

Climatology of the United States

No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: GLACIER BAY, AK

1971-2000

COOP ID: 503294

Climate Division: AK 1

NWS Call Sign:

Elevation: 50 Feet

Lat: 58° 27N

Lon: 135° 53W

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	32.3	23.4	27.9	56	1996	8	37.3	1981	-11	1971	15	19.6	1996	1151	0	.0	.0	.1	14.2	26.9	.5
Feb	35.2	25.3	30.3	53	1977	19	40.4	1977	-4+	1989	8	18.7	1979	974	0	.0	.0	.1	8.9	24.1	.2
Mar	39.8	28.2	34.0	54	1998	21	39.2	1981	3	1983	5	29.0	1972	962	0	.0	.0	.2	3.1	25.0	.0
Apr	48.0	32.6	40.3	69	1984	29	43.5	1984	8	1992	9	35.4	1972	742	0	.0	.0	7.9	.1	14.0	.0
May	55.9	38.2	47.1	72	1996	12	50.9	1981	24	1971	2	41.7	1971	556	0	.0	.2	24.2	.0	1.9	.0
Jun	61.8	43.8	52.8	82	1991	20	54.9	1983	33	1984	22	49.0	1985	367	0	.0	1.8	29.7	.0	.0	.0
Jul	64.5	46.9	55.7	81	1993	13	58.0	1972	37	1992	5	54.0	1992	289	0	.0	3.4	31.0	.0	.0	.0
Aug	62.9	46.4	54.7	79	1993	2	57.4	1994	33	1971	28	52.6	1985	321	0	.0	1.6	31.0	.0	.0	.0
Sep	56.2	42.5	49.4	67+	2000	2	52.0	1977	26	1983	27	44.5	1992	470	0	.0	.0	26.9	.0	.7	.0
Oct	47.3	36.5	41.9	59	1999	18	46.4	1979	14	1991	29	37.5	1992	716	0	.0	.0	5.8	.2	6.6	.0
Nov	38.5	29.5	34.0	53	1969	1	40.1	1976	0	1985	26	23.2	1985	930	0	.0	.0	@	4.9	20.1	@
Dec	34.4	25.8	30.1	53	2000	4	35.2	1976	-3+	1995	6	24.3	1971	1081	0	.0	.0	@	9.8	25.9	.2
Ann	48.1	34.9	41.5	82	Jun 1991	20	58.0	Jul 1972	-11	Jan 1971	15	18.7	Feb 1979	8559	0	.0	7.0	156.9	41.2	145.2	.9

+ 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/normal/usnormals.html

Issue Date: May 2005

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1966-2001

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

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COOP ID: 503294

Climate Division: AK 1

NWS Call Sign:

Elevation: 50 Feet

Lat: 58°27N

Lon: 135°53W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	6.52	6.62	2.01	1992	19	11.29	1985	2.48	1995	17.9	14.4	4.9	1.1	2.89	3.47	4.28	4.94	5.55	6.18	6.84	7.60	8.56	10.02	11.34
Feb	4.81	4.59	3.16	1988	19	10.73	1988	.19	1989	14.1	11.3	2.9	.7	.94	1.37	2.08	2.73	3.38	4.09	4.89	5.85	7.13	9.17	11.12
Mar	3.60	3.18	1.99	1969	24	7.41	1986	.70	1989	15.2	10.6	2.1	.2	1.38	1.72	2.20	2.60	2.97	3.36	3.77	4.25	4.87	5.81	6.66
Apr	2.80	2.70	1.99	1983	17	7.26	1986	.31	1976	13.7	8.5	1.2	.3	.86	1.13	1.53	1.87	2.20	2.54	2.91	3.36	3.93	4.82	5.64
May	3.69	3.48	2.21	1972	18	6.64	1972	1.18	1977	15.4	10.4	1.8	.3	1.41	1.76	2.25	2.66	3.04	3.44	3.87	4.36	4.99	5.96	6.84
Jun	3.02	2.74	1.57	1977	2	8.40	1975	.91	1982	13.6	8.5	1.6	.2	.97	1.26	1.68	2.05	2.39	2.75	3.15	3.61	4.20	5.13	5.98
Jul	3.61	3.41	1.95	1996	1	6.51	1979	1.34	1987	15.3	9.9	1.8	.4	1.73	2.04	2.47	2.81	3.13	3.44	3.78	4.17	4.65	5.38	6.03
Aug	5.56	5.53	3.63	1966	23	10.76	1972	1.30	1994	16.4	12.3	3.9	.7	1.94	2.47	3.23	3.87	4.49	5.12	5.81	6.61	7.64	9.23	10.69
Sep	9.47	9.56	3.00	2001	13	15.04	1990	3.35	1986	20.5	16.1	6.8	2.6	4.82	5.60	6.67	7.53	8.31	9.10	9.93	10.87	12.04	13.81	15.38
Oct	11.83	10.86	3.27	1994	4	24.61	1978	5.70	1997	24.1	19.6	8.5	3.4	6.47	7.41	8.66	9.65	10.55	11.45	12.39	13.46	14.78	16.74	18.49
Nov	7.46	7.89	2.90	1999	1	12.63	1974	2.79	1973	19.8	15.6	5.0	1.0	3.46	4.12	5.02	5.74	6.42	7.10	7.82	8.65	9.69	11.26	12.68
Dec	7.31	7.12	2.77	1999	27	16.55	1999	.76	1983	19.3	14.9	5.3	1.3	2.37	3.07	4.09	4.96	5.80	6.67	7.62	8.73	10.16	12.39	14.44
Ann	69.68	69.69	3.63	Aug 1966	23	24.61	Oct 1978	.19	Feb 1989	205.3	152.1	45.8	12.2	52.35	55.78	60.13	63.40	66.30	69.08	71.94	75.08	78.88	84.35	89.05

