

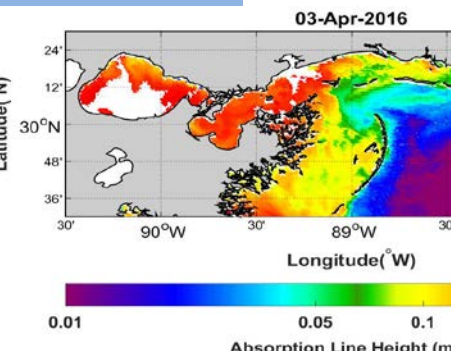
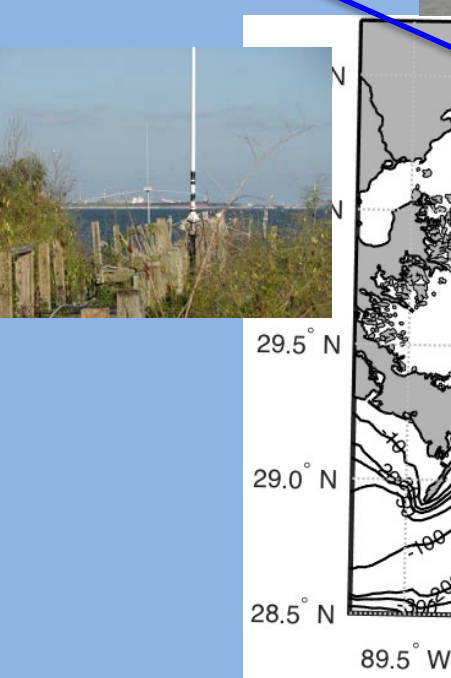
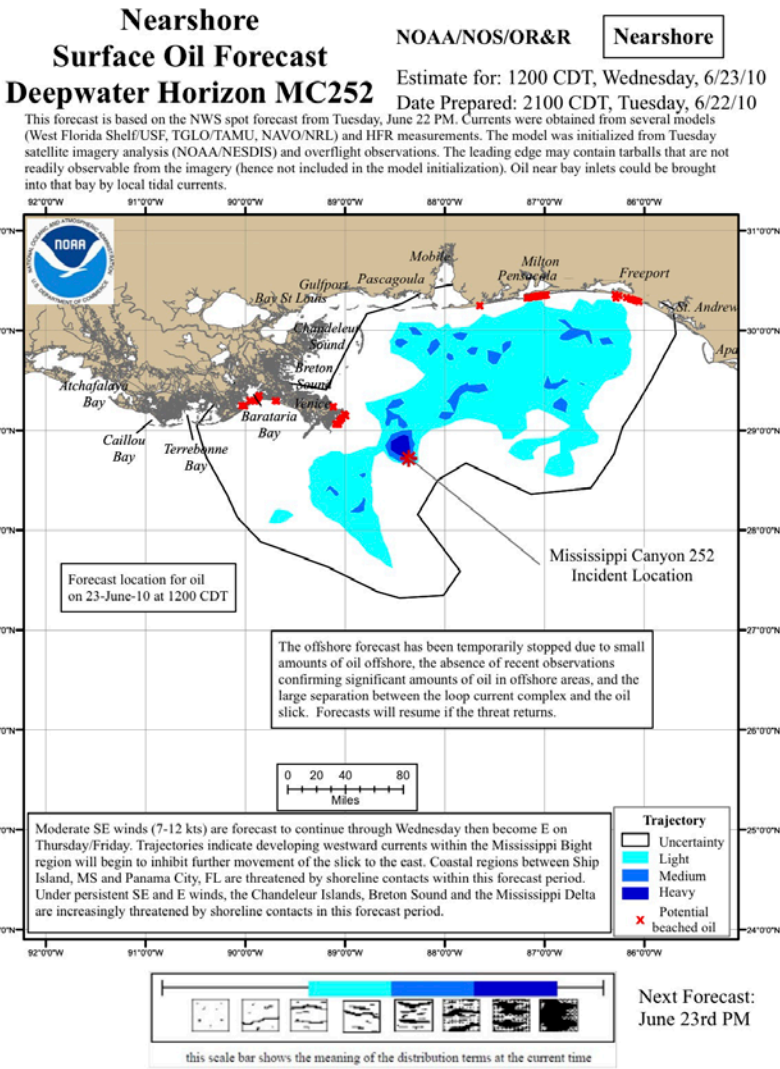


