U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: SHERMAN, TX **COOP ID: 418274**

Climate Division: TX 3 **NWS Call Sign:** **Elevation: 760 Feet** **Lat: 33˚42N** **Lon: 96˚38W**

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	50.8	32.2	41.5	86	1943	23	49.0	1990	-2	1949	31	32.1	1979	728	0	.0	.0	17.8	2.6	18.0	.0
Feb	56.5	36.9	46.7	91	1996	22	55.7	1976	0+	1933	9	35.1	1978	520	6	.0	.1	20.1	1.6	10.4	.0
Mar	64.9	44.7	54.8	95	1929	23	61.2	1974	7+	1943	4	49.5	1996	324	9	.0	@	28.5	.2	4.1	.0
Apr	72.8	52.2	62.5	97	1974	1	67.1	1981	28+	1975	3	56.9	1983	127	51	.0	.5	29.9	.0	.4	.0
May	79.9	60.7	70.3	107	1927	28	75.6	1998	37	1903	1	66.2	1976	25	190	@	2.8	31.0	.0	.0	.0
Jun	87.7	68.7	78.2	110	1980	28	83.4	1980	49	1983	1	74.4	1983	0	395	.7	15.2	30.0	.0	.0	.0
Jul	92.7	72.9	82.8	109+	1986	31	89.0	1998	46	1931	8	78.7	1976	0	552	5.2	25.5	31.0	.0	.0	.0
Aug	92.3	72.0	82.2	113	1936	10	87.1	1980	52	1967	13	77.6	1992	0	533	4.0	24.8	31.0	.0	.0	.0
Sep	85.1	65.1	75.1	107+	1998	4	81.5	1998	36	1942	27	66.2	1974	12	314	.9	12.4	30.0	.0	.0	.0
Oct	75.2	54.3	64.8	100	1951	4	67.6	1979	22	1917	30	57.4	1976	84	76	.0	1.5	30.8	.0	.3	.0
Nov	62.4	43.3	52.9	89	1977	1	60.6	1999	13	1976	29	46.2	1976	377	11	.0	.0	26.4	.1	5.1	.0
Dec	53.3	34.6	44.0	88	1955	25	49.9	1984	-2	1989	23	31.9	1983	653	0	.0	.0	20.4	1.4	14.2	@
Ann	72.8	53.1	63.0	113	Aug 1936	10	89.0	Jul 1998	-2+	Dec 1989	23	31.9	Dec 1983	2850	2137	10.8	82.8	326.9	5.9	52.5	@

\+ 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/normals/usnormals.html

(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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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.11	1.72	3.87	1982	31	7.43	1998	.05	1986
Feb	2.63	2.64	3.20	1938	18	6.98	1997	.06	1996
Mar	3.44	3.13	6.60	1977	27	9.40	1977	.33	1972
Apr	3.49	3.05	5.27	1967	21	8.36	1990	.12	1987
May	5.41	5.37	8.00	1982	13	15.08	1982	.58	1988
Jun	4.37	4.06	6.53	1945	12	9.71	1985	.79	1971
Jul	2.34	1.88	5.10	1903	3	8.80	1994	.00	1999
Aug	2.25	1.85	8.40	1920	28	5.97	1996	.00+	2000
Sep	4.01	3.27	5.13	1936	27	12.91	1980	.41	1997
Oct	5.15	4.33	7.28	1981	16	22.83	1981	.18	1975
Nov	3.81	2.94	7.93	1994	14	13.66	1996	.58+	1999
Dec	3.03	2.50	5.33	1927	13	10.26	1991	.20	1981
Ann	42.04	42.25	8.40	Aug 1920	28	22.83	Oct 1981	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.0	4.0	1.4	.4
Feb	7.3	4.6	1.9	.7
Mar	8.4	5.5	2.3	1.0
Apr	8.3	5.4	2.3	1.1
May	10.2	7.0	3.4	1.7
Jun	8.0	5.6	2.8	1.5
Jul	5.4	3.5	1.8	.7
Aug	6.0	3.4	1.5	.7
Sep	6.7	4.7	2.4	1.5
Oct	7.8	5.8	2.9	1.5
Nov	7.5	4.8	2.4	1.0
Dec	7.9	4.6	1.9	.8
Ann	91.5	58.9	27.0	12.6

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.23	.40	.69	.98	1.30	1.65	2.06	2.58	3.28	4.43	5.56
Feb	.37	.59	.97	1.33	1.71	2.13	2.62	3.21	4.02	5.33	6.59
Mar	.73	1.04	1.55	2.01	2.47	2.96	3.51	4.17	5.05	6.45	7.77
Apr	.67	.98	1.49	1.96	2.44	2.96	3.55	4.25	5.19	6.70	8.14
May	1.21	1.72	2.51	3.22	3.94	4.70	5.55	6.57	7.91	10.04	12.06
Jun	1.14	1.55	2.19	2.75	3.30	3.87	4.52	5.28	6.27	7.84	9.31
Jul	.02	.11	.35	.65	1.01	1.46	2.03	2.77	3.85	5.72	7.62
Aug	.00	.53	1.00	1.35	1.68	2.02	2.39	2.80	3.36	4.24	5.06
Sep	.60	.94	1.52	2.07	2.65	3.28	4.01	4.89	6.09	8.03	9.90
Oct	.35	.66	1.31	2.02	2.81	3.73	4.84	6.25	8.21	11.53	14.83
Nov	.51	.82	1.36	1.89	2.45	3.06	3.77	4.65	5.83	7.77	9.65
Dec	.28	.50	.91	1.33	1.79	2.31	2.92	3.69	4.75	6.52	8.25
Ann	29.40	31.83	34.95	37.33	39.44	41.49	43.61	45.95	48.80	52.94	56.52

