Louisiana's Coastwide Reference Monitoring System-*Wetlands* (CRMS)

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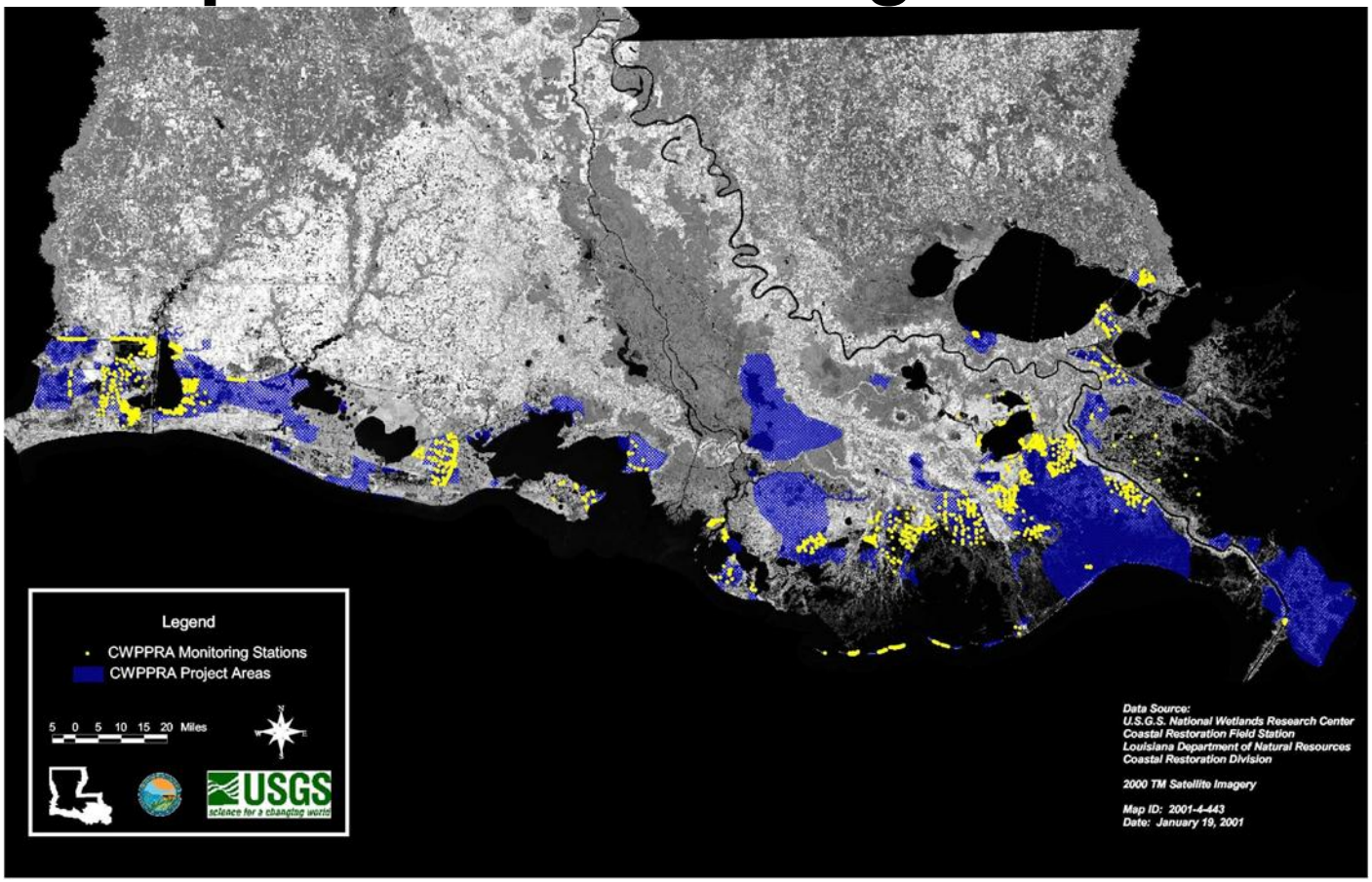
committed to **our coast**

Coastal Wetland Planning, Protection and Restoration Act

- CWPPRA
  - Congressionally funded in 1990 to identify, prepare, and fund construction of coastal wetlands restoration projects
  - Partnership involving 5 federal agencies and the State of Louisiana
  - Diverse array of restoration project types

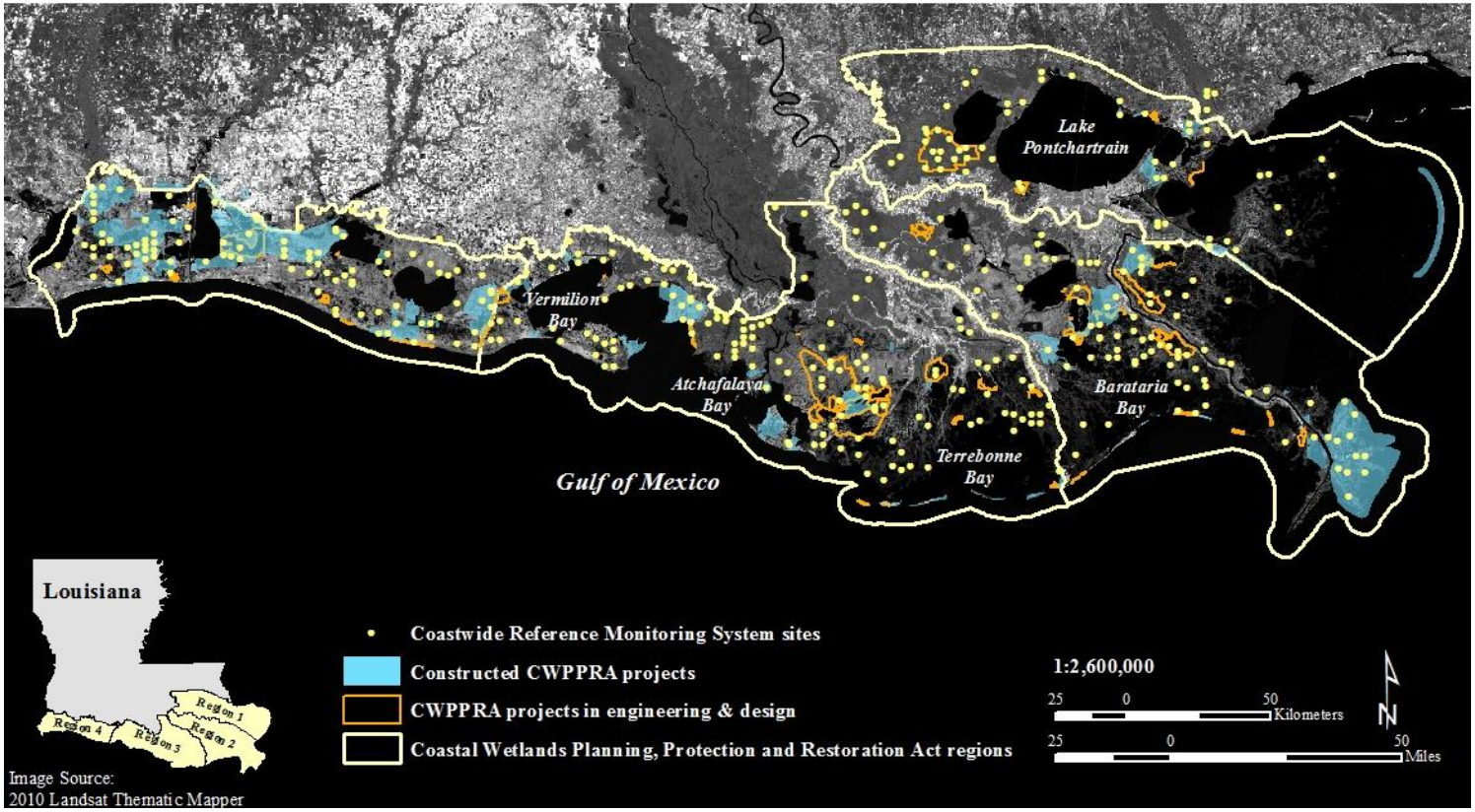
- Two monitoring mandates in the Act
  - Evaluate effectiveness of individual projects
  - Evaluate effectiveness of the restoration program

