

**Climatography
of the United States
No. 20**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: CONCORDIA BLOSSER AP, KS

1971-2000

COOP ID: 141767

Climate Division: KS 2

NWS Call Sign: CNK

Elevation: 1,469 Feet Lat: 39° 33N

Lon: 97° 39W

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	36.3	16.9	26.6	74+	1990	10	37.2	1989	-17+	1985	20	12.7	1979	1195	0	.0	.0	5.9	11.8	28.6	3.5
Feb	42.9	21.9	32.4	86	1972	29	42.2	1976	-15	1979	1	18.4	1978	927	0	.0	.0	9.8	7.7	22.9	2.1
Mar	53.9	31.1	42.5	88	1986	29	49.7	1986	-7	1978	4	34.8	1975	702	2	.0	.0	18.8	2.0	17.4	.4
Apr	64.4	41.2	52.8	98+	1989	26	60.7	1981	14	1975	3	44.9	1983	380	15	.0	.4	26.5	.1	5.1	.0
May	74.0	51.9	63.0	102	1998	30	68.2	1988	26	1967	2	57.1	1995	131	63	@	.8	30.9	.0	.2	.0
Jun	85.0	61.8	73.4	109	1980	30	79.1	1988	41	1964	1	69.1	1992	13	265	1.0	9.0	30.0	.0	.0	.0
Jul	90.7	67.4	79.1	109+	1980	14	85.2	1980	48+	1972	5	74.2	1994	1	436	4.0	17.7	31.0	.0	.0	.0
Aug	88.4	65.6	77.0	108+	1983	16	84.5	1983	45	1964	12	71.0	1992	2	366	2.7	14.1	31.0	.0	.0	.0
Sep	79.9	56.1	68.0	109	2000	2	73.1	1998	29+	1995	22	62.6	1993	76	163	.4	6.0	29.9	.0	.1	.0
Oct	67.9	44.0	56.0	96	1963	4	60.3	2000	14	1993	31	50.8	1976	307	22	.0	.6	29.1	.1	2.9	.0
Nov	51.0	30.5	40.8	84	1980	6	50.1	1999	-4	1976	28	32.8	1985	722	1	.0	.0	16.8	2.2	17.3	.1
Dec	39.6	20.8	30.2	82	1964	23	36.8	1988	-26	1989	22	12.1	1983	1068	0	.0	.0	6.8	8.4	28.0	1.7
Ann	64.5	42.4	53.5	109+	Sep 2000	2	85.2	Jul 1980	-26	Dec 1989	22	12.1	Dec 1983	5524	1333	8.1	48.6	266.5	32.3	122.5	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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1962-2001

(3) Derived from 1971-2000 serially complete daily data

020-A

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Elevation: 1,469 Feet Lat: 39°33N

Lon: 97°39W

Precipitation (inches)

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	.66	.63	.93	1998	31	1.84	1983	.00+	1997	5.1	1.9	.3	.0	.00	.10	.23	.34	.44	.55	.68	.82	1.02	1.34	1.65
Feb	.73	.59	1.24	1966	8	2.50	1971	.00	1996	5.0	2.3	.4	.0	.01	.05	.14	.24	.36	.50	.67	.88	1.19	1.72	2.25
Mar	2.35	2.10	2.63	1987	23	8.32	1987	.06	1994	8.2	4.4	1.5	.6	.21	.37	.69	1.01	1.37	1.78	2.26	2.86	3.69	5.07	6.43
Apr	2.45	2.13	2.30	1999	14	5.98	1984	.37	1989	9.3	5.1	1.7	.5	.78	1.01	1.36	1.65	1.93	2.23	2.55	2.93	3.42	4.18	4.88
May	4.20	3.56	4.72	1970	24	8.45	1995	.78	1998	11.4	6.9	2.8	1.2	1.25	1.64	2.24	2.76	3.26	3.78	4.36	5.04	5.91	7.29	8.56
Jun	3.95	3.78	5.07	1967	9	8.38	1982	.77	1996	9.7	6.3	2.7	1.2	1.34	1.71	2.25	2.72	3.16	3.62	4.12	4.70	5.45	6.61	7.67
Jul	4.20	3.19	3.70	1971	23	16.75	1993	.11	1984	8.4	5.6	2.8	1.3	.22	.45	.94	1.50	2.15	2.92	3.85	5.06	6.76	9.67	12.57
Aug	3.24	2.77	3.61	1972	24	10.72	1977	.34	2000	8.6	5.7	2.1	.8	.61	.90	1.37	1.81	2.26	2.74	3.29	3.95	4.83	6.24	7.58
Sep	2.50	1.84	2.38	1998	20	8.49	1973	.21	1991	7.3	4.5	1.5	.7	.35	.55	.91	1.26	1.62	2.02	2.48	3.05	3.82	5.07	6.28
Oct	1.84	1.92	4.07	1979	30	4.82	1979	.02	1999	6.3	3.6	1.2	.3	.17	.30	.55	.80	1.08	1.40	1.77	2.24	2.88	3.95	4.99
Nov	1.45	.88	2.60	1998	1	4.88	1971	.00	1989	5.7	3.0	.8	.3	.05	.17	.37	.58	.81	1.07	1.38	1.77	2.31	3.21	4.10
Dec	.86	.59	2.46	1984	15	3.60	1984	.00	1976	4.9	2.3	.5	.1	.03	.09	.21	.33	.47	.63	.81	1.05	1.38	1.92	2.47
Ann	28.43	26.95	5.07	Jun 1967	9	16.75	Jul 1993	.00+	Jan 1997	89.9	51.6	18.3	7.0	16.04	18.22	21.14	23.42	25.51	27.56	29.73	32.17	35.18	39.66	43.63

