

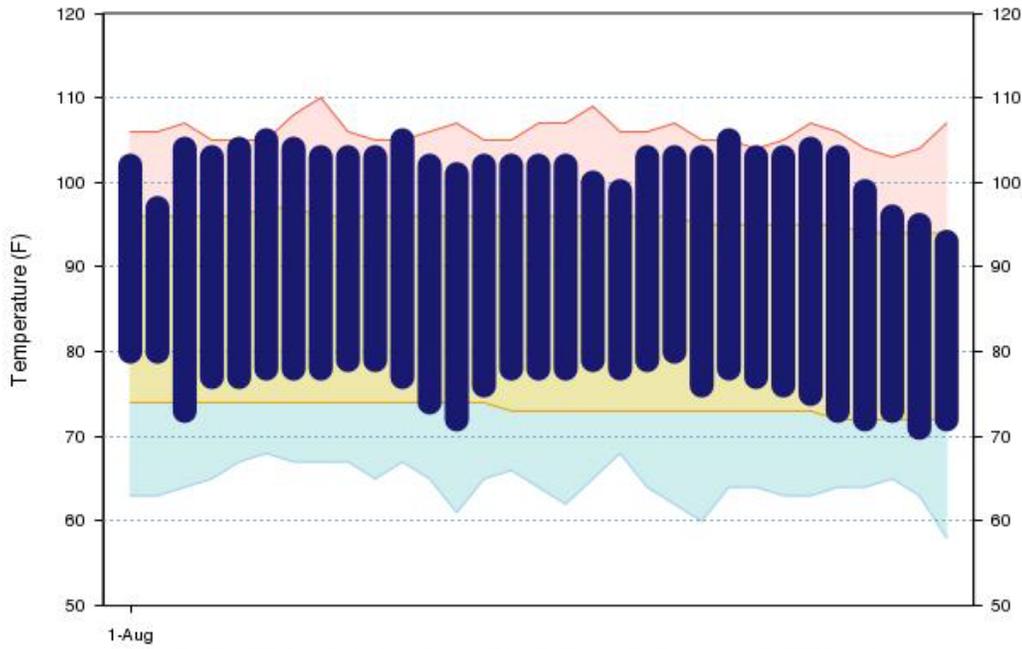
## **First Half of September 2009 Brought Changes**

The average temperature from September 1st to the 15th, 2009 was 7 to 9 degrees cooler than August of 2009. A cool front the weekend of August 29th and 30th set the stage for moderated temperatures that lingered through August 31st. This was followed by a warming trend September 1st to the 3rd. Highs rose to the mid 90s to near 100 on Thursday the 3rd, when Austin Mabry had a high of 101 and Llano had a high of 100. After the hot afternoon highs on the 3rd, conditions moderated as showers and thunderstorms formed across South Central Texas from the east and northeast the evening of September 3rd. Increasing cloudiness, with showers and thunderstorms moderated temperatures and brought scattered rains the 4th to the 6th. Showers diminished the 7th to the 8th, and then increased again September 9th, as an area of low pressure aloft developed over the region again from the west and northwest. As the low moved to the west part of South Central Texas on Thursday the 10th, it moved into an area of light winds aloft and became nearly stationary. The result was several days of unsettled weather, with occasional showers and thunderstorms and locally heavy rains. Rainfall amounts from 1 to 2 inches to between 10 and 20 inches fell from the 9th to the 14th. The most rain fell over the north and eastern Hill Country to adjacent parts of Central Texas. The heaviest rain amount in the early to mid September 2009 rain event was 19.51 inches at Jarrell in Williamson County, where 14.33 inches of rain fell in 24 hours from 730 AM the 11th to 730 AM the 12th. In the week of September 6th to the 12th, daytime highs cooled from the 90s on the 7th and 8th to the 70s and 80s from the 10th to the 12th. Drier and warmer weather returned the 15th, with highs in the 80s from the Hill Country to parts of Central Texas to the 90s across South Central Texas.

