

# Climatology of the United States

## No. 20

### 1971-2000

**Station: WICHITA MID-CONTINENT AP, KS**

**COOP ID: 148830**

**Climate Division: KS 8**

**NWS Call Sign: ICT**

**Elevation: 1,321 Feet Lat: 37° 39N**

**Lon: 97° 26W**

### 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	40.1	20.3	30.2	75	1967	22	39.3	1990	-12	1962	20	16.8	1979	1087	0	.0	.0	8.2	9.1	28.4	1.7
Feb	47.2	25.3	36.3	87	1996	22	45.4	1976	-21	1982	6	23.7	1978	819	0	.0	.0	12.7	5.4	21.3	1.1
Mar	57.3	34.4	45.9	89+	1989	11	52.0	1986	-2	1960	3	40.1	1975	594	2	.0	.0	22.6	.9	12.8	.0
Apr	66.9	43.7	55.3	96	1972	12	63.2	1981	15	1975	3	47.9	1983	302	19	.0	.2	28.3	@	2.9	.0
May	76.0	54.0	65.0	100+	1996	23	69.9	1991	31	1976	3	59.6	1976	89	93	@	1.4	31.0	.0	.1	.0
Jun	87.1	63.9	75.5	110	1980	30	81.3	1990	43	1969	2	70.5	1982	5	330	1.8	12.2	30.0	.0	.0	.0
Jul	92.9	69.1	81.0	113	1954	14	90.1	1980	51+	1975	13	76.7	1972	0	503	6.3	21.4	31.0	.0	.0	.0
Aug	91.6	67.9	79.8	110+	1984	29	86.6	2000	48+	1967	27	73.5	1992	0	454	5.1	19.6	31.0	.0	.0	.0
Sep	82.2	59.3	70.8	108	2000	2	78.6	1998	31	1984	30	63.8	1974	49	221	1.2	8.6	30.0	.0	.1	.0
Oct	70.2	46.9	58.6	95+	1979	8	61.6	1979	18	1993	31	52.1	1976	235	35	.0	.8	30.0	.0	1.4	.0
Nov	54.5	33.9	44.2	85	1980	8	53.3	1999	1	1975	26	38.1	1976	620	1	.0	.0	20.3	.9	14.3	.0
Dec	43.1	24.0	33.6	83	1955	24	38.9	1991	-16	1989	22	16.9	1983	965	0	.0	.0	9.5	5.3	26.5	.8
Ann	67.4	45.2	56.4	113	Jul 1954	14	90.1	Jul 1980	-21	Feb 1982	6	16.8	Jan 1979	4765	1658	14.4	64.2	284.6	21.6	107.8	3.6

+ 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](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: 1954-2001