CWPPRA Restoration Projects
Project Specific Monitoring



Inconsistent monitoring variables, short term data records, inadequate coverage, unsuitable or no reference areas

CRMS Site Distribution

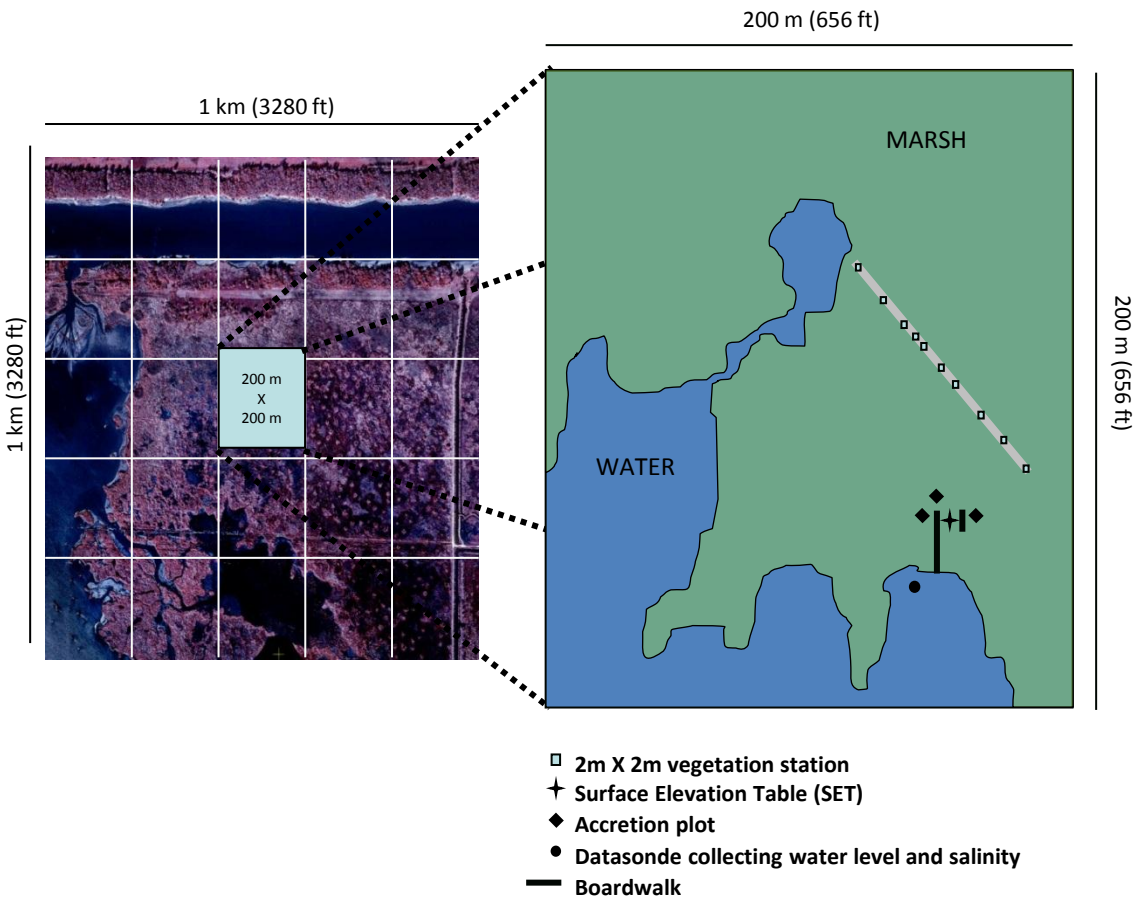


390 sites for coastwide coverage in all marsh types
Monitoring sites inside and outside of project boundaries
Provides baseline for unconstructed projects
Evaluate wetlands at multiple scales

CRMS Site Design

CRMS-Wetlands Sampling Area:
1 km² aerial photography area

CRMS-Wetlands Sampling Area:
200m X 200m area for non-spatial data collection



CRMS Milestones

- 2001-2003 – Design development
- 2003 - CWPPRA approved funding
- 2003-2005 - pre-construction planning, contracting, **landrights**
- 2005-2007 - site installation begins, interrupted by Hurricanes Katrina and Rita, 390 sites completed in 2007
- 2006-present – Data collection, site maintenance, USGS and CPRA develop website to house data

