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 RIVER 1 S, ID **COOP ID: 102892**

Climate Division: ID 4 **NWS Call Sign:** **Elevation: 2,918 Feet** **Lat: 46˚46N** **Lon: 116˚11W**

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	33.7	17.9	25.8	54	1959	9	32.4	1981	-31+	1979	1	13.4	1979	1215	0	.0	.0	@	10.5	30.4	3.8
Feb	39.3	20.4	29.9	63+	1977	21	35.2	1992	-25	1956	16	21.1	1989	985	0	.0	.0	2.5	4.4	27.6	1.8
Mar	46.2	25.4	35.8	72	1992	15	43.4	1992	-23	1955	5	31.8	1971	904	0	.0	.0	10.5	.8	28.6	.3
Apr	54.4	31.3	42.9	87	1987	28	48.4	1987	11	1975	1	37.1	1975	666	0	.0	.0	19.2	.0	19.2	.0
May	63.3	37.6	50.5	95	1986	31	55.5	1993	19	1958	13	46.5	1984	452	0	.0	.3	28.5	.0	7.0	.0
Jun	70.8	43.1	57.0	96	1955	21	62.5	1986	27	1999	8	53.5	1981	250	8	.0	1.1	29.5	.0	1.1	.0
Jul	79.2	46.3	62.8	104	1975	11	69.1	1998	26+	1984	9	56.3	1993	127	58	@	4.2	31.0	.0	.3	.0
Aug	80.5	45.1	62.8	107	1961	5	67.1	1971	27+	1992	24	57.5	1980	129	60	@	5.4	31.0	.0	.5	.0
Sep	70.6	37.6	54.1	100	1976	2	61.0	1990	20+	1985	29	48.9	1985	338	11	@	.8	29.6	.0	6.2	.0
Oct	57.6	30.3	44.0	88	1957	1	49.8	1988	4	1971	30	40.1	1985	654	0	.0	.0	24.1	.1	21.5	.0
Nov	40.7	25.9	33.3	66	1980	5	39.5	1999	-24	1985	23	21.5	1985	952	0	.0	.0	4.4	2.9	25.7	.3
Dec	33.1	18.6	25.9	58+	1977	5	31.2	1979	-37+	1968	31	18.0	1990	1213	0	.0	.0	.2	11.0	30.0	2.2
Ann	55.8	31.6	43.7	107	Aug 1961	5	69.1	Jul 1998	-37+	Dec 1968	31	13.4	Jan 1979	7885	137	@	11.8	210.5	29.7	198.1	8.4

\+ 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: 1952-2001

(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	4.81	4.49	2.05	1997	7	9.01	1971	.72	1985
Feb	4.13	3.99	2.44	1968	19	8.85	1986	.66	1993
Mar	3.13	2.88	1.32	1977	1	6.14	1997	.42	1992
Apr	2.51	2.42	2.00	1996	24	6.40	1996	.18	1977
May	2.98	2.72	2.00	1985	30	6.09	1998	1.03	1982
Jun	2.33	2.08	1.68	1970	15	4.75	1981	.48	1986
Jul	1.46	1.19	2.02	1997	1	4.56	1987	.03	1973
Aug	1.10	.97	2.26	1954	20	3.06	1975	.02	2000
Sep	1.73	1.75	1.36	1984	1	4.60+	1985	.03	1990
Oct	2.39	2.11	1.51	1990	22	6.58	1995	.01	1974
Nov	4.56	4.26	3.32	1999	25	10.70	1973	1.51	1993
Dec	4.93	4.61	2.15	2001	14	11.77	1996	.93	1985
Ann	36.06	35.23	3.32	Nov 1999	25	11.77	Dec 1996	.01	Oct 1974

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.5	11.6	3.2	.6
Feb	12.5	10.2	2.4	.6
Mar	12.4	9.5	1.6	.2
Apr	10.1	7.6	1.0	.2
May	10.5	7.5	1.7	.3
Jun	10.1	6.8	1.3	.2
Jul	6.2	4.1	.7	.2
Aug	5.2	3.0	.6	@
Sep	6.8	4.5	1.1	.1
Oct	8.7	6.1	1.3	.3
Nov	14.7	11.7	2.7	.5
Dec	14.3	11.6	3.3	.7
Ann	126.0	94.2	20.9	3.9

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	1.70	2.16	2.81	3.37	3.89	4.43	5.02	5.71	6.58	7.94	9.18
Feb	1.09	1.48	2.08	2.61	3.12	3.67	4.27	4.98	5.92	7.38	8.75
Mar	1.07	1.37	1.80	2.16	2.51	2.87	3.27	3.73	4.32	5.23	6.07
Apr	.65	.89	1.25	1.57	1.89	2.22	2.59	3.03	3.61	4.52	5.36
May	1.34	1.60	1.97	2.26	2.54	2.82	3.12	3.46	3.89	4.55	5.14
Jun	.76	.98	1.31	1.58	1.85	2.12	2.42	2.78	3.23	3.93	4.58
Jul	.08	.16	.33	.53	.75	1.02	1.34	1.76	2.34	3.35	4.35
Aug	.08	.15	.29	.44	.61	.81	1.04	1.33	1.74	2.43	3.11
Sep	.09	.19	.39	.63	.89	1.21	1.59	2.09	2.78	3.97	5.16
Oct	.15	.29	.59	.91	1.28	1.71	2.23	2.89	3.82	5.39	6.96
Nov	1.65	2.08	2.70	3.21	3.71	4.22	4.77	5.41	6.23	7.49	8.64
Dec	1.61	2.08	2.76	3.35	3.92	4.50	5.14	5.89	6.85	8.34	9.72
Ann	26.55	28.41	30.79	32.58	34.17	35.70	37.27	39.01	41.10	44.13	46.74

