

Climatography of the United States

No. 20

1971-2000

Station: CHESTER, MT

COOP ID: 241692

Climate Division: MT 3

NWS Call Sign:

Elevation: 3,165 Feet Lat: 48° 31N

Lon: 110° 58W

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	28.1	3.9	16.0	66	1992	31	30.1	1992	-57	1950	25	.2	1979	1520	0	.0	.0	1.7	14.7	30.5	12.3
Feb	35.1	9.1	22.1	74	1992	27	34.8	1977	-44	1994	8	8.7	1994	1202	0	.0	.0	5.5	9.6	27.7	7.7
Mar	45.1	18.8	32.0	77	1972	17	41.2	1986	-38	1951	8	22.9	1975	1025	0	.0	.0	13.9	4.3	29.5	2.3
Apr	58.0	28.7	43.4	88	1980	20	49.5	1980	-19	1975	6	32.0	1975	651	0	.0	.0	23.6	.7	20.6	.1
May	67.7	39.1	53.4	94+	2001	24	57.4	1985	14	1954	2	47.8	1996	363	2	.0	.3	29.8	.0	6.1	.0
Jun	75.4	46.5	61.0	100	1990	30	69.3	1988	24	1969	13	57.1	1981	158	37	@	2.0	30.0	.0	.5	.0
Jul	82.6	50.5	66.6	103+	1960	19	71.3	1998	31	1958	15	58.4	1993	75	123	@	7.5	31.0	.0	@	.0
Aug	82.2	49.3	65.8	105	1961	5	71.4	1991	28	1992	25	60.5	1974	101	125	.1	6.7	31.0	.0	.2	.0
Sep	71.2	39.0	55.1	97+	1963	7	62.0	1998	13+	1972	29	46.8	1985	321	24	.0	1.2	28.8	.0	6.5	.0
Oct	59.3	28.3	43.8	89	1992	1	47.6	1988	-17	1991	30	38.9	1972	657	0	.0	.0	25.8	.8	20.3	.4
Nov	40.5	15.6	28.1	75	1999	12	37.5	1999	-31	1959	16	10.9	1985	1108	0	.0	.0	8.8	6.7	27.9	3.7
Dec	30.4	6.2	18.3	64	1987	3	31.3	1999	-52	1983	24	-4.2	1983	1448	0	.0	.0	2.6	12.8	30.5	9.6
Ann	56.3	27.9	42.1	105	Aug 1961	5	71.4	Aug 1991	-57	Jan 1950	25	-4.2	Dec 1983	8629	311	.1	17.7	232.5	49.6	200.3	36.1

+ 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: 1948-2001

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

029-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: CHESTER, MT

COOP ID: 241692

Climate Division: MT 3

NWS Call Sign:

Elevation: 3,165 Feet Lat: 48°31N

Lon: 110°58W

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	.38	.29	.46	1982	4	1.33	1982	.00	1973	4.6	1.4	.0	.0	.01	.04	.09	.14	.20	.27	.36	.47	.62	.87	1.13
Feb	.26	.15	.62	1958	26	.89	1978	.05+	1995	3.2	1.0	.0	.0	.03	.05	.08	.12	.16	.20	.25	.31	.40	.54	.67
Mar	.51	.44	1.39	1981	30	1.83	1981	.00+	1994	4.1	1.7	.1	@	.00	.07	.17	.26	.34	.42	.52	.64	.80	1.05	1.30
Apr	.71	.58	.80	1991	11	2.17	1975	.00	1988	4.8	2.5	.3	.0	.03	.09	.20	.30	.42	.54	.69	.88	1.13	1.55	1.96
May	1.77	1.58	1.62	1990	25	3.98	1981	.26	1976	8.6	4.5	1.0	.2	.42	.58	.84	1.07	1.30	1.55	1.82	2.15	2.57	3.25	3.89
Jun	2.20	1.86	3.02	1995	6	7.89	1995	.44	1985	9.7	5.5	1.2	.2	.47	.67	.99	1.28	1.58	1.89	2.24	2.67	3.23	4.12	4.96
Jul	1.47	1.10	3.10	1970	13	4.92	1993	.00	1984	6.8	3.5	.7	.2	.05	.16	.37	.58	.81	1.08	1.40	1.80	2.36	3.29	4.20
Aug	1.21	1.18	2.22	1968	15	2.94	1989	.03	1988	6.8	3.5	.5	.1	.15	.25	.42	.59	.76	.96	1.19	1.48	1.86	2.50	3.11
Sep	.84	.62	1.30	1968	20	3.52	1985	.00	1990	5.3	2.5	.4	.1	.07	.17	.31	.43	.55	.69	.84	1.03	1.28	1.69	2.08
Oct	.48	.44	.84	1992	31	1.59	1992	.00	1987	3.8	1.6	.1	.0	.02	.06	.13	.20	.28	.36	.46	.59	.76	1.04	1.31
Nov	.36	.31	.52	1960	26	1.13	1978	.00+	1987	3.7	1.1	.0	.0	.00	.03	.08	.14	.20	.27	.35	.45	.59	.82	1.05
Dec	.39	.25	.44	1972	2	1.63	1977	.00+	2000	4.1	1.5	.0	.0	.00	.00	.04	.09	.16	.24	.34	.47	.65	.98	1.31
Ann	10.58	10.18	3.10	Jul 1970	13	7.89	Jun 1995	.00+	Dec 2000	65.5	30.3	4.3	.8	5.70	6.54	7.68	8.58	9.40	10.21	11.08	12.05	13.26	15.06	16.66

