

Climatography of the United States

No. 20

1971-2000

Station: MELVILLE 4 W, MT

COOP ID: 245603

Climate Division: MT 5

NWS Call Sign:

Elevation: 5,365 Feet Lat: 46°06N

Lon: 110°03W

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	34.0	10.3	22.2	62+	1986	19	33.1	1986	-38	1972	27	7.1	1979	1328	0	.0	.0	3.0	11.6	29.5	8.0
Feb	37.6	13.5	25.6	64	1995	24	35.2	1991	-45	1989	3	9.1	1989	1105	0	.0	.0	4.6	7.6	26.8	4.9
Mar	42.7	18.8	30.8	71	1978	30	39.8	1986	-31	1976	2	23.5	1975	1061	0	.0	.0	8.8	5.3	28.6	2.2
Apr	51.1	26.0	38.6	78+	1987	28	46.3	1987	-12	1975	1	28.6	1975	794	0	.0	.0	16.3	1.5	23.4	.2
May	60.0	34.3	47.2	82	1986	31	51.9	1987	9	1995	1	42.3	1996	553	0	.0	.0	26.1	.1	11.5	.0
Jun	68.4	41.7	55.1	89	1988	23	63.5	1988	24	1969	13	50.9	1998	306	7	.0	.0	29.5	.0	1.5	.0
Jul	75.6	46.6	61.1	93	1999	28	67.1	1985	31	1993	1	52.5	1993	171	50	.0	.6	31.0	.0	.1	.0
Aug	75.5	45.7	60.6	93	1969	24	67.3	1971	26	1992	25	55.2	1987	191	55	.0	.2	30.9	.0	.4	.0
Sep	65.8	37.4	51.6	90	1998	4	59.8	1998	10+	1985	30	44.8	1985	411	9	.0	@	27.4	.2	6.8	.0
Oct	55.6	28.8	42.2	82	1992	1	47.1	1988	-12	1991	30	37.7	1984	708	0	.0	.0	21.4	1.0	18.4	.3
Nov	41.1	17.8	29.5	74	1999	7	42.1	1999	-26+	1986	10	12.7	1985	1066	0	.0	.0	7.8	6.8	26.8	2.6
Dec	35.4	11.4	23.4	62+	1980	16	32.5	1999	-41	1983	24	8.2	1983	1291	0	.0	.0	3.7	10.7	29.5	5.9
Ann	53.6	27.7	40.7	93+	Jul 1999	28	67.3	Aug 1971	-45	Feb 1989	3	7.1	Jan 1979	8985	121	.0	.8	210.5	44.8	203.3	24.1

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1960-2001

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

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No. 20 1971-2000

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

Station: MELVILLE 4 W, MT

COOP ID: 245603

Climate Division: MT 5

NWS Call Sign:

Elevation: 5,365 Feet Lat: 46°06N

Lon: 110°03W

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	.62	.52	1.06	1975	26	1.91	1989	.00	1976	4.0	2.1	.2	@	.04	.10	.20	.29	.38	.49	.61	.76	.96	1.29	1.61
Feb	.50	.39	.65	1996	25	1.40	1980	.00	1974	4.3	2.0	.1	.0	.03	.08	.16	.24	.32	.40	.50	.62	.79	1.06	1.32
Mar	1.18	1.06	1.10+	1992	8	2.56	1985	.20	1999	7.0	3.8	.5	.1	.32	.43	.60	.75	.89	1.05	1.22	1.42	1.68	2.09	2.47
Apr	1.91	1.99	1.70	1986	26	4.14	1991	.31	1977	9.3	5.7	.8	.3	.39	.57	.85	1.11	1.36	1.64	1.95	2.33	2.82	3.61	4.36
May	2.84	2.51	2.10	1981	11	6.31	1981	.47	1984	11.5	6.7	1.6	.3	.74	1.01	1.42	1.78	2.14	2.51	2.93	3.43	4.07	5.09	6.04
Jun	2.95	2.61	2.66	1992	16	8.40	1992	.64	1974	12.2	7.3	1.4	.6	.63	.90	1.33	1.72	2.12	2.54	3.01	3.58	4.33	5.54	6.67
Jul	2.14	1.59	2.70	1994	6	6.51	1987	.14	1999	10.3	5.5	1.1	.3	.30	.47	.78	1.08	1.39	1.73	2.13	2.62	3.27	4.34	5.38
Aug	1.64	1.54	2.93	1976	1	4.40	1976	.23	1996	8.5	4.3	.8	.2	.29	.43	.67	.89	1.12	1.37	1.65	2.00	2.45	3.19	3.90
Sep	1.39	1.28	1.70	1983	19	3.86	1986	.04	1979	6.7	3.7	.8	.1	.16	.26	.46	.65	.86	1.09	1.36	1.70	2.16	2.92	3.66
Oct	1.14	.97	1.50	1975	21	3.44	1975	.00	1987	5.0	3.0	.6	.1	.13	.27	.46	.63	.79	.96	1.16	1.40	1.71	2.22	2.69
Nov	.75	.49	1.15	1968	4	2.32	1978	.00	1992	4.8	2.7	.2	.0	.07	.16	.28	.39	.50	.62	.76	.93	1.15	1.51	1.85
Dec	.56	.57	.94	1998	4	1.51	1998	.00	1993	4.3	2.2	.1	.0	.04	.11	.20	.28	.36	.45	.56	.69	.86	1.14	1.41
Ann	17.62	17.33	2.93	Aug 1976	1	8.40	Jun 1992	.00+	Dec 1993	87.9	49.0	8.2	2.0	11.31	12.48	14.00	15.18	16.24	17.27	18.35	19.54	21.01	23.16	25.04

