

Florida Institute of Oceanography

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What is the Florida Institute of Oceanography?

- Designated Academic Infrastructure Support Organization in Florida
- Administrate and coordinate statewide shared use resources to enable excellence in marine science research and education
- FIO Consortium Members:
 - Department of Environmental Protection (FL)
 - Eckerd College
 - Florida A&M University
 - Florida Atlantic University
 - Florida Fish & Wildlife Research Institute
 - Florida Gulf Coast University
 - Florida Institute of Technology
 - Florida International University
 - Florida Sea Grant
 - Florida State University
 - Mote Marine Lab
 - New College of Florida
 - NOVA Southeastern University
 - Smithsonian Marine Station
 - University of Central Florida
 - University of Florida
 - University of Miami
 - University of North Florida
 - University of South Florida
 - University of West Florida



Mission

Facilitate, promote, and support Florida's emergence as the pre-eminent state for collaborative ocean-related research and education

- Operation of sea-going vessels for coastal ocean research
- Operation of Keys Marine Lab (with FWRI)
- Promote research, economic development, and environmental sustainability of Florida's coastal ocean



R/V Bellows



R/V Weatherbird II



Keys Marine Laboratory



FIO Response to Deepwater Horizon Oil Spill

- Substantial leadership role in immediate and long-term response
- Designated State's central point of coordination for BP funded research studies
- FIO vessels used in numerous multi-institutional water sampling research cruises
 - For example: sample sediment, subsurface oil, and toxicity of oil and dispersants.
- In 2010 BP awarded FIO \$10M grant for research & FIO established peer-review process for distributing funds:
 - RFP resulted in 233 proposals, totaling approximately \$60M
 - 27 proposals funded, work underway
 - PI progress meetings held, data will eventually be made available



KML staff diver with data-logging equipment

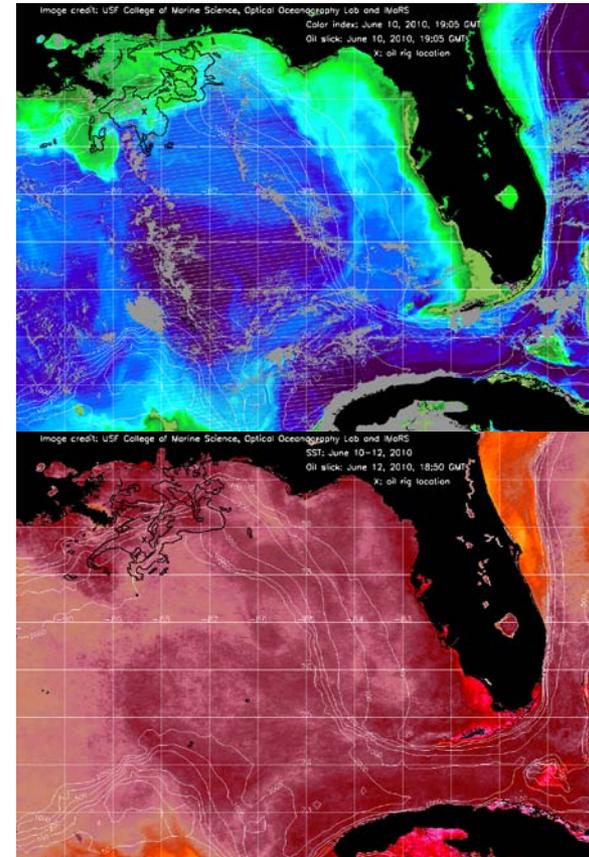


Initial Oil Spill Related Findings

- Loop current involvement
- Discovery of sub-surface clouds of oil
- Confirmation of oil in water column
- Fingerprinting to match with BP spill

Unknown & Ongoing

- Impact on food chain
- Damage to estuaries
- Chemical dispersant effects
- Ecosystem short- and long-term responses



images courtesy of USF College of Marine Science Optical Oceanography Lab and IMaRS

Why do we need long term observing in the Gulf?

“...any comprehensive Gulf restoration effort will need to be based on sound science...”

- National Commission of the BP Deepwater Horizon Oil Spill and Offshore Drilling

Some Scientific Objectives an observing system would address:

- Water quality assessment: Pollution, HAB prediction, Nutrient processes
- Assessment, restoration, management of sustainable marine resources
- Monitoring and restoration of coastal habitats
- Hurricane forecasting
- Effects of offshore energy exploration, production and accident response
- Impacts of climate change and sea level rise



Long term vision for observing in the Gulf

Gulf Ocean Observing System – an integrated system of observations, data management, analysis, and models including:

- Data for improved methodology, assessment, and interpretation of the interacting life cycles of microbe, plant and animal populations living in the Gulf of Mexico
- Multiple sampling, surveying, sensor, and sensor delivery systems, including research vessels, remotely operated vehicles, satellites, communication systems, buoys, acoustic sensors, robotic technology, autonomous observing platforms, and diver observations
- Land-based facilities including labs, port infrastructure, equipment, communications, and personnel
- Data management, analysis, modeling, dissemination, and outreach.
- In coordination with existing efforts

