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: KOTZEBUE WIEN AP, AK **COOP ID: 505076**

Climate Division: AK 9 **NWS Call Sign: OTZ** **Elevation: 10 Feet** **Lat: 66˚53N** **Lon: 162˚36W**

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	3.7	-8.6	-2.5	39	1961	20	16.2	1985	-49	1989	27	-19.8	1989	2092	0	.0	.0	.0	30.4	31.0	20.8
Feb	3.0	-9.9	-3.5	40+	1989	7	17.7	1989	-52+	1968	24	-24.1	1990	1918	0	.0	.0	.0	27.2	28.3	20.1
Mar	7.2	-7.7	-.3	39	1973	29	13.5	1998	-48	1956	1	-14.7+	1977	2008	0	.0	.0	.0	30.4	31.0	21.4
Apr	19.6	3.3	11.5	48+	1988	27	24.1	1998	-31	1964	3	-5.4	1985	1606	0	.0	.0	.0	23.7	29.7	13.7
May	37.8	25.3	31.6	70+	1990	28	38.3	1990	-12	1964	1	23.2	1992	1037	0	.0	@	3.6	8.1	24.4	.7
Jun	50.8	38.8	44.8	85	1991	22	50.3	1991	24+	1999	4	37.6	1975	607	0	.0	.9	15.8	.1	5.2	.0
Jul	60.0	49.4	54.7	85	1958	5	59.4	1972	30	1976	2	49.3	2000	327	8	.0	3.1	29.1	.0	.1	.0
Aug	56.7	47.4	52.1	80	1968	6	59.1	1977	29	1994	28	47.0	1984	407	4	.0	1.0	27.3	.0	.2	.0
Sep	46.4	37.2	41.8	69	1978	3	47.6	1995	13	1992	29	32.2	1992	696	0	.0	.0	10.2	.7	6.8	.0
Oct	27.5	18.8	23.2	51+	1984	1	30.7	1987	-19	1975	31	16.9	1996	1297	0	.0	.0	.1	20.2	28.0	1.4
Nov	13.3	3.2	8.3	38+	1994	9	17.7	1979	-32+	1956	15	-2.2	1975	1703	0	.0	.0	.0	28.4	29.9	12.9
Dec	6.0	-6.4	-.2	37	1982	29	12.9+	2000	-47+	1974	30	-17.6	1974	2022	0	.0	.0	.0	30.4	31.0	21.3
Ann	27.7	15.9	21.8	85+	Jun 1991	22	59.4	Jul 1972	-52+	Feb 1968	24	-24.1	Feb 1990	15720	12	.0	5.0	86.1	199.6	245.6	112.3

\+ 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	.55	.44	.64	1963	16	1.77	1973	.01	1979
Feb	.42	.40	.68	1951	25	1.24	1996	.00	1979
Mar	.38	.21	.37	1954	23	1.00	1991	.00	1986
Apr	.41	.36	.55	2001	6	1.41	1989	.04	2000
May	.33	.22	.49	1962	7	1.05	1989	.00+	1979
Jun	.57	.54	.70	1993	12	1.76	1998	.02	1977
Jul	1.43	1.33	.98	1953	5	3.51	1981	.01	1977
Aug	2.00	1.78	1.48	1954	23	5.26	1998	.08	1991
Sep	1.70	1.67	1.64	1978	24	4.31	1977	.39	1981
Oct	.95	.84	1.32	1997	3	3.20	1993	.00	1999
Nov	.71	.58	.51	1982	1	2.22	1990	.01	1999
Dec	.60	.56	.49	1998	18	1.40	1987	.19	1974
Ann	10.05	9.85	1.64	Sep 1978	24	5.26	Aug 1998	.00+	Oct 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.5	2.0	.0	.0
Feb	6.9	1.2	.0	.0
Mar	6.7	1.3	.0	.0
Apr	6.5	1.2	.0	.0
May	5.5	1.0	.0	.0
Jun	5.9	1.9	.2	.0
Jul	9.9	4.2	.6	.0
Aug	14.0	6.2	.8	.0
Sep	12.3	5.2	.4	.1
Oct	10.9	3.2	.2	.0
Nov	9.5	2.6	.0	.0
Dec	9.6	2.1	.0	.0
Ann	106.2	32.1	2.2	.1

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	.07	.11	.19	.26	.35	.43	.54	.67	.84	1.13	1.41
Feb	.02	.06	.12	.19	.25	.33	.41	.52	.66	.91	1.14
Mar	.01	.04	.10	.15	.21	.28	.37	.47	.61	.86	1.09
Apr	.03	.06	.12	.17	.23	.30	.39	.49	.64	.89	1.13
May	.00	.02	.06	.11	.17	.23	.30	.40	.54	.76	.99
Jun	.06	.10	.18	.26	.34	.44	.55	.70	.89	1.22	1.54
Jul	.17	.28	.48	.68	.89	1.13	1.40	1.74	2.20	2.96	3.70
Aug	.29	.46	.75	1.03	1.32	1.63	2.00	2.45	3.05	4.03	4.98
Sep	.53	.69	.93	1.14	1.34	1.54	1.77	2.04	2.39	2.92	3.42
Oct	.09	.20	.36	.49	.64	.79	.96	1.18	1.46	1.91	2.35
Nov	.07	.12	.22	.32	.42	.55	.69	.87	1.11	1.52	1.92
Dec	.21	.27	.35	.42	.49	.56	.63	.72	.83	1.00	1.16
Ann	6.26	6.96	7.87	8.58	9.22	9.84	10.49	11.22	12.11	13.42	14.57

