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: COLLEGE OBSERVATORY, AK **COOP ID: 502107**

Climate Division: AK 8 **NWS Call Sign:** **Elevation: 621 Feet** **Lat: 64˚52N** **Lon: 147˚50W**

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	2.3	-12.5	-5.1	47	1981	16	21.3	1981	-60	1969	2	-25.4	1971	2175	0	.0	.0	.0	29.5	31.0	22.2
Feb	9.6	-9.8	-.1	49	1980	12	16.2	1997	-52	1999	5	-20.8	1990	1824	0	.0	.0	.0	25.1	28.3	19.5
Mar	25.8	1.2	13.5	57	1998	20	28.5	1981	-40	1956	1	-1.9	1971	1597	0	.0	.0	.6	20.0	31.0	14.0
Apr	43.5	19.0	31.3	71	1995	30	40.6	1993	-24	1986	7	20.8+	1985	1012	0	.0	.1	9.8	5.4	27.7	2.6
May	60.8	35.0	47.9	88	1960	25	53.1	1995	3+	1964	10	39.7	1992	529	0	.0	4.9	27.6	.1	9.9	.0
Jun	70.9	46.5	58.7	94+	1991	21	61.7	1997	29+	1970	9	54.0	1978	195	5	.3	17.1	30.0	.0	.2	.0
Jul	73.4	50.1	61.8	92+	1993	15	65.3	1993	32	1957	27	56.7	1981	126	24	.2	21.3	31.0	.0	.0	.0
Aug	66.8	45.0	55.9	93	1994	5	63.2	1977	24	1987	31	50.0	2000	297	15	.1	11.1	30.6	.0	1.2	.0
Sep	54.7	33.8	44.3	82	1957	6	51.6	1995	5+	1992	30	31.4	1992	625	1	.0	1.4	21.0	.6	12.5	.0
Oct	31.9	16.0	24.0	64+	1979	2	32.8	1987	-27	1975	31	12.8	1996	1274	0	.0	.0	1.8	16.6	29.9	3.6
Nov	12.1	-2.4	4.9	49+	1976	13	21.7	1979	-45	1990	30	-6.6	1975	1806	0	.0	.0	.0	28.0	30.0	17.0
Dec	5.2	-9.4	-2.1	44+	2001	27	11.1	1985	-66	1961	28	-22.3	1980	2082	0	.0	.0	.0	29.6	31.0	22.7
Ann	38.1	17.7	27.9	94+	Jun 1991	21	65.3	Jul 1993	-66	Dec 1961	28	-25.4	Jan 1971	13542	45	.6	55.9	152.4	154.9	232.7	101.6

\+ 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

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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	.61	.42	.84	1993	14	3.20	1993	.10	1986
Feb	.44	.29	.71	1996	18	1.96	1996	.00+	1976
Mar	.34	.24	1.21	1991	25	2.84	1991	.00	1984
Apr	.20	.11	.41	1984	7	.82	1982	.00+	2000
May	.60	.41	.76	1959	20	2.31	1988	.04	1971
Jun	1.68	1.77	1.23	1962	15	3.31	1977	.23	1971
Jul	1.96	1.77	1.89	1962	22	4.75	1990	.31	1993
Aug	1.95	1.80	2.51	1967	13	3.45	1996	.58	1977
Sep	1.32	1.09	1.00	1962	15	3.39	1993	.15	1979
Oct	1.01	.89	1.20	1986	11	2.07	1982	.24	1987
Nov	.78	.73	1.04	1970	28	2.21	1994	.04	1983
Dec	.82	.55	1.30	1968	19	3.70	1990	.05+	1985
Ann	11.71	11.73	2.51	Aug 1967	13	4.75	Jul 1990	.00+	Apr 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.2	1.8	.1	.0
Feb	6.1	1.5	.1	.0
Mar	5.7	.8	.1	.0
Apr	3.4	.5	.0	.0
May	6.5	2.0	.1	.0
Jun	11.8	4.7	.9	.1
Jul	13.1	5.5	.9	.1
Aug	14.0	5.8	.6	.1
Sep	10.7	4.2	.5	.0
Oct	11.3	3.3	.1	.0
Nov	10.3	2.6	.1	.0
Dec	9.6	2.5	.2	.0
Ann	110.7	35.2	3.7	.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	.08	.13	.22	.31	.39	.49	.60	.74	.93	1.23	1.53
Feb	.00	.04	.11	.18	.25	.33	.43	.55	.71	.99	1.26
Mar	.01	.03	.07	.11	.17	.23	.31	.41	.55	.79	1.03
Apr	.00	.00	.02	.05	.08	.13	.18	.24	.34	.49	.65
May	.05	.09	.17	.25	.34	.45	.57	.73	.94	1.30	1.66
Jun	.55	.71	.95	1.15	1.34	1.53	1.75	2.00	2.33	2.83	3.30
Jul	.58	.76	1.04	1.28	1.52	1.76	2.03	2.35	2.76	3.41	4.00
Aug	.77	.95	1.20	1.42	1.62	1.82	2.04	2.30	2.63	3.12	3.58
Sep	.24	.36	.55	.73	.92	1.12	1.34	1.61	1.97	2.56	3.11
Oct	.32	.42	.56	.68	.80	.92	1.05	1.20	1.40	1.71	2.00
Nov	.14	.20	.32	.42	.53	.65	.79	.95	1.17	1.52	1.86
Dec	.05	.10	.20	.31	.44	.58	.76	.99	1.30	1.84	2.38
Ann	7.79	8.53	9.48	10.22	10.87	11.51	12.17	12.90	13.80	15.11	16.25

