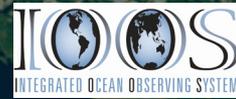




NANOOS

NORTHWEST ASSOCIATION OF NETWORKED OCEAN OBSERVING SYSTEMS



WASHINGTON - OREGON - NORTHERN CALIFORNIA

NANOOS, the PNW Regional Association of IOOS

David Martin, NANOOS President

Jan Newton, NANOOS Executive Director

West Coast HAB Summit

10 February 2009





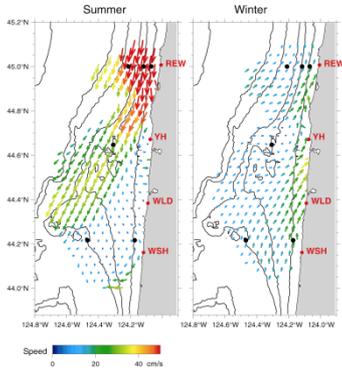
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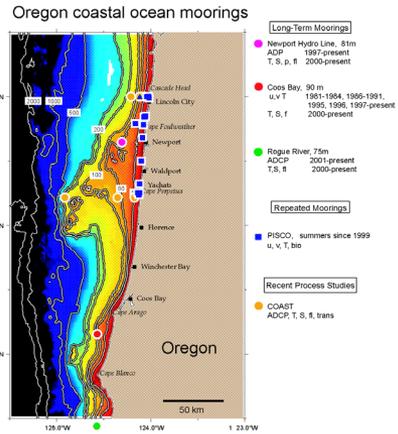


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NANOOS RCOOS Components



Current mapping



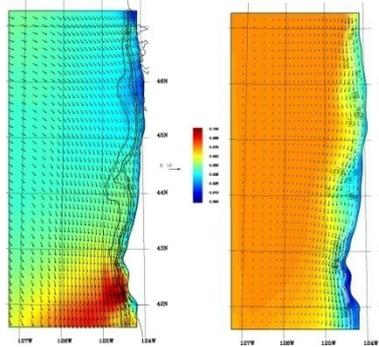
Shelf moorings



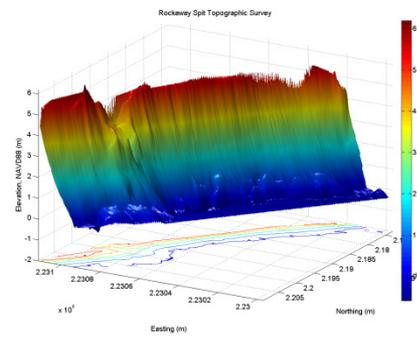
Beach/shoreline monitoring



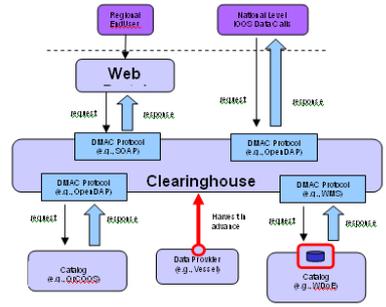
Estuary monitoring



Circulation models



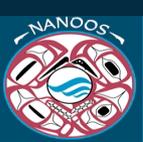
Shoreline change models



Data Management & Communications



Education/Outreach



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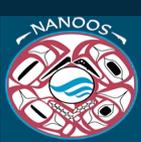
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NANOOS Governing Council Members

1. Ocean Inquiry Project
2. OR Dept of Land Conservation & Development
3. Surfrider Foundation
4. The Boeing Company
5. Oregon State University
6. Puget Sound Partnership
7. University of Washington
8. WET Labs, Inc.
9. Oregon Health and Science University
10. Quileute Indian Tribe
11. OR Dept of Geology and Mineral Industries
12. Humboldt University
13. Marine Exchange of Puget Sound
14. WA State Dept of Ecology
15. Pacific Northwest National Laboratory
16. Port of Newport
17. Puget Sound Harbor Safety Committee
18. Sound Ocean Systems, Inc.
19. Council of American Master Mariners
20. Hood Canal Salmon Enhancement Group
21. Pacific Northwest Salmon Center
22. Northwest Indian Fisheries Commission
23. Sea-Bird Electronics, Inc.
24. Western Association of Marine Laboratories
25. SAIC
26. OR Dept Fish and Wildlife
27. King County Dept Natural Resources & Parks
28. Western Resources and Applications
29. OR Dept of State Lands
30. Columbia River Crab Fisherman's Association
31. Quinault Indian Nation
32. WA Dept Fish and Wildlife
33. Northwest Research Associates
34. POST

