

TOO MUCH OF A GOOD THING

OCTOBER 15-22, 2006 *Severe Weather & Flood Event*

by Sam Shamburger, Journeyman Forecaster, & Montra Lockwood, Service Hydrologist



Flash flooding near St. Louis High School in Lake Charles, LA on October 18

Since Hurricane Rita, rainfall has been a scarce commodity across Southeast Texas and Southwest Louisiana. A few weather systems have brought some rainfall during that time, including a few very heavy rain events over Southeast Texas and extreme Southwest Louisiana. However, the series of heavy rainfall events from October 15th through October 22nd signifies a change in the weather pattern across the region, partly in response to developing El Nino conditions in the Pacific Ocean.

These series of strong storm systems were the result of warm fronts moving north from the Gulf of Mexico, pulling tropical moisture into the area. This moisture combined with increasing upper level moisture from southwesterly winds aloft. As these warm fronts shifted north, upper level disturbances traveling in the upper flow aided in the development of widespread showers and thunderstorms during the seven day period.

The first in the series of storm systems brought initially welcome rainfall on Sunday, October 15th, since the area was experiencing abnormally dry conditions. However, the continued heavy rainfall on Monday October 16th saturated soils across much of the region, leading to creeks and bayous filling with water runoff. Serious flooding began in many locations with numerous road closures and water approaching homes. Southeast Texas and West-Central Louisiana were especially hard hit as continuous bands of heavy rainfall moved repeatedly across Hardin, Tyler, Jasper, and Newton Counties, as well as Vernon Parish.

Rainfall totals from this first storm system ranged from only one inch in portions of South-Central Louisiana, to as high as 10-15 inches in a 20 mile wide band from Sour Lake to Kountze to Jasper to Toledo Bend Dam to Anacoco. This heavy rainfall caused minor to moderate river flooding on several rivers in the area.

This first storm system also was unusually strong for October, with a deep area of low pressure that brought widespread high winds and severe weather to the region. This area of low pressure helped spawn several severe thunderstorms with tornadoes across Southeast Texas and Louisiana, causing some damage to homes.

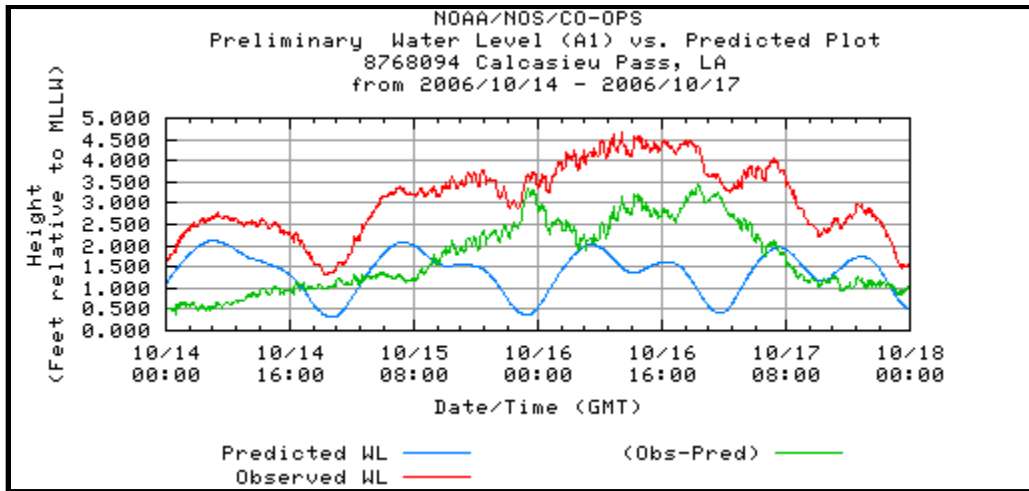
DAMAGE REPORTS FROM OCTOBER 15 - OCTOBER 22 2006		
<i>Location</i>	<i>Flood Damage</i>	<i>Tornado Damage</i>
Jefferson County	45 homes damaged	10 homes destroyed, 17 homes damaged
Orange County	100 homes damaged, 42 destroyed	none
Hardin County	100 homes & 1 church damaged	none
Tyler County	95+ homes damaged	none
Jasper County	unknown	none
Newton County	unknown	1 home damaged
Acadia Parish	none	1 home destroyed, 1 home damaged
Vermilion Parish	none	1 home damaged

The second and third storm systems in the series also brought widespread additional rainfall to Southeast Texas and much of Louisiana, as well as more severe weather in some locations. Rainfall totals from these two systems once again ranged from as little as one inch in areas near the coast, to as much as 8 inches in parts of Southeast Texas, Central Louisiana, and Southwest Louisiana. Unlike the previous system, heavy rainfall also fell in portions of South-Central Louisiana. All of this additional rainfall led to moderate and major river flooding on numerous rivers in Southeast Texas and western Louisiana. Some rivers reached their highest levels ever recorded, leading to widespread flooding of roadways, homes, and businesses.

Overall, this series of storm systems was one of the most active severe weather and flooding events in the history of the National Weather Service office in Lake Charles. Numerous weather watches and warnings were issued over the seven day period from October 15th through October 22nd.