+ 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	9.3	7.2	18	16	8.0	1993	14	33.2	1993	48	1993	15	41	1971	9.2	3.1	.6	.2	.0	30.5	30.5	30.3	27.2
Feb	7.1	4.5	20	19	11.1	1996	18	28.3	1996	45	1971	13	42	1971	7.6	2.2	.5	.1	@	28.1	28.1	28.1	27.8
Mar	5.7	4.8	21	20	10.5	1991	25	32.3	1991	52	1991	28	43	1971	6.5	2.0	.3	.1	@	30.7	30.7	30.7	30.5
Apr	2.4	.9	13	13	8.5	1992	6	14.3	1992	49	1991	1	35	1991	2.7	.8	.1	@	.0	24.9	24.4	23.2	19.0
May	.4	.0	#	0	3.5	1992	12	10.3	1992	20+	1972	1	5	1992	.5	.2	@	.0	.0	2.1	2.0	1.8	.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	1.7	.1	#	0	6.0+	1992	13	23.0	1992	10	1992	21	5	1992	1.1	.5	.2	.1	.0	1.1	.8	.6	.1
Oct	12.4	11.2	3	3	12.4	1982	19	33.7	1982	18	1982	19	10	1992	11.3	4.6	.8	.2	@	19.8	14.8	8.8	1.5
Nov	13.5	11.2	8	8	7.7	1992	22	38.3	1990	24	1982	10	20	1982	11.9	4.7	1.1	.3	.0	29.9	29.2	25.2	10.6
Dec	12.0	8.9	13	12	11.5	1971	18	46.1	1984	42	1990	31	25	1992	10.8	3.9	.8	.3	@	30.4	30.4	29.3	21.0
Ann	64.5	48.8	N/A	N/A	12.4	Oct 1982	19	46.1	Dec 1984	52	Mar 1991	28	43	Mar 1971	61.6	22.0	4.4	1.3	@	197.5	190.9	178.0	138.6

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

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	8/12	8/16	8/18	8/20	8/23	8/25	8/27	8/30	9/02
32	8/17	8/21	8/25	8/28	8/30	9/02	9/05	9/08	9/13
28	8/28	9/03	9/06	9/10	9/13	9/16	9/19	9/23	9/28
24	9/09	9/14	9/18	9/21	9/24	9/27	9/30	10/04	10/09
20	9/15	9/20	9/24	9/27	9/29	10/02	10/05	10/08	10/13
16	9/25	9/29	10/02	10/04	10/07	10/09	10/12	10/15	10/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	104	94	87	81	75	70	64	57	47
32	114	108	104	100	97	93	90	85	79
28	140	134	129	126	122	119	115	110	104
24	171	163	158	153	149	144	140	134	127
20	179	173	168	164	160	157	153	148	142
16	192	186	181	178	174	171	167	163	157

***** 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	2175	1824	1597	1012	529	195	126	297	625	1274	1806	2082	13542
60	2020	1684	1442	862	381	82	42	177	481	1119	1656	1927	11873
57	1927	1600	1349	774	299	39	15	122	399	1026	1566	1834	10950
55	1865	1544	1287	716	249	22	7	91	347	964	1506	1772	10370
50	1710	1404	1132	576	146	3	0	38	233	810	1356	1617	9025
32	1182	926	610	183	7	0	0	0	21	322	831	1062	5144

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	30	26	36	161	501	800	921	741	387	71	15	3	3692
55	0	0	0	4	29	131	215	120	24	0	0	0	523
57	0	0	0	2	17	89	161	88	16	0	0	0	373
60	0	0	0	0	7	42	95	50	8	0	0	0	202
65	0	0	0	0	0	5	24	15	1	0	0	0	45
70	0	0	0	0	0	0	3	2	0	0	0	0	5

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	27	280	576	688	502	182	4	0	0	0	0	0	27	307	883	1571	2073	2255	2259	2259	2259
45	0	0	0	5	154	426	533	348	83	0	0	0	0	0	0	5	159	585	1118	1466	1549	1549	1549	1549
50	0	0	0	0	68	282	379	207	24	0	0	0	0	0	0	0	68	350	729	936	960	960	960	960
55	0	0	0	0	20	149	227	98	1	0	0	0	0	0	0	0	20	169	396	494	495	495	495	495
60	0	0	0	0	3	67	103	31	0	0	0	0	0	0	0	0	3	70	173	204	204	204	204	204
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	28	190	340	398	275	103	3	0	0	0	0	0	28	218	558	956	1231	1334	1337	1337	1337

(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