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Coastal Observing Systems: Key to the Future of Coastal Dynamics Investigations

Several new local, regional and national initiatives involving distributed coastal ocean observing systems are being implemented around the U.S. The primary goal of these efforts is to raise, to a new plateau, the understanding of, and the ability to predict, critical processes that operate in the coastal seas and estuaries of the southeast. Improved models of these physical, chemical and biologic phenomena will permit more accurate prediction of coastal hazards, threats to human health, and short and long term changes in coastal ecosystems. These predictions will guide coastal stewardship, enable planning for extreme events, facilitate safe and efficient maritime operations, and support coastal military security and homeland security. Here we present a new observing system, WAVCIS, developed off the Louisiana coast and present unique data sets measured during two tropical cyclones, TS Isidore and H Lili, both of which made landfall along coastal Louisiana in 2002. Implementation and maintenance of these coastal observatories is providing unique opportunities for scientists working on the coast to investigate new phenomena pertaining to high energy events and resultant hydrodynamic and geological response.