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: FORT SCOTT, KS **COOP ID: 142835**

Climate Division: KS 9 **NWS Call Sign:** **Elevation: 845 Feet** **Lat: 37˚51N** **Lon: 94˚43W**

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	39.6	19.6	29.6	77	1950	24	40.3	1990	-16	1959	5	15.4	1979	1098	0	.0	.0	8.9	9.0	26.1	1.6
Feb	46.9	25.0	36.0	83	1962	12	47.4	1976	-14	1979	1	22.9	1978	812	0	.0	.0	12.8	4.9	19.7	.9
Mar	57.3	34.2	45.8	91	1995	23	50.6	1973	-6	1948	12	39.1	1975	596	0	.0	.1	22.7	.8	11.6	.0
Apr	67.8	43.8	55.8	97	1972	12	64.7	1981	17	1975	3	47.6	1983	293	16	.0	.2	28.4	.0	2.5	.0
May	77.0	54.5	65.8	98+	1963	10	71.2	1998	30+	1976	3	60.7	1995	90	112	.0	.9	30.9	.0	@	.0
Jun	85.8	63.6	74.7	106+	1952	30	78.4	1991	41	1946	4	70.5	1992	6	297	.3	10.9	30.0	.0	.0	.0
Jul	91.5	68.5	80.0	120+	1954	14	88.4	1980	50+	1972	5	76.2	1971	0	464	2.9	21.4	31.0	.0	.0	.0
Aug	90.2	66.0	78.1	113	1946	8	85.1	2000	48+	1988	29	71.3	1992	5	410	2.6	19.0	31.0	.0	.0	.0
Sep	81.9	57.1	69.5	110+	1947	7	76.2	1998	30+	1984	30	63.0	1974	45	180	.6	7.8	30.0	.0	@	.0
Oct	71.2	45.9	58.6	99	1963	7	64.3	1971	18	1993	31	52.8	1976	227	26	.0	.6	30.2	.0	1.8	.0
Nov	55.4	34.2	44.8	84	1978	4	54.9	1999	0	1959	17	37.5	1976	607	1	.0	.0	20.6	.8	11.9	.0
Dec	43.8	24.1	34.0	75+	1966	7	39.3	1991	-18+	1989	23	17.9	1983	963	0	.0	.0	11.3	5.2	23.4	.9
Ann	67.4	44.7	56.1	120+	Jul 1954	14	88.4	Jul 1980	-18+	Dec 1989	23	15.4	Jan 1979	4742	1506	6.4	60.9	287.8	20.7	97.0	3.4

\+ 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: 1939-2001

(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	1.58	1.26	2.51	1946	5	4.13	1979	.02	1986
Feb	1.86	1.91	3.13	1997	21	4.56	1997	.24	1991
Mar	3.34	2.84	2.90	1974	11	11.91	1973	.60	1991
Apr	4.01	3.30	4.10	1994	28	14.50	1994	.28	1989
May	4.94	4.28	3.90	1955	12	11.89	1995	1.68	1988
Jun	5.71	5.32	3.68	1977	22	14.60	1977	.36	1991
Jul	4.36	3.56	5.22	1958	16	12.63	1992	.09	1974
Aug	3.83	3.68	5.10	1963	13	9.45	1985	.00	2000
Sep	4.69	3.17	12.50	1998	15	15.73	1998	1.20	1976
Oct	4.28	3.45	8.60	1986	3	17.28	1986	.56	1995
Nov	3.46	3.15	4.50	1979	21	8.53	1992	.00	1989
Dec	2.08	1.68	3.03	1971	15	5.63	1982	.26	1976
Ann	44.14	44.07	12.50	Sep 1998	15	17.28	Oct 1986	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.6	4.0	.7	.2
Feb	6.2	3.7	1.1	.4
Mar	8.5	5.9	2.4	1.0
Apr	9.4	6.1	2.5	1.2
May	11.1	8.1	3.4	1.3
Jun	10.0	7.1	3.7	2.1
Jul	7.9	6.0	2.7	1.3
Aug	7.7	5.1	2.4	1.2
Sep	8.1	6.0	2.9	1.4
Oct	7.7	5.5	2.8	1.2
Nov	7.8	5.5	2.3	.9
Dec	6.7	4.0	1.5	.5
Ann	97.7	67.0	28.4	12.7

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	.17	.29	.50	.72	.96	1.23	1.54	1.93	2.46	3.33	4.19
Feb	.36	.52	.80	1.05	1.30	1.58	1.89	2.26	2.76	3.55	4.31
Mar	.73	1.03	1.53	1.97	2.41	2.89	3.42	4.06	4.90	6.25	7.52
Apr	.70	1.05	1.64	2.18	2.74	3.35	4.05	4.89	6.01	7.83	9.56
May	1.60	2.07	2.76	3.35	3.92	4.51	5.15	5.91	6.88	8.38	9.78
Jun	1.11	1.63	2.47	3.24	4.02	4.85	5.80	6.95	8.46	10.90	13.21
Jul	.60	.95	1.58	2.18	2.82	3.52	4.33	5.32	6.66	8.85	10.97
Aug	.20	.56	1.14	1.71	2.31	2.97	3.75	4.71	6.03	8.19	10.30
Sep	.77	1.18	1.86	2.51	3.17	3.89	4.72	5.73	7.07	9.25	11.34
Oct	.64	1.00	1.62	2.21	2.83	3.50	4.28	5.23	6.51	8.60	10.60
Nov	.31	.69	1.26	1.77	2.29	2.85	3.49	4.27	5.32	7.01	8.62
Dec	.29	.46	.75	1.04	1.35	1.68	2.07	2.54	3.18	4.23	5.24
Ann	28.86	31.72	35.44	38.30	40.86	43.35	45.95	48.84	52.37	57.54	62.05

