WATERSHED WEEK IN REVIEW

Additional Rainfall Forecast for Area!

There is a good potential for additional rainfall across the Watershed this weekend through Tuesday. The remains of tropical storm Sergio in northern Mexico combined with a cold front are predicted to bring between 3-4 inches of rainfall to the Watershed. These rains, falling on saturated soils, will quickly runoff. Please keep an eye out for potential flash flooding.

Oktoberfisch postponed for 2018

Due to the significant flood damage at the Above and Beyond River Resort (right), this year's Oktobrerfisch has been postponed.

South Llano River State Park Closed

The State Park will be closed until November 2, due to flooding.

February 1, 2018

October 8, 2018

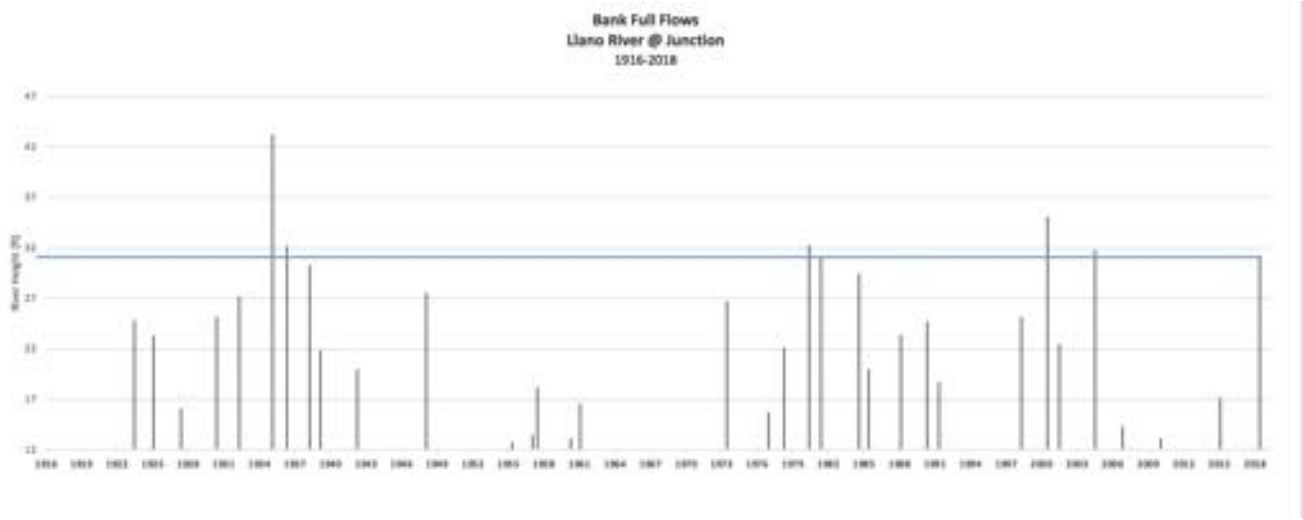
South Llano Rises 30 Feet

Heavy rains up the South Llano River and Cedar Creek early Columbus Day morning brought tragedy to a riverside RV park in Junction. Doppler radar estimates more than 10 inches fell on these watersheds, quickly inundating campers. Numerous campers were rescued, but the bodies of two campers have been

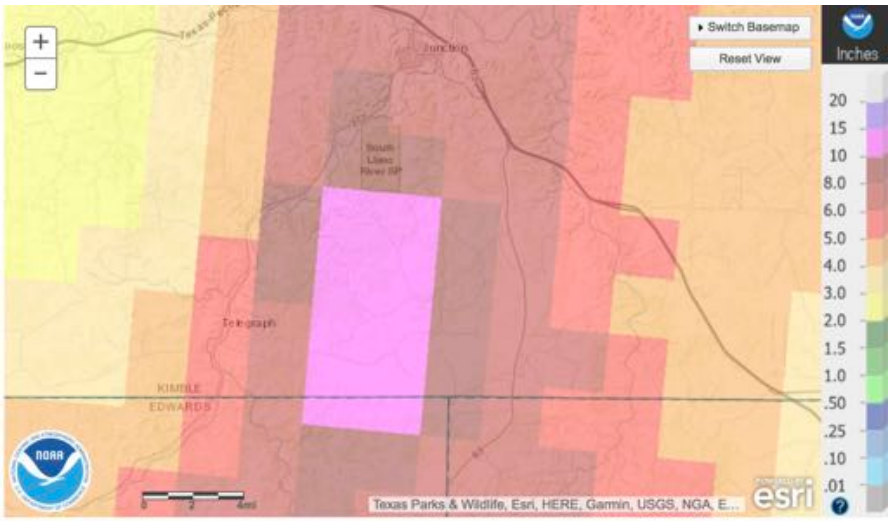
South Llano Rise...continued

found and two campers are still missing. Miraculously, one woman was rescued from the River 20 miles downstream near Yates Crossing.

