

## West Coast Regional Harmful Algal Bloom Summit

Portland, Oregon  
10-12 February, 2009

### Agenda

<b>Day 1: 10 February 2009</b>
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- 8:00-8:30 a.m. Continental Breakfast
- Introduction**
- 8:30-8:45 a.m. Welcome and Opening Remarks  
Usha Varanasi - *NOAA Northwest Fisheries Science Center*
- 8:45-9:00 a.m. Role of WCGA in protecting ocean health  
Jessica Hamilton – *Office of the Governor, Oregon*
- 9:00-9:15 a.m. National Perspective on HABs and HABHRCA legislation update  
Robert Magnien – *NOAA Center for Sponsored Coastal Ocean Research*
- 9:15-9:30 a.m. Overview of Summit agenda, goals, outputs  
Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*
- Plenary Session 1: Overview of HAB Problem and Summary of HAB Monitoring, Alert, and Event Response Programs**  
Session Chair: Dan Ayres - *Washington State Department of Fish and Wildlife*
- 9:30-9:45 a.m. California  
Raphael Kudela – *University of California Santa Cruz*
- 9:45-10:15 a.m. Oregon  
Peter Strutton – *Oregon State University*
- 10:15-10:30 a.m. Break
- 10:30-10:45 a.m. Washington  
Vera Trainer- *NOAA Northwest Fisheries Science Center*

10:45-11:00 a.m. Alaska  
Raymond RaLonde – *University of Alaska Fairbanks*

**Plenary Session 2: Overview of the Ocean Observing Systems**

Session Chair: Stephen Weisberg - *Southern California Coastal Water Research Project Authority*

11:00-11:15 a.m. U.S. Integrated Ocean Observing System (IOOS)  
Zdenka Willis – *NOAA IOOS Program Office*

11:15-11:30 a.m. Northwest Association of Networked Ocean Observing Systems (NANOOS)  
Speaker to be determined

11:30-11:45 a.m. Southern California Coastal Ocean Observing System (SCCOOS)  
David Caron – *University of Southern California*

11:45-12:00 noon Central and Northern California Ocean Observing System (CeNCOOS)  
Heather Kerkering – *Monterey Bay Aquarium Research Institute*

12:00-1:00 p.m. Lunch

1:00-3:30 p.m. **Breakout Session I: Identify the Desired Attributes and Informational Needs of a Coordinated Regional HAB Network**

Session Moderator: Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

Goal: Identify the ideal characteristics of a Regional HAB monitoring, alert, and event response network

- Who are the users of such a system, and what are the management needs?
- What are the short- and long-term goals and objectives of the system?
- What are the informational needs from such a network?
- What types of data are required to fill these needs?

Break out into groups by the timeframe of information need:

1) Near-term (real-time to 48 hours)

Group Moderator: Ervin (Joe) Schumacker - *Quinault Indian Nation Department of Fisheries*

2) Medium-term (48 hours to weekly)

Group Moderator: G. Jason Smith – *Moss Landing Marine Laboratories*

3) Long-term (weekly to yearly)

Group Moderator: Stephanie Moore - *NOAA Northwest Fisheries Science Center*

3:30-3:45 p.m. Break

3:45-4:30 p.m. Plenary session: group moderators summarize outputs of each group

Dinner on your own

<b>Day 2: 11 February 2009</b>
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8:00-8:30 a.m. Continental Breakfast

8:30-8:50 a.m. Introduction to today's activities

Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

**Plenary Session 3: HAB Networks: Examples from other Parts of the Country**

Session Chair: Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

8:50-9:30 a.m. Comparing approaches and advancements in regional HAB monitoring and forecast systems

Richard Stumpf - *NOAA Center for Coastal Monitoring and Assessment*

9:30-11:30 a.m. **Breakout Session II: Developing a Coordinated Regional HAB Network, Part 1 – Science Needs**

Session Moderator: Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

Goal: To determine the science needs to develop a coordinated West Coast Regional HAB Monitoring, Alert, and Response Program that fills the informational needs identified in Breakout Session I.

- What are the parameters to be measured?

- What are the necessary spatial and temporal allocation of that sampling effort?
- How can data produced from the multiple types of sampling be integrated into a comprehensive nowcasting system.