# of Watches and Warnings issued by NWS Lake Charles Oct 15 - Oct 22			
Tornado Watch	4	Tornado Warning	35
Severe Thunderstorm Warning	20	Special Marine Warning	21
Flash Flood Watch	1	Flash Flood Warning	34
Flood Watch	2	Flood Warning	25*
Coastal Flood Warning	1	Urban & Small Stream Flood Advisory	10*
* = incomplete data			

OCTOBER 15-17 2006 Coastal Flooding



Calcasieu Pass Tide Data from October 14 to October 17

Strong easterly winds on Sunday October 15th caused tide levels to run 1 to 2 feet above normal. These winds increased further Sunday evening into Monday October 16th, while switching to a more southerly direction. This caused the tide levels to rise even further, with some areas seeing tide levels 3 to 5 feet above normal. These readings were the highest seen since Hurricane Rita in September 2005.

LOCATION (click on a location for more information)	HIGHEST TIDE (MLLW)	HIGHEST TIDE (MSL)
Calcasieu Pass	4.65 FT	3.42 FT
Cypremort Point	3.47 FT	2.54 FT
Freshwater Canal Locks	5.18 FT	3.90 FT
Lake Charles	3.25 FT	2.58 FT
Sabine Pass North	4.22 FT	3.25 FT

Coastal Flooding Pictures 10/16/06



Flooded roads near the Calcasieu River

Photo by Stephen Carboni, Forecaster



Flooded roads along the Calcasieu River in North Lake Charles

Photo by Stephen Carboni, Forecaster



I-10 Beach is submerged in Lake Charles

Photo by Stephen Carboni, Forecaster

OCTOBER 15-16, 2006

Peak Wind Gusts

An area of low pressure brought unusually strong southeasterly and southerly winds to Southeast Texas and Louisiana on 10/15 and 10/16.

LOCATION	SITE	MAX WIND GUST
Alexandria Dean Lee LAIS	MESONET	50 MPH
Calcasieu Pass LA Tidal Gage	NOAA	49 MPH
Sea Rim State Park TX	NDBC	48 MPH
Port Barre LA R&D Research LAIS	MESONET	48 MPH
Crowley LA Rice Research LAIS	MESONET	48 MPH
Self Strip LA (5N Fort Polk)	ASOS	46 MPH
Woodville TX RAWS	MESONET	45 MPH
Southeast Texas Regional Airport	ASOS	44 MPH
Alexandria International Airport	ASOS	40 MPH
Lake Charles Regional Airport	ASOS	39 MPH
New Iberia Acadiana Regional Apt	ASOS	38 MPH
Buna TX RAWS	MESONET	39 MPH
Gardner TX RAWS	MESONET	39 MPH
McFadden NWR TX RAWS	MESONET	39 MPH
Rosepine LA LAIS	MESONET	39 MPH
Esler Field LA (Pineville)	ASOS	37 MPH
Lafayette LA Regional Airport	ASOS	37 MPH
Holmwood LA RAWS	MESONET	36 MPH
Fullerton Strip LA (12 SE Fort Polk)	ASOS	32 MPH
Salt Point LA	ASOS	31 MPH
Peason Ridge LA (17 N Fort Polk)	ASOS	31 MPH
Warren TX RAWS	MESONET	30 MPH
East Fort Polk LA RAWS	MESONET	29 MPH
Jeanerette LA LAIS	MESONET	28 MPH
Fort Polk LA RAWS	MESONET	27 MPH

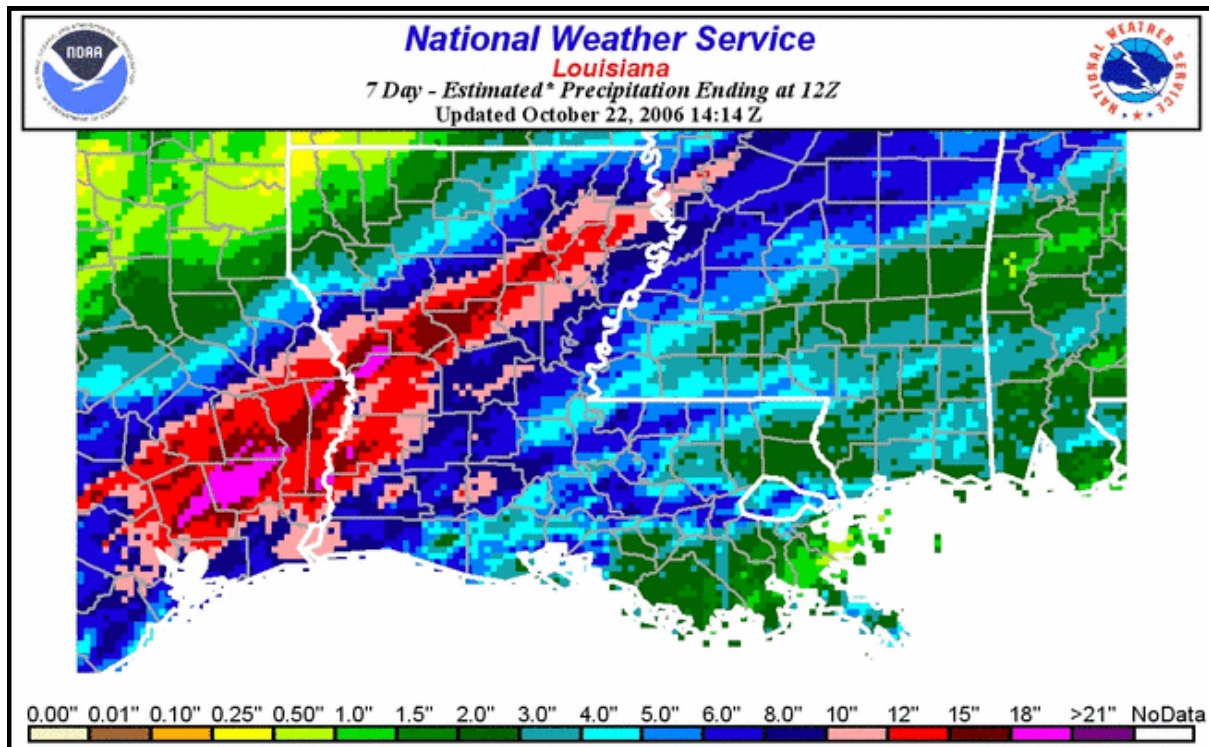
ASOS = Automated Official Weather Station
COOP = Cooperative Observer Manual Weather Station
MESONET = Automated Unofficial Weather Station

