2.2	.3	.1
Nov	10.4	3.4	.2	@
Dec	9.9	3.2	.3	.0
Ann	106.4	38.8	3.7	.4

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.16	.26	.42	.58	.74	.93	1.14	1.39	1.74	2.31	2.85
Feb	.14	.22	.34	.47	.59	.73	.88	1.07	1.32	1.73	2.13
Mar	.17	.24	.35	.45	.55	.66	.78	.92	1.11	1.41	1.69
Apr	.15	.22	.35	.47	.60	.74	.89	1.09	1.34	1.76	2.16
May	.37	.52	.73	.93	1.12	1.32	1.55	1.82	2.17	2.72	3.24
Jun	.37	.51	.72	.91	1.10	1.30	1.52	1.78	2.12	2.66	3.16
Jul	.11	.18	.30	.42	.55	.69	.86	1.06	1.33	1.78	2.22
Aug	.15	.24	.39	.54	.69	.86	1.06	1.30	1.63	2.16	2.67
Sep	.07	.13	.25	.39	.53	.71	.91	1.18	1.54	2.16	2.77
Oct	.00	.12	.27	.38	.49	.60	.73	.88	1.08	1.41	1.71
Nov	.20	.30	.46	.62	.77	.94	1.13	1.37	1.68	2.18	2.65
Dec	.09	.17	.32	.47	.64	.83	1.06	1.35	1.75	2.42	3.08
Ann	7.74	8.61	9.75	10.63	11.43	12.21	13.02	13.93	15.05	16.69	18.14

+ 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: 1911-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	6.3	5.3	3	2
Feb	4.8	4.5	2	1
Mar	3.5	.8	#	#
Apr	.3	.0	#	0
May	.1	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.2	.0	#	0
Nov	3.6	3.0	1	#
Dec	7.3	5.0	2	1
Ann	26.1	18.6	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	10.0	1982	23	15.7	1993	17	1982	23	10	1979
Feb	7.2	1993	18	16.1	1993	15	1993	22	7	1993
Mar	7.9	1980	4	22.1	1989	10	1980	5	2	1993
Apr	1.2	1989	3	2.9	1989	#	1997	4	#	1997
May	3.6	1978	23	3.6	1978	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	2.0	1985	7	2.0+	1991	2	1985	7	#+	1991
Nov	7.2	1996	19	11.0	1995	8	1978	30	3	1978
Dec	16.9	1996	25	51.9	1996	28	1996	29	10	1973
Ann	16.9	Dec 1996	25	51.9	Dec 1996	28	Dec 1996	29	10+	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.2	3.0	.8	.3	@
Feb	3.1	1.7	.5	.1	.0
Mar	1.5	1.0	.4	.1	.0
Apr	.3	.1	.0	.0	.0
May	@	@	@	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	.0	.0	.0
Nov	2.2	1.8	.3	.1	.0
Dec	4.3	2.6	.6	.2	@
Ann	16.7	10.3	2.6	.8	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	15.4	7.6	4.7	1.5
Feb	8.8	4.4	1.9	1.0
Mar	2.6	1.3	.9	.1
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.0	.0	.0
Nov	4.7	1.6	1.1	.0
Dec	13.7	5.1	3.2	.5
Ann	45.3	20.0	11.8	3.1

+ 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

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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	7/15	7/09	7/04	7/01	6/27	6/24	6/20	6/16	6/10
32	6/20	6/13	6/09	6/04	6/01	5/28	5/23	5/19	5/12
28	5/30	5/25	5/22	5/18	5/16	5/13	5/09	5/06	5/01
24	5/13	5/09	5/05	5/02	4/30	4/27	4/24	4/21	4/16
20	4/29	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/29
16	4/11	4/03	3/28	3/23	3/19	3/14	3/09	3/04	2/24

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	8/16	8/21	8/24	8/27	8/30	9/01	9/04	9/08	9/12
32	8/27	9/01	9/04	9/07	9/10	9/12	9/15	9/19	9/23
28	9/08	9/12	9/15	9/18	9/20	9/22	9/25	9/28	10/02
24	9/22	9/27	9/30	10/03	10/06	10/09	10/12	10/16	10/20
20	9/28	10/04	10/08	10/11	10/15	10/18	10/22	10/26	11/01
16	10/15	10/21	10/25	10/29	11/01	11/05	11/09	11/13	11/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	83	76	71	67	62	58	54	49	42
32	124	116	110	105	101	96	91	85	77
28	148	141	135	131	127	123	118	113	106
24	180	173	168	163	159	155	150	145	137
20	207	199	193	188	184	179	174	168	160
16	256	246	239	233	227	221	215	208	199

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1228	964	832	585	369	164	73	75	283	608	947	1229	7357
60	1073	824	677	435	227	71	20	20	162	453	797	1074	5833
57	980	740	584	348	156	34	8	7	105	361	707	981	5011
55	918	684	522	292	116	19	3	3	74	301	647	919	4498
50	773	548	368	167	45	2	0	0	23	165	502	764	3357
32	311	154	26	1	0	0	0	0	0	2	108	282	884

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	106	115	218	406	656	849	1045	1022	717	416	151	76	5777
55	0	0	0	7	60	178	335	312	100	3	0	0	995
57	0	0	0	4	37	133	278	254	71	1	0	0	778
60	0	0	0	1	16	79	197	174	39	0	0	0	506
65	0	0	0	0	2	23	94	74	10	0	0	0	203
70	0	0	0	0	0	4	30	18	1	0	0	0	53

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	4	14	64	197	422	611	802	781	481	198	33	6	4	18	82	279	701	1312	2114	2895	3376	3574	3607	3613
45	0	0	14	99	273	461	647	626	334	93	11	0	0	0	14	113	386	847	1494	2120	2454	2547	2558	2558
50	0	0	1	39	147	314	492	471	203	32	0	0	0	0	1	40	187	501	993	1464	1667	1699	1699	1699
55	0	0	0	12	64	184	340	318	99	6	0	0	0	0	0	12	76	260	600	918	1017	1023	1023	1023
60	0	0	0	0	23	85	195	180	34	0	0	0	0	0	0	0	23	108	303	483	517	517	517	517
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	13	64	167	294	399	514	512	352	172	23	1	1	14	78	245	539	938	1452	1964	2316	2488	2511	2512

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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