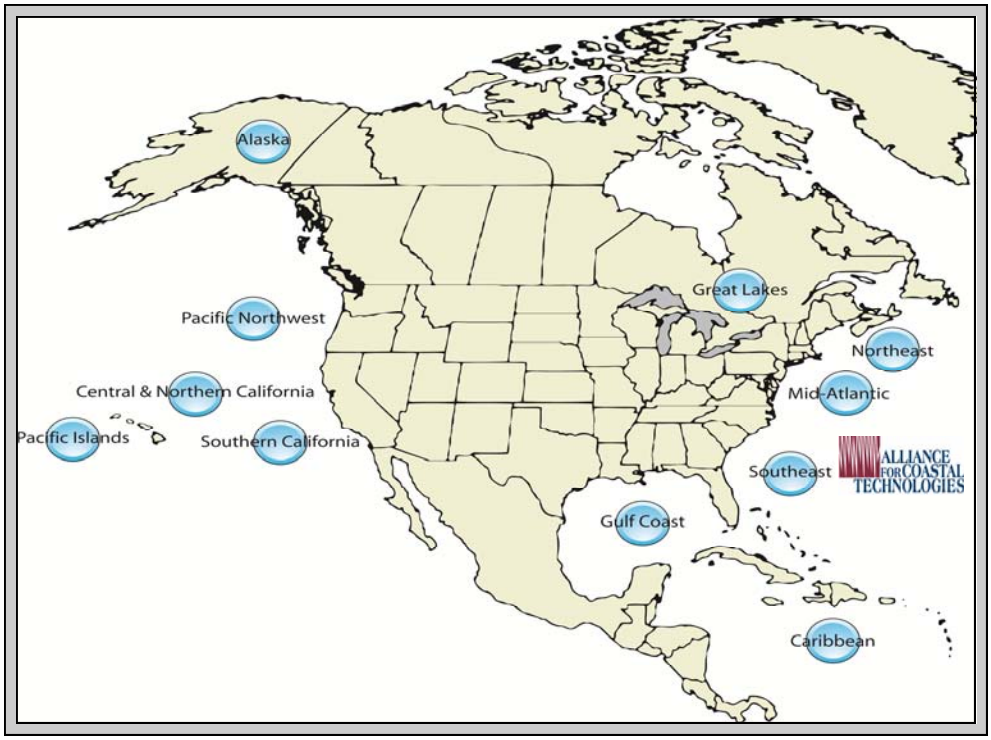
IOOS® INTEGRATED OCEAN OBSERVING SYSTEM

NOAA IOOS® in Action: Regional Partnerships

Transitioning to a National Network with Common Goals



Overview:
Thousands of tools - from satellites orbiting above Earth to sensors along the bottom of the ocean - continuously gather ocean and coastal data. However, there is no common system to provide a timely and efficient link between these data. The cumulative cost for each user to locate and transform incompatible data sources wastes valuable resources and serves as a barrier to the development of sophisticated models, forecasts, and other analytical tools. An Integrated Ocean Observing System (IOOS) is needed to expand data sources and increase accessibility and compatibility of a wide range of data, without the need for further translation, to save users time and money and enable a more complete characterization of our oceans and coasts.

Historic Transition:
In 2007, IOOS transitioned from a series of Congressionally-directed grants to a competitive award program. This transition evolved numerous sub-regional observing systems into a national network of 11 more cohesive regional systems with common goals. NOAA administers the selection and funding process, with input from other federal partners, and supplies leadership to ensure regional activities meet national priorities.

Advancing a United Effort:
A new level of coordination between the federal government and the regions lays the foundation for rapid advancement in the coming months to provide widely accessible and compatible ocean and coastal data. The regions are installing additional observation platforms to increase the amount of data available. In addition, regional data and models provide unique information about local conditions and enable development of tools and information products for state, regional, and national decision making. Common data standards are required to ensure these models and decision-support tools can benefit from other data in consistent, compatible formats.

In 2008, NOAA provided new tools and resources to simplify the process for submission, review, and acceptance of proposed IOOS data standards. Partners from 17 federal agencies, as well as state, regional, and non-governmental partners, can now actively participate to ensure standards are well-vetted and appropriate for use across the IOOS community. This process resulted in the submission of 12 new standards in one year.

Each region expressed willingness to implement NOAA IOOS established standards - such as units of measure, data formats, protocols on how users can search

and retrieve data, and descriptions of sensors - so data is compatible and easily accessible.

Increasing Data Access:
The NOAA IOOS Program has helped significantly increase access to High Frequency Radar data in recent months. This is reaping benefits at both national and local levels.

High frequency radar systems measure surface current speed and direction in near real-time to improve things such as search and rescue, oil spill response, harmful algal bloom monitoring, and water quality assessments. These data also provide value in ecosystem assessments and fisheries management, when evaluated retrospectively.

State and regional IOOS partners devoted resources to develop and advance high frequency radar systems within their respective geographic areas in 2008. There are now more than 100 systems across the nation. However, data from these systems were provided by individual operators on a site-by-site basis and were not accessible on a national scale.

Recognizing potential benefits to accessing national data, NOAA IOOS supported development of a national high frequency radar data delivery system at three sites: NOAA's National Data Buoy Center; Scripps Institution of Oceanography, and Rutgers University. These servers maximize benefits by making data from various sites available nationwide.

Providing Sensor Validation:
Sensor verification and validation is key to IOOS success. Recognizing this, NOAA IOOS supports The Alliance for Coastal Technologies (ACT), a partnership of research institutions, resource managers, and private sector companies fostering development and adoption of effective and reliable sensors and sensor platforms for environmental monitoring and long-term coastal ocean resources stewardship. ACT priorities include transitioning emerging technologies to operation rapidly and effectively; maintaining dialogue among users, developers, and providers; identifying technology needs and novel technologies; documenting performance and potential; and providing IOOS with information required for deployment of reliable and cost-effective networks.

This photo represents one type of High Frequency Radar.

ACT provides a third-party testbed for evaluating performance of technologies in the laboratory and under diverse environmental conditions. ACT also supplies a forum capacity using technology specific workshops to review the state of instrumentation, build consensus on future direction, and enhance communications between users and developers. Finally, ACT delivers a searchable online database of environmental technologies and community discussion boards.

ACT organization ensures regional and sector involvement. The main office, located at the Chesapeake Biological Laboratory in Southern Maryland, coordinates and oversees products and activities.

There are also seven other partner institutions around the nation. These include the Alaska Sea Life Center, the Gulf of Maine Ocean Observing System, Moss Landing Marine Laboratories in California, the Skidaway Institute of Oceanography in Georgia, the University of South Florida, the School of Ocean and Earth Science and Technology in Hawaii, and the Cooperative Institute for Limnology and Ecosystems Research in Michigan.

For More Information:

U.S. IOOS:
1100 Wayne Avenue,
Suite 1225
Silver Spring, MD 20910
Phone: (301) 427-2420
www.ioos.noaa.gov

OR

IOOS Association
205 Oakledge Road
Harpswell, ME 04079
Phone: (207) 725-8143
www.ioosassociation.org