



Updated July 11, 2024

## Coastal Pioneer Southern Mid-Atlantic Bight (MAB) Array Community Workshop September 10-12, 2024

Old Dominion University, Webb University Center  
1301 49th Street Norfolk, VA 23529

*Funding for this workshop is provided by the U.S. National Science Foundation (NSF).*

### **Workshop Goals:**

- **Highlight the capabilities of the Pioneer MAB Array** and the opportunities it offers. This includes a high-level introduction to the components of the array, the cutting edge science that was accomplished in the previous location (including available data and how to access), and examples of research questions that can be addressed in this new area.
- **Review/discuss what research has been completed in this region.** What do we know, and what do we not know, about the MAB, based on local stakeholder input.
- **Encourage collaboration.** Enhance access to and use of ocean observatory systems across the mid- and southeast-Atlantic regions. Further identify users and interest groups in the ocean observing research community and provide ample networking opportunities to foster connections and potential proposal development.

---

### ***Day 1 – Tuesday, September 10, 2024 – ODU, Webb University Center***

#### **Goals of Day One:**

- *Learn about the latest status of the [full] OOI Program.*
- *Review Pioneer NES Array outcomes and data outputs.*
- *Review what research has already been completed in the MAB.*
- *Learn about the full scope of Pioneer MAB Array, its experimental layout, and rationale; understand what data are available to researchers and educators.*

**0800** Workshop Check-in & Coffee

**0900** Workshop Welcome and Introductions– *Margaret Mulholland, Old Dominion University* (dedication to Larry Atkinson)

**0910** Workshop Goals and Expectations (including ground rules for intellectual property/best practices); Day 1 Overview – *Dax Soule, OOIFB Chair/Queens College*

**0915** NSF Overview of Funding Opportunities – *George Voulgaris, NSF*

**1015** NSF OOI Program Management Office (PMO) Reports - *Jim Edson, OOI-PMO/WHOI*  
\*\*Highlighting examples of previous OOI research (collaborative papers/proposals), and the PI process

**1030 BREAK**

**1045** Overview: Pioneer NES Array – *Al Plueddemann, OOI-CGSN/WHOI*

**1130** Summary of Innovations Laboratory Experience – *Kendra Daly, Univ. South Florida*

[General] Introduction of Science Themes:

- Dynamics of shelf/slope exchange (wind forcing; frontal instability; Gulf Stream influence, etc.)
- Biogeochemical cycling and transport (carbon, nutrients, and particulates)
- Extreme events (hurricanes and freshwater outflows)
- Ecosystem dynamics (ecology, biodiversity, phenology, invasive species, HABs, plankton, and changes in habitat)
- Complimentary science and technology (e.g. methane, sediments, canyons, bioacoustics, contaminants, etc.)

>> Before breaking for lunch: Establish Workshop Jamboard – *Holly Morin, OOIFB-ASO*

Goal: what collaborative proposal ideas have come from the day's conversations?

**1200 LUNCH**

**1300** Plenary I: What do we know/don't know about the physical oceanography of the [Southern] Mid-Atlantic Bight? – *Ruoying He, North Carolina State University*

**1335** Plenary II: What do we know/don't know about the biogeochemistry of the [Southern] Mid-Atlantic Bight? – *Margaret Mulholland, ODU*

**1405** Plenary III: "What do we know/don't know about the biology/ecology of the [Southern] Mid-Atlantic Bight?" – *Janet Nye, UNC Chapel Hill*

**1440 BREAK** (please add any questions or feedback to the Jamboard!)

**1500** Pioneer MAB Array Overview Session – *Al Plueddemann, OOI-CGSN/WHOI*

**1530** Day 1 Overview and Breakout Session Prep – *Mike Muglia, East Carolina University*

**1545** Breakout Session #1: Beginning conversations about science themes

\*\*Individuals self-identify which group to join; each group will have a leader and scribe

- Dynamics of shelf/slope exchange (wind forcing; frontal instability; Gulf Stream influence, etc.)
- Biogeochemical cycling and transport (carbon, nutrients, and particulates)
- Extreme events (hurricanes and freshwater outflows)
- Ecosystem dynamics (ecology, biodiversity, phenology, invasive species, HABs, plankton, and changes in habitat)
- Complimentary science and technology (e.g. methane, sediments, canyons, bioacoustics, contaminants, etc.)

