

**International Workshop to Develop an Ocean Acidification Observing  
Network of Ship Surveys, Moorings, Floats and Gliders  
June 26-28, 2012**

**Agenda**

**University of Washington  
Ocean Sciences Building (OSB), Room #425  
1492 NE Boat Street, Seattle, Washington 98195**

**Day 1: 26 June 2012**

**08:15 - 09:00: Workshop Introduction: Welcome, Logistics, and Opening Remarks:**

Jan Newton (UW-NANOOS, Workshop Leader) and Steve Weisberg (SCCWRP, Workshop Facilitator); Dean Lisa Graumlich, College of the Environment, University of Washington; Clark Mather on behalf of Congressman Norm Dicks, U.S. House of Representatives

**09:00 - 10:15: Session A: What is a Global Ocean Acidification Observing Network and why do we need one?**

The purpose of this session is to address and discuss the following questions:

1. What has been the activity to date regarding a global ocean acidification observing network and why is one needed?
2. What are the likely benefits to the various stakeholders (academic, governmental, and commercial) that could be provided by global ocean acidification observing network?
3. What kind of ocean acidification observing network is needed to provide such benefits?
4. How can it be coordinated at the international level?

Overview talk: "What are the benefits of a Global Ocean Acidification Observing Network?" by Libby Jewett, NOAA OA Program Director, (9:00 – 9:20) followed by Plenary Discussion (9:20 – 10:15).

**10:15 - 10:30: Morning Break**

**10:30 - 12:00 Session B: Network Design: Building from existing programs and assessing strategic needs for new locations**

The purpose of this session is to address and discuss the following questions:

1. What are the existing global carbon observing efforts?
2. How do we define Tier 1 and Tier 2 measurements?
3. What are the obvious gaps in existing efforts when viewed as a global ocean acidification observing network?
4. What should a global ocean acidification observing network consist of (survey cruises, moorings, floats, gliders, etc) and where should assets be located?

Overview talk: "What are the possible components of an ocean acidification network based on existing resources?" by Richard Feely, NOAA PMEL, (10:30 – 11:15) followed by Plenary Discussion (11:15 – 12:00).

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**Day 1: 26 June 2012, continued**

**12:00 - 13:00 Lunch (OSB 4<sup>th</sup> floor lobby)**

**13:00 - 17:00 Session C: Global Ocean Acidification Observing Network System Design: 1. Definition**

The purpose of this session is to define attributes of the observing network system design.

13:00 Charge to Breakout Groups – Jan Newton/Steve Weisberg

**13:30 - 15:00 Breakout Session I: Defining the Global Ocean Acidification Observing Network's System Design**

**Breakout Group 1 (OSB #425)** Time Series Measurements and Platform Location Network Design: This group will focus from a temporal and spatial perspective, what scales need to be accounted for in the system design. They will focus on questions 2 & 3. They will also focus on the rationale for the observations in various regions.

*Uwe Send, Simone Alin, Maciej Telszewski*

**Breakout Group 2 (OSB #203)** Physical/Chemical Measurements Network Design: This group will focus from a physical/chemical disciplinary perspective, what measurements need to be accounted for in the system design. They will focus on question 1, but also 2 and 3.

*Andrew Dickson, Burke Hales, Kitack Lee*

**Breakout Group 3 (OSB #510)** Biological Measurements Network Design: This group will focus from a physical/chemical disciplinary perspective, what measurements need to be accounted for in the system design. They will focus on question 1, but also 2 and 3.

*Bruce Menge, Rebecca Albright, Joe Salisbury*

Questions to be addressed by each group:

1. What minimum physical, chemical and biological parameters (Tier 1 and Tier 2) should be measured for each platform? Where? At what depths?
2. What is the desired spatial and temporal resolution of these measurements?
3. Where are the gaps in present observing systems? Where are the areas of high vulnerability? Where do we need new measurements?

**15:00 - 15:30 Afternoon Break**

**15:30 - 17:00 Continue Breakout Session C**

**17:00 Poster social (OSB lobby- ground floor) with appetizers and refreshments**

***For dinner, see workshop packet for restaurant suggestions to explore with others***

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**Day 2: 27 June 2012**

**08:30 - 11:30 Session C: Global Ocean Acidification Observing Network System Design: 2. Group Consensus - Steve Weisberg, Facilitator**

The purpose of this session is to hear back from breakout groups re the observing network system design and to reach consensus and/or identify unresolved issues.

08:30 - 10:00 **Breakout Group Reports** (30 min per group)

10:00 - 10:30 **Morning Break**

10:30 - 11:30 **Plenary Discussion** to reach consensus on Observing System Design and/or identify unresolved issues

**11:30 - 12:00 Session D: Data Quality Control and Validation for the Global OA Observing Network in the context of International Coordination: 1. Current International Network Coordination**

The purpose of this session is to introduce the current level of international OA network coordination.

