

## GULF OF MEXICO OBSERVING SYSTEM REQUIRED FOR ECOSYSTEM MONITORING

### WHO WE ARE

The Gulf of Mexico University Research Collaborative (GOMURC) is a regional alliance of university consortia (currently 78 institutions) intended to promote science and education initiatives that span state boundaries. Through advocacy and collaboration, GOMURC supports science-based policies and programs to understand, restore, protect and sustain Gulf of Mexico natural resources.

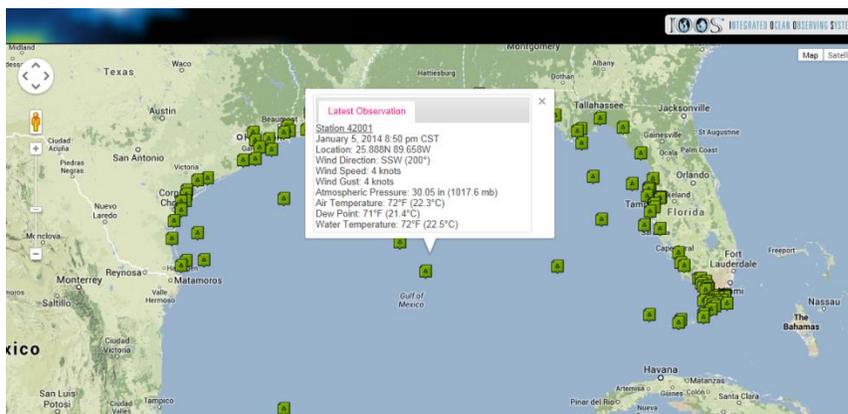


Figure 1. GCOOS Gulf observing station map. On-line at <http://gcoos.org/products/maps/stations/>.

### POSITION

Deepwater Horizon Oil Spill (DWHOS) penalties should contribute to a new Gulf-wide observing and monitoring program (Gulf Observing System, GOS) that integrates interdisciplinary measurements, modeling, research, and related innovations. Physical, chemical, biological, geological, and marine atmospheric data are needed to support ecosystem restoration and many other societally important applications. Without an adequate GOS, we cannot restore without knowing desired end-points (baselines), nor predict restoration success in view of the many other natural and human-induced changes and conditions in complex ecosystem like the Gulf of Mexico.

### ROADMAP

#### Objectives:

- Monitor estuaries to deep sea off Alabama, Florida, Louisiana, Mississippi, and Texas (Gulf States);
- Fill critical knowledge gaps based on Gulf of Mexico Coastal Ocean Observing System (GCOOS) build-out plan (BOP) and restoration-related gap analyses;
- Build on, sustain and expand existing capabilities, integrated under one responsible organization;
- Engage stakeholders in developing, implementing, and sustaining operations and science products.

#### Approach:

- **Funding:** Establish permanent fund (or endowment), similar to other regional programs (Alaska EVOS Trustees Council allotted ~10% of penalties), via shared support by all restoration programs, in order to ensure long-term (decades) support for core capabilities (e.g., research, observing, information management, and forecasting). GCOOS non-profit status (<http://gcoos.tamu.edu/?p=5866>) enables new leveraging; IOOS support must also continue to sustain non-restoration applications and foundation for growth regardless of DWH restoration funding.
- **Regional collaborative strategy:** Strategic objectives should be relevant to the overall sustained health and resilience of the Gulf ecosystem (as opposed to agency mandates or event-based priorities). Assist GCOOS in developing new BOP that emphasizes gaps, and engages existing observing and monitoring programs and key stakeholder groups. Partners include (not limited to): oil and gas industry; Southeast Universities Research Association (SURA) modeling test-beds; GOMA water quality-based Gulf Monitoring Network; Mexico's GoM Large Marine Ecosystem (GOM-LME) coastal and ocean observing programs; and regional and national information management and decision-making tools and services (e.g., with EPA, USGS, NOAA, DOI, NASA and the IOOS).