Louisiana

Satellite Imagery Enables

Natural Disaster Response / Assessment and Restoration

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Focus of the Program

It has been our goal to acquire imagery and get reliable results to the agency managers responsible for implementing state restoration projects as quickly as possible.

Defining a Problem

A catastrophic storm occurred in coastal Louisiana in late August, 2005, Hurricane Katrina, recorded as the sixth strongest overall hurricane in recorded history, classified as one of the five deadliest in U.S. history and overall the costliest natural disaster in U.S. history.

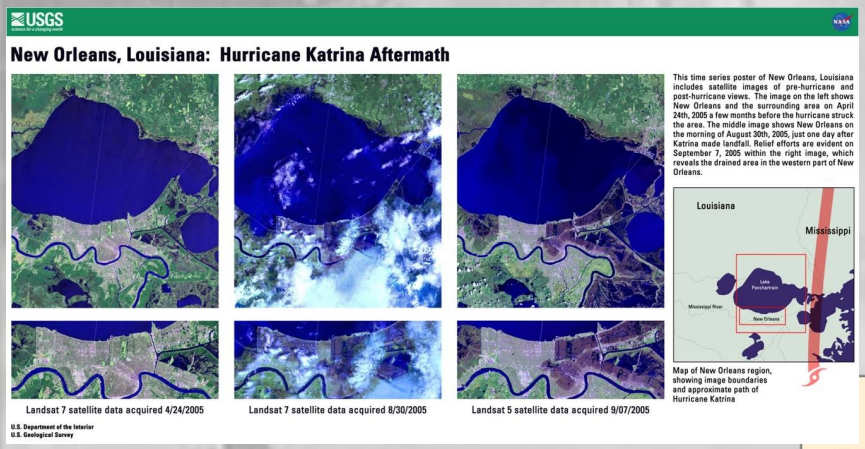

Figure 1. Landsat 5 and 7 imagery acquired pre and post storm indicating extent of flooding .

Challenges to Coastal Restoration

Landsat Imagery is used constantly for coastal restoration planning and forecasting of projects ranging from a few thousand acres to coast-wide impact. This image shows changes to Cote Blanche Hydrologic Restoration Area after Hurricane Lili on October 3, 2002.

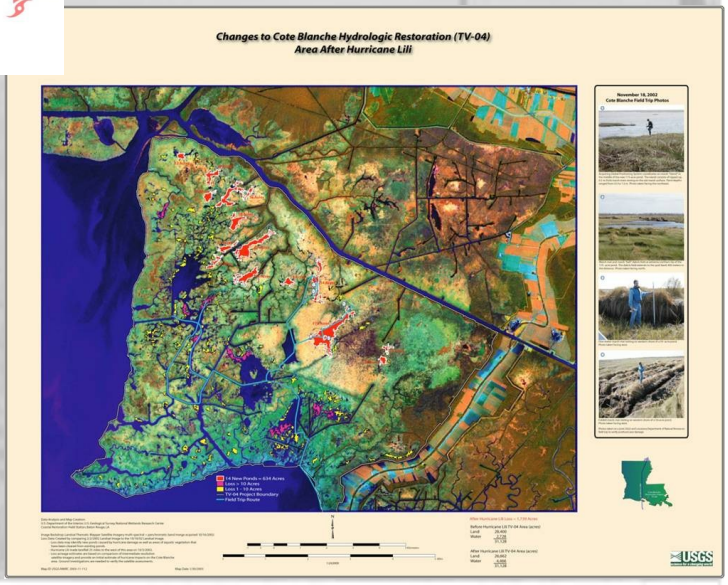

Figure 2. Landsat imagery acquired pre and post storm event indicating rips in the marsh. Acres of impact illustrated in red.

Land Area Change—Coastal LA

Historical perspective (since 1956) of land area change in Coastal Louisiana leading up to the 2005 Hurricanes. These analyses are conducted in support of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA).

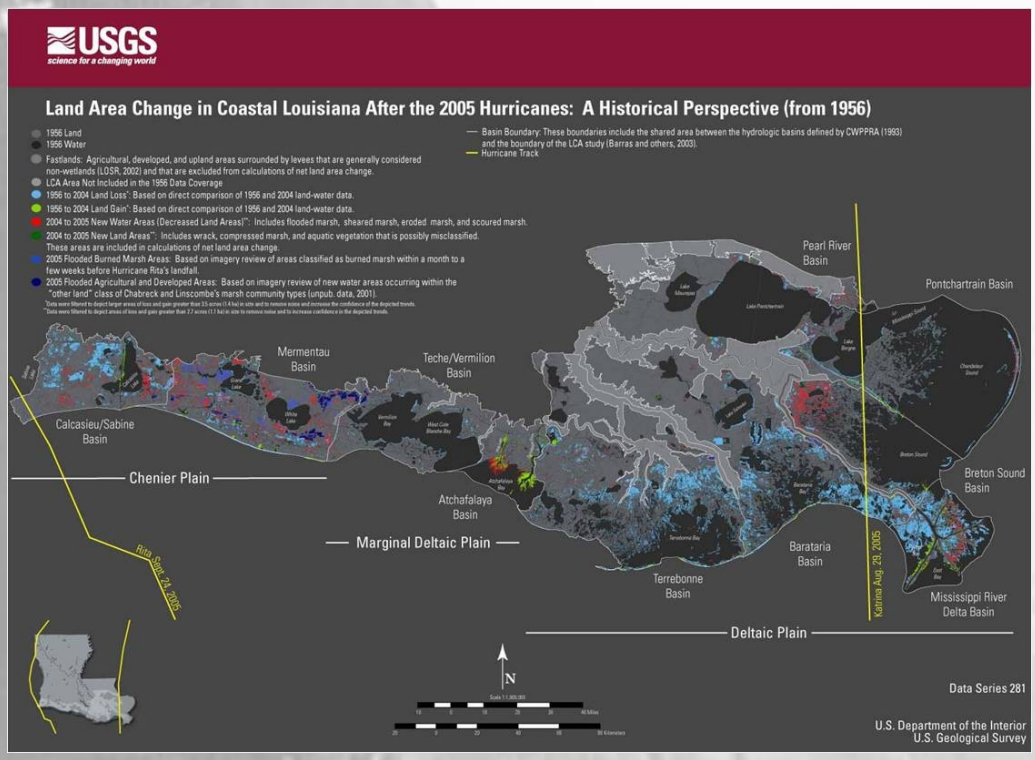

Figure 3. Map illustrates historical analyses of the change that has occurred along coastal Louisiana. Colors on map indicate areas of change detected from satellite image comparisons.

Landsat—Class

Moderate Resolution Sensors (5m—30m)

"All current coastal land loss work in Louisiana is Landsat TM based. The data is used routinely by state and federal agencies for restoration project planning and monitoring. It's the heart of the Coastwide Reference Monitoring System (CRMS) landscape level monitoring effort." John Barras—USGS/CR/BRD/NWRC

Figure 4. Photos taken by response and recovery teams showing a levee break during the aftermath of Hurricane Katrina.

"It would be very hard to identify and quantify current land loss rates, as well as to ascertain episodic impacts without Landsat TM data. Other sensors may fill the gap but they cannot provide the 25 year landscape level monitoring archive provided by Landsat TM." Brent Yantis—Director, Regional Application Center / UL Lafayette and LouisianaView