

# Climatography of the United States

No. 20

1971-2000

Station: ZAPATA 3 SW, TX

COOP ID: 419976

Climate Division: TX 9

NWS Call Sign:

Elevation: 320 Feet Lat: 26° 53N Lon: 99° 18W

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	67.0	45.4	56.2	98	1997	5	63.9	1998	13	1911	4	49.1	1985	312	39	.0	.4	28.8	.0	2.4	.0
Feb	72.4	49.2	60.8	101	1986	18	68.6	1999	22	1910	18	53.1	1978	173	55	.1	1.7	27.3	@	1.0	.0
Mar	81.2	56.4	68.8	106	1984	27	75.3	2000	22	1965	20	62.5	1987	44	161	.5	8.1	30.9	.0	.1	.0
Apr	87.6	64.2	75.9	111	1909	29	79.7	1986	38+	1987	3	69.8	1987	3	330	2.2	15.9	30.0	.0	.0	.0
May	92.8	71.0	81.9	114	1995	14	86.3	1998	50	1996	1	77.3	1972	0	523	5.9	25.1	31.0	.0	.0	.0
Jun	96.4	74.8	85.6	116	1998	16	91.8	1998	50	1979	12	81.7	1981	0	619	11.1	28.4	30.0	.0	.0	.0
Jul	98.0	76.0	87.0	113	1910	4	91.5	1998	64+	1980	20	82.1	1976	0	683	17.5	29.9	31.0	.0	.0	.0
Aug	98.0	75.9	87.0	114	1909	21	90.0	1997	64	1980	1	82.0	1973	0	681	17.2	30.0	31.0	.0	.0	.0
Sep	92.9	72.3	82.6	111	2000	6	86.4	1986	45	1909	29	78.2	1974	0	528	5.2	24.6	30.0	.0	.0	.0
Oct	85.4	64.7	75.1	104	1963	17	78.1	1991	30	1993	31	67.6	1976	4	315	.1	12.0	30.9	.0	@	.0
Nov	76.3	55.3	65.8	98	1988	5	70.8	1994	31+	1993	1	58.3	1980	102	126	.0	2.6	29.7	.0	.3	.0
Dec	67.9	47.4	57.7	95+	1977	5	65.2	1984	15	1983	24	48.4	1989	265	37	.0	.2	29.3	.1	1.7	.0
Ann	84.7	62.7	73.7	116	Jun 1998	16	91.8	Jun 1998	13	Jan 1911	4	48.4	Dec 1989	903	4097	59.8	178.9	359.9	.1	5.5	.0

+ 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: 1909-2001

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

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## No. 20 1971-2000

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

**Station: ZAPATA 3 SW, TX**

**COOP ID: 419976**

**Climate Division: TX 9**

**NWS Call Sign:**

**Elevation: 320 Feet Lat: 26°53N**

**Lon: 99°18W**

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	.70	.50	1.27	1910	14	3.59	1992	.00+	1999	5.1	2.3	.2	@	.00	.00	.11	.23	.36	.51	.67	.88	1.17	1.64	2.10
Feb	1.04	.69	2.80	1990	21	4.72	1973	.00+	1977	5.1	2.3	.6	.2	.00	.04	.18	.33	.50	.71	.95	1.27	1.71	2.47	3.22
Mar	.79	.54	2.13	1985	14	2.86	1999	.00+	1989	3.6	1.5	.5	.1	.00	.00	.00	.07	.20	.37	.59	.90	1.36	2.18	3.03
Apr	1.39	.72	6.10	1966	14	4.22	1997	.00+	1999	3.7	2.1	.8	.4	.00	.00	.11	.32	.56	.85	1.21	1.68	2.35	3.49	4.64
May	2.27	1.62	4.65	1969	16	6.20	1991	.00	1998	4.5	3.4	1.5	.6	.05	.20	.49	.81	1.18	1.60	2.11	2.76	3.67	5.22	6.75
Jun	2.67	2.46	3.33	1973	21	7.56	1973	.00	1980	4.7	3.3	1.7	.8	.10	.31	.69	1.07	1.50	1.98	2.56	3.28	4.27	5.94	7.57
Jul	1.55	.85	5.00	1981	8	7.42	1981	.00+	1993	4.0	2.8	.9	.4	.00	.04	.22	.43	.68	.99	1.37	1.86	2.57	3.79	5.03
Aug	1.80	1.33	3.10	1909	27	5.83	1973	.00	1993	4.6	3.0	1.0	.5	.13	.32	.60	.87	1.14	1.45	1.79	2.22	2.80	3.74	4.65
Sep	3.65	3.19	5.99	1951	14	11.48	1971	.28	2000	5.8	4.4	2.2	1.3	.42	.70	1.21	1.72	2.26	2.87	3.58	4.46	5.66	7.63	9.56
Oct	1.85	1.47	3.85	1977	3	6.49	1971	.00+	1989	4.3	2.8	1.3	.6	.00	.11	.38	.66	.97	1.33	1.75	2.28	3.02	4.27	5.50
Nov	.94	.51	2.84	2001	17	3.92	1995	.00+	1981	4.0	1.8	.6	.2	.00	.00	.07	.20	.36	.56	.80	1.13	1.60	2.39	3.21
Dec	.88	.64	1.62	1978	27	2.98	1986	.04	1990	5.7	2.3	.4	.2	.06	.11	.22	.34	.47	.63	.82	1.06	1.40	1.97	2.54
Ann	19.53	18.43	6.10	Apr 1966	14	11.48	Sep 1971	.00+	Apr 1999	55.1	32.0	11.7	5.3	9.85	11.49	13.71	15.48	17.12	18.74	20.47	22.44	24.89	28.57	31.87

