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: ELK CITY 1 NE, ID **COOP ID: 102875**

Climate Division: ID 4 **NWS Call Sign:** **Elevation: 4,058 Feet** **Lat: 45˚50N** **Lon: 115˚27W**

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	35.0	11.4	23.2	60	1981	21	32.7	1981	-41	1979	1	10.2	1979	1296	0	.0	.0	.6	10.7	30.8	6.7
Feb	41.8	14.2	28.0	68	1986	25	34.1	1992	-43	1956	16	19.2	1989	1036	0	.0	.0	4.4	4.0	28.2	4.0
Mar	47.3	20.2	33.8	74	1978	30	40.8	1992	-27	1956	12	27.2	1971	969	0	.0	.0	11.6	1.3	30.6	1.2
Apr	54.3	26.4	40.4	87	1987	28	45.5	1987	3	1955	5	34.3	1975	739	0	.0	.0	18.1	.1	26.4	.0
May	62.6	33.0	47.8	94	1986	30	52.9	1993	11	1972	1	43.9	1975	534	0	.0	.1	26.3	.0	15.2	.0
Jun	71.0	39.0	55.0	100	1974	15	59.9	1986	21	1951	2	52.0	1991	303	3	@	1.0	29.2	.0	4.8	.0
Jul	80.3	41.2	60.8	101+	1960	20	66.2	1998	23	1973	2	54.3	1993	164	31	.0	4.6	31.0	.0	2.0	.0
Aug	81.7	38.8	60.3	103	1961	4	64.3	1971	21	1969	29	55.4	1980	171	23	.1	6.1	31.0	.0	4.9	.0
Sep	72.0	32.3	52.2	98+	1998	6	58.9	1998	12	1971	16	45.6	1971	389	5	.0	1.3	28.9	.0	15.7	.0
Oct	59.4	26.2	42.8	91	1963	1	49.9	1988	-11	1971	30	38.3	1971	688	0	.0	.0	23.5	.2	26.2	.1
Nov	41.9	20.4	31.2	72+	1999	13	36.8	1981	-29	1955	16	22.2	1985	1017	0	.0	.0	6.0	3.9	28.8	1.5
Dec	33.7	11.5	22.6	68	1951	4	29.4	1980	-48	1983	23	10.5	1983	1314	0	.0	.0	.4	12.5	30.8	6.0
Ann	56.8	26.2	41.5	103	Aug 1961	4	66.2	Jul 1998	-48	Dec 1983	23	10.2	Jan 1979	8620	62	.1	13.1	211.0	32.7	244.4	19.5

\+ 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: 1950-2001

(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	3.39	3.19	2.20	2001	13	9.72	1975	.59	1985
Feb	2.51	2.29	1.61	1968	19	5.20	1972	1.16	1993
Mar	2.62	2.30	1.00	1962	9	5.12	1989	1.21	1992
Apr	2.69	2.77	1.18	1995	28	4.83	1988	.81	1973
May	3.26	3.17	1.45	1985	25	6.03	1984	1.61	1995
Jun	3.14	2.94	2.03	1958	24	6.53	1993	1.30	1996
Jul	1.90	1.77	1.33	1995	3	4.24	1993	.23	1979
Aug	1.45	1.45	1.32	1998	1	4.30	1975	.19	1988
Sep	1.75	1.74	1.35	1965	15	4.28	1985	.22	1991
Oct	2.07	1.81	2.39	2000	2	6.28	2000	.03	1987
Nov	3.22	3.22	1.70	1999	27	8.08	1995	1.05	1976
Dec	3.14	2.77	2.99	1977	2	8.70	1977	.31	1986
Ann	31.14	30.79	2.99	Dec 1977	2	9.72	Jan 1975	.03	Oct 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	15.6	9.3	1.7	.4
Feb	12.4	7.4	1.2	.1
Mar	14.6	8.9	.7	.0
Apr	13.8	8.9	1.0	.1
May	14.5	9.2	1.6	.3
Jun	13.2	8.2	1.8	.2
Jul	8.2	5.1	1.1	.2
Aug	7.1	3.8	.9	.1
Sep	7.9	4.8	1.1	.1
Oct	9.6	6.1	.9	.2
Nov	15.0	9.4	1.2	.3
Dec	15.0	9.1	1.0	.2
Ann	146.9	90.2	14.2	2.2

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	.96	1.28	1.76	2.19	2.60	3.03	3.51	4.08	4.81	5.96	7.03
Feb	1.00	1.23	1.56	1.83	2.09	2.35	2.63	2.96	3.37	4.01	4.59
Mar	1.21	1.44	1.75	2.01	2.25	2.49	2.75	3.04	3.41	3.97	4.47
Apr	.96	1.22	1.58	1.89	2.19	2.49	2.82	3.20	3.69	4.44	5.13
May	1.54	1.82	2.21	2.52	2.82	3.11	3.42	3.78	4.22	4.90	5.51
Jun	1.28	1.57	1.97	2.31	2.63	2.95	3.29	3.69	4.20	4.98	5.68
Jul	.33	.49	.77	1.03	1.30	1.58	1.91	2.31	2.84	3.70	4.52
Aug	.21	.33	.54	.74	.95	1.18	1.45	1.77	2.21	2.92	3.61
Sep	.23	.37	.62	.87	1.12	1.41	1.73	2.14	2.68	3.58	4.44
Oct	.24	.40	.69	.98	1.29	1.63	2.04	2.53	3.21	4.32	5.40
Nov	1.00	1.30	1.76	2.15	2.53	2.92	3.35	3.85	4.51	5.52	6.47
Dec	.83	1.13	1.58	1.98	2.37	2.79	3.24	3.78	4.49	5.60	6.64
Ann	22.42	24.12	26.29	27.93	29.39	30.80	32.25	33.86	35.80	38.62	41.05

