

Key nearshore findings from the Northern Gulf Institute monitoring and research program undertaken in the immediate aftermath of the Deepwater Horizon Incident

Deepwater Horizon Oil Spill Science

Oral Presentation

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The Northern Gulf Institute (NGI), a National Oceanic and Atmospheric Administration (NOAA) Cooperative Institute, addresses important national strategic research and education goals as a partnership of five complementary Gulf academic institutions and NOAA. Mississippi State University leads this collaboration, partnering with the University of Southern Mississippi, Louisiana State University, Florida State University, Alabama's Dauphin Island Sea Lab, and NOAA scientists at various laboratories and operational centers having interests in the northern Gulf of Mexico region.

NGI contributes to NOAA's strategic interests within the four research themes of Ecosystem Management, Geospatial Data Integration and Visualization, Coastal Hazards, and Climate Effects on Regional Ecosystems. The established NGI institutional and management structure and its recognized Gulf of Mexico science leadership in these theme areas positioned NGI as a key participant in the necessarily rapid monitoring and research response required in the immediate wake of the April 20, 2010 Deepwater Horizon Incident.

This situation called for a rapid action including the continuation of existing as well as the initiation of new environmental monitoring and research prior to the influx of oil into northern Gulf ecosystems. Within the first months NGI provided both NGI and non-NGI affiliated researchers from the Gulf states and beyond with ~ \$4M rapid, phase 1, initial funding from the the BP-funded Gulf of Mexico Research Initiative (GoMRI). Forty individual projects within nine overarching research efforts focused on the five original GoMRI themes: (1) physical distribution, dispersion and dilution of contaminants under the action of ocean currents and tropical storms, (2) chemical evolution and biological degradation of the oil/dispersant systems and subsequent interaction with the marine and coastal ecosystems, (3) environmental effects of the oil/dispersant system on the sea floor, water column, coastal waters, shallow water habitats, wetlands, and beach sediments, and the science of ecosystem recovery, (4) technology developments for improved mitigation, detection, characterization and remediation of oil spills, and (5) fundamental scientific research integrating results from the other four themes in the context of public health.

Subsequent to the phase 1 rapid response, NGI conducted a call for proposals for the remaining \$6M, again focused on the GoMRI themes. NGI solicited proposals from investigators from the five NGI institutions with all proposals subject to an independent peer-review process. The peer review was conducted and award decisions for 25 projects were completed by January 2011.

This presentation will summarize key findings from both phases of this NCI-managed research with particular focus on those projects relevant to beaches, estuaries and nearshore waters.