



FY2007: Regional Integrated Ocean Observing System Development

NOAA initiated a competitive funding process in 2007 to continue building capacity for regional ocean observing systems towards three long-term outcomes; establishing coordinated regional observing and data management infrastructure, developing applications and products for regional stakeholders, and establishing regional and national data management and communications protocols. These projects are contributing to these outcomes.

PACIFIC NORTHWEST REGION

The Pacific Northwest Region includes the coastal states of Washington, Oregon, and northern California. The 2007 award to this region is \$1,500,000.

Project Title:

Enhancing the Pacific Northwest Regional Coastal Ocean Observing System of the Northwest Association of Networked Ocean Observing Systems (NANOOS)

Recipient/ Lead Principal Investigator:

University of Washington/ Dr. David Martin (dmartin@apl.washington.edu)

Cost:

Funded: \$1,500,000

Proposed (subject to available funds): Year 2 – \$3,500,000; Year 3 – \$3,500,000

Performance:

This project to develop the Northwest region will be executed in four subcomponents: observing systems, modeling and products, data management and communications (DMAC), and education and outreach. The work will be applied in four observational domains: coastal ocean shelf, coastal ocean surface currents, estuaries, and shorelines. The primary goals of the project are to: 1) maintain existing surface current mapping capabilities and expand with new HF radar sites by extending the current radar array with additional operation, maintenance, and products; 2) expand coverage and range of observations on the coastal ocean shelf in coordination with emerging national programs with fixed buoys and gliders that will provide information on hypoxia/anoxia and harmful algal blooms (HABs); 3) maintain and expand observations in estuaries through improved maintenance and staff support, including partnerships at local, state, and federal levels; and 4) maintain and expand core elements of existing beach and shoreline observing programs in Oregon and Washington.

Schedule:

Year 1:

- Survey and obtain permits for three Washington HF radar sites.
- Develop conceptual systems architecture design in compliance with IOOS standards and protocols, network engineering design, and Web interface specifications.
- Hire a full time NANOOS Education and Outreach Specialist.

(over)



- Develop education materials for NANOOS focus areas (fisheries, maritime operations, coastal hazards, and ecosystem impacts).
- Purchase equipment for coastal buoy at Juan de Fuca eddy for HAB warning focus.

Years 1 – 3:

- Maintain Oregon HF radar sites.
- Maintain moorings in Puget Sound, Columbia River, Willapa Bay, Gray's Harbor, and South Slough.
- Maintain OrCOOS buoy in Newport line for hypoxia/anoxia alerts.
- Maintain quarterly topographic profiles (47 sites) and 3-D topographic beach surface mapping of beach (16 sites).
- Maintain expanded NANOOS Pilot monitoring efforts (46 sites).
- Develop state of the art cross-shore profile change models and probabilistic shoreline change models.

Year 2:

- Maintain OR sites and purchase two long-range HF systems.
- Purchase and install one X-Band port radar system at high priority port.
- Purchase equipment to refurbish Oregon buoy.
- Initiate establishment of 24/7 operational modeling center. Investigate federal/state organizations for future transition opportunities.
- Implement training of prioritized target groups throughout region.

Years 2 – 3:

- Maintain OrCOOS glider transects on Newport line for extended range hypoxia assessment.
- Integrate and enhance existing forecasting capabilities at OSU, OHSU, and UW.

Year 3:

- Maintain Oregon HF radar sites, and purchase one long range HF systems.
- Install three Washington HF radar systems.
- Purchase and install one X-Band port radar system at second priority port.
- Move 24/7 operational modeling center to fully developed status and confirm federal/state organizations for operational transition.
- Stabilize fully mature NANOOS DMAC systems architecture, network engineering protocols and user products web interface across NANOOS domain.
- Ensure exportability to other regional efforts and national enterprise.
- Deliver marine education material via web (Ed-Web).

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