

# Climatology of the United States

No. 20

1971-2000

Station: PARSONS 2 NW, KS

COOP ID: 146242

Climate Division: KS 9

NWS Call Sign:

Elevation: 910 Feet Lat: 37° 22N Lon: 95° 17W

## 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	40.2	20.2	30.2	77	1950	24	40.1	1990	-17	1984	19	17.0	1979	1079	0	.0	.0	8.6	8.3	27.0	1.7
Feb	47.2	25.6	36.4	85	1962	12	47.7	1976	-16	1979	1	23.1	1978	800	0	.0	.0	12.8	4.8	20.9	1.1
Mar	57.2	34.8	46.0	92	1986	30	50.5	1986	-2	1980	2	39.2	1975	590	0	.0	@	22.4	.7	11.4	@
Apr	67.1	44.1	55.6	98	1972	12	62.7	1981	18	1996	6	48.8	1983	295	13	.0	.1	28.2	.0	2.5	.0
May	76.0	54.4	65.2	95+	1953	31	71.2	1987	31	1976	3	60.4	1976	95	101	.0	.5	31.0	.0	@	.0
Jun	85.0	63.4	74.2	104	1980	28	78.3	1994	44	1983	1	69.2	1982	6	283	.1	8.4	30.0	.0	.0	.0
Jul	91.1	68.3	79.7	115	1954	14	87.0	1980	49	1972	6	75.6	1972	0	456	3.0	19.1	31.0	.0	.0	.0
Aug	90.0	66.0	78.0	110+	1956	16	84.3	1983	47+	1988	29	71.7	1992	3	406	2.8	17.7	31.0	.0	.0	.0
Sep	81.0	58.0	69.5	107+	2000	3	76.1	1998	28	1984	30	61.1	1974	51	187	.7	5.9	30.0	.0	.1	.0
Oct	70.5	46.3	58.4	97+	1963	7	62.9	1973	17	1993	31	53.2	1976	229	24	.0	.4	30.1	.0	2.0	.0
Nov	55.5	34.9	45.2	83+	1966	8	53.4	1999	6	1976	30	38.8	1976	594	0	.0	.0	20.4	.7	12.6	.0
Dec	44.4	24.8	34.6	77	1966	7	40.5	1984	-17+	1989	23	20.1	1983	942	0	.0	.0	11.5	5.0	23.9	1.0
Ann	67.1	45.1	56.1	115	Jul 1954	14	87.0	Jul 1980	-17+	Dec 1989	23	17.0	Jan 1979	4684	1470	6.6	52.1	287.0	19.5	100.4	3.8

+ 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](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: 1948-2001

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

086-A

# Climatology 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: PARSONS 2 NW, KS**

**COOP ID: 146242**

**Climate Division: KS 9**

**NWS Call Sign:**

**Elevation: 910 Feet Lat: 37°22N**

**Lon: 95°17W**

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	1.37	1.28	2.31+	1973	22	4.46	1973	.00	1986	5.3	3.2	.7	.3	.09	.23	.44	.64	.86	1.09	1.36	1.69	2.14	2.88	3.59
Feb	1.78	1.57	3.00	1997	21	5.26	1985	.07	1991	4.9	3.3	1.3	.3	.22	.36	.61	.86	1.12	1.42	1.76	2.18	2.75	3.69	4.60
Mar	3.37	2.91	4.44	1974	10	10.41	1973	.34	1971	8.3	5.5	2.4	1.0	.57	.87	1.36	1.82	2.29	2.81	3.40	4.11	5.06	6.61	8.08
Apr	3.82	3.06	5.82	1994	11	13.62	1994	.27	1989	8.9	6.0	2.7	.9	.73	1.08	1.64	2.15	2.68	3.24	3.88	4.65	5.67	7.31	8.88
May	5.39	4.90	4.34	1979	20	11.37	1990	1.38	1988	10.9	7.9	3.8	1.6	1.90	2.41	3.14	3.76	4.36	4.96	5.63	6.40	7.39	8.91	10.31
Jun	4.82	4.82	3.85	1995	10	11.53	1977	1.20	1988	9.2	6.5	3.3	1.6	1.20	1.65	2.35	2.98	3.59	4.24	4.97	5.83	6.95	8.74	10.41
Jul	3.83	3.72	6.03	1976	3	13.39	1992	.21	1978	6.8	5.3	2.6	1.1	.45	.74	1.28	1.81	2.38	3.02	3.76	4.68	5.93	8.00	10.00
Aug	3.42	3.30	3.50+	1985	22	9.48	1985	.00	2000	7.4	5.1	2.2	1.2	.42	.84	1.42	1.91	2.40	2.92	3.51	4.21	5.14	6.63	8.04
Sep	4.93	4.00	7.20	1998	14	13.88	1993	.22	1979	7.9	6.0	2.9	1.5	.76	1.18	1.89	2.57	3.28	4.05	4.94	6.02	7.47	9.83	12.10
Oct	4.04	3.32	5.94	1986	3	12.15	1986	.25	1995	7.9	5.3	2.4	1.1	.50	.82	1.39	1.95	2.55	3.21	3.99	4.94	6.23	8.36	10.42
Nov	3.29	3.22	5.54	1979	20	7.92	1979	.00+	1989	6.7	4.9	2.3	.9	.00	.65	1.32	1.84	2.34	2.86	3.44	4.10	5.00	6.43	7.77
Dec	2.03	1.60	2.08	1965	24	5.57	1992	.07	1979	5.7	3.5	1.4	.6	.12	.24	.49	.76	1.07	1.44	1.88	2.45	3.25	4.60	5.95
Ann	42.09	40.81	7.20	Sep 1998	14	13.88	Sep 1993	.00+	Aug 2000	89.9	62.5	28.0	12.1	30.54	32.79	35.67	37.84	39.77	41.63	43.55	45.67	48.23	51.94	55.13

