

# Climatology of the United States

No. 20

1971-2000

Station: GIRARD, KS

COOP ID: 143074

Climate Division: KS 9

NWS Call Sign:

Elevation: 985 Feet Lat: 37° 30N Lon: 94° 50W

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	41.0	20.9	31.0	72+	1986	21	40.8	1990	-12	1985	20	20.6	1977	1055	0	.0	.0	8.5	7.5	26.5	1.4
Feb	47.7	25.8	36.8	83	1962	12	46.8	1976	-16	1979	9	25.4	1978	791	0	.0	.0	12.6	4.0	19.9	.7
Mar	58.1	34.7	46.4	89+	1995	23	51.4	1973	1	1960	4	39.6	1984	577	0	.0	.0	22.9	.7	11.5	.0
Apr	68.3	44.5	56.4	97	1972	12	61.4	1981	20+	1975	3	47.7	1983	276	17	.0	.1	28.4	.0	2.2	.0
May	76.8	55.4	66.1	96	1963	11	71.4	1987	32	1976	3	61.4	1983	86	119	.0	.8	31.0	.0	@	.0
Jun	85.7	64.3	75.0	103+	1980	29	79.3	1980	47	1983	1	70.4	1982	5	305	.2	9.4	30.0	.0	.0	.0
Jul	91.1	69.2	80.2	110+	1980	13	87.7	1980	51	1959	3	76.5	1971	0	469	2.5	19.7	31.0	.0	.0	.0
Aug	90.3	66.8	78.6	107	1984	19	84.8	2000	48	1958	25	73.1	1992	2	422	1.8	17.9	31.0	.0	.0	.0
Sep	81.5	58.6	70.1	106+	2000	4	77.5	1998	32	1995	22	63.2	1974	44	196	.4	6.3	30.0	.0	@	.0
Oct	71.1	47.3	59.2	94+	1979	1	64.6	1971	19	1993	31	53.3	1976	215	34	.0	.5	30.1	.0	1.1	.0
Nov	56.0	35.1	45.6	81+	1999	14	55.1	1999	5+	1976	29	38.6	1976	585	1	.0	.0	20.8	.8	11.7	.0
Dec	45.1	25.2	35.2	76	1966	7	42.0	1971	-18+	1989	23	18.0	1983	927	0	.0	.0	12.0	4.6	23.4	.8
Ann	67.7	45.7	56.7	110+	Jul 1980	13	87.7	Jul 1980	-18+	Dec 1989	23	18.0	Dec 1983	4563	1563	4.9	54.7	288.3	17.6	96.3	2.9

+ 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](http://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: 1957-2001

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

034-A

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## No. 20

### 1971-2000

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

Station: GIRARD, KS

COOP ID: 143074

Climate Division: KS 9

NWS Call Sign:

Elevation: 985 Feet Lat: 37°30N

Lon: 94°50W

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	1.66	1.60	2.80	1975	30	4.60	1973	.00	1986	5.3	3.7	1.0	.4	.10	.26	.52	.76	1.02	1.31	1.64	2.05	2.61	3.52	4.41
Feb	1.96	1.83	3.00+	1985	23	6.00	1987	.24	1998	4.4	3.3	1.6	.5	.34	.51	.80	1.07	1.35	1.64	1.98	2.40	2.95	3.83	4.68
Mar	3.71	3.13	4.15	1974	10	11.44	1973	.90+	1995	7.7	6.1	2.4	1.1	.78	1.12	1.67	2.16	2.66	3.19	3.79	4.51	5.47	6.99	8.42
Apr	3.98	3.26	4.20	1994	11	13.15	1994	.12	1989	8.2	6.1	2.8	1.3	.72	1.07	1.65	2.20	2.75	3.35	4.03	4.85	5.95	7.71	9.39
May	5.62	4.99	3.45	1966	11	15.35	1990	1.36	1988	10.0	8.3	3.9	1.6	1.70	2.23	3.03	3.72	4.38	5.08	5.84	6.74	7.90	9.71	11.39
Jun	5.66	5.71	4.80	1967	20	12.77	1977	1.31	1980	8.8	7.1	3.4	1.7	1.68	2.22	3.02	3.72	4.39	5.10	5.88	6.79	7.97	9.82	11.54
Jul	4.19	3.41	5.63	1958	11	15.36	1992	.66	1980	6.4	5.2	2.7	1.5	.62	.97	1.58	2.16	2.76	3.42	4.19	5.12	6.37	8.42	10.38
Aug	3.66	2.93	4.60	1985	22	9.10	1985	.02	2000	6.2	4.6	2.4	1.2	.36	.63	1.13	1.64	2.19	2.81	3.54	4.46	5.72	7.80	9.84
Sep	5.17	3.99	6.06	1961	13	21.47	1993	.50	1979	7.1	5.7	3.1	1.5	.61	1.01	1.73	2.46	3.22	4.08	5.08	6.32	8.00	10.77	13.46
Oct	4.30	4.17	7.07	1969	12	12.88	1986	.00	1978	6.5	5.0	2.8	1.4	.23	.63	1.28	1.92	2.59	3.34	4.22	5.30	6.78	9.22	11.59
Nov	3.71	3.27	3.60	1979	20	8.73	1992	.00+	1995	6.4	5.0	2.6	1.3	.00	.00	1.91	2.51	3.03	3.53	4.07	4.68	5.46	6.64	7.72
Dec	2.37	1.78	3.13	1982	2	6.40	1982	.00	1989	5.8	4.2	1.8	.6	.12	.34	.70	1.05	1.42	1.84	2.32	2.92	3.74	5.09	6.41
Ann	45.99	46.73	7.07	Oct 1969	12	21.47	Sep 1993	.00+	Nov 1995	82.8	64.3	30.5	14.1	31.17	33.99	37.63	40.41	42.89	45.30	47.80	50.58	53.96	58.89	63.17

