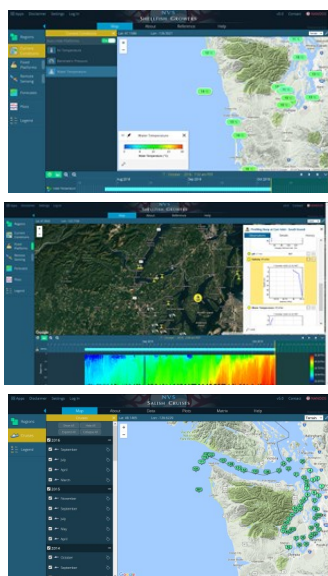




NANOOS Observer

October 2016



NVS Version 5 Released

The NANOOS Visualization System (NVS) version 5 is now live with several exciting new features:

- [Current Conditions](#): This new feature within many NVS apps provides a regional view of data from all assets at once that are reporting real-time air temperature; surface water temperature; barometric pressures; wave height and direction; and wind speed and direction.
- [New water column profile plots](#): New profile and “heatmap” plots for select profiling buoys, including the [Twanoh](#) and [Carr Inlet](#) ORCA buoys.
- [NVS Salish Cruises App](#): Provides downloadable cruise data from 1998 to 2016 in the Salish Sea.

New HAB Forecast System to be Developed for PNW

NOAA's National Centers for Coastal Ocean Science (NCCOS) are funding development of a harmful algal bloom (HAB) forecast in the Pacific Northwest to support management of shellfisheries, clamming beaches, and human health. The experimental monitoring and forecasting system will launch in 2017, with forecast bulletins predicting bloom location and concentration several days in advance. This new development is a joint effort between NOAA, members of the Makah Tribe, the University of Washington, the University of Strathclyde, the Oregon Department of Fish and Wildlife, and NANOOS.



2nd Pacific Anomalies Workshop Report Released

The report summarizes knowledge synthesized regarding status and driving mechanisms of Pacific anomalies and their effects, as well as recommendations emerging from the 2nd Pacific Anomalies Workshop held in January 2016. The report addresses three topical areas: atmosphere-ocean interactions; open ocean-coastal interactions; and ecosystem responses. Included are specific recommendations on needs (observations, modeling, or studies) that limit our understanding or ability to forecast dynamics or impacts of the anomalous conditions. Two Pacific Anomalies Workshops have been held to discuss what is known regarding the atmospheric, oceanic, and biological aspects of the multi-year warm anomalies (aka the blob) as well as the 2015-16 El Niño. Presentations and videos from both workshops are [on-line](#).

Monitoring for harmful algal bloom species off the WA Coast



An advanced, underwater, robotic biosensor, the “Environmental Sample Processor” (ESP) was successfully deployed 13 miles off the coast of La Push, WA this summer and fall. The ESP relayed data on harmful algal bloom (HAB) species and domoic acid toxin concentration in real-time. The ESP was integrated into the University of WA/NANOOS’ NEMO sub-surface buoy for two 6-week deployments, the timing of which were planned to coincide with potential razor clam harvests. The project is funded through the [IOOS Ocean Technology Transition](#) program and is led by Stephanie Moore (NOAA) and John Mickett (UW-APL) with many academic, non-profit, industry, tribal, and state partners. The ESP will be re-deployed in spring of 2017.

Supporting Education



- During the first deployment of the ESP in May 2016, undergraduates and educators from OR and WA were able to join the cruise onboard the R/V Thompson, learning about HAB monitoring and the ESP project and helping sample water.
- Students attending the Quileute Nation’s summer Science and Art Camp in La Push, WA worked with visiting scientists from NOAA, Northwest Indian College and U of WA to learn about harmful algal blooms.
- Quileute Tribal School students joined the scientists working on the ESP/NEMO mooring for a talk, tour and show and tell of the R/V Jack Robertson and the ESP/NEMO mooring while the ship was docked in La Push ahead of the 2nd deployment of the ESP.



Global Ocean Acidification Observing Network Data Portal Launched

The new Global Ocean Acidification Observing Network (GOA-ON) data portal, built using NANOOS NVS technology, was launched at Secretary Kerry's "Our Ocean Conference" on 16 September 2016 by NOAA Administrator Dr. Sullivan. This user-interactive portal features global ocean acidification data, such as pH, pCO₂, and aragonite saturation state, as well as asset inventory and metadata from world-wide GOA-ON partners (330 from 67 countries). The portal was made possible through the vision of GOA-ON and support from NOAA, IOOS, and the University of Washington.

Visit the GOA-ON website: <http://goa-on.org>



OOI Coastal Endurance Array Data Streams for OR and WA Coasts Now on NVS



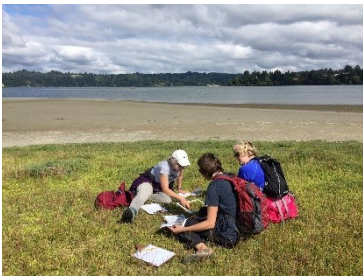
NANOOS is pleased to announce that it is now serving National Science Foundation Ocean Observatories Initiative (OOI) data from the Pacific Northwest Coastal Endurance Array through our NANOOS Visualization System (NVS). Our data team has harvested these data streams from the publicly available OOI site, porting them into NVS so our users can see multiple sources of data in our coastal waters, including NSF OOI, NANOOS, NSF CMOP, NOAA NDBC, CDIP, and others. Kudos to the visionary leaders at NSF and NOAA who worked to assure this compatibility so we can better serve those wanting coastal data from Washington and Oregon waters .

2015 Puget Sound Marine Waters Overview

A comprehensive look at Puget Sound marine conditions for the year 2015 is now available. Physical, chemical, and biological information ranging from large-scale climate variations to local biota monitoring are summarized to provide a thorough overview of Puget Sound conditions for 2015. The report includes many contributions from NANOOS. This report is published by Puget Sound Partnership and NOAA's Northwest Fisheries Science Center as part of the Puget Sound Ecosystem Monitoring Program. View report at www.nanoos.org



Oregon Coast Education Program



Two multi-day [Oregon Coast Education Program](#) (OCEP) workshops for grades 3-8 and grades 6-12 teachers were held along the Oregon Coast this summer. The workshops focused on supporting teachers in incorporating coastal and ocean learning and field experiences into their teaching. NANOOS staff presented NANOOS related curriculum and activities that are within OCEP's [Coastal Education Modules](#).

Discover Science Weekend at the Seattle Aquarium Nov. 11-13

NANOOS staff will be hosting the [Great Build a Buoy Challenge](#) and demonstrating the NANOOS Visualization System data portal during the Seattle Aquarium's [Discover Science Weekend](#) November 11-13. Bring your family to the Aquarium and join the fun!

