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: PLAINVILLE 4 WNW, KS **COOP ID: 146435**

Climate Division: KS 2 **NWS Call Sign:** **Elevation: 2,083 Feet** **Lat: 39˚15N** **Lon: 99˚23W**

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	38.1	14.5	26.3	77	1990	11	35.9	1986	-17	1974	4	12.6	1979	1200	0	.0	.0	8.2	9.6	30.4	3.1
Feb	44.6	18.6	31.6	85	1972	29	44.0	1999	-16	1951	1	18.5	1978	936	0	.0	.0	11.5	6.6	25.8	2.3
Mar	53.8	27.4	40.6	93	1946	31	47.3	1986	-21	1948	11	33.0	1975	758	0	.0	.1	20.4	1.9	20.6	.5
Apr	64.1	37.4	50.8	102	1989	23	58.6	1981	11	1997	12	44.1	1983	433	4	@	.6	26.7	.2	7.9	.0
May	73.0	49.1	61.1	103	1939	23	66.1	1977	28+	1989	7	54.1	1995	179	56	.0	1.1	30.8	.0	.4	.0
Jun	84.9	59.3	72.1	113	1980	30	78.9	1988	38	1969	2	65.8	1992	30	243	2.0	10.6	30.0	.0	.0	.0
Jul	90.9	64.9	77.9	114	1940	25	85.5	1980	45+	1970	21	72.1	1992	1	401	5.0	19.7	31.0	.0	.0	.0
Aug	88.8	62.7	75.8	111+	1954	3	83.2	1983	42	1967	27	67.4	1992	11	343	2.7	16.2	31.0	.0	.0	.0
Sep	80.1	53.2	66.7	112	1947	3	74.5	1998	29+	1995	22	60.9	1973	84	133	.7	7.2	29.8	.0	.4	.0
Oct	68.4	40.3	54.4	100	1947	5	58.2	2000	6+	1997	28	48.4	1976	336	5	.0	.9	29.6	@	4.8	.0
Nov	51.9	26.9	39.4	86	1945	5	49.8	1999	-8	1940	14	31.4	1985	769	0	.0	.0	17.9	2.1	21.3	.1
Dec	41.1	17.9	29.5	83	1939	6	36.0	1999	-29	1989	23	11.4	1983	1100	0	.0	.0	9.5	6.1	29.5	1.8
Ann	65.0	39.4	52.2	114	Jul 1940	25	85.5	Jul 1980	-29	Dec 1989	23	11.4	Dec 1983	5837	1185	10.4	56.4	276.4	26.5	141.1	7.8

\+ 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

Issue Date: February 2004

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: PLAINVILLE 4 WNW, KS **COOP ID: 146435**

Climate Division: KS 2 **NWS Call Sign:** **Elevation: 2,083 Feet** **Lat: 39°15N** **Lon: 99°23W**

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	.57	.34	1.28	1995	27	2.07	1995	.00+	1997
Feb	.71	.60	1.76	1954	20	2.57	1993	.00+	1991
Mar	2.13	1.34	3.35	1987	23	9.87	1973	.00	1997
Apr	2.27	2.29	2.36	1987	14	5.14	1984	.24	1989
May	3.92	3.88	3.82	1976	22	11.49	1995	1.21	1974
Jun	2.75	2.73	4.70	1957	17	5.76	1999	.49	1991
Jul	3.92	3.36	3.61	1987	12	17.94	1993	.20	1980
Aug	2.88	2.63	2.90	1960	24	6.08	1972	.29	2000
Sep	2.10	1.56	6.00	1961	12	9.19	1973	.04	1974
Oct	1.47	1.09	2.40	1950	2	3.95	1997	.00	1975
Nov	1.37	1.02	3.08	1996	16	4.34	1998	.00	1980
Dec	.62	.59	1.63	1953	3	1.75	1997	.00	1976
Ann	24.71	23.91	6.00	Sep 1961	12	17.94	Jul 1993	.00+	Mar 1997

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.4	1.6	.4	.1
Feb	3.6	1.7	.4	.1
Mar	6.4	4.2	1.2	.5
Apr	7.1	4.7	1.4	.5
May	9.8	7.0	2.5	1.1
Jun	8.4	5.2	1.7	.5
Jul	8.3	5.6	2.4	1.2
Aug	7.3	5.1	2.0	.7
Sep	5.5	3.6	1.2	.5
Oct	5.2	3.1	.8	.3
Nov	5.2	2.7	1.0	.3
Dec	3.6	1.8	.4	.0
Ann	73.8	46.3	15.4	5.8

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	.00	.12	.22	.32	.43	.56	.72	.93	1.29	1.64
Feb	.00	.02	.10	.20	.32	.46	.63	.85	1.17	1.73	2.28
Mar	.05	.17	.44	.74	1.08	1.48	1.96	2.58	3.45	4.93	6.40
Apr	.72	.94	1.26	1.53	1.79	2.07	2.37	2.72	3.17	3.88	4.53
May	1.35	1.72	2.26	2.72	3.16	3.61	4.10	4.67	5.40	6.54	7.58
Jun	.77	1.04	1.43	1.78	2.11	2.47	2.85	3.31	3.91	4.85	5.72
Jul	.47	.78	1.33	1.87	2.45	3.10	3.85	4.79	6.05	8.14	10.16
Aug	.74	1.02	1.43	1.80	2.16	2.55	2.97	3.47	4.13	5.17	6.14
Sep	.22	.37	.66	.95	1.27	1.62	2.04	2.56	3.27	4.45	5.59
Oct	.07	.20	.42	.64	.87	1.13	1.43	1.81	2.32	3.17	4.00
Nov	.04	.13	.31	.50	.72	.97	1.28	1.67	2.21	3.13	4.03
Dec	.02	.07	.15	.24	.34	.45	.59	.76	.99	1.39	1.78
Ann	15.17	16.92	19.20	20.98	22.58	24.15	25.79	27.63	29.88	33.20	36.12

