

Climatology of the United States

No. 20

1971-2000

Station: WASILLA 3 S, AK

COOP ID: 509759

Climate Division: AK 5

NWS Call Sign:

Elevation: 50 Feet

Lat: 61° 32N

Lon: 149° 26W

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	22.9	6.7	14.8	52	1961	20	35.3	1981	-40+	1989	28	-1.1	1989	1556	0	.0	.0	@	21.3	29.5	11.0
Feb	28.1	10.6	19.4	53	1968	27	33.4	1977	-42	1999	3	3.0	1990	1279	0	.0	.0	.2	16.6	26.7	7.9
Mar	37.0	18.1	27.6	55	1965	8	37.9	1981	-30	1971	7	14.5	1971	1162	0	.0	.0	1.1	8.1	28.3	3.4
Apr	48.7	27.9	38.3	68+	1976	30	42.8	1993	-8	1985	11	26.8	1972	802	0	.0	.0	13.5	1.0	23.0	.3
May	60.2	36.1	48.2	80+	1969	25	52.4	1981	14+	1964	10	43.8	1972	521	0	.0	2.4	30.1	.0	8.5	.0
Jun	67.3	44.1	55.7	90	1969	15	58.5	1990	29	1950	4	52.4	1972	279	0	.0	10.1	30.0	.0	.1	.0
Jul	69.9	48.8	59.4	87	1972	5	61.8	1993	32	1976	16	57.0	1971	176	1	.0	16.2	31.0	.0	@	.0
Aug	67.6	46.4	57.0	83+	1978	2	60.3	1977	27	1984	27	53.8	1973	248	0	.0	11.3	31.0	.0	.4	.0
Sep	58.7	39.0	48.9	76	1957	5	54.0	1995	14	1992	26	40.6	1992	485	0	.0	.5	28.1	.0	6.1	.0
Oct	42.8	26.5	34.7	67	1969	13	40.4	1979	-11	1982	31	23.7	1996	940	0	.0	.0	7.2	3.6	22.2	.6
Nov	28.9	13.7	21.3	56	1986	2	34.5	1979	-25	1990	29	8.1	1990	1311	0	.0	.0	.2	18.2	28.1	5.4
Dec	24.7	8.9	16.8	51+	1992	2	29.0	1986	-38	1949	27	-2.5	1980	1495	0	.0	.0	.1	21.5	30.2	9.4
Ann	46.4	27.2	36.8	90	Jun 1969	15	61.8	Jul 1993	-42	Feb 1999	3	-2.5	Dec 1980	10254	1	.0	40.5	172.5	90.3	203.1	38.0

+ 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/normal/usnormals.html

Issue Date: May 2005

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1949-1999

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

049-A

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: WASILLA 3 S, AK

COOP ID: 509759

Climate Division: AK 5

NWS Call Sign:

Elevation: 50 Feet

Lat: 61°32N

Lon: 149°26W

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	.63	.54	1.18	1963	12	1.66	1985	.00+	1982	5.4	2.3	.0	.0	.00	.06	.17	.27	.38	.49	.62	.78	1.00	1.36	1.71
Feb	.74	.59	1.03	1981	6	2.24	1996	.12+	1973	5.2	2.7	.3	.0	.10	.16	.26	.36	.47	.59	.73	.90	1.13	1.51	1.87
Mar	.57	.46	.85	1995	16	2.65	1979	.00+	1999	4.8	1.9	.2	.0	.00	.04	.13	.22	.31	.42	.55	.71	.93	1.29	1.66
Apr	.47	.37	.86	1975	17	1.77	1975	.00	1981	3.8	1.9	.0	.0	.01	.03	.09	.15	.23	.32	.43	.57	.77	1.12	1.47
May	.77	.54	.74+	1997	30	2.96	1997	.09	1986	6.2	2.7	.2	.0	.10	.16	.27	.38	.49	.62	.76	.94	1.18	1.58	1.96
Jun	1.51	1.54	.83	1980	18	3.56	1980	.19	1991	9.8	4.7	.6	.0	.39	.53	.75	.94	1.14	1.34	1.56	1.83	2.18	2.72	3.24
Jul	2.31	2.14	1.81	1986	20	4.68	1979	.49	1973	12.6	6.7	1.0	.1	.71	.93	1.26	1.54	1.81	2.09	2.41	2.77	3.24	3.98	4.66
Aug	2.58	2.05	1.73	1971	8	6.94	1997	.27	1978	12.5	6.9	1.4	.3	.59	.82	1.20	1.54	1.88	2.24	2.64	3.13	3.76	4.77	5.72
Sep	2.87	2.66	1.52	1982	13	6.44	1977	.85	1976	12.6	7.9	1.7	.2	.95	1.23	1.63	1.97	2.29	2.63	3.00	3.43	3.98	4.84	5.63
Oct	1.84	1.79	1.48	1986	11	3.78	1983	.00	1998	9.6	5.1	1.2	.1	.45	.71	1.01	1.25	1.48	1.70	1.95	2.24	2.60	3.17	3.69
Nov	1.23	1.26	1.27	1957	4	4.63	1979	.00	1975	6.4	3.8	.5	.0	.07	.18	.37	.55	.74	.96	1.21	1.52	1.94	2.63	3.30
Dec	1.09	.79	1.04	1955	29	3.56	1990	.00	1995	7.2	3.8	.2	.0	.09	.21	.39	.55	.71	.89	1.10	1.34	1.68	2.22	2.73
Ann	16.61	15.53	1.81	Jul 1986	20	6.94	Aug 1997	.00+	Mar 1999	96.1	50.4	7.3	.7	11.89	12.81	13.98	14.87	15.66	16.42	17.21	18.08	19.13	20.66	21.98