Break out into small groups by the type of measurements needed:

1) Remote Sensing

Group Moderator: Richard Stumpf - *NOAA Center for Coastal Monitoring and Assessment*

2) Physical Measurements

Group Moderator: Barbara Hickey – *University of Washington*

3) Biological Measurements

Group Moderator: Michelle Wood – *University of Oregon*

11:30-1:00 p.m.

Lunch

1:00-2:00 p.m.

Plenary session: Group moderators summarize outputs of each group

2:00-4:00 p.m.

**Breakout Session III: Developing a Coordinated Regional HAB Network, Part 2 – System Requirements and Design**

Session Moderator: Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

Goal: To determine the system requirements for achieving the science needs identified in Breakout Session II, and design the coordinated West Coast Regional HAB Monitoring, Alert, and Response Network.

- What are the system requirements of the Network?
- How can a coordinated HAB network be designed to meet the needs of the overall community?
- How can the current HAB programs provide a basis for this design?
- How can a HAB network be integrated with the OOS' programs?
- What aspects of the OOS' programs can be used in the design and implementation of a network?

Break out into small groups by the type of system component addressed:

1) Monitoring (includes measurement, data management)

Group Moderator: Marc Suddleson - *NOAA Center for Sponsored Coastal Ocean Research*

2) Alert and event response

Group Moderator: Dan Ayres - *Washington State Department of Fish and Wildlife*

3) Communications – outreach and education

Group Moderator: Courtney Bogle - *NOAA Center for Sponsored Coastal Ocean Research*

4:00-5:00 p.m. Plenary session: Group moderators summarize outputs of each group  
Dinner on your own

<b>Day 3: 12 February 2009</b>
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8:00-8:30 a.m. Continental Breakfast

8:30-8:45 p.m. Introduction to today's activities  
*Alan Lewitus - NOAA Center for Sponsored Coastal Ocean Research*

**Plenary Session 4: Predictive HAB Models for the West Coast**  
Session Chair Robert Magnien - - *NOAA Center for Sponsored Coastal Ocean Research*

8:45-9:00 a.m. California  
*Clarissa Anderson – University of California Santa Cruz*

9:00-9:15 a.m. Oregon  
*Peter Strutton – Oregon State University*

9:15-9:30 a.m. Washington  
*Barbara Hickey – University of Washington*

9:30-9:45 a.m. Break

9:45-11:00 a.m. **Breakout Session IV: Regional Forecasting System**  
Session Moderator: Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*

Goal: Identify how to extend the design established in Breakout Session III to create a forecasting system for HABs.

- What types of data and systems are required to create a regional forecasting system for HABs?
- How could a forecasting system be implemented to the strategy design suggested in Breakout Session III?

- What are the impediments for developing a regional forecasting model?

Break out into small groups by regime:

- 1) Open Coast (Oregon and northern California)  
Group Moderator: Raphael Kudela – *University of California Santa Cruz* and Peter Strutton – *Oregon State University*
- 2) Coastal Hotspots (Juan de Fuca eddy, Heceta, Monterey and the Channel Islands)  
Group Moderators: Vera Trainer - *NOAA Northwest Fisheries Science Center* and Kathi Lefebvre - *NOAA Northwest Fisheries Science Center*
- 3) Urban and Estuary Regions (San Francisco Bay, Southern California, Puget Sound)  
Group Moderator: Peter Miller – *University of California Santa Cruz* and Jack Rensel – *Rensel Associates Aquatic Science Consultants*

- 11:00-11:45 a.m. Plenary session: Group moderators summarize outputs of each group
- 11:45-12:00 noon Closing Comments  
Alan Lewitus - *NOAA Center for Sponsored Coastal Ocean Research*
- Workshop Adjourned
- 12:00-1:00 p.m. Lunch on your own
- 1:00-2:00 p.m. **Working Group (Steering Committee and selected others) Session A: Laying the Groundwork for Developing Breakout Reports:**
- *West Coast Regional HAB Monitoring, Alert, and Response Network: Goals, Users, and Management Needs* from Breakout Session I;
  - *West Coast Regional HAB Monitoring, Alert, and Response Network: System Requirements and Design* from Breakout Sessions II and III;
  - *Developing a West Coast Regional Forecasting System: Research Needs and Management Applications* from Breakout Session IV.
- 2:00-3:00 p.m. **Working Group Session B: Summarizing Summit Results for Public Meeting Presentation**