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### 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	.84	.63	1.51	1982	29	2.73	1973	.00	1986	5.4	2.0	.6	.1	.03	.09	.21	.33	.46	.62	.80	1.03	1.35	1.89	2.42	
Feb	1.02	.62	1.31	2001	23	3.33	1987	.00	1991	5.4	2.6	.6	.1	.02	.09	.22	.37	.53	.72	.95	1.24	1.65	2.34	3.03	
Mar	2.71	2.13	2.59	1961	26	9.17	1973	.01	1971	8.1	5.0	1.8	.9	.22	.40	.76	1.14	1.55	2.02	2.59	3.30	4.29	5.94	7.56	
Apr	2.57	2.32	2.20	1974	20	6.02	1999	.23	1989	8.5	5.0	1.6	.7	.47	.70	1.07	1.42	1.78	2.17	2.60	3.13	3.84	4.98	6.06	
May	4.16	3.25	3.74	1964	27	9.62	1993	.52	1973	11.2	6.9	2.9	1.2	.87	1.25	1.86	2.42	2.98	3.57	4.25	5.06	6.13	7.85	9.47	
Jun	4.25	3.72	4.65	1965	4	8.90	1995	.40	1998	9.7	6.5	3.0	1.4	.90	1.29	1.91	2.48	3.05	3.66	4.35	5.17	6.26	7.99	9.64	
Jul	3.31	3.76	3.17	1959	17	6.65	1971	.05	1975	7.2	4.9	2.4	1.0	.26	.48	.91	1.37	1.88	2.46	3.15	4.02	5.23	7.26	9.25	
Aug	2.94	2.16	3.76	1987	12	7.69	1987	.14	2000	7.6	4.6	1.8	.9	.33	.56	.97	1.38	1.81	2.30	2.88	3.59	4.56	6.16	7.72	
Sep	2.96	2.09	5.78	1999	26	10.69	1999	.53	1988	7.2	4.6	1.9	.8	.48	.73	1.16	1.57	1.99	2.45	2.98	3.62	4.47	5.87	7.20	
Oct	2.45	1.95	5.79	1998	31	9.42	1998	.05	1978	6.4	3.8	1.5	.6	.12	.25	.54	.86	1.24	1.69	2.24	2.95	3.95	5.66	7.38	
Nov	1.82	1.81	2.83	1964	15	4.91	1992	.00	1989	5.8	3.2	1.1	.6	.12	.30	.58	.85	1.13	1.45	1.81	2.25	2.85	3.84	4.79	
Dec	1.35	1.01	2.57	1984	15	4.71	1984	.03	1996	5.7	2.8	.8	.2	.09	.17	.34	.53	.73	.97	1.26	1.63	2.14	3.01	3.87	
Ann	30.38	29.62	5.79	Oct 1998	31	10.69	Sep 1999	.00+	Feb 1991	88.2	51.9	20.0	8.5	19.86	21.83	24.40	26.37	28.13	29.85	31.64	33.64	36.07	39.64	42.75	

+ 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: 1954-2001

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Lat: 37°39N

Lon: 97°26W

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	4.9	2.8	1	0	6.9	1975	2	19.7	1987	11	1987	19	4	1979	3.6	1.4	.5	.2	.0	6.8	3.9	1.5	@
Feb	4.3	2.2	1	0	11.6	1971	21	16.7	1971	13+	1971	24	3+	1983	2.5	1.1	.4	.1	@	5.0	2.8	1.5	.2
Mar	1.9	.2	#	0	11.3	1998	19	13.6	1998	7	1998	20	#	2000	1.1	.4	.2	.2	@	1.2	.4	.1	.0
Apr	.4	.0	#	0	4.6	1979	3	4.6	1979	3	1979	4	#	1997	.2	.1	@	.0	.0	.1	@	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	2000	.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	.1	.0	#	0	1.5	1991	31	1.5	1991	1	1991	31	#	1991	.1	.0	.0	.0	.0	@	.0	.0	.0
Nov	1.7	.3	#	0	6.8	1984	18	7.1	1972	5	1987	28	1	1992	.8	.5	.3	.1	.0	.9	.4	@	.0
Dec	3.4	2.2	#	0	7.5	1987	14	13.8	1983	8+	1999	5	1+	2000	2.7	1.0	.3	.1	.0	3.7	1.1	.4	.0
Ann	16.7	7.7	N/A	N/A	11.6	Feb 1971	21	19.7	Jan 1987	13+	Feb 1971	24	4	Jan 1979	11.0	4.5	1.7	.7	@	17.7	8.6	3.5	.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