CRMS Public Website

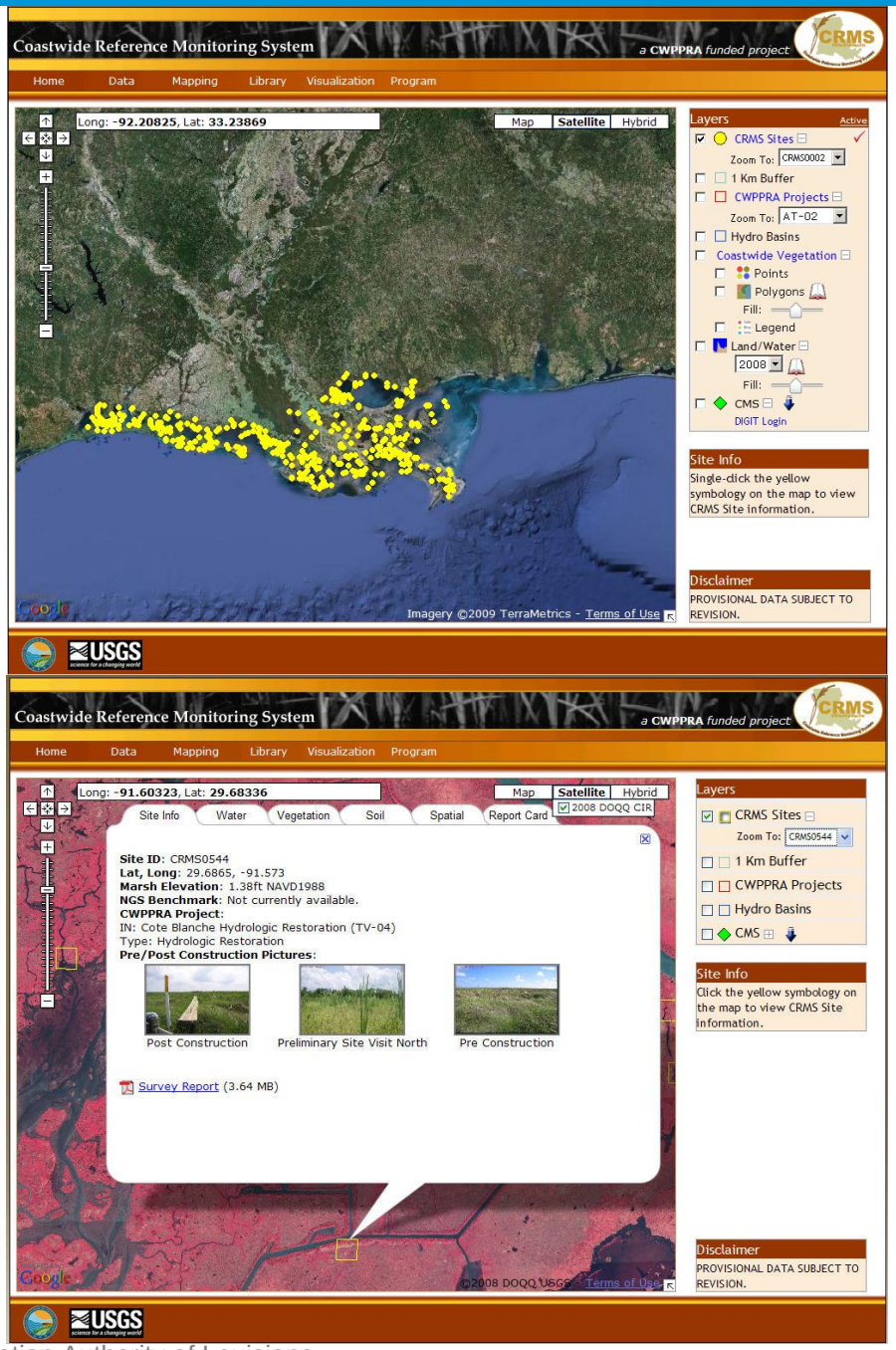
- CRMS Analytical teams are made up of scientists and information technology specialists
- Feedback solicited from CWPPRA partners annually at “roadshows”
- Comments are then incorporated into the website
- Training available to public twice annually

CRMS Website

www.lacoast.gov/crms2

- Mapping Menu bar - select the Basic Map viewer

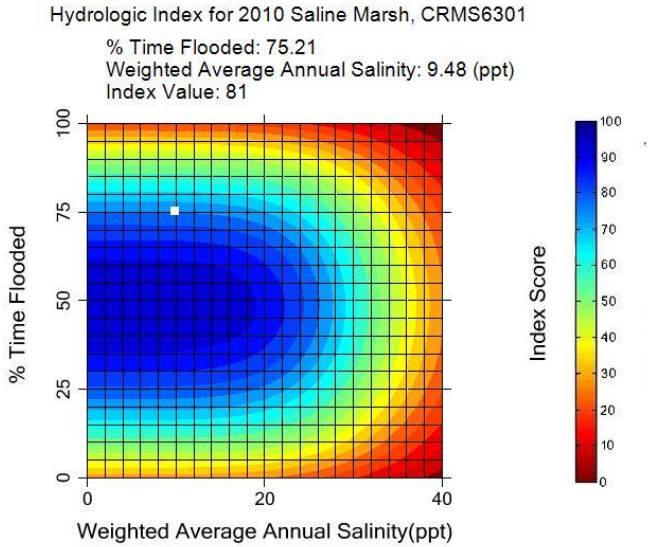
- Select a site and a bubble pops up with site information and select graphics



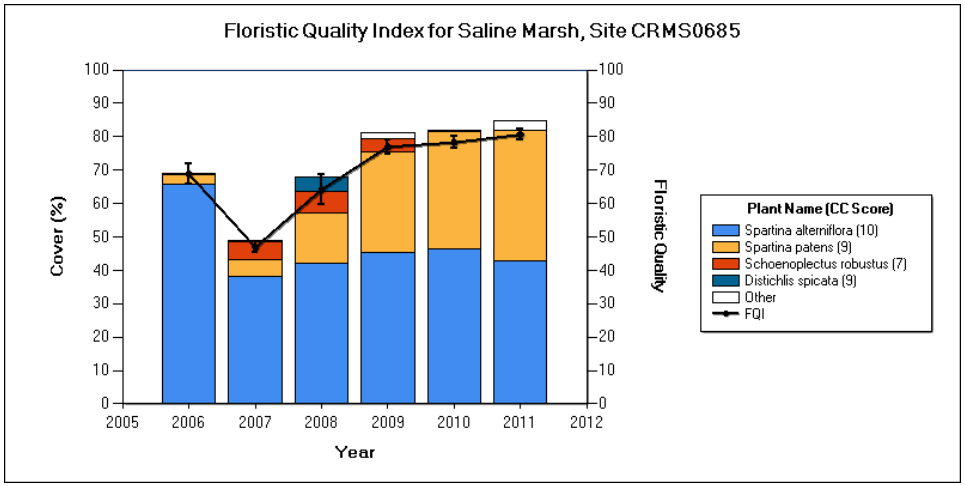
CRMS Indices

Comparison across multiple spatial scales

- Hydrologic – HI suitability of average salinity and % time flooded in maximizing vegetative primary productivity



