

October/November 2002 Heavy Rainfall and Flooding

October 20 - November 5, 2002

by Montra Lockwood, Service Hydrologist

During the last 10 days of October, an upper level trough stalled over the region with numerous disturbances moving across the area. This provided several days of widespread rainfall. The precipitation was further enhanced by a stationary front located across southeast Texas into southwest and central Louisiana, as well as by the remnants of Hurricane Kenna moving northeast across the area from old Mexico. As a result, very heavy rainfall occurred in many areas.

Rainfall totals (in inches) from the Automated Surface Observing Systems across the area for the five-day period from October 25th through October 29th are as follows:

Lake Charles Regional Airport	10.83"
Lafayette Regional Airport	8.64"
Southeast Texas Regional Airport (Beaumont, TX)	7.38"
Acadiana Regional Airport (New Iberia, LA)	5.51"
Alexandria International Airport	4.63"

Rainfall totals reported by various co-operative observers during the same time period also ranged from around 5 to 12 inches. Some of the more notable amounts include:

Beaumont Water Plant	14.28"
Beaumont Research Center	11.29"
Carencro, LA	11.20"
Bunkie, LA	10.81"
Port of Lake Charles	10.47"
Sabine Wildlife Refuge	10.43"
Silsbee, TX	10.40"
Jennings, LA	10.34"
Orange, TX	10.19"
Lumberton, TX	10.12"

On the 29th, water up to 8 feet deep was reported on underpasses in Beaumont, TX, and one person died after driving a car into a flooded underpass. In Vinton, LA, the fire department reported nearly half the streets in the town were extensively flooded, while the Iberia parish sheriff reported numerous streets throughout the parish under water.

Moderate to major flooding occurred on several rivers. Water began reaching homes near Old Town Bay and Sam Houston Jones State Park on the lower Calcasieu River, as well as along the Pine Island Bayou near Sour Lake, TX. At several sites, river levels were still rising at the end of the month.

For the month of October, rainfall records were broken at Lake Charles and Lafayette, with 21.44 and 18.27 inches, respectively. This was the fourth wettest October for Beaumont, with a monthly total of 14.05 inches. The totals for Alexandria and New Iberia were also well above normal, with 12.49 inches of rain reported at Alexandria International Airport and 12.63 inches reported at Acadiana Regional Airport in New Iberia.

The flood waters had little time to recede before another strong storm system brought more heavy rains to the area from November 2nd through the 5th. In a pattern similar to the October storm, an upper trough became stationary over the region, as an active subtropical jet pulled moisture across the Gulf Coast states. Several disturbances moved through the flow, allowing several rounds of moderate to heavy rain to fall across southeast Texas and southern Louisiana.

The addition of this heavy rainfall was too much for the saturated soil, resulting in a large amount of runoff. Major flooding occurred in several areas. On November 3rd, flash flooding resulted in two feet of water inundating several cars at an apartment complex in Beaumont, TX, while water covered roads and entered homes in Vidor, TX. The heaviest rainfall occurred on November 5th, with widespread flooding of several roads and homes across southwest Louisiana. Several roads were closed across Calcasieu, Allen, Saint Landry, Evangeline, Rapides and Acadia parishes.

Rainfall totals for this event ranged from 4 to 10 inches. Some more notable rainfall reports from co-operative observers for the three-day period from 8 AM November 2nd to 8 AM November 5th are:

De Ridder, LA	9.95"
Elmer, LA	9.27"
Sam Rayburn Reservoir (TX)	9.15"
Rosepine, LA	8.46"
Wildwood, TX	8.35"
Woodville, TX	8.27"
Alexandria, LA	8.03"

Major flooding occurred along the Calcasieu River. The second highest crest on record occurred at Salt Water Barrier with a crest of 11.65 feet. At Old Town Bay, the river crested near 11.5 feet, the fourth highest crest. In Calcasieu parish, the Office of Emergency Preparedness declared a state of emergency on Thursday, November 7th, for flooding along the Calcasieu River north of Salt Water Barrier. Farther upstream, Oakdale had its 5th highest crest (16.0 feet), while Glenmora and Oberlin recorded their 6th highest crests (18.88 feet and 24.29 feet, respectively).

Moderate to minor flooding occurred along the Neches, Sabine, Mermentau and Vermilion River basins. Along the Neches River at Beaumont, the river crested near 8 feet, the fifth highest crest. Other significant crests occurred along the Bayou Anacoco at Rosepine, Louisiana with a crest of 22.78 feet, along the Village Creek at Kountze, Texas with a crest of 22.80 feet, and along Pine Island Bayou at Sour Lake, Texas with a crest of 30.59 feet.

The pair of pictures below are a 2-month radar-derived precipitation estimate (left) and associated percent of normal rainfall estimate (right), courtesy of the Lower Mississippi River Forecast Center in Slidell, LA. Notice that almost all of the area had 20 or more inches of rainfall during this period, which is twice or more the normal rainfall.

Questions about this report or the flooding event in general can be sent to [Montra Lockwood](#).

