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: TANANA AP, AK **COOP ID: 509014**

Climate Division: AK 8 **NWS Call Sign: TAL** **Elevation: 227 Feet** **Lat: 65˚10N** **Lon: 152˚06W**

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	-2.6	-17.1	-9.9	41+	1991	26	13.5	1981	-76	1989	27	-31.5	1971	2323	0	.0	.0	.0	29.4	29.8	23.3
Feb	4.5	-13.9	-4.7	38+	1989	25	12.4	1997	-64	1993	1	-25.8	1990	1953	0	.0	.0	.0	27.7	28.2	21.0
Mar	19.5	-3.7	7.9	50	1998	22	22.4	1981	-57	1956	1	-7.1	1972	1772	0	.0	.0	@	26.0	30.8	18.8
Apr	38.4	15.4	26.9	70	1960	30	37.7	1998	-37	1985	1	15.4+	1985	1143	0	.0	.0	5.1	8.8	27.4	5.5
May	58.4	35.2	46.8	84	1995	12	51.9	1981	1	1952	3	38.1	1992	564	0	.0	3.0	25.2	.1	12.6	.0
Jun	70.0	47.1	58.6	94	1969	15	61.5+	1997	26+	1974	7	54.4	1978	199	5	.2	15.9	29.9	.0	.5	.0
Jul	72.1	50.6	61.4	91	1953	28	64.2	1975	30	2000	28	56.3	2000	131	17	@	19.8	30.9	.0	.1	.0
Aug	65.1	45.6	55.4	86	1994	1	61.6	1977	22	1984	28	49.6	2000	311	11	.0	8.3	30.7	.0	2.0	.0
Sep	51.9	35.2	43.6	78	1957	5	48.9+	1995	4+	1992	24	32.4	1992	645	0	.0	.3	17.9	.4	11.7	.0
Oct	28.8	15.9	22.4	57	1969	7	31.5	1979	-23+	1996	26	12.7	1996	1322	0	.0	.0	.2	19.2	29.3	4.4
Nov	8.8	-4.4	2.2	45	1997	10	19.3	1979	-53	1990	30	-8.1	1989	1887	0	.0	.0	.0	29.3	30.0	18.9
Dec	.6	-13.5	-6.5	42	1973	31	6.9	1985	-64	1961	29	-24.0	1980	2216	0	.0	.0	.0	30.6	30.9	23.5
Ann	34.6	16.0	25.3	94	Jun 1969	15	64.2	Jul 1975	-76	Jan 1989	27	-31.5	Jan 1971	14466	33	.2	47.3	139.9	171.5	233.3	115.4

\+ 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

Issue Date: May 2005

(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

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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	.53	.43	.46	1968	25	2.48	1993	.00	2000
Feb	.48	.37	.61	1976	4	1.92	1989	.00	2000
Mar	.50	.24	.75+	1985	1	2.24	1985	.00	1983
Apr	.32	.17	1.06	1950	20	1.75	1979	.00+	2000
May	.51	.51	1.08	1955	18	1.05	1988	.00	1974
Jun	1.47	1.25	1.90	1981	27	2.68	1999	.07	1991
Jul	2.17	1.89	1.66	1998	7	5.55	1998	.37	1988
Aug	2.51	2.34	1.96	1967	12	4.85	1994	.90	1976
Sep	1.68	1.28	1.17	1950	6	5.33	1993	.05	1984
Oct	.86	.86	.97	1963	6	1.68	1972	.15	1998
Nov	.64	.60	.79	1985	10	1.53	1979	.07	1991
Dec	.69	.57	.70	1970	20	2.15	1990	.00	1995
Ann	12.36	12.03	1.96	Aug 1967	12	5.55	Jul 1998	.00+	Apr 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.9	1.9	.0	.0
Feb	5.7	1.5	.1	.0
Mar	6.2	1.6	.1	.0
Apr	4.1	1.0	.0	.0
May	6.8	2.1	.0	.0
Jun	11.2	4.3	.6	.1
Jul	13.1	6.4	.9	.1
Aug	14.5	7.8	1.1	.1
Sep	12.1	5.5	.5	.0
Oct	10.1	2.8	.2	.0
Nov	9.9	1.8	.1	.0
Dec	9.5	2.6	.0	.0
Ann	110.1	39.3	3.6	.3

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	.03	.09	.17	.25	.33	.42	.52	.65	.82	1.10	1.38
Feb	.00	.02	.07	.13	.20	.30	.41	.56	.78	1.17	1.56
Mar	.00	.02	.07	.13	.21	.31	.43	.59	.83	1.24	1.65
Apr	.00	.00	.03	.08	.13	.20	.28	.39	.54	.82	1.09
May	.11	.19	.27	.34	.40	.47	.54	.62	.73	.89	1.04
Jun	.32	.45	.67	.86	1.06	1.27	1.51	1.79	2.16	2.76	3.32
Jul	.71	.92	1.22	1.48	1.73	1.98	2.26	2.59	3.01	3.66	4.26
Aug	1.18	1.40	1.70	1.94	2.17	2.39	2.63	2.91	3.26	3.78	4.25
Sep	.21	.34	.58	.82	1.06	1.34	1.66	2.06	2.59	3.48	4.33
Oct	.23	.31	.43	.54	.65	.77	.89	1.04	1.24	1.54	1.83
Nov	.10	.15	.25	.34	.43	.53	.64	.78	.97	1.27	1.56
Dec	.06	.14	.25	.35	.45	.57	.70	.86	1.07	1.41	1.74
Ann	7.82	8.66	9.76	10.61	11.37	12.12	12.90	13.76	14.83	16.40	17.77

