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: MCGRATH AP, AK **COOP ID: 505769**

Climate Division: AK 8 **NWS Call Sign: MCG** **Elevation: 344 Feet** **Lat: 62˚57N** **Lon: 155˚36W**

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	2.3	-15.6	-6.7	54	1945	30	16.2	1981	-75	1989	27	-26.9	1971	2223	0	.0	.0	.0	28.8	30.8	23.2
Feb	10.7	-12.5	-.9	55	1943	24	13.4	1980	-64	1947	3	-21.9	1990	1847	0	.0	.0	@	25.6	28.1	20.6
Mar	25.3	-1.8	11.8	55	1998	20	28.4	1981	-51+	1966	17	-3.3	1972	1653	0	.0	.0	.1	21.6	30.7	17.8
Apr	40.5	17.7	29.1	67	1958	28	37.6	1998	-40	1985	1	12.1	1985	1078	0	.0	.0	5.0	7.0	27.6	4.3
May	56.8	35.5	46.2	82	1993	16	52.0	1981	-2+	2001	3	39.8	1992	583	0	.0	2.1	23.7	.2	10.2	.0
Jun	67.6	45.7	56.7	90	1969	15	61.4	1997	30+	1974	7	52.1	1978	256	4	.0	11.6	29.7	.0	.2	.0
Jul	69.7	49.8	59.8	89+	1977	30	63.7	1988	33+	1981	1	56.0	1981	174	11	.0	15.4	31.0	.0	.0	.0
Aug	64.1	45.7	54.9	89	1977	21	61.5	1977	25	1984	28	50.6	1998	318	6	.0	6.6	30.4	.0	1.0	.0
Sep	53.4	35.9	44.7	76+	1957	5	49.7	1995	2	1992	24	33.6	1992	611	0	.0	.7	19.8	.4	9.7	.0
Oct	32.2	18.3	25.3	61+	2001	4	35.1	1979	-28	1982	30	17.5	1996	1233	0	.0	.0	1.1	16.3	28.2	3.2
Nov	13.8	-2.2	5.8	49+	1997	9	23.0	1979	-53	1990	30	-6.7	1975	1779	0	.0	.0	.0	27.1	29.6	18.2
Dec	4.8	-12.3	-3.8	49	1977	29	11.9	1985	-67	1961	27	-23.7	1980	2132	0	.0	.0	.0	29.0	30.9	23.0
Ann	36.8	17.0	26.9	90	Jun 1969	15	63.7	Jul 1988	-75	Jan 1989	27	-26.9	Jan 1971	13887	21	.0	36.4	140.8	156.0	227.0	110.3

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1939-2001

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

Issue Date: May 2005

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: MCGRATH AP, AK **COOP ID: 505769**

Climate Division: AK 8 **NWS Call Sign: MCG** **Elevation: 344 Feet** **Lat: 62°57N** **Lon: 155°36W**

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	1.04	1.04	.95+	1957	11	3.74	1993	.17	1978
Feb	.74	.53	1.04	1956	15	2.83	1996	.00	1979
Mar	.81	.51	1.07	1946	30	2.82	1991	.00	1986
Apr	.66	.44	1.03+	1964	24	2.64	1979	.04	1993
May	1.02	1.01	1.00	1995	26	3.07	1988	.18	1979
Jun	1.45	1.24	1.59	1994	21	3.47	1980	.15	2000
Jul	2.32	2.14	1.50	1975	16	5.36	1975	.38	1993
Aug	2.75	2.66	1.51	1961	24	5.41	1998	.91	1976
Sep	2.36	1.82	1.73	2000	21	6.18	1993	.50	1976
Oct	1.46	1.36	1.32	1941	4	2.75	1971	.28	1996
Nov	1.46	1.36	1.06	1985	10	4.34	1979	.11	1995
Dec	1.44	1.06	1.56	1970	23	5.02	1990	.18+	1995
Ann	17.51	16.56	1.73	Sep 2000	21	6.18	Sep 1993	.00+	Mar 1986

