

Future Pathways for the BGC Argo Program: A Workshop

April 9 & 10, 2026

Beckman Center, 100 Academy Way, Irvine CA (Huntington Room) and Virtual

Join on Zoom:

<https://nasem.zoom.us/j/91263264752?pwd=Y4kjuV4mBXSkVHfEWC4TZxhgmaF8.1>

Workshop presentations and additional resources can be found here:

<https://drive.google.com/drive/folders/1eIOXv1fmnWik4I015JEVg8UXw3cBrPVD>

Slido: goto slido.com; meeting code: BGCArgo

OBJECTIVES

1. **Expanded Users, Products, and Value:** Assess how BGC Argo data and derived products (e.g., 4D fields, satellite synergies, data-assimilative marine ecosystem forecasting, near-real-time applications) could broaden the user base, increase scientific, operational, and commercial value, and support expanded applications.
2. **Government Pathways to Sustainability:** Identify viable pathways for sustaining BGC Argo as a long-term facility by examining opportunities, obstacles, and alignment with the missions and priorities of government agencies across near-term needs and a 10-year horizon.
3. **Private Sector & Commercial Engagement:** Explore potential commercial applications, partnerships, and funding models for BGC Argo, including the associated trade-offs for governance, data access, system reliability, and cost effectiveness.
4. **Balancing Continuity with Innovation:** Identify the critical technical and human capabilities that must be preserved during any transition in funding or governance, while evaluating opportunities for innovation such as new sensors and float longevity, AI-enabled analysis, and event-driven observing strategies.

THURSDAY, APRIL 9, 2026 | 8:30 AM – 5:00 PM PDT

8:00 **Breakfast and Networking**

8:30 **Welcome & Why we are here**

Speaker: Kelly Oskvig, National Academies of Sciences, Engineering, and Medicine
Welcome, Safety Moment, Project Introduction, Logistics

Speaker: Mark Abbott, Woods Hole Oceanographic Institution (*emeritus*)

- Why this moment matters
- What this workshop is *not* \

- What success looks like at 4pm tomorrow

Speaker: Jyotika Virmani, Schmidt Ocean Institute

- A word from our sponsor

8:45

Introductions

In 1 minute or less:

1. Name and affiliation
2. Relation to, or interest in, the BGC Argo Program

***Online Participants** – answer in the chat

9:15

Fast Framing Exercise – Table Discussion

Details to be provided on the day of.

9:30

Overview of BGC Argo (1 hour)

Accomplishments & Capabilities: Review BGC Argo's scientific and societal accomplishments to date, explicitly linking outcomes to the underlying observing system capabilities (e.g., sensors, depth, sampling frequency, float and sensor density, and data quality) and identifying which target capabilities are mature versus still emerging.

Moderator: Brian King, National Oceanography Centre

Speakers: Ken Johnson, Monterey Bay Aquatic Research Institute

Hervé Claustre, Laboratoire d'Océanographie de Villefranche

Discussion: 20 minutes

Read ahead: Background paper from Ken Johnson et al.

10:30

BREAK

10:45

Objective 1 - Expanded Users, Products, and Value:

Assess how BGC Argo data and derived products (e.g., 4D fields, satellite synergies, data-assimilative marine ecosystem forecasting, near-real-time applications) could broaden the user base, increase scientific, operational, and commercial value, and support expanded applications.

Moderator: Raphaëlle Sauzède, Laboratoire d'Océanographie de Villefranche

Speakers: Pierre-Yves Le Traon, Mercator Ocean International

Andrea Fassbender, NOAA Pacific Marine Environmental Laboratory

11:15

Objective 1 Breakout Activity: 45 minutes

Exercise looking at needs from the perspective of different potential end users.

In-person and online breakout groups. Online participants who were invited, will be preassigned to a breakout room; all others in the room and online may choose their breakout group.

- Group 1: Understanding and Forecasting Ocean Systems
- Group 2: Fisheries & Ecosystem Management
- Group 3: Emerging Uses (e.g., mCDR, EEZ resource development and management, etc.)

Each group answers:

- What decision(s) does this user need to make?
- What data is needed to support decision?
- What would be needed to fill the data gap?

- Who would need to be involved?

Collaboard:

<https://web.collaboard.app/share/apBa4zVRJvSPCnjZHjzhw>

12:00 LUNCH

1:00 Objective 1 Report Out

Each group reports out on the decision to be made for context; one critical product or service needed (yellow sticky), one new partnership (green sticky), one capability gap (blue sticky) followed by discussion.