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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.5	.0	#	0
Feb	1.9	.0	#	0
Mar	.1	.0	#	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.3	.0	#	0
Dec	.3	.0	#	0
Ann	3.1	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	3.0	1992	18	3.0	1992	3	1992	18	#+	1996
Feb	6.0	1979	7	16.1	1978	2	1975	6	#+	1988
Mar	1.3	1989	4	1.3+	1989	1	1998	8	#	1998
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	4.0	1996	25	5.0	1996	4	1996	25	#+	1997
Dec	5.3	1983	16	5.3	1983	1+	1996	17	#+	1996
Ann	6.0	Feb 1979	7	16.1	Feb 1978	4	Nov 1996	25	#+	Mar 1998

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.5	.2	.1	.0	.0
Feb	.7	.6	.2	.2	.0
Mar	.1	.1	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.1	.1	.1	.0	.0
Dec	.3	.1	.1	.1	.0
Ann	1.7	1.1	.5	.3	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.1	.1	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	@	@	.0	.0
Dec	.1	.0	.0	.0
Ann	.2	.1	.0	.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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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	4/14	4/09	4/06	4/04	4/01	3/30	3/27	3/24	3/20
32	4/09	4/03	3/29	3/25	3/22	3/18	3/15	3/10	3/04
28	3/27	3/18	3/11	3/06	3/01	2/24	2/18	2/12	2/03
24	3/10	3/02	2/24	2/19	2/15	2/10	2/05	1/31	1/23
20	3/14	3/01	2/20	2/12	2/05	1/29	1/21	1/11	12/27
16	2/21	2/11	2/04	1/28	1/22	1/14	1/05	0/00	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	10/16	10/22	10/27	10/30	11/03	11/06	11/10	11/14	11/21
32	10/25	11/01	11/06	11/10	11/14	11/17	11/21	11/26	12/03
28	11/03	11/11	11/16	11/21	11/26	11/30	12/05	12/10	12/18
24	11/13	11/22	11/28	12/04	12/09	12/15	12/20	12/27	1/05
20	11/18	11/30	12/08	12/15	12/22	12/29	1/05	1/14	1/28
16	12/09	12/17	12/22	12/28	1/02	1/07	1/15	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	236	229	224	219	215	210	206	200	193
32	260	251	246	241	236	231	226	220	212
28	304	292	283	276	269	262	254	246	233
24	333	319	310	302	295	289	282	273	262
20	>365	>365	331	318	308	300	293	284	272
16	>365	>365	>365	>365	356	340	329	318	305

***** 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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Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	728	520	324	127	25	0	0	0	12	84	377	653	2850
60	578	391	195	51	5	0	0	0	2	28	250	505	2005
57	492	319	135	24	1	0	0	0	0	11	188	420	1590
55	436	275	102	13	0	0	0	0	0	6	152	365	1349
50	306	183	43	2	0	0	0	0	0	1	81	244	860
32	36	15	0	0	0	0	0	0	0	0	1	19	71

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	331	426	708	914	1188	1385	1575	1556	1292	1015	626	389	11405
55	18	42	97	237	475	695	862	843	602	307	86	22	4286
57	13	30	68	188	414	635	800	781	542	251	62	15	3799
60	5	18	35	125	325	545	707	688	454	175	35	7	3119
65	0	6	9	51	190	395	552	533	314	76	11	0	2137
70	0	0	0	13	89	251	397	380	194	24	1	0	1349

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	162	260	469	685	962	1169	1354	1330	1067	779	404	197	162	422	891	1576	2538	3707	5061	6391	7458	8237	8641	8838
45	84	166	331	535	807	1019	1199	1175	917	625	274	110	84	250	581	1116	1923	2942	4141	5316	6233	6858	7132	7242
50	37	91	210	394	652	869	1044	1020	767	478	168	50	37	128	338	732	1384	2253	3297	4317	5084	5562	5730	5780
55	12	44	115	261	497	719	889	865	617	333	93	22	12	56	171	432	929	1648	2537	3402	4019	4352	4445	4467
60	0	15	51	143	347	569	734	710	475	200	42	2	0	15	66	209	556	1125	1859	2569	3044	3244	3286	3288
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	103	164	283	428	642	810	916	895	724	498	237	124	103	267	550	978	1620	2430	3346	4241	4965	5463	5700	5824

(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

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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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