Updated September 3, 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, held in honor of Dr. Larry Atkinson, 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.

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Day 1 – Tuesday, September 10, 2024 – ODU, Webb University Center
The full workshop will convene in the Hampton Room each day- this is the main community workshop space. All presentations, plenary sessions, discussion panels, etc. will take place in this room. Breakout sessions will take place in the Hampton Room as well as other nearby meeting rooms.

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
Workshop check-in will be located outside the Newport News Room
Coffee and other refreshments will be available in the North Cafeteria

0900 Workshop Welcome; Dedication to Dr. Larry Atkinson– *Margaret Mulholland and Eileen Hofmann, Old Dominion University*

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**
Coffee and other refreshments available in the North Cafeteria

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: Reminder about breakout session worksheets and establish Workshop Jamboard – *Holly Morin, OOIFB-ASO*
Goal: What collaborative proposal ideas have come from the day's conversations?

1200 **LUNCH (North Cafeteria)**

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 breakout session worksheets and/or Workshop Jamboard)
Coffee and other refreshments available in the North Cafeteria

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 (breakout rooms to be assigned accordingly); each group will have a leader and scribe. Breakout sessions will take place in the Hampton Room, Newport News Room, Linhaven Room, Potomac Room, and York Room. Please keep track of discussions in the breakout session worksheets:

- 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 to provide 5 min summary report)

1715 Day 1 Closing Remarks – *John Klinck, ODU*

1730 Adjourn

1800 Poster Session Recognizing Larry Atkinson and Evening Reception (for workshop participants and other students/faculty that have RSVP'd)
ODU Webb Center, North Cafe

2000 Adjourn Day 1

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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, North Cafeteria

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

0915 NSF OOI Data Delivery and QA/QC

- Introduction and high level overview of the OOI Data Explorer. –*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 add any questions or feedback to breakout session worksheets and/or Workshop Jamboard)
Coffee and other refreshments available in the North Cafeteria

1030 Breakout Session #2: NSF OOI Data Access Demonstrations (different ways to access the data including the OOI Data Explorer, JupyterHub, and other sources)
**Individuals self-identify which group to join (breakout rooms to be assigned accordingly); each group will have a scribe. Breakout sessions will take place in the Hampton Room, Newport News Room, Linhaven Room, Potomac Room, and York Room.
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*
As always, comments and questions can be added to the breakout session worksheets and/or Workshop Jamboard.

1200 **LUNCH (North Cafeteria)**

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, with rooms assigned accordingly- may not be the same room as yesterday). Please keep track of discussions in the breakout session worksheets:

- 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 any questions/comments to the breakout session worksheets and/or Workshop Jamboard)
Coffee and other refreshments available in the North Cafeteria

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:

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

*Have a question/comment to ask/make in advance, or didn't get a chance to ask it during the panel discussion? Please enter things into this form.

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

1700 Adjourn

1800 Group dinner (with cash bar) for workshop participants
ODU Web Center, North Cafe

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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 and other refreshments available in the North Cafeteria

0900 Opening Remarks and Day 3 Overview – *Paulinus Chigbu, UMD, Eastern Shore*
Hampton Room

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)
- Mike Muglia, ECU (renewable energy connections)

*Have a question/comment to ask/make in advance, or didn't get a chance to ask it during the panel discussion? Please enter things into this form.

1050 Questions and Discussion (review breakout session worksheets and Workshop Jamboard) – *Holly Morin, OOIFB-ASO*

1110 **BREAK**
Coffee and other refreshments available in the North Cafeteria

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 (North Cafeteria)**
WORKSHOP ADJOURN