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: SAINT MARIES 1 W, ID **COOP ID: 108062**

Climate Division: ID 1 **NWS Call Sign: S72** **Elevation: 2,320 Feet** **Lat: 47˚19N** **Lon: 116˚35W**

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	34.4	23.3	28.9	56+	1971	31	35.7	1994	-26	1950	30	12.0	1979	1121	0	.0	.0	.4	10.2	25.9	1.6
Feb	41.0	26.3	33.7	66	1988	28	42.3	1991	-23	1950	1	23.8	1989	879	0	.0	.0	4.2	3.8	21.9	.9
Mar	49.6	30.1	39.9	79	1986	27	45.3	1986	-10	1955	5	34.8	1976	779	0	.0	.0	14.9	.3	20.0	@
Apr	58.5	34.7	46.6	95	1987	27	52.2	1987	16	1979	21	41.8	1975	553	0	.0	.1	24.5	.0	12.1	.0
May	66.7	40.9	53.8	95	1993	12	59.5	1993	20	1954	1	49.4	1996	350	3	.0	.7	30.1	.0	3.0	.0
Jun	74.0	46.7	60.4	100+	1990	29	65.1	1974	29	1951	1	54.3	1981	171	32	.1	2.1	29.9	.0	.1	.0
Jul	82.9	50.2	66.6	105+	1984	25	73.1	1985	33+	1979	2	59.4	1993	86	134	.7	9.1	31.0	.0	.0	.0
Aug	83.7	49.8	66.8	109	1961	4	71.8	1971	30	1980	29	60.0	1980	77	130	.7	9.5	31.0	.0	@	.0
Sep	73.3	42.3	57.8	104	1988	3	67.4	1990	21+	1985	29	50.4	1985	258	42	.1	1.9	29.8	.0	2.6	.0
Oct	58.0	34.6	46.3	88	1963	2	50.7	1986	9	1971	28	41.5	1985	580	0	.0	.0	25.0	.0	11.4	.0
Nov	40.9	29.6	35.3	69	1975	4	41.6	1999	-14+	1955	16	23.0	1985	893	0	.0	.0	4.3	3.6	19.0	.2
Dec	33.8	23.8	28.8	57+	1962	8	37.5	1979	-29	1968	30	20.4	1983	1123	0	.0	.0	.5	11.2	26.0	1.1
Ann	58.1	36.0	47.1	109	Aug 1961	4	73.1	Jul 1985	-29	Dec 1968	30	12.0	Jan 1979	6870	341	1.6	23.4	225.6	29.1	142.0	3.8

\+ 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: 1948-2001

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

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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	3.91	3.99	2.17	1989	3	8.60	1974	.49	1985
Feb	3.10	3.34	1.84	1949	10	6.78	1999	.23	1988
Mar	2.68	2.43	1.18	1989	27	4.93	1989	1.11	1990
Apr	2.28	2.34	1.47	1996	24	5.73	1996	.41	1988
May	2.49	2.42	1.62	1985	30	4.33	1990	.99	1982
Jun	1.96	1.75	1.85	1957	6	5.07	1971	.78	1977
Jul	1.28	1.01	1.38	1993	15	5.35	1993	.00	1973
Aug	1.13	.92	1.72	1992	22	4.30	1989	.00	1994
Sep	1.40	1.32	1.41	1985	17	3.80	1985	.00	1990
Oct	2.02	1.75	2.33	1994	27	5.10	1990	.02	1987
Nov	4.13	3.97	1.78	1964	24	8.61	1973	.69	1987
Dec	4.25	3.76	2.26	1998	2	9.78	1996	1.02	1985
Ann	30.63	31.66	2.33	Oct 1994	27	9.78	Dec 1996	.00+	Aug 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.9	9.1	2.3	.4
Feb	11.2	7.5	1.6	.4
Mar	12.1	8.1	1.1	@
Apr	11.3	6.6	1.1	.1
May	11.9	6.5	1.1	.1
Jun	9.3	5.2	.9	.3
Jul	6.0	3.0	.7	.2
Aug	4.7	2.8	.5	.1
Sep	6.1	3.3	.5	.1
Oct	8.5	5.4	.9	.2
Nov	14.0	9.3	2.4	.5
Dec	13.2	9.3	2.7	.5
Ann	122.2	76.1	15.8	2.9

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	1.22	1.59	2.14	2.61	3.07	3.55	4.07	4.68	5.47	6.70	7.84
Feb	.69	.98	1.43	1.84	2.25	2.69	3.17	3.76	4.53	5.76	6.91
Mar	1.23	1.46	1.79	2.06	2.30	2.55	2.81	3.12	3.50	4.07	4.59
Apr	.70	.92	1.24	1.52	1.79	2.07	2.37	2.73	3.20	3.92	4.59
May	1.17	1.39	1.68	1.92	2.15	2.37	2.61	2.88	3.22	3.74	4.20
Jun	.83	1.01	1.26	1.47	1.66	1.85	2.06	2.30	2.60	3.06	3.48
Jul	.06	.17	.35	.54	.74	.97	1.24	1.57	2.02	2.78	3.52
Aug	.05	.15	.32	.48	.66	.86	1.10	1.39	1.79	2.46	3.12
Sep	.04	.14	.33	.53	.76	1.01	1.32	1.71	2.24	3.15	4.05
Oct	.15	.28	.54	.81	1.12	1.48	1.91	2.45	3.20	4.47	5.72
Nov	1.22	1.61	2.20	2.71	3.20	3.72	4.29	4.96	5.83	7.19	8.45
Dec	1.36	1.77	2.36	2.87	3.36	3.87	4.43	5.08	5.92	7.23	8.43
Ann	21.39	23.17	25.45	27.18	28.73	30.22	31.77	33.49	35.57	38.59	41.21