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.7	3.2	.2	.0
Feb	7.3	2.0	.2	.0
Mar	8.6	2.7	.3	.0
Apr	7.2	2.1	.1	.0
May	10.9	3.4	.2	.0
Jun	13.0	4.5	.4	.0
Jul	15.0	6.9	.9	.1
Aug	16.6	8.4	1.0	.1
Sep	14.0	6.6	1.1	.2
Oct	13.0	4.3	.5	.0
Nov	12.6	4.1	.5	.1
Dec	13.3	4.4	.4	.0
Ann	142.2	52.6	5.8	.5

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	.15	.23	.38	.53	.68	.84	1.03	1.27	1.58	2.10	2.59
Feb	.02	.07	.16	.27	.39	.52	.69	.90	1.20	1.70	2.19
Mar	.01	.05	.14	.25	.38	.53	.72	.97	1.32	1.94	2.55
Apr	.04	.08	.16	.25	.35	.47	.61	.80	1.05	1.49	1.92
May	.25	.34	.49	.62	.76	.89	1.05	1.23	1.47	1.85	2.21
Jun	.38	.52	.73	.91	1.09	1.28	1.50	1.75	2.08	2.60	3.08
Jul	.57	.79	1.13	1.43	1.73	2.04	2.39	2.81	3.35	4.21	5.02
Aug	1.34	1.58	1.90	2.15	2.39	2.63	2.88	3.17	3.53	4.07	4.55
Sep	.50	.72	1.06	1.38	1.69	2.03	2.41	2.87	3.47	4.43	5.34
Oct	.41	.55	.76	.94	1.12	1.30	1.51	1.75	2.07	2.57	3.03
Nov	.19	.31	.52	.72	.94	1.17	1.45	1.78	2.24	2.98	3.70
Dec	.16	.27	.47	.68	.89	1.13	1.41	1.76	2.24	3.02	3.79
Ann	11.59	12.70	14.15	15.25	16.24	17.20	18.20	19.32	20.67	22.66	24.39

+ 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: 1939-2001
(3) Derived from 1971-2000 daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: MCGRATH AP, AK **COOP ID: 505769**

Climate Division: AK 8 **NWS Call Sign: MCG** **Elevation: 344 Feet** **Lat: 62°57N** **Lon: 155°36W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	12.4	10.6	22	21
Feb	8.5	6.6	25	24
Mar	9.0	6.8	26	25
Apr	5.4	3.0	18	18
May	1.1	.0	1	0
Jun	#	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	1.1	.1	#	0
Oct	10.1	8.4	1	1
Nov	17.5	16.9	8	7
Dec	16.2	14.9	16	16
Ann	81.3	67.3	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	9.3	2000	17	28.4+	2000	49	1995	1	43	1995
Feb	11.0	1976	4	28.0	1996	47	1993	14	44	1993
Mar	12.0	1982	17	28.7	1982	67	1990	8	52	1990
Apr	8.8	1977	2	30.0	1972	47	1972	18	38	1972
May	6.8	1971	7	10.7	1992	30+	1985	1	11	1985
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	7.3	1992	17	11.0	1992	5	1992	27	2	1992
Oct	8.5	1971	8	28.8	1971	11	1989	30	6	1974
Nov	10.7	1985	9	45.2	1994	29	1973	24	22	1994
Dec	9.1	1999	21	45.9	1984	47	1978	29	29	1971
Ann	12.0	Mar 1982	17	45.9	Dec 1984	67	Mar 1990	8	52	Mar 1990

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	10.2	3.9	1.2	.4	.0
Feb	7.1	2.5	.7	.3	.1
Mar	7.7	2.7	.6	.3	.1
Apr	5.8	1.5	.4	.1	.0
May	1.3	.3	.1	@	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	1.0	.4	@	@	.0
Oct	9.5	3.4	.8	.2	.0
Nov	12.1	5.4	1.8	.7	@
Dec	12.4	5.0	1.7	.5	.0
Ann	67.1	25.1	7.3	2.5	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.0	28.0	28.0	27.8
Feb	26.3	26.3	26.3	26.3
Mar	28.9	28.9	28.9	28.6
Apr	27.8	27.2	26.6	23.3
May	4.4	3.3	2.1	1.1
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.6	.4	.2	.0
Oct	12.9	5.0	1.9	.3
Nov	24.8	21.2	17.8	9.0
Dec	27.7	27.7	27.6	22.1
Ann	181.4	168.0	159.4	138.5

