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 ANTHONY 1 WNW, ID **COOP ID: 108022**

Climate Division: ID 9 **NWS Call Sign:** **Elevation: 4,950 Feet** **Lat: 43˚58N** **Lon: 111˚43W**

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	28.8	6.9	17.9	52	1981	23	28.0	1981	-33	1963	19	10.4	1979	1461	0	.0	.0	.2	19.8	30.7	9.7
Feb	34.0	9.2	21.6	60	1963	6	27.8	1992	-34+	1985	5	10.0	1985	1216	0	.0	.0	.3	10.8	28.0	6.4
Mar	43.6	17.5	30.6	74	1986	29	39.7	1992	-21	1993	1	22.1	1985	1070	0	.0	.0	6.4	2.4	29.8	1.3
Apr	55.7	25.4	40.6	85	1987	28	45.5+	1992	1	1975	1	32.7	1975	734	0	.0	.0	20.4	.1	23.4	.0
May	65.6	34.3	50.0	89+	1986	31	54.5	1992	14	1984	6	46.3	1990	466	0	.0	.0	28.7	.0	11.0	.0
Jun	74.4	41.2	57.8	100	1988	26	63.7	1988	23	1951	3	54.2	1993	230	14	@	.9	29.8	.0	1.7	.0
Jul	82.8	45.8	64.3	98+	1980	23	69.5	1998	30	1983	11	54.8	1993	107	85	.0	3.9	31.0	.0	.3	.0
Aug	82.7	43.3	63.0	98	1990	9	67.1	1971	22+	1992	27	58.2	1993	117	56	.0	3.1	31.0	.0	.9	.0
Sep	73.0	35.1	54.1	95	1948	2	59.7	1990	15	1983	21	48.7	1985	335	7	.0	.2	29.5	.0	8.7	.0
Oct	60.1	26.4	43.3	86	1992	2	49.6	1988	2	1970	27	39.2	1995	674	0	.0	.0	24.9	.1	22.9	.0
Nov	41.7	16.9	29.3	77	1949	4	37.4	1999	-21+	1993	26	20.5	2000	1071	0	.0	.0	6.6	5.8	28.3	2.1
Dec	30.3	7.6	19.0	59	1995	2	29.1	1979	-40	1990	22	8.7	1990	1428	0	.0	.0	.3	18.0	30.5	8.0
Ann	56.1	25.8	41.0	100	Jun 1988	26	69.5	Jul 1998	-40	Dec 1990	22	8.7	Dec 1990	8909	162	@	8.1	209.1	57.0	216.2	27.5

\+ 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

Issue Date: February 2004

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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	1.26	1.10	1.50	1995	9	3.80	1995	.17	1992
Feb	.90	.89	.80	1998	25	2.48	1978	.06	1982
Mar	1.10	.94	2.00	1998	28	3.04	1998	.09	1994
Apr	1.13	1.09	1.30	1999	21	2.86	1993	.02	1987
May	2.02	1.72	1.00	1949	17	4.66	1980	.13	1979
Jun	1.52	1.34	1.81	1998	14	4.93	1998	.00	1979
Jul	.97	.80	1.56	1967	17	3.18	1995	.00+	1999
Aug	.75	.74	1.40	1951	4	2.06	1997	.10	1988
Sep	.92	.99	1.24	1950	9	2.14	1972	.00+	1999
Oct	1.00	.83	1.10	1964	30	3.92	1994	.00+	1978
Nov	1.32	1.30	1.50	1998	8	3.52	1988	.00	1976
Dec	1.30	1.19	1.25	1987	10	2.60	1996	.00+	1986
Ann	14.19	13.93	2.00	Mar 1998	28	4.93	Jun 1998	.00+	Sep 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	4.4	.3	@
Feb	7.6	3.4	.1	.0
Mar	8.1	3.2	.3	.1
Apr	7.7	3.8	.3	.1
May	10.0	6.0	1.0	.0
Jun	8.0	4.2	.7	.2
Jul	5.0	2.7	.5	.1
Aug	5.4	2.7	.3	.0
Sep	4.9	2.7	.4	.1
Oct	5.3	3.1	.5	.0
Nov	8.2	4.7	.4	.1
Dec	9.0	4.6	.2	.1
Ann	88.8	45.5	5.0	.8

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	.37	.49	.67	.83	.98	1.14	1.31	1.52	1.78	2.20	2.58
Feb	.12	.20	.33	.45	.58	.73	.90	1.10	1.39	1.84	2.29
Mar	.19	.28	.44	.60	.75	.92	1.11	1.35	1.66	2.17	2.65
Apr	.10	.18	.33	.49	.66	.86	1.09	1.38	1.78	2.44	3.09
May	.30	.47	.76	1.04	1.33	1.65	2.02	2.47	3.08	4.07	5.01
Jun	.12	.29	.53	.76	.99	1.24	1.53	1.88	2.35	3.12	3.86
Jul	.00	.00	.27	.44	.61	.78	.99	1.24	1.56	2.09	2.60
Aug	.13	.19	.30	.40	.51	.62	.75	.91	1.12	1.47	1.80
Sep	.00	.00	.21	.40	.57	.75	.94	1.18	1.51	2.01	2.50
Oct	.00	.04	.16	.30	.47	.66	.90	1.21	1.65	2.39	3.14
Nov	.19	.37	.59	.77	.96	1.15	1.36	1.62	1.95	2.48	2.97
Dec	.00	.41	.68	.87	1.04	1.21	1.39	1.61	1.88	2.30	2.69
Ann	8.88	9.86	11.14	12.14	13.03	13.90	14.82	15.83	17.09	18.92	20.54