-  Tribal Gov't
-  State/local Gov't
-  Industry
-  Academia/Research
-  NGO



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NANOOS RCOOS Funded Partners

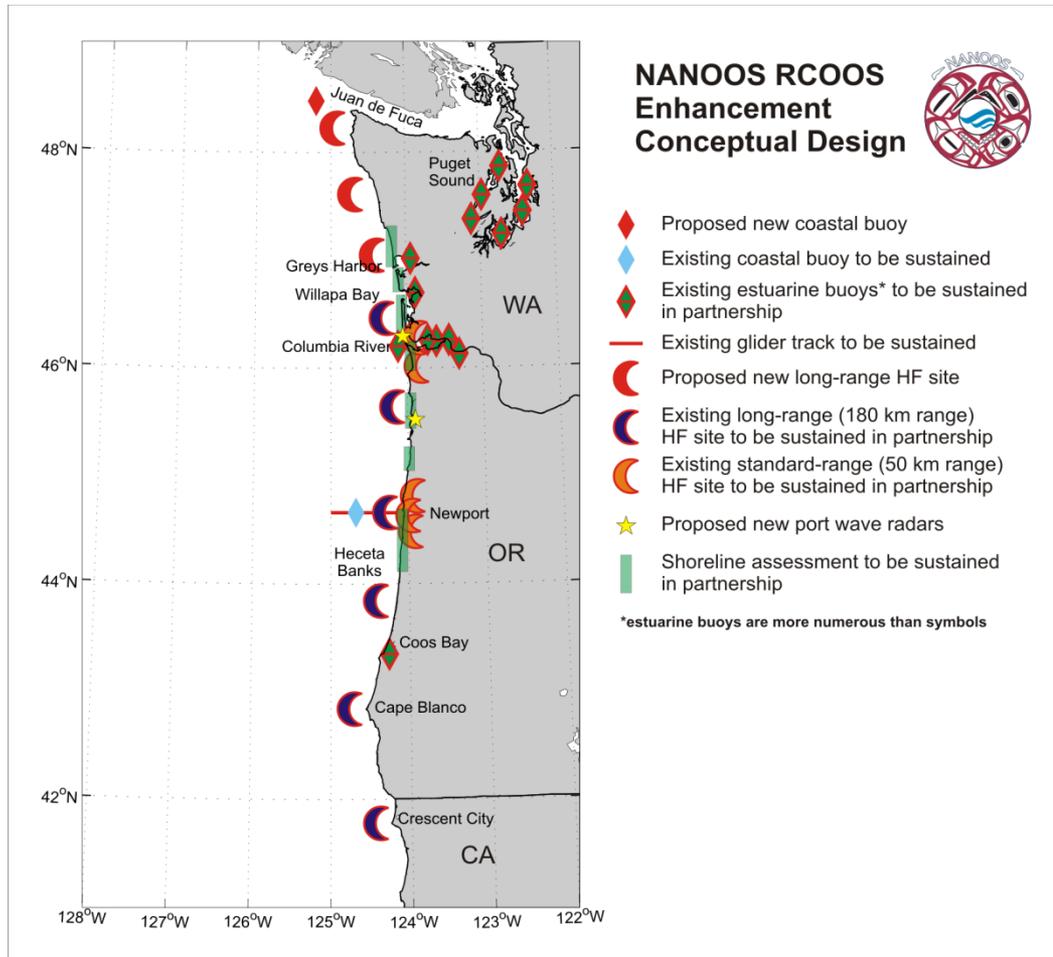
1. University of Washington
2. **The Boeing Company**
3. **Oregon Dept of State Lands**
4. Oregon State University
5. **Washington State Dept of Ecology**
6. Oregon Health and Science University
7. **Oregon Dept of Geology and Mineral Industries**