The average daily highs from August 2009 to September 1-15, 2009 fell from 101.7 to 89.9 at Austin Mabry; 100.8 to 90.3 at Del Rio; and 100.3 to 89.7 at San Antonio. September 1 to 15th rainfall at San Antonio was 4.86 inches compared to the 1971 to 2000 September Normal of 3.00 inches; 3.99 inches at Austin Mabry compared to the September Normal of 2.91 inches; and 1.37 inches at Del Rio compared to the September Normal of 2.06 inches.

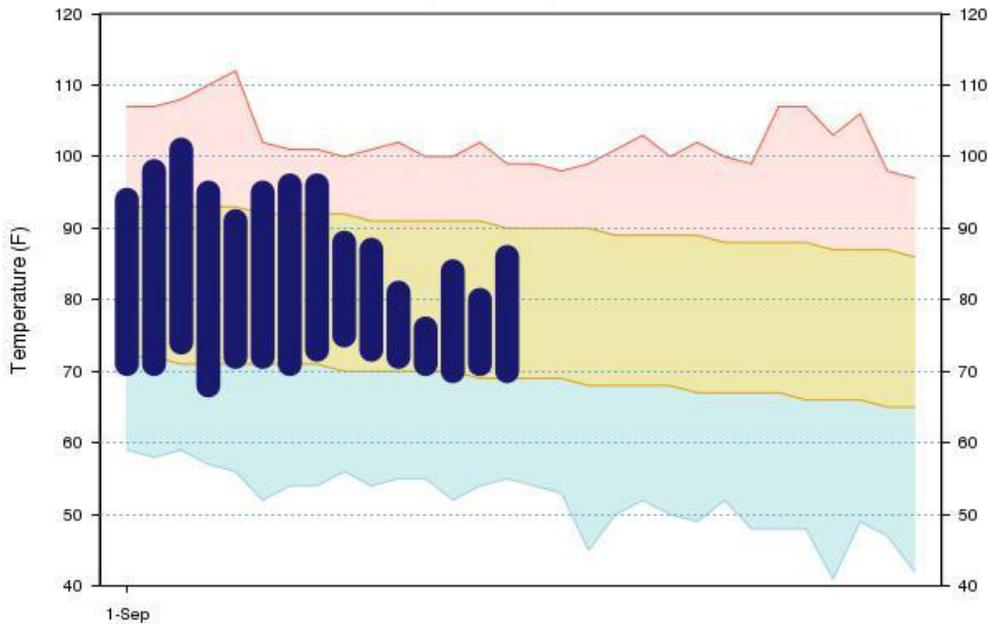
The charts below compare the daily temperatures in August of 2009 with those of September 1 to 15 at Austin Mabry; Del Rio; and San Antonio.

**Temperature Summary for Austin Area  
Aug 1, 2009 - Aug 31, 2009**



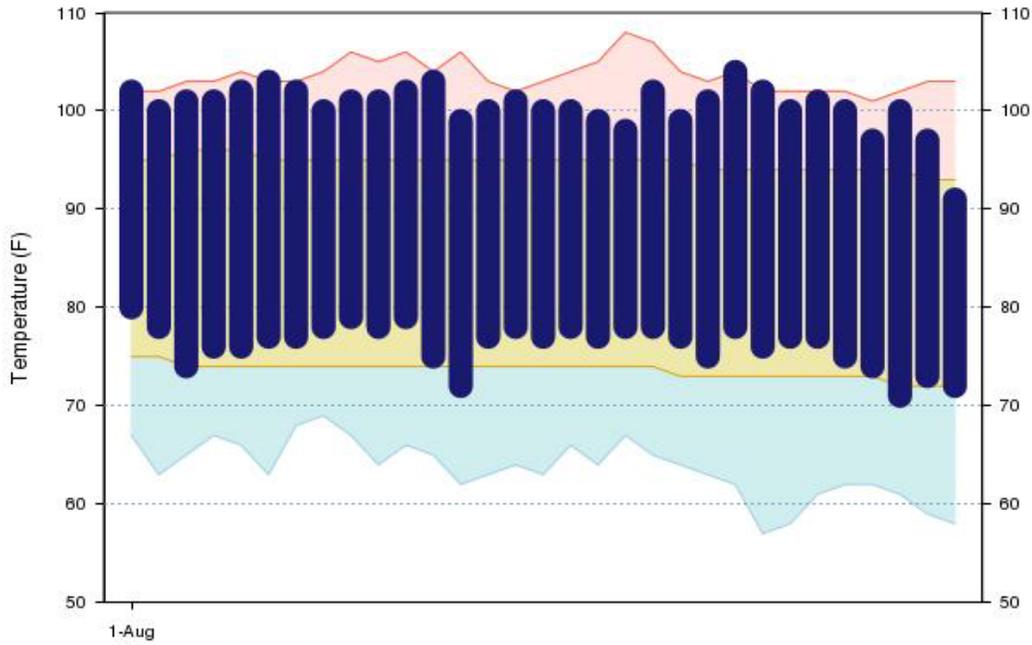
Observed daily maximum and minimum temperatures are connected by dark blue bars.  
 Area between normal maximum and minimum temperatures has tan shading.  
 Red line connects record high temperatures. Light blue line connects record low temperatures.

