

**USGS CMSC FACS OVERVIEW LOG
ACTIVITY ID: 10BIM04**

TOPIC	INFORMATION
USGS ACTIVITY ID	10BIM04
OTHER ID (IF ANY)	
ORGANIZATION(S)/PROGRAM	U.S. Geological Survey, St. Petersburg Coastal and Marine Science Center
PROJECT/THEME	Addendum to MsCIP (Mississippi Coastal Improvement Project (MsCIP) / Coastal Change and Transport)
AREA OF OPERATION	Cat Island, MS
PRINCIPAL INVESTIGATOR	Jack Kindinger, Jennifer Miselis
INFORMATION SPECIALIST(S)	Noreen Buster, Dana Wiese
ACTIVITY TYPE	Seafloor mapping, geophysical swath bathymetry, shallow sub-bottom profile, side scan sonar backscatter
SCIENTIFIC PURPOSE/GOALS	<p>We propose to develop a detailed geochronology of the formation and morphologic modifications of Cat Island. By identifying historical conditions, processes (natural and anthropogenic if relevant) and barrier response, the impact of future destructive events including storms and rising sea level can be inferred. Questions include:</p> <ul style="list-style-type: none"> • Which model of barrier island formation does Cat Island best represent (emergent shoal, aggradational)? • What is the underlying geometry and geologic composition of the barrier and surroundings, and how does that contribute to its stability (resistance to westward migration)? • What is the timing of the two barrier segments and can that help identify: <ul style="list-style-type: none"> - Sediment provenance when related to shifting Holocene depocenters? - Prevailing regional climate conditions and rates of sea-level rise? • How does Cat Island fit in with the surrounding geology of the Gulf of

	<p>Mexico? Does it represent a transition point between two areas (Chandeleurs and other Mississippi barriers)?</p> <ul style="list-style-type: none"> Based on its evolution, what can we infer about its future response to prevailing physical processes?
PLATFORM	<i>R/V G.K. Gilbert</i>
STARTING DATE	September 7, 2010
STARTING PORT	Biloxi, Mississippi
ENDING DATE	September 15, 2010
ENDING PORT	Biloxi, Mississippi
EQUIPMENT USED	SWATH ^{plus} -H 468-kHz Interferometric System, F190R DGPS/IMU, L3900 Klein Side Scan Towfish, Edgetech SB512 chirp sub bottom profiler, HYPACK for ship navigation, Choke Ring Antenna, Ashtech Z-Xtreme DGPS, and 2 Valeport Mini SVS probes
INFORMATION TO BE DERIVED	swath bathymetry data (x, y, z), shallow sub-bottom image profiles, side scan sonar mosaics
SUMMARY OF ACTIVITY AND DATA GATHERED	Chirp lines (76), Swath lines (76), and Side Scan (76)
NOTES	Boat staff – Noreen Buster, Dana Wiese, Lance Thornton, Dave Bennett Digital 10BIM04 FACS logs were generated by Noreen Buster using handwritten logbook and personal accounts of crew members