The Columbus Day Flood was the 6th largest flood since the Llano River gage was installed downstream of Junction in 1916. The crest, at 31.2 feet (118,000 cfs), still falls short of the 1935 flood which crested at 43.3 feet and 319,000 cfs. USGS has calculated the 100-year flood for the Llano at Junction at 258,000 cfs and a 25-year flood at 149,000 cfs. Monday's flood was about a 15-year event, meaning it has a statistical recurrence interval of 15 years. While this doesn't mean that such a flood will occur every 15 years, ironically, the last time the Llano at Junction got this high was in 2004 when is reached 31.78 feet.



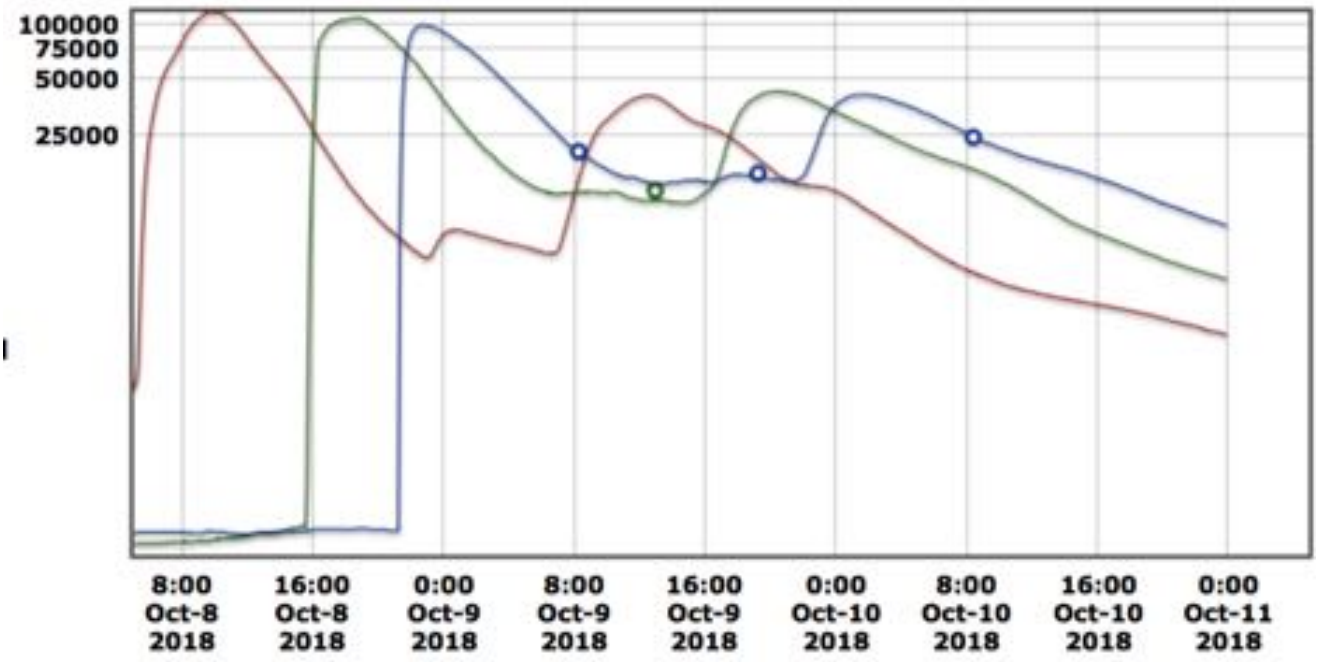
The graphic above shows the number of times the Llano near Junction has reached 12 feet, which is considered bank full. As the graphic shows, between 1980 and 2004, there were four events similar to last Monday's event.



