

# Climatology of the United States

No. 20

1971-2000

Station: FLORESVILLE, TX

COOP ID: 413201

Climate Division: TX 7

NWS Call Sign:

Elevation: 400 Feet Lat: 29°08N Lon: 98°10W

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	62.7	38.4	50.6	91	1975	27	57.7	2000	5	1985	21	42.4	1979	461	8	.0	@	26.7	.2	10.5	.0
Feb	67.3	42.2	54.8	99	1986	19	62.8	2000	10+	1985	3	44.7	1978	303	17	.0	.3	26.0	.1	5.7	.0
Mar	74.9	50.3	62.6	101	1971	29	68.2	1974	19	1980	2	56.8	1987	136	61	@	1.1	30.5	.0	1.6	.0
Apr	80.7	57.0	68.9	100+	1996	20	74.2	1972	30+	1980	14	64.3	1997	31	146	.1	4.1	30.0	.0	.2	.0
May	86.5	65.9	76.2	109+	1984	8	82.5	1996	37	1984	9	71.5	1976	4	352	.4	12.5	31.0	.0	.0	.0
Jun	92.2	71.4	81.8	109+	1998	16	88.1	1998	46	1984	1	79.1	1974	0	503	2.3	24.0	30.0	.0	.0	.0
Jul	95.7	73.5	84.6	106+	1980	17	88.8	1998	62+	1985	1	80.4	1976	0	607	7.8	29.0	31.0	.0	.0	.0
Aug	95.9	72.8	84.4	110	1986	20	86.6	1985	56	1967	13	81.2	1973	0	600	9.0	29.3	31.0	.0	.0	.0
Sep	91.2	67.9	79.6	111	2000	6	83.7	1977	43+	1983	22	73.7	1974	0	436	1.7	21.9	30.0	.0	.0	.0
Oct	83.3	58.4	70.9	99+	1991	16	73.5	1991	26	1993	31	62.0	1976	19	200	.0	8.3	31.0	.0	.1	.0
Nov	72.9	48.9	60.9	95	1988	4	68.1	1973	20	1993	27	53.6	1976	183	60	.0	.2	29.3	.0	3.0	.0
Dec	65.5	40.4	53.0	89+	1990	22	61.2	1984	7+	1989	23	44.2	1989	385	13	.0	.0	28.3	.1	8.9	.0
Ann	80.7	57.3	69.0	111	Sep 2000	6	88.8	Jul 1998	5	Jan 1985	21	42.4	Jan 1979	1522	3003	21.3	130.7	354.8	.4	30.0	.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: 1916-2001

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

# 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: FLORESVILLE, TX**

**COOP ID: 413201**

**Climate Division: TX 7**

**NWS Call Sign:**

**Elevation: 400 Feet Lat: 29°08N**

**Lon: 98°10W**

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	1.58	1.33	3.72	1941	28	4.99	1992	.00+	1996	4.9	3.7	1.1	.2	.00	.00	.29	.55	.83	1.14	1.51	1.97	2.59	3.65	4.68
Feb	1.60	1.26	3.45	1982	20	5.65	1982	.00+	1996	4.2	3.5	1.0	.4	.00	.00	.35	.62	.90	1.21	1.57	2.01	2.60	3.59	4.55
Mar	1.65	1.34	3.40	1999	28	5.37	1999	.00+	1989	4.6	3.4	1.0	.4	.00	.26	.59	.86	1.12	1.39	1.71	2.07	2.56	3.35	4.11
Apr	2.53	1.95	4.35	1949	25	9.42	1977	.00+	1989	4.2	3.2	1.6	.8	.00	.00	.32	.76	1.22	1.75	2.37	3.16	4.26	6.05	7.85
May	3.69	2.87	7.55	1993	24	13.16	1975	.00+	1996	5.1	4.5	2.5	1.1	.00	.00	.80	1.43	2.07	2.78	3.62	4.65	6.01	8.31	10.55
Jun	3.24	2.90	8.35	1935	13	12.35	1973	.00+	1990	5.1	4.4	2.2	1.0	.00	.21	.71	1.21	1.75	2.36	3.10	4.00	5.27	7.38	9.47
Jul	1.60	.77	7.38	1942	5	8.67	1990	.00+	2000	3.2	2.6	.9	.5	.00	.00	.00	.16	.47	.85	1.31	1.93	2.80	4.31	5.82
Aug	2.54	1.80	5.07	1998	23	11.95	1998	.00+	1987	4.1	3.4	1.6	.9	.00	.00	.32	.69	1.12	1.64	2.27	3.10	4.24	6.23	8.22
Sep	2.61	1.79	9.25	1967	22	13.30	1973	.00+	1999	4.7	3.6	1.7	.8	.00	.37	.87	1.29	1.71	2.15	2.66	3.26	4.07	5.39	6.65
Oct	2.75	2.20	4.00	1923	14	7.67	1986	.00+	1988	5.0	3.8	2.1	.8	.00	.00	.57	1.03	1.51	2.05	2.68	3.46	4.50	6.26	7.97
Nov	2.24	1.65	8.82	1992	19	9.29	1992	.00+	1988	4.8	3.5	1.6	.6	.00	.15	.50	.85	1.22	1.64	2.15	2.77	3.64	5.09	6.52
Dec	1.57	1.04	3.76	1937	14	7.74	1986	.00+	1995	4.6	3.2	1.1	.4	.00	.00	.20	.47	.75	1.08	1.47	1.96	2.64	3.75	4.87
Ann	27.60	27.86	9.25	Sep 1967	22	13.30	Sep 1973	.00+	Jul 2000	54.5	42.8	18.4	7.9	13.41	15.77	19.00	21.60	24.00	26.39	28.95	31.86	35.50	40.99	45.91

