

office of the
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Office of the Texas State Climatologist
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August of 1999 was extremely dry for most of Texas, with only two of the nineteen stations recording above normal precipitation. Due to rainfall associated with Hurricane Bret, Corpus Christi and Del Rio received 225% and 165% of their normal rainfall, respectively. In contrast, Dallas-Fort Worth, Waco, and Port Arthur received no rainfall for the month, and Midland and San Angelo recorded less than a hundredth of an inch.

To compound the drought conditions, mean monthly temperatures were above normal for nearly all stations. Corpus Christi, the lone exception, recorded temperatures equal to their 30-year normal for August. The greatest departures from normal were Wichita Falls (+4.9°F) and Dallas-Fort Worth (+5.3°F), with Wichita Falls recording the state's high temperature twelve days during the month.

A cold front associated with low pressure in Central Oklahoma extended into the Panhandle, bringing 0.73" of rainfall to Dalhart on the 1st. As this boundary became stationary over the northern half of the state, several counties experienced severe weather. On the 3rd, high winds in Navarro and Ellis counties brought down power lines and uprooted trees. Hail up to one inch in diameter was spotted at Millican in Brazos County, and parts of Burleson County had some wind damage as well. Hot temperatures dominated the weather reports throughout mid-August, along with the continued lack of rainfall.

Hurricane Bret, a compact Category Four storm that originated in the Bay of Campeche, made landfall near Norias in Kenedy County at 8:00 p.m. on the 22nd. Residents of counties to the north and south and the Corpus Christi metropolitan area breathed a sigh of relief as the storm moved westward and came ashore in the least populated area of the Texas Gulf Coast. Along with sustained winds of 140 mph, Bret brought localized rainfall of at least 25 inches. Corpus Christi recorded 4.56 inches in a 24-hour period, and tornadoes were spotted in Weslaco and Donna in Hidalgo County on the 23rd. Flooding was reported in Asherton in Dimmit County on the 24th.

The last week of August brought severe thunderstorms over North Texas in response to an upper-level disturbance moving out of Oklahoma. Winds up to 60 mph were measured in Archer County on the 27th. On the 28th, a small tornado touched down near Rowena in Runnels County, and a football stadium press box was blown over and several power poles were snapped at Brownwood in Brown County.

AUGUST 1999

Station	TMAX			TMIN			Mean Temp		No. Days	Precipitation			HDD*	CDD*
	Avg.	Dep.	Abs. Max	Avg.	Dep.	Abs. Min	Avg.	Dep.		Total (In.)	Percent Avg.	Gr'st 24 hr. (In.)		
Abilene	99.9	5.4	104	74.2	2.5	67	87.0	3.8	1	0.42	15%	0.42	0	691
Amarillo	90.8	1.7	97	65.2	1.4	60	78.0	1.5	7	2.04	63%	0.77	0	410
Austin	100.5	5.0	106	76.0	2.1	72	88.2	3.4	1	0.70	34%	0.70	0	729
Brownsville	95.4	1.8	100	75.5	0.1	72	85.4	0.9	7	2.61	94%	1.06	0	642
College Station	100.3	5.5	107	73.5	0.3	69	86.9	2.9	5	0.77	32%	0.27	0	683
Corpus Christi	94.6	1.2	101	73.7	-1.3	69	84.2	0.0	4	7.59	229%	5.80	0	601
Dallas-Fort Worth	101.7	5.5	107	78.6	5.0	73	90.2	5.3	0	0.00	0%	0.00	0	785
Del Rio	99.2	3.2	105	76.4	2.8	70	87.8	3.0	1	2.42	165%	2.42	0	713
El Paso	92.5	-1.0	97	69.9	3.3	63	81.2	1.1	7	1.43	91%	0.90	0	511
Galveston	95.3	7.6	102	80.5	1.3	75	87.9	4.4	2	1.95	44%	M	0	601
Houston	98.5	6.0	105	75.1	3.1	70	86.8	4.5	4	0.50	14%	0.25	0	685
Lubbock	95.3	5.7	100	67.5	1.3	64	81.4	3.5	3	0.63	25%	0.53	0	516
Midland	96.9	2.8	102	71.6	4.1	65	84.3	3.5	2	0.05	3%	0.04	0	604
Port Arthur	96.6	4.9	101	75.3	2.0	71	86.0	3.4	0	0.00	0%	0.00	0	658
San Angelo	99.3	4.0	105	71.0	2.6	65	85.1	3.2	2	0.03	2%	0.02	0	635
San Antonio	97.7	2.4	104	74.5	0.0	71	86.1	1.2	4	2.11	83%	1.03	0	664
Victoria	97.0	3.1	104	73.2	-1.0	71	85.1	1.0	3	0.98	33%	0.70	0	630
Waco	101.4	4.2	105	76.2	2.2	68	88.8	3.2	0	0.00	0%	0.00	0	745
Wichita Falls	102.7	6.8	108	74.3	2.9	65	88.5	4.9	2	1.37	55%	1.36	0	735
Shreveport, LA	98.2	5.1	105	73.5	2.2	61	85.9	3.7	2	1.47	60%	1.35	0	655

* ***Bold italics*** indicate a monthly record.

