

Greater New Orleans/Lower Mississippi Environmental Observatory:

Initial Concepts & Purpose

developing from the LEAG Consortium

What is it? What could it be?

- Central repository of internet-accessible scientific information (monitoring, modeling, process research).
- Consortium of scientists and engineers interested in applying science to enable better management of natural and human resources for the long term.
- A set of shared field study sites in the region.
- A set of shared laboratory capabilities.
- A set of physical places where interdisciplinary teams, in the broadest sense, can get together and work together.
- A set of educational centers that can help transfer and use the scientific assessments, and communicate them to the greater public.

Why is it needed?

- The Mississippi integrates the water and land-use impacts from over 40% of the conterminous US.
- An area under extreme environmental stress (hurricanes, flooding, urban blight, contaminants, regional industrial impacts, national land-use impacts).
- Rich natural resources (e.g. biodiversity hotspot).
- Area is key to our National economy (transport, commodities, oil & gas, fisheries).
- Unique cultural area.
- A unique opportunity to quantify ecosystem services (regulating, provisioning and other services (e.g. C sequestration, fisheries, clean water) and human impacts.

Why?

- Need to focus our resources and studies.
- Need for greater stability of funding.
- Need to translate/incorporate process research to/into larger scale assessments.
- Need to understand how individual/species impacts affect larger populations, and ultimately affect our human environment.

What would be observed?

- Nutrients, vitamins, hormones, antibiotics, pesticides, herbicides, Hg, other harmful/beneficial chemicals in water, sediments, tissues.
- Biota (behavior, environmental responses, population distributions, species migration/disappearance, biodiversity).
- Water and sediment fluxes. Salinity intrusion, subsidence, geologic framework responses.
- Key ecosystem functions.
- Human impacts of environmental changes.
- Ecosystem resources (provisioning and needs). Ecosystem services quantification essential for valuation, regulation, policy-making, trading of credits.

The urban side of the bayou



photo provided by Charlie Demas

The pristine side of the Lower Mississippi area



photo provided by Cliff Hupp