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: MCGRATH AP, AK **COOP ID: 505769**

Climate Division: AK 8 **NWS Call Sign: MCG** **Elevation: 344 Feet** **Lat: 62˚57N** **Lon: 155˚36W**

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	6/29	6/22	6/17	6/12	6/08	6/04	5/30	5/25	5/18
32	6/02	5/29	5/26	5/23	5/21	5/18	5/15	5/12	5/08
28	5/18	5/14	5/12	5/09	5/07	5/05	5/03	4/30	4/26
24	5/12	5/08	5/05	5/03	4/30	4/28	4/26	4/23	4/19
20	5/04	5/01	4/28	4/26	4/24	4/22	4/19	4/17	4/13
16	5/02	4/28	4/26	4/23	4/21	4/19	4/17	4/14	4/10

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	8/10	8/14	8/17	8/20	8/22	8/25	8/28	8/31	9/04
32	8/19	8/23	8/27	8/30	9/02	9/04	9/07	9/11	9/15
28	9/02	9/07	9/10	9/13	9/16	9/19	9/22	9/26	10/01
24	9/13	9/17	9/20	9/23	9/26	9/28	10/01	10/04	10/09
20	9/24	9/27	9/30	10/02	10/04	10/06	10/08	10/11	10/14
16	9/29	10/02	10/05	10/07	10/09	10/11	10/13	10/15	10/18

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	99	91	85	80	75	70	65	58	50
32	122	116	111	107	103	99	95	91	84
28	150	143	139	135	131	128	124	120	113
24	164	158	154	151	148	144	141	137	131
20	178	172	169	166	163	160	156	153	147
16	186	181	177	173	170	167	163	159	154

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: MCGRATH AP, AK **COOP ID: 505769**

Climate Division: AK 8 **NWS Call Sign: MCG** **Elevation: 344 Feet** **Lat: 62˚57N** **Lon: 155˚36W**

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	2223	1847	1653	1078	583	256	174	318	611	1233	1779	2132	13887
60	2068	1707	1498	928	434	131	70	186	464	1078	1629	1977	12170
57	1975	1623	1405	842	349	76	29	124	379	985	1539	1884	11210
55	1913	1567	1343	785	296	49	14	90	326	923	1479	1822	10607
50	1758	1427	1188	646	184	11	1	32	208	770	1329	1667	9221
32	1224	944	664	246	14	0	0	0	12	292	804	1124	5324

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	24	21	35	158	454	739	861	711	392	82	15	15	3507
55	0	0	0	8	22	98	162	87	15	0	0	0	392
57	0	0	0	5	14	65	115	59	8	0	0	0	266
60	0	0	0	0	6	29	62	28	3	0	0	0	128
65	0	0	0	0	0	4	11	6	0	0	0	0	21
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	9	210	499	616	465	175	5	0	0	0	0	0	9	219	718	1334	1799	1974	1979	1979	1979
45	0	0	0	0	105	350	461	313	73	0	0	0	0	0	0	0	105	455	916	1229	1302	1302	1302	1302
50	0	0	0	0	35	209	307	172	20	0	0	0	0	0	0	0	35	244	551	723	743	743	743	743
55	0	0	0	0	5	93	164	66	1	0	0	0	0	0	0	0	5	98	262	328	329	329	329	329
60	0	0	0	0	0	27	61	14	0	0	0	0	0	0	0	0	0	27	88	102	102	102	102	102
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	11	122	270	332	234	81	0	0	0	0	0	0	11	133	403	735	969	1050	1050	1050	1050

(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