Louisiana Gulf Hypoxia Program Update

HTF Public Meeting
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Louisiana Nutrient Reduction & Management Strategy Implementation

- The Louisiana Department of Environmental Quality (LDEQ) is lead agency for this cooperative agreement
- Project 1 implemented by Louisiana Dept. of Agriculture and Forestry (LDAF)
- Project 2 implemented by the Louisiana Coastal Protection and Restoration Authority (CPRA)

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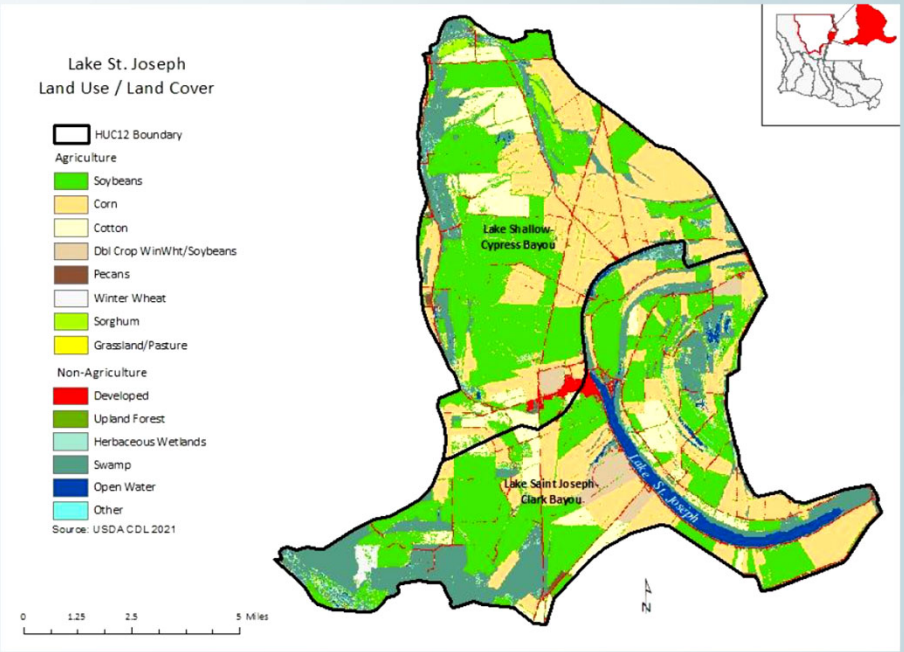
Project 1: Lake St. Joseph, Louisiana, Nutrient Loading Reduction

Objectives:

- Enroll producers in the Lake St. Joseph-Clark Bayou and Cypress Bayou Watersheds in Tensas Parish, LA in a program to implement agricultural best management practices targeted to reduce nitrogen and phosphorous runoff from edge of field.
- Measure impacts of targeted BMP implementation through sample collection on edge of field runoff for differences in water quality and clarity compared to control monitoring site(s).

Project Area



Background

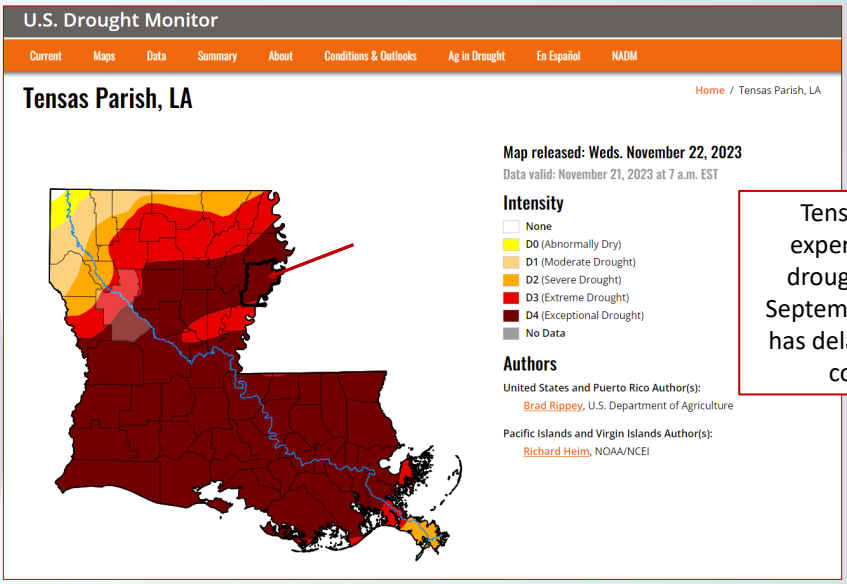
- Feb. 2023 - EPA approval of Quality Assurance Project Plan (QAPP)

- Additional Partners:
  - USDA Natural Resource Conservation Service (NRCS)
  - Tensas-Concordia Soil & Water Conservation Districts (SWCD)
    - LDAF, USDA NRCS, and Tensas-Concordia SWCD cooperated in development and enrollment of area producers in Ag BMPs
  - Louisiana State University Ag Center (LSU AgCenter)
    - LSU AgCenter is sub-contracted to manage edge of field sample collection and analysis