\+ 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: 1939-2001
(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	5.5	4.3	1	#
Feb	4.0	3.5	1	#
Mar	1.5	1.0	#	#
Apr	.1	.0	#	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	0
Oct	#	.0	#	0
Nov	1.3	.0	#	0
Dec	3.2	2.0	#	#
Ann	15.6	10.8	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	8.0	1997	9	20.5	1979	10	1987	19	5	1979
Feb	14.0	1980	8	17.0	1980	14	1980	9	4	1980
Mar	11.0	1975	10	12.0	1975	10	1975	10	1	1975
Apr	1.0	1973	9	1.0+	1994	1	1994	6	#+	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	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1997	27	#+	1997	#+	1997	27	#+	1997
Nov	9.0	1975	26	9.0	1975	8	1975	27	1	1975
Dec	10.5	1987	15	15.0	1973	9	1987	15	2	1987
Ann	14.0	Feb 1980	8	20.5	Jan 1979	14	Feb 1980	9	5	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.7	2.2	.7	.2	.0
Feb	1.8	1.5	.6	.2	@
Mar	.8	.7	.1	.1	@
Apr	.1	.1	.0	.0	.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	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.4	.4	.2	.1	.0
Dec	1.6	1.3	.2	.1	@
Ann	7.4	6.2	1.8	.7	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	7.9	4.2	1.8	@
Feb	5.1	2.5	1.0	.1
Mar	.9	.2	.1	@
Apr	.1	.0	.0	.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	.0
Oct	.0	.0	.0	.0
Nov	.5	.2	.1	.0
Dec	3.4	1.0	.5	.0
Ann	17.9	8.1	3.5	.1

+ 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	5/06	5/01	4/27	4/24	4/21	4/18	4/15	4/11	4/06
32	4/21	4/16	4/13	4/10	4/08	4/05	4/02	3/30	3/26
28	4/12	4/07	4/03	3/31	3/28	3/26	3/23	3/19	3/14
24	4/03	3/28	3/23	3/20	3/16	3/13	3/09	3/05	2/27
20	3/25	3/17	3/12	3/07	3/03	2/27	2/22	2/17	2/09
16	3/19	3/11	3/05	2/28	2/24	2/19	2/14	2/08	1/31

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	9/26	10/01	10/05	10/08	10/12	10/15	10/18	10/22	10/27
32	10/10	10/15	10/18	10/22	10/24	10/27	10/30	11/03	11/08
28	10/20	10/26	10/30	11/03	11/06	11/10	11/14	11/18	11/24
24	10/28	11/03	11/08	11/12	11/16	11/20	11/24	11/29	12/05
20	11/07	11/14	11/19	11/23	11/27	12/01	12/05	12/10	12/17
16	11/17	11/24	11/29	12/03	12/07	12/12	12/16	12/21	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	189	183	178	173	168	163	157	148
32	218	212	207	203	199	195	191	187	180
28	245	237	231	227	222	218	213	208	200
24	273	263	256	250	244	238	232	225	215
20	299	289	281	274	268	262	256	248	237
16	319	308	300	293	286	280	273	265	253

***** 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	1098	812	596	293	90	6	0	5	45	227	607	963	4742
60	943	680	448	176	35	0	0	0	13	121	467	810	3693
57	852	602	362	121	17	0	0	0	5	76	386	722	3143
55	793	550	307	90	10	0	0	0	2	54	336	665	2807
50	650	428	192	35	2	0	0	0	0	18	227	523	2075
32	232	122	12	0	0	0	0	0	0	0	24	152	542

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	156	234	438	713	1045	1281	1487	1429	1125	823	408	211	9350
55	5	18	21	113	342	591	774	716	437	163	30	12	3222
57	2	14	13	84	287	531	712	654	380	124	21	7	2829
60	0	8	6	49	212	442	619	561	298	76	12	1	2284
65	0	0	0	16	112	297	464	410	180	26	1	0	1506
70	0	0	0	3	46	170	314	270	94	5	0	0	902

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	44	123	293	530	838	1081	1284	1231	928	619	249	73	44	167	460	990	1828	2909	4193	5424	6352	6971	7220	7293
45	14	66	190	391	684	931	1129	1076	778	466	155	32	14	80	270	661	1345	2276	3405	4481	5259	5725	5880	5912
50	2	30	110	262	529	781	974	921	629	329	86	11	2	32	142	404	933	1714	2688	3609	4238	4567	4653	4664
55	0	12	59	159	377	631	819	766	486	208	42	5	0	12	71	230	607	1238	2057	2823	3309	3517	3559	3564
60	0	3	24	85	240	481	664	611	348	113	14	0	0	3	27	112	352	833	1497	2108	2456	2569	2583	2583
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	35	87	186	327	537	739	865	828	613	387	148	48	35	122	308	635	1172	1911	2776	3604	4217	4604	4752	4800

(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