

**Progress Report for  
Enhancing  
Northwest Association of Networked Ocean Observing Systems (NANOOS)  
#NA05NOS4731124**

**June 1, 2007 – November 30, 2007**

This progress report describes activities carried out in support of enhancing the Northwest Association of Networked Ocean Observing Systems (NANOOS). This report was compiled by Jan Newton, NANOOS Executive Director (ED), and David Martin, NANOOS President (P) and PI for this grant. Newton and Martin together form the NANOOS Leadership (ED&P), in consultation with the NANOOS Governing Council (GC) and its Executive Committee (EXCOM).

### **1) Project Summary**

The goal of this project is to foster and enhance Pacific Northwest (PNW) Regional Partnerships to grow constituencies and develop and implement governance structures and business plans that will permit official federal certification of NANOOS as the PNW Regional Association and thus allow for the eventual installation and long-term maintenance of a PNW Regional Coastal Ocean Observing System (RCOOS).

Specific NANOOS Objectives of the work are to:

- 1) **Continue to identify and engage the full and expanding spectrum of stakeholders** having significant interests in the waters of the Pacific Northwest to ensure their views and opinions are fully recognized and taken into account in all aspects of planning, science and governance, and that this partnership building effort takes advantage of their scientific, economic, social, cultural and operational expertise.
- 2) **Proactively engage the regional ocean science community** in this partnership-building project to ensure their expertise helps guide the eventual design and evaluation of the system. This approach will ensure the PNW Regional IOOS evolves to take advantage of new knowledge and technology as they are developed.
- 3) **Obtain input about sub-regional scale oceanographic concerns** by engaging with local stakeholders to ensure these factors are addressed at the Regional level. NANOOS will work within these smaller groups to build a sense of community and partnerships at the sub-regional scale and then translate this into strong regional partnerships through larger gatherings and workshops.
- 4) **Implement the results of the consensus agreement on the overall process to evolve the Governance structure for a Pacific Northwest Regional Association.**
- 5) **Develop and implement a Business Plan** in consonance with Ocean.US criteria to guide NANOOS budget formulation, involvement of users, all aspects of linkages between observations and products, research and development decisions, training, and alternate funding opportunities.
- 6) **Strengthen international and inter-Regional partnerships** by engaging with Canadian colleagues and other western Regional Association efforts to build bridges to these efforts and ensure seamless integration of these efforts.
- 7) **Continue to engage at the national level** to ensure the PNW activities of NANOOS are fully supportive of the national effort to implement and maintain an IOOS.

## 2) Progress and Accomplishments

Key highlights of NANOOS progress and accomplishments for this period are listed below, with additional programmatic updates at the end.

### ➤ **NANOOS RCOOS development proposal selected for 3-y funding**

In mid-June 2007, NANOOS received news from NOAA that our Regional Coastal Ocean Observing System (RCOOS) development proposal was selected to receive 3 years of funding. The grant funds will be used to build and maintain a RCOOS that has linked components addressing construction and maintenance of observing platforms (buoys, radars, etc), a data management and communication system, data products and analyses, user outreach and public education. This grant will allow NANOOS to develop robust capabilities to deliver useful and timely ocean products and services to users across the region and connect them to other regional and national ocean observing efforts.

The NANOOS RCOOS team includes oceanographic, modeling and information systems experts from the University of Washington, Oregon State University, the Oregon Health and Science University, The Boeing Company, and state government agencies from Washington (Department of Ecology) and Oregon (Department of Geology and Mineral Industries, Department of State Lands). As per all NANOOS activity, the NANOOS members, who include diverse stakeholders from tribal, state and local governments, industry, non-governmental organizations, and academic and research institutions, will guide its direction and decisions.

However, NOAA informed NANOOS that, due to funding shortfalls, the Y1 award would be \$1.5 M instead of \$2M. NOAA asked NANOOS to prepare a new budget, and a statement on how this would be taken care of and what impacts would result. NANOOS ED&P provided a draft budget reduction that was circulated with the NANOOS GC ExCom. Discussions ensued and the final decision was accepted by consensus. NANOOS translated the information to NOAA within one week, as requested.

