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: UNIVERSITY EXP STA, AK **COOP ID: 509641**

Climate Division: AK 8 **NWS Call Sign:** **Elevation: 475 Feet** **Lat: 64˚51N** **Lon: 147˚52W**

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	2.0	-14.8	-6.4	47	1981	15	18.1	1981	-65	1934	14	-24.9	1971	2215	0	.0	.0	.0	29.9	31.0	23.6
Feb	10.1	-11.0	-.5	57	1983	5	15.0+	1997	-59	1947	2	-21.8	1990	1834	0	.0	.0	@	25.2	28.3	19.7
Mar	27.3	1.0	14.2	58	1998	20	28.2	1981	-43	1956	1	1.3	1972	1576	0	.0	.0	.7	18.5	31.0	14.5
Apr	44.9	19.4	32.2	76	1979	30	40.4	1993	-26	1939	1	22.1	1985	986	0	.0	.2	10.8	4.2	28.2	2.5
May	61.6	35.3	48.5	88	1960	24	53.2	1981	0	1945	3	40.4	1992	514	0	.0	5.3	28.6	.1	10.9	.0
Jun	71.5	46.2	58.9	95	1969	15	61.5	1984	23	1978	21	53.9	1978	191	6	.2	17.9	30.0	.0	.4	.0
Jul	73.8	49.7	61.8	92	1955	25	64.5	1993	29+	1949	1	56.3	1981	121	21	.2	22.6	31.0	.0	.0	.0
Aug	67.2	44.6	55.9	90+	1934	6	62.7	1977	22	1948	24	52.0	1996	293	12	.0	11.6	30.8	.0	1.5	.0
Sep	55.6	33.7	44.7	85	1957	5	52.2	1995	5+	1992	24	31.4	1992	612	1	.0	1.6	22.1	.5	12.3	.0
Oct	32.8	15.9	24.4	65+	1969	14	34.5	1987	-34	1975	31	12.6	1996	1260	0	.0	.0	2.1	15.5	29.5	3.7
Nov	12.4	-3.8	4.3	50	1976	13	19.9	1979	-49	1990	30	-6.5	1989	1821	0	.0	.0	@	28.4	30.0	18.3
Dec	5.1	-11.3	-3.1	58	1934	5	10.2	1986	-62	1946	15	-25.7	1980	2113	0	.0	.0	.0	29.9	31.0	23.6
Ann	38.7	17.1	27.9	95	Jun 1969	15	64.5	Jul 1993	-65	Jan 1934	14	-25.7	Dec 1980	13536	40	.4	59.2	156.1	152.2	234.1	105.9

+ 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: 1931-2001

(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	.59	.41	1.85	1937	19	2.76	1993	.16+	1998
Feb	.36	.23	.75	1996	18	1.54	1996	.00+	2000
Mar	.35	.18	1.61	1963	25	2.62	1991	.00+	1998
Apr	.18	.07	.60	1982	17	1.22	1982	.00+	2000
May	.59	.40	.90	1955	27	2.37	1988	.00	1974
Jun	1.70	1.32	1.37	1955	12	3.78	1988	.26	1971
Jul	2.06	1.95	1.92	1948	20	4.91	1990	.26	1993
Aug	2.05	1.84	3.28	1967	12	4.44	1996	.48	1977
Sep	1.30	1.08	1.27	1954	16	3.26	1977	.21	1979
Oct	.88	.90	1.17	1946	29	1.82	1986	.09	1982
Nov	1.33	.69	.86	1970	20	1.95	1982	.03	1983
Dec	.72	.48	1.07	1968	19	3.34	1990	.00	1976
Ann	12.11	11.61	3.28	Aug 1967	12	4.91	Jul 1990	.00+	Apr 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.5	2.2	.0	.0
Feb	3.5	1.4	.0	.0
Mar	2.8	1.1	.1	.0
Apr	1.8	.7	.0	.0
May	5.1	2.0	.2	.0
Jun	9.8	4.6	.9	.1
Jul	11.4	6.1	.8	.1
Aug	12.5	6.1	.9	.1
Sep	9.2	4.4	.3	.0
Oct	8.2	3.1	.1	.0
Nov	7.2	2.8	.0	.0
Dec	6.3	2.7	.2	.0
Ann	83.3	37.2	3.5	.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	.09	.14	.22	.30	.39	.48	.59	.71	.89	1.17	1.44
Feb	.00	.00	.05	.11	.18	.25	.34	.45	.60	.85	1.10
Mar	.00	.00	.04	.09	.14	.21	.30	.42	.58	.87	1.16
Apr	.00	.00	.00	.01	.04	.08	.14	.21	.32	.51	.70
May	.02	.07	.15	.24	.33	.44	.56	.72	.93	1.30	1.65
Jun	.46	.62	.86	1.08	1.29	1.51	1.75	2.04	2.42	3.01	3.57
Jul	.61	.80	1.09	1.35	1.59	1.85	2.13	2.47	2.90	3.57	4.20
Aug	.74	.94	1.21	1.45	1.67	1.89	2.14	2.42	2.79	3.35	3.87
Sep	.24	.35	.54	.72	.90	1.10	1.32	1.59	1.94	2.52	3.06
Oct	.21	.29	.42	.53	.65	.77	.90	1.07	1.28	1.62	1.94
Nov	.02	.06	.17	.33	.52	.77	1.10	1.54	2.19	3.35	4.55
Dec	.02	.07	.16	.27	.38	.51	.67	.88	1.16	1.64	2.12
Ann	6.45	7.43	8.74	9.77	10.73	11.67	12.66	13.79	15.19	17.28	19.14