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<b>Freeze Data</b>									
<b>Spring Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of later date in spring (thru Jul 31) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	5/08	5/03	4/30	4/27	4/25	4/22	4/19	4/16	4/11
<b>32</b>	4/26	4/21	4/18	4/15	4/12	4/09	4/06	4/03	3/29
<b>28</b>	4/11	4/07	4/04	4/02	3/30	3/28	3/26	3/23	3/19
<b>24</b>	4/05	3/30	3/25	3/21	3/17	3/13	3/09	3/05	2/26
<b>20</b>	4/01	3/23	3/17	3/11	3/06	3/01	2/24	2/18	2/09
<b>16</b>	3/19	3/11	3/04	2/27	2/22	2/17	2/12	2/06	1/28
<b>Fall Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of earlier date in fall (beginning Aug 1) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	9/28	10/03	10/07	10/10	10/13	10/16	10/19	10/23	10/28
<b>32</b>	10/08	10/14	10/19	10/22	10/26	10/30	11/03	11/07	11/14
<b>28</b>	10/21	10/26	10/31	11/03	11/07	11/10	11/14	11/18	11/24
<b>24</b>	10/28	11/04	11/09	11/13	11/17	11/21	11/25	11/30	12/07
<b>20</b>	11/08	11/15	11/19	11/23	11/27	11/30	12/04	12/09	12/15
<b>16</b>	11/15	11/22	11/26	12/01	12/05	12/09	12/13	12/18	12/24
<b>Freeze Free Period</b>									
<b>Temp (F)</b>	<b>Probability of longer than indicated freeze free period (Days)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	189	182	178	174	171	167	163	159	153
<b>32</b>	222	213	207	202	196	191	186	179	170
<b>28</b>	243	235	230	225	221	216	211	206	198
<b>24</b>	276	265	257	251	244	238	231	224	213
<b>20</b>	296	285	277	271	265	259	252	244	234
<b>16</b>	318	307	298	291	285	278	271	263	252

\* 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

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<b>Degree Days to Selected Base Temperatures (°F)</b>													
<b>Base</b>	<b>Heating Degree Days (1)</b>												
<b>Below</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>65</b>	1087	819	594	302	89	5	0	0	49	235	620	965	4765
<b>60</b>	925	677	442	187	45	1	0	0	12	108	477	820	3694
<b>57</b>	833	600	356	130	24	0	0	0	5	62	395	729	3134
<b>55</b>	772	549	300	98	14	0	0	0	2	41	341	670	2787
<b>50</b>	627	429	182	39	3	0	0	0	0	10	223	527	2040
<b>32</b>	202	129	10	0	0	0	0	0	0	0	18	140	499

<b>Base</b>	<b>Cooling Degree Days (1)</b>												
<b>Above</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>32</b>	110	210	450	707	1031	1312	1525	1484	1166	826	382	150	9353
<b>55</b>	0	4	32	114	325	622	812	771	482	176	20	1	3359
<b>57</b>	0	2	21	85	270	562	750	709	427	137	13	1	2977
<b>60</b>	0	1	11	52	195	473	657	616	346	89	6	0	2446
<b>65</b>	0	0	2	19	93	330	503	454	221	35	1	0	1658
<b>70</b>	0	0	0	4	34	195	349	310	127	10	0	0	1029

<b>Growing Degree Units (2)</b>																								
<b>Base</b>	<b>Growing Degree Units (Monthly)</b>												<b>Growing Degree Units (Accumulated Monthly)</b>											
	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>40</b>	32	98	249	482	792	1081	1284	1244	931	591	202	42	32	130	379	861	1653	2734	4018	5262	6193	6784	6986	7028
<b>45</b>	6	46	150	344	637	931	1129	1089	782	442	112	12	6	52	202	546	1183	2114	3243	4332	5114	5556	5668	5680
<b>50</b>	0	19	82	217	482	781	974	934	634	301	55	5	0	19	101	318	800	1581	2555	3489	4123	4424	4479	4484
<b>55</b>	0	4	35	119	333	631	819	779	490	182	21	0	0	4	39	158	491	1122	1941	2720	3210	3392	3413	3413
<b>60</b>	0	0	8	58	202	481	664	624	351	93	3	0	0	0	8	66	268	749	1413	2037	2388	2481	2484	2484
<b>Base</b>	<b>Growing Degree Units for Corn (Monthly)</b>												<b>Growing Degree Units for Corn (Accumulated Monthly)</b>											
<b>50/86</b>	28	78	164	286	498	723	858	830	610	359	126	34	28	106	270	556	1054	1777	2635	3465	4075	4434	4560	4594

(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 are 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.

- a. Temperature/ Precipitation Tables
  1. 1971-2000 Monthly Normals
  2. Cooperative Summary of the Day
  3. National Weather Service station records
  4. 1971-2000 serially complete daily data
- b. Degree Day Table
  1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
  2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
  1. Snow Climatology
  2. Cooperative Summary of the Day
- d. Freeze Data Table  
1971-2000 serially complete daily data

## 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)