+ 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: 1916-2001

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

Complete documentation available from:  
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Station: FLORESVILLE, TX

COOP ID: 413201

Climate Division: TX 7

NWS Call Sign:

Elevation: 400 Feet

Lat: 29°08N

Lon: 98°10W

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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	#	0	1.0	1973	9	1.0	1973	1	1973	9	#	1973	@	@	.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	#	1993	31	#	1993	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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	1.0	Feb 1973	9	1.0	Feb 1973	1	Feb 1973	9	#	Feb 1973	@	@	.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	4/16	4/07	4/01	3/26	3/21	3/16	3/11	3/05	2/24
32	4/05	3/26	3/19	3/14	3/08	3/02	2/24	2/17	2/08
28	3/16	3/04	2/24	2/17	2/11	2/04	1/28	1/20	1/09
24	2/25	2/14	2/07	1/31	1/25	1/18	1/10	12/31	0/00
20	2/17	2/06	1/28	1/20	1/13	1/04	12/24	0/00	0/00
16	1/11	12/30	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	10/21	10/27	11/01	11/05	11/09	11/13	11/17	11/22	11/28
32	10/31	11/07	11/12	11/17	11/21	11/25	11/29	12/04	12/11
28	11/16	11/23	11/28	12/03	12/07	12/11	12/15	12/21	12/28
24	11/28	12/07	12/14	12/20	12/25	12/31	1/08	1/18	0/00
20	12/07	12/17	12/25	1/01	1/08	1/16	1/28	0/00	0/00
16	12/27	1/07	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	261	251	244	238	232	226	220	213	203
32	290	279	271	264	257	251	244	236	224
28	334	320	311	304	297	290	283	275	264
24	>365	>365	358	340	331	323	315	307	296
20	>365	>365	>365	>365	361	348	339	330	319
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	461	303	136	31	4	0	0	0	0	19	183	385	1522
60	326	194	61	6	0	0	0	0	0	4	101	255	947
57	256	143	32	1	0	0	0	0	0	1	64	190	687
55	216	113	20	0	0	0	0	0	0	0	45	154	548
50	132	54	5	0	0	0	0	0	0	0	16	79	286
32	5	0	0	0	0	0	0	0	0	0	0	0	5

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	580	638	948	1104	1371	1493	1630	1623	1426	1203	867	650	13533
55	78	107	255	414	658	803	917	910	736	491	222	91	5682
57	57	80	205	356	596	743	855	848	676	430	181	66	5093
60	34	48	140	270	503	653	762	755	586	339	128	37	4255
65	8	17	61	146	352	503	607	600	436	200	60	13	3003
70	2	5	17	61	215	354	452	445	290	90	21	2	1954

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	370	462	726	887	1146	1271	1400	1395	1206	976	644	426	370	832	1558	2445	3591	4862	6262	7657	8863	9839	10483	10909
45	242	332	572	737	991	1121	1245	1240	1056	821	495	291	242	574	1146	1883	2874	3995	5240	6480	7536	8357	8852	9143
50	143	215	425	587	836	971	1090	1085	906	666	359	177	143	358	783	1370	2206	3177	4267	5352	6258	6924	7283	7460
55	72	130	287	441	681	821	935	930	756	513	242	96	72	202	489	930	1611	2432	3367	4297	5053	5566	5808	5904
60	32	64	171	302	526	671	780	775	606	365	144	46	32	96	267	569	1095	1766	2546	3321	3927	4292	4436	4482
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	251	312	478	591	786	860	927	919	804	650	426	290	251	563	1041	1632	2418	3278	4205	5124	5928	6578	7004	7294

(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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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.

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| <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> |
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## 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)