Plus several non-funded partners working with NANOOS on our RCOOS objectives that include federal agencies and NGOs

- State/local Gov't
- Industry
- Academia/Research



NANOOS observing assets in coastal ocean and estuaries:



Observing assets NANOOS supports are:

- OR coastal shelf buoy and glider (Newport Line)
- OR coastal shelf currents (HF)
- Puget Sound, Columbia River, Willapa and Coos Bays, and Grays Harbor moorings/buoys
- WA and OR shoreline profiles

Funds for the WA coastal shelf were cut (buoy) or eliminated (HF)

Pending proposal to Murdock for WA buoy & glider



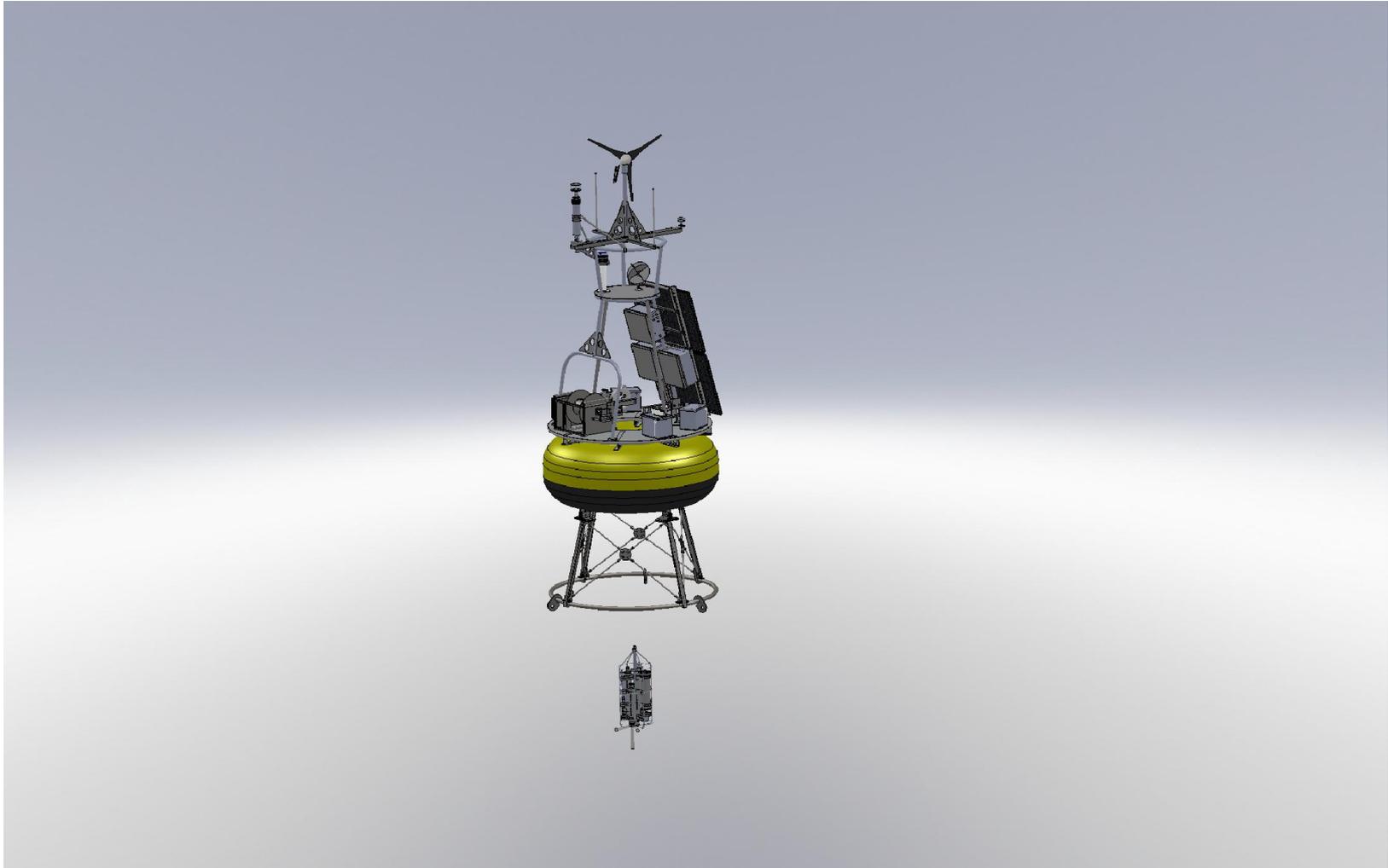
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Buoy Development