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This forecast is based on the NWS spot forecast from Tuesday, June 22 PM. Currents were obtained from several models (West Florida Shelf/USF, TGLO/TAMU, NAVO/NRL) and HFR measurements. The model was initialized from Tuesday satellite imagery analysis (NOAA/NESDIS) and overflight observations. The leading edge may contain tarballs that are not readily observable from the imagery (hence not included in the model initialization). Oil near bay inlets could be brought into that bay by local tidal currents.



DAR Specification		
	Range (km)	Horizontal Resolution (km)
	140 – 220	3-12
Standard	20-75	0.5-3

Ocean Weather Lab - Arnone)

CONsortium for oil exposure pathways in Coastal River-Dominated Ecosystems (CONCORDE)

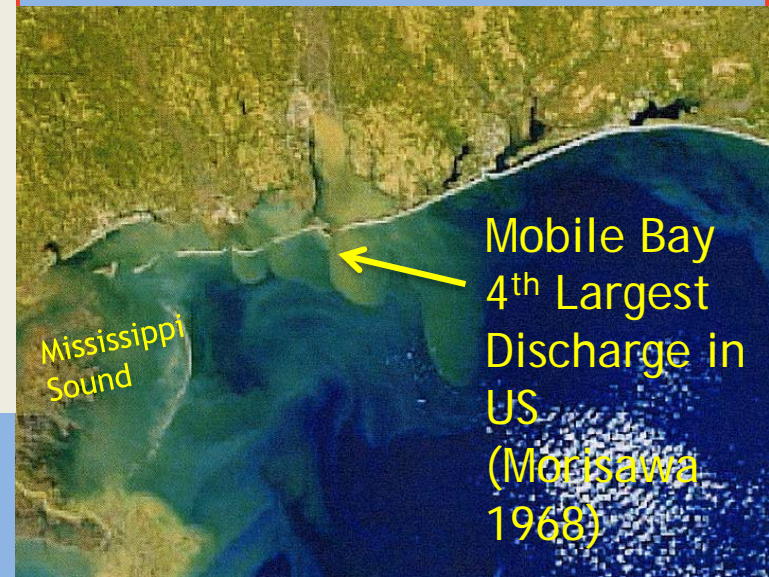
How do the complex fine-scale biological, geological, chemical and physical structure and processes in coastal waters dominated by pulsed-river plumes control the exposure, impacts and ecosystem recovery from offshore spills like the Deepwater Horizon release of 2010?



Study Area

- Pulsed, freshwater inputs;
- Freshwater sources are a major driver for vertical and horizontal stratification in the region, within which planktonic layers can be found;
- This structure affects both advective pathways and mixing which in turn affects plankton and can lead to various pathways to exposure in the event of oil or other toxic spills.