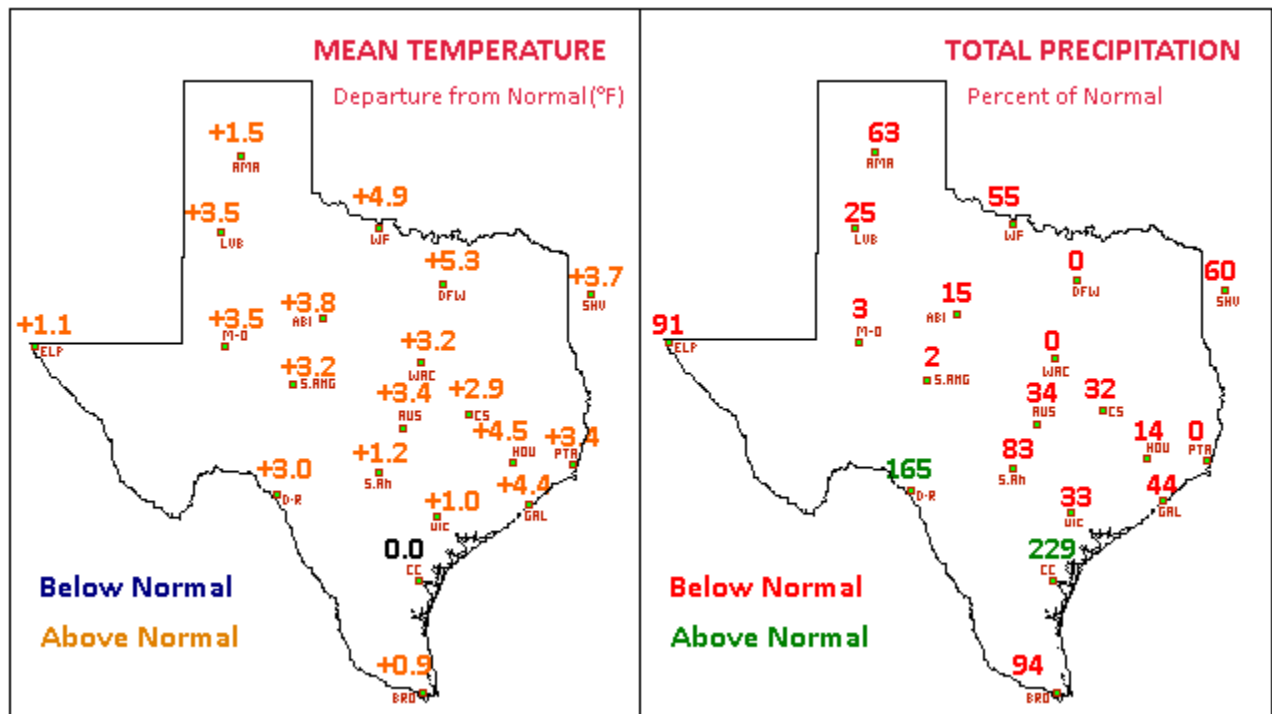
* Complete temperature data were unavailable. Temperatures are rounded to the nearest whole degree.

*HDD - Heating degree-day: Refer to the Monthly Average chart for a definition

T = Trace (<0.005")

*CDD - Cooling degree-day: Refer to the Monthly Average chart for a definition

M: Information not available.



