

Mine Burial by Scour: Preliminary Results from the Gulf of Mexico

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Abstract: Mine burial experiments were conducted on fine and coarse sandy sediments, in 13 to 15-m water depths, 15 km off Indian Rocks Beach, West-Central Florida. Experimental sites were chosen based on extensive acoustic (side scan, chirp and multibeam) surveys and sediment samples collected by USF. Four acoustic (NRL and OMNI Technologies) and six optical (FWG) cylindrical mines were deployed during January-March 2003. The extensive sediment (USF and NRL) data combined with predictions from NOAA wave buoys operating offshore of Tampa, FL during these experiments is used to predict burial by wave-induced scour (VIMS). Extensive wave and current data collected with bottom mounted tripods is compared to physical oceanographic model predictions. Time-dependent scour measured using the optical and acoustic mines, characterized by sector scan sonar (USF), ROV video (USF), and diver photographs/observations (USF and NRL) is compared to model predictions.