### ➤ **NANOOS response to second NOAA BAA for RCOOS development**

NOAA released another BAA for RCOOS development in late summer of 2007. NANOOS was approached by two groups with plans for enhancements to the NANOOS RCOOS that were principally biological in nature. Once again, NANOOS used its Governance Structure to decide its direction. NANOOS ED&P relayed the proposed ideas to the NANOOS GC ExCom, who gave feedback but favored engaging with the groups. Two LOIs were submitted. One group decided not to follow-through. The other developed a full proposal which was edited by the NANOOS ED&P and ExCom. The work would focus on enhancing biological aspects of NANOOS observing and predictions, focusing on fisheries, HABs and hypoxia.

### ➤ **NANOOS Education and Outreach Specialist hired**

During the last reporting period we received permission from NOAA to alter our original proposal regarding implementation of Education and Outreach activities in order to hire a dedicated person within the NANOOS leadership structure. During this period, we have now hired Amy Sprenger as our part-time NANOOS Education and Outreach Specialist to implement our education and outreach plans for NANOOS. Amy joined NANOOS in September 2007.

Amy comes to us with much education and outreach experience from diverse areas: She has a Masters in Education from Western Washington University; she has secondary school teaching credentials and experience, and she has been involved as the Program Director of a non-profit marine science education group. Amy's diversity of exposure to formal and informal education as well as her involvement in outreach are a great mix that will help NANOOS implement education and outreach objectives. We are thrilled to have Amy on staff and she has been initially working on changes to the NANOOS website to create educational content.

➤ **NANOOS participation at CZ 2007**

Martin worked with Dave Easter (NOAA), Lynn Leonard (UNC-Wilmington), Steven Pfaff (NWSFO-Wilmington, NC) and Jonathan Allan (Oregon Dept. of Geology and Mineral Industries) to organize an IOOS session dealing with supporting coastal managers through ocean observations at the Coastal Zone 2007 meeting in Portland, OR, held 22-26 July. Martin gave a talk in the IOOS session regarding NANOOS and its role regionally and nationally. Cathy Angell (WA Dept Ecology) gave a talk in a different session on the NANOOS-NERRS pilot project on real-time data for shellfish growers.

➤ **NANOOS participation in Ocean.US/U.S. Coast Guard meeting on MDA**

Martin participated in the joint Ocean.US/U.S. Coast Guard meeting on improving our nation's Maritime Domain Awareness (MDA) through the Integrated Ocean Observing System held at EPA Headquarters in Washington DC on 24-26 September, 2007. Martin led the Breakout Sessions on the use of IOOS to improve MDA for harbor and port security.

➤ **NANOOS engagement in Industry Workshop**

Martin participated in the joint NOAA/NSF Workshop at Scripps Institute of Oceanography on August 6th-7th, 2007, focusing on engaging industry in the IOOS and OOI effort. Martin led a breakout group focusing on "Research to Operations: The View from Academia" and presented the group's results.

➤ **NANOOS participation at ERF 2007**

Newton worked with Krista Kamer (CeNCOOS), Josie Quintrell (NFRA), and Geno Olmi (NOAA) to organize an IOOS session and RA Forum at the Estuarine Research Federation (ERF) 2007 meeting in Providence, RI, held 4-8 November. NANOOS was represented in many ways at the ERF meeting. There were three talks (Ayers, Devol, Newton) from the NANOOS region at the IOOS session; Newton made and presented the NANOOS RA poster at the RA Forum, where each RA had a poster designed with similar content; Newton was a speaker at the IOOS mini-plenary where she covered IOOS from a regional perspective. Many of her examples came from NANOOS but were generic to the process and the pay-off that all RAs are experiencing. All of the IOOS events were well attended at ERF.