The total discharge into Mississippi Sound and from Mobile Bay ~ 15% of MSR



Gaps

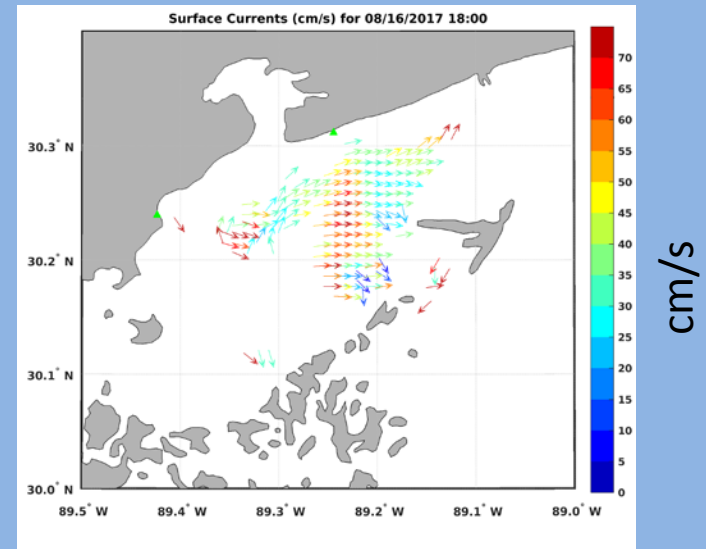
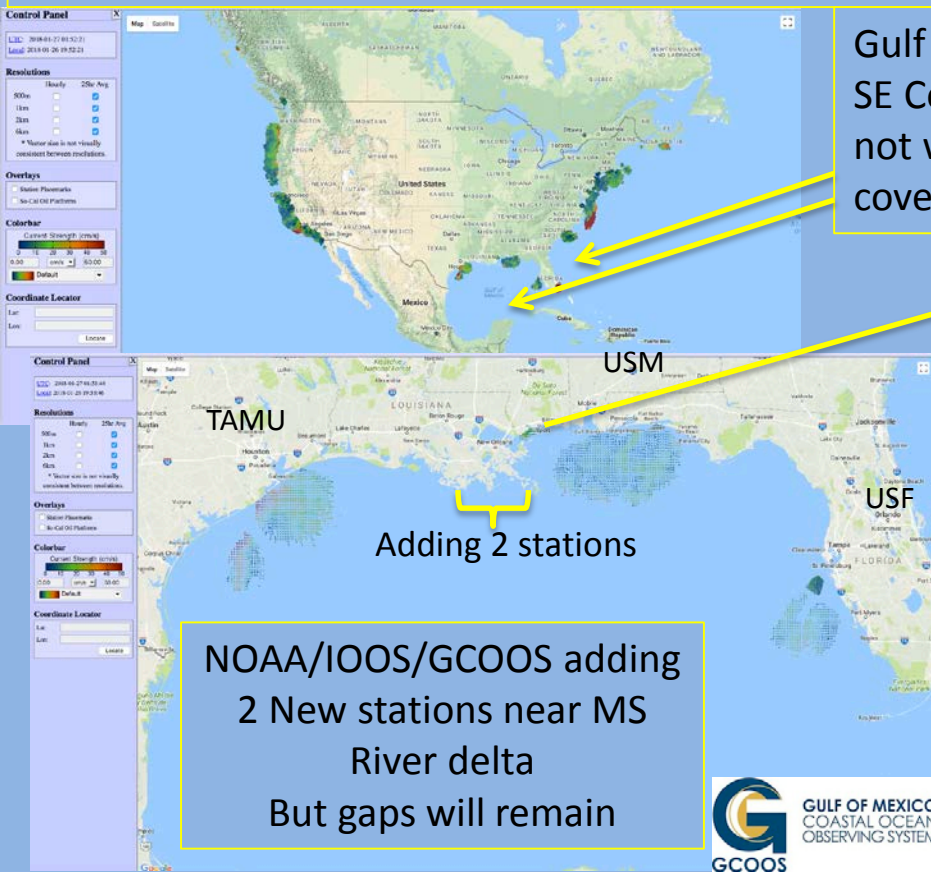
- In the Gulf of Mexico Large Gaps in High Frequency Radar Coverage Exists
 - The NAS Loop Current Study calls for more complete coverage, including the technically challenging siting of stations on offshore platforms
- Operational ocean models with real-time river forcing and that assimilate surface currents in the Gulf of Mexico are needed

Surface Currents from the Long Range High Frequency Radar Network

Higher Frequency Radars Needed for Inner-Shelf

- Long Range HFR for depths $> \sim 20$ m
- Higher Spatial Resolution Needed Near Coast

