

Climatography of the United States

No. 20

1971-2000

Station: BELOIT, KS

COOP ID: 140693

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,462 Feet Lat: 39°29N

Lon: 98°06W

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	38.2	16.3	27.3	77+	1990	10	37.3	1992	-20+	1971	7	14.0	1979	1170	0	.0	.0	7.0	10.7	29.9	3.6
Feb	45.0	21.3	33.2	86	1972	29	42.5	1999	-15	1985	1	20.1	1978	892	0	.0	.0	10.5	6.7	24.3	2.4
Mar	55.7	31.0	43.4	89+	1968	30	50.0	1986	-11	1960	3	35.6	1975	671	0	.0	.0	19.9	1.5	18.4	.4
Apr	66.2	41.3	53.8	100+	1989	26	61.5	1981	14	1975	3	45.7	1983	350	12	.1	.5	27.1	.1	5.8	.0
May	75.5	52.3	63.9	103	1956	12	69.0	1977	27	1961	2	57.7	1995	120	86	.1	1.5	31.0	.0	.1	.0
Jun	86.8	62.6	74.7	112+	1980	30	80.0	1988	40+	1998	6	69.8	1982	9	300	1.8	11.3	30.0	.0	.0	.0
Jul	92.8	68.3	80.6	113+	1964	6	88.3	1980	46	1971	30	76.0	1992	0	482	5.9	20.5	31.0	.0	.0	.0
Aug	90.5	66.4	78.5	112	1984	28	87.1	1983	42	1956	21	72.5	1992	6	423	4.0	17.2	31.0	.0	.0	.0
Sep	81.8	56.5	69.2	109	2000	2	74.4	1998	27	1984	29	63.6	1974	43	168	.8	7.9	29.9	.0	.2	.0
Oct	69.6	43.7	56.7	98	1954	3	60.3	1975	16	1993	31	50.8	1976	271	11	.0	.8	29.2	@	3.6	.0
Nov	52.4	29.7	41.1	85	1980	6	49.6	1999	-8	1976	28	32.7	1985	718	0	.0	.0	17.4	1.8	19.1	.2
Dec	41.1	20.0	30.6	83	1964	23	36.7	1991	-26	1989	22	13.1	1983	1068	0	.0	.0	8.2	7.1	29.4	1.8
Ann	66.3	42.5	54.4	113+	Jul 1964	6	88.3	Jul 1980	-26	Dec 1989	22	13.1	Dec 1983	5318	1482	12.7	59.7	272.2	27.9	130.8	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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

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

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**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: BELOIT, KS

COOP ID: 140693

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,462 Feet Lat: 39°29N

Lon: 98°06W

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	.71	.76	1.10	1999	30	2.21	1979	.00+	1997	3.7	1.9	.3	.1	.00	.09	.22	.33	.45	.57	.72	.89	1.12	1.50	1.86
Feb	.72	.53	1.21	1966	9	2.10	1971	.00+	1996	4.0	1.8	.4	.1	.00	.02	.08	.18	.29	.43	.61	.85	1.19	1.80	2.41
Mar	2.26	1.94	2.70	1987	23	7.52	1973	.09	1997	6.8	4.4	1.5	.4	.24	.41	.73	1.04	1.38	1.76	2.20	2.75	3.51	4.76	5.97
Apr	2.42	2.22	2.60	1987	13	5.76	1976	.19	1989	8.0	4.7	1.6	.5	.62	.85	1.20	1.51	1.82	2.14	2.50	2.92	3.48	4.35	5.17
May	4.07	3.91	3.29	1958	17	9.91	1995	1.10	1998	10.5	7.4	2.8	1.2	1.17	1.56	2.14	2.65	3.14	3.66	4.23	4.90	5.77	7.13	8.40
Jun	3.77	3.27	3.92	1989	26	13.29	1989	1.00	1980	8.7	6.1	2.5	1.1	.88	1.23	1.78	2.27	2.76	3.28	3.87	4.56	5.48	6.93	8.30
Jul	3.87	3.07	5.43	1951	11	19.07	1993	.10	1983	8.8	6.1	2.5	1.2	.18	.38	.83	1.34	1.94	2.65	3.52	4.65	6.24	8.98	11.72
Aug	2.95	2.71	2.97	1974	14	8.17	1977	.45	1971	7.4	4.6	2.1	.7	.69	.97	1.40	1.79	2.17	2.57	3.03	3.57	4.28	5.41	6.47
Sep	2.40	2.12	4.02	1961	12	8.36	1973	.76	2000	7.2	4.6	1.7	.6	.71	.94	1.28	1.57	1.86	2.16	2.49	2.88	3.38	4.16	4.89
Oct	2.02	1.76	4.25	1979	31	5.07	1971	.01	1999	6.2	3.9	1.3	.4	.13	.25	.51	.78	1.09	1.46	1.89	2.45	3.23	4.54	5.85
Nov	1.47	1.19	3.44	1996	16	5.33	1996	.00	1989	5.3	3.1	.9	.3	.03	.11	.29	.49	.72	1.00	1.34	1.78	2.40	3.46	4.52
Dec	.87	.66	1.62	1993	13	2.35+	1991	.00	1976	3.9	2.4	.5	.1	.02	.08	.20	.32	.46	.62	.81	1.06	1.40	1.98	2.55
Ann	27.53	27.59	5.43	Jul 1951	11	19.07	Jul 1993	.00+	Jan 1997	80.5	51.0	18.1	6.7	16.32	18.34	21.00	23.08	24.97	26.82	28.76	30.94	33.63	37.60	41.10

