

## **REMOTE SENSING FOR RAPID RESPONSE TO GULF OIL SPILLS**

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### **ABSTRACT**

The ability to understand, prepare for, and mitigate the immediate and long term environmental and economic impacts of disasters in the Gulf of Mexico coastal region will require immediate and sustained responses to events such as the BP oil spill of April 2010, to delineate accurately and quantify the damages attributable to each specific event. Characterizing the distribution and composition of petroleum constituents and their impacts in coastal ecosystem can be effectively accomplished using high resolution geo-spatial data, both laterally and vertically. Remote sensing observations collected from satellite, aircraft and Remotely Operated Vehicle (ROV) submersibles will be required to obtain data sets containing a plurality of measurements with comprehensive coverage of the impacted environment. Remote sensing data will be validated by data collected on land and from vessels. These data sets will be vital for an integrated research and education program to address ecosystems associated with petroleum releases in the onshore, littoral zone, and deep ocean with the necessary spatial and temporal resolutions.

An integrated multi-disciplinary team of engineers and scientists representing a consortium of universities has been formed that together have the support staff, equipment, and laboratories to respond immediately to disasters, both natural and man-made, and to follow them through time to determine their ultimate impacts on the environment, ecosystems, and economy of the Gulf Coastal region. This integrated multi-disciplinary evaluation of disasters for the first time will provide authoritative information for companies and government agencies to more fairly assign responsibility and liability for purported damage, and avoid the tendency to attribute all problems, including many previously existing ones, on the latest disaster.