\+ 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: 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	9.4	6.0	11	14
Feb	5.9	6.1	7	6
Mar	1.1	.3	3	0
Apr	.6	.0	#	0
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	3.8	2.3	1	0
Dec	7.8	5.6	6	5
Ann	29.2	20.3	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	8.0	1974	19	22.0	1998	24	1976	11	18	1975
Feb	4.0	1971	3	11.7	1998	23	1975	10	18+	1975
Mar	6.0	1985	2	6.0	1985	19	1976	2	13	1998
Apr	4.0	1985	22	6.0	1985	10	1976	3	4	1975
May	2.0	1975	20	2.0	1975	2	1975	20	#	1975
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	5.0	1975	23	7.8	1975	7	1975	23	1	1975
Nov	8.0	1971	27	14.8	1994	16	1975	30	5	1991
Dec	8.0	1972	4	24.0	1971	22	1971	31	17	1992
Ann	8.0+	Jan 1974	19	24.0	Dec 1971	24	Jan 1976	11	18+	Feb 1975

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.9	3.8	1.2	.2	.0
Feb	2.7	2.1	.5	.0	.0
Mar	1.3	.8	.2	.1	.0
Apr	.4	.3	@	.0	.0
May	@	@	.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	.4	.2	.1	@	.0
Nov	2.0	1.8	.8	.4	.0
Dec	4.4	3.9	1.1	.1	.0
Ann	16.1	12.9	3.9	.8	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	1.8	1.5	1.3	.0
May	.1	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.6	.3	.1	.0
Nov	-9.9	-9.9	-9.9	-9.9
Dec	-9.9	-9.9	-9.9	-9.9
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	7/19	7/12	7/08	7/03	6/30	6/26	6/22	6/17	6/10
32	7/06	6/28	6/22	6/17	6/12	6/08	6/03	5/28	5/19
28	6/14	6/08	6/03	5/29	5/25	5/21	5/17	5/12	5/05
24	5/23	5/17	5/14	5/11	5/08	5/05	5/02	4/28	4/23
20	5/10	5/04	4/29	4/26	4/22	4/19	4/15	4/11	4/05
16	5/03	4/26	4/21	4/17	4/12	4/08	4/04	3/30	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	8/07	8/13	8/18	8/22	8/25	8/29	9/02	9/06	9/13
32	8/16	8/23	8/28	9/01	9/05	9/09	9/13	9/18	9/25
28	9/04	9/09	9/12	9/15	9/18	9/21	9/24	9/27	10/02
24	9/08	9/15	9/20	9/25	9/29	10/03	10/07	10/12	10/19
20	9/24	10/01	10/05	10/09	10/13	10/17	10/21	10/25	11/01
16	10/05	10/12	10/16	10/20	10/24	10/28	11/01	11/06	11/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	86	75	68	62	56	50	44	37	26
32	115	105	97	90	84	78	71	63	53
28	138	130	124	119	115	110	105	100	92
24	168	160	153	148	143	138	133	127	118
20	199	190	184	178	173	168	162	155	146
16	230	218	209	201	194	187	179	171	158

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1461	1216	1070	734	466	230	107	117	335	674	1071	1428	8909
60	1306	1076	915	584	315	119	40	43	206	519	921	1273	7317
57	1213	992	822	494	232	70	19	19	142	427	831	1180	6441
55	1151	936	760	436	181	45	11	10	106	366	771	1118	5891
50	996	796	607	299	83	10	1	1	42	226	623	963	4647
32	459	317	162	23	0	0	0	0	0	7	187	430	1585

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	20	25	115	279	557	774	1001	962	661	356	106	25	4881
55	0	0	0	2	25	129	299	260	78	2	0	0	795
57	0	0	0	0	13	94	245	206	54	1	0	0	613
60	0	0	0	0	4	53	173	137	28	0	0	0	395
65	0	0	0	0	0	14	85	56	7	0	0	0	162
70	0	0	0	0	0	2	28	14	1	0	0	0	45

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	0	13	119	328	539	757	727	442	174	13	0	0	0	13	132	460	999	1756	2483	2925	3099	3112	3112
45	0	0	1	52	198	393	602	572	300	80	1	0	0	0	1	53	251	644	1246	1818	2118	2198	2199	2199
50	0	0	0	19	101	253	447	419	180	24	0	0	0	0	0	19	120	373	820	1239	1419	1443	1443	1443
55	0	0	0	1	40	141	297	269	84	4	0	0	0	0	0	1	41	182	479	748	832	836	836	836
60	0	0	0	0	6	54	155	134	25	0	0	0	0	0	0	0	6	60	215	349	374	374	374	374
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	20	114	248	366	502	497	343	173	22	0	0	0	20	134	382	748	1250	1747	2090	2263	2285	2285

(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