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: DAVID CITY, NE **COOP ID: 252205**

Climate Division: NE 6 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 41˚15N** **Lon: 97˚08W**

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 >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	30.6	13.4	22.0	71+	1981	25	33.2	1990	-30	1912	12	8.2	1979	1333	0	.0	.0	2.5	15.9	30.5	7.1
Feb	37.3	19.3	28.3	79	1972	29	38.0	1987	-30	1899	11	12.2	1979	1029	0	.0	.0	6.5	11.0	26.0	4.3
Mar	49.8	28.8	39.3	89	1986	30	44.7	1986	-17	1948	11	31.7	1998	796	0	.0	.0	14.6	4.1	21.9	.5
Apr	63.7	39.8	51.8	96+	1989	27	60.7	1981	5+	1975	3	45.3	1997	409	10	.0	.5	24.9	.3	8.1	.0
May	73.9	50.4	62.2	105	1934	29	69.1	1977	22	1909	1	56.6	1995	161	72	.0	1.1	30.6	.0	1.0	.0
Jun	83.7	60.3	72.0	106+	1988	22	77.8	1988	38	1935	7	66.9	1982	20	230	.5	6.9	30.0	.0	.0	.0
Jul	87.4	65.0	76.2	114	1936	25	81.8	1974	43	1971	30	69.6	1992	4	351	1.3	12.5	31.0	.0	.0	.0
Aug	85.5	63.5	74.5	111	1934	8	82.6	1983	35	1928	24	67.8	1992	14	309	.3	9.3	31.0	.0	.0	.0
Sep	77.9	54.0	66.0	104	1939	6	71.9	1998	18	1991	20	60.5	1993	75	104	.1	3.9	29.8	.0	.5	.0
Oct	65.2	42.6	53.9	96	1938	4	57.8	1973	5	1925	28	49.0	1987	348	3	.0	.1	27.6	.1	5.7	.0
Nov	46.2	28.7	37.5	85+	1945	5	47.3	1999	-13	1964	30	28.8	1985	826	0	.0	.0	12.6	4.1	21.5	.4
Dec	33.6	17.5	25.6	76	1939	6	32.2	1991	-27	1989	23	7.5	1983	1222	0	.0	.0	3.7	12.9	30.0	4.2
Ann	61.2	40.3	50.8	114	Jul 1936	25	82.6	Aug 1983	-30+	Jan 1912	12	7.5	Dec 1983	6237	1079	2.2	34.3	244.8	48.4	145.2	16.5

\+ 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: 1889-2001

(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	.65	.59	2.02	1932	2	1.44	1973	.00+	1986
Feb	.69	.68	2.14	1966	9	2.47	1971	.02+	1977
Mar	2.32	2.26	3.15	1987	23	8.84	1987	.00+	1994
Apr	3.05	2.82	3.04	1978	8	9.52	1978	.20	1990
May	4.64	4.11	5.86	1951	31	10.42	1972	.99	1980
Jun	4.56	4.30	7.05	1963	24	9.90	1982	.61	1974
Jul	3.12	2.54	4.70	1891	7	7.89	1993	.34	1983
Aug	3.51	2.69	4.48	1982	13	11.04	1977	.63+	1973
Sep	3.03	2.62	3.32	1945	27	8.70	1973	.32	1990
Oct	1.99	1.89	3.17	1979	31	5.44	1979	.05	1988
Nov	1.63	1.30	2.50	1896	26	4.37	1983	.00+	1989
Dec	.88	.69	1.75	1968	19	2.20	1973	.17	1976
Ann	30.07	29.67	7.05	Jun 1963	24	11.04	Aug 1977	.00+	Mar 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.2	2.1	.2	.0
Feb	4.4	2.4	.2	@
Mar	7.1	4.6	1.6	.5
Apr	8.7	5.5	1.9	.7
May	10.8	8.0	3.3	1.1
Jun	8.7	6.7	2.7	1.2
Jul	7.8	5.6	2.5	.7
Aug	7.5	5.6	2.1	.9
Sep	7.1	4.9	1.8	1.0
Oct	5.6	3.6	1.2	.5
Nov	5.5	3.3	1.1	.5
Dec	4.6	2.4	.5	.0
Ann	82.0	54.7	19.1	7.1

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	.00	.09	.21	.32	.42	.53	.66	.81	1.01	1.34	1.66
Feb	.05	.10	.19	.29	.39	.51	.66	.84	1.09	1.51	1.93
Mar	.00	.28	.71	1.08	1.46	1.87	2.34	2.90	3.67	4.92	6.13
Apr	.43	.68	1.12	1.55	1.99	2.48	3.04	3.73	4.66	6.18	7.64
May	1.28	1.72	2.39	2.97	3.54	4.14	4.80	5.59	6.60	8.20	9.69
Jun	.89	1.30	1.97	2.59	3.21	3.88	4.64	5.56	6.77	8.72	10.57
Jul	.48	.74	1.19	1.63	2.07	2.56	3.13	3.82	4.74	6.24	7.68
Aug	.51	.81	1.31	1.80	2.30	2.86	3.50	4.28	5.34	7.05	8.71
Sep	.39	.63	1.06	1.49	1.93	2.42	3.00	3.70	4.66	6.22	7.74
Oct	.14	.27	.53	.80	1.11	1.46	1.88	2.42	3.16	4.42	5.66
Nov	.00	.25	.56	.83	1.09	1.36	1.68	2.04	2.54	3.34	4.11
Dec	.18	.27	.39	.51	.63	.75	.90	1.07	1.29	1.65	1.99
Ann	18.32	20.46	23.28	25.47	27.44	29.38	31.40	33.67	36.46	40.57	44.19

