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: TOK, AK **COOP ID: 509313**

Climate Division: AK 8 **NWS Call Sign:** **Elevation: 1,620 Feet** **Lat: 63˚21N** **Lon: 143˚03W**

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	-5.5	-22.3	-13.9	43+	1962	22	7.9	1985	-71	1965	5	-35.2	1971	2449	0	.0	.0	.0	30.8	31.0	28.3
Feb	6.6	-15.7	-4.6	43+	1968	28	9.3	2000	-67	1968	3	-31.7	1979	1949	0	.0	.0	.0	27.9	28.3	23.4
Mar	26.5	-3.4	11.6	55	1970	21	23.2	1992	-57	1956	1	-3.4	1995	1663	0	.0	.0	.1	21.6	30.9	19.2
Apr	44.7	17.8	31.3	71+	1989	30	37.7	1989	-31+	1986	9	21.3	1986	1014	0	.0	.2	8.9	3.2	28.6	3.7
May	60.4	30.6	45.5	88+	1983	31	52.8	1993	3	1962	2	38.0	1992	605	0	.0	3.7	27.9	.1	22.6	.0
Jun	70.9	40.5	55.7	96	1969	15	59.1	1993	17	1969	5	51.9	1985	276	0	.2	17.3	30.0	.0	5.1	.0
Jul	73.8	44.9	59.4	95	1993	15	63.1	1988	21+	1960	20	56.5+	1985	178	7	.2	22.4	31.0	.0	1.4	.0
Aug	68.8	39.0	53.9	93	1994	6	63.4	1994	13	1987	31	49.5	1986	352	7	.2	13.3	30.7	.0	7.3	.0
Sep	55.3	30.3	42.8	83	1974	1	48.9	1995	-13	1956	28	31.3	1992	675	0	.0	1.2	21.5	.4	20.2	.1
Oct	31.0	12.7	21.9	67	1986	10	29.3	1979	-41	1996	27	10.7	1996	1337	0	.0	.0	1.1	17.1	30.5	5.9
Nov	7.9	-9.9	-1.0	49	1954	1	14.1	1979	-59	1963	21	-12.1	1973	1976	0	.0	.0	.0	29.7	30.0	24.3
Dec	-1.6	-18.6	-10.1	40	1967	14	6.9	1986	-70+	1964	14	-40.6	1980	2332	0	.0	.0	.0	30.7	31.0	28.5
Ann	36.6	12.2	24.4	96	Jun 1969	15	63.4	Aug 1994	-71	Jan 1965	5	-40.6	Dec 1980	14806	14	.6	58.1	151.2	161.5	266.9	133.4

\+ 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: 1954-2001

(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	.34	.28	.65	1986	26	1.29	1978	.00+	1996
Feb	.18	.10	1.05	1964	20	.74	1987	.00+	1994
Mar	.13	.05	.46	1983	10	.52	1979	.00+	1993
Apr	.14	.07	.60	1976	13	.60	1976	.00+	1996
May	.45	.33	1.05	1994	25	2.01	1994	.00+	1996
Jun	1.99	1.78	2.11	1993	25	4.13	2000	.33	1986
Jul	2.30	2.27	2.25	1985	31	4.62	1984	.20	1989
Aug	.85	.71	1.40	1958	7	2.64	1999	.00	1982
Sep	.73	.62	1.33	2001	2	3.17	2000	.00+	1988
Oct	.60	.52	.96	1988	11	2.54	1988	.00+	1986
Nov	.51	.33	.87	1994	17	1.85	1994	.00+	1984
Dec	.38	.28	.64	1999	21	1.80	1999	.00+	1994
Ann	8.60	8.48	2.25	Jul 1985	31	4.62	Jul 1984	.00+	May 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.2	.9	.1	.0
Feb	2.0	.5	.0	.0
Mar	1.0	.4	.0	.0
Apr	.9	.5	.0	.0
May	3.6	1.5	.2	.0
Jun	9.2	4.9	1.3	.3
Jul	10.4	5.3	.9	.2
Aug	6.2	2.9	.3	.0
Sep	4.1	1.8	.3	.0
Oct	4.1	1.7	.3	.0
Nov	3.1	1.5	.2	.0
Dec	2.9	1.2	.1	.0
Ann	49.7	23.1	3.7	.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	.00	.00	.07	.14	.20	.27	.34	.43	.55	.74	.92
Feb	.00	.00	.00	.00	.05	.10	.16	.23	.33	.48	.64
Mar	.00	.00	.00	.00	.02	.05	.09	.15	.23	.36	.50
Apr	.00	.00	.00	.00	.00	.06	.11	.17	.26	.40	.55
May	.00	.00	.00	.00	.17	.30	.44	.60	.81	1.14	1.46
Jun	.69	.88	1.16	1.39	1.60	1.83	2.08	2.36	2.73	3.30	3.82
Jul	.54	.75	1.09	1.39	1.69	2.01	2.36	2.79	3.34	4.22	5.05
Aug	.07	.16	.29	.42	.55	.69	.86	1.06	1.32	1.76	2.18
Sep	.00	.07	.19	.31	.43	.56	.72	.91	1.17	1.59	2.01
Oct	.00	.02	.09	.17	.27	.38	.53	.72	.99	1.45	1.92
Nov	.00	.01	.07	.14	.22	.32	.45	.61	.84	1.25	1.65
Dec	.00	.00	.01	.06	.12	.20	.31	.45	.65	1.01	1.38
Ann	5.27	5.87	6.67	7.29	7.85	8.39	8.96	9.60	10.39	11.55	12.56

