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: GULKANA AP, AK **COOP ID: 503465**

Climate Division: AK 4 **NWS Call Sign: GKN** **Elevation: 1,571 Feet** **Lat: 62˚10N** **Lon: 145˚27W**

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	3.5	-12.9	-4.7	45	1961	21	19.1	1981	-57+	1972	12	-27.6	1982	2163	0	.0	.0	.0	28.7	30.8	22.7
Feb	13.8	-7.4	3.2	45	1968	9	19.8	1977	-51+	1979	14	-18.5	1979	1733	0	.0	.0	.0	24.4	28.1	18.0
Mar	28.2	2.3	15.3	51	1974	24	25.4	1984	-48+	1972	10	4.0	1972	1543	0	.0	.0	.1	18.1	30.8	13.8
Apr	42.4	19.7	31.1	67+	1983	25	36.5	1995	-27	1986	9	17.9	1972	1018	0	.0	.0	5.2	3.1	27.6	1.8
May	55.6	32.2	43.9	85	1960	24	48.5	1993	5	1964	9	40.0	1971	655	0	.0	1.4	25.4	.0	15.1	.0
Jun	65.0	41.1	53.1	90+	1969	15	56.5	1990	26+	1997	2	48.4	1985	358	0	.0	8.4	29.4	.0	1.2	.0
Jul	68.5	45.4	57.0	91	1953	25	60.5	1989	29	1970	19	54.5	1981	250	0	.0	12.4	31.0	.0	.1	.0
Aug	64.5	41.7	53.1	88	1976	1	59.0	1994	20	1984	30	49.8	1986	370	0	.0	6.9	30.7	.0	3.5	.0
Sep	53.4	32.8	43.1	74+	1989	10	49.5	1995	2	1992	23	32.5	1992	658	0	.0	.3	23.4	.5	13.7	.0
Oct	34.3	18.4	26.4	65	1969	6	34.0	1987	-23+	1982	27	14.1	1996	1199	0	.0	.0	2.3	12.2	26.5	3.2
Nov	13.2	-2.2	5.5	48	1964	18	23.1	1979	-44	1989	12	-6.9	1990	1786	0	.0	.0	.0	27.0	29.6	17.6
Dec	6.4	-9.5	-1.6	49+	1999	22	16.3	1985	-58	1964	14	-25.7	1980	2064	0	.0	.0	.0	28.4	30.6	22.5
Ann	37.4	16.8	27.1	91	Jul 1953	25	60.5	Jul 1989	-58	Dec 1964	14	-27.6	Jan 1982	13797	0	.0	29.4	147.5	142.4	237.6	99.6

\+ 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	.45	.42	.76	1958	6	1.41	1989	.00	1974
Feb	.52	.34	.96	1978	5	1.98	1996	.03	1987
Mar	.36	.20	.81	1972	12	1.32	1972	.00+	1987
Apr	.22	.11	.61	1992	11	.83	1992	.00+	1998
May	.59	.39	1.51	1994	26	2.16	1999	.05	1984
Jun	1.54	1.53	1.29	1962	28	3.09	1985	.38	1986
Jul	1.82	1.78	2.04	1972	27	3.39	1995	.30	1994
Aug	1.80	1.82	1.82	1971	13	3.92	1971	.14	1982
Sep	1.44	1.26	2.06	1951	14	3.93	1990	.31	1996
Oct	1.02	.91	1.15	1959	1	2.29	1987	.22	1976
Nov	.67	.53	2.01	1976	30	2.87	1976	.01	1975
Dec	.97	.82	.99	1955	29	4.14	1976	.05+	2000
Ann	11.40	11.15	2.06	Sep 1951	14	4.14	Dec 1976	.00+	Apr 1998

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.8	1.5	.0	.0
Feb	5.9	1.7	.1	.0
Mar	4.6	1.2	.1	.0
Apr	2.9	.8	.0	.0
May	5.8	1.8	.2	.1
Jun	10.2	4.9	.5	.0
Jul	12.5	5.4	.7	.1
Aug	12.6	5.5	.6	.1
Sep	11.4	4.8	.4	.1
Oct	9.4	3.8	.2	.0
Nov	7.8	2.3	.1	.0
Dec	8.4	2.5	.4	.1
Ann	98.3	36.2	3.3	.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	.05	.11	.18	.25	.31	.38	.46	.55	.68	.87	1.06
Feb	.05	.09	.16	.23	.31	.40	.50	.63	.81	1.11	1.40
Mar	.00	.00	.04	.09	.15	.22	.32	.43	.60	.90	1.19
Apr	.00	.00	.01	.04	.07	.12	.18	.26	.38	.58	.79
May	.03	.06	.13	.21	.30	.41	.54	.72	.96	1.37	1.78
Jun	.50	.65	.86	1.05	1.22	1.40	1.60	1.83	2.13	2.60	3.02
Jul	.56	.73	.99	1.21	1.43	1.65	1.89	2.18	2.56	3.14	3.68
Aug	.48	.65	.91	1.14	1.36	1.60	1.86	2.17	2.57	3.20	3.79
Sep	.28	.41	.62	.82	1.01	1.22	1.46	1.75	2.13	2.74	3.32
Oct	.20	.29	.44	.58	.72	.87	1.04	1.25	1.52	1.95	2.36
Nov	.07	.12	.21	.30	.40	.52	.65	.82	1.04	1.42	1.79
Dec	.06	.12	.24	.37	.52	.69	.91	1.18	1.55	2.20	2.83
Ann	8.11	8.74	9.56	10.18	10.73	11.26	11.81	12.42	13.16	14.23	15.15