Presentation by Richard Feely for Jean-Pierre Gattuso, Chair, SOLAS-IMBER Ocean Acidification Working Group

**12:00 - 13:30 Lunch and poster social (OSB lobby- ground floor)**

**13:30 - 17:00 Session D: Data Quality Control and Validation for the Global OA Observing Network in the context of International Coordination: 2. Data Quality Control and Validation**

The purpose of this session is to address and discuss the following questions:

1. What are appropriate data quality goals for the proposed measurements?
2. What activities are required to achieve these goals?
3. What should be the network system requirements for data availability and data management? (e.g., data delivery schedule, metadata, data archival centers)
5. What data synthesis efforts are essential to achieve the benefits of the observing system?

Overview talk: "What are the possible guidelines for data quality control and validation?" by Hernan Garcia, NODC, and Emilio Mayorga, NANOOS-IOOS, (13:30 – 14:00) followed by Plenary Discussion (14:00 – 14:30).

**14:30 - 15:30 Breakout Session II. Defining Data Quality Control and Validation for the Global OA Observing Network in the Context of International Coordination**

The purpose of this session is to define data QC and validation attributes of the observing network system design.

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**Day 2: 27 June 2012, continued**

14:30 Charge to Breakout Groups – Jan Newton/Steve Weisberg

Breakout Group 1 (**OSB #203**): Cruises and Ships of Opportunity  
*Benjamin Pfeil, Hernan Garcia, Cathy Cosca*

Breakout Group 2 (**OSB #425**): Fixed Platforms (e.g., Moorings & Piers)  
*Mark Ohman, Adrienne Sutton, Simone Alin*

Breakout Group 3 (**OSB #510**): Floats and Gliders  
*Jeremy Mathis, Libby Jewett, Jenn Bennett*

Questions to be addressed by each platform-defined group:

1. What are appropriate data quality goals for the proposed Tier 1 and Tier 2 measurements on each platform?
2. What data quality requirement system is needed to achieve goal?
3. What should be the network system requirements for data availability and data management? (e.g., data delivery schedule, metadata, data archival centers)
4. What are potential data products and strategies for the required data synthesis needed to make the products?

15:30 - 16:00 **Afternoon Break**

16:00 - 17:00 **Continue Breakout Group Discussions**

**18:30 - 20:00 Group Dinner at Ivar's Salmon House:**

401 NE Northlake Way  
Seattle, WA 98105  
(206) 632-0767

**Day 3: 28 June 2012**

**08:00 - 10:15 Session D: Data Quality Control and Validation in context of  
International Coordination: 3. Group Consensus**

The purpose of this session is to hear back from breakout groups re the data QC and validation needs for the network and to reach consensus and/or identify unresolved issues.

08:00 - 09:30 Breakout Group Reports (30 min per group)

09:30 - 10:15 Plenary Discussion to reach consensus on Data QC/V in context of International Coordination and/or identify unresolved issues

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**Day 3: 28 June 2012, continued**

**10:15 - 10:45 Morning Break**

**10:45 - 12:00 Session E: International Data Integration and Network Coordination**  
Plenary Discussion on the International Coordination for Data and  
Network Integration – Steve Weisberg, Facilitator

The purpose of this session is to identify if we have consensus on data sharing and what roadblocks inhibit data integration and network coordination.

Presentation by Jan Newton of the “Declaration of Interdependence” from the Consortium for the Integrated Management of Ocean Acidification Data (CIMOAD)

Group poll: Do we have consensus to share data?

Identify roadblocks inhibiting data integration and network coordination on an international scale (take individual participant contributions)

1. What are ideas to overcome identified roadblocks?
2. How will we ensure that the discrete observing efforts become a network?
3. Should there be an official structure or a more organic collective?
4. What actions are needed to better integrate and coordinate the observation network?
5. What actions are needed to better integrate and coordinate data access?

**12:00 - 13:00 Lunch (OSB 4<sup>th</sup> floor lobby)**

**13:00 - 15:30 Session F. Future Planning**

The purpose of this session is to identify if we have consensus on vision for network and what next steps are.

1. Looking at the current/planned observing system vs. the vision for the system we have identified here to address gaps, do we have a consensus view?
2. What tasks should be done first to move this effort forward?
3. What infrastructure will be needed to achieve this?
4. What has not been resolved and how shall this be addressed?
5. What is an appropriate timeline, with milestone steps, for implementation of the network?
6. How should we define the network association and what is the most efficient way to integrate efforts in the future? (e.g., regular meetings, website, steering committee, etc.)

**15:30 - 16:00 Afternoon Break**

**16:00 - 17:00 Workshop Summary: Recap Action Items and Identify Points of Contact for follow-up**