Sustained, Integrated Ocean Observing System for the Gulf of Mexico (GCOOS)

HFR Currents and Waves

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$2M/year Build-out
Does HFR Satisfy Monitoring Needs for Currents and Waves?

The **NOAA/IOOS National Surface Current Plan** - all commercially available HFR equipment can acceptably meet the spatio-temporal requirements for surface currents put forth in the IGOS Coastal Theme Report for the EEZ: 5 km spatially, 1 hr temporally with an accuracy of 10 cm/s.

The **National Waves Plan**, classifies HFR as a pre-operational component of the waves observation system. Direction finding HFR systems measure wave heights averaged over annular areas of the region covered by the beams, while phased array systems measure heights within a two dimensional radial grid.
HFR Nationally Integrated
GCOOS HFR

• Submitted GCOOS proposal to NOAA that included a build-out of HFR network
• Submitted an HFR Gap Analysis to NOAA with estimated costs
June 3--June 9 2010: Oil hits Pass Christian, Gulfport, Biloxi, Perdido Key, Fort Pickens, Pensacola Beach, Opal Beach, Navarre Beach, Fort Walton Beach, Bayou La Batre
Gulf Coast
40,093 km² below 1.5 m, with Louisiana accounting for 24,724 km²

Eastern Seaboard
17,540 km² elevation < 1.5 m NGVD
Priorities

• Long-range
• Overlap with existing systems
• Existing infrastructure
• Start a system in the western Gulf