**Temperature Summary for Austin Area  
Sep 1 to 15, 2009**



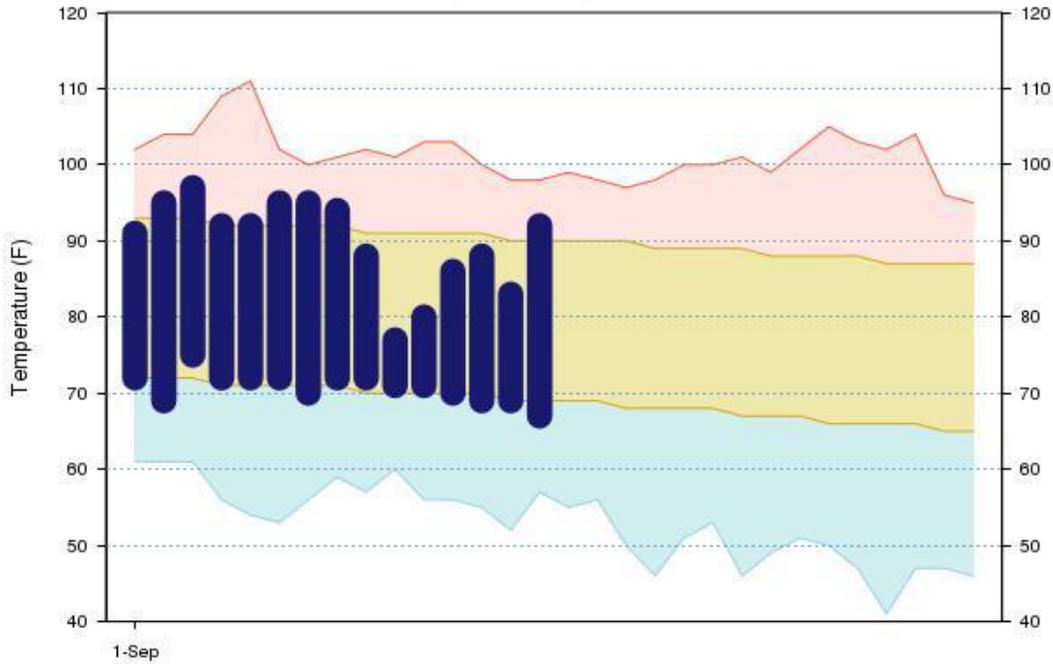
Observed daily maximum and minimum temperatures are connected by dark blue bars.  
 Area between normal maximum and minimum temperatures has tan shading.  
 Red line connects record high temperatures. Light blue line connects record low temperatures.