+ 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: 1948-2001

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Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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1971-2000

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Station: CHESTER, MT

COOP ID: 241692

Climate Division: MT 3

NWS Call Sign:

Elevation: 3,165 Feet

Lat: 48°31N

Lon: 110°58W

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	2.0	-99.9	2	1	4.0	1999	7	4.0	1999	10	1989	12	7	1997	.3	.2	.1	.0	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.8	3.0	2	1	3.9	2000	15	6.7	1999	25	1978	13	19	1978	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	-99.9	-99.9	1	0	.0	0	0	.0	0	16	1978	1	8	1978	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Apr	.6	.0	#	0	6.0	2000	14	6.5	2000	4	2000	14	#+	2000	.2	.1	.1	.1	.0	.1	.1	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	#	.0	#	0	#	2000	4	#+	2000	4	1996	30	#+	2000	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.9	#	1	#	6.0	1988	14	6.0	1988	8+	1996	26	3	1996	.9	.4	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Dec	.5	-99.9	1	#	2.4	1998	25	2.4	1998	12	1996	30	6	1996	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	N/A	N/A	6.0+	Apr 2000	14	6.7	Feb 1999	25	Feb 1978	13	19	Feb 1978	-9.9	-9.9	-9.9	-9.9	-9.9	-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

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NWS Call Sign:

Elevation: 3,165 Feet

Lat: 48°31N

Lon: 110°58W

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	7/11	7/03	6/27	6/22	6/17	6/12	6/07	6/01	5/24
32	6/17	6/11	6/07	6/03	5/31	5/27	5/23	5/19	5/13
28	5/24	5/19	5/15	5/12	5/09	5/07	5/04	4/30	4/25
24	5/10	5/06	5/03	4/30	4/27	4/24	4/22	4/18	4/14
20	5/03	4/27	4/24	4/21	4/18	4/15	4/11	4/08	4/02
16	4/25	4/19	4/15	4/11	4/08	4/05	4/01	3/28	3/22
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	8/14	8/19	8/22	8/25	8/28	8/31	9/03	9/06	9/11
32	8/29	9/02	9/06	9/08	9/11	9/14	9/16	9/20	9/24
28	9/07	9/11	9/15	9/17	9/20	9/22	9/25	9/28	10/03
24	9/15	9/20	9/24	9/27	9/29	10/02	10/05	10/09	10/14
20	9/23	9/28	10/02	10/05	10/08	10/11	10/15	10/19	10/24
16	10/02	10/07	10/11	10/14	10/17	10/20	10/24	10/27	11/02
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	100	90	83	77	71	66	60	53	43
32	125	117	112	107	103	98	93	88	80
28	151	145	140	136	133	129	125	121	114
24	173	167	162	158	155	151	147	143	136
20	195	187	182	177	173	169	164	159	151
16	216	207	201	196	191	187	181	175	167

* 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:

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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	1520	1202	1025	651	363	158	75	101	321	657	1108	1448	8629
60	1365	1062	870	505	224	71	24	43	206	502	958	1293	7123
57	1273	987	777	421	154	36	11	23	149	410	868	1200	6309
55	1214	935	715	368	116	21	6	15	116	350	808	1138	5802
50	1072	804	569	247	47	4	0	3	53	212	669	998	4678
32	586	397	156	20	0	0	0	0	0	7	243	514	1923

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	89	120	154	359	663	868	1071	1047	693	373	124	89	5650
55	5	13	1	17	66	199	364	349	119	3	0	0	1136
57	2	10	0	10	42	155	307	295	92	1	0	0	914
60	0	0	0	5	18	100	227	221	59	0	0	0	630
65	0	0	0	0	2	37	123	125	24	0	0	0	311
70	0	0	0	0	0	9	51	56	8	0	0	0	124

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	0	6	29	176	438	651	841	817	478	204	26	1	0	6	35	211	649	1300	2141	2958	3436	3640	3666	3667
45	0	0	6	92	291	501	686	662	336	106	7	0	0	0	6	98	389	890	1576	2238	2574	2680	2687	2687
50	0	0	0	40	169	353	531	507	211	44	0	0	0	0	0	40	209	562	1093	1600	1811	1855	1855	1855
55	0	0	0	12	81	213	377	357	112	13	0	0	0	0	0	12	93	306	683	1040	1152	1165	1165	1165
60	0	0	0	3	29	108	231	217	46	2	0	0	0	0	0	3	32	140	371	588	634	636	636	636
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	16	53	159	300	411	535	525	341	191	30	1	1	17	70	229	529	940	1475	2000	2341	2532	2562	2563

(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