

# Climatology of the United States

## No. 20

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

Station: HAVRE CITY CO AP, MT

1971-2000

COOP ID: 243996

Climate Division: MT 3

NWS Call Sign: HVR

Elevation: 2,585 Feet Lat: 48° 33N

Lon: 109° 46W

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	25.5	3.7	14.6	68	1992	31	31.2	1992	-52	1969	24	-3.7	1979	1547	0	.0	.0	1.8	16.7	29.5	12.7
Feb	33.4	10.4	21.9	74	1992	27	35.6	1984	-44	1994	8	2.2	1979	1201	0	.0	.0	4.9	11.3	26.3	7.6
Mar	44.9	20.0	32.5	77	1999	25	41.9	1986	-30	1996	6	22.1	1996	999	0	.0	.0	12.8	5.8	27.2	2.3
Apr	58.5	30.0	44.3	91+	2001	28	51.9	1980	-14+	1975	6	32.4	1975	613	1	.0	@	22.7	.8	15.7	.2
May	68.8	40.2	54.5	98	1980	21	60.5	1988	24+	1991	2	49.5	1974	324	10	.0	.3	29.4	.0	2.9	.0
Jun	77.4	48.0	62.7	105	1984	29	71.1	1988	29	1992	6	57.9	1981	113	59	.1	3.3	30.0	.0	.1	.0
Jul	84.6	52.0	68.3	106	1975	27	72.9	1998	39+	2000	5	60.8	1993	33	146	1.1	9.1	31.0	.0	.0	.0
Aug	83.9	51.3	67.6	111	1961	5	74.3	1971	33	1992	25	61.7	1987	49	141	1.1	9.4	30.9	.0	.0	.0
Sep	71.9	40.7	56.3	101+	1998	2	63.8	1998	18+	1995	21	48.8	1985	270	19	@	2.0	28.5	.0	3.6	.0
Oct	59.4	29.8	44.6	90	1980	7	48.1	1979	-21	1991	29	38.0	1984	622	1	.0	@	24.5	1.0	17.0	.3
Nov	40.8	17.3	29.1	78+	1999	12	38.2	1999	-30+	1985	23	9.1	1985	1067	0	.0	.0	9.0	7.6	26.5	3.5
Dec	30.1	7.8	19.0	65	1962	15	32.4	1999	-50	1983	24	-5.2	1983	1412	0	.0	.0	2.9	14.4	29.6	8.5
Ann	56.6	29.3	43.0	111	Aug 1961	5	74.3	Aug 1971	-52	Jan 1969	24	-5.2	Dec 1983	8250	377	2.3	24.1	228.4	57.6	178.4	35.1

+ 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](http://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: 1961-2001

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

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**Climate Division: MT 3**

**NWS Call Sign: HVR**

**Elevation: 2,585 Feet Lat: 48°33N**

**Lon: 109°46W**

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	.47	.31	.47	1971	30	2.33	1971	.00	1973	7.4	1.6	.0	.0	.01	.04	.11	.17	.25	.34	.44	.57	.76	1.08	1.39
Feb	.36	.27	.50	1986	6	1.04	1979	.00	1990	5.8	1.4	@	.0	.03	.06	.12	.17	.23	.29	.36	.44	.56	.74	.92
Mar	.70	.67	1.38	1977	29	2.03	1977	.03	1973	7.9	2.3	.1	@	.08	.13	.23	.33	.43	.54	.68	.85	1.08	1.46	1.83
Apr	.87	.59	1.49	1973	20	2.35	1973	.00	1988	7.5	2.6	.3	@	.07	.16	.30	.43	.56	.71	.87	1.08	1.35	1.80	2.23
May	1.84	1.53	2.10	1983	9	4.99	1974	.16	1988	9.7	4.7	.9	.3	.34	.51	.78	1.03	1.28	1.55	1.86	2.24	2.73	3.53	4.30
Jun	1.90	1.76	2.04	1970	12	5.27	1995	.16	1985	10.4	4.7	1.0	.3	.29	.45	.72	.99	1.26	1.56	1.90	2.32	2.88	3.79	4.67
Jul	1.51	1.20	2.15	1983	10	5.38	1993	.02	1984	7.9	3.6	.6	.2	.12	.22	.42	.63	.86	1.12	1.44	1.83	2.38	3.30	4.21
Aug	1.20	.97	2.26	1968	15	4.47	1989	.00	1988	7.8	3.0	.6	.1	.06	.17	.35	.53	.72	.93	1.17	1.48	1.89	2.58	3.24
Sep	1.03	.72	1.95	1986	25	5.76	1986	.04	1990	7.0	2.7	.4	.1	.06	.12	.25	.39	.55	.73	.95	1.24	1.64	2.32	2.99
Oct	.62	.48	.77	1980	21	2.06	1980	.03	1987	5.4	1.9	.3	.0	.06	.11	.19	.28	.37	.48	.60	.75	.96	1.31	1.64
Nov	.45	.36	.46	1989	4	1.23	1978	.02	1972	6.1	1.6	.0	.0	.04	.07	.13	.20	.26	.34	.43	.55	.70	.96	1.22
Dec	.51	.48	.57	1977	15	2.04	1977	.01	1986	7.0	1.7	@	.0	.03	.05	.11	.18	.26	.35	.47	.61	.82	1.18	1.53
Ann	11.46	11.29	2.26	Aug 1968	15	5.76	Sep 1986	.00+	Feb 1990	89.9	31.8	4.2	1.0	6.29	7.19	8.39	9.34	10.21	11.07	11.98	13.00	14.26	16.15	17.83

+ 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: 1961-2001

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

Complete documentation available from:  
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COOP ID: 243996