+ 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: 1909-2001

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

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

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**Station: ZAPATA 3 SW, TX**

**COOP ID: 419976**

**Climate Division: TX 9**

**NWS Call Sign:**

**Elevation: 320 Feet**

**Lat: 26°53N**

**Lon: 99°18W**

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	#	.0	0	0	#	1987	21	#	1987	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1988	5	#	1988	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	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	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1989	23	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#+	Dec 1989	23	#+	Dec 1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.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	3/13	3/02	2/22	2/15	2/08	2/02	1/26	1/18	1/07
32	2/24	2/14	2/06	1/31	1/24	1/18	1/10	12/31	0/00
28	1/31	1/18	1/08	12/28	12/13	0/00	0/00	0/00	0/00
24	1/10	12/21	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	12/21	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	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	11/12	11/21	11/28	12/04	12/09	12/14	12/20	12/27	1/05
32	11/25	12/05	12/12	12/19	12/25	1/01	1/08	1/19	0/00
28	12/06	12/16	12/24	1/02	1/14	0/00	0/00	0/00	0/00
24	12/25	1/08	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	1/14	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	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	349	331	320	310	301	293	283	273	258
32	>365	>365	>365	357	337	325	315	305	292
28	>365	>365	>365	>365	>365	>365	>365	343	316
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

\* 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	312	173	44	3	0	0	0	0	0	4	102	265	903
60	206	97	12	0	0	0	0	0	0	0	46	163	524
57	155	61	5	0	0	0	0	0	0	0	26	115	362
55	125	43	2	0	0	0	0	0	0	0	17	87	274
50	61	16	0	0	0	0	0	0	0	0	5	36	118
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	751	806	1140	1317	1546	1609	1706	1704	1518	1334	1015	795	15241
55	162	205	429	627	833	919	993	991	828	621	341	169	7118
57	131	167	370	567	771	859	931	929	768	559	290	135	6477
60	89	118	284	477	678	769	838	836	678	466	221	90	5544
65	39	55	161	330	523	619	683	681	528	315	126	37	4097
70	16	19	72	197	371	469	528	526	378	176	59	13	2824

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	560	662	948	1089	1321	1388	1475	1469	1299	1114	811	598	560	1222	2170	3259	4580	5968	7443	8912	10211	11325	12136	12734
45	413	522	793	939	1166	1238	1320	1314	1149	959	662	451	413	935	1728	2667	3833	5071	6391	7705	8854	9813	10475	10926
50	283	384	639	789	1011	1088	1165	1159	999	806	518	307	283	667	1306	2095	3106	4194	5359	6518	7517	8323	8841	9148
55	173	263	488	639	856	938	1010	1004	849	654	384	191	173	436	924	1563	2419	3357	4367	5371	6220	6874	7258	7449
60	88	157	347	490	701	788	855	849	699	499	251	100	88	245	592	1082	1783	2571	3426	4275	4974	5473	5724	5824
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	342	416	618	717	880	912	961	959	866	758	528	366	342	758	1376	2093	2973	3885	4846	5805	6671	7429	7957	8323

(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)