+ 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: 1948-2001

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

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

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No. 20 1971-2000

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151 Patton Avenue
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Station: BELOIT, KS

COOP ID: 140693

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,462 Feet

Lat: 39°29N

Lon: 98°06W

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	5.3	4.0	1	#	15.5	1985	9	20.5	1979	10	1971	15	8	1993	2.4	1.9	.7	.2	@	-9.9	-9.9	-9.9	-9.9
Feb	4.8	1.5	1	0	12.0	1971	22	19.0+	1978	14	1971	23	5	1993	1.6	1.4	.6	.5	.1	.6	.2	.2	.0
Mar	3.4	2.0	#	0	10.0	1987	28	12.2	1998	8	1998	8	1	1998	1.1	.9	.5	.2	@	1.0	.4	.3	.0
Apr	.8	.0	#	0	12.0	1997	11	12.0	1997	12	1997	11	1	1997	.3	.3	.1	@	@	.0	.0	.0	.0
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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.2	.0	#	0	3.0	1991	31	3.0+	1997	3	1997	25	#	1997	.1	.1	.1	.0	.0	.1	.1	.0	.0
Nov	1.4	.0	#	0	7.5	1975	25	7.8	1975	5	1992	25	1	1992	.6	.6	.2	@	.0	.4	.2	.1	.0
Dec	3.6	3.0	#	0	8.0	1997	24	14.0	1997	5	1997	24	1+	2000	1.7	1.5	.4	.1	.0	.9	.4	.0	.0
Ann	19.5	10.5	N/A	N/A	15.5	Jan 1985	9	20.5	Jan 1979	14	Feb 1971	23	8	Jan 1993	7.8	6.7	2.6	1.0	.1	-9.9	-9.9	-9.9	-9.9

+ 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:

Elevation: 1,462 Feet

Lat: 39°29N

Lon: 98°06W

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	5/15	5/11	5/07	5/04	5/01	4/28	4/25	4/22	4/17
32	5/03	4/29	4/26	4/23	4/21	4/18	4/15	4/12	4/08
28	4/19	4/15	4/13	4/10	4/08	4/06	4/04	4/02	3/29
24	4/12	4/08	4/05	4/02	3/30	3/28	3/25	3/22	3/17
20	4/06	3/30	3/25	3/21	3/17	3/13	3/09	3/04	2/25
16	4/01	3/22	3/16	3/10	3/05	2/27	2/22	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	9/18	9/23	9/26	9/29	10/02	10/05	10/08	10/11	10/16
32	9/30	10/05	10/09	10/12	10/15	10/18	10/21	10/24	10/29
28	10/11	10/16	10/19	10/22	10/25	10/28	10/31	11/03	11/08
24	10/18	10/24	10/28	11/01	11/05	11/08	11/12	11/16	11/22
20	10/29	11/04	11/08	11/12	11/16	11/20	11/23	11/28	12/04
16	11/06	11/13	11/18	11/22	11/26	11/30	12/04	12/09	12/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	165	161	157	153	149	145	141	134
32	195	189	184	180	177	173	169	164	158
28	216	210	206	202	199	196	192	188	182
24	243	234	229	223	219	214	209	203	194
20	274	263	256	249	243	237	230	223	212
16	301	288	280	272	265	258	251	242	230

* 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:
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Climate Division: KS 2 NWS Call Sign: Elevation: 1,462 Feet Lat: 39° 29N Lon: 98° 06W

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	1170	892	671	350	120	9	0	6	43	271	718	1068	5318
60	1015	759	520	226	54	1	0	0	11	150	570	913	4219
57	923	681	434	165	29	0	0	0	3	95	485	820	3635
55	862	629	378	129	18	0	0	0	1	68	430	759	3274
50	717	504	252	61	4	0	0	0	0	24	301	615	2478
32	267	174	25	0	0	0	0	0	0	0	40	196	702

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	120	206	377	651	989	1281	1505	1440	1115	764	311	151	8910
55	2	17	17	91	293	591	792	727	426	118	11	2	3087
57	1	13	11	66	242	531	730	665	368	84	6	0	2717
60	0	8	4	37	174	442	637	572	286	46	1	0	2207
65	0	0	0	12	86	300	482	423	168	11	0	0	1482
70	0	0	0	2	32	177	332	284	83	1	0	0	911

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	16	66	192	416	734	1040	1251	1183	869	515	137	21	16	82	274	690	1424	2464	3715	4898	5767	6282	6419	6440
45	2	30	112	284	579	890	1096	1028	719	370	74	4	2	32	144	428	1007	1897	2993	4021	4740	5110	5184	5188
50	0	9	58	178	427	740	941	873	572	243	28	0	0	9	67	245	672	1412	2353	3226	3798	4041	4069	4069
55	0	1	23	95	283	590	786	718	428	140	10	0	0	1	24	119	402	992	1778	2496	2924	3064	3074	3074
60	0	0	3	43	163	441	631	563	297	66	2	0	0	0	3	46	209	650	1281	1844	2141	2207	2209	2209
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	64	145	264	458	684	820	780	555	327	104	28	25	89	234	498	956	1640	2460	3240	3795	4122	4226	4254

(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