



Grand LAgrangian Deployment (GLAD): Surface Dispersion Characteristics Near the Deepwater Horizon Oil Spill Site

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Initial dispersion, residence time, and advective pathway results obtained from the nearly simultaneous deployment of some 300 surface drifters in the vicinity of the DwH oil spill in the DeSoto Canyon are reported.

The goal of the GLAD experiment was to characterize, with unprecedented statistical significance, multi-point and multi-scale dispersion properties of the flow in the region of the DwH spill site including demarcation of the advective pathways between the Canyon and larger-scale flow features in the Gulf. Both the absolute and relative dispersion of surface drifters

was quite slow for those drifters initialized within the Mississippi River Outflow. For the initial time period considered,

drifter motion was characterized by large amplitude inertial motions, overall strong topographic control, and significant indications of interior control by frontal dynamics on 1-5 km scales.

Very limited exchange, either across-shelf or with nearby mesoscale features, was observed and residence times in the

Canyon typically exceeded one week with many drifters remaining there for more than 21 days.