\+ 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: 1950-2001
(3) Derived from 1971-2000 serially complete daily data

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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	31.1	24.2	18	18	17.0	1982	23	76.8	1989	45	1989	17	35+	1989	12.5	9.6	3.3	1.5	.3	28.2	26.6	25.7	22.8
Feb	18.1	18.6	19	18	12.0	1981	12	40.0	1972	47	1972	16	37	1972	9.1	6.5	2.6	.7	.2	25.3	24.7	24.1	21.4
Mar	15.7	15.0	12	12	13.0	1989	17	42.3	1989	41	1972	2	29	1989	8.6	6.3	2.0	.6	.1	21.7	17.9	15.7	11.7
Apr	9.5	7.2	3	1	8.8	1982	3	28.4	1975	28	1975	4	16	1975	5.1	3.6	1.0	.3	.0	7.7	4.0	2.5	1.0
May	1.7	1.0	#	#	4.0	1975	4	9.0	1975	7	1975	5	1	1975	1.3	.8	.1	.0	.0	.9	@	.0	.0
Jun	.1	.0	#	0	1.0	1976	13	1.0	1976	#+	1995	6	#+	1995	.1	@	.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	.0	.0	#	0	1.0	1972	24	1.0+	1972	1	1972	24	#	1972	.1	@	.0	.0	.0	@	.0	.0	.0
Oct	2.3	1.2	#	#	13.0	1985	8	13.0	1985	13	1985	8	1	1985	1.8	1.1	.2	.1	@	1.6	.4	.2	@
Nov	19.2	18.6	3	2	12.5	1975	27	51.7	1994	25	1994	30	7+	1994	9.4	7.1	2.3	.8	.2	15.1	8.7	4.9	1.4
Dec	26.9	22.9	9	9	17.5	1988	30	51.0	1984	31	1971	16	22+	1978	12.0	8.7	3.0	1.3	.2	27.7	23.3	19.0	9.9
Ann	124.6	108.7	N/A	N/A	17.5	Dec 1988	30	76.8	Jan 1989	47	Feb 1972	16	37	Feb 1972	60.0	43.7	14.5	5.3	1.0	128.2	105.6	92.1	68.2

+ 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	8/04	7/30	7/26	7/23	7/20	7/17	7/14	7/11	7/06
32	7/31	7/23	7/17	7/12	7/07	7/02	6/27	6/21	6/13
28	7/07	6/27	6/19	6/13	6/07	5/31	5/25	5/17	5/07
24	6/07	5/29	5/22	5/17	5/11	5/06	4/30	4/24	4/14
20	5/09	5/02	4/28	4/24	4/21	4/17	4/13	4/09	4/02
16	4/27	4/19	4/13	4/08	4/04	3/30	3/25	3/19	3/11

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	7/28	8/01	8/04	8/06	8/09	8/11	8/14	8/17	8/21
32	8/01	8/07	8/11	8/15	8/19	8/22	8/26	8/30	9/05
28	8/17	8/24	8/28	9/01	9/05	9/09	9/13	9/17	9/24
24	9/04	9/10	9/14	9/18	9/21	9/25	9/28	10/02	10/08
20	9/15	9/21	9/26	10/01	10/05	10/09	10/13	10/18	10/25
16	9/25	10/04	10/10	10/15	10/20	10/24	10/29	11/04	11/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	40	33	27	23	19	14	10	5	0
32	75	63	55	48	42	35	28	20	9
28	128	115	105	97	90	82	74	65	51
24	165	154	146	139	132	126	119	111	99
20	198	187	179	173	166	160	154	146	135
16	231	220	212	205	198	192	185	177	165

***** 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	1296	1036	969	739	534	303	164	171	389	688	1017	1314	8620
60	1141	896	814	589	380	171	74	76	255	533	867	1159	6955
57	1048	812	721	499	292	108	37	38	185	441	777	1066	6024
55	986	756	659	440	237	75	21	22	145	380	717	1004	5442
50	831	616	504	299	122	20	4	3	68	236	567	849	4119
32	312	180	83	15	0	0	0	0	0	4	128	331	1053

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	39	68	138	266	489	690	890	876	605	338	101	40	4540
55	0	0	0	1	13	75	198	185	61	2	0	0	535
57	0	0	0	0	6	48	152	139	41	1	0	0	387
60	0	0	0	0	1	21	96	84	20	0	0	0	222
65	0	0	0	0	0	3	31	23	5	0	0	0	62
70	0	0	0	0	0	0	7	4	0	0	0	0	11

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	2	16	93	263	453	644	633	370	140	12	0	0	2	18	111	374	827	1471	2104	2474	2614	2626	2626
45	0	0	0	36	145	308	489	479	237	59	0	0	0	0	0	36	181	489	978	1457	1694	1753	1753	1753
50	0	0	0	12	66	182	338	327	124	14	0	0	0	0	0	12	78	260	598	925	1049	1063	1063	1063
55	0	0	0	0	24	91	200	186	50	1	0	0	0	0	0	0	24	115	315	501	551	552	552	552
60	0	0	0	0	2	33	89	76	9	0	0	0	0	0	0	0	2	35	124	200	209	209	209	209
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	10	44	106	208	318	456	468	328	176	18	0	0	10	54	160	368	686	1142	1610	1938	2114	2132	2132

(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