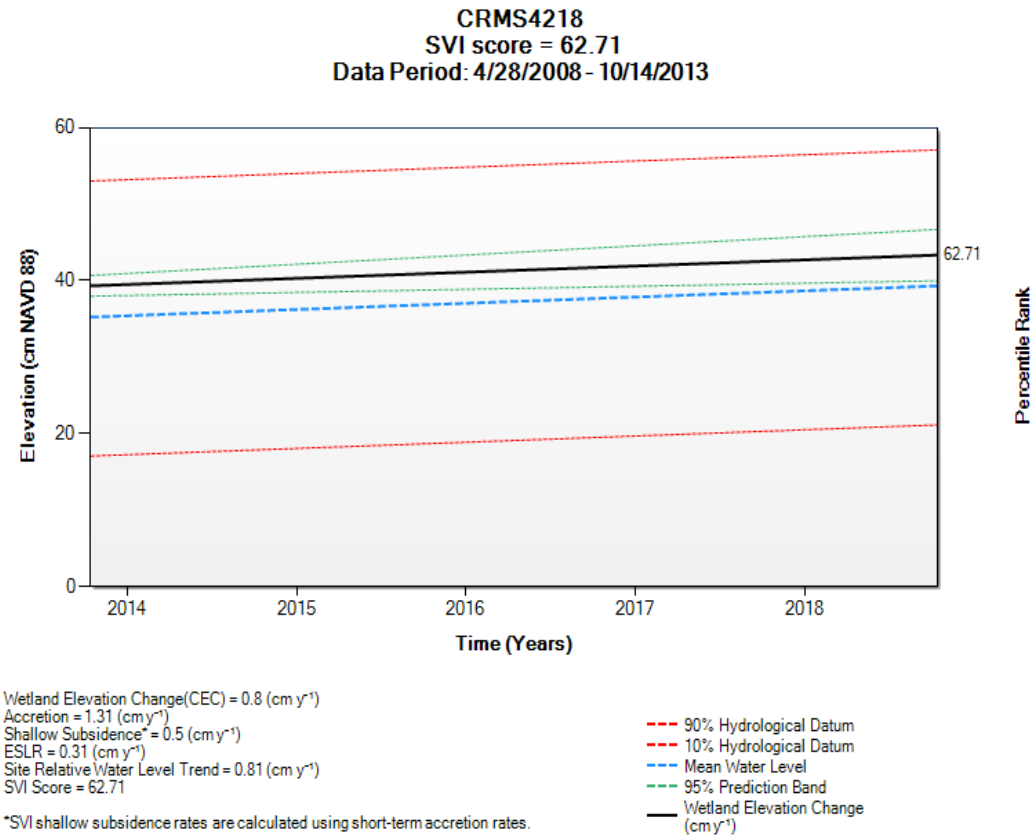
- Floristic Quality - FQI Species assigned scores based on fidelity to a marsh type and whether they indicate wetland stability or disturbance



CRMS Indices

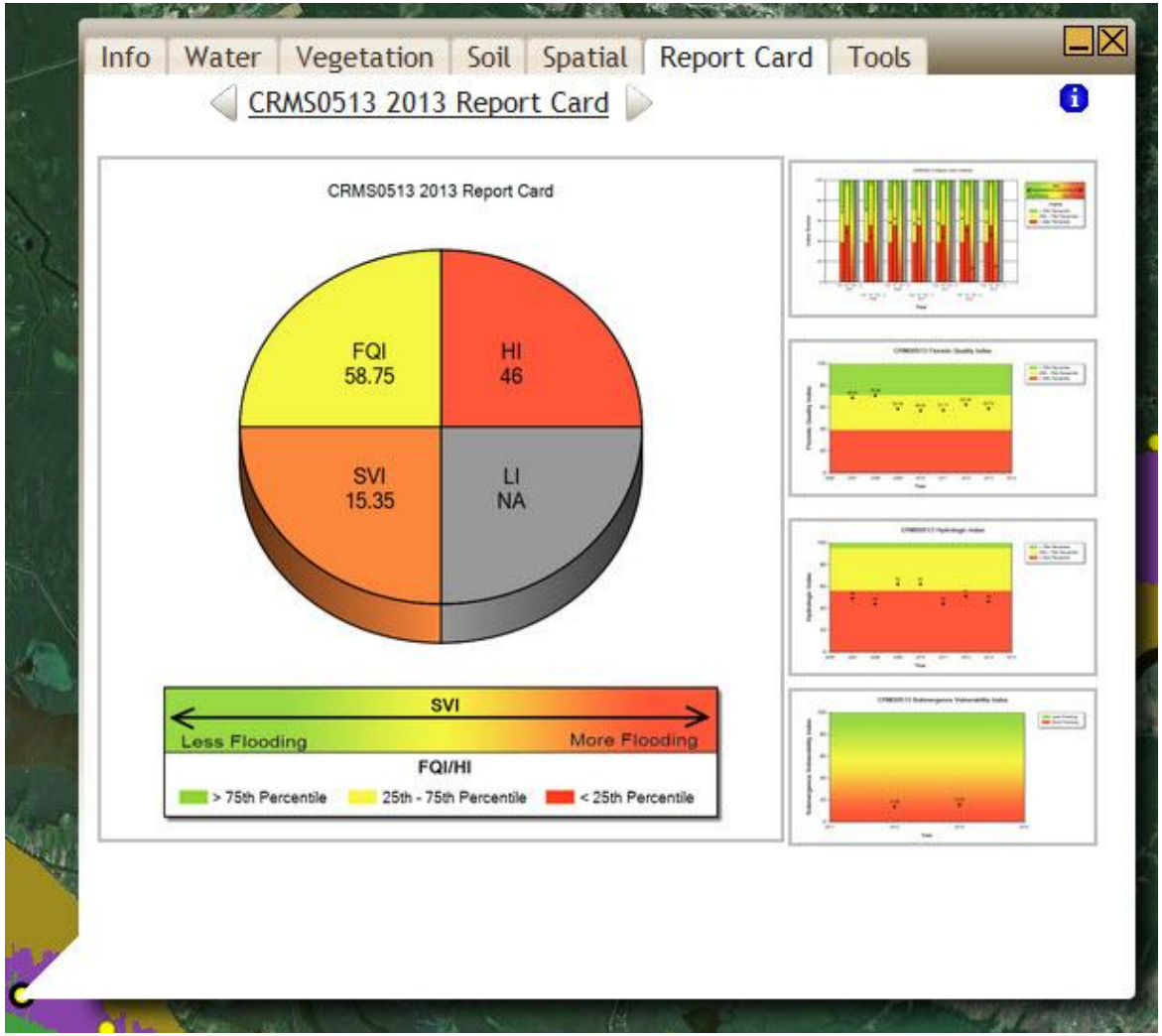
Comparison across multiple spatial scales

