

Hurricane Hardened NOAA Instrumentation Platforms

Project Characteristics:

- *Real-Time Metocean Systems*
- *Wave & Current Modeling*
- *Construction Oversight*
- *Meteorological & Tidal Instrumentation*

In the fall of 2008 NOAA activated the data from four new hurricane-hardened water level observing stations that were installed by Woods Hole Group at key locations in coastal Mississippi and Louisiana that are especially vulnerable to severe storms. Dubbed “Sentinels” by NOAA, the yellow, 25-foot-tall data collection platform provide real-time water level and meteorological data to help coastal authorities and the public to prepare for, mitigate, and respond to storm tides generated by severe coastal storms.

Operated by [NOAA’s Center for Operational Oceanographic Products and Services](#), the NOAA Sentinels are designed to withstand wind and wave action from a Category 4 hurricane (winds from 131 to 155 miles per hour). The sensor-packed stations are mounted on four-foot diameter steel posts, which are driven 60-80 feet into the seafloor to ensure stability.

The data collected by the NOAA Sentinels are essential to providing accurate marine weather and flood forecasts, planning and executing evacuations, determining when to open and close locks, facilitating the reopening of ports after storms, and determining the vulnerability of coastal areas to storm surges.



Woods Hole Group worked with NOAA from the conception of this project. Our Coastal Engineering group helped model and define the wind, wave, and storm surge generated forces that would act on the installations.

Our Field Operations Team worked with local marine construction companies to supervise the fabrication and installation of the physical components of the structures. A second wave of the Field Operations Team members followed the physical construction to install the sensor instrumentation, power systems, data collection systems, and telecommunication equipment on the Sentinel platforms.

Intensive testing of the sensor and communications links was followed by the detailed level surveys required by NOAA for the data to be accepted by their Quality Assurance process.