

# Climatology of the United States

## No. 20

### 1971-2000

**Station: BROWNSVILLE AP, TX**

**COOP ID: 411136**

**Climate Division: TX10**

**NWS Call Sign: BRO**

**Elevation: 19 Feet**

**Lat: 25° 54N**

**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	68.7	50.5	59.6	93	1971	31	66.1	2000	19	1962	12	53.1	1973	206	54	.0	.1	28.8	.0	1.0	.0
Feb	72.2	53.3	62.7	94+	1986	19	70.4	2000	22+	1951	1	54.6	1978	125	76	.0	.3	27.3	.0	.4	.0
Mar	78.0	59.5	68.8	106	1984	27	74.4	2000	28	1901	5	63.5	1987	45	179	.1	1.6	30.9	.0	.1	.0
Apr	82.3	65.2	73.8	102	1984	27	77.5	1999	37	1903	15	68.9	1987	7	287	.1	3.1	30.0	.0	.0	.0
May	86.9	71.6	79.3	102+	1999	5	82.7	1996	50+	1917	7	74.6	1976	0	457	.1	11.9	31.0	.0	.0	.0
Jun	90.5	74.9	82.7	103	1918	19	87.3	1998	56	1919	3	79.5	1972	0	545	.1	24.2	30.0	.0	.0	.0
Jul	92.4	75.4	83.9	102	1918	30	87.1	1998	58	1901	9	80.2	1976	0	601	.2	27.7	31.0	.0	.0	.0
Aug	92.6	75.3	84.0	104+	1932	13	86.5	1998	60	1931	15	80.6	1973	0	603	.2	28.0	31.0	.0	.0	.0
Sep	89.4	72.6	81.0	105	2000	5	83.9	1980	51	1909	29	76.7	1979	0	494	.1	20.0	30.0	.0	.0	.0
Oct	84.0	65.9	75.0	99	1900	7	78.2	1984	35	1993	31	69.1	1976	6	332	.0	6.2	31.0	.0	.0	.0
Nov	76.8	58.6	67.7	98	1906	1	73.9	1994	27	1911	30	59.6	1976	69	166	.0	.5	29.7	.0	@	.0
Dec	70.2	52.0	61.1	94	1977	5	68.9	1984	15+	1901	28	50.9	1989	186	80	.0	.1	29.9	@	.8	.0
Ann	82.0	64.6	73.3	106	Mar 1984	27	87.3	Jun 1998	15+	Dec 1901	28	50.9	Dec 1989	644	3874	.9	123.7	360.6	@	2.3	.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: 1898-2001

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

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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	1.36	1.09	2.28	1988	16	4.79	1984	.04	1982	7.7	3.1	.7	.3	.11	.20	.38	.57	.77	1.01	1.30	1.65	2.15	2.98	3.80	
Feb	1.18	.76	4.27	1958	19	4.74	1973	.01	1974	5.4	2.3	.6	.3	.04	.08	.20	.35	.53	.75	1.03	1.40	1.93	2.85	3.80	
Mar	.93	.34	2.73	1903	12	5.94	1997	.00+	1996	4.2	1.7	.5	.2	.00	.00	.03	.11	.24	.41	.66	1.01	1.55	2.55	3.60	
Apr	1.96	.79	9.17	1991	5	10.35	1991	.00+	1988	4.0	2.2	1.0	.5	.00	.00	.07	.24	.50	.88	1.40	2.14	3.28	5.37	7.57	
May	2.48	1.95	3.40	1969	12	9.12	1982	.00+	1998	5.0	2.8	1.6	.9	.00	.17	.56	.94	1.36	1.83	2.38	3.07	4.02	5.62	7.18	
Jun	2.93	2.30	7.52	1950	2	8.52	1972	.01	1996	6.6	4.0	1.8	.8	.12	.26	.58	.96	1.41	1.96	2.63	3.50	4.74	6.89	9.05	
Jul	1.77	1.05	3.71	1985	4	9.43	1976	.00+	1998	5.0	2.8	1.0	.5	.00	.00	.13	.38	.69	1.06	1.52	2.14	3.02	4.52	6.04	
Aug	2.99	2.59	5.76	1906	9	9.56	1975	.02	1974	7.2	4.5	1.8	.7	.21	.39	.77	1.18	1.64	2.17	2.81	3.63	4.76	6.67	8.56	
Sep	5.31	4.66	12.09	1967	20	20.18	1984	.66	2000	9.3	6.1	3.0	1.7	1.09	1.58	2.36	3.07	3.78	4.55	5.42	6.46	7.83	10.03	12.12	
Oct	3.78	3.09	9.09	1996	4	13.03	1997	.51	1975	7.3	4.6	1.9	1.0	.60	.92	1.47	1.99	2.53	3.12	3.79	4.62	5.72	7.50	9.22	
Nov	1.75	.98	4.08	1986	11	7.69	1986	.02	1984	5.9	3.0	.9	.5	.07	.16	.35	.58	.85	1.17	1.57	2.09	2.83	4.10	5.39	
Dec	1.11	.92	2.54	1982	9	2.70	1982	.05	1990	7.2	2.6	.5	.1	.12	.20	.36	.51	.68	.86	1.08	1.35	1.72	2.34	2.93	
Ann	27.55	27.90	12.09	Sep 1967	20	20.18	Sep 1984	.00+	Jul 1998	74.8	39.7	15.3	7.5	18.22	19.98	22.25	24.00	25.56	27.08	28.66	30.42	32.56	35.70	38.43	