- 1645** Breakout Groups Report Out, Discussion – *Holly Morin, OOIFB-ASO*  
(group leaders provide 5 min summary report)
- 1715** Day 1 Closing Remarks – *John Klinck, ODU*
- 1800** Poster Session Recognizing Larry Atkinson and Evening Reception (for workshop participants and other students/faculty that have RSVP'd)
- 2000** Adjourn Day 1
- 

**Day 2 – Wednesday, September 11, 2024**

Goals of Day Two:

- *Learn about the latest status of OOI data access tools; gain hands-on experience in accessing OOI data.*
- *Discuss in more detail the major science themes connected to the Pioneer MAB Array*
- *Identify what science questions can be addressed using Pioneer MAB Array and other observatory data, and what methods/tools/partnerships are needed to answer those questions*

**0830** Coffee

**0900** Day 2 Welcome and Overview – *Donglai Gong, Virginia Institute of Marine Science*

**0915** NSF OOI Data Delivery and QA/QC

- Introduction and high level review of the OOI Data Portal –*Stace Beaulieu, OOI-CGSN/WHOI*
- Other data delivery methods – *Andrew Reed, OOI-CGSN/WHOI*
- How does the NSF OOI Program handle data QA/QC? – *Andrew Reed, OOI-CGSN/WHOI*

**1015** **BREAK** (please continue to add to the Jamboard!)

**1030** Breakout Session #2: NSF OOI Data Access Demonstrations (different ways to access the data including the OOI Data Explorer, JupyterHub, and other sources)

Breakout groups:

- Data Explorer – *Stace Beaulieu, OOI-CGSN/WHOI*
- Jupyter Hub-[New] Pangeo Portal – *Chris Wingard, Oregon State University*
- “Other Methods” (e.g. Raw Data Archive or other methods) – *Andrew Reed, OOI-CGSN/WHOI*

**1130** Breakout Session Discussion and Feedback – *Holly Morin, OOIFB-ASO*

**1200** **LUNCH**

**1300** Plenary IV: Merging Science with Data – *Hilde Oliver, WHOI*

**1335** Breakout Session #3: Further define what science questions can be investigated using the Pioneer MAB Array data and data from other observatories, and how those questions can be addressed. Breakout Groups (individuals self-identify which group to join):

- Dynamics of shelf/slope exchange (Wind forcing; frontal instability; Gulf Stream influence, etc.)
- Biogeochemical cycling and transport (carbon, nutrients, and particulates)
- Extreme events (Hurricanes and freshwater outflows)
- Ecosystem dynamics (Ecology, biodiversity, phenology, invasive species, HABs, plankton, and changes in habitat)
- Complimentary science and technology (e.g. methane, sediments, canyons, bioacoustics, contaminants, etc.)

**1435** Breakout Groups Report Out, Discussion – *Holly Morin, OOIFB-ASO*  
(group leaders provide 5 min summary report)

**1505** **BREAK** (don't forget to add to the Jamboard!)

**1525** NSF OOI Modeling Applications: A Panel Discussion  
\*\* For interdisciplinary projects, when incorporating modeling, what do those data look like? What do modelers need to address complex questions?

Moderator: *Kendra Daly, University of South Florida*

Panelists:

- Ruoying He (NCSU)
- John Wilkin (Rutgers)
- Andrew Ross (NOAA Geophysical Fluid Dynamics Laboratory)
- Joseph Zhang (VIMS)
- Tal Ezer (ODU)
- Ata Suanda (UNCW)

**1645** Day 2 Closing Remarks – *John Wilkin, Rutgers University*

**1700** Adjourn

**1800** Group dinner (with cash bar) for workshop participants

---

### **Day 3 – Thursday, September 12, 2024**

#### Goals of Day Three:

- *Understand and expand broader impacts using NSF OOI data.*
- *Collect community feedback on the NSF OOI program.*
- *Leave with everyone seeing a path forward to use the Pioneer MAB Array observing assets to answer critical science and/or education questions.*

- 0830** Coffee
- 0900** Opening Remarks and Day 3 Overview – *Paulinus Chigbu, UMD, Eastern Shore*
- 0915** Plenary V: Graduate/Undergraduate Student Engagement – *Sage Lichtenwalner (Rutgers University), Anna Pfeiffer-Herbert (Stockton University)*
- 0950** Data Partnerships, Community Building, and Broader Impacts: A Panel Discussion –  
Moderator: *Dax Soule, OOIFB-Chair/Queens College*  
Panelists:
- John McCord, ECU-CSI (K-12 team)
  - Derek Loftis, VIMS, (Citizen Science)
  - Kristin Hunter-Thomson, Dataspire (K-16)
  - Celia Cackowski, VIMS Marine Advisory Program (data-based outreach products; MARACOOS data)
  - Jillian Eller, ECU (social science)
- 1050** Questions and Discussion (review Jamboard) – *Holly Morin, OOIFB-ASO*
- 1110** ***BREAK***
- 1125** NSF OOI Feedback Session – *Dax Soule, OOIFB Chair/Queens College*  
Workshop participants will have an opportunity to share their feedback and suggestions about the NSF OOI System and Program. This will also offer an opportunity for more questions about OOI data access and the OOI Data Portal (if necessary).
- 1150** Concluding Remarks and Wrap-Up – *Dax Soule, OOIFB Chair/Queens College*
- 1200** **LUNCH & ADJOURN**