+ 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: 1966-2001

(3) Derived from 1971-2000 daily data

Complete documentation available from:
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Station: GLACIER BAY, AK

COOP ID: 503294

Climate Division: AK 1

NWS Call Sign:

Elevation: 50 Feet

Lat: 58° 27N

Lon: 135° 53W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	30.9	22.6	21	20	20.0+	1983	11	76.7	1989	61	1973	26	46	1972	8.6	7.7	3.7	2.1	.4	24.7	23.1	22.2	20.0
Feb	22.3	22.2	30	33	14.0+	1985	14	66.7	1990	74	1972	17	61	1972	6.2	5.6	2.6	1.3	.1	21.0	20.4	20.2	19.8
Mar	11.7	9.5	26	28	14.5	1989	3	40.5	1971	72	1972	10	64	1972	4.6	3.9	1.2	.5	@	22.0	20.7	20.3	19.5
Apr	1.3	.0	14	7	6.0	1975	4	9.0	1985	62	1972	4	58	1972	.9	.6	.1	@	.0	14.1	13.6	13.1	11.9
May	.1	.0	2	0	1.0	1985	10	1.0	1985	46	1972	1	29	1972	.1	@	.0	.0	.0	2.8	2.6	2.4	1.9
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	1.3	.0	#	0	9.0	1991	30	9.5	1971	9+	1991	31	1+	1991	.4	.3	.1	.1	.0	.6	.3	.2	.0
Nov	12.7	6.8	2	0	15.0	1990	26	69.5	1990	38	1990	30	13+	1990	3.6	2.8	1.2	.8	.2	6.2	4.7	4.3	2.5
Dec	21.6	19.5	10	7	16.0	1980	7	53.5	1990	45	1990	5	39	1990	7.4	6.2	2.8	1.2	.2	21.5	17.5	15.5	11.0
Ann	101.9	80.6	N/A	N/A	20.0+	Jan 1983	11	76.7	Jan 1989	74	Feb 1972	17	64	Mar 1972	31.8	27.1	11.7	6.0	.9	112.9	102.9	98.2	86.6

+ 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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NWS Call Sign:

Elevation: 50 Feet

Lat: 58° 27N

Lon: 135° 53W

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	6/14	6/08	6/04	6/01	5/29	5/26	5/22	5/19	5/13
32	5/20	5/15	5/12	5/09	5/07	5/04	5/01	4/28	4/23
28	5/01	4/24	4/19	4/15	4/11	4/07	4/02	3/28	3/21
24	4/22	4/12	4/04	3/29	3/23	3/17	3/11	3/04	2/21
20	4/06	3/26	3/18	3/11	3/05	2/27	2/20	2/12	2/01
16	3/25	3/15	3/07	3/01	2/23	2/17	2/11	2/03	1/22
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	9/07	9/12	9/16	9/20	9/23	9/26	9/30	10/04	10/09
32	9/20	9/26	10/01	10/05	10/08	10/12	10/15	10/20	10/26
28	9/28	10/08	10/15	10/21	10/26	11/01	11/06	11/13	11/23
24	10/23	11/01	11/06	11/11	11/16	11/21	11/25	12/01	12/09
20	10/28	11/07	11/13	11/19	11/24	11/30	12/05	12/12	12/21
16	11/05	11/15	11/22	11/28	12/04	12/10	12/16	12/24	1/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	140	132	126	121	116	112	107	101	93
32	177	169	163	158	154	149	144	138	130
28	237	223	214	205	198	190	182	172	159
24	276	262	253	245	237	230	221	212	199
20	309	293	282	272	264	255	245	234	218
16	339	316	303	294	285	276	268	257	243

* 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/normal/usnormals.html

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COOP ID: 503294

Climate Division: AK 1 NWS Call Sign: Elevation: 50 Feet Lat: 58° 27N Lon: 135° 53W

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	1151	974	962	742	556	367	289	321	470	716	930	1081	8559
60	996	834	807	592	401	217	137	169	320	561	780	926	6740
57	903	750	714	502	310	131	61	90	231	468	690	833	5683
55	841	694	652	442	251	83	28	52	174	406	630	771	5024
50	689	560	497	293	125	15	0	5	61	257	486	616	3604
32	230	167	59	3	0	0	0	0	0	7	96	152	714

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	102	117	120	251	467	624	734	702	520	315	155	94	4201
55	0	0	0	0	5	17	48	41	4	0	0	0	115
57	0	0	0	0	2	5	19	17	1	0	0	0	44
60	0	0	0	0	0	0	3	3	0	0	0	0	6
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	43	202	366	471	438	259	85	4	0	0	0	0	43	245	611	1082	1520	1779	1864	1868	1868
45	0	0	0	4	73	216	316	283	118	15	0	0	0	0	0	4	77	293	609	892	1010	1025	1025	1025
50	0	0	0	0	13	82	161	130	18	0	0	0	0	0	0	0	13	95	256	386	404	404	404	404
55	0	0	0	0	0	13	34	20	0	0	0	0	0	0	0	0	0	13	47	67	67	67	67	67
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	15	83	163	215	185	77	5	0	0	0	0	0	15	98	261	476	661	738	743	743	743

(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.

Complete 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 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

c. Snow Tables

1. Cooperative Summary of the Day

d. Freeze Data Table

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

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