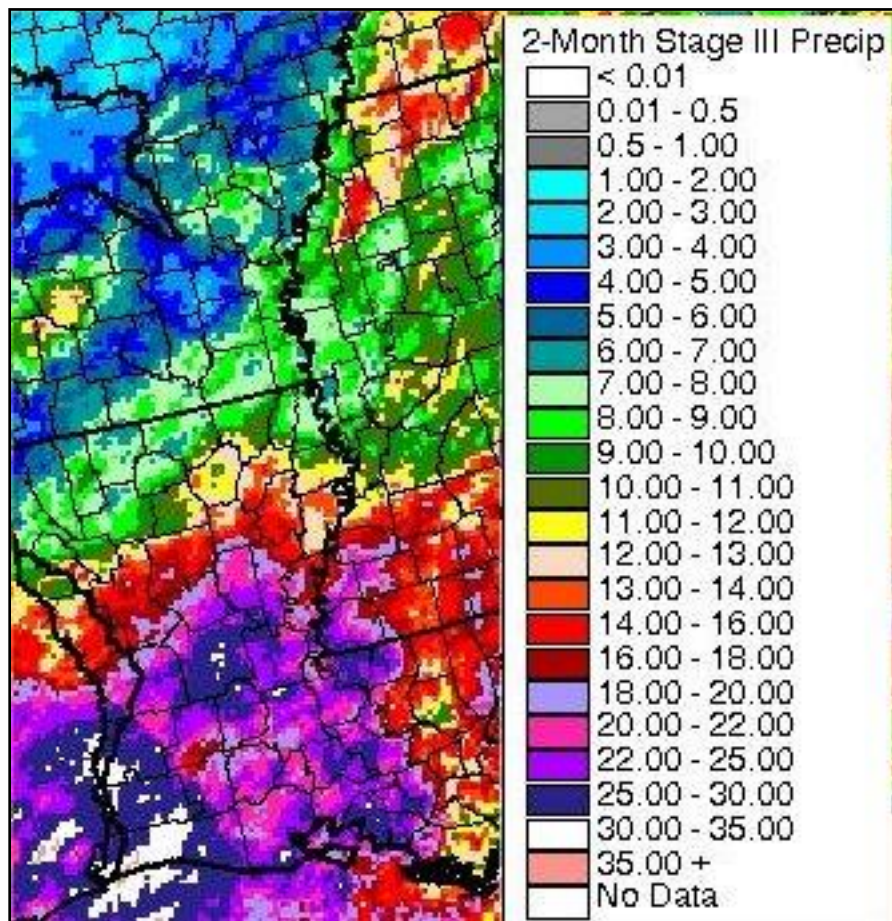


Figure 1: 2-month (October-November 2002) radar-derived precipitation estimate from the Lower Mississippi River Forecast Center. Note that nearly the entire area had 20 or more inches of rainfall during this period, which is twice or more the normal rainfall.

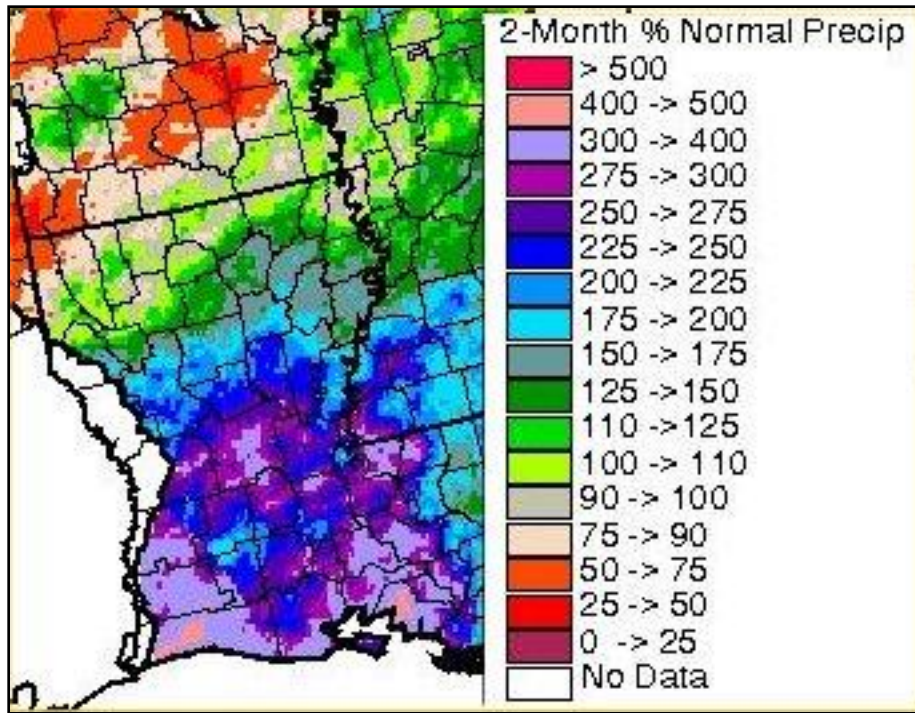


Figure 2: 2-month (October-November 2002) percentage of normal precipitation estimate from the Lower Mississippi River Forecast Center. Note that nearly the entire area ranged from 200% to over 400% of normal precipitation during this period.



Calcasieu River near Old Town Bay



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Calcasieu River near Old Town Bay



Calcasieu River near Old Town Bay



Calcasieu River near Sam Houston Jones State Park



Calcasieu River at Salt Water Barrier



Calcasieu River at Oberlin



Calcasieu River at Oakdale