Gulf and SE Coast not well covered



<http://cordc.ucsd.edu/projects/mapping/>
<http://data.gcoos.org/>

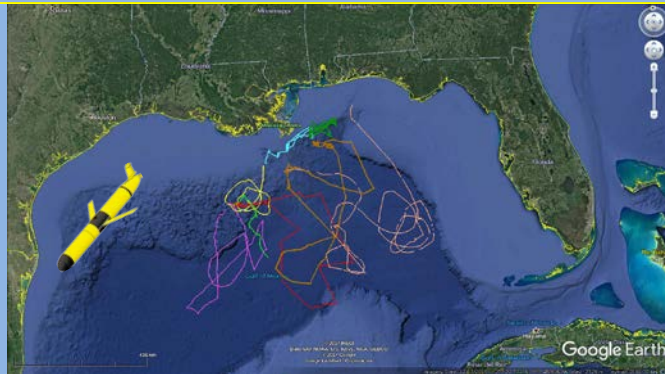
Gaps

A subsurface monitoring system capable of providing information on subsurface currents and oil/dispersant plumes is needed in the Gulf of Mexico. Existing system is inadequate.

- Dedicated fleet of gliders and other AUVs could map subsurface plumes
- Need to demonstrate that newer shelf gliders can reliably operate on the dynamic northern Gulf shelf in the presence of very strong vertical stratification

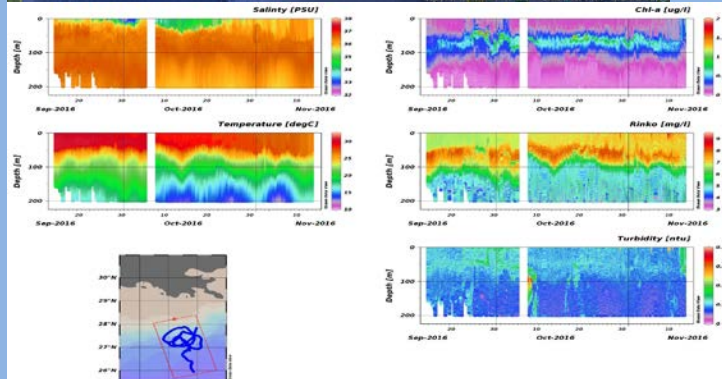
Oil and Gas Platforms with required ADCPs (LTE) for measuring currents in the ~ 100-1000 m range.

- No surface currents.
- Many sensors not reporting
- Need subsurface oil/dispersant information: Fluorimeters and dissolved oxygen



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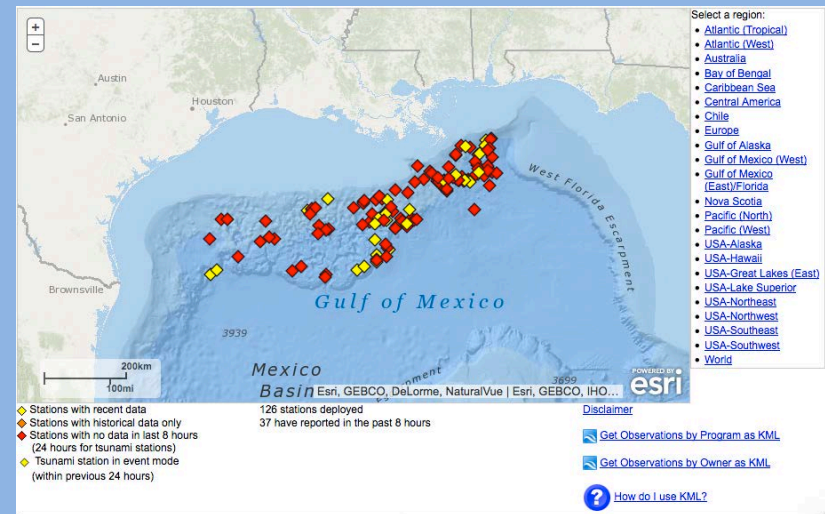
T



Chl-a

DO

Turbidity



No recent Data