**Temperature Summary for San Antonio Area  
Aug 1, 2009 - Aug 31, 2009**



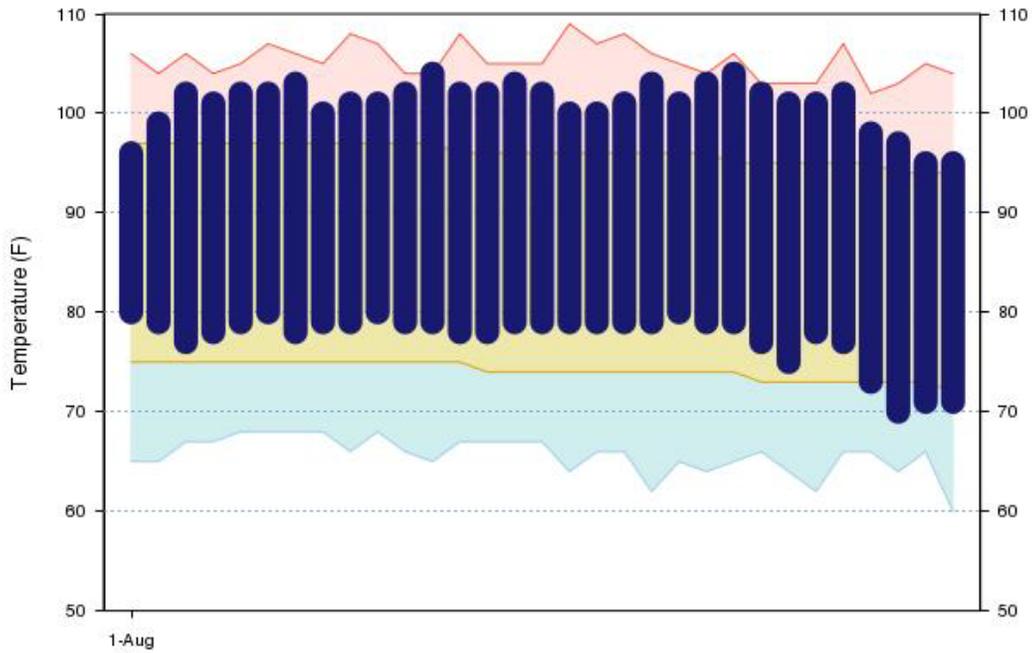
Observed daily maximum and minimum temperatures are connected by dark blue bars.  
 Area between normal maximum and minimum temperatures has tan shading.  
 Red line connects record high temperatures. Light blue line connects record low temperatures.

**Temperature Summary for San Antonio Area  
Sep 1 to 15, 2009**



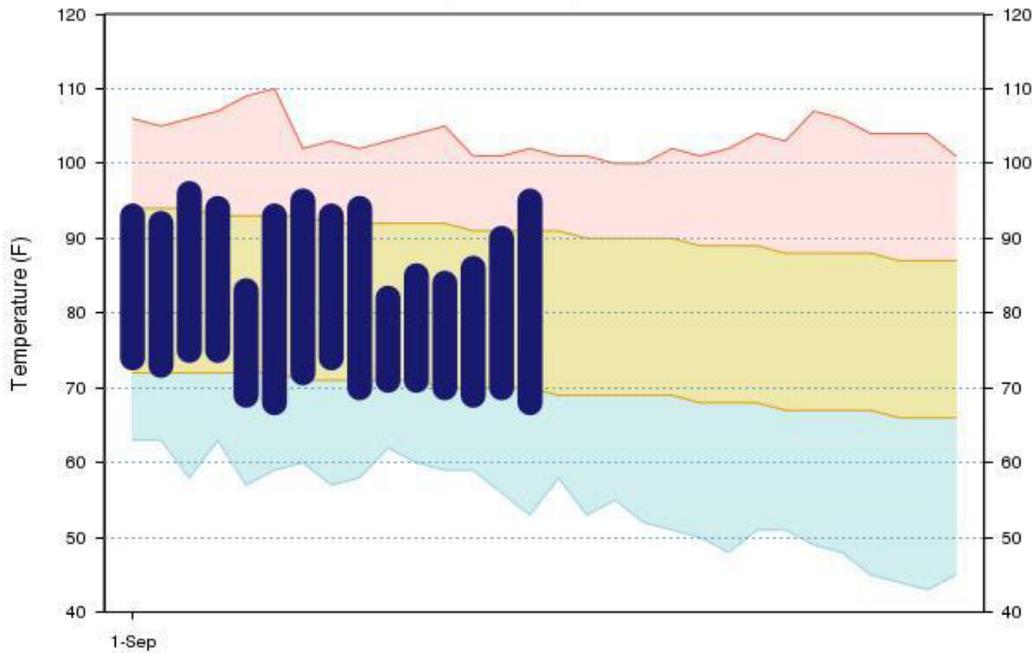
Observed daily maximum and minimum temperatures are connected by dark blue bars.  
 Area between normal maximum and minimum temperatures has tan shading.  
 Red line connects record high temperatures. Light blue line connects record low temperatures.

