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: LOMA 1 WNW, MT **COOP ID: 245153**

Climate Division: MT 3 **NWS Call Sign:** **Elevation: 2,580 Feet** **Lat: 47˚57N** **Lon: 110˚32W**

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	31.6	5.7	18.7	72	1992	31	33.6	1992	-54	1972	14	.5	1979	1438	0	.0	.0	5.7	13.0	29.4	11.8
Feb	38.8	11.5	25.2	76	1992	27	38.2	1991	-50	1996	2	9.2	1989	1116	0	.0	.0	9.2	8.5	26.6	7.2
Mar	48.4	21.4	34.9	81	1999	25	44.1	1986	-38	1951	8	25.6	1989	933	0	.0	.0	17.7	3.8	27.4	1.7
Apr	59.8	30.9	45.4	95	1980	20	52.2	1980	-12	1975	6	32.9	1975	591	1	.0	.1	24.9	.7	16.6	.1
May	69.5	40.6	55.1	100	1966	27	60.9	1988	13	1954	3	50.1	1982	317	8	.0	1.0	30.0	.0	3.7	.0
Jun	78.3	48.8	63.6	107	1988	4	73.2	1988	30	1965	8	59.7	1975	114	71	.3	4.6	30.0	.0	.1	.0
Jul	85.7	52.8	69.3	108+	1985	10	74.1	1985	36	1955	3	61.3	1993	44	176	2.2	12.7	31.0	.0	.0	.0
Aug	84.9	51.2	68.1	111+	1983	6	76.0	1971	30+	1992	25	60.3	1977	88	183	1.9	11.9	31.0	.0	.1	.0
Sep	73.3	40.8	57.1	103	1967	5	64.4	1998	15	1995	21	49.1	1985	276	38	.1	3.1	28.9	.0	4.5	.0
Oct	61.6	30.4	46.0	94	1980	7	49.4	1979	-17	1991	30	40.6	1984	590	0	.0	.1	26.6	.6	17.5	.2
Nov	44.4	18.2	31.3	80	1975	5	40.5	1999	-33	1985	28	11.7	1985	1011	0	.0	.0	12.7	5.4	26.6	3.0
Dec	34.8	9.1	22.0	67+	1987	3	35.5	1999	-54	1983	24	-2.1	1983	1334	0	.0	.0	6.4	10.4	29.8	7.9
Ann	59.3	30.1	44.7	111+	Aug 1983	6	76.0	Aug 1971	-54+	Dec 1983	24	-2.1	Dec 1983	7852	477	4.5	33.5	254.1	42.4	182.3	31.9

\+ 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: 1950-2001

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

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: LOMA 1 WNW, MT **COOP ID: 245153**

Climate Division: MT 3 **NWS Call Sign:** **Elevation: 2,580 Feet** **Lat: 47°57N** **Lon: 110°32W**

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	.60	.53	.75	1975	18	1.69	1971	.00+	1995
Feb	.38	.32	.54	1982	22	1.05	1978	.02	1995
Mar	.76	.65	1.46	1981	30	3.07	1981	.00	1994
Apr	1.12	.85	2.41	1973	20	3.27	1973	.00+	1981
May	2.14	1.82	2.57	1962	21	5.46	1981	.51	1988
Jun	2.31	1.86	2.48	1995	6	5.80	1975	.38	1985
Jul	1.36	1.10	2.06	1983	10	4.03	1993	.05	1984
Aug	1.51	1.18	2.45	1968	15	4.30	1974	.00	1988
Sep	1.17	.81	2.26	1985	12	3.47	1985	.02	1990
Oct	.74	.60	1.13	1954	23	2.09	1975	.10	1987
Nov	.52	.40	.62	1991	21	1.27	1991	.00	1972
Dec	.48	.36	.66	1966	21	2.13	1977	.00	1991
Ann	13.09	12.11	2.57	May 1962	21	5.80	Jun 1975	.00+	Jan 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.0	2.2	.1	.0
Feb	3.8	1.4	@	.0
Mar	5.4	2.3	.2	.1
Apr	5.3	3.0	.4	.2
May	8.2	5.3	1.1	.3
Jun	8.5	5.5	1.5	.3
Jul	5.2	3.5	.8	.1
Aug	5.4	3.6	.9	.2
Sep	5.5	3.0	.6	.1
Oct	4.3	2.3	.4	.0
Nov	4.0	2.1	.1	.0
Dec	5.2	1.6	.0	.0
Ann	65.8	35.8	6.1	1.3