OCTOBER 15-16, 2006 Low Pressure Readings

An area of low pressure brought unusually low pressure readings to the area on October 16. Some of these pressure readings across central Louisiana were nearly as low as readings measured during Hurricane Rita.

LOCATION	LOWEST PRESSURE (in of Hg)	LOWEST PRESSURE (mb)
Alexandria International Airport	29.38"	994.9 mb
Southeast Texas Regional Airport	29.42"	996.3 mb
Fort Polk LA	29.43"	996.6 mb
Lake Charles Regional Airport	29.46"	997.6 mb
Lafayette LA Regional Airport	29.53"	1000.0 mb
New Iberia Acadiana Regional Apt	29.54"	1000.3 mb

OCTOBER 15-22, 2006 7-Day Rainfall Totals



<i>Southeast Texas 7-day Rainfall Totals from 10/15/06 to 10/22/06</i>		
LOCATION (TEXAS)	SITE	7 DAY RAINFALL TOTALS
Kountze	COOP	20.25"
Warren RAWS	MESONET	18.80"
Silsbee 4N	COOP	18.07"
Wildwood	COOP	17.76"
Toledo Bend Dam	COOP	17.23"
Woodville RAWS	MESONET	15.66"
Woodville	COOP	14.60"
Buna RAWS	MESONET	13.60"
Newton	COOP	12.69"
Steinhagen Lake	COOP	12.60"
Lumberton	COOP	11.09"
Orange 9N	COOP	10.15"
Beaumont Research Center	COOP	10.01"
Beaumont Water Plant	COOP	9.30"
Orange Water Plant	COOP	8.77"
Southeast Texas Regional Airport	ASOS	8.33"
McFadden NWR RAWS	MESONET	7.48"

<i>Louisiana 7-day Rainfall Totals from 10/15/06 to 10/22/06</i>		
LOCATION (LOUISIANA)	SITE	7 DAY RAINFALL TOTALS
East Fort Polk RAWS	MESONET	14.44"
Deridder	COOP	14.38"
Fort Polk RAWS	MESONET	14.27"
Rosepine LAIS	MESONET	13.84"
Self Strip 5N Fort Polk	ASOS	13.76"
Old Town Bay	COOP	13.18"
Moss Bluff	COOP	12.11"
Red River Lock #2	COOP	11.89"
Alexandria LSU Dean Lee	COOP	11.85"
Jennings	COOP	11.60"
Opelousas	COOP	11.52"
Boyce 7SW	COOP	11.49"
Fullerton Strip 12SE Fort Polk	ASOS	11.44"
Gardner RAWS	MESONET	10.85"
Leesville	COOP	10.80"