➤ **NANOOS briefs Intergovernmental Policy Council**

Newton was invited to brief the Olympic Coast National Marine Sanctuary Intergovernmental Policy Council about NANOOS on 7 September in Forks, WA. The Intergovernmental Policy Council was established by the coastal treaty Indian tribes, State of Washington and National Oceanic and Atmospheric Administration (NOAA) National Marine Sanctuary Program to manage the marine resources of Olympic Coast National Marine Sanctuary. The Policy Council provides a forum for the tribal, state and federal governments to coordinate activities within the sanctuary. The Sanctuary is entirely encompassed by the traditional harvest areas of the Hoh,

Makah, and Quileute tribes, and the Quinault Indian Nation. As sovereign nations, the tribes have treaty fishing rights and co-management responsibilities with the State of Washington for fish and other natural resources within the sanctuary. They invited Newton to inform them on NANOOS activities that may benefit the Sanctuary resources. Important liaisons, especially with the tribes, were begun in this meeting. One of the four tribes (Quileute) is already a NANOOS member. Revitalizing the link between NANOOS and the NOAA Sanctuary staff was also important, as all local federal linkages have been underutilized due to the issues with federal agents signing RA Memorandum of Agreement documents.

➤ **NANOOS participation in NFRA and IOOS**

- Newton and Martin participated in the monthly phone calls for NFRA hosted by Ocean.US.
- Newton participated on the IOOS Identity Working Group convened by Ocean.US to assure a common look and feel to the RAs.
- Newton participated on the review team for the RCOOS design white paper drafted by Tom Malone (Ocean.US) that was used for discussion at the IOOS Regional Coordination Workshop.
- NANOOS sent two participants (Bill Howe from OHSU and NANOOS DMAC Committee, and Jan Newton from UW and NANOOS ED) to the IOOS Regional Coordination Workshop in Florida 23-25 October. Newton chaired one of the break-out sessions on RA Conceptual Design. Howe participated in all DMAC sessions.
- Newton participated on the working group to design the template for RA Conceptual Design plans, to fulfill NOAA's request for this information in December 2007.

➤ **NANOOS Programmatic Updates**

- RA Organizational Structure
  - Changes:

There have been several changes to the membership of the Governing Council, with respect to individuals, but not entities. As individuals retire, change jobs, or move the representatives from the NANOOS member entities change, but the connection with that institution/agency/group remains vital. The NANOOS GC remains engaged because the appointments transfer at the discretion of the member institution.
- Planning and Implementation
  - Progress made towards the development of the business plan:

Our draft NANOOS Business Plan was prepared by an industry sector member of NANOOS, Casey Moore (WET Labs, Inc.), who volunteered his services. Newton and Martin have reviewed the plan, but waited to share it with the GC, as had been originally planned for this period, awaiting a decision of the award of the RCOOS grant and some initial work on this endeavor. We felt that review of a BP would likely be more substantial and meaningful once NANOOS had actually engaged on real RCOOS development. The draft NANOOS Business Plan will be given to the GC this year for their review and input.
  - Progress toward defining regional observing system priorities:

The NANOOS GC selected four topical areas from the results of numerous regional workshops (this process has been described in our previous progress reports) as the highest regional priorities: Maritime Operations; Ecosystem Impacts including

hypoxia and HABs; Fisheries; Mitigating Coastal Hazards. These were put forth in our NANOOS RCOOS proposal and will be addressed by the development of our regional observing system.

There were 18 letters of support attached for the NANOOS RCOOS proposal, which we feel strongly indicates the degree of support from a diversity of regional stakeholders regarding this work as regional priorities. The letters came from the: Quinault Indian Nation, Operations Section Manager; Washington State Dept of Fish and Wildlife, Coastal Shellfish Lead Biologist; Washington State Dept of Ecology, Coastal Training Program Coordinator; Oregon Coastal Ocean Observing System, Director; King County Water and Land Resources Division, Science and Technical Support Section Manager; Surfrider Foundation, Washington Policy Coordinator; Ocean Inquiry Project, Chairman of the Board; Hood Canal Salmon Enhancement Group, Assistant Director; UW School of Oceanography, Manager of Marine Operations; Marine Technology Society, Vice President for Education and Research; Seattle Yacht Club, Fleet Captain Power; Coast and Harbor Engineering Inc., Principal Coastal Engineer; Oregon Sea Grant, Extension Agent; Washington Dept of Community Trade and Economic Development, Senior Planner; NSF Science and Technology Center for Coastal Margin Observation and Prediction, Director; Oregon Dept of Land Conservation and Development, Coastal Management Program, Coastal Program Manager; Oregon Dept of Fish and Wildlife, Marine Resources Program Assistant Manager; United States Department of the Interior Fish and Wildlife Service, Willapa National Wildlife Refuge Complex, Wildlife Biologist; Friends of Grays Harbor, Vice President, Board of Directors; Oregon Parks and Recreation Department, Director.