**Temperature Summary for Del Rio Area  
Aug 1, 2009 - Aug 31, 2009**



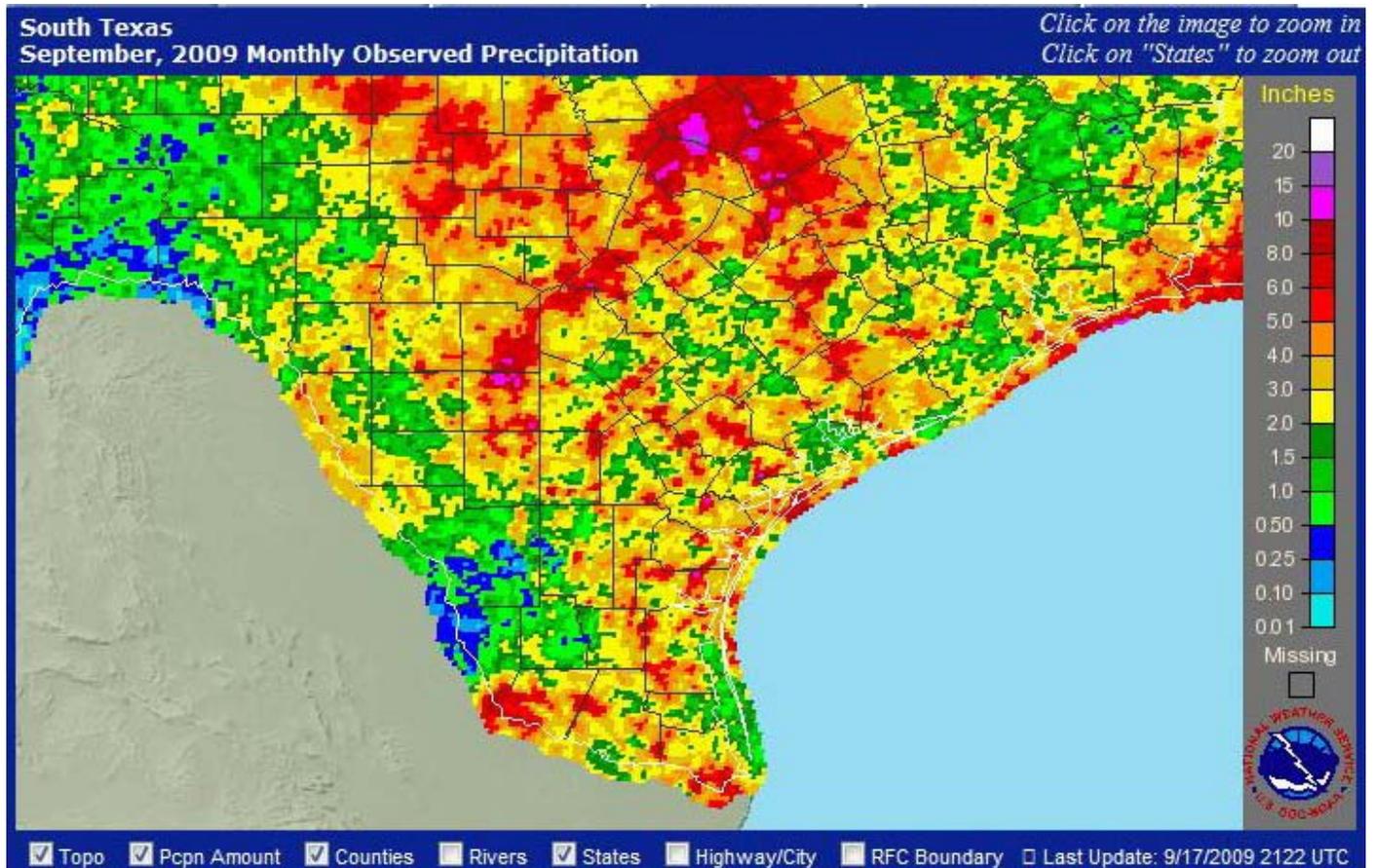
Observed daily maximum and minimum temperatures are connected by dark blue bars.  
Area between normal maximum and minimum temperatures has tan shading.  
Red line connects record high temperatures. Light blue line connects record low temperatures.