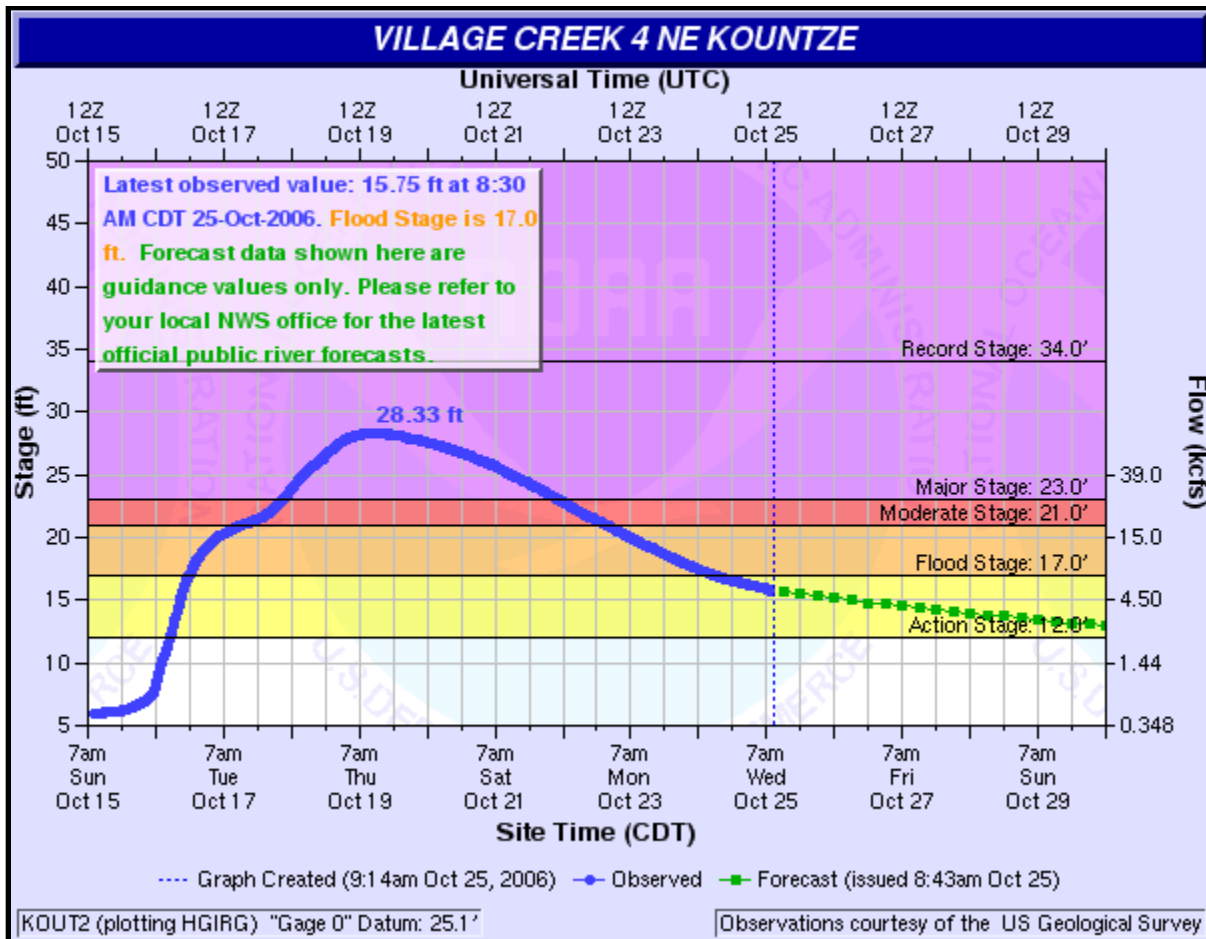
Eunice	COOP	10.19"
Esler Field	ASOS	10.17"
Alexandria 5SSE	COOP	10.02"
Alexandria Power Plant	COOP	9.64"
Port of Lake Charles	COOP	9.64"
Salt Water Barrier	COOP	9.17"
Port Barre R&D Research LAIS	MESONET	9.15"
Crowley 2NE	COOP	8.48"
Sam Houston Jones State Park	COOP	8.43"
Bunkie	COOP	8.34"
Lake Charles Regional Airport	ASOS	8.22"
Crowley Rice Research LAIS	MESONET	7.92"
Marksville	COOP	7.58"
Oakdale	COOP	7.55"
Elmer 2SW	COOP	7.39"
Cameron Prairie NWR	COOP	7.16"
Holmwood RAWS	MESONET	6.80"
Sulphur	COOP	6.58"
Lake Arthur 10SW	COOP	6.04"
Jeanerette 5NW	COOP	5.54"
Oberlin Fire Tower	COOP	5.53"
Carencro	COOP	5.47"
Lafayette	COOP	5.12"
Leland Bowman Lock	COOP	4.91"
Jeanerette LAIS	MESONET	4.72"
Abbeville	COOP	4.68"
Lafayette Regional Airport	ASOS	4.64"
Ville Platte	COOP	4.25"
Rockefeller NWR	COOP	4.16"
New Iberia	COOP	3.85"
Kaplan	COOP	3.44"
New Iberia Acadiana Regional Apt	ASOS	2.88"
Morgan City	COOP	2.22"

ASOS = Automated Official Weather Station
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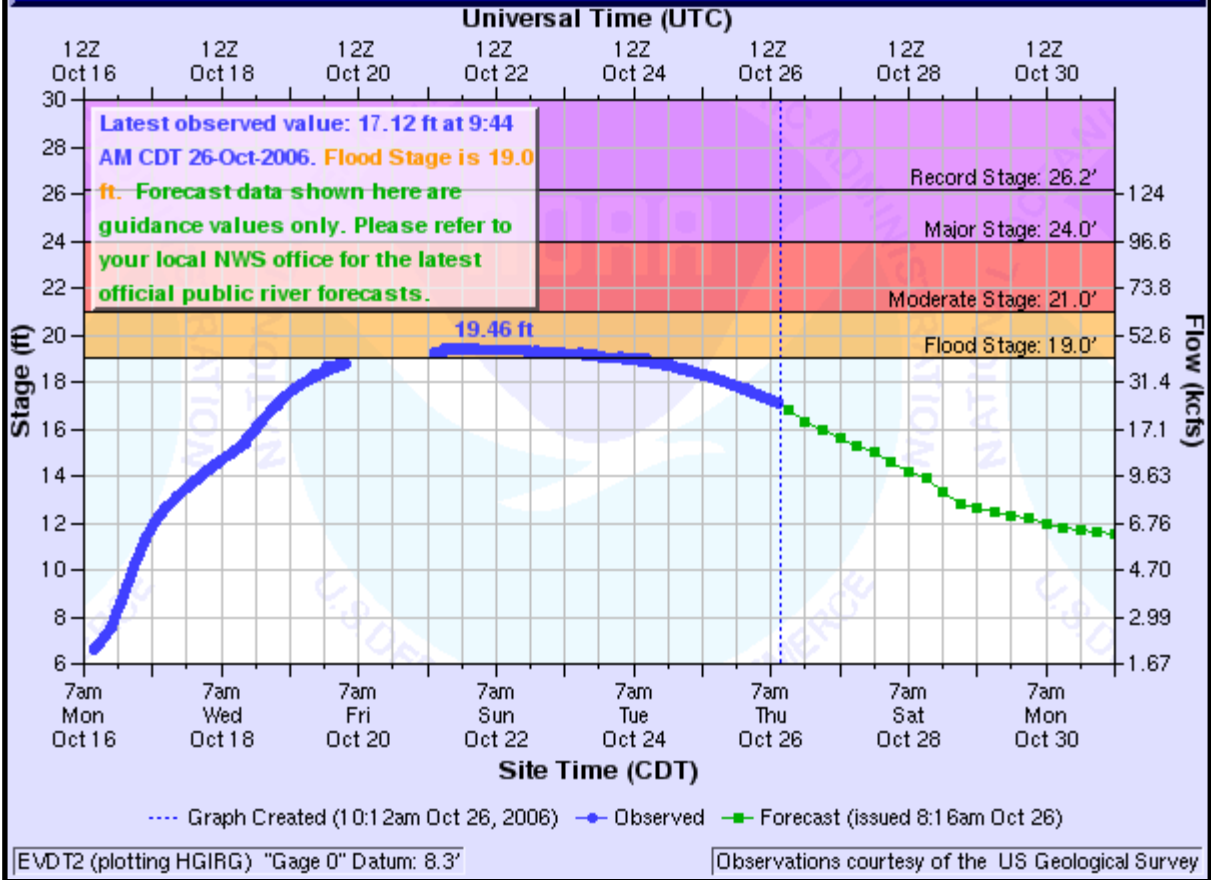
OCTOBER 15-22, 2006 River Flooding

