

Climatology of the United States

No. 20

1971-2000

Station: CONTENT 3 SSE, MT

COOP ID: 241984

Climate Division: MT 3

NWS Call Sign:

Elevation: 2,340 Feet Lat: 47° 59N

Lon: 107° 33W

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	27.2	4.3	15.8	67	1992	31	31.0	1986	-48	1969	24	-.8	1982	1527	0	.0	.0	1.5	17.2	30.1	12.8
Feb	34.4	10.8	22.6	73	1992	27	35.9	1991	-45+	1994	8	5.7	1989	1187	0	.0	.0	4.7	11.4	26.9	7.6
Mar	45.2	20.6	32.9	79	1993	23	42.3	1986	-39	1996	6	20.8	1996	995	0	.0	.0	12.6	5.0	27.6	2.3
Apr	58.3	30.7	44.5	92	1980	20	52.6	1987	-5+	1986	14	37.0	1975	615	0	.0	@	23.6	.7	17.2	.1
May	69.1	41.1	55.1	100	1988	29	62.3	1988	15	1976	2	49.7	1974	320	13	@	.8	29.8	.0	4.5	.0
Jun	78.2	49.5	63.9	106+	1988	26	76.0	1988	27	1989	26	59.4	1998	123	89	.4	3.4	30.0	.0	.2	.0
Jul	85.3	53.9	69.6	105+	1983	8	74.5	1989	33	1972	4	61.1	1993	44	185	1.0	9.6	31.0	.0	.0	.0
Aug	85.0	52.5	68.8	107+	1983	6	75.5	1971	32	1992	30	62.2	1977	75	192	1.0	10.3	31.0	.0	@	.0
Sep	72.7	41.6	57.2	103	1983	1	65.0	1998	11	1995	21	50.5	1985	271	36	.1	1.9	28.8	.0	4.0	.0
Oct	60.2	31.2	45.7	90+	1992	1	49.4	1979	-11	1984	31	40.1	1984	598	0	.0	.1	25.1	.5	15.9	.2
Nov	41.9	17.9	29.9	79+	1999	12	40.1	1999	-30+	1993	24	10.9	1985	1054	0	.0	.0	9.5	7.3	26.8	3.5
Dec	31.2	7.4	19.3	66	1980	16	30.8	1999	-49	1989	19	-1.4	1983	1417	0	.0	.0	2.8	14.3	30.2	9.8
Ann	57.4	30.1	43.8	107+	Aug 1983	6	76.0	Jun 1988	-49	Dec 1989	19	-1.4	Dec 1983	8226	515	2.5	26.1	230.4	56.4	183.4	36.3

+ 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: 1950-2001

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

037-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: CONTENT 3 SSE, MT

COOP ID: 241984

Climate Division: MT 3

NWS Call Sign:

Elevation: 2,340 Feet Lat: 47° 59N

Lon: 107° 33W

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	.35	.30	.60	1990	16	1.56	1971	.00+	1975	3.5	1.6	@	.0	.00	.05	.12	.17	.23	.29	.36	.44	.55	.73	.90
Feb	.25	.20	.45	1982	22	.95	1978	.00+	1990	2.9	1.2	.0	.0	.00	.00	.04	.08	.12	.17	.23	.31	.41	.59	.77
Mar	.52	.46	.58	1980	31	1.63	1987	.10	1994	4.2	2.2	.1	.0	.11	.16	.23	.30	.37	.44	.53	.63	.76	.97	1.16
Apr	.97	.91	1.90	1998	25	3.04	1973	.01	1977	5.5	3.3	.4	@	.12	.19	.33	.47	.61	.77	.95	1.18	1.50	2.01	2.51
May	2.24	2.06	2.33	1982	28	5.65	1986	.30	1993	8.2	5.7	1.4	.3	.37	.56	.89	1.20	1.52	1.86	2.26	2.74	3.38	4.42	5.42
Jun	2.26	1.89	2.25	1974	21	5.67	1973	.20	1979	6.7	5.6	1.4	.4	.49	.70	1.03	1.33	1.63	1.95	2.31	2.75	3.32	4.23	5.09
Jul	1.66	1.36	2.50	1998	4	6.45	1993	.00	1984	5.4	4.5	1.0	.2	.11	.27	.54	.78	1.04	1.32	1.64	2.05	2.59	3.48	4.34
Aug	1.22	.70	2.00	1972	13	4.47	1975	.05	2000	4.0	2.9	.7	.2	.09	.16	.32	.48	.67	.89	1.15	1.47	1.93	2.70	3.47
Sep	1.06	.75	5.57	1986	25	9.39	1986	.00	1990	3.8	2.6	.5	.1	.01	.06	.18	.33	.49	.70	.95	1.27	1.74	2.54	3.34
Oct	.70	.69	1.46	1981	12	1.80	1998	.00	1987	3.0	2.2	.4	.1	.03	.08	.18	.28	.39	.52	.67	.86	1.12	1.56	1.99
Nov	.36	.34	.50+	1998	3	1.50	1998	.00+	1987	3.6	1.8	.1	.0	.00	.00	.06	.13	.20	.27	.36	.46	.60	.83	1.06
Dec	.38	.30	.40+	1998	28	1.46	1977	.00+	1979	3.7	1.7	.0	.0	.00	.05	.12	.18	.24	.30	.38	.47	.60	.80	1.00
Ann	11.97	10.97	5.57	Sep 1986	25	9.39	Sep 1986	.00+	Sep 1990	54.5	35.3	6.0	1.3	6.51	7.46	8.73	9.74	10.66	11.57	12.53	13.62	14.97	16.98	18.76