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	7.0	4.9	14	12
Feb	6.9	4.4	16	15
Mar	4.7	4.0	12	11
Apr	2.7	1.5	5	4
May	.6	.0	#	0
Jun	#	.0	#	0
Jul	.0	.0	0	0
Aug	#	.0	0	0
Sep	1.2	.0	#	0
Oct	8.2	5.9	1	1
Nov	7.7	7.9	5	3
Dec	8.3	8.0	10	8
Ann	47.3	36.6	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	14.1	1989	25	23.0	1989	40	1972	31	37	1972
Feb	7.0	1974	15	38.3	1996	42	1972	19	40	1972
Mar	10.0	1996	10	19.2	1996	30	1990	5	25	1990
Apr	14.3	1992	11	16.4	1992	46	1972	8	41	1972
May	5.0	1999	25	6.7	1999	24	1972	1	5	1972
Jun	1.0	1986	1	1.0	1986	1	1986	1	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	10.0	1992	18	15.7	1992	5	1992	29	2	1992
Oct	11.1	1978	22	20.9	1994	16	1994	31	7	1994
Nov	10.0	1997	22	21.8	1994	20	1994	11	17	1994
Dec	8.7	1996	17	17.7	1971	27	1990	30	23	1971
Ann	14.3	Apr 1992	11	38.3	Feb 1996	46	Apr 1972	8	41	Apr 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.2	2.4	.5	.2	@
Feb	5.3	2.0	.7	.3	.0
Mar	4.0	1.8	.4	.1	@
Apr	1.8	.9	.2	.1	@
May	.4	.2	.1	@	.0
Jun	@	@	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.7	.5	.1	@	@
Oct	5.2	3.1	.9	.2	@
Nov	6.0	2.7	.7	.2	.0
Dec	6.8	2.8	.7	.3	.0
Ann	36.4	16.4	4.3	1.4	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	29.3	28.8	27.0	18.2
Feb	26.0	24.8	23.0	17.9
Mar	28.6	27.0	25.5	16.9
Apr	19.8	16.0	12.0	5.3
May	.9	.5	.3	.2
Jun	@	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	1.0	.4	.1	.0
Oct	12.7	6.6	3.4	.7
Nov	22.8	15.0	10.9	5.0
Dec	27.2	24.7	23.2	13.1
Ann	168.3	143.8	125.4	77.3

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

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	8/01	8/05	8/07	8/09	8/11	8/13	8/15	8/18	8/21
32	8/07	8/11	8/14	8/17	8/19	8/22	8/24	8/27	8/31
28	8/19	8/23	8/26	8/29	8/31	9/02	9/05	9/08	9/12
24	8/29	9/03	9/07	9/10	9/13	9/16	9/19	9/23	9/28
20	9/08	9/13	9/16	9/19	9/22	9/25	9/28	10/01	10/06
16	9/21	9/26	9/29	10/02	10/05	10/07	10/10	10/14	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	61	52	46	41	36	30	25	19	10
32	91	83	77	72	67	63	58	52	44
28	120	113	108	104	100	96	91	86	79
24	150	143	139	135	131	127	123	119	112
20	169	163	158	154	150	146	142	138	131
16	190	184	179	176	172	168	165	160	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

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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	2163	1733	1543	1018	655	358	250	370	658	1199	1786	2064	13797
60	2008	1593	1388	868	500	213	108	226	508	1044	1636	1909	12001
57	1915	1509	1295	778	407	137	50	152	421	951	1546	1816	10977
55	1853	1453	1233	718	346	95	23	112	364	889	1486	1754	10326
50	1698	1313	1078	575	206	27	1	42	236	735	1336	1599	8846
32	1177	836	538	164	6	0	0	0	12	259	818	1057	4867

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	37	27	19	137	374	632	774	653	344	83	21	16	3117
55	0	0	0	0	1	37	84	53	7	0	0	0	182
57	0	0	0	0	0	19	48	31	3	0	0	0	101
60	0	0	0	0	0	5	13	11	1	0	0	0	30
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	10	159	419	554	435	158	12	0	0	0	0	0	10	169	588	1142	1577	1735	1747	1747	1747
45	0	0	0	0	59	270	400	284	64	0	0	0	0	0	0	0	59	329	729	1013	1077	1077	1077	1077
50	0	0	0	0	14	139	245	146	15	0	0	0	0	0	0	0	14	153	398	544	559	559	559	559
55	0	0	0	0	3	48	107	55	0	0	0	0	0	0	0	0	3	51	158	213	213	213	213	213
60	0	0	0	0	0	11	31	13	0	0	0	0	0	0	0	0	0	11	42	55	55	55	55	55
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	9	104	239	306	244	86	1	0	0	0	0	0	9	113	352	658	902	988	989	989	989

(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