+ 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: 1898-2001

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

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Lat: **25° 54N**

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	#	.0	0	0	#	1985	2	#	1985	#	1985	13	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1973	9	#	1973	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	#	1985	.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	#	1976	28	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1997	12	#	1997	#+	1983	25	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#+	Dec 1997	12	#+	Dec 1997	#+	Jan 1985	13	#	May 1985	.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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<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>	3/08	2/22	2/11	2/02	1/23	1/13	12/31	12/08	0/00
<b>32</b>	2/13	1/30	1/18	1/07	12/25	12/03	0/00	0/00	0/00
<b>28</b>	1/17	12/29	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>24</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>20</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<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>	11/26	12/06	12/12	12/18	12/24	12/30	1/07	1/22	0/00
<b>32</b>	12/11	12/24	1/03	1/13	1/24	2/13	0/00	0/00	0/00
<b>28</b>	12/31	1/12	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>24</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>20</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<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>	>365	>365	>365	360	337	324	313	302	287
<b>32</b>	>365	>365	>365	>365	>365	>365	>365	342	313
<b>28</b>	>365	>365	>365	>365	>365	>365	>365	>365	>365
<b>24</b>	>365	>365	>365	>365	>365	>365	>365	>365	>365
<b>20</b>	>365	>365	>365	>365	>365	>365	>365	>365	>365
<b>16</b>	>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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<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>	206	125	45	7	0	0	0	0	0	6	69	186	644
<b>60</b>	141	63	7	0	0	0	0	0	0	0	29	103	343
<b>57</b>	97	35	2	0	0	0	0	0	0	0	15	64	213
<b>55</b>	71	23	1	0	0	0	0	0	0	0	9	44	148
<b>50</b>	29	7	0	0	0	0	0	0	0	0	2	15	53
<b>32</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

<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>	883	884	1164	1275	1488	1542	1631	1630	1488	1354	1096	930	15365
<b>55</b>	231	268	455	585	775	852	918	917	798	643	416	262	7120
<b>57</b>	188	222	396	525	713	792	856	855	738	581	362	217	6445
<b>60</b>	132	161	311	437	620	702	763	762	648	489	284	157	5466
<b>65</b>	54	76	179	287	457	545	601	603	494	332	166	80	3874
<b>70</b>	19	26	84	164	312	402	453	452	349	199	81	30	2571

<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>	645	698	923	1046	1250	1316	1394	1391	1255	1117	864	693	645	1343	2266	3312	4562	5878	7272	8663	9918	11035	11899	12592
<b>45</b>	498	555	769	896	1095	1166	1239	1236	1105	962	714	541	498	1053	1822	2718	3813	4979	6218	7454	8559	9521	10235	10776
<b>50</b>	360	415	616	746	940	1016	1084	1081	955	807	568	399	360	775	1391	2137	3077	4093	5177	6258	7213	8020	8588	8987
<b>55</b>	239	287	463	596	785	866	929	926	805	653	427	267	239	526	989	1585	2370	3236	4165	5091	5896	6549	6976	7243
<b>60</b>	137	172	319	447	630	716	774	771	655	498	292	164	137	309	628	1075	1705	2421	3195	3966	4621	5119	5411	5575
<b>Base</b>	<b>Growing Degree Units for Corn (Monthly)</b>												<b>Growing Degree Units for Corn (Accumulated Monthly)</b>											
<b>50/86</b>	398	441	621	732	898	927	962	960	879	783	575	433	398	839	1460	2192	3090	4017	4979	5939	6818	7601	8176	8609

(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 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)