\+ 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: 1889-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	5.3	4.7	3	1
Feb	5.9	5.9	2	1
Mar	6.4	5.9	1	#
Apr	1.9	.5	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.2	.0	#	0
Oct	.7	.0	#	0
Nov	3.3	2.0	#	#
Dec	6.2	4.4	2	1
Ann	29.9	23.4	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	7.0	1975	11	16.0	1975	24	1984	1	16	1974
Feb	8.0	1984	18	15.3	1978	16	1979	19	15	1979
Mar	8.0	1987	29	18.0	1984	16	1978	7	4	1978
Apr	8.6	1996	15	9.6	1996	9	1997	12	1	1997
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	5.0	1985	30	5.0	1985	1	1985	30	#+	1995
Oct	6.0	1997	26	6.0	1997	6	1997	26	1	1997
Nov	14.0	1983	28	14.0	1983	18	1983	30	2	1983
Dec	10.0	1974	15	19.0	1973	24	1983	31	19	1983
Ann	14.0	Nov 1983	28	19.0	Dec 1973	24+	Jan 1984	1	19	Dec 1983

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.1	2.1	.8	.2	.0
Feb	2.9	2.2	.7	.3	.0
Mar	2.4	1.7	.9	.4	.0
Apr	.8	.7	.3	.1	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	@	@	.0
Oct	.3	.2	.1	.1	.0
Nov	2.0	1.4	.5	.2	.1
Dec	3.4	2.1	.8	.2	@
Ann	14.9	10.4	4.1	1.5	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	11.5	5.5	2.7	1.4
Feb	7.6	4.3	3.2	.2
Mar	4.6	2.5	1.4	.2
Apr	.7	.3	.1	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	@	.0	.0	.0
Oct	.3	.1	@	.0
Nov	2.2	.7	.4	.1
Dec	11.3	6.1	3.7	2.1
Ann	38.2	19.5	11.5	4.0

+ 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	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/23	4/18
32	5/12	5/06	5/02	4/29	4/25	4/22	4/18	4/14	4/09
28	4/30	4/24	4/20	4/17	4/13	4/10	4/07	4/02	3/28
24	4/15	4/11	4/08	4/05	4/02	3/31	3/28	3/25	3/21
20	4/11	4/05	3/31	3/27	3/24	3/20	3/17	3/12	3/06
16	3/31	3/25	3/21	3/18	3/15	3/12	3/08	3/04	2/27

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	9/17	9/21	9/24	9/26	9/29	10/01	10/03	10/06	10/10
32	9/26	9/30	10/04	10/07	10/09	10/12	10/15	10/18	10/23
28	10/01	10/07	10/11	10/15	10/18	10/22	10/25	10/30	11/04
24	10/12	10/18	10/23	10/27	10/31	11/04	11/08	11/13	11/20
20	10/18	10/25	10/30	11/04	11/08	11/12	11/16	11/22	11/29
16	11/01	11/07	11/12	11/16	11/20	11/24	11/28	12/02	12/09

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	163	157	152	148	144	139	133	126
32	187	180	175	170	166	162	158	152	145
28	209	202	196	192	187	183	178	173	165
24	234	226	221	216	211	206	201	196	188
20	257	247	240	234	228	222	216	209	199
16	276	267	260	255	249	244	238	232	222

***** 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	1333	1029	796	409	161	20	4	14	75	348	826	1222	6237
60	1178	889	641	280	83	4	0	2	24	211	676	1067	5055
57	1085	814	554	214	50	1	0	0	9	144	589	974	4434
55	1024	762	496	175	34	0	0	0	4	107	534	912	4048
50	874	632	359	95	11	0	0	0	0	45	398	765	3179
32	394	259	60	1	0	0	0	0	0	0	82	303	1099

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	84	155	287	593	934	1200	1370	1318	1019	679	246	103	7988
55	1	13	11	76	254	510	657	605	333	73	8	0	2541
57	0	9	6	55	208	451	595	543	278	48	3	0	2196
60	0	0	1	32	148	364	502	452	203	22	0	0	1724
65	0	0	0	10	72	230	351	309	104	3	0	0	1079
70	0	0	0	2	26	122	211	186	43	0	0	0	590

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	36	116	333	662	952	1127	1054	762	420	92	7	0	36	152	485	1147	2099	3226	4280	5042	5462	5554	5561
45	0	11	61	220	509	802	972	899	613	291	45	1	0	11	72	292	801	1603	2575	3474	4087	4378	4423	4424
50	0	2	28	129	362	652	817	744	468	177	17	0	0	2	30	159	521	1173	1990	2734	3202	3379	3396	3396
55	0	0	6	69	234	504	662	589	331	91	4	0	0	0	6	75	309	813	1475	2064	2395	2486	2490	2490
60	0	0	0	28	126	359	508	434	212	38	0	0	0	0	0	28	154	513	1021	1455	1667	1705	1705	1705
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	33	88	214	404	625	759	704	485	262	67	10	5	38	126	340	744	1369	2128	2832	3317	3579	3646	3656

(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 and precipitation were calculated from a serially complete daily data set .
Documentation of the serially complete data set is available from the link below:

g. Snowfall and snow depth statistics were derived from 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 difference 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.

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. Snow Climatology
   2. 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
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/ serialcomplete_jam_0900.pdf