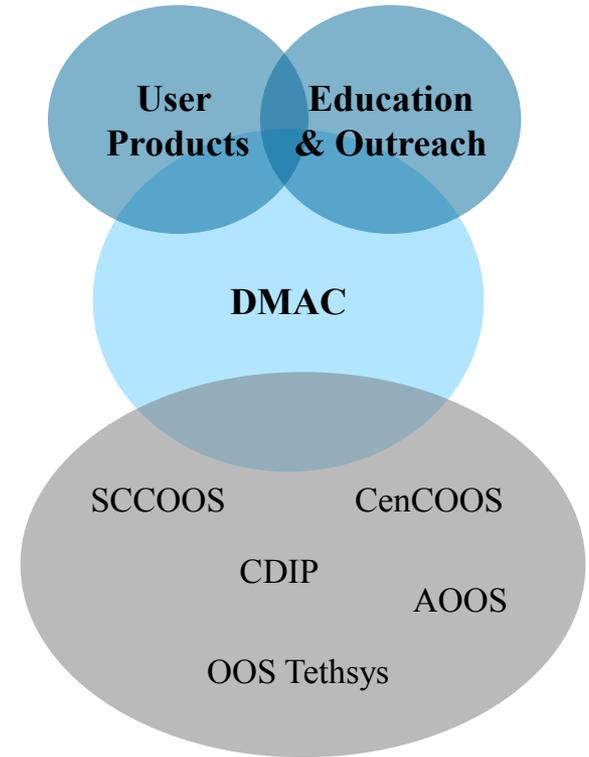




NANOOS DMAC Mission

- Develop and implement a Data Management and Communications architecture and services supporting Pacific Northwest regional coastal ocean observing system (RCOOS), as part of the U.S. Integrated Ocean Observing System (IOOS)
- Provide a framework for integrating regional sensor data and modeling services
- Support emerging IOOS standards
- Work closely with other NANOOS committees
- Leverage and share results with other related efforts

NANOOS Standing Committees



Related Efforts

DMAC Goal is focused on delivering Pacific Northwest region ocean observation data services for ingest, search, access, retrieval and viewing