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	.00	.07	.18	.28	.37	.48	.60	.75	.94	1.27	1.58
Feb	.04	.07	.12	.17	.23	.29	.37	.46	.58	.79	.99
Mar	.05	.13	.25	.36	.48	.61	.75	.94	1.18	1.58	1.97
Apr	.00	.13	.34	.52	.70	.90	1.13	1.40	1.77	2.38	2.96
May	.57	.77	1.08	1.36	1.62	1.90	2.21	2.58	3.06	3.81	4.52
Jun	.59	.80	1.14	1.44	1.73	2.04	2.38	2.79	3.33	4.17	4.96
Jul	.13	.23	.42	.61	.81	1.05	1.32	1.66	2.13	2.92	3.68
Aug	.11	.27	.51	.73	.96	1.22	1.51	1.87	2.35	3.14	3.90
Sep	.11	.19	.35	.51	.69	.89	1.12	1.42	1.83	2.51	3.17
Oct	.14	.21	.32	.42	.52	.63	.75	.90	1.10	1.41	1.71
Nov	.04	.09	.18	.25	.33	.42	.52	.64	.81	1.08	1.34
Dec	.02	.06	.13	.20	.28	.36	.46	.59	.76	1.05	1.33
Ann	7.76	8.72	9.98	10.97	11.87	12.75	13.67	14.71	15.99	17.87	19.54

\+ 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: 1950-2001
(3) Derived from 1971-2000 serially complete daily data

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

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

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: LOMA 1 WNW, MT **COOP ID: 245153**

Climate Division: MT 3 **NWS Call Sign:** **Elevation: 2,580 Feet** **Lat: 47°57N** **Lon: 110°32W**

Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	11.7	10.0	3	3	10.0	1988	11	33.0	1971	20	1978	31	12	1978	4.8	4.7	1.7	.5	@	16.3	11.6	8.8	3.2
Feb	7.2	6.0	3	2	10.0	1978	11	23.0	1978	30	1978	16	21	1978	3.3	3.2	.8	.2	@	12.1	9.1	6.3	1.9
Mar	6.8	7.0	1	1	10.0	1977	29	17.0	1975	22	1978	5	12	1978	2.8	2.8	.7	.2	@	7.8	5.1	3.1	1.0
Apr	3.6	2.0	#	#	16.0	1973	20	20.0+	1975	20	1975	8	5	1975	1.0	1.0	.5	.1	@	2.1	1.2	.6	.3
May	.8	.0	#	0	10.0	1983	10	10.0	1983	6	1983	10	#+	1989	.2	.2	.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	#	1992	23	#	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.2	.0	#	0	3.0	1984	26	3.0	1984	#	2000	21	#	2000	.1	.1	@	.0	.0	.0	.0	.0	.0
Oct	1.7	.0	#	0	8.0	1972	29	11.0	1984	8	1972	29	1	1991	.7	.6	.2	@	.0	.7	.2	.1	.0
Nov	6.5	5.0	1	1	7.0	1983	25	18.0	1978	12	1978	23	7	1978	2.8	2.8	.8	.3	.0	6.5	4.2	2.5	.5
Dec	8.6	6.0	3	2	8.0	1983	8	27.0	1977	18	1983	20	13	1983	4.5	4.5	1.3	.1	.0	14.6	10.3	6.0	1.6
Ann	47.1	36.0	N/A	N/A	16.0	Apr 1973	20	33.0	Jan 1971	30	Feb 1978	16	21	Feb 1978	20.2	19.9	6.1	1.5	@	60.2	41.7	27.4	8.5