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

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	15.6	14.9	9	7
Feb	10.0	6.3	5	2
Mar	3.7	1.5	2	#
Apr	.2	.0	#	0
May	.0	.0	#	0
Jun	#	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.4	.0	#	0
Nov	8.2	3.8	1	#
Dec	20.4	11.5	5	3
Ann	58.5	38.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	14.0	1982	25	42.7	1972	59	1982	25	40	1982
Feb	10.0	1975	7	27.5	1975	31	1993	21	23	1993
Mar	5.8	1996	24	17.9	1997	26	1989	2	14	1997
Apr	4.0	1971	24	4.0+	1971	#+	1999	5	#+	1999
May	.7	2000	11	.7	2000	#+	1999	8	#+	1999
Jun	#	1995	6	#	1995	#	1995	6	#	1995
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1972	24	#	1972	0	0	0	0	0
Oct	6.0	1971	27	7.0	1971	3	1971	27	#+	1996
Nov	7.0	1994	4	32.0	1994	16	1973	25	6	1985
Dec	12.8	1992	20	78.2	1996	33	1996	29	18	1996
Ann	14.0	Jan 1982	25	78.2	Dec 1996	59	Jan 1982	25	40	Jan 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.3	5.0	2.2	.9	.1
Feb	3.6	2.5	1.0	.5	.1
Mar	1.7	1.1	.4	.1	.0
Apr	.4	.1	@	.0	.0
May	.1	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.1	@	@	.0
Nov	3.5	2.2	1.0	.4	.0
Dec	6.8	4.4	2.3	1.0	@
Ann	23.6	15.4	6.9	2.9	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	9.9	7.2	5.7	3.7
Mar	3.8	2.3	1.8	1.1
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.3	@	.0	.0
Nov	6.9	4.2	2.5	.3
Dec	16.1	11.6	10.6	5.9
Ann	-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	7/01	6/23	6/18	6/14	6/10	6/06	6/01	5/27	5/20
32	5/31	5/25	5/21	5/18	5/15	5/11	5/08	5/04	4/28
28	5/14	5/07	5/01	4/27	4/23	4/18	4/14	4/08	4/01
24	4/20	4/11	4/05	3/30	3/25	3/20	3/14	3/08	2/27
20	3/30	3/21	3/14	3/09	3/03	2/26	2/21	2/14	2/05
16	3/26	3/13	3/04	2/24	2/16	2/09	2/01	1/22	1/10

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	8/28	9/02	9/07	9/10	9/13	9/17	9/20	9/25	9/30
32	9/07	9/12	9/16	9/19	9/22	9/25	9/29	10/02	10/08
28	9/20	9/27	10/02	10/06	10/10	10/14	10/18	10/23	10/30
24	10/04	10/13	10/19	10/25	10/30	11/04	11/10	11/16	11/25
20	10/18	10/28	11/04	11/11	11/17	11/23	11/29	12/07	12/17
16	10/26	11/07	11/15	11/23	11/30	12/07	12/14	12/23	1/04

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	123	113	106	100	95	89	84	77	67
32	155	146	140	135	130	125	120	114	105
28	200	190	182	176	170	164	157	150	140
24	258	244	234	226	218	211	202	192	179
20	297	283	274	265	258	250	242	232	219
16	337	313	301	291	282	273	264	254	240

***** 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	1121	879	779	553	350	171	86	77	258	580	893	1123	6870
60	966	739	624	405	212	80	32	27	158	427	743	968	5381
57	873	655	531	321	144	42	16	13	110	337	653	875	4570
55	811	599	469	267	107	24	10	7	83	280	593	813	4063
50	656	463	319	152	40	5	0	1	35	154	451	658	2934
32	197	91	13	1	0	0	0	0	0	1	84	194	581

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	99	136	257	438	676	850	1071	1077	774	444	181	94	6097
55	0	0	0	15	70	185	368	371	167	9	0	0	1185
57	0	0	0	8	45	142	312	315	134	5	0	0	961
60	0	0	0	3	20	90	234	236	92	2	0	0	677
65	0	0	0	0	3	32	134	130	42	0	0	0	341
70	0	0	0	0	0	7	61	57	16	0	0	0	141

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	20	76	221	438	622	839	844	548	228	38	2	1	21	97	318	756	1378	2217	3061	3609	3837	3875	3877
45	0	1	24	115	292	472	684	689	400	115	6	0	0	1	25	140	432	904	1588	2277	2677	2792	2798	2798
50	0	0	3	51	162	324	529	534	263	43	0	0	0	0	3	54	216	540	1069	1603	1866	1909	1909	1909
55	0	0	0	14	79	196	376	380	150	12	0	0	0	0	0	14	93	289	665	1045	1195	1207	1207	1207
60	0	0	0	0	31	95	229	240	66	0	0	0	0	0	0	0	31	126	355	595	661	661	661	661
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	10	57	149	271	380	518	528	356	153	9	0	0	10	67	216	487	867	1385	1913	2269	2422	2431	2431

(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:
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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