\+ 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	5.6	5.8	18	17	4.3+	1999	23	11.3	1997	36	1972	31	32	1994	7.8	2.1	.1	.0	.0	29.5	29.5	29.5	26.9
Feb	4.3	3.8	22	18	5.0	1999	11	11.3	1989	42	1995	5	39+	1995	6.5	1.4	.2	@	.0	27.7	27.7	27.7	26.6
Mar	3.9	2.4	25	25	3.6	1991	14	10.8	1991	48	1973	31	43	1996	6.0	1.4	.1	.0	.0	29.1	29.1	29.1	28.0
Apr	3.9	3.3	22	20	4.4	1998	27	12.4	1989	53	1973	10	47	1973	6.5	1.4	.1	.0	.0	29.4	29.4	29.2	26.8
May	1.2	.5	6	4	3.5	1984	6	5.5	1984	43	1973	2	18	1999	2.1	.4	@	.0	.0	19.6	14.3	10.7	7.1
Jun	#	.0	#	0	.3	1974	12	.3	1974	3	1984	2	0	0	.1	.0	.0	.0	.0	.4	.1	.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
Aug	#	.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	5.7	1996	20	5.7	1996	2	1973	28	0	0	1.1	.4	@	@	.0	.3	.0	.0	.0
Oct	5.8	5.5	#	1	4.7	1982	29	17.1	1971	7	1971	31	3	1971	7.4	2.1	.2	.0	.0	12.1	4.7	1.0	.0
Nov	6.5	5.8	4	4	3.8+	1990	23	22.7	1990	20	1990	30	14	1990	8.6	2.1	.3	.0	.0	24.5	18.2	12.5	3.4
Dec	7.1	6.4	12	11	5.1	1998	18	15.4	1990	30	1993	31	27	1993	8.9	2.7	.3	.0	.0	29.8	27.8	26.7	18.6
Ann	39.3	33.6	N/A	N/A	5.7	Sep 1996	20	22.7	Nov 1990	53	Apr 1973	10	47	Apr 1973	55.0	14.0	1.3	@	.0	202.4	180.8	166.4	137.4

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	7/07	7/03	6/29	6/26	6/24	6/21	6/18	6/15	6/11
32	6/21	6/17	6/15	6/13	6/11	6/08	6/06	6/04	5/31
28	6/12	6/08	6/04	6/02	5/30	5/27	5/25	5/22	5/17
24	6/01	5/28	5/26	5/23	5/21	5/19	5/17	5/14	5/11
20	5/26	5/22	5/19	5/16	5/14	5/12	5/09	5/06	5/03
16	5/21	5/16	5/13	5/10	5/07	5/04	5/02	4/28	4/23

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	8/20	8/25	8/29	9/01	9/05	9/08	9/11	9/15	9/20
32	9/03	9/08	9/12	9/15	9/18	9/21	9/24	9/28	10/03
28	9/13	9/17	9/20	9/23	9/25	9/27	9/30	10/03	10/07
24	9/22	9/25	9/28	9/30	10/02	10/04	10/06	10/08	10/12
20	9/26	9/30	10/03	10/06	10/08	10/10	10/13	10/16	10/20
16	10/02	10/06	10/08	10/11	10/13	10/15	10/17	10/19	10/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	94	86	81	76	72	68	63	58	50
32	117	110	106	102	99	95	91	87	81
28	136	130	125	121	117	113	109	105	98
24	148	143	139	136	133	130	127	123	118
20	163	157	153	149	146	143	139	135	129
16	176	170	165	161	158	154	150	146	139

***** 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	2092	1918	2008	1606	1037	607	327	407	696	1297	1703	2022	15720
60	1937	1778	1868	1456	882	459	195	267	548	1142	1553	1867	13952
57	1844	1694	1775	1366	789	374	134	195	462	1049	1463	1774	12919
55	1782	1638	1713	1306	727	319	100	155	407	987	1403	1712	12249
50	1627	1498	1558	1156	576	199	36	75	280	832	1253	1557	10647
32	1087	1014	1004	644	155	7	0	0	27	321	714	1010	5983

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	18	20	3	28	141	390	704	621	322	47	1	11	2306
55	0	0	0	0	0	13	91	62	11	0	0	0	177
57	0	0	0	0	0	7	63	41	6	0	0	0	117
60	0	0	0	0	0	2	31	20	2	0	0	0	55
65	0	0	0	0	0	0	8	4	0	0	0	0	12
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	0	21	185	461	384	124	1	0	0	0	0	0	0	21	206	667	1051	1175	1176	1176	1176
45	0	0	0	0	5	99	311	231	47	0	0	0	0	0	0	0	5	104	415	646	693	693	693	693
50	0	0	0	0	0	39	174	108	9	0	0	0	0	0	0	0	0	39	213	321	330	330	330	330
55	0	0	0	0	0	14	72	32	0	0	0	0	0	0	0	0	0	14	86	118	118	118	118	118
60	0	0	0	0	0	5	19	4	0	0	0	0	0	0	0	0	0	5	24	28	28	28	28	28
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	0	9	72	192	130	27	0	0	0	0	0	0	0	9	81	273	403	430	430	430	430

(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