OOI Data Labs 2024 Mid-Atlantic Workshop

## Key Workshop Goals

During the workshop, participants will:

1. Learn about the OOI program and key science questions it addresses.
2. Explore how to use OOI Data Labs resources and effectively incorporate data-rich lessons into your classes.
3. Create a classroom Implementation plan that integrates OOI data into your teaching.

In addition, participants will:

1. Be introduced to methods for accessing and engaging students in OOI data directly (e.g. via the Data Explorer, Python notebooks, and Erddap) to support advanced data literacy skills building.
2. Network with other professors interested in using oceanographic data in undergraduate education.

## Workshop Overview

* **Sunday (Day 1):** Welcome: Laying the groundwork for understanding and using OOI data in teaching.
* **Monday (Day 2):** Explore the OOI Data Labs collection: Review the OOI Lab Manual and create/discuss a plan for how you can customize activities for different classroom applications.
* **Tuesday (Day 3)**: Expanding access to OOI data: Explore a range of options for engaging students in OOI data directly and the potential for future educational activities.
* **Wednesday (Day 4):** Reflection and looking forward: Educational share-a-thon of your preliminary curriculum plans and applications of OOI in your teaching.

## Sunday, June 2: Welcome & Introductions

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| **Time** | **Topic, Objectives & Activities** |
| 3:00 pm | *Check in at the hotel. Transportation to the Front Street Brewery at 3:30 pm.* |
| 4:00 pm | **Welcome and Introductions at the Front Street Brewery!**  **9 North Front Street, Wilmington, NC.**  Meet each other and the project team and review the goals of the week. |
| 5:00 pm | **Why Ocean Observatory Education?**  Highlight and discuss the challenges of teaching with authentic data. What is it like for learners to work with information that is new and overwhelming? Introduce how OOS and the OOI can help. |
| 5:45 pm | *Dinner* |
| 6:45 pm | **The OOI Today**: **An introduction to its history and the science it supports**  Learn about why and how the OOI was created, the scientific questions it is trying to address and the kinds of cutting-edge oceanographic research it can support. |
| 8:00 pm | *Conclude for evening* |

## Monday, June 3: Explore the Data Labs collection. Start building your classroom plan.

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| **Time** | **Topic, Objectives & Activities** |
| 7:00 am | *Breakfast available at hotel* |
| 8:30 am | *Cars leave for UNCW* |
| 9:00 am | **Welcome and Announcements**  Review agenda, results of yesterday’s QFT activity, and any questions participants came up with overnight. |
| 9:15 am | **Teaching with OOI Data Labs: Introduction to the OOI Data Lab Manual**  Introduce the OOI Data Labs resources (including philosophy, contents, flexibility for different modalities, and alignment with oceanography curriculum). |
| 10:30 am | *Coffee Break* |
| 10:45 am | **Lightning Talks from Peer Data Lab Professors**  Understand how the OOI can be integrated into undergraduate teaching by looking at past implementations. Peer faculty share their teaching approach and advice for implementing Data Labs resources in their classroom. |
| 12:00 | *Lunch & Tour of UNCW Pier* |
| 1:30 pm | **Introduction to Implementation Planning**  Review the implementation worksheet to guide your planning. Participants have the option to work in small groups and/or consult with facilitators and peer educators on their individual course ideas. |
| 2:45 pm | *Break* |
| 3:00 pm | **OOI Infrastructure: Introduction to the OOI Data Explorer and Data Access**  Explore and expand on data platforms, instrumentation, data discovery and access. Explore the Data Explorer in pairs to discover what’s there and how to use it. |
| 4:15 pm | **Reflection and Feedback**  Review and reflect on what was learned today.  Fill out “Road Check” survey. |
| 4:30 pm | *Head to Cape Fear Community College for a tour* |
| 5:00 pm | *Tour of Cape Fear Community College* |
| 6:30 pm | *Dinner on your own!* |

## Tuesday, June 4: Diving deeper to explore other ways to access OOI data for teaching.

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| **Time** | **Topic, Objectives & Activities** |
| 7:00 am | *Breakfast available at hotel* |
| 8:30 am | *Cars leave for UNCW* |
| 9:00 am | **Welcome and Announcements**  Review agenda, reflection of yesterday’s Data Explorer WebQuest, and any questions participants came up with overnight. |
| 9:15 am | **Advanced tools for Accessing and Visualizing OOI Data for Education**  **A QuickStart Guide to ERDDAP**  How to use the OOI ERDDAP server to quickly access and visualize datasets for offline exploration.  **A QuickStart Guide Python/Jupyter Notebook Enabled Education**  Introduction to how Python notebooks can be used by faculty and students to directly access and visualization OOI datasets for analysis, particularly from the new Pioneer MAB Dataset. Demonstrate the teaching advantages of an instructor-controlled computing environment using OOI JupyterHub. |
| 10:45 am | *Coffee Break* |
| 11:00 am | **Pioneer Array Science!**  An introduction to the new Pioneer Mid Atlantic Bight Array with Dr. Mike Muglia, from the North Carolina Coastal Studies Institute. |
| 12:00 | *Lunch & Tour of Instruments Laboratory at UNCW* |
| 1:30 pm | **Developing OOI Data Activities**  Breakout groups on future OOI data activities |
| 3:00 pm | *Break* |
| 3:30 pm | **Implementation Planning**  Continue working on your implementation plan, including short-term and long-term goals based on today’s sessions. |
| 4:30 pm | **Reflection and Feedback**  Share out how you are doing!  Review and reflect on what was learned today.  Fill out “Road Check” survey. |
| 6:00 pm | *Dinner* |

## Wednesday, June 5: Reflection and looking forward! Educational share-a-thon on preliminary curriculum planning ideas.

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| **Time** | **Topic, Objectives & Activities** |
| 7:00 am | *Breakfast Available at hotel* |
| 8:30 am | *Cars leave for UNCW* |
| 9:00 am | **Share-a-thon presentations from participants (Part I)**  Each participant shares their reflections and plans. (2 minutes each) |
| 10:30 am | *Break* |
| 10:45 am | **Share-a-thon presentations from participants (Part II)** |
| 11:30 am | **Taking it home: Reflection and Feedback**  Review and reflect on what we did together.  What are the next steps for the project moving forward and how can I stay involved?  Final workshop evaluation. |
| 1:00 pm | *Box lunches and wrap up* |