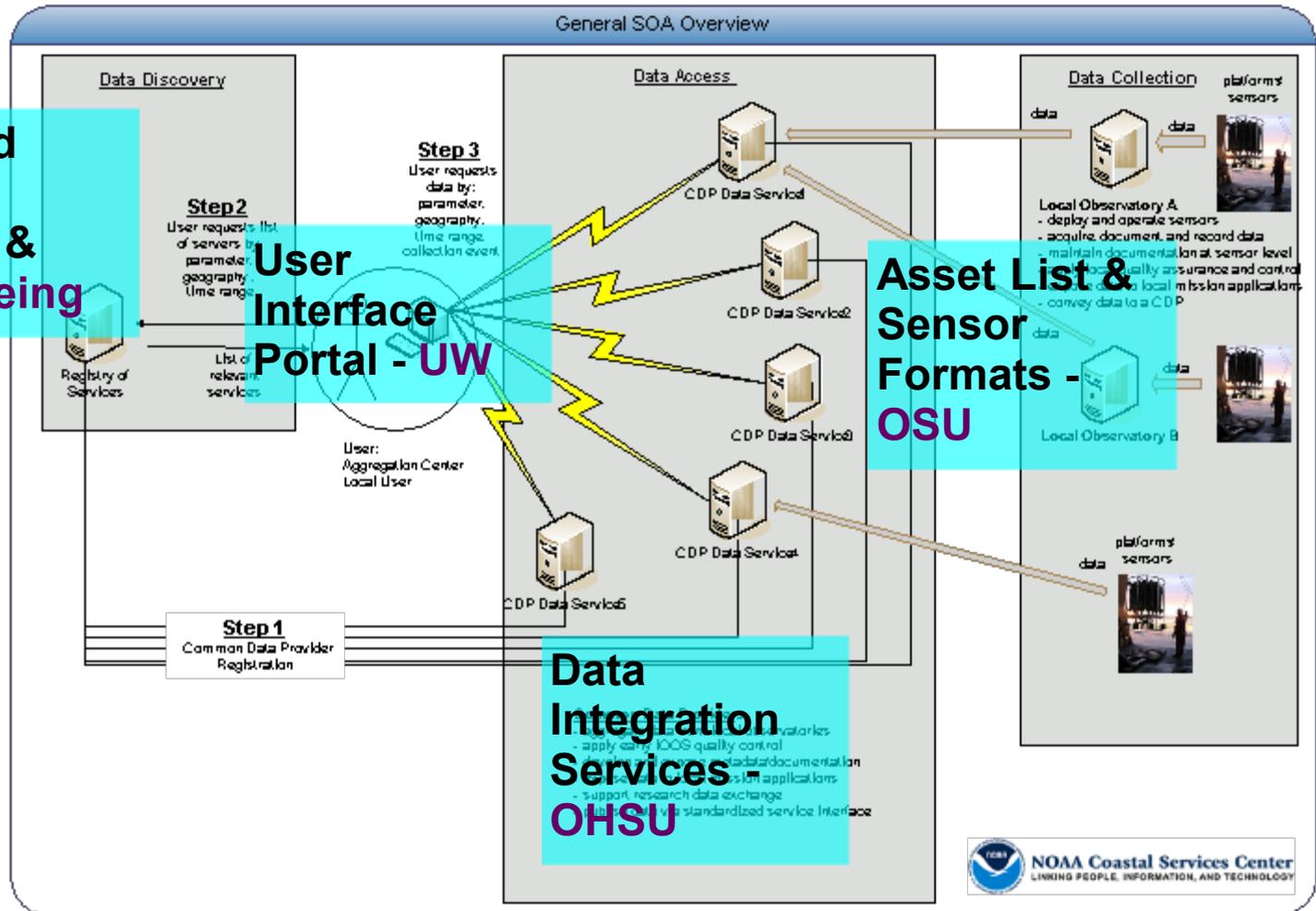
NANOOS SOA based on NOAA Data Integration Framework (DIF)

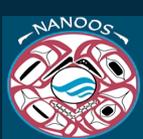
Metadata and Service Registration & Lookup - Boeing

User Interface Portal - UW

Asset List & Sensor Formats - OSU

Data Integration Services - OHSU





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Welcome to NANOOS, the Pacific Northwest ocean observing system regional association of the Integrated Ocean Observing System (IOOS).

NANOOS is creating customized information and tools for Washington, Oregon, and Northern California with these areas of emphasis:

- Maritime Operations
- Ecosystem Impacts
- Regional Fisheries
- Coastal Hazards

NOTEWORTHY



NOAA IOOS Director Letter (PDF)

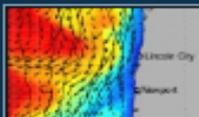
Letter received from NOAA Integrated Ocean Observing System (IOOS) Director, Zaida Willis



California Current Large Marine Ecosystem Update - Q4 (PDF)

The Pacific Coast Ocean Observing System of the California Current Large Marine Ecosystem (PaCOOS) offers quarterly summaries of the climatic and ecological observing-related activities along the CACurrent.