+ 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: 1960-2001

(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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No. 20 1971-2000

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Station: MELVILLE 4 W, MT

COOP ID: 245603

Climate Division: MT 5

NWS Call Sign:

Elevation: 5,365 Feet

Lat: 46°06N

Lon: 110°03W

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	2.2	-99.9	4	#	10.0	1973	26	11.0	1993	22	1975	26	22	1975	1.3	1.3	.9	.3	.1	-9.9	-9.9	-9.9	-9.9
Feb	5.0	2.0	1	0	9.0	1996	25	15.0+	1996	10	1986	19	6	1986	2.1	2.1	.9	.2	.0	-9.9	-9.9	-9.9	-9.9
Mar	10.1	8.0	3	0	13.0	1985	2	22.0	1989	19	1983	19	16	1975	2.9	2.9	1.7	.9	.3	-9.9	-9.9	-9.9	-9.9
Apr	14.1	11.0	#	0	18.0	1997	4	38.5	1991	15	1986	26	2	1986	2.2	2.2	1.4	.8	.3	-9.9	-9.9	-9.9	-9.9
May	.8	.0	#	0	4.0	1986	7	8.0	1986	6	1986	8	#	1986	.2	.2	.2	.0	.0	.1	.1	.1	.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	2.1	.0	#	0	14.0	1983	19	19.0	1983	19	1983	19	1	1983	.4	.4	.3	.3	.1	.2	.2	.2	.1
Oct	.9	.0	0	0	12.0	1996	25	12.0	1996	16	1975	22	1+	1991	.2	.2	.2	.1	.1	.0	.0	.0	.0
Nov	4.3	-99.9	#	0	17.0	1973	1	17.0	1973	8	1985	21	3	1985	1.4	1.4	.7	.2	.0	-9.9	-9.9	-9.9	-9.9
Dec	4.0	-99.9	1	0	10.0	1998	4	12.0	1989	12	1989	21	4	1983	2.1	2.1	.9	.5	.1	-9.9	-9.9	-9.9	-9.9
Ann	43.5	-9.9	N/A	N/A	18.0	Apr 1997	4	38.5	Apr 1991	22	Jan 1975	26	22	Jan 1975	12.8	12.8	7.2	3.3	1.0	-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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Climate Division: MT 5

NWS Call Sign:

Elevation: 5,365 Feet

Lat: 46°06N

Lon: 110°03W

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	7/22	7/15	7/11	7/07	7/03	6/29	6/26	6/21	6/15
32	6/29	6/23	6/18	6/15	6/11	6/07	6/03	5/30	5/24
28	6/04	5/31	5/27	5/25	5/22	5/20	5/17	5/14	5/09
24	5/20	5/15	5/12	5/08	5/05	5/02	4/29	4/26	4/21
20	5/09	5/05	5/02	4/30	4/27	4/25	4/22	4/19	4/15
16	4/29	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/29
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	8/11	8/17	8/21	8/24	8/27	8/30	9/03	9/07	9/12
32	8/24	8/29	9/02	9/05	9/08	9/11	9/14	9/18	9/23
28	9/06	9/10	9/13	9/16	9/18	9/21	9/23	9/26	10/01
24	9/15	9/20	9/23	9/25	9/28	10/01	10/03	10/06	10/11
20	9/20	9/26	9/30	10/03	10/06	10/10	10/13	10/17	10/23
16	10/02	10/08	10/12	10/16	10/19	10/22	10/26	10/30	11/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	77	69	64	59	54	50	45	39	32
32	113	104	98	93	88	84	78	73	64
28	136	130	125	122	118	115	111	107	101
24	163	157	152	148	145	141	137	133	126
20	181	174	169	165	161	158	153	148	142
16	213	205	198	193	188	183	178	171	163

* 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	1328	1105	1061	794	553	306	171	191	411	708	1066	1291	8985
60	1173	965	906	644	399	179	86	105	280	553	916	1136	7342
57	1080	881	813	554	310	119	48	65	212	460	826	1043	6411
55	1018	825	751	497	255	86	30	44	172	399	766	981	5824
50	866	691	597	359	136	28	8	15	90	256	627	828	4501
32	382	267	151	43	1	0	0	0	0	11	210	347	1412

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	77	87	113	239	471	692	902	887	588	327	133	79	4595
55	0	0	0	3	11	88	219	218	70	2	0	0	611
57	0	0	0	0	5	61	175	176	50	1	0	0	468
60	0	0	0	0	1	31	120	124	28	0	0	0	304
65	0	0	0	0	0	7	50	55	9	0	0	0	121
70	0	0	0	0	0	1	15	19	2	0	0	0	37

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	7	10	27	95	255	467	676	661	383	173	37	7	7	17	44	139	394	861	1537	2198	2581	2754	2791	2798
45	0	0	4	46	141	322	521	507	255	93	15	1	0	0	4	50	191	513	1034	1541	1796	1889	1904	1905
50	0	0	0	13	61	191	367	357	145	36	2	0	0	0	0	13	74	265	632	989	1134	1170	1172	1172
55	0	0	0	0	20	92	222	211	65	9	0	0	0	0	0	0	20	112	334	545	610	619	619	619
60	0	0	0	0	0	32	106	93	21	1	0	0	0	0	0	0	0	32	138	231	252	253	253	253
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	9	30	85	179	288	421	414	258	135	27	4	2	11	41	126	305	593	1014	1428	1686	1821	1848	1852

(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