+ 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: 1962-2001

(3) Derived from 1971-2000 serially complete daily data

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Climate Division: KS 2

NWS Call Sign: CNK

Elevation: 1,469 Feet

Lat: 39°33N

Lon: 97°39W

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	6.3	5.8	2	1	9.0	1985	9	15.8	1993	16	1993	21	8	1979	4.4	2.0	.6	.3	.0	12.7	7.3	4.4	1.0
Feb	5.3	3.8	1	1	8.2	1980	7	20.6	1971	15+	1983	3	5+	1983	3.3	1.6	.6	.3	.0	9.3	6.1	3.8	.9
Mar	3.4	2.8	#	1	9.1	1987	28	10.7	1987	9	1987	29	1+	1987	2.4	1.0	.3	.1	.0	2.9	1.4	.6	.0
Apr	.8	.0	#	0	7.8	1997	11	7.8	1997	2+	1987	1	#	1987	.8	.3	.0	.0	.0	.2	.0	.0	.0
May	.0	.0	#	0	.2	1994	1	.2	1994	0	0	0	#	1995	.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	#	1985	29	#	1985	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.2	.0	#	0	3.5	1991	31	3.6	1991	1	1991	31	#	1991	.2	.0	@	.0	.0	@	.0	.0	.0
Nov	2.8	1.2	#	0	7.3	1983	27	10.1	1972	7+	1983	29	1+	1991	1.8	.8	.4	.1	.0	2.1	.9	.4	.0
Dec	4.1	4.0	1	0	8.3	1983	20	16.7	1983	14+	1983	30	6	1983	3.0	1.4	.4	@	.0	7.1	3.4	.9	.3
Ann	22.9	17.6	N/A	N/A	9.1	Mar 1987	28	20.6	Feb 1971	16	Jan 1993	21	8	Jan 1979	15.9	7.1	2.3	.8	.0	34.3	19.1	10.1	2.2

+ 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

Complete documentation available from:

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Climate Division: KS 2

NWS Call Sign: CNK

Elevation: 1,469 Feet

Lat: 39°33N

Lon: 97°39W

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	5/12	5/07	5/04	5/01	4/28	4/26	4/23	4/19	4/15
32	5/04	4/29	4/25	4/22	4/19	4/16	4/12	4/09	4/03
28	4/17	4/13	4/10	4/08	4/06	4/03	4/01	3/29	3/25
24	4/09	4/04	4/01	3/29	3/26	3/24	3/21	3/17	3/13
20	4/04	3/29	3/25	3/21	3/18	3/14	3/11	3/06	2/28
16	3/29	3/20	3/14	3/09	3/04	2/27	2/21	2/15	2/06
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	9/20	9/25	9/29	10/02	10/05	10/08	10/12	10/16	10/21
32	10/02	10/07	10/11	10/14	10/17	10/20	10/23	10/27	11/01
28	10/14	10/20	10/23	10/27	10/30	11/02	11/05	11/09	11/14
24	10/16	10/23	10/28	11/01	11/05	11/09	11/14	11/18	11/25
20	10/31	11/06	11/11	11/15	11/19	11/23	11/27	12/02	12/09
16	11/04	11/11	11/16	11/20	11/24	11/28	12/02	12/07	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	172	167	163	159	155	151	146	139
32	202	194	189	185	181	176	172	167	159
28	226	219	214	210	207	203	199	194	187
24	248	240	233	228	223	218	213	207	198
20	273	263	257	251	246	240	235	228	219
16	299	287	279	272	265	258	251	243	231

* 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/normal/usnormals.html

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Climate Division: KS 2 NWS Call Sign: CNK Elevation: 1,469 Feet Lat: 39°33N Lon: 97°39W

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	1195	927	702	380	131	13	1	2	76	307	722	1068	5524
60	1035	783	544	245	68	2	0	1	18	162	578	924	4360
57	943	705	458	180	39	0	0	0	7	104	494	831	3761
55	883	653	400	142	25	0	0	0	3	74	439	771	3390
50	739	528	271	69	7	0	0	0	0	27	311	627	2579
32	292	196	30	0	0	0	0	0	0	0	45	206	769

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	81	157	362	626	959	1241	1459	1395	1082	744	301	109	8516
55	0	2	22	85	264	552	746	682	404	132	11	1	2901
57	0	1	14	63	213	492	684	620	350	101	7	0	2545
60	0	0	7	38	146	404	591	527	275	62	3	0	2053
65	0	0	2	15	63	265	436	366	163	22	1	0	1333
70	0	0	0	4	20	144	288	231	86	6	0	0	779

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	21	71	190	403	723	1012	1220	1155	850	510	143	30	21	92	282	685	1408	2420	3640	4795	5645	6155	6298	6328
45	2	36	110	273	568	862	1065	1000	700	365	78	6	2	38	148	421	989	1851	2916	3916	4616	4981	5059	5065
50	0	8	54	167	415	712	910	845	552	241	35	2	0	8	62	229	644	1356	2266	3111	3663	3904	3939	3941
55	0	1	22	90	271	562	755	690	414	139	12	0	0	1	23	113	384	946	1701	2391	2805	2944	2956	2956
60	0	0	5	41	152	415	600	535	283	70	2	0	0	0	5	46	198	613	1213	1748	2031	2101	2103	2103
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	21	59	133	246	439	671	815	771	547	311	95	26	21	80	213	459	898	1569	2384	3155	3702	4013	4108	4134

(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