\+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: PLAINVILLE 4 WNW, KS **COOP ID: 146435**

Climate Division: KS 2 **NWS Call Sign:** **Elevation: 2,083 Feet** **Lat: 39°15N** **Lon: 99°23W**

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	5.2	3.8	1	#	8.0	1994	27	16.5	1993	13	1993	21	8	1993	2.4	1.9	.6	.2	.0	8.0	4.0	2.1	1.0
Feb	5.5	3.4	1	#	10.0	1980	8	17.0	1997	13+	1980	9	7	1993	2.1	1.4	.6	.3	@	5.3	3.5	2.1	.6
Mar	4.8	3.0	1	#	11.0	1987	24	25.0	1987	18	1987	30	3	1987	1.9	1.1	.6	.3	.1	3.3	1.9	1.1	.2
Apr	1.5	.0	#	0	6.5	1997	12	11.0	1997	11	1997	12	1	1997	.6	.4	.2	.1	.0	.5	.3	.2	@
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
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	#	.0	0	0	#	1995	21	#	1995	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.5	.0	#	0	9.0	1997	26	9.5	1997	9	1997	27	1	1997	.2	.2	.1	.1	.0	.3	.2	.2	.0
Nov	2.3	1.0	#	#	6.0	1992	25	11.3	1992	10	1992	28	2	1992	1.2	.7	.3	.1	.0	2.0	.9	.4	.2
Dec	3.7	2.6	1	#	5.0	1974	15	18.5	1973	8+	1997	28	3	1997	2.3	1.4	.4	@	.0	5.5	2.5	.7	.0
Ann	23.5	13.8	N/A	N/A	11.0	Mar 1987	24	25.0	Mar 1987	18	Mar 1987	30	8	Jan 1993	10.7	7.1	2.8	1.1	.1	24.9	13.3	6.8	2.0

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: PLAINVILLE 4 WNW, KS **COOP ID: 146435**

Climate Division: KS 2 **NWS Call Sign:** **Elevation: 2,083 Feet** **Lat: 39˚15N** **Lon: 99˚23W**

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	5/19	5/14	5/11	5/08	5/05	5/02	4/29	4/26	4/21
32	5/11	5/05	5/02	4/29	4/26	4/23	4/20	4/16	4/11
28	4/27	4/22	4/18	4/15	4/13	4/10	4/07	4/03	3/30
24	4/15	4/10	4/06	4/03	3/31	3/28	3/25	3/21	3/16
20	4/10	4/03	3/29	3/25	3/21	3/17	3/13	3/08	3/01
16	4/04	3/27	3/21	3/16	3/12	3/07	3/02	2/24	2/16

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	9/16	9/21	9/25	9/29	10/02	10/05	10/08	10/12	10/18
32	9/28	10/03	10/06	10/10	10/13	10/16	10/19	10/22	10/28
28	10/09	10/14	10/18	10/21	10/24	10/27	10/30	11/03	11/08
24	10/19	10/25	10/29	11/01	11/04	11/07	11/11	11/15	11/20
20	10/28	11/04	11/08	11/12	11/16	11/19	11/23	11/28	12/04
16	11/03	11/11	11/16	11/21	11/25	11/29	12/04	12/10	12/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	165	159	154	149	144	139	134	125
32	189	182	177	173	169	165	161	156	149
28	214	207	202	198	194	190	186	181	174
24	238	231	226	222	218	214	209	204	197
20	268	258	251	245	239	233	227	220	210
16	288	277	270	264	258	252	245	238	228

***** 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: PLAINVILLE 4 WNW, KS **COOP ID: 146435**

Climate Division: KS 2 **NWS Call Sign:** **Elevation: 2,083 Feet** **Lat: 39˚15N** **Lon: 99˚23W**

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	1200	936	758	433	179	30	1	11	84	336	769	1100	5837
60	1045	803	603	297	91	9	0	2	32	200	619	945	4646
57	952	724	517	224	55	3	0	0	16	133	534	852	4010
55	891	672	458	182	37	1	0	0	9	97	479	792	3618
50	744	545	322	96	10	0	0	0	0	37	345	648	2747
32	287	201	43	0	0	0	0	0	0	0	57	219	807

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	110	189	308	562	901	1203	1423	1355	1039	692	277	142	8201
55	2	16	11	53	224	514	710	642	358	76	10	2	2618
57	0	12	7	36	181	456	648	580	305	51	5	0	2281
60	0	7	1	18	124	371	555	489	231	24	0	0	1820
65	0	0	0	4	56	243	401	343	133	5	0	0	1185
70	0	0	0	0	19	140	258	213	65	1	0	0	696

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	18	64	175	382	684	984	1193	1128	830	491	136	30	18	82	257	639	1323	2307	3500	4628	5458	5949	6085	6115
45	2	25	94	256	530	834	1038	973	681	350	70	6	2	27	121	377	907	1741	2779	3752	4433	4783	4853	4859
50	0	6	43	155	384	684	883	818	535	227	27	0	0	6	49	204	588	1272	2155	2973	3508	3735	3762	3762
55	0	1	15	77	242	536	728	663	398	123	6	0	0	1	16	93	335	871	1599	2262	2660	2783	2789	2789
60	0	0	3	33	132	390	573	509	273	54	0	0	0	0	3	36	168	558	1131	1640	1913	1967	1967	1967
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	30	72	144	257	421	638	778	739	532	322	114	40	30	102	246	503	924	1562	2340	3079	3611	3933	4047	4087

(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 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