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: ST PAUL ISLAND AP, AK **COOP ID: 508118**

Climate Division: AK 3 **NWS Call Sign: SNP** **Elevation: 22 Feet** **Lat: 57˚10N** **Lon: 170˚13W**

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 >= 90	Max >= 70	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	29.8	21.5	25.7	44+	1980	4	34.3	1979	-14	1976	29	17.6	1975	1220	0	.0	.0	.0	15.9	25.5	1.1
Feb	27.6	18.9	23.3	42	1996	17	34.1	1989	-16	1991	6	9.6	1991	1174	0	.0	.0	.0	15.9	25.3	2.9
Mar	28.8	19.5	24.2	50	1980	18	33.0	1996	-19	1971	14	10.9	1972	1250	0	.0	.0	@	17.5	28.4	2.3
Apr	32.8	24.0	28.4	49	1993	28	36.1	1979	-8	1976	23	17.3	1976	1097	0	.0	.0	.0	11.5	25.0	.4
May	39.8	31.5	35.7	59+	1997	28	40.6	1979	8	1971	5	27.5	1971	911	0	.0	.0	.6	2.2	17.1	.0
Jun	46.2	37.6	41.9	62	2000	25	46.7	1979	16	1985	3	35.8	1971	693	0	.0	.0	6.3	.0	3.3	.0
Jul	50.3	43.0	46.7	63+	1992	28	49.4	1993	28	1961	13	41.7	1971	569	0	.0	.0	18.4	.0	.2	.0
Aug	51.6	45.1	48.4	66	1987	25	51.1	1977	29	1981	15	44.5	1971	518	0	.0	.0	24.1	.0	.1	.0
Sep	49.2	40.7	45.0	61	1979	10	48.1	1979	22+	1992	25	41.9	1971	603	0	.0	.0	13.9	.0	2.6	.0
Oct	42.5	34.1	38.3	53	1978	1	43.3	1979	12	1983	30	36.0	1999	828	0	.0	.0	.9	.6	11.8	.0
Nov	37.1	29.1	33.1	48+	1979	14	38.0	1978	4	1988	26	28.1	1987	957	0	.0	.0	.0	5.0	19.3	.0
Dec	32.9	24.7	28.8	44+	1979	3	34.6	2000	-3	1974	31	17.3	1999	1122	0	.0	.0	.0	11.0	22.7	.1
Ann	39.1	30.8	35.0	66	Aug 1987	25	51.1	Aug 1977	-19	Mar 1971	14	9.6	Feb 1991	10942	0	.0	.0	64.2	79.6	181.3	6.8

\+ 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: 1949-2001

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

Issue Date: May 2005

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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	1.74	1.46	1.38	1964	30	3.36	1987	.28	1983
Feb	1.25	1.06	1.35	1964	4	3.34	1973	.02	1984
Mar	1.12	1.04	1.04	1973	10	3.28	1973	.09	1986
Apr	1.12	.91	1.12	1995	28	3.21	1979	.08	1992
May	1.21	1.13	.77+	1992	11	2.79	1998	.50	1975
Jun	1.41	1.19	1.28	1996	23	3.05	1980	.01	1995
Jul	1.91	2.01	1.54	2001	2	3.25	1986	.36	1988
Aug	2.96	3.01	1.47	1953	26	5.50	1986	.17	1977
Sep	2.79	2.62	1.50	1949	18	4.95	1991	.62	1977
Oct	2.70	2.61	1.93	1949	6	6.21	1987	.96	1977
Nov	2.87	2.83	1.46	1993	17	5.40	1993	.88	1975
Dec	2.13	2.17	1.00	1961	7	4.50	2000	.69	1999
Ann	23.21	24.11	1.93	Oct 1949	6	6.21	Oct 1987	.01	Jun 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	18.6	5.1	.3	.1
Feb	14.5	4.0	.3	.0
Mar	16.0	3.8	.1	.0
Apr	13.9	3.3	.2	.0
May	14.3	3.7	.3	.0
Jun	12.7	4.2	.5	.0
Jul	14.7	5.5	.8	.1
Aug	17.7	8.2	1.4	.3
Sep	18.7	8.0	1.1	.3
Oct	20.9	8.2	.8	.1
Nov	22.5	8.9	.9	.1
Dec	21.1	7.4	.3	.0
Ann	205.6	70.3	7.0	1.0

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	.35	.50	.76	.99	1.23	1.49	1.77	2.12	2.58	3.32	4.01
Feb	.16	.26	.44	.61	.79	1.00	1.23	1.53	1.92	2.57	3.20
Mar	.19	.28	.45	.60	.76	.93	1.13	1.37	1.69	2.21	2.71
Apr	.14	.23	.38	.54	.71	.89	1.10	1.37	1.73	2.32	2.90
May	.50	.61	.77	.89	1.02	1.14	1.27	1.42	1.62	1.91	2.18
Jun	.24	.36	.57	.76	.96	1.17	1.42	1.72	2.12	2.78	3.40
Jul	.67	.85	1.12	1.34	1.55	1.76	2.00	2.27	2.62	3.16	3.66
Aug	.99	1.27	1.69	2.03	2.37	2.71	3.09	3.53	4.09	4.97	5.77
Sep	1.08	1.34	1.71	2.02	2.30	2.60	2.92	3.29	3.75	4.47	5.13
Oct	1.15	1.39	1.73	2.01	2.27	2.54	2.83	3.16	3.57	4.20	4.78
Nov	1.02	1.29	1.68	2.01	2.32	2.64	3.00	3.40	3.92	4.73	5.47
Dec	.60	.80	1.11	1.37	1.63	1.90	2.20	2.56	3.02	3.74	4.41
Ann	14.49	16.09	18.19	19.82	21.28	22.72	24.21	25.89	27.94	30.96	33.60