- Submergence Vulnerability Index - combines elevation change and shallow subsidence data with known starting elevations and predicted sea level rise rates to predict future marsh elevation relative to water elevation (submergence or emergence)

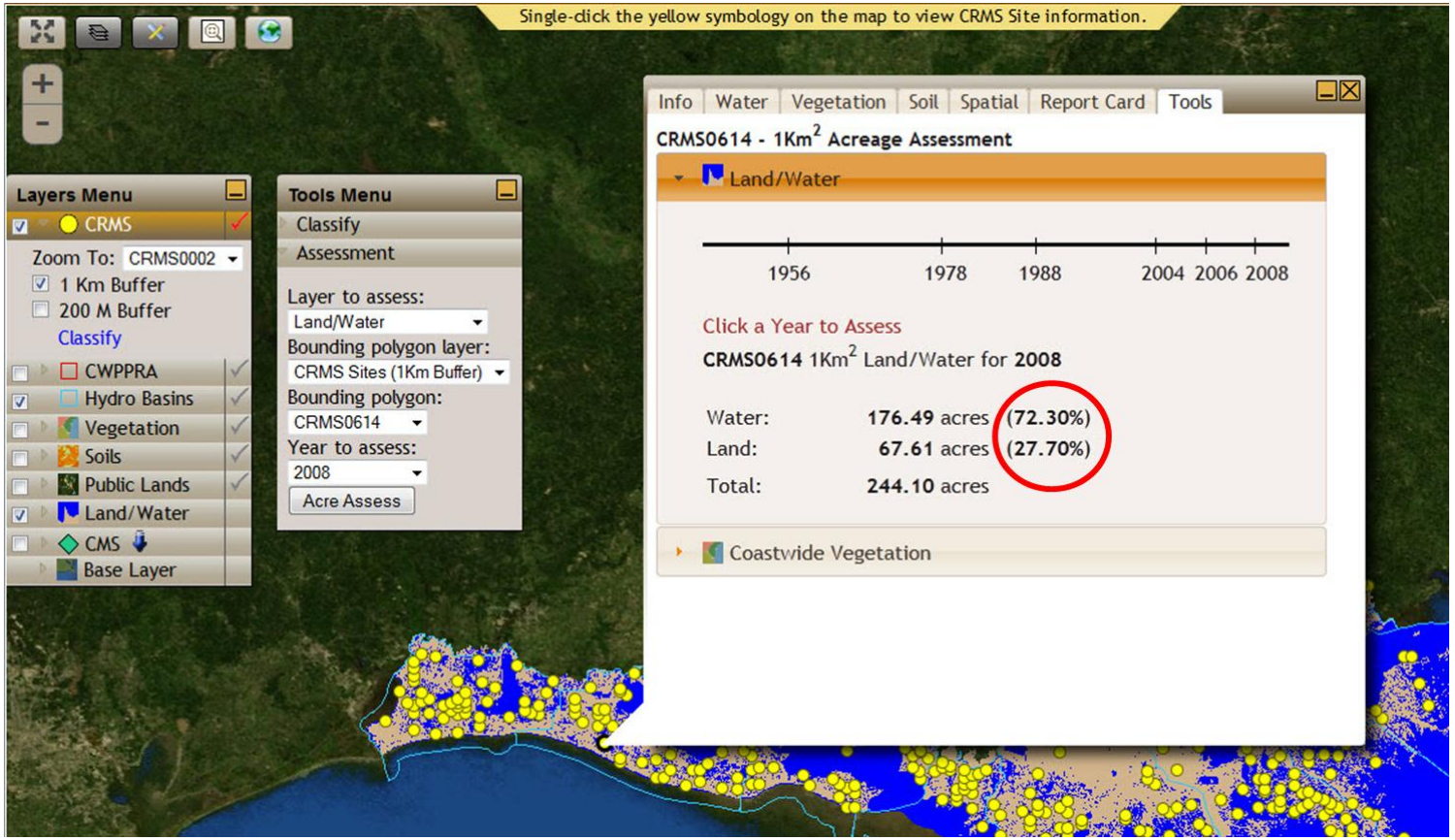


CRMS Report Cards

- Baseline period from 2006-2009 was established to assess existing distribution of index scores of all CRMS sites