\+ 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: 1931-2001
(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	8.4	6.7	18	16	6.0	2000	18	34.8	1993	45	1993	15	38+	1993	4.8	2.9	.9	.2	.0	28.5	28.5	28.2	25.1
Feb	4.9	2.8	21	20	11.5	1996	18	24.6	1996	40	1993	28	39	1993	3.4	1.7	.3	.1	@	26.2	26.2	26.2	26.2
Mar	3.8	2.2	20	20	11.5	1991	25	27.2	1991	42	1971	3	40	1971	2.8	1.4	.4	.1	@	29.6	29.6	29.6	28.5
Apr	1.5	.0	9	7	8.0	1992	6	15.6	1992	50	1991	1	32	1991	1.0	.5	.1	.1	.0	18.2	17.7	16.7	13.0
May	.1	.0	#	0	1.3	1992	16	3.9	1992	11	1985	1	1	1985	.1	.1	.0	.0	.0	.4	.1	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	1.1	.0	#	0	5.0	1992	13	13.0	1992	11	1992	21	5	1992	.5	.4	.2	@	.0	.9	.7	.6	.2
Oct	7.8	6.9	2	2	5.9	1996	13	16.5	1974	12	1974	19	8	1992	5.9	3.5	.7	@	.0	16.0	11.5	7.7	.8
Nov	10.6	9.0	8	7	7.0	1994	16	30.9	1990	22	1994	22	16	1994	7.0	4.4	.9	.2	.0	29.0	28.2	21.9	9.8
Dec	10.3	8.0	14	13	12.0	1984	17	44.6	1990	42	1984	31	24+	1990	6.2	3.8	1.1	.2	@	30.2	30.2	28.7	24.3
Ann	48.5	35.6	N/A	N/A	12.0	Dec 1984	17	44.6	Dec 1990	50	Apr 1991	1	40	Mar 1971	31.7	18.7	4.6	.9	@	179.0	172.7	159.7	127.9

+ 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	7/01	6/24	6/18	6/13	6/09	6/05	5/31	5/26	5/18
32	6/10	6/05	6/02	5/30	5/28	5/25	5/22	5/19	5/15
28	5/27	5/22	5/18	5/15	5/12	5/09	5/06	5/02	4/27
24	5/17	5/11	5/07	5/03	4/29	4/26	4/22	4/18	4/12
20	5/01	4/28	4/25	4/22	4/20	4/18	4/15	4/13	4/09
16	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	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	8/07	8/11	8/14	8/16	8/19	8/21	8/23	8/26	8/31
32	8/20	8/23	8/26	8/28	8/30	9/01	9/03	9/06	9/09
28	8/26	9/01	9/05	9/08	9/12	9/15	9/18	9/22	9/28
24	9/12	9/17	9/20	9/22	9/25	9/27	9/30	10/03	10/07
20	9/15	9/19	9/23	9/26	9/28	10/01	10/04	10/07	10/11
16	9/26	9/30	10/03	10/05	10/08	10/10	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	98	89	81	75	70	64	58	51	41
32	110	105	101	97	94	90	87	83	77
28	142	135	130	126	122	118	113	108	101
24	171	163	157	152	147	143	138	132	124
20	180	173	168	164	160	157	153	148	141
16	192	186	181	178	174	170	166	162	155

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	2215	1834	1576	986	514	191	121	293	612	1260	1821	2113	13536
60	2060	1694	1421	836	362	79	37	170	468	1105	1671	1958	11861
57	1967	1610	1328	746	279	37	12	114	386	1012	1581	1865	10937
55	1905	1554	1266	688	227	20	5	84	335	950	1521	1803	10358
50	1750	1414	1111	547	124	2	0	32	222	797	1371	1648	9018
32	1216	935	589	158	4	0	0	0	18	314	845	1092	5171

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	24	26	36	162	513	805	922	742	397	77	13	2	3719
55	0	0	0	3	24	134	215	113	24	0	0	0	513
57	0	0	0	0	13	92	160	81	15	0	0	0	361
60	0	0	0	0	3	44	91	44	7	0	0	0	189
65	0	0	0	0	0	6	21	12	1	0	0	0	40
70	0	0	0	0	0	0	2	0	0	0	0	0	2

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	29	285	575	684	500	188	6	0	0	0	0	0	29	314	889	1573	2073	2261	2267	2267	2267
45	0	0	0	6	153	425	529	348	86	0	0	0	0	0	0	6	159	584	1113	1461	1547	1547	1547	1547
50	0	0	0	0	61	279	374	206	26	0	0	0	0	0	0	0	61	340	714	920	946	946	946	946
55	0	0	0	0	16	143	223	96	2	0	0	0	0	0	0	0	16	159	382	478	480	480	480	480
60	0	0	0	0	2	58	98	31	0	0	0	0	0	0	0	0	2	60	158	189	189	189	189	189
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	0	32	200	342	402	284	115	2	0	0	0	0	0	32	232	574	976	1260	1375	1377	1377	1377

(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