\+ 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: 1949-2001
(3) Derived from 1971-2000 daily data

Complete documentation available from:
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Climate Division: AK 3 **NWS Call Sign: SNP** **Elevation: 22 Feet** **Lat: 57°10N** **Lon: 170°13W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.9	7.7	2	2
Feb	8.2	6.9	4	3
Mar	8.2	6.5	5	4
Apr	6.1	5.5	6	4
May	2.0	1.4	1	0
Jun	.1	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	2.2	1.8	#	0
Nov	7.1	6.1	#	0
Dec	7.5	6.6	1	1
Ann	50.3	42.5	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	7.0	1979	13	19.7	1999	15+	1992	4	11	1975
Feb	10.1	2000	1	23.9	1973	24	1990	13	14	1990
Mar	8.1	1994	26	23.3	1999	27	2000	31	25	2000
Apr	3.7	1985	28	15.6	1972	30	2000	4	23	1999
May	3.2	1971	8	12.7	1971	18	1971	13	12	1971
Jun	.9	1975	6	1.2	1975	2+	1975	6	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	.4	1975	18	.4	1975	0	0	0	0	0
Oct	9.3	1978	14	12.5	1978	11	1978	14	1+	1999
Nov	5.6	1988	27	24.2	1988	12	1988	29	2+	1998
Dec	3.6	1987	24	17.2	1991	14	1998	10	4+	1998
Ann	10.1	Feb 2000	1	24.2	Nov 1988	30	Apr 2000	4	25	Mar 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	13.7	3.1	.2	.1	.0
Feb	11.4	2.4	.3	.1	.0
Mar	12.9	2.4	.3	@	.0
Apr	10.6	1.8	.1	.0	.0
May	4.5	.5	@	.0	.0
Jun	.2	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	.0	.0	.0	.0
Oct	4.2	.4	@	@	.0
Nov	11.4	2.3	.2	.1	.0
Dec	11.8	2.5	.2	.0	.0
Ann	80.8	15.4	1.3	.3	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	17.8	11.4	8.8	2.4
Feb	17.9	13.9	9.0	2.5
Mar	21.7	17.2	13.7	5.3
Apr	17.9	15.4	12.3	7.9
May	6.9	5.1	3.8	1.8
Jun	.5	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	1.4	.3	.1	.1
Nov	8.0	2.3	.7	.1
Dec	12.0	5.1	2.3	.3
Ann	104.1	70.7	50.7	20.4

+ 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	7/30	7/22	7/16	7/11	7/07	7/02	6/28	6/22	6/14
32	7/07	6/30	6/24	6/20	6/15	6/11	6/06	6/01	5/24
28	6/12	6/06	6/01	5/29	5/25	5/22	5/18	5/14	5/08
24	5/31	5/22	5/16	5/11	5/06	5/01	4/26	4/20	4/11
20	5/18	5/09	5/03	4/27	4/22	4/17	4/12	4/06	3/28
16	5/10	5/01	4/24	4/19	4/13	4/08	4/02	3/27	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	8/12	8/18	8/23	8/27	8/31	9/04	9/08	9/13	9/20
32	8/30	9/05	9/10	9/14	9/18	9/22	9/26	9/30	10/07
28	9/17	9/23	9/27	9/30	10/04	10/07	10/11	10/15	10/21
24	10/06	10/13	10/17	10/21	10/25	10/29	11/02	11/07	11/14
20	10/27	11/02	11/07	11/11	11/14	11/18	11/22	11/27	12/03
16	11/05	11/11	11/15	11/19	11/22	11/26	11/30	12/04	12/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	92	79	70	62	55	47	40	31	18
32	125	114	107	100	94	88	81	73	63
28	157	148	142	136	131	126	120	113	104
24	206	194	185	178	172	165	158	149	137
20	234	224	217	211	205	200	194	187	177
16	257	244	235	229	222	216	209	202	191

***** 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	1220	1174	1250	1097	911	693	569	518	603	828	957	1122	10942
60	1065	1034	1112	947	756	543	414	363	453	673	807	967	9134
57	972	950	1019	857	663	453	321	270	363	580	717	874	8039
55	910	894	957	797	601	393	261	210	303	518	657	812	7313
50	755	759	805	647	447	250	126	81	161	363	507	657	5558
32	252	322	327	194	54	4	0	0	0	5	71	181	1410

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	55	72	83	87	166	300	454	506	387	200	104	82	2496
55	0	0	0	0	0	0	2	2	0	0	0	0	4
57	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	0	6	85	214	268	162	35	4	0	0	0	0	0	6	91	305	573	735	770	774	774
45	0	0	0	0	0	6	71	118	49	1	0	0	0	0	0	0	0	6	77	195	244	245	245	245
50	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	0	0	5	29	32	14	0	0	0	0	0	0	0	0	5	34	66	80	80	80	80

(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 were calculated from a serially complete daily data set. A serial dataset was not available for precipitation,
To ensure that a station's data was adequate to estimate these statistics, the following criteria were used:
1. A station must have 80% of its data for the 1971-2000 time period.
2. Only months with at least 21 days are used.
3. There must be a least 21 months (meeting criteria 2.) in the sample.

g. Snowfall and snow depth statistics were derived daily values quality controlled to be consistent with 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 differences 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. Other inconsistencies may appear from comparing statistically modeled values such as degree days to observed temperatures.

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. 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