CLIMATIC AVERAGES FOR SEPTEMBER

Station	TMAX		TMIN		Precipitation (In.)			Mean Number of Days in Month				
	Avg.	Record	Avg.	Record	Avg.	Gr'st Mon. Total	Gr'st 24 hr. Total	TMAX > 90°F	TMIN < 32°F	Days PRCP ≥ 0.01"	HDD*	CDD*
Abilene	86.7	106	65.3	38	3.2	11.03	6.70	11.5	0.0	6.1	6	336
Amarillo	81.8	103	56.4	30	2.0	6.42	3.42	6.4	0.2	6.5	26	149
Austin	90.5	104	69.8	41	3.3	20.78	6.74	17.1	0.0	7.1	0	456
Brownsville	90.4	104	73.2	51	6.0	30.57	12.19	18.7	0.0	9.8	0	504
College Station	88.4	106	68.7	42	4.9	12.13	5.23	14.9	0.0	7.6	0	408
Corpus Christi	89.7	103	72.3	52	5.5	20.33	8.76	17.2	0.0	9.1	0	480
Dallas-Fort Worth	87.8	108	66.9	40	3.4	10.80	4.76	14.2	0.0	6.7	0	372
Del Rio	90.4	106	69.1	43	2.8	17.15	5.52	18.9	0.0	6.5	0	444
El Paso	87.1	104	61.6	41	1.7	6.68	2.52	12.3	0.0	5.4	0	282
Galveston	84.5	98	75.4	52	5.9	26.01	11.65	1.8	0.0	9.2	0	450
Houston	88.4	102	67.9	45	4.9	13.37	7.98	15.1	0.0	9.1	0	396
Lubbock	82.9	105	59.4	33	2.6	13.93	4.71	8.6	0.0	6.0	17	200
Midland	85.4	107	61.1	36	2.6	9.70	4.37	10.4	0.0	5.7	10	259
Port Arthur	87.3	102	69.7	45	6.3	21.96	17.16	13.0	0.0	9.8	0	408
San Angelo	86.8	107	64.0	37	3.4	11.00	6.25	12.4	0.0	6.0	6	318
San Antonio	89.3	103	69.2	41	3.4	15.78	7.28	17.6	0.0	7.1	0	429
Victoria	88.9	106	70.3	45	5.6	19.05	8.51	17.6	0.0	9.9	0	438
Waco	89.6	106	67.6	39	3.5	11.17	4.57	17.6	0.0	6.9	0	408
Wichita Falls	86.8	108	63.9	38	3.8	10.23	6.22	14.5	0.0	6.9	6	318
Shreveport, LA	87.3	105	66.0	42	3.1	16.46	5.39	14.3	0.0	6.8	0	351

*CDD - Cooling degree-day: The difference between the mean individual daily temperature and 65°F, with one CDD resulting for each degree above the standard 65°F during one day.

*HDD - Heating degree-day: The difference between the mean individual daily temperature and 65°F, with one HDD resulting for each degree below the standard 65°F during one day.

Climate-related Agricultural Information

<http://agnews.tamu.edu>

Past Weather Events in September

September 16, 1875: Hurricane. Struck Indianola, Calhoun County. Three-fourths of town swept away; 176 lives lost. Flooding from the bay caused nearly all destruction.

September 8-9, 1900: Hurricane. Galveston. The Great Galveston Storm was the worst natural disaster in U.S. history in terms of human life. Loss of life at Galveston has been estimated at 6,000 to 8,000, but the exact number has never been exactly determined. The island was completely inundated; not a single structure escaped damage. Most of the loss of life was due to drowning by storm tides that reached 15 feet or more. The anemometer blew away when the wind reached 100 miles per hour at 6:15 p.m. on the 8th. Wind reached an estimated maximum velocity of 120 mph between 7:30 and 8:30 p.m. Property damage has been estimated at \$30 to \$40 million.

September 8-10, 1921: Rainstorm. Probably the greatest rainstorm in Texas history, it entered Mexico as a hurricane from the Gulf. Torrential rains fell as the storm moved northeasterly across Texas. Record floods occurred in Bexar, Travis, Williamson, Bell and Milam counties, killing 215 persons, with property losses over \$19 million. Five to nine feet of water stood in downtown San Antonio. A total of 23.98 inches was measured at the U.S. Weather Bureau station at Taylor during a period of 35 hours, with a 24-hour maximum of 23.11 inches on September 9-10. The greatest rainfall recorded in United States history during 18 consecutive hours fell at Thrall, Williamson County, 36.40 inches fell on Sept. 9.

September 8-14, 1961: Hurricane Carla. Port O'Connor; maximum wind gust at Port Lavaca estimated at 175 mph. Highest tide was 18.5 feet at Port Lavaca. Most damage was to coastal counties between Corpus Christi and Port Arthur and inland Jackson, Harris and Wharton counties. In Texas, 34 persons died; seven in a tornado that swept across Galveston Island; 465 persons were injured. Property and crop damage conservatively estimated at \$300 million. The evacuation of an estimated 250,000 persons kept loss of life low. Hurricane Carla was the largest hurricane of record.

September 9-13, 1971: Hurricane Fern. Coastal Bend. Ten to 26 inches of rain resulted in some of the worst flooding since Hurricane Beulah in 1967. Two persons killed; losses were \$30,231,000.

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