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: LOMA 1 WNW, MT **COOP ID: 245153**

Climate Division: MT 3 **NWS Call Sign:** **Elevation: 2,580 Feet** **Lat: 47˚57N** **Lon: 110˚32W**

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	6/12	6/07	6/04	6/02	5/30	5/28	5/25	5/22	5/18
32	5/31	5/27	5/23	5/21	5/18	5/15	5/13	5/10	5/05
28	5/18	5/14	5/10	5/07	5/05	5/02	4/29	4/26	4/21
24	5/06	5/01	4/27	4/24	4/20	4/17	4/14	4/10	4/05
20	4/23	4/18	4/15	4/12	4/09	4/06	4/03	3/31	3/26
16	4/17	4/12	4/08	4/05	4/02	3/30	3/26	3/22	3/17

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	8/25	8/30	9/03	9/06	9/08	9/11	9/14	9/18	9/22
32	9/03	9/07	9/10	9/13	9/15	9/18	9/20	9/23	9/27
28	9/16	9/20	9/23	9/25	9/27	9/30	10/02	10/05	10/09
24	9/19	9/24	9/28	10/01	10/04	10/07	10/10	10/14	10/19
20	9/28	10/04	10/09	10/13	10/17	10/20	10/24	10/29	11/05
16	10/09	10/15	10/19	10/22	10/26	10/29	11/01	11/06	11/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	120	113	108	104	100	96	92	87	81
32	141	133	128	124	120	115	111	106	98
28	163	157	152	148	145	141	137	133	127
24	190	182	176	171	166	161	156	150	141
20	216	207	201	195	190	185	179	173	164
16	231	222	216	211	206	201	196	190	181

***** 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/normals/usnormals.html

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: LOMA 1 WNW, MT **COOP ID: 245153**

Climate Division: MT 3 **NWS Call Sign:** **Elevation: 2,580 Feet** **Lat: 47˚57N** **Lon: 110˚32W**

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	1438	1116	933	591	317	114	44	88	276	590	1011	1334	7852
60	1288	989	778	449	187	46	13	39	170	436	861	1179	6435
57	1205	910	686	368	126	22	6	22	118	344	778	1094	5679
55	1146	858	626	317	93	12	1	15	89	285	721	1037	5200
50	1001	731	481	207	36	2	0	4	36	156	582	891	4127
32	542	356	106	13	0	0	0	0	0	4	201	438	1660

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	127	164	196	414	714	947	1155	1118	752	437	180	127	6331
55	18	22	3	27	94	269	443	420	151	5	10	14	1476
57	15	18	1	18	66	219	386	365	120	2	7	9	1226
60	5	13	0	9	33	153	300	289	82	0	0	0	884
65	0	0	0	1	8	71	176	183	38	0	0	0	477
70	0	0	0	0	0	23	89	103	15	0	0	0	230

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	12	27	68	231	498	736	937	901	547	258	52	15	12	39	107	338	836	1572	2509	3410	3957	4215	4267	4282
45	2	5	23	128	350	586	782	746	404	146	19	3	2	7	30	158	508	1094	1876	2622	3026	3172	3191	3194
50	0	0	3	60	212	436	627	591	271	69	6	1	0	0	3	63	275	711	1338	1929	2200	2269	2275	2276
55	0	0	0	18	108	291	472	439	157	22	0	0	0	0	0	18	126	417	889	1328	1485	1507	1507	1507
60	0	0	0	5	45	160	321	289	71	5	0	0	0	0	0	5	50	210	531	820	891	896	896	896
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	14	38	85	189	331	456	582	559	370	225	59	18	14	52	137	326	657	1113	1695	2254	2624	2849	2908	2926

(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.
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