Overview

- Call for applicants completed in Summer 2023
- 10 area producers applied for BMP enrollment
  - ~8,000 acres cropland
- Proposed to implement 16 targeted agricultural BMPs
- Fall cover crops planted
- Additional BMP implementation and field-side sampling will begin in 2024

Drought Impacts



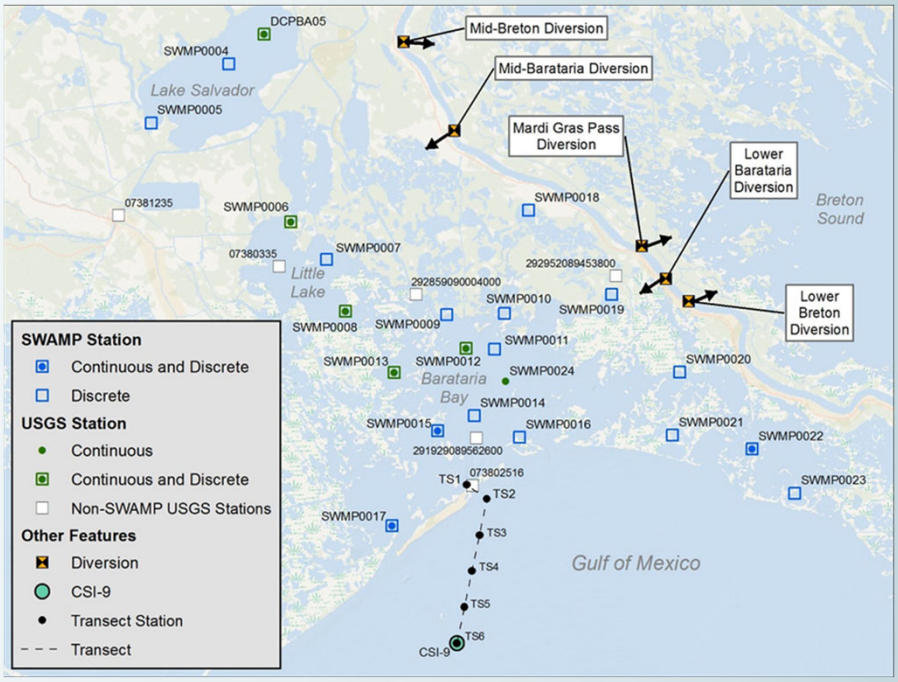
Tensas Parish has experienced D3-D4 drought levels since September 2023, which has delayed planting of cover crops.

Project 2: Pilot Transition to Autonomous Monitoring from Inshore to Offshore in Coastal Louisiana

Objectives:

- Provide continuous characteristic water quality data from inshore to offshore
- Coastal transect monitoring began in 2018 with Gulf of Mexico Alliance (GOMA) funding and has continued under EPA funding sources since 2019
- Monitoring has been conducted ~3x/year with boat-based surveys
- Goal is to transition from a boat-based survey in Spring 2023 to autonomous vehicle data collection by Fall 2023

Project Area



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Background

- March 2023 - EPA approval of QAPP
- Boat-based monitoring conducted by CPRA sub-contractor for Spring-Summer 2023 sampling season
- Autonomous Vessel development by Principal Investigator Dr. Stephan Howden from the University of Southern Mississippi and partners L3Harris, Integral Consulting Inc., Texas A&M University, GCOOS (Gulf of Mexico Coastal Ocean Observing System), the USEPA, and the National Oceanic and Atmospheric Administration (NOAA)

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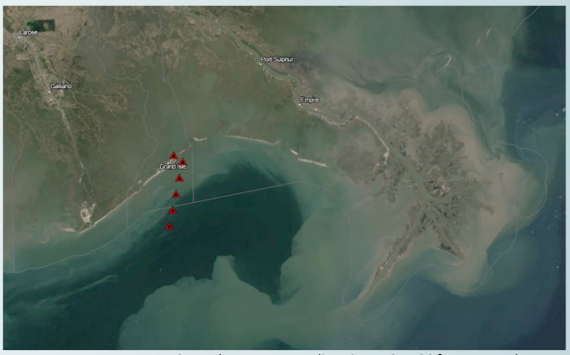
Sample Collection

- Spring-Summer 2023 Sampling Season Completed
  - Samples collected by boat:
    - June 29, 2023
    - July 25, 2023
    - September 26, 2023
  - All transect sites sampled
  - Data is in QA/QC and will be available via CPRA's Coastal Information Management System (CIMS)



Coastal transect sampling sites, TS1-TS6 from top to bottom

Transition Status

- Autonomous vessel transition is still underway
- Has encountered some delays on the design side

L3Harris | ASV (Photo by Stephan Howden)

Summary

Project 1 Recap

- Enrollment in targeted agricultural BMPs is complete, and though delayed by exceptional drought will proceed with implementation and monitoring in 2024.

Project 2 Recap

- Boat-based sample collection was conducted 3 times in Spring-Summer 2023 Season and data review is underway. Autonomous vessel transition is still a work in progress.

- Both projects enable the state of Louisiana to implement key strategic actions using innovative technologies to address nonpoint source water quality management.

Thank you

Questions?