\+ 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: 1954-2001
(3) Derived from 1971-2000 daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	4.2	4.0	13	13	10.0	1986	26	13.8	1986	30	2000	1	27	2000	1.8	1.4	.4	.1	@	26.0	26.0	26.0	19.6
Feb	2.5	1.2	16	16	6.4	1987	25	8.1	1996	28	1990	11	27	1990	1.8	1.4	.2	@	.0	27.7	27.7	27.7	26.5
Mar	1.9	1.0	15	14	7.1	1986	19	7.1	1986	30	1990	7	27	1990	.9	.7	.2	.1	.0	28.4	28.4	27.9	25.2
Apr	1.4	.0	8	9	6.0	1984	14	6.0	1984	24	1972	5	21	1972	.6	.5	.2	@	.0	22.3	20.1	16.9	12.6
May	.8	.0	#	0	10.0	1989	8	10.0	1989	17	1972	1	2+	1986	.2	.2	.1	.1	@	1.7	1.3	.8	.1
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	.3	.0	#	0	5.0	1974	23	5.0	1974	5	1974	23	0	0	.1	.1	@	@	.0	.1	.1	@	.0
Sep	2.1	.0	#	0	10.0	1986	23	11.0	1986	10+	2000	28	3	1992	.7	.6	.3	.1	@	2.0	1.4	1.0	.1
Oct	6.1	5.4	2	2	8.0+	1988	10	23.0	1988	16	1988	25	10	1988	2.9	2.3	.8	.2	.0	18.8	12.0	7.9	1.5
Nov	6.5	5.6	7	9	10.0+	1988	11	24.1	1988	27	1988	24	20	1988	3.2	2.5	.8	.2	.1	29.4	26.7	21.0	10.6
Dec	4.7	2.9	11	10	14.3	1989	22	19.3	1989	31	1999	29	23	1988	2.8	1.9	.4	.1	@	29.3	29.0	27.6	17.4
Ann	30.5	20.1	N/A	N/A	14.3	Dec 1989	22	24.1	Nov 1988	31	Dec 1999	29	27+	Jan 2000	15.0	11.6	3.4	.9	.1	185.7	172.7	156.8	113.6

+ 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

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

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	8/02	8/04	8/05	8/07	8/08	8/09	8/11	8/13
32	8/02	8/06	8/08	8/10	8/12	8/14	8/16	8/19	8/22
28	8/09	8/14	8/17	8/19	8/22	8/24	8/27	8/30	9/03
24	8/23	8/28	9/01	9/04	9/07	9/11	9/14	9/18	9/23
20	8/29	9/04	9/08	9/11	9/15	9/18	9/22	9/26	10/02
16	9/10	9/15	9/19	9/23	9/26	9/29	10/03	10/07	10/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	43	35	28	23	18	13	7	1	0
32	70	59	51	44	38	32	25	17	6
28	99	89	81	75	69	63	57	49	39
24	130	123	119	115	111	107	103	98	92
20	154	145	139	134	129	124	118	112	104
16	180	171	165	159	154	149	144	138	129

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	2449	1949	1663	1014	605	276	178	352	675	1337	1976	2332	14806
60	2294	1809	1508	864	454	139	67	218	526	1182	1832	2177	13070
57	2201	1725	1415	774	368	77	26	154	440	1089	1742	2084	12095
55	2139	1669	1353	715	313	48	12	118	384	1027	1682	2022	11482
50	1984	1529	1198	569	196	11	1	51	257	872	1532	1867	10067
32	1438	1039	663	158	11	0	0	0	19	361	993	1309	5991

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	12	14	24	135	429	715	853	678	334	48	1	0	3243
55	0	0	0	1	19	73	152	83	10	0	0	0	338
57	0	0	0	0	11	42	104	57	5	0	0	0	219
60	0	0	0	0	4	13	51	28	2	0	0	0	98
65	0	0	0	0	0	0	7	7	0	0	0	0	14
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	19	177	465	588	424	129	1	0	0	0	0	0	19	196	661	1249	1673	1802	1803	1803	1803
45	0	0	0	4	73	316	433	275	55	0	0	0	0	0	0	4	77	393	826	1101	1156	1156	1156	1156
50	0	0	0	1	19	177	279	145	15	0	0	0	0	0	0	1	20	197	476	621	636	636	636	636
55	0	0	0	0	5	78	144	55	1	0	0	0	0	0	0	0	5	83	227	282	283	283	283	283
60	0	0	0	0	0	26	50	15	0	0	0	0	0	0	0	0	0	26	76	91	91	91	91	91
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	0	26	179	322	379	298	113	0	0	0	0	0	0	26	205	527	906	1204	1317	1317	1317	1317

(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