The NANOOS ED&P will follow up with all of these individuals over the course of our work on the RCOOS, as well as to continue to engage new stakeholders.

- Progress toward development of an observing system design for the region:  
NANOOS has developed an observing system design for the region, which was the basis for the successful NANOOS RCOOS development proposal. As part of the NANOOS response to the NOAA BAA, we drafted a Conceptual Design for phase I of our RCOOS development, which was attached to our last Progress Report.

- Progress toward regional data management:  
The NANOOS DMAC Committee met in early November to debrief on the DMAC elements of the Fall IOOS Implementation meeting and to discuss plans for a DMAC kickoff meeting in early January (was planned for early December, but cancelled due to weather).

- Stakeholder Engagement

- Shellfish Growers:

NANOOS continued to get attention for their pilot work with NERRS to integrate NERRS and NANOOS products to a website yielding products designed for shellfish growers. NOAA made a press release about this work on their NOAA-NOS website: [http://oceanservice.noaa.gov/news/pressreleases/july07/supp\\_072307.html](http://oceanservice.noaa.gov/news/pressreleases/july07/supp_072307.html) .

NANOOS is continuing to fund the outreach and development of this joint NERRS-NANOOS effort from this grant.

○ Marine Educators:

Prior to Amy Sprenger's hiring as the new Education and Outreach Coordinator, she worked with Newton to organize a NANOOS session at the NW Aquatic and Marine Educator's (NAME) conference in Astoria. The NANOOS session at NAME was held on July 16 from 1415-1500 at the Columbia River Maritime Museum. There were roughly 20 participants who gave much input on what NANOOS could do to bolster their ability to provide marine education. Amy's work, funded from this grant will work to implement some of these ideas.

○ Web page development:

NANOOS is planning its next generation website. During this period, work was conducted at APL with funds from this grant to design and develop the new site and its capabilities.

The NANOOS User Product Committee made plans to meet in early 2008 to discuss plans and next steps, including web products.

### **3) Scope of Work**

We anticipate no changes to our statement of work or in meeting objectives. Our priorities for the next funding period are as follows.

- Review Business Plan: NANOOS ED&P will work with the GC to review and modify, as needed, the Draft NANOOS Business Plan.
- Enhance Federal Partner Engagement: Because of the prohibition of federal employees to sign any RA MOA, NANOOS has not capitalized on its local federal representatives as much as would be beneficial. The NANOOS ED&P will proactively re-engage with PNW federal partners and develop a way to circumvent this restriction. Nine PNW (both WA and OR) federal offices have formed a "Federal Caucus." Newton plans to use this forum to speak to them re NANOOS.
- Plan Full NANOOS Community Workshop: NANOOS will plan for this workshop to discuss emergent RCOOS development, to be held in early 2008. The RCOOS funds were received in October 2007. While many of the standing committees have been meeting, NANOOS needs to re-engage with the full community in an open workshop forum to both inform of the RCOOS development plans and gather guidance, recommendations, and concerns from the community.

### **4) Leadership Personnel**

No changes in Leadership, except for hire of Education and Outreach Specialist, as noted above.

### **5) Budget Analysis**

For the period 06/01/2005 through 11/30/2007, NANOOS expended 73% of its anticipated expenditures in support of this project. Principal reasons for this were the actual arrival date of the funding (i.e., October 2005 vice the formal May 2005 start date) and the delay in executing the contract for the NANOOS Education/Outreach effort, which we have addressed. With the E/O contract now in place, budget expenditures will rapidly match anticipated budgetary expenditures through the remainder of this project.