\+ 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: 1952-2001
(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	30.5	31.3	24	22
Feb	15.3	12.0	24	20
Mar	9.6	7.0	14	9
Apr	1.8	1.0	4	1
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.1	.0	#	0
Nov	14.4	9.0	3	2
Dec	23.8	19.0	13	12
Ann	95.6	79.3	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	15.0	1982	23	65.0	1989	66	1972	11	58	1972
Feb	11.0	1981	12	38.0	1972	78	1972	15	65	1972
Mar	8.0	1972	2	29.0	1971	70	1972	5	42	1972
Apr	11.0	1971	24	17.0	1971	30	1975	1	25	1997
May	3.0	1971	17	3.0	1971	4	1972	2	1	1972
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	#	1986	14	#	1986	0	0	0	0	0
Oct	2.8	1971	31	2.8	1971	6	1984	29	1	1984
Nov	11.0	1971	1	55.0	1973	34	1973	28	13	1973
Dec	12.0	1971	5	87.1	1971	62	1971	21	41	1971
Ann	15.0	Jan 1982	23	87.1	Dec 1971	78	Feb 1972	15	65	Feb 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.0	8.8	4.4	1.9	.2
Feb	6.1	6.0	2.3	.9	.1
Mar	4.2	4.0	1.2	.3	.0
Apr	.9	.8	.2	@	@
May	@	@	@	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	.0	.0	.0
Nov	5.2	5.1	2.1	.7	.1
Dec	8.1	7.8	3.4	1.3	.3
Ann	33.6	32.6	13.6	5.1	.7

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	26.8	26.8	25.0	20.5
Feb	26.5	26.5	25.8	22.5
Mar	21.7	20.1	15.6	10.3
Apr	6.3	4.5	2.7	1.0
May	.4	.2	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	.0	.0
Nov	11.3	7.6	4.7	1.9
Dec	25.7	24.1	18.6	13.4
Ann	118.8	109.9	92.4	69.6

+ 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	7/17	7/11	7/06	7/02	6/29	6/25	6/21	6/17	6/11
32	6/30	6/21	6/15	6/10	6/06	6/01	5/27	5/21	5/13
28	6/05	5/28	5/22	5/17	5/13	5/08	5/03	4/27	4/20
24	5/04	4/28	4/24	4/20	4/17	4/14	4/10	4/06	3/31
20	4/22	4/14	4/08	4/02	3/28	3/24	3/18	3/12	3/04
16	3/29	3/22	3/16	3/11	3/07	3/02	2/26	2/20	2/12

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	8/17	8/21	8/24	8/27	8/30	9/03	9/07	9/12
32	8/21	8/27	9/01	9/04	9/08	9/11	9/15	9/19	9/25
28	9/09	9/15	9/19	9/23	9/26	9/30	10/04	10/08	10/14
24	9/25	10/01	10/05	10/09	10/12	10/16	10/19	10/24	10/30
20	10/11	10/20	10/25	10/30	11/04	11/09	11/14	11/20	11/28
16	10/26	11/03	11/09	11/14	11/18	11/23	11/27	12/03	12/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	74	68	63	59	54	49	43	35
32	126	115	107	100	93	87	80	72	61
28	170	158	150	143	136	129	122	114	102
24	202	194	188	182	178	173	168	162	153
20	257	244	235	227	220	213	205	196	183
16	291	279	270	262	256	249	241	232	220

***** 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	1215	985	904	666	452	250	127	129	338	654	952	1213	7885
60	1060	845	749	516	301	130	51	53	213	499	802	1058	6277
57	967	761	656	427	219	78	23	26	151	406	712	965	5391
55	905	705	594	369	170	50	13	15	116	345	652	903	4837
50	750	565	439	235	76	11	1	3	49	202	505	748	3584
32	244	133	37	6	0	0	0	0	0	2	102	241	765

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	53	71	156	331	571	748	954	954	664	371	140	50	5063
55	0	0	0	4	28	108	254	257	89	2	0	0	742
57	0	0	0	1	15	75	202	205	65	1	0	0	564
60	0	0	0	0	5	38	137	139	37	0	0	0	356
65	0	0	0	0	0	8	58	60	11	0	0	0	137
70	0	0	0	0	0	1	15	16	2	0	0	0	34

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	24	130	336	522	718	724	438	161	14	0	0	0	24	154	490	1012	1730	2454	2892	3053	3067	3067
45	0	0	0	56	205	373	563	569	296	71	1	0	0	0	0	56	261	634	1197	1766	2062	2133	2134	2134
50	0	0	0	19	106	240	410	414	174	21	0	0	0	0	0	19	125	365	775	1189	1363	1384	1384	1384
55	0	0	0	5	43	128	264	268	85	4	0	0	0	0	0	5	48	176	440	708	793	797	797	797
60	0	0	0	0	14	57	145	143	26	0	0	0	0	0	0	0	14	71	216	359	385	385	385	385
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	3	31	104	227	333	463	474	323	147	9	0	0	3	34	138	365	698	1161	1635	1958	2105	2114	2114

(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