

Climatography of the United States

No. 20

1971-2000

Station: CIMARRON 4 S, KS

COOP ID: 141522

Climate Division: KS 7

NWS Call Sign:

Elevation: 2,660 Feet Lat: 37°45N

Lon: 100°21W

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	42.7	15.4	29.1	78	1951	27	39.7	1986	-21	1942	5	16.2	1979	1114	0	.0	.0	12.1	8.0	30.6	2.3
Feb	49.1	20.0	34.6	89	1981	20	44.4	1976	-15	1981	11	21.8	1978	853	0	.0	.0	15.2	4.5	25.2	1.4
Mar	57.8	28.0	42.9	95	1946	31	49.3	1986	-19	1948	11	36.5	1998	686	0	.0	.1	22.9	1.6	19.7	.2
Apr	67.3	37.5	52.4	99	1989	23	60.6	1981	11	1975	2	45.2	1983	390	12	.0	.7	27.3	.2	8.0	.0
May	75.4	48.5	62.0	106	1953	26	67.0	1977	26	1954	3	55.4	1995	159	66	.1	2.2	30.7	.0	.5	.0
Jun	86.5	59.2	72.9	110+	1953	13	79.0	1981	38+	1970	5	65.9	1982	30	266	2.3	12.7	30.0	.0	.0	.0
Jul	92.1	64.0	78.1	110	1954	11	83.4	1980	43	1952	8	74.9	1992	0	404	5.8	21.4	31.0	.0	.0	.0
Aug	90.1	62.4	76.3	111	1946	17	82.6	1983	43	1974	3	70.8	1992	5	352	2.6	19.3	31.0	.0	.0	.0
Sep	82.5	53.4	68.0	107	1945	3	75.2	1998	25	1984	30	60.6	1974	58	146	1.0	9.4	29.7	.0	.5	.0
Oct	71.1	40.3	55.7	97+	1967	2	60.1	1979	13+	1997	27	51.2	1976	294	6	.0	1.4	29.7	.1	5.3	.0
Nov	55.3	26.5	40.9	92	1980	8	47.7	1999	-7+	1952	28	34.4	1991	723	0	.0	@	20.1	1.4	22.1	.0
Dec	45.6	18.2	31.9	86	1955	24	38.1	1975	-21+	1989	23	18.1	1983	1028	0	.0	.0	13.7	5.3	29.6	1.3
Ann	68.0	39.5	53.7	111	Aug 1946	17	83.4	Jul 1980	-21+	Dec 1989	23	16.2	Jan 1979	5340	1252	11.8	67.2	293.4	21.1	141.5	5.2

+ 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/normal/usnormals.html

Issue Date: February 2004

(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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1971-2000**

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Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: CIMARRON 4 S, KS

COOP ID: 141522

Climate Division: KS 7

NWS Call Sign:

Elevation: 2,660 Feet Lat: 37°45N

Lon: 100°21W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.61	.51	1.33	1992	1	2.30	1980	.00+	1998	3.0	1.7	.3	.1	.00	.00	.16	.27	.38	.49	.62	.78	.98	1.32	1.65
Feb	.66	.36	1.50	1969	14	2.77	1993	.00+	1981	3.1	2.0	.4	@	.00	.02	.10	.19	.30	.43	.59	.80	1.09	1.59	2.10
Mar	1.81	1.19	3.10	1973	24	11.56	1973	.00	1997	5.5	3.7	1.2	.4	.02	.10	.29	.53	.82	1.16	1.60	2.17	2.98	4.39	5.82
Apr	2.01	1.81	2.15	1942	18	7.18	1976	.10	1978	5.6	4.1	1.4	.5	.24	.39	.67	.95	1.25	1.59	1.98	2.46	3.11	4.19	5.24
May	3.47	3.38	5.75	1964	11	6.84	1978	.93	1986	8.2	6.2	2.3	.9	1.32	1.64	2.10	2.49	2.85	3.22	3.63	4.09	4.69	5.60	6.44
Jun	3.71	3.31	4.48	1972	14	9.23	1989	.42	1976	7.8	5.9	2.2	1.0	.63	.96	1.50	2.01	2.53	3.09	3.74	4.53	5.57	7.27	8.88
Jul	3.42	2.92	5.97	1944	24	7.23	1985	.01	1983	6.1	4.8	2.4	1.0	.40	.67	1.15	1.62	2.13	2.70	3.36	4.17	5.28	7.11	8.89
Aug	2.78	2.39	3.67	1987	4	7.14	1977	.14	1984	6.2	4.7	2.0	.9	.41	.64	1.04	1.42	1.82	2.26	2.77	3.39	4.23	5.59	6.90
Sep	1.54	1.05	2.88	1996	19	5.75	1996	.00+	1979	5.2	3.5	1.1	.3	.00	.06	.25	.46	.72	1.02	1.39	1.87	2.54	3.70	4.87
Oct	1.41	1.30	4.47	1950	2	3.83	1984	.00+	1978	3.6	2.4	1.0	.4	.00	.05	.22	.42	.66	.94	1.28	1.71	2.33	3.40	4.46
Nov	1.06	.78	1.90	1992	25	3.16	1981	.00+	1989	3.4	2.4	.7	.2	.00	.03	.16	.30	.47	.68	.94	1.27	1.75	2.57	3.39
Dec	.57	.39	1.13	1947	3	2.18	1984	.00+	1976	3.0	1.5	.3	.1	.00	.03	.11	.20	.30	.41	.54	.70	.94	1.33	1.72
Ann	23.05	22.27	5.97	Jul 1944	24	11.56	Mar 1973	.00+	Jan 1998	60.7	42.9	15.3	5.8	15.58	17.00	18.83	20.23	21.48	22.70	23.96	25.36	27.06	29.55	31.72