Climate Division: MT 3

NWS Call Sign: HVR

Elevation: 2,585 Feet

Lat: 48°33N

Lon: 109°46W

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	8.6	6.7	4	3	10.8	1971	8	41.4	1971	21	1971	12	13	1979	7.7	2.7	.7	.2	@	20.1	13.9	9.4	3.3
Feb	6.5	5.4	3	3	6.2	1994	6	18.6	1978	28+	1978	17	21	1978	6.3	2.4	.4	.1	.0	14.0	9.0	6.8	3.9
Mar	7.9	6.7	1	1	20.0	1977	29	30.1	1977	27	1977	30	11	1978	6.2	2.2	.8	.2	@	9.7	6.0	3.5	1.2
Apr	4.8	2.2	#	1	14.0	1973	20	34.6	1975	22	1975	9	5	1975	3.0	1.4	.4	.2	.1	2.5	1.2	.8	.4
May	1.5	.0	#	0	20.7	1982	28	30.6	1982	7	1982	29	#	1998	.4	.3	.2	.1	@	.2	.1	.1	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1986	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1999	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	#	.0	0	0	#	1992	22	#	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.3	.0	0	0	6.2	1982	29	6.2	1982	#+	1985	28	0	0	.2	.1	@	@	.0	.0	.0	.0	.0
Oct	2.4	.8	#	0	8.4	1981	12	12.0	1991	9	1991	31	1+	1991	1.8	.8	.2	.1	.0	1.0	.4	.3	.0
Nov	5.5	4.8	1	0	6.5	1978	17	18.9	1978	12+	1978	24	6	1978	5.2	2.0	.4	.1	.0	7.6	3.9	2.2	.3
Dec	7.7	7.2	2	1	5.7	1989	9	26.9	1977	13+	1989	22	7+	1983	7.7	2.7	.7	.1	.0	15.1	9.2	5.1	.8
Ann	45.2	33.8	N/A	N/A	20.7	May 1982	28	41.4	Jan 1971	28+	Feb 1978	17	21	Feb 1978	38.5	14.6	3.8	1.1	.1	70.2	43.7	28.2	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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## No. 20 1971-2000

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**COOP ID: 243996**

**Climate Division: MT 3**

**NWS Call Sign: HVR**

**Elevation: 2,585 Feet**

**Lat: 48° 33N**

**Lon: 109° 46W**

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	6/18	6/11	6/07	6/03	5/30	5/26	5/22	5/17	5/11
32	5/30	5/24	5/20	5/16	5/13	5/09	5/05	5/01	4/25
28	5/16	5/12	5/08	5/05	5/02	4/30	4/27	4/23	4/19
24	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
20	4/23	4/18	4/14	4/11	4/08	4/05	4/02	3/29	3/24
16	4/19	4/13	4/09	4/06	4/03	3/30	3/27	3/23	3/18
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	8/26	8/30	9/03	9/05	9/08	9/11	9/14	9/17	9/22
32	9/08	9/12	9/15	9/17	9/19	9/21	9/23	9/26	9/29
28	9/14	9/18	9/21	9/24	9/26	9/29	10/01	10/04	10/08
24	9/23	9/29	10/02	10/06	10/09	10/12	10/15	10/19	10/24
20	10/01	10/07	10/12	10/16	10/19	10/23	10/27	10/31	11/06
16	10/11	10/17	10/22	10/25	10/29	11/02	11/05	11/10	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	125	116	110	105	101	96	91	85	77
32	149	142	137	133	128	124	120	115	108
28	165	159	154	150	146	142	138	133	127
24	196	189	183	179	175	171	166	161	153
20	219	211	204	199	193	188	183	176	167
16	234	225	219	214	209	204	198	192	183

\* 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:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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**NWS Call Sign: HVR**

**Elevation: 2,585 Feet Lat: 48°33N**

**Lon: 109°46W**

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	1547	1201	999	613	324	113	33	49	270	622	1067	1412	8250
60	1410	1083	855	479	201	52	12	38	187	478	929	1274	6998
57	1322	1004	763	396	137	25	5	21	134	387	839	1182	6215
55	1268	952	702	344	103	14	0	14	103	327	787	1132	5746
50	1121	824	557	227	41	2	0	4	46	195	646	984	4647
32	644	436	155	16	0	0	0	0	0	7	243	514	2015

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	33	68	165	396	708	932	1141	1118	740	422	118	44	5885
55	0	0	1	16	89	253	428	408	131	19	1	0	1346
57	0	0	0	10	63	202	368	349	98	12	0	0	1102
60	0	0	0	4	34	137	280	265	58	5	0	0	783
65	0	0	0	1	10	59	146	141	19	1	0	0	377
70	0	0	0	0	1	20	61	58	4	0	0	0	144

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	15	49	203	470	700	898	882	515	220	37	5	5	20	69	272	742	1442	2340	3222	3737	3957	3994	3999
45	0	2	19	109	324	550	743	728	374	122	12	0	0	2	21	130	454	1004	1747	2475	2849	2971	2983	2983
50	0	0	0	48	193	401	588	574	243	53	2	0	0	0	0	48	241	642	1230	1804	2047	2100	2102	2102
55	0	0	0	16	94	261	435	420	137	19	0	0	0	0	0	16	110	371	806	1226	1363	1382	1382	1382
60	0	0	0	5	37	146	287	273	62	5	0	0	0	0	0	5	42	188	475	748	810	815	815	815
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	15	51	157	294	432	564	546	334	179	32	3	1	16	67	224	518	950	1514	2060	2394	2573	2605	2608

(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> |
|---|---|

## 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)