**Temperature Summary for Del Rio Area  
Sep 1 to 15, 2009**



Observed daily maximum and minimum temperatures are connected by dark blue bars.  
Area between normal maximum and minimum temperatures has tan shading.  
Red line connects record high temperatures. Light blue line connects record low temperatures.

The graphic below shows the rainfall across South Texas from September 1st to the 17th.



The information that follows describes climate information for South Central Texas in September.

### September Climate Information

Location	Normal Monthly Temp.	Normal High	Normal Low	All time High	All time Low	Normal Rainfall	All Time Driest	All Time Wettest
Austin/Mabry	79.5	90.1	68.8	112	41	2.91	T	20.75
Austin/Bergstrom	77.5	89.7	65.3	112	45	2.63	0.02	9.36
Del Rio	80.0	90.6	69.4	110	43	2.06	T	15.79
San Antonio	79.4	90.0	68.8	111	41	3.00	0.01	15.78

Although rainfall varies greatly in all 12 months, September is a month where in general rainfall events can be more common than in July and August.

Some notable floods have come in September. A very significant flood for parts of Central and South Central Texas since the late 1800's came in September 1921. From September 8 to 10, 1921 a widespread flood event affected parts of Central and South Central Texas, from Williamson County and Austin to San Antonio. The greatest amount of rain fell in Williamson County. A hurricane entered northeast Mexico on September 6th, 1921. The remnants of this hurricane moved north across South Texas the 7th and 8th. As the remnants of the hurricane arrived over South Central and Central Texas, a very heavy Central and South Central Texas rain event followed. This flood caused 215 fatalities. Thrall in eastern Williamson County received 23.4 inches of rain in 6 hours; 31.8 inches in 12 hours; and 38.2 inches of rain in 24 hours. Taylor had 23.11 inches of rain in 24 hours. Storm total rainfall at Thrall was 39.70 inches and at Taylor 23.98 inches. Austin had its wettest day of record September 9, 1921 with 15.00 inches of rain and then 4.03 inches of rain the following day on the 10th. In a 24 hour period Austin received 18.23 inches of rain from September 9th to 10th, 1921. September 1921 is the wettest month of record for Austin with 20.75 inches of rain. San Antonio experienced serious flooding as heavy rains fell on San Antonio and the Olmos Basin. San Antonio received 6.83 inches on September 9, 1921. During the September 8 to 10, 1921 flood, northern parts of Bexar County received 18 inches of rain in 24 hours.

In Austin between 1856 and 1900 several Septembers with rainfall of more than 10 inches show up. These months include the following: September 1873 10.54 inches; September 1874 12.78 inches; and September 1886 12.33 inches. The September of 1874 and September 1886 rains were associated with tropical storms that had been hurricanes. In September of 1965, Austin had 4.00 inches of rain in one day on September 22nd, while Austin Bergstrom had 4.56 inches of rain. In September 1973, another wet September, Austin had 6.75 inches of rain September 26 and 27, 1973. Total rain for September 1973 was 7.44 inches. The following month, in October 1973, the heavy rains continued with Austin picking up 11.11 inches of rain. Austin Bergstrom had its wettest September in September 1986 when 9.36 inches of rain fell.

