

Climatography of the United States

No. 20

1971-2000

Station: KIRWIN DAM, KS

COOP ID: 144357

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,697 Feet Lat: 39°40N

Lon: 99°07W

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	36.6	12.3	24.5	76+	1990	11	33.9	1986	-30	1974	4	12.2	1979	1257	0	.0	.0	7.5	10.6	30.9	4.7
Feb	42.6	15.9	29.3	86	1982	23	39.6	1999	-20+	1988	7	16.1	1979	1000	0	.0	.0	11.0	7.1	27.0	3.6
Mar	52.8	25.5	39.2	93	1972	12	45.9	1986	-15	1960	3	32.3	1975	802	0	.0	.1	19.2	2.0	23.7	.7
Apr	64.4	36.1	50.3	102	1989	24	57.6	1981	12+	1994	7	44.3	1983	446	3	.1	.6	26.3	.1	10.0	.0
May	73.9	47.5	60.7	101+	1967	25	66.3	1977	25	1953	14	54.5	1995	184	51	.0	1.7	30.8	.0	1.0	.0
Jun	85.9	58.0	72.0	112	1988	21	77.2	1988	36	1952	5	67.2	1982	24	232	1.8	10.8	30.0	.0	.0	.0
Jul	92.1	63.7	77.9	113	1966	19	82.7	1980	41	1971	30	72.6	1992	0	401	5.3	19.7	31.0	.0	.0	.0
Aug	89.7	60.9	75.3	110+	1983	16	83.0	1983	38+	1988	29	68.7	1992	10	328	2.9	16.4	31.0	.0	.0	.0
Sep	80.7	50.3	65.5	105	1959	8	72.1	1998	15	1984	30	59.8	1993	91	106	.5	7.5	29.8	.0	1.1	.0
Oct	69.0	37.5	53.3	96+	1997	3	56.7	1979	3+	1997	28	47.8	1976	367	2	.0	.9	29.1	.1	9.6	.0
Nov	51.4	24.8	38.1	87	1980	7	47.1	1999	-10	1986	13	29.6	1985	807	0	.0	.0	17.2	2.0	25.2	.3
Dec	40.4	16.5	28.5	78	1964	24	35.5	1988	-26	1961	13	10.6	1983	1133	0	.0	.0	8.3	7.4	30.4	2.3
Ann	65.0	37.4	51.2	113	Jul 1966	19	83.0	Aug 1983	-30	Jan 1974	4	10.6	Dec 1983	6121	1123	10.6	57.7	271.2	29.3	158.9	11.6

+ 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: 1952-2001

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

055-A

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: KIRWIN DAM, KS

COOP ID: 144357

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,697 Feet Lat: 39°40N

Lon: 99°07W

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	.46	.29	.95	1965	23	1.77	1993	.00	1986	3.0	1.4	.1	.0	.01	.04	.10	.16	.24	.32	.42	.55	.74	1.04	1.35
Feb	.72	.43	1.58	1971	19	2.48	1993	.00	1991	3.3	1.5	.4	.1	.01	.03	.10	.19	.30	.44	.62	.85	1.20	1.80	2.41
Mar	2.11	1.71	3.20	1979	22	9.17	1987	.00	1994	6.3	4.1	1.2	.5	.06	.20	.48	.78	1.12	1.51	1.98	2.58	3.41	4.81	6.21
Apr	2.23	2.15	2.65	1976	7	5.31	1976	.02	1989	7.4	5.0	1.3	.5	.42	.62	.94	1.25	1.56	1.89	2.26	2.72	3.32	4.29	5.22
May	4.08	3.69	3.65	1960	5	13.46	1995	1.21	1976	10.2	6.9	2.5	.9	1.17	1.56	2.15	2.65	3.15	3.67	4.24	4.91	5.78	7.15	8.43
Jun	2.87	2.73	2.45	1968	14	6.70	1975	.13	1988	8.2	5.1	1.9	.8	.59	.86	1.28	1.66	2.05	2.46	2.93	3.49	4.23	5.42	6.54
Jul	3.15	2.34	4.23	1985	21	10.26	1993	.14	1983	7.6	5.1	2.2	.6	.31	.54	.97	1.41	1.89	2.42	3.05	3.84	4.92	6.71	8.46
Aug	2.84	2.81	4.36	1963	12	5.80	1999	.16	1976	7.6	4.7	1.9	.6	.50	.75	1.16	1.55	1.95	2.38	2.87	3.47	4.26	5.54	6.77
Sep	2.25	1.50	4.90	1985	13	8.37	1973	.20	1994	5.9	3.5	1.5	.6	.23	.40	.71	1.02	1.36	1.74	2.19	2.75	3.51	4.77	6.00
Oct	1.62	1.19	3.60	1986	14	5.55	1986	.05	1975	4.7	2.9	.9	.3	.10	.20	.40	.62	.87	1.16	1.51	1.96	2.59	3.66	4.72
Nov	1.32	1.16	2.48	1996	16	3.87	1996	.00	1989	4.3	2.6	.8	.3	.05	.16	.34	.54	.75	.98	1.26	1.62	2.10	2.92	3.72
Dec	.59	.38	1.43	1953	3	1.80	1991	.00+	1976	2.8	1.4	.2	@	.00	.04	.13	.23	.32	.44	.57	.73	.95	1.33	1.70
Ann	24.24	23.37	4.90	Sep 1985	13	13.46	May 1995	.00+	Mar 1994	71.3	44.2	14.9	5.2	15.12	16.79	18.99	20.69	22.23	23.73	25.30	27.05	29.19	32.35	35.12

