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: MCKINLEY PARK, AK **COOP ID: 505778**

Climate Division: AK 8 **NWS Call Sign:** **Elevation: 2,070 Feet** **Lat: 63˚43N** **Lon: 148˚58W**

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	10.6	-6.6	2.0	51+	1961	21	27.3	1981	-51	1989	28	-17.9	1971	1956	0	.0	.0	.0	26.5	30.7	18.8
Feb	14.5	-5.6	4.5	49+	1995	5	22.6	1997	-54	1999	5	-15.6	1979	1698	0	.0	.0	.0	22.4	28.0	16.7
Mar	25.2	.9	13.1	53	1961	31	26.6	1981	-47	1971	7	-2.5	1971	1611	0	.0	.0	.1	19.8	30.9	15.7
Apr	39.0	15.4	27.2	65	1958	27	34.8	1995	-21+	1971	4	15.8	1985	1134	0	.0	.0	3.7	6.1	29.2	3.8
May	54.1	29.8	42.0	81+	1995	11	47.6	1981	-2	1964	10	35.8	1992	715	0	.0	1.0	22.9	.3	21.3	.0
Jun	64.8	39.6	52.2	91	1991	21	55.1	1997	19	1967	14	49.0	1978	385	0	@	7.8	29.2	.0	3.0	.0
Jul	67.6	43.5	55.6	87	1971	10	58.6	1993	23	1970	20	51.7	1981	294	0	.0	10.8	30.7	.0	.3	.0
Aug	61.8	39.9	50.9	88	1994	5	56.2	1977	17	1987	31	46.5	2000	439	0	.0	4.3	28.8	.0	3.9	.0
Sep	50.8	30.2	40.5	82	1969	13	48.2	1995	-6	1992	23	26.0	1992	735	0	.0	.2	17.1	1.2	18.1	.3
Oct	32.2	12.8	22.5	61	1969	6	32.3	1979	-24	1971	24	9.8	1996	1319	0	.0	.0	1.0	16.4	29.4	5.5
Nov	18.0	.2	9.1	54	1949	21	23.7	1979	-37+	1963	25	-3.3+	1977	1678	0	.0	.0	.0	25.5	29.7	15.5
Dec	13.7	-4.0	4.9	48+	2000	29	22.7	1985	-52	1961	28	-17.1	1980	1866	0	.0	.0	.0	26.7	30.7	18.7
Ann	37.7	16.3	27.0	91	Jun 1991	21	58.6	Jul 1993	-54	Feb 1999	5	-17.9	Jan 1971	13830	0	@	24.1	133.5	144.9	255.2	95.0

\+ 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	.70	.57	1.05	1975	28	1.87	1975	.05	1974
Feb	.54	.41	1.20	1966	13	2.71	1996	.00	1973
Mar	.38	.30	1.93	1963	25	1.91	1991	.00+	1998
Apr	.27	.14	.57	1981	9	1.13	1980	.00+	1993
May	.67	.56	1.93	1968	11	1.67	1999	.11	1972
Jun	2.22	2.01	1.82	1970	17	5.67	1994	.45	1976
Jul	3.09	2.95	3.28	1967	24	7.67	1986	.76	1994
Aug	2.62	2.28	2.31	1986	22	5.76	2000	.56	1982
Sep	1.76	1.47	1.91	1992	14	4.72	1992	.39	1994
Oct	1.05	.72	2.75	1981	25	3.35	1991	.16	1987
Nov	.78	.61	1.61	1970	25	2.11	1990	.12	1983
Dec	.89	.57	1.28	1965	26	3.45	1984	.10	2000
Ann	14.97	14.73	3.28	Jul 1967	24	7.67	Jul 1986	.00+	Mar 1998

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.3	2.4	.1	.0
Feb	5.5	1.5	.2	.0
Mar	4.9	.9	.1	.0
Apr	3.2	.7	.0	.0
May	6.0	1.9	.1	.1
Jun	12.1	6.1	1.0	.3
Jul	14.3	8.3	1.6	.4
Aug	14.8	7.4	1.3	.2
Sep	11.5	5.6	.5	.1
Oct	9.4	2.8	.3	.1
Nov	8.6	2.3	.2	.0
Dec	8.2	2.4	.4	.0
Ann	105.8	42.3	5.8	1.2

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	.06	.11	.20	.30	.40	.53	.67	.86	1.11	1.54	1.96
Feb	.02	.06	.13	.21	.29	.39	.51	.65	.86	1.20	1.55
Mar	.00	.02	.08	.14	.21	.28	.36	.47	.62	.87	1.11
Apr	.00	.00	.03	.07	.12	.17	.24	.33	.45	.65	.86
May	.12	.18	.28	.37	.47	.57	.68	.82	1.01	1.31	1.59
Jun	.75	.96	1.27	1.53	1.78	2.04	2.32	2.65	3.07	3.72	4.32
Jul	1.13	1.42	1.84	2.19	2.52	2.86	3.23	3.66	4.21	5.06	5.84
Aug	.77	1.02	1.40	1.72	2.03	2.36	2.72	3.14	3.69	4.55	5.34
Sep	.38	.54	.80	1.03	1.27	1.52	1.80	2.13	2.57	3.28	3.94
Oct	.19	.28	.43	.58	.72	.88	1.06	1.28	1.57	2.04	2.49
Nov	.14	.21	.33	.43	.54	.66	.79	.95	1.17	1.51	1.84
Dec	.08	.14	.26	.38	.52	.67	.86	1.09	1.41	1.94	2.47
Ann	10.66	11.49	12.56	13.37	14.09	14.79	15.51	16.30	17.27	18.67	19.87