+ 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

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Climate Division: KS 7

NWS Call Sign:

Elevation: 2,660 Feet

Lat: 37°45N

Lon: 100°21W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	4.9	3.5	1	#	9.0	1990	19	15.0	1990	12	1988	10	5	1993	2.2	1.5	.5	.2	.0	6.0	3.0	1.2	.1
Feb	3.0	1.0	1	#	5.0	1993	16	16.8	1993	11	1993	18	6	1980	1.6	1.1	.4	@	.0	2.1	.9	.4	.0
Mar	4.2	2.0	#	#	7.4	1987	24	14.4	1987	12	1980	24	2	1987	1.9	1.3	.5	.2	.0	1.8	.9	.5	.0
Apr	.8	.0	#	0	5.9	1983	4	6.9	1983	6	1983	4	1	1983	.5	.3	.1	@	.0	.4	.1	@	.0
May	#	.0	#	0	#	1984	8	#	1984	#+	1997	19	#+	1997	.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	.1	.0	#	0	.7	1995	21	1.4	1995	1	1995	21	#+	1995	.1	.0	.0	.0	.0	@	.0	.0	.0
Oct	.5	.0	#	0	5.0	1991	31	5.0	1991	5	1991	31	#+	1997	.2	.1	.1	@	.0	.2	.1	@	.0
Nov	1.9	.3	#	#	14.0	1992	25	16.0	1992	14	1992	25	2	1992	.9	.6	.2	.1	@	1.1	.6	.4	.2
Dec	3.4	1.8	1	#	10.0	1997	24	12.0	1997	10	1997	25	4	1992	2.2	1.4	.2	@	@	4.6	1.6	.4	.1
Ann	18.8	8.6	N/A	N/A	14.0	Nov 1992	25	16.8	Feb 1993	14	Nov 1992	25	6	Feb 1980	9.6	6.3	2.0	.5	@	16.2	7.2	2.9	.4

+ 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	5/10	5/07	5/04	5/02	4/29	4/25	4/21
32	5/10	5/05	5/01	4/28	4/25	4/22	4/19	4/16	4/11
28	4/27	4/23	4/19	4/16	4/13	4/11	4/08	4/04	3/30
24	4/14	4/09	4/06	4/03	4/01	3/29	3/26	3/23	3/19
20	4/12	4/06	4/01	3/28	3/25	3/21	3/17	3/13	3/06
16	4/03	3/28	3/23	3/18	3/14	3/10	3/06	3/01	2/22
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	9/24	9/27	9/30	10/03	10/06	10/09	10/14
32	9/22	9/28	10/02	10/06	10/09	10/12	10/16	10/20	10/26
28	10/03	10/09	10/13	10/17	10/20	10/24	10/27	11/01	11/07
24	10/16	10/22	10/26	10/29	11/02	11/05	11/08	11/12	11/18
20	10/21	10/28	11/02	11/06	11/10	11/13	11/17	11/22	11/29
16	10/31	11/06	11/11	11/14	11/18	11/21	11/25	11/29	12/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	166	159	155	151	148	144	140	136	130
32	190	181	176	171	166	161	156	150	142
28	210	203	198	193	189	185	180	175	168
24	237	229	224	219	214	210	205	199	191
20	257	248	241	235	229	224	218	211	201
16	275	265	259	253	248	242	237	230	221

* 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)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1114	853	686	390	159	30	0	5	58	294	723	1028	5340
60	959	714	532	263	79	10	0	0	18	163	573	873	4184
57	866	637	441	199	46	4	0	0	7	102	485	780	3567
55	805	585	384	162	30	2	0	0	3	70	429	718	3188
50	654	457	250	86	8	0	0	0	0	23	296	567	2341
32	207	129	15	0	0	0	0	0	0	0	30	142	523

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	116	200	352	612	929	1225	1427	1371	1078	735	297	138	8480
55	1	12	9	84	246	537	714	658	391	92	6	0	2750
57	0	8	3	61	200	480	652	596	335	62	2	0	2399
60	0	1	1	35	140	395	559	503	255	30	0	0	1919
65	0	0	0	12	66	266	404	352	146	6	0	0	1252
70	0	0	0	3	24	161	253	214	70	1	0	0	726

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	32	86	212	418	711	1000	1197	1138	857	519	151	41	32	118	330	748	1459	2459	3656	4794	5651	6170	6321	6362
45	2	41	123	291	559	850	1042	983	708	377	77	12	2	43	166	457	1016	1866	2908	3891	4599	4976	5053	5065
50	0	14	64	180	410	700	887	828	564	247	30	1	0	14	78	258	668	1368	2255	3083	3647	3894	3924	3925
55	0	1	29	96	272	553	732	673	423	141	7	0	0	1	30	126	398	951	1683	2356	2779	2920	2927	2927
60	0	0	4	45	153	404	577	518	292	65	0	0	0	0	4	49	202	606	1183	1701	1993	2058	2058	2058
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	56	101	186	294	447	641	773	737	548	356	142	65	56	157	343	637	1084	1725	2498	3235	3783	4139	4281	4346

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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