

# Climatology of the United States

## No. 20

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

**Station: WICHITA FALLS SHEPPRD AP, TX**

**1971-2000**

**COOP ID: 419729**

**Climate Division: TX 2**

**NWS Call Sign: SPS**

**Elevation: 1,030 Feet Lat: 33° 59N**

**Lon: 98° 30W**

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	52.1	28.9	40.5	89+	1943	24	47.9	1990	-12	1947	4	29.8	1978	762	0	.0	.0	18.3	3.1	20.5	@
Feb	58.1	33.4	45.7	93	1996	22	55.0	1976	-8	1985	2	32.9	1978	550	2	.0	.1	20.7	1.8	12.8	@
Mar	67.2	41.1	54.2	100	1971	27	60.3	1974	6	1948	11	49.9	1980	354	19	@	.7	28.3	.1	5.5	.0
Apr	75.5	49.3	62.4	102	1972	12	68.3	1981	24	1975	3	57.4	1973	140	66	@	1.9	29.9	.0	.7	.0
May	83.5	59.3	71.4	110+	2000	24	79.0	1996	36+	1979	12	67.1	1976	23	220	.8	7.9	31.0	.0	.0	.0
Jun	91.7	67.8	79.7	117	1980	28	84.8	1980	50	1928	5	75.7	1983	0	448	3.5	19.9	30.0	.0	.0	.0
Jul	97.2	72.4	84.8	114+	1980	3	91.9	1980	54+	1970	23	80.2	1976	0	618	12.0	28.0	31.0	.0	.0	.0
Aug	95.8	71.3	83.5	113+	1964	6	90.3	2000	53	1992	28	78.9	1992	0	574	11.2	26.5	31.0	.0	.0	.0
Sep	87.5	63.7	75.6	111	2000	4	83.4	1998	38+	1989	24	67.3	1974	18	339	2.5	15.1	30.0	.0	.0	.0
Oct	77.1	52.4	64.7	102+	2000	3	68.6	1979	21	1993	31	57.0	1976	106	99	.2	3.3	30.8	.0	.4	.0
Nov	63.7	40.1	51.9	89+	1988	9	59.0	1999	14	1950	24	45.5	1972	395	10	.0	.0	25.9	.1	6.6	.0
Dec	54.5	31.3	42.9	88	1954	4	46.8	1999	-7	1989	23	30.5	1983	676	1	.0	.0	20.8	1.7	17.2	.1
Ann	75.3	50.9	63.1	117	Jun 1980	28	91.9	Jul 1980	-12	Jan 1947	4	29.8	Jan 1978	3024	2396	30.2	103.4	327.7	6.8	63.7	.1

+ 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: 1897-2001

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

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**NWS Call Sign: SPS**

**Elevation: 1,030 Feet Lat: 33°59N**

**Lon: 98°30W**

**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	1.12	1.06	2.25	1919	22	2.74	1973	.00+	1986	4.9	2.3	.8	.2	.00	.08	.27	.44	.63	.84	1.08	1.39	1.81	2.51	3.20	
Feb	1.58	1.18	2.97	1938	15	4.55	1990	.00+	1996	5.1	3.2	1.0	.4	.00	.14	.41	.66	.92	1.21	1.55	1.96	2.52	3.46	4.37	
Mar	2.27	1.90	3.60	1988	1	6.29	1999	.12	1971	6.4	3.8	1.4	.5	.32	.51	.84	1.15	1.48	1.84	2.26	2.78	3.47	4.60	5.68	
Apr	2.62	2.45	3.87	1967	12	6.95	1990	.08	1996	6.5	4.4	1.8	.7	.25	.44	.80	1.16	1.56	2.00	2.53	3.19	4.09	5.60	7.07	
May	3.92	3.55	5.12	1975	22	13.22	1982	.18	1996	8.6	5.5	2.5	1.1	.40	.69	1.22	1.77	2.36	3.02	3.81	4.78	6.12	8.33	10.50	
Jun	3.69	2.93	5.36	1985	5	8.60	1989	.26	1980	7.2	4.4	2.3	1.2	.70	1.03	1.57	2.07	2.58	3.13	3.75	4.50	5.50	7.10	8.62	
Jul	1.58	1.40	3.10	1914	2	4.51	1973	.00	1999	4.7	2.9	1.1	.5	.05	.17	.38	.61	.86	1.15	1.50	1.94	2.54	3.56	4.56	
Aug	2.39	2.09	4.52	1971	15	7.61	1971	.00	2000	6.3	4.0	1.4	.6	.08	.26	.59	.93	1.31	1.75	2.27	2.92	3.83	5.35	6.84	
Sep	3.19	2.11	6.19	1980	27	10.23	1980	.00	1983	6.4	4.0	2.0	1.0	.05	.22	.60	1.04	1.55	2.15	2.89	3.85	5.21	7.54	9.87	
Oct	3.11	2.22	4.00	1900	28	7.86	1972	.11	1987	7.0	4.3	2.4	1.0	.30	.53	.95	1.38	1.85	2.38	3.01	3.79	4.86	6.64	8.38	
Nov	1.68	1.44	3.15	1902	2	5.16	2000	.00	1999	5.5	3.2	1.1	.5	.06	.19	.43	.67	.94	1.24	1.61	2.06	2.69	3.74	4.77	
Dec	1.68	.99	3.12	1926	6	6.93	1991	.00	1996	5.1	2.8	1.2	.5	.03	.13	.33	.57	.83	1.15	1.54	2.04	2.74	3.94	5.14	
Ann	28.83	29.15	6.19	Sep 1980	27	13.22	May 1982	.00+	Aug 2000	73.7	44.8	19.0	8.2	20.58	22.18	24.23	25.78	27.16	28.49	29.87	31.39	33.23	35.90	38.21	