+ 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

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Station: PARSONS 2 NW, KS

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Climate Division: KS 9

NWS Call Sign:

Elevation: 910 Feet

Lat: 37°22N

Lon: 95°17W

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	2.0	.0	#	0	11.0	1987	18	11.0	1987	11	1987	19	3	1987	1.1	.9	.5	.2	@	1.6	1.1	.5	.0
Feb	2.4	2.0	#	#	11.5	1980	8	12.5	1980	12	1980	9	2	1993	.9	.6	.3	@	@	1.8	.8	.3	.2
Mar	1.0	.0	#	0	5.0	1990	1	6.0	1999	5+	2000	11	#+	2000	.5	.4	.2	@	.0	.3	@	@	.0
Apr	#	.0	0	0	#	1994	6	#+	1994	0	0	0	0	0	.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	#	1993	29	#	1993	#	1993	30	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.5	.0	#	0	7.0	1971	23	7.0	1971	4	1992	22	#+	1995	.2	.1	@	@	.0	@	.0	.0	.0
Dec	1.7	.0	#	0	9.5	1987	15	12.0	1987	11	2000	14	4	2000	1.0	.7	.1	.1	.0	.6	.1	.0	.0
Ann	7.6	2.0	N/A	N/A	11.5	Feb 1980	8	12.5	Feb 1980	12	Feb 1980	9	4	Dec 2000	3.7	2.7	1.1	.3	@	4.3	2.0	.8	.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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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	5/03	4/29	4/26	4/23	4/21	4/18	4/16	4/13	4/08
32	4/22	4/18	4/15	4/12	4/10	4/07	4/05	4/02	3/29
28	4/13	4/09	4/05	4/03	3/31	3/28	3/26	3/22	3/18
24	4/05	3/29	3/24	3/20	3/16	3/11	3/07	3/02	2/23
20	3/25	3/17	3/12	3/07	3/03	2/26	2/22	2/16	2/09
16	3/16	3/09	3/03	2/26	2/21	2/17	2/12	2/06	1/29
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	9/24	9/30	10/04	10/08	10/12	10/15	10/19	10/23	10/30
32	10/01	10/07	10/12	10/16	10/20	10/24	10/28	11/01	11/08
28	10/14	10/20	10/25	10/29	11/01	11/05	11/09	11/13	11/20
24	10/26	11/02	11/06	11/10	11/14	11/18	11/22	11/26	12/02
20	11/07	11/14	11/19	11/23	11/27	12/01	12/06	12/11	12/18
16	11/12	11/22	11/29	12/05	12/11	12/16	12/22	12/29	1/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	189	183	178	173	169	164	158	150
32	216	208	202	197	192	188	183	177	168
28	236	229	223	219	215	210	206	200	193
24	269	260	254	248	243	237	232	225	216
20	300	289	282	275	269	263	256	248	238
16	319	307	300	294	289	283	277	271	261

\* 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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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	1079	800	590	295	95	6	0	3	51	229	594	942	4684
60	924	669	437	175	37	0	0	0	17	121	451	787	3618
57	832	590	350	118	18	0	0	0	7	74	369	700	3058
55	772	539	294	87	10	0	0	0	4	50	317	642	2715
50	629	417	175	32	2	0	0	0	0	15	206	500	1976
32	209	115	8	0	0	0	0	0	0	0	16	133	481

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	153	239	442	708	1030	1266	1479	1426	1126	819	412	214	9314
55	3	18	15	105	327	576	766	713	439	156	23	10	3151
57	1	14	9	77	272	516	704	651	383	117	15	6	2765
60	0	8	2	44	199	427	611	558	302	71	7	0	2229
65	0	0	0	13	101	283	456	406	187	24	0	0	1470
70	0	0	0	3	39	157	306	264	100	5	0	0	874

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	38	111	273	498	804	1043	1247	1197	905	589	233	69	38	149	422	920	1724	2767	4014	5211	6116	6705	6938	7007
45	10	58	171	363	649	893	1092	1042	755	441	142	31	10	68	239	602	1251	2144	3236	4278	5033	5474	5616	5647
50	1	28	89	235	495	743	937	887	607	303	76	8	1	29	118	353	848	1591	2528	3415	4022	4325	4401	4409
55	0	7	45	132	344	593	782	732	459	186	33	1	0	7	52	184	528	1121	1903	2635	3094	3280	3313	3314
60	0	2	14	65	208	444	627	577	324	98	9	0	0	2	16	81	289	733	1360	1937	2261	2359	2368	2368
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	34	84	174	303	509	711	840	800	594	367	138	47	34	118	292	595	1104	1815	2655	3455	4049	4416	4554	4601

(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](http://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](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)