Highest River Levels across Southeast Texas from 10/15/06 to 10/22/06

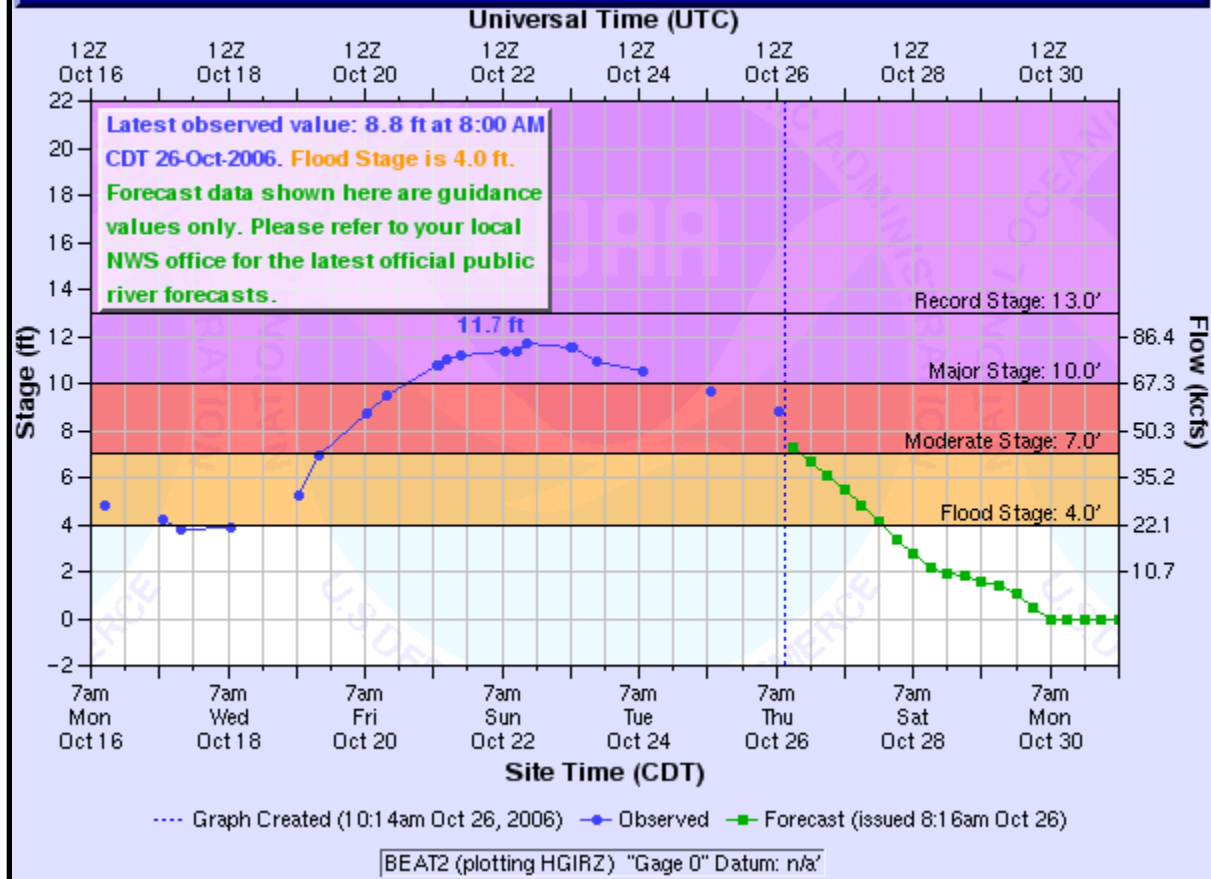
RIVER LOCATION	CREST	HISTORICAL LEVEL
Village Creek at Kountze	28.33 FT	1st (official)
Neches River at Weiss Bluff	21.10 FT	1st (estimated)
Neches River at Beaumont	11.70 FT	2nd
Pine Island Bayou at Sour Lake	31.03 FT	7th
Neches River at Evadale	19.46 FT	8th
Sabine River at Deweyville	27.93 FT	8th