+ 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: 1897-2001

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COOP ID: 419729

Climate Division: TX 2

NWS Call Sign: SPS

Elevation: 1,030 Feet

Lat: 33°59N

Lon: 98°30W

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	2.3	.4	#	0	8.1	1985	31	8.7	1985	5+	1992	19	1+	1988	1.1	.7	.3	.1	.0	1.9	.5	.2	.0
Feb	1.2	.0	#	0	4.2	1978	17	11.8	1978	8	1985	1	1+	1985	.8	.5	.1	.0	.0	1.2	.5	.2	.0
Mar	.6	.0	#	0	9.7	1989	5	10.9	1989	10	1989	6	1	1989	.2	.1	.1	@	.0	.2	.1	@	@
Apr	.0	.0	0	0	.8	1973	8	.8	1973	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	#	1992	.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	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1997	.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	1.0	1993	30	1.0	1993	1	1993	30	#	1993	.0	.0	.0	.0	.0	@	.0	.0	.0
Nov	.4	.0	#	0	3.0	1976	13	3.7	1976	4	1976	14	#	1980	.3	.1	@	.0	.0	.2	@	.0	.0
Dec	1.0	.0	#	0	5.6	1983	15	7.1	1983	2	1978	31	#	1990	.8	.3	.1	@	.0	.3	.0	.0	.0
Ann	5.5	.4	N/A	N/A	9.7	Mar 1989	5	11.8	Feb 1978	10	Mar 1989	6	1+	Mar 1989	3.2	1.7	.6	.1	.0	3.8	1.1	.4	.0

+ 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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**Elevation: 1,030 Feet**

**Lat: 33° 59N**

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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	4/19	4/15	4/12	4/10	4/07	4/05	4/02	3/30	3/26
32	4/12	4/07	4/03	3/31	3/28	3/25	3/22	3/19	3/14
28	4/02	3/26	3/20	3/15	3/11	3/07	3/02	2/24	2/17
24	3/22	3/13	3/07	3/02	2/25	2/20	2/15	2/09	2/01
20	3/09	2/28	2/21	2/16	2/11	2/05	1/30	1/23	1/13
16	3/01	2/19	2/11	2/04	1/29	1/22	1/13	12/27	0/00
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	10/18	10/23	10/27	10/30	11/01	11/04	11/07	11/10	11/15
32	10/23	10/29	11/02	11/06	11/09	11/13	11/16	11/21	11/27
28	11/04	11/10	11/14	11/18	11/22	11/25	11/29	12/03	12/10
24	11/12	11/20	11/25	11/30	12/04	12/08	12/12	12/18	12/25
20	11/19	11/27	12/03	12/09	12/14	12/19	12/24	12/31	1/10
16	11/29	12/11	12/20	12/28	1/05	1/14	1/26	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	226	219	215	211	207	204	200	195	189
32	247	239	234	229	225	221	217	211	204
28	282	272	266	260	255	250	244	237	228
24	310	300	293	287	281	275	269	262	252
20	>365	324	315	308	302	296	290	284	274
16	>365	>365	>365	>365	348	333	320	308	292

\* 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	762	550	354	140	23	0	0	0	18	106	395	676	3024
60	609	419	203	54	7	0	0	0	2	32	267	534	2127
57	523	347	138	26	2	0	0	0	0	14	199	448	1697
55	466	303	103	14	1	0	0	0	0	7	160	392	1446
50	333	209	42	2	0	0	0	0	0	1	84	264	935
32	44	23	0	0	0	0	0	0	0	0	1	22	90

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	310	411	693	916	1225	1437	1643	1604	1314	1019	600	369	11541
55	9	33	110	253	513	747	930	891	626	326	79	15	4532
57	5	23	83	206	452	687	868	829	567	273	58	9	4060
60	2	11	51	143	363	597	775	736	481	200	33	4	3396
65	0	2	19	66	220	448	618	574	339	99	10	1	2396
70	0	0	5	23	114	299	465	427	218	39	1	0	1591

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	150	247	466	683	987	1207	1401	1365	1082	781	383	184	150	397	863	1546	2533	3740	5141	6506	7588	8369	8752	8936
45	78	154	327	534	832	1057	1246	1210	932	628	258	95	78	232	559	1093	1925	2982	4228	5438	6370	6998	7256	7351
50	31	83	209	390	677	907	1091	1055	782	475	155	45	31	114	323	713	1390	2297	3388	4443	5225	5700	5855	5900
55	9	43	115	260	523	757	936	900	633	335	84	17	9	52	167	427	950	1707	2643	3543	4176	4511	4595	4612
60	1	14	55	152	373	607	781	745	488	207	37	2	1	15	70	222	595	1202	1983	2728	3216	3423	3460	3462
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	114	176	295	434	647	805	913	894	711	497	241	133	114	290	585	1019	1666	2471	3384	4278	4989	5486	5727	5860

(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)