San Antonio also had wet Septembers in 1874 with 11.71 inches of rain and in September 1886 with 7.51 inches of rain, associated with tropical storms that had been hurricanes. In September of 1919 San Antonio had a wet September with 7.61 inches of rain, when a tropical storm passed south of San Antonio after moving over the Texas coast as a hurricane just south of Corpus Christi on September 14, 1919. Twenty Five years after the Flood of 1921, another flood came to San Antonio in September of 1946, when heavy rains and floods came to San Antonio in the mid and late part of September 1946, leaving 15.78 inches of rain for September 1946. September 1946 was the wettest September of record for San Antonio, and 3rd wettest all time month. In late September 1973, another flood event in San Antonio left 6.54 inches of rain September

26th and 0.87 inches September 27th. This rain event produced a 24 hour September record rainfall of 7.28 inches for San Antonio. The All-Time record 24 hour rainfall for San Antonio came 25 years later on October 17 to 18, 1998 when 13.35 inches of rain fell in 24 hours. On September 13, 1978, 5.13 inches of rain fell in the pre dawn hours to around sunrise in just several hours in San Antonio. This caused flooding during in the early morning, including the early morning rush hour, on roads and highways.

From the middle to late part of September 1964 Del Rio picked up heavy rains and floods, making September 1964 the wettest September of record at Del Rio, with 15.79 inches of rain. This was the wettest month of record for Del Rio, until August 1998, when 20.98 inches of rain fell, most of which was associated with the remnants of Tropical Storm Charley. Other wet Septembers for Del Rio came in 1919 with 9.74 inches; 1932 with 9.95 inches; and 1970 with 9.87 inches. The rains in September of 1919 at Del Rio was associated with a tropical depression that moved south and west of Del Rio, that was originally a hurricane that moved over the Texas coast just south of Corpus Christi on September 14, 1919.

In September 1961 winds and rains came to the area as Hurricane Carla passed east of San Antonio. In September 1967 heavy rains, with flooding, and tropical tornadoes was associated with the remnants of Hurricane Beulah. In September 1988 rains and isolated tornadoes affected the area from the remnants of Hurricane Gilbert. In September 1998 Tropical Storm Frances moved inland and east of Austin and San Antonio, bringing rains to the area.

In some years some of the hottest days of the year have come in early September. Early September 2000 saw some of the hottest days for the area from September 1st to 5th. On September 5th, 2000 Austin and San Antonio had All Time highs of 112 at Austin and 111 at San Antonio. Previous All Time Highs for these locations came in August. Del Rio had 110 on September 6th, 2000, a record high for the month of September at Del Rio. From 1985 to 1999, 100 degree days occurred in the Septembers of 1985, 1993, 1994 and 1997. In late September of 2005 another heat wave affected the region, with the hottest high temperatures of record for late September. The warmest highs in this event were as follows...Austin Mabry 107 on September 25 and 26; Austin Bergstrom 108 on September 25; Del Rio 107 on September 25; and San Antonio 105 on September 25.

On the opposite extreme, some notable cool Septembers have come in the recent past, when cold fronts came early. This was in 1967, 1968, 1974, and 1975. During the 1800s September 1887 was the coolest September of Record for the Austin City Climate location, now Austin Mabry, while September 1974 was the 2nd coolest September. September 1974 was the coolest of record for Austin Bergstrom, Del Rio, and San Antonio. In wake of a strong cold

front in September 1942, the all time lows for September of 41 was observed at Austin and San Antonio on September 27, 1942. At Del Rio the low was 45 September 27, 1942; however, the record low for Del Rio for September was 43 September 29, 1908. The record low for September at Austin Bergstrom was 45 September 23, 1999, September 27, 2000, and September 29, 1967. September 2000 had vast extremes with the early part of the month setting record highs and the end of the month very cool in wake of strong cold fronts.

After a few hot September afternoons in the past, strong winds have come to the area from the north, associated with a line of thunderstorms with or without cold fronts. Some notable wind events in the recent past came in September of 1987 and September of 1997.