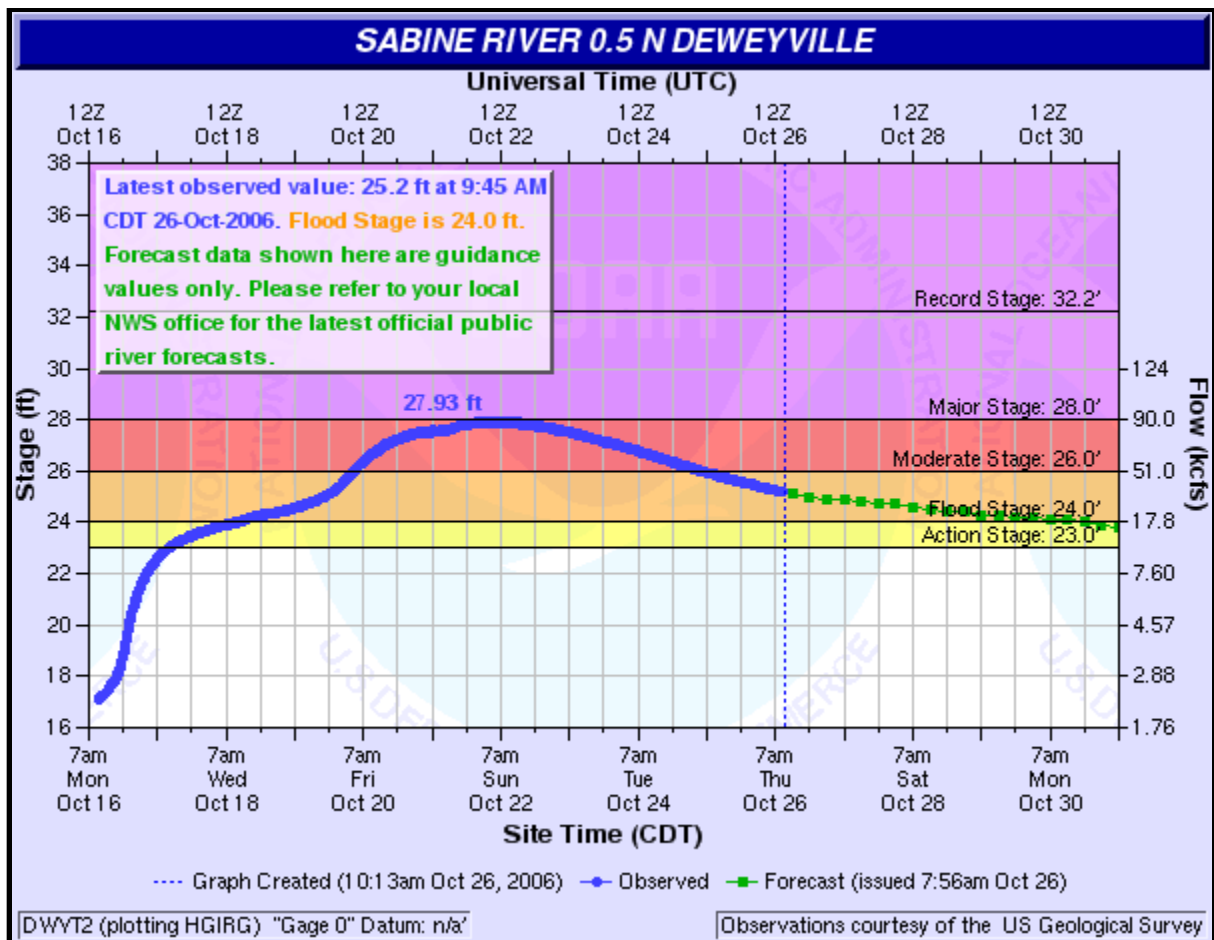
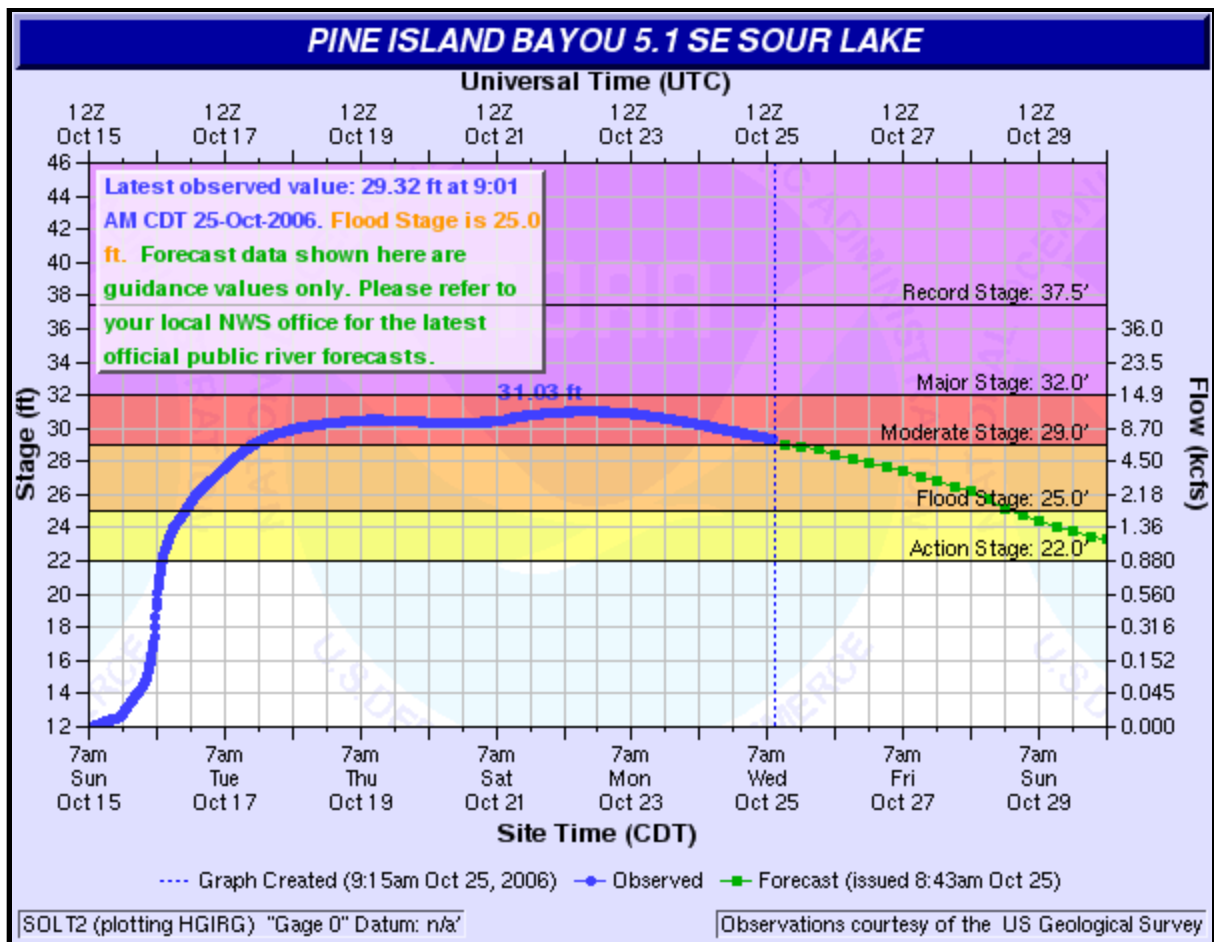