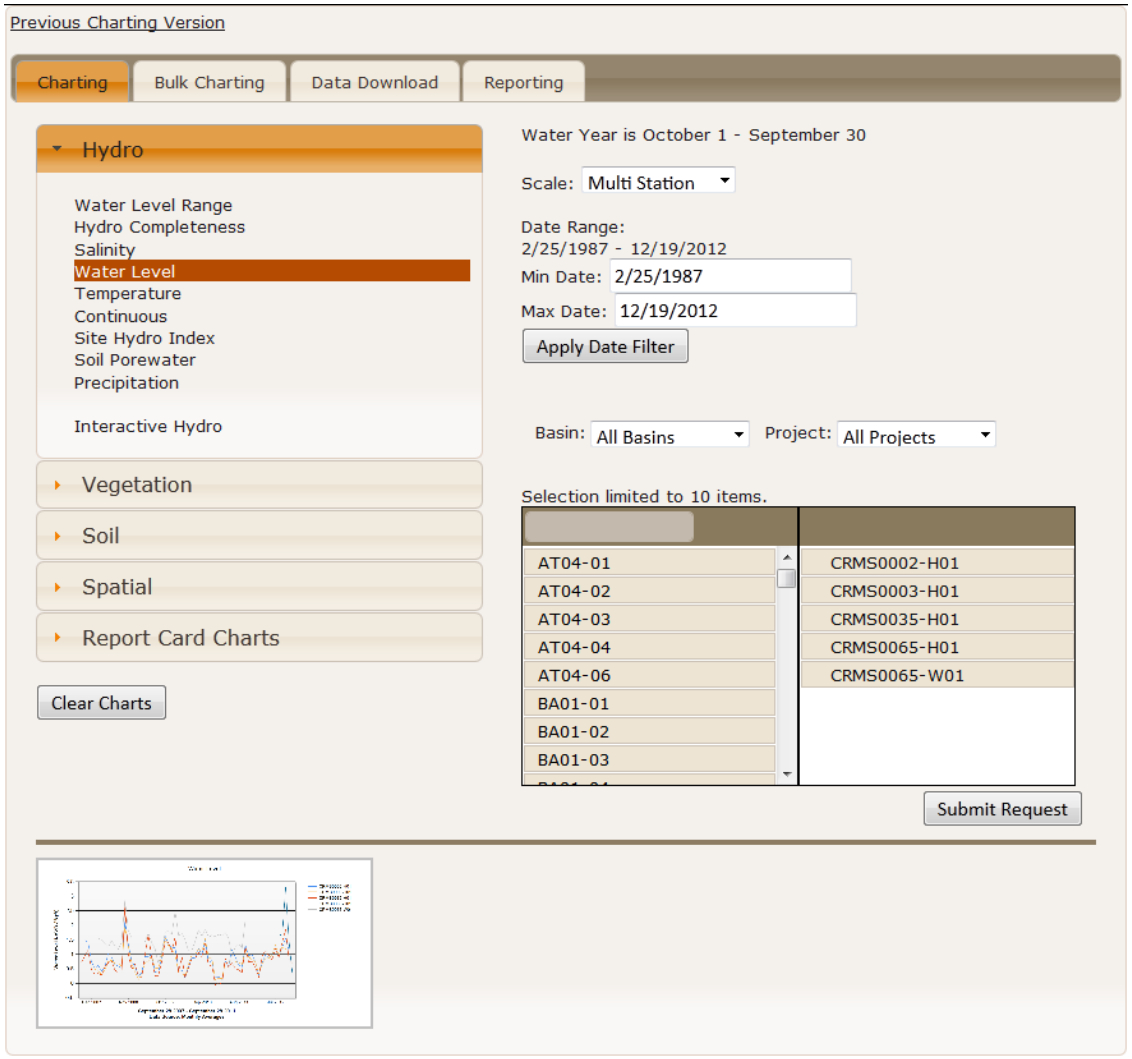
Data Utilization
Identify problem areas



How much land has the area lost over time?

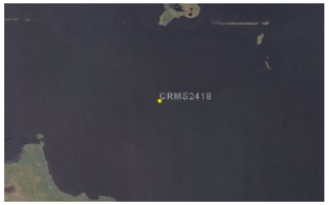
Data Utilization

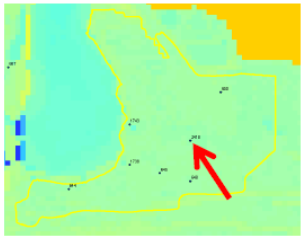
Develop a new project on the priority list