[Archived updates available here](#)



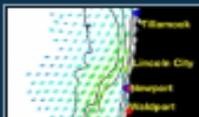
Nowcast/Forecast Coastal Currents and Temperatures

The experimental nowcast and forecast fields are produced by a computer model of the Oregon coastal ocean circulation. These forecasts are updated daily.



Water Quality Data for Shellfish Growers

Real-time Water Quality Data for Shellfish Growers. A pilot project between NANOOS and the National Estuarine Research Reserve System.



Oregon Coastal Surface Currents Maps

Maps show daily averages of ocean surface currents off the Oregon coast. Measured with a radio transmitter and receiver, along the SeaSide, these currents are made by CODAR Ocean Sensors.



Marine Biotoxin Bulletin

Maps of beaches in the Puget Sound Region that are closed to harvesting of shellfish because of biotoxin levels. The Washington State Biotoxin Program monitors biotoxins in molluscan shellfish, closing harvest areas when a high level is pose a threat to public health.



Hood Canal Dissolved Oxygen Program

HCDOP observes, analyzes, and models the dynamics of Hood Canal oxygen.

[ORCA buoy data](#) - [CfRtze monitoring data](#)

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Real-time Water Quality Data for Shellfish Growers in the Pacific NW

A pilot project between NANOOS and the National Estuarine Research Reserve System



Make Informed Decisions Based on Real-Time Data!

This pilot project represents an effort to bring real-time water quality data to shellfish growers in the Pacific Northwest. The project has started with nine monitoring sites in Alaska, Washington, and Oregon. Expansion to other sites is anticipated.

Alaska

Are you at risk for a *Vibrio* bacterium outbreak in Kachemak Bay? Check temperature and other readings here.

Washington

Do your oysters have enough oxygen to thrive in the Hood Canal? Get the latest information now.

Oregon

What impact did the last rainfall have on salinity? See what's happening near Charleston and Valino Island.



- home
- about
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email address:

password:

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Spotlight Data



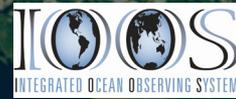
 Padilla Bay Research Reserve:
Joe Leary Slough
Bayview, WA
48° 31' 5.16 N, 122° 28' 22.80 W
5/16/2008 1:15:00 PM

Temperature 61.7 degrees F
Salinity 0.2 ppt
DO concentration 5.5 mg/L
DO Saturation 56 %
Turbidity 31 NTU
pH 6.6
Insitu Chlorophyll No Data



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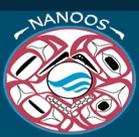
NANOOS HAB efforts and direction

- **Observations:**

- Continue to support and enhance observing network, including WA and OR coastal ocean and estuarine (esp. Puget Sound, Willapa Bay, South Slough, Columbia R.) buoys, gliders, and HF radar network
- Adapt HAB-related sensors to buoys, as these become available

- **DMAC:**

- Begin work with PNW HAB community and major projects (e.g., ORHAB, MOCHA) to assess their data management needs that both can now and may eventually be met by NANOOS



NANOOS HAB efforts and direction

- **Data analysis products:**

- Continue/enhance links to real-time data
 - e.g., *Pacific Northwest Harmful Algal Bloom Bulletin*, a collaboration involving NOAA, CDC, and UW features existing NANOOS data analysis products including model output
- Continue work on modeled current and temperature forecast capabilities

- **Outreach:**

- Develop a HAB-focused web page, with links to sub-regional efforts
- Link to existing electronic newsletters, such as NOAA's "SoundToxins" for Puget Sound (V. Trainer)

- **Education:**

- Initiate work with PNW HAB community to develop place-based curricula on HABs