+ 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: 1949-1999

(3) Derived from 1971-2000 daily data

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

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: WASILLA 3 S, AK

COOP ID: 509759

Climate Division: AK 5

NWS Call Sign:

Elevation: 50 Feet

Lat: 61°32N

Lon: 149°26W

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	7.0	6.0	8	7	8.0	1991	10	25.0	1993	28	1991	11	21	1991	3.1	2.9	.7	.2	.0	22.1	20.6	18.0	8.9
Feb	7.1	5.7	9	9	9.0	1993	6	21.5	1971	26	1990	27	20	1995	3.0	2.6	.9	.3	.0	20.0	18.9	15.4	10.8
Mar	6.2	4.3	6	2	14.0	1995	16	22.5	1979	33	1995	16	22	1995	2.8	2.2	.8	.2	@	14.6	12.4	11.5	8.0
Apr	2.2	.2	#	0	5.0	1977	12	10.1	1977	17	1991	1	4	1991	1.0	.8	.3	@	.0	3.0	2.7	1.7	.3
May	.2	.0	#	0	3.0	1971	3	3.0	1971	1	1982	11	0	0	.1	.1	@	.0	.0	@	.0	.0	.0
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
Oct	4.2	1.9	#	0	10.0	1982	28	25.0	1982	12+	1982	29	3	1989	1.8	1.3	.5	.1	@	3.1	2.0	1.2	.3
Nov	10.0	8.0	3	3	11.0	1989	19	26.5	1994	19	1989	19	11+	1996	3.1	2.9	1.4	.5	.1	14.6	11.7	8.0	2.8
Dec	13.2	11.0	6	6	15.0	1978	18	44.4	1978	30	1978	23	16	1990	4.5	3.8	1.6	.8	.1	18.6	15.5	13.4	6.5
Ann	50.1	37.1	N/A	N/A	15.0	Dec 1978	18	44.4	Dec 1978	33	Mar 1995	16	22	Mar 1995	19.4	16.6	6.2	2.1	.2	96.0	83.8	69.2	37.6

+ 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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No. 20 1971-2000

Station: WASILLA 3 S, AK

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Climate Division: AK 5

NWS Call Sign:

Elevation: 50 Feet

Lat: 61° 32N

Lon: 149° 26W

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	6/24	6/19	6/15	6/12	6/10	6/07	6/04	5/31	5/27
32	6/10	6/05	6/01	5/29	5/26	5/22	5/19	5/15	5/10
28	5/18	5/13	5/10	5/07	5/05	5/02	4/29	4/26	4/21
24	4/30	4/26	4/23	4/20	4/18	4/16	4/13	4/10	4/06
20	4/23	4/17	4/13	4/10	4/07	4/04	3/31	3/28	3/22
16	4/18	4/12	4/08	4/04	3/31	3/28	3/24	3/20	3/13
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	8/14	8/19	8/23	8/26	8/29	8/31	9/03	9/07	9/12
32	8/24	8/30	9/02	9/06	9/09	9/12	9/15	9/19	9/24
28	9/09	9/14	9/17	9/20	9/23	9/26	9/29	10/02	10/07
24	9/22	9/26	9/29	10/01	10/04	10/06	10/09	10/12	10/16
20	9/30	10/04	10/08	10/10	10/13	10/16	10/19	10/22	10/27
16	10/08	10/12	10/16	10/18	10/21	10/24	10/26	10/30	11/03
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	92	87	83	79	75	71	66	60
32	129	121	115	110	106	101	96	90	82
28	165	157	151	146	141	136	131	125	117
24	188	181	176	172	168	164	160	155	148
20	213	204	198	193	188	184	178	172	164
16	228	220	213	208	203	198	192	186	177

* 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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of the United States
No. 20
1971-2000**

Station: WASILLA 3 S, AK

COOP ID: 509759

Climate Division: AK 5

NWS Call Sign:

Elevation: 50 Feet

Lat: 61°32N

Lon: 149°26W

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	1556	1279	1162	802	521	279	176	248	485	940	1311	1495	10254
60	1401	1139	1007	652	366	137	52	112	338	785	1161	1340	8490
57	1313	1055	914	562	276	72	13	56	255	692	1071	1247	7526
55	1257	999	852	504	220	41	4	31	205	630	1011	1185	6939
50	1112	868	705	366	105	5	0	4	103	482	868	1030	5648
32	628	428	250	50	0	0	0	0	0	98	401	521	2376

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	94	73	111	238	502	712	848	775	505	182	80	49	4169
55	10	0	0	2	9	63	139	93	20	0	0	0	336
57	5	0	0	0	3	34	86	56	10	0	0	0	194
60	0	0	0	0	0	9	32	19	3	0	0	0	63
65	0	0	0	0	0	0	1	0	0	0	0	0	1
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	1	44	259	478	607	536	279	42	1	0	0	0	1	45	304	782	1389	1925	2204	2246	2247	2247
45	0	0	0	7	122	328	452	381	149	10	0	0	0	0	0	7	129	457	909	1290	1439	1449	1449	1449
50	0	0	0	0	34	180	297	231	51	0	0	0	0	0	0	0	34	214	511	742	793	793	793	793
55	0	0	0	0	5	62	147	93	5	0	0	0	0	0	0	0	5	67	214	307	312	312	312	312
60	0	0	0	0	0	8	33	15	0	0	0	0	0	0	0	0	0	8	41	56	56	56	56	56
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	0	36	163	269	331	288	140	14	0	0	0	0	0	36	199	468	799	1087	1227	1241	1241	1241

(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