Climate and Weather Summary for October 2018

Temperatures in October averaged below normal at Abilene and San Angelo. Precipitation was much above normal and record-setting at both locations. Table 1 summarizes October 2018 temperature, precipitation, and departure from normal for Abilene and San Angelo.

Site	Average Temperature (°F)	Departure from Normal (°F)	Normal Average Temperature (°F)	Total Precipitation (In.)	Departure from Normal (In)	Normal October Precipitation (In.)
Abilene	63.9°	-1.9°	65.8°	12.09"	+9.11"	2.98"
San Angelo	64.9°	-1.3°	66.2°	11.37"	+8.64"	2.73"

Table 1: October Climate Data for Abilene and San Angelo.

Additional temperature and precipitation data for Abilene and San Angelo is summarized in Table 2.

Site	Warmest High Temperature (°F)	Warmest Low Temperature (°F)	Coldest High Temperature (°F)	Coldest Low Temperature (°F)	Maximum Daily Precipitation (In.)
Abilene	89° on	71° on	44° on	38° on	2.71" on
	Oct. 3-5	Oct. 3	Oct. 16	Oct. 15, 16	Oct. 9
San	88° on	69° on	45° on	36° on	3.25" on
Angelo	Oct. 2-5	Oct. 3, 7	Oct. 15, 16	Oct. 15	Oct. 17

Table 2: Additional October Climate Data for Abilene and San Angelo.

- Wettest October on Record at Abilene and San Angelo
- October Rainfall was the 3rd Wettest of any month on record at Abilene, and 2nd wettest of any month on record at San Angelo
- Major Flash Flood in Junction on October 8
- Two Tornadoes on October 13
- Appreciable Increases in Water Levels on Area Reservoirs during October

Maps of total precipitation for October (Figure 1) and normal precipitation for October (Figure 2) are shown below.

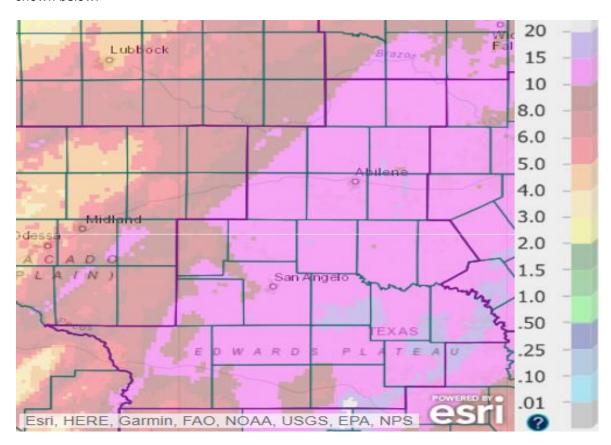


Figure 1: Total Precipitation for October.

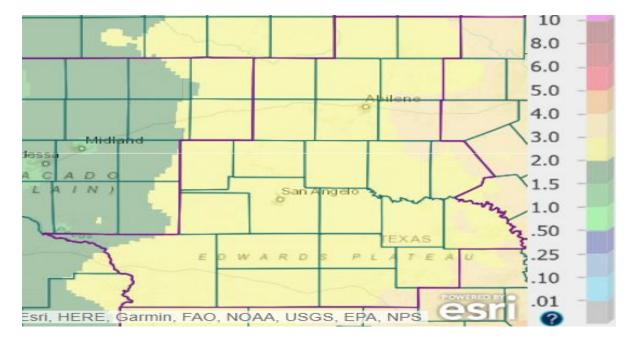


Figure 2: Normal Precipitation for October.

Precipitation for October was much above normal across all of <u>west-central Texas</u>. The monthly rainfall was 10-15 inches across a large part of west-central Texas (areas in purple shading in Figure 1). Localized amounts of 15-20 inches occurred in a few areas (bluish shading), mainly in southeastern parts of the area. The contrast between rainfall for this October verses normal October rainfall is quite evident when comparing Figures 1 and 2. Rainfall for this October was more than 4 times the normal October Rainfall, at San Angelo (416 percent of normal) and Abilene (406 percent of normal).

Abilene recorded its wettest October on record, with 12.09 inches of rainfall. This was also the 3rd wettest of any month on record at Abilene.

San Angelo also recorded its wettest October on record, with 11.37 inches of rainfall. In addition, this was the 2nd wettest of any month on record at San Angelo.

A new record daily maximum rainfall record was set at Abilene on Oct. 9 (2.71 inches). At San Angelo, new record daily maximum rainfall records were set on Oct. 17 (3.25 inches) and Oct. 19 (0.58 inches).

Weather Highlights:

October was exceedingly wet across west-central Texas. The pattern was very active, and a number of significant weather events occurred during the month.

Warm and dry conditions occurred Oct. 1-5, with above normal temperatures. This was brought about by an upper level high pressure system, which was over much of the southern U.S.

An active and wet weather pattern followed Oct. 5-15. With moist air in place, episodes of heavy rainfall occurred across various parts of the region during this time frame.

On the Columbus Day holiday weekend, a strong and slow-moving upper level storm system was over Arizona and New Mexico. A weak cold front moved south into the Big Country on Oct. 5 before stalling. A few upper level disturbances moved into Texas, out ahead of the main storm system to the west. On the evening and nighttime hours of Oct. 5, numerous showers and thunderstorms occurred across the Big Country, and south into the Concho Valley. Rainfall was 1.5 to 2.5 inches across the Big Country, along and north of Interstate 20.