\+ 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 8 **NWS Call Sign:** **Elevation: 2,070 Feet** **Lat: 63°43N** **Lon: 148°58W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	10.3	8.0	18	18
Feb	8.8	6.7	21	21
Mar	6.8	5.2	22	22
Apr	3.9	2.5	19	18
May	2.5	.4	2	0
Jun	.4	.0	#	0
Jul	.0	.0	0	0
Aug	.1	.0	0	0
Sep	5.8	2.0	#	0
Oct	12.9	9.9	3	3
Nov	12.6	10.1	8	7
Dec	13.9	8.5	13	13
Ann	78.0	53.3	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	14.0	1975	28	27.7	1975	51	1971	16	46+	1993
Feb	15.8	1996	11	43.6	1996	49	1993	8	45	1993
Mar	12.0	1985	5	27.9	1991	56	1991	26	46	1971
Apr	7.5	1981	9	14.8	1992	51	1991	1	42	1991
May	6.8+	1993	17	25.5	1992	29+	1993	17	16	1992
Jun	7.0	1980	18	7.0	1980	7	1980	18	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	1.5	1984	27	2.5	1984	0	0	0	0	0
Sep	16.5	1992	13	39.8	1992	29	1992	15	15	1992
Oct	18.0+	1992	14	32.3	1991	20	1996	31	10+	1997
Nov	11.0+	1992	10	36.9	1993	36	1992	11	28	1992
Dec	19.0	1984	16	66.3	1984	55	1992	25	40	1992
Ann	19.0	Dec 1984	16	66.3	Dec 1984	56	Mar 1991	26	46+	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.8	3.2	1.0	.4	@
Feb	6.2	2.1	.9	.4	.1
Mar	5.2	2.1	.6	.4	@
Apr	3.3	1.4	.3	.1	.0
May	1.2	.5	.3	.1	.0
Jun	.1	.1	.1	@	.0
Jul	.0	.0	.0	.0	.0
Aug	.1	.1	.0	.0	.0
Sep	2.2	1.4	.6	.2	.1
Oct	8.1	3.3	1.0	.5	.1
Nov	9.2	3.8	1.0	.5	.1
Dec	9.5	3.8	1.2	.8	.2
Ann	52.9	21.8	7.0	3.4	.6

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	29.8	29.8	28.8	24.0
Feb	27.8	27.8	27.2	25.3
Mar	29.4	29.4	28.9	26.2
Apr	27.7	27.4	27.0	23.2
May	5.6	5.1	4.5	3.2
Jun	.1	.1	.1	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	3.3	2.1	1.3	.9
Oct	18.3	12.2	8.1	3.3
Nov	27.5	24.9	19.5	12.0
Dec	30.6	29.8	27.6	19.7
Ann	200.1	188.6	173.0	137.8

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

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	53	43	36	30	25	19	13	6	0
32	93	82	74	68	62	56	49	42	31
28	111	104	99	94	91	87	82	77	71
24	145	136	129	123	118	113	107	101	92
20	162	154	148	142	137	132	127	120	112
16	174	168	163	160	156	153	149	145	139

***** 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	1956	1698	1611	1134	715	385	294	439	735	1319	1678	1866	13830
60	1801	1558	1456	984	560	237	147	292	587	1164	1528	1711	12025
57	1708	1474	1363	894	467	155	78	212	501	1071	1438	1618	10979
55	1646	1418	1301	834	407	108	45	165	445	1009	1378	1556	10312
50	1497	1278	1146	686	267	32	5	78	316	854	1228	1401	8788
32	985	817	621	238	18	0	0	0	43	359	713	871	4665

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	52	44	33	94	326	605	729	584	298	64	26	28	2883
55	0	0	0	0	2	23	61	37	10	0	0	0	133
57	0	0	0	0	0	10	32	21	6	0	0	0	69
60	0	0	0	0	0	2	8	8	2	0	0	0	20
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	3	113	365	477	336	96	3	0	0	0	0	0	3	116	481	958	1294	1390	1393	1393	1393
45	0	0	0	0	43	224	323	197	31	0	0	0	0	0	0	0	43	267	590	787	818	818	818	818
50	0	0	0	0	8	103	178	86	3	0	0	0	0	0	0	0	8	111	289	375	378	378	378	378
55	0	0	0	0	0	35	65	24	0	0	0	0	0	0	0	0	0	35	100	124	124	124	124	124
60	0	0	0	0	0	6	11	4	0	0	0	0	0	0	0	0	0	6	17	21	21	21	21	21
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	6	94	224	271	184	58	1	0	0	0	0	0	6	100	324	595	779	837	838	838	838

(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