+ 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

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Station: CONTENT 3 SSE, MT

COOP ID: 241984

Climate Division: MT 3

NWS Call Sign:

Elevation: 2,340 Feet

Lat: 47° 59N

Lon: 107° 33W

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	4.0	1.3	3	0	5.0	1971	17	13.6	1978	30	1978	18	23	1978	2.2	1.4	.8	.2	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.1	.3	3	#	4.0	1972	27	9.3	1972	33	1978	7	28	1978	1.0	.6	.1	.0	.0	.8	.2	.0	.0
Mar	1.4	.0	1	0	4.0	1972	26	6.0	1971	10+	1972	1	6	1971	.6	.5	.2	.0	.0	2.0	1.9	1.9	.1
Apr	.4	.0	#	0	2.5	1972	16	3.5	1972	8	1975	8	1	1975	.2	.2	.0	.0	.0	.1	.1	.0	.0
May	#	.0	0	0	#	1971	17	#	1971	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	#	1985	23	#+	1985	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	0	0	5.0	1981	12	5.0	1981	4	1975	8	1	1975	.2	.1	.1	.1	.0	.0	.0	.0	.0
Nov	.8	#	#	0	6.0	1973	7	6.0	1973	11	1975	30	1	1975	.3	.2	.1	.1	.0	.1	.0	.0	.0
Dec	1.0	-99.9	1	#	4.0	1973	18	4.0	1973	20	1977	30	9	1977	1.2	.7	.4	.0	.0	-9.9	-9.9	-9.9	-9.9
Ann	10.1	-9.9	N/A	N/A	6.0	Nov 1973	7	13.6	Jan 1978	33	Feb 1978	7	28	Feb 1978	5.7	3.7	1.7	.4	.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

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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	6/27	6/19	6/13	6/08	6/03	5/29	5/24	5/18	5/10
32	6/06	5/30	5/26	5/22	5/18	5/14	5/10	5/05	4/29
28	5/24	5/18	5/13	5/09	5/06	5/02	4/28	4/23	4/17
24	5/06	5/01	4/28	4/25	4/22	4/20	4/17	4/13	4/08
20	4/28	4/23	4/19	4/16	4/13	4/10	4/07	4/03	3/28
16	4/22	4/16	4/11	4/07	4/03	3/30	3/26	3/21	3/15
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	8/18	8/23	8/27	8/31	9/03	9/06	9/09	9/13	9/19
32	9/04	9/08	9/11	9/14	9/16	9/19	9/21	9/24	9/28
28	9/10	9/15	9/18	9/22	9/24	9/27	9/30	10/04	10/09
24	9/18	9/24	9/28	10/02	10/05	10/08	10/12	10/16	10/22
20	9/24	10/01	10/06	10/10	10/14	10/18	10/22	10/27	11/03
16	10/01	10/08	10/13	10/17	10/21	10/25	10/29	11/02	11/09
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	116	108	102	96	91	86	81	75	66
32	145	137	131	126	121	116	111	105	96
28	166	158	151	146	141	136	131	125	116
24	189	181	175	170	165	160	155	150	141
20	212	202	195	189	183	177	171	164	154
16	226	217	211	205	200	195	189	183	174

* 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)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1527	1187	995	615	320	123	44	75	271	598	1054	1417	8226
60	1374	1058	840	469	196	55	13	31	165	443	904	1262	6810
57	1285	979	748	386	136	29	6	17	113	352	821	1169	6041
55	1227	926	689	333	103	18	1	11	84	293	765	1109	5559
50	1084	798	546	215	42	4	0	2	33	165	626	967	4482
32	604	405	157	13	0	0	0	0	0	6	236	486	1907

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	100	142	185	388	716	956	1165	1140	755	431	172	92	6242
55	10	19	5	18	105	285	453	438	149	5	11	1	1499
57	6	16	2	11	76	236	396	382	118	2	7	0	1252
60	2	11	0	4	43	171	310	303	79	0	0	0	923
65	0	0	0	0	13	89	185	192	36	0	0	0	515
70	0	0	0	0	2	35	97	108	13	0	0	0	255

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	1	9	49	200	480	723	919	896	524	236	37	3	1	10	59	259	739	1462	2381	3277	3801	4037	4074	4077
45	0	1	15	109	337	573	764	741	378	129	11	0	0	1	16	125	462	1035	1799	2540	2918	3047	3058	3058
50	0	0	1	53	200	425	609	587	250	60	2	0	0	0	1	54	254	679	1288	1875	2125	2185	2187	2187
55	0	0	0	17	103	280	455	432	143	22	0	0	0	0	0	17	120	400	855	1287	1430	1452	1452	1452
60	0	0	0	4	44	158	306	288	67	4	0	0	0	0	0	4	48	206	512	800	867	871	871	871
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	13	55	161	309	449	584	564	347	185	34	1	0	13	68	229	538	987	1571	2135	2482	2667	2701	2702

(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