During the overnight hours of Oct. 7-8, repeat shower and thunderstorm activity affected the southeastern part of west-central Texas, with very heavy rainfall. Rainfall amounts of 6-12 inches occurred along the South Llano River basin, in central and southern Kimble County (Figure 3).

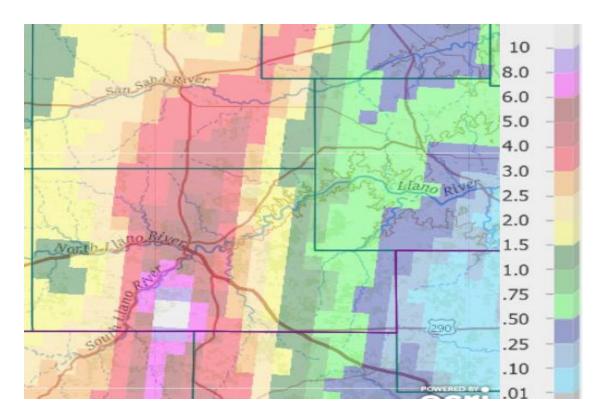


Figure 3: Rainfall for the 24-hour Period ending at 7 AM, Oct. 8.

Excessive water runoff in hilly terrain caused major flash flooding along parts of the South Llano River, in Junction and south of Junction. This necessitated water rescues at an RV park in Junction, adjacent to the South Llano River. Unfortunately, there were 4 fatalities as a result of the flash flood. Several Farm to Market roads were closed in the Northwest Hill Country, due to flooding. In addition, Highway 377 was closed south of Junction.

A large area of showers and thunderstorms moved east across west-central Texas during the overnight hours of Oct. 8-9. This occurred as the main upper level storm moved out of the southwestern states and across the southern Plains. With considerable water runoff, minor flooding occurred along several area rivers.

The remnants of former tropical system Sergio (from the eastern Pacific Ocean) tracked east into the area and brought showers and thunderstorms with heavy rainfall to northern and central parts of west-central Texas on Oct. 13 (mostly between 3 AM and Noon). Some of the thunderstorms were strong to severe, and a couple of tornadoes caused damage. In southern Tom Green County, a tornado caused damage 6-9 miles west-southwest of Christoval. This tornado (rated EF-2 on the Enhanced Fujita Scale) uprooted or snapped numerous trees and caused significant damage to a home. In Brady (Mcculloch County), a tornado (rated EF-0) caused tree and roof damage.

A few severe thunderstorms also occurred on the late afternoon of Oct. 14, with the approach of a strong cold front into a warm and unstable airmass. Lemon to baseball size hail occurred in the vicinity

of Hatchell (Runnels County), and wind damage was reported. In Coleman County, quarter size hail and 50-60 mph wind gusts were reported near Novice.

This cold front was unusually strong for October, and temperatures were sharply colder following its passage (on the afternoon and early nighttime hours of Oct. 14). After warm and humid conditions with highs in the upper 70s to mid 80s on the 14th, temperatures were around 40 degrees colder on the 15th, with cloudy skies, wet conditions and brisk north winds. Temperatures were unseasonably cold October 15-17, when highs were only in the 40s at Abilene and San Angelo. For these 3 days, new record low maximum temperatures were set at both locations. This 3-day period tied for the greatest number of days during the month of October with highs less than 50 degrees, at both Abilene and San Angelo. In addition, a new record low temperature of 36 degrees was set at Abilene on Oct. 15.

Periods of moderate to heavy rain occurred Oct. 14-17, when several upper level disturbances moved over Texas ahead of an upper level storm system over the southwestern states. With saturated soil conditions, substantial water runoff occurred. Flooding occurred along portions of numerous secondary roads across west-central Texas, and some roads were closed. The worst of the flooding occurred in Kimble and Mason Counties, between 11 PM Oct. 14 and 8 AM Oct. 15. In the vicinity of Segovia (Kimble County), a portion of Interstate 10 was closed, due to flooding from Johnson Fork Creek. Multiple swift water rescues were reported. In addition, U.S. Route 377 was closed from Junction south to the Edwards County border. In Mason County, (state) Highway 87 was closed 10 miles southeast of Mason, due to flooding from Beaver Creek. Highway 71 was also closed in northeastern Mason County.

Temperatures gradually moderated in the following days, reaching the upper 60s to lower 70s for highs Oct. 20-21. Some additional rainfall occurred Oct. 18-19.

Late in the month, cool and rainy conditions occurred on Oct. 24, when a fairly strong upper level disturbance moved east into the area. Highs on the 24th were generally in the mid to upper 50s.

Repeated heavy rain events during the month on saturated soil led to substantial water runoff, and resulted in appreciable increases in area reservoir levels.

Temperatures were much warmer Oct. 26-30, with drier conditions and mostly clear skies. During this time, an upper level high pressure system gradually moved east into Texas from the southwestern states.

Wet and much cooler conditions occurred at the end of the month on Oct. 31. Showers and scattered thunderstorms occurred across most of the area, with a cold frontal passage and arrival of a fairly strong upper level disturbance. The cold frontal passage was followed by much cooler temperatures and gusty north winds. Temperatures fell into the upper 40s to lower 50s by late afternoon and evening.

Additional Tabular and Graphical Daily Climate Data