Neches River 3 S EVADALE

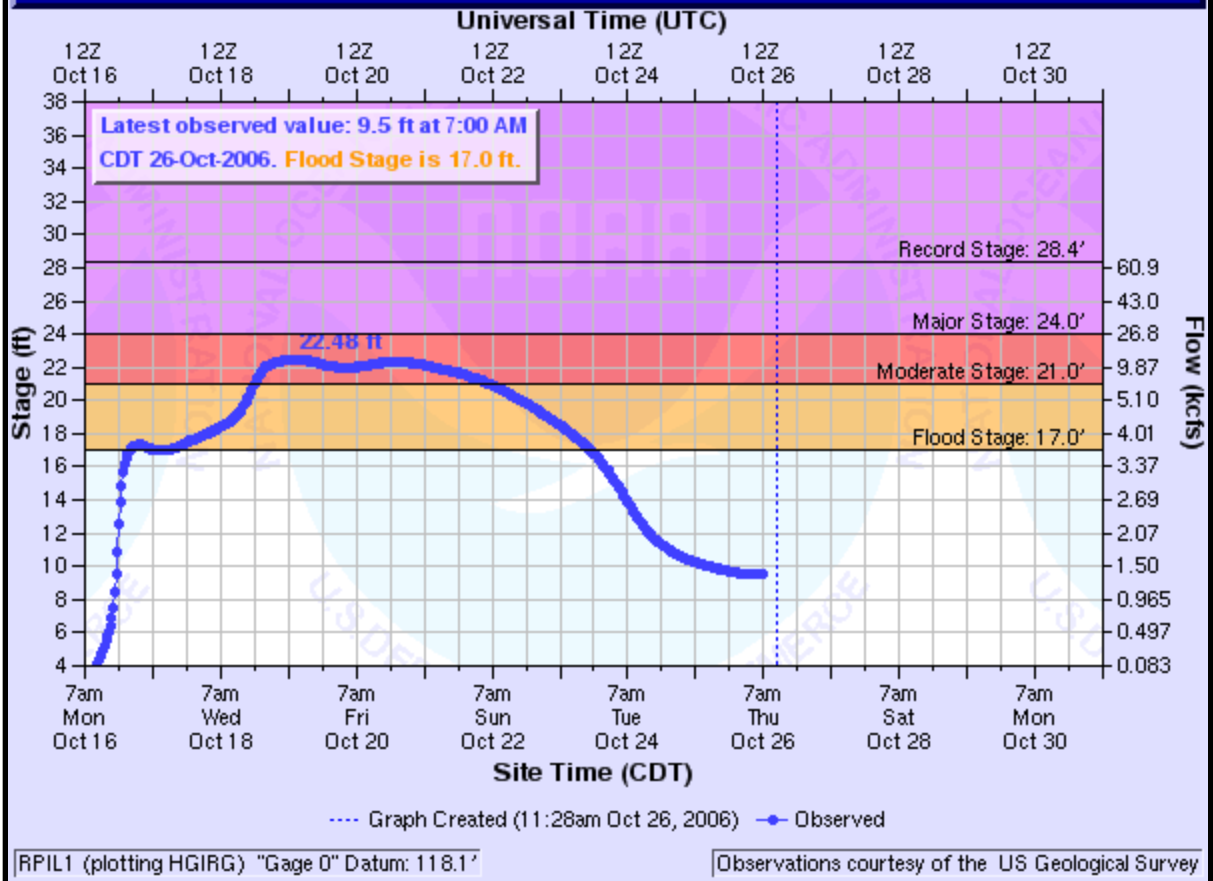


NECHES RIVER 0.8 NNE BEAUMONT





BAYOU ANACOCO 4.8 NW ROSEPINE



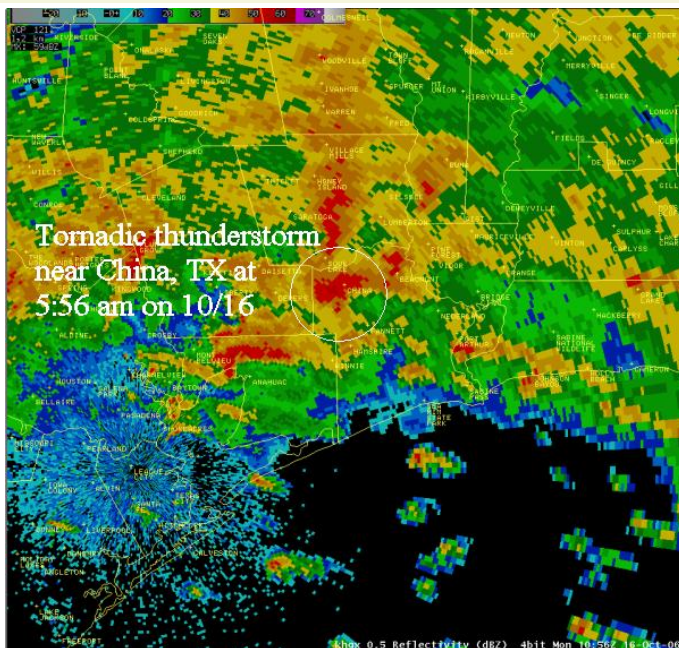
OCTOBER 16, 2006

Tornadoes

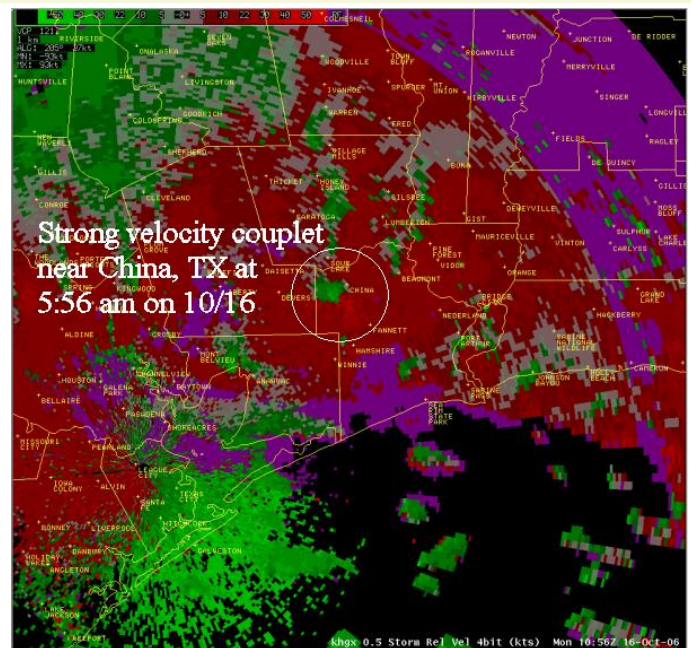
As a strong area of low pressure moved across the region on Monday, October 16th, with a warm front lifting northward from the Gulf of Mexico across Southeast Texas and Louisiana. Strong wind shear in the atmosphere and favorable atmospheric instability levels helped spawn several tornadoes across Southeast Texas and Louisiana. Although this table lists the known tornadoes that occurred, several more likely touched down unseen in the early morning darkness on October 16.

LOCATION	F-SCALE	PATH WIDTH	PATH LENGTH	DAMAGE
1 E China TX	F1	100 yards	3 miles	10 homes destroyed, 17 others damaged
2 N Gueydan LA	F1	20 yards	1/2 mile	1 home damaged
2 SE Iota LA	F1	20 yards	1/2 mile	1 home destroyed, 1 other damaged
3 W Crowley LA	F0	50 yards	1 mile	none known