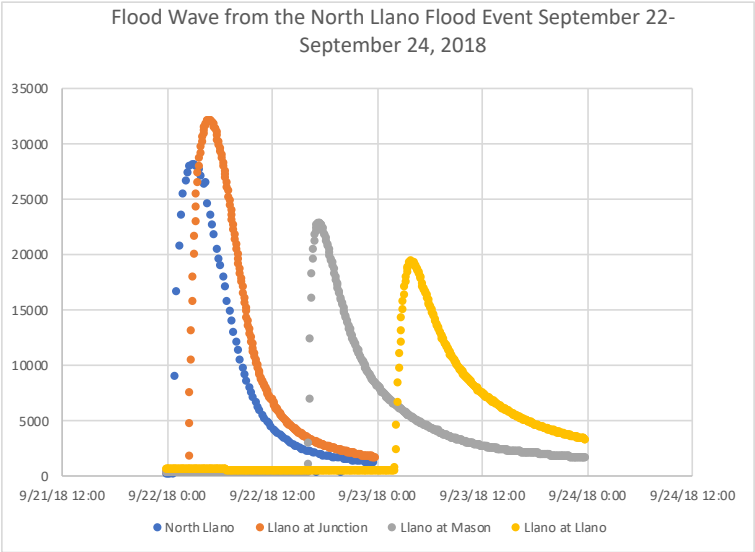
NOAA Doppler Radar image showing rainfall totals October 4 - October 11. The National Weather Service has confirmed rainfall amounts of 11.5 inches fell early Monday morning.

Tracking the Flood Crest Downstream

The floodwaters earlier this week raced down the Llano towards Lake LBJ. After cresting in Junction at 118,000 at 9:55am on Oct 8, a crest of 110,000 cfs arrived at the US-87 bridge near Mason at 6:30pm (elapsed time 8:35) and Llano (99,000 cfs) at 10:55pm (elapsed time from Mason 4:25). Additional rains produced a smaller second flood wave the next day which traveled the 55 miles from Junction to Mason in 7:55 (40 min faster) and the 31 miles from Mason to Llano in 5:10 (45 minutes slower). The variability in these speeds was likely dictated by flood waters from tributary streams.



These flood waves moved more quickly than previous flood waves. Last month's flood down the North Llano took 4-5 more hours to travel from Junction to Mason and 5-6 more hours to travel from Mason to Llano (see right). Of note, last month's flood wave travel about the same speed as the flood that originated on the North Llano in 2015.



Healthy Creeks and Riparian Areas Workshop

NOVEMBER 3
SUNRISE BEACH

Llano River Watershed Alliance in partnership with Hill Country Alliance and Plateau Land & Wildlife Management are hosting this event from 8:30am-2:00pm at the Sunrise Beach Village Civic Center - 124 Sunrise Drive.

Retired Natural Resource Conservation Service (NRCS) employees **Steve Nelle** and **Kenneth Mayben** and **David Riley** of Plateau Land & Wildlife Management will discuss the hydrology and sediment principles and interactions, vegetation, and stewardship and best practices associated with healthy creeks and riparian areas in the Hill Country.

more details

Healthy Creeks and Riparian Areas Workshop

8:30 am – 2:00 pm, Saturday, November 3rd, 2018

Sunrise Beach Village Civic Center
124 Sunrise Drive, Sunrise Beach Village, TX 78643

8:30 am	Welcome & Introductions	Daniel Oppenheimer, Hill Country Alliance
8:45 am	Introduction to Riparian Function	Steve Nelle, NRCS retired
9:30 am	Hydrology and Sediment: Principles and Interactions	Kenneth Mayben, NRCS retired
11:15 am	Riparian Vegetation	Steve Nelle, NRCS retired
12:00 pm	Light Lunch Provided	
12:30	Riparian Stewardship & Best Practices	David Riley, Plateau Land & Wildlife Management
1:00	Sandy Creek Case-Study: Tying it all Together	Steve Nelle and Kenneth Mayben
1:30	Wrap-Up Discussion and Dismiss	

$10 registration includes lunch. Space is limited. To register, go to:
http://www.hillcountryalliance.org/event/sandy-creek-healthy-creeks-and-riparian-areas-workshop/

hill country alliance

Plateau Land & Wildlife Management

Llano River Watershed Alliance

Mouth of the North Llano

Last week, we mentioned that last month's flood down the North Llano shifted the mouth of the river (at the confluence with the South Llano) about 50 yards northward, away from the rip-rapped bank at Junction City Park. Judging from the rip rap, you might assume that the North Llano has not always been up against this bank...and you would be correct.

In fact, the North Llano used to flow about 700 feet north of where it flowed prior to last month.

What happened? In the mid-1980s, sand and gravel was extracted from the North Llano about one mile above the confluence. Texas Parks and Wildlife oversees extraction of such materials from navigable waterways through the issuance of permits. Although the permit for this operation was retired in 2004, the impacts are still visible. The mining activity within the channel caused the channel to migrate southward. The resulting erosion caused by this migration forced the City of Junction to undertake actions to protect city infrastructure.