+ 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: 1952-2001

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

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

Climatography of the United States

No. 20 1971-2000

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Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
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Station: KIRWIN DAM, KS

COOP ID: 144357

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,697 Feet

Lat: 39°40N

Lon: 99°07W

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	3.6	4.0	1	#	5.8	1994	27	7.0	1977	6	1995	6	4	1984	2.1	1.4	.2	.1	.0	3.8	1.5	.6	.0
Feb	3.8	1.0	1	#	10.0	1978	13	17.5	1978	11	1994	23	4	1994	1.3	.9	.6	.3	.1	2.5	1.7	.6	.1
Mar	2.5	.9	#	0	6.2	1995	7	7.4	1995	6+	1995	7	1+	1998	1.0	.7	.4	.2	.0	1.1	.6	.3	.0
Apr	.5	.0	#	0	3.0	1996	15	4.0	1997	4	1997	11	#+	1997	.3	.2	@	.0	.0	.2	@	.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	11	1997	26	1	1997	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.5	.0	#	0	6.0	1991	1	10.8	1975	4	1995	11	#+	1996	.7	.4	.2	.1	.0	.2	.1	.0	.0
Dec	1.9	.8	#	#	4.0	1997	25	12.0	1997	7	1997	26	4	1983	1.3	.7	.2	.0	.0	1.8	.5	.2	.0
Ann	13.8	6.7	N/A	N/A	10.0	Feb 1978	13	17.5	Feb 1978	11+	Oct 1997	26	4+	Feb 1994	6.7	4.3	1.6	.7	.1	9.6	4.4	1.7	.1

+ 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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1971-2000**

Station: KIRWIN DAM, KS

COOP ID: 144357

Climate Division: KS 2

NWS Call Sign:

Elevation: 1,697 Feet

Lat: 39° 40N

Lon: 99° 07W

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	5/21	5/17	5/14	5/12	5/09	5/07	5/05	5/02	4/28
32	5/13	5/07	5/04	5/01	4/28	4/25	4/21	4/18	4/13
28	4/27	4/23	4/21	4/19	4/17	4/15	4/12	4/10	4/06
24	4/17	4/14	4/12	4/10	4/08	4/06	4/04	4/01	3/29
20	4/12	4/07	4/04	4/02	3/30	3/28	3/25	3/22	3/18
16	4/03	3/28	3/23	3/19	3/15	3/12	3/08	3/03	2/25
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	9/13	9/17	9/19	9/22	9/24	9/26	9/28	9/30	10/04
32	9/19	9/24	9/28	10/01	10/03	10/06	10/09	10/12	10/17
28	9/29	10/04	10/08	10/11	10/15	10/18	10/21	10/25	10/31
24	10/10	10/15	10/19	10/22	10/25	10/28	10/31	11/04	11/09
20	10/16	10/23	10/27	10/31	11/04	11/07	11/11	11/15	11/22
16	10/21	10/28	11/02	11/07	11/11	11/14	11/19	11/24	12/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	154	148	144	140	137	133	130	126	120
32	178	171	166	162	158	154	150	145	138
28	199	192	188	184	180	177	173	168	162
24	217	211	207	203	200	196	193	188	182
20	240	232	227	222	217	213	208	203	195
16	268	258	251	245	239	234	228	221	211

* 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: 1,697 Feet Lat: 39°40N Lon: 99°07W

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	1257	1000	802	446	184	24	0	10	91	367	807	1133	6121
60	1102	860	647	307	94	6	0	2	34	224	657	978	4911
57	1009	784	555	233	57	2	0	0	15	152	567	885	4259
55	947	731	496	188	38	1	0	0	8	111	510	823	3853
50	796	602	355	98	11	0	0	0	0	42	373	674	2951
32	318	233	50	0	0	0	0	0	0	0	60	226	887

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	84	156	271	547	891	1198	1424	1341	1005	658	242	116	7933
55	0	11	5	45	216	509	711	628	323	55	3	0	2506
57	0	7	1	29	173	450	649	566	270	34	0	0	2179
60	0	0	0	14	117	364	556	475	199	14	0	0	1739
65	0	0	0	3	51	232	401	328	106	2	0	0	1123
70	0	0	0	0	16	126	254	199	46	0	0	0	641

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	10	41	143	357	663	964	1175	1093	766	429	100	14	10	51	194	551	1214	2178	3353	4446	5212	5641	5741	5755
45	0	13	79	229	509	814	1020	938	618	294	43	3	0	13	92	321	830	1644	2664	3602	4220	4514	4557	4560
50	0	2	33	138	360	664	865	783	472	179	15	0	0	2	35	173	533	1197	2062	2845	3317	3496	3511	3511
55	0	0	10	72	229	514	710	628	335	87	4	0	0	0	10	82	311	825	1535	2163	2498	2585	2589	2589
60	0	0	1	30	122	367	555	474	219	34	0	0	0	0	1	31	153	520	1075	1549	1768	1802	1802	1802
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	26	67	139	256	420	615	756	704	493	315	104	32	26	93	232	488	908	1523	2279	2983	3476	3791	3895	3927

(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/normal/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