\+ 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)

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	4.4	4.0	20	19	4.2	1999	24	10.9	1996	41	1979	30	41	1979	5.7	1.3	.3	.0	.0	27.4	27.4	27.4	23.1
Feb	4.9	2.1	25	23	6.1	1996	18	17.1	1989	55	1993	28	51	1993	5.4	1.6	.4	.1	.0	26.9	26.9	26.9	26.6
Mar	3.5	2.3	25	24	4.7	1982	17	14.9	1991	52	1993	1	41	1990	4.1	1.2	.2	.0	.0	26.1	25.8	25.8	25.6
Apr	1.9	1.2	16	14	4.0	1982	1	11.3	1977	55	1979	7	39	1979	2.5	.5	.1	.0	.0	23.2	22.1	21.0	18.3
May	.6	.0	#	0	7.0	1984	3	7.0	1984	28	1985	1	9	1985	.4	.2	@	@	.0	2.6	1.6	1.4	.9
Jun	#	.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	1.0	.1	#	0	6.5	1983	29	7.9	1983	4	1996	25	1	1996	.8	.4	.1	@	.0	.4	.1	.0	.0
Oct	6.8	5.8	1	2	7.0	1983	14	20.0	1983	11	1978	31	5	1983	7.0	2.5	.5	.1	.0	17.1	7.9	3.4	.2
Nov	6.0	5.7	7	6	5.2	1979	6	13.1	1978	22	1978	30	17	1978	8.2	2.0	.2	.0	.0	27.0	25.0	20.6	5.7
Dec	8.4	6.3	13	13	6.4	1990	20	23.2	1990	32	1990	31	21+	1992	8.2	2.6	.8	.1	.0	26.4	26.4	25.5	18.8
Ann	37.5	27.5	N/A	N/A	7.0+	May 1984	3	23.2	Dec 1990	55+	Feb 1993	28	51	Feb 1993	42.3	12.3	2.6	.3	.0	177.1	163.2	152.0	119.2

+ 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	7/23	7/13	7/06	6/30	6/24	6/18	6/12	6/05	5/26
32	6/27	6/19	6/13	6/09	6/04	5/30	5/25	5/20	5/12
28	5/27	5/24	5/22	5/20	5/18	5/16	5/14	5/12	5/09
24	5/18	5/14	5/11	5/08	5/06	5/03	4/30	4/27	4/23
20	5/12	5/07	5/04	5/02	4/29	4/27	4/24	4/21	4/17
16	5/05	5/01	4/28	4/26	4/24	4/21	4/19	4/16	4/12

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	8/03	8/07	8/10	8/13	8/15	8/17	8/20	8/23	8/27
32	8/11	8/16	8/19	8/22	8/25	8/28	8/31	9/03	9/08
28	8/20	8/25	8/29	9/01	9/04	9/07	9/10	9/14	9/19
24	9/05	9/10	9/14	9/16	9/19	9/22	9/25	9/28	10/03
20	9/15	9/20	9/23	9/26	9/28	10/01	10/04	10/07	10/11
16	9/24	9/28	9/30	10/03	10/05	10/07	10/09	10/12	10/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	87	75	66	59	51	44	37	28	16
32	114	102	95	88	81	75	68	60	49
28	128	121	116	112	108	104	100	95	88
24	158	151	145	140	136	132	127	121	114
20	169	163	159	155	151	148	144	140	134
16	179	173	170	166	163	160	157	153	148

***** 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:
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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	2323	1953	1772	1143	564	199	131	311	645	1322	1887	2216	14466
60	2168	1813	1617	993	415	84	41	186	499	1167	1737	2061	12781
57	2075	1729	1524	905	332	41	14	128	415	1074	1647	1968	11852
55	2013	1673	1462	847	281	23	7	96	362	1012	1587	1906	11269
50	1858	1533	1307	705	174	3	0	39	242	857	1437	1751	9906
32	1320	1046	768	281	14	0	0	0	20	352	903	1193	5897

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	20	17	19	128	473	797	909	724	365	53	6	0	3511
55	0	0	0	4	26	129	203	106	17	0	0	0	485
57	0	0	0	2	16	87	149	76	10	0	0	0	340
60	0	0	0	0	6	41	83	41	4	0	0	0	175
65	0	0	0	0	0	5	17	11	0	0	0	0	33
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	11	224	549	656	468	151	0	0	0	0	0	0	11	235	784	1440	1908	2059	2059	2059	2059
45	0	0	0	0	118	399	501	316	61	0	0	0	0	0	0	0	118	517	1018	1334	1395	1395	1395	1395
50	0	0	0	0	43	255	346	180	16	0	0	0	0	0	0	0	43	298	644	824	840	840	840	840
55	0	0	0	0	12	133	199	75	0	0	0	0	0	0	0	0	12	145	344	419	419	419	419	419
60	0	0	0	0	1	53	85	21	0	0	0	0	0	0	0	0	1	54	139	160	160	160	160	160
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	10	152	324	381	253	74	0	0	0	0	0	0	10	162	486	867	1120	1194	1194	1194	1194

(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:
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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