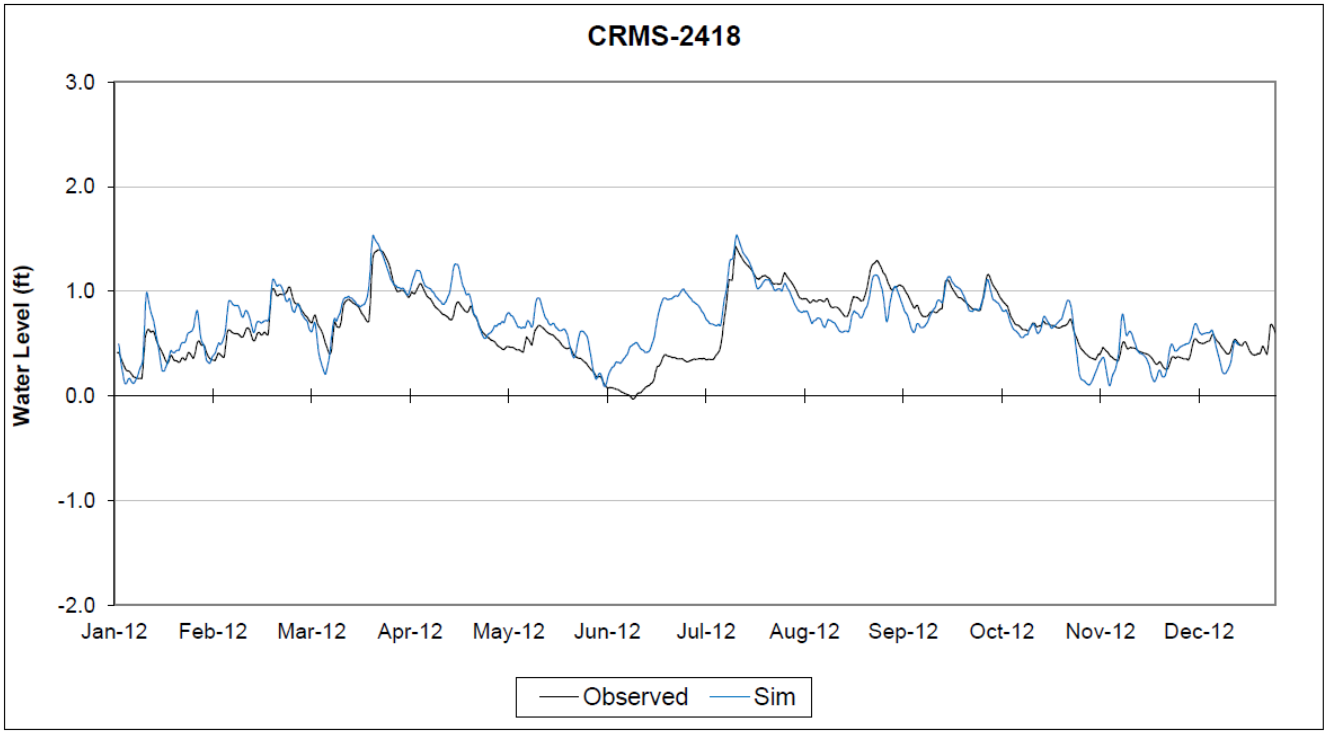


Data Utilization
Model hydrologic data for project planning

CRMS–2418

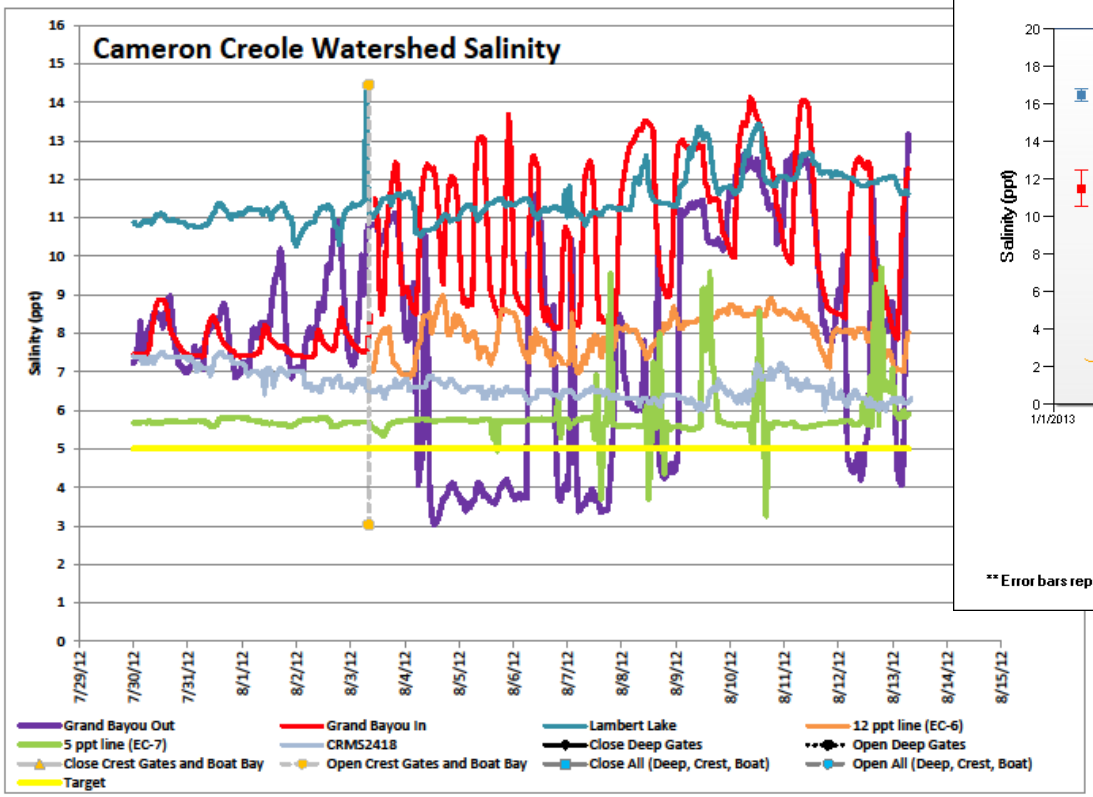


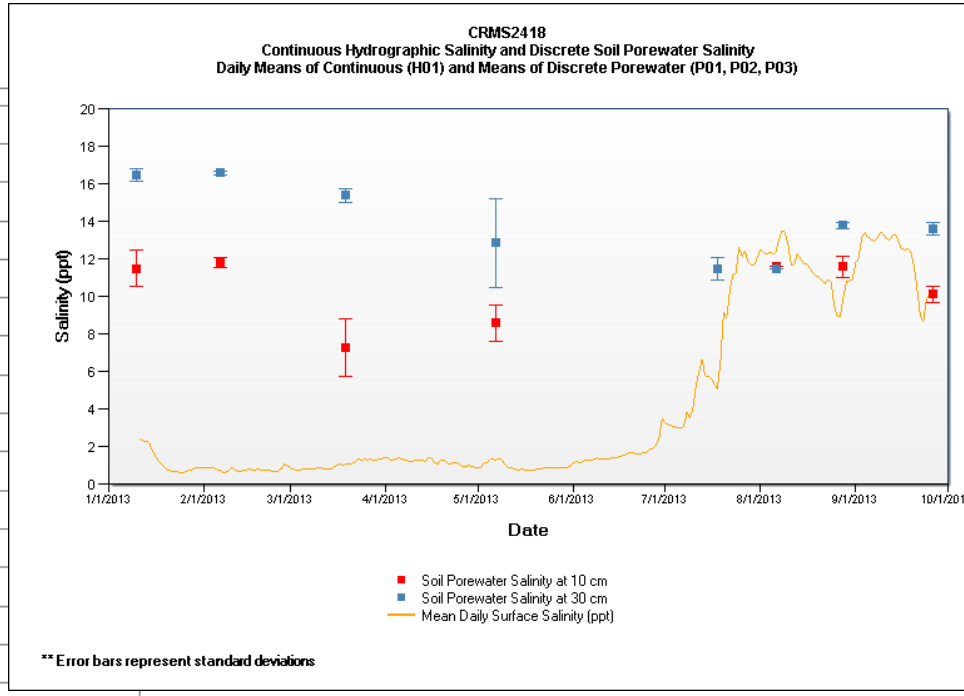




Data Utilization

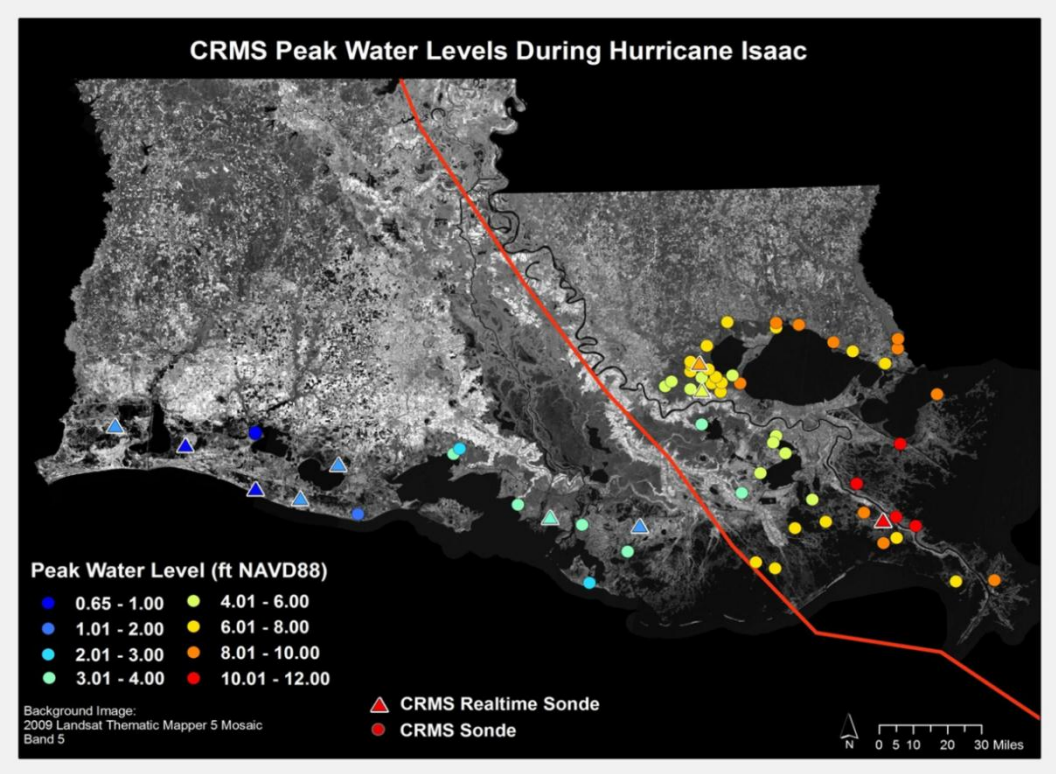
Evaluate the performance of and adaptively manage constructed projects





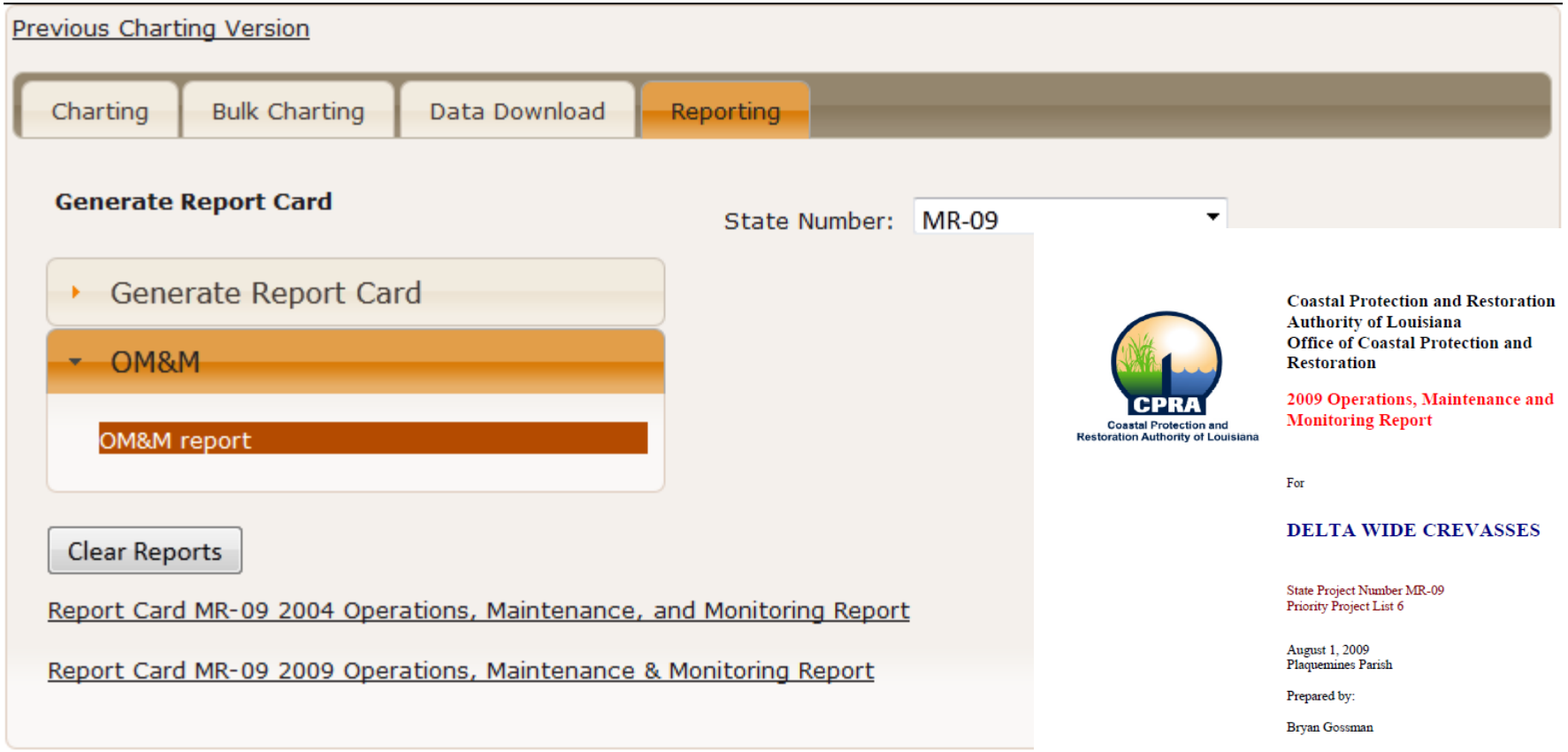
Data Utilization

Identify damages to projects following a major disturbance



Damage assessments underway when sites are accessible

Data Utilization
Recommendation for Project at end of 20 yrs



2014 Activities

- 2013 Vegetation survey performed by Visser/Sasser results available
- Land/Water analysis of 2012 photography available on website this summer
- CRMS annual Roadshows with federal partners scheduled in April
- Public Website Training April 30 in Baton Rouge
- CRMS Website Beginner's Guide
- Elevation Survey of all CRMS sites in 2014

COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA
CRMS
Wetlands
Coastwide Reference Monitoring System
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT
http://www.lacoast.gov/crms2