1 S Midland LA	F0	20 yards	1/4 mile	none known
Lumberton TX	F0	20 yards	1/4 mile	none known
Weirgate TX	F0	20 yards	1/4 mile	1 home damaged
Pitkin LA	F0	20 yards	1/4 mile	none known
Effie LA	F0	20 yards	1/4 mile	none known
Grand Chenier LA	F0	20 yards	1/4 mile	none known
Morse LA	F0	20 yards	1/4 mile	none known

Radar Images 10/16/06



Base Reflectivity Image from Houston Radar at 5:56 am showing the tornadic thunderstorm near China, TX



Storm Relative Velocity Image from Houston Radar at 5:56 am showing the mesocyclone near China, TX

Tornado Pictures from 10/16/06



**Tornado west of Crowley,
LA**

*Photo by Shari Hanks & courtesy
of Rob Perillo KATC-TV*



**Tornado west of Crowley,
LA**

*Photo by Shari Hanks & courtesy
of Rob Perillo KATC-TV*



Tornado near Iota, LA

*Photo by Nick LaHaye & courtesy
of KLFY-TV*



**Tornado damage in China,
TX**

*Photo by Roger Erickson,
WCM*



**Tornado damage in China,
TX**

*Photo by Roger Erickson,
WCM*



**Tornado damage in China,
TX**

*Photo by Roger Erickson,
WCM*