+ 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: 1957-2001

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

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Station: GIRARD, KS

COOP ID: 143074

Climate Division: KS 9

NWS Call Sign:

Elevation: 985 Feet

Lat: 37°30N

Lon: 94°50W

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	3.5	2.8	#	0	4.5	1973	6	10.0	1978	7	1997	9	1	1997	.9	.9	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Feb	3.2	.4	#	0	14.0	1980	8	14.0	1980	6	1975	23	#+	1983	.6	.5	.3	.2	.1	.4	.2	.1	.0
Mar	.9	.0	#	0	7.5	1975	9	7.5	1975	10	2000	10	#+	2000	.2	.2	.1	.1	.0	.2	.1	.1	.0
Apr	#	.0	#	0	#	1975	2	#+	1975	#	1994	5	#	1994	.0	.0	.0	.0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	3.0	1975	26	3.0	1975	5	1988	20	#+	1997	.1	.1	@	.0	.0	.1	.0	.0	.0
Dec	1.4	.0	#	0	6.5	1973	19	10.0	1973	7	1973	19	2	2000	.4	.2	.1	.1	.0	.3	.3	.2	.0
Ann	9.3	3.2	N/A	N/A	14.0	Feb 1980	8	14.0	Feb 1980	10	Mar 2000	10	2	Dec 2000	2.2	1.9	.7	.4	.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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**NWS Call Sign:**

**Elevation: 985 Feet**

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**Lon: 94° 50W**

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	4/28	4/24	4/21	4/18	4/16	4/13	4/10	4/07	4/03
32	4/21	4/17	4/13	4/10	4/08	4/05	4/02	3/30	3/25
28	4/11	4/06	4/01	3/29	3/25	3/22	3/18	3/14	3/08
24	4/05	3/28	3/23	3/19	3/14	3/10	3/06	3/01	2/21
20	3/25	3/17	3/11	3/06	3/01	2/25	2/20	2/14	2/05
16	3/15	3/07	3/01	2/24	2/20	2/15	2/10	2/05	1/28
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	9/29	10/04	10/08	10/12	10/15	10/18	10/21	10/25	10/31
32	10/14	10/19	10/23	10/26	10/30	11/02	11/05	11/09	11/15
28	10/23	10/29	11/02	11/06	11/10	11/13	11/17	11/22	11/28
24	11/04	11/11	11/15	11/19	11/23	11/26	11/30	12/05	12/11
20	11/09	11/16	11/21	11/26	11/30	12/04	12/08	12/14	12/21
16	11/20	11/27	12/02	12/06	12/10	12/15	12/19	12/24	12/31
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	204	196	191	186	182	177	172	167	159
32	226	218	213	208	204	200	195	190	182
28	254	245	239	234	229	224	218	212	203
24	283	273	265	259	253	247	240	232	222
20	306	295	286	279	273	266	259	251	239
16	324	313	306	299	293	287	280	273	262

\* 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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**1971-2000**

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**COOP ID: 143074**

**Climate Division: KS 9      NWS Call Sign:      Elevation: 985 Feet    Lat: 37°30N    Lon: 94°50W**

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	1055	791	577	276	86	5	0	2	44	215	585	927	4563
60	900	656	427	163	33	0	0	0	14	114	445	777	3529
57	807	577	341	109	16	0	0	0	6	71	365	690	2982
55	747	525	288	80	9	0	0	0	3	49	315	632	2648
50	603	401	174	29	2	0	0	0	0	16	208	494	1927
32	188	98	8	0	0	0	0	0	0	0	19	140	453

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	155	231	454	731	1056	1291	1492	1443	1142	842	425	236	9498
55	2	14	21	121	352	601	779	730	455	178	30	16	3299
57	0	10	13	90	297	541	717	668	398	138	20	11	2903
60	0	5	5	54	221	451	624	575	316	88	11	5	2355
65	0	0	0	17	119	305	469	422	196	34	1	0	1563
70	0	0	0	4	50	176	319	278	106	9	0	0	942

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	42	115	280	516	823	1063	1253	1210	918	616	245	76	42	157	437	953	1776	2839	4092	5302	6220	6836	7081	7157
45	11	60	177	375	668	913	1098	1055	768	463	151	33	11	71	248	623	1291	2204	3302	4357	5125	5588	5739	5772
50	2	30	95	250	514	763	943	900	619	321	82	9	2	32	127	377	891	1654	2597	3497	4116	4437	4519	4528
55	0	10	46	148	363	613	788	745	474	201	36	2	0	10	56	204	567	1180	1968	2713	3187	3388	3424	3426
60	0	1	14	72	224	463	633	590	340	105	10	0	0	1	15	87	311	774	1407	1997	2337	2442	2452	2452
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	30	84	180	316	526	728	849	814	601	383	147	50	30	114	294	610	1136	1864	2713	3527	4128	4511	4658	4708

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)