1:30 Objective 2 - Government Pathways to Sustainability:

Identify viable pathways for sustaining BGC Argo as a long-term facility by examining opportunities, obstacles, and alignment with the missions and priorities of government agencies across near-term needs and a 10-year horizon.

Moderator: Lynne Talley, Scripps Institution of Oceanography

Speaker: Lisa Clough, North Carolina Agricultural and Technical State University

2:00 Objective 2 Breakout Discussion

Planning exercise with different program funding scenarios or perspectives.

- U.S. agencies currently supporting BGC Argo
- U.S. agencies that benefit from BGC Argo
- International Support and Opportunities

In-person and online participants may choose their breakout group and answer the following:

- *What current and emerging opportunities are enabled by BGC Argo and how do these map to agency missions? (Emerging examples: polar oceans, EEZ assessment and management, enabling economic growth, etc.)*
- *What needs to be changed or bridged in the existing system to realize the opportunities in the short term (< 2 years)?*
- *What needs to be changed or bridged in the existing system to realize the opportunities in the long term (> 2 years)?*
- *What is the biggest obstacle?*

Collaboard:

<https://web.collaboard.app/share/4HabZuA7aPfs1W7ql3CqNw>

2:45 Break

3:00 Objective 2 - Report Out

Each group reports out one opportunity (yellow sticky), near-term change (green sticky), long-term change (blue sticky), biggest obstacle (pink sticky) followed by moderated discussion.

3:30 Objective 3 - Private Sector & Commercial Engagement:

Explore potential commercial applications, partnerships, and funding models for BGC Argo, including the associated trade-offs for governance, data access, system reliability, and cost effectiveness.

Moderator and Speaker: Justin Manley, Marine Technology Society

Panelists:

Marlon Lewis, Dalhousie University/Satlantic

Jess Noble, Teledyne

Greg Johnson, RBR

4:50 Pulse Check

Moderator: Mark Abbott, Woods Hole Oceanographic Institution (*emeritus*)

- What is the biggest tension you heard today?
- What is the biggest or most interesting opportunity?

5:00 Adjourn

FRIDAY, APRIL 10, 2026 | 8:30 AM – 4:00 PM PDT

8:00 Breakfast and networking

8:30 Day 1 Recap

Speaker/Moderator: Brian King, National Oceanography Centre

- Where are areas of tension?
- Where is the biggest opportunity?
- Walk through the day's plan.

9:00 Objective 4 - Balancing Continuity with Innovation

Identify the critical technical and human capabilities that must be preserved during any transition in funding or governance, while evaluating opportunities for innovation such as new sensors and float longevity, AI-enabled analysis, and event-driven observing strategies.

Moderator: Lionel Arteaga-Quintero, NASA Goddard Flight Space Center

Speakers: Hervé Claustre, Laboratoire d'Océanographie de Villefranche
Yui Takeshita, Monterey Bay Aquarium Research Institute

9:30 Objective 4 Breakout

Split the in-person and virtual attendees into two groups: (A) capabilities that must be preserved and opportunities for innovation. All participants will switch groups after 30 minutes.

Online participants who were invited, will be preassigned to a breakout room; all others will be divided in half.

Group A: Must Protect

For example, identify:

- Technical capabilities that cannot be degraded
- Human infrastructure (QA/QC, data trust, global coordination)
- Governance elements that preserve credibility

Group B: Innovate/Transform

For example, design of:

- New sensor classes
- AI-enabled processing
- Event-triggered adaptive sampling
- Float longevity upgrades

Collaboard Link: <https://web.collaboard.app/share/9DEIAjnAGozbcUYyg5KLqg>

10:30 BREAK

11:00 Report out

“must preserve” and “invest and innovate”; identify where investments would serve both

11:30 Mapping Pathways for the BGC Argo Program - Integration Across Objectives

Moderator: Seth Bushinsky, University of Hawai'i

- (1) Using where we were now and the information we have now, map out what needs to happen to continue operations at acceptable level the next 5 years without losing critical data.
 - Measurement priorities (which sensors, etc.)
 - Minimum quality and sampling capabilities
 - Data system capabilities (data delivery, storage, etc.)
 - Technical/scientific human capabilities
 - Supply chain priorities (e.g., manufacturing, testing, etc.)
 - Partnerships (international, interagency, etc.)
- (2) Starting with a blank sheet of paper, design what the BGC Argo program should be in 10 years.
 - Measurements
 - Cost
 - Measurement quality and sampling
 - Data systems
 - Human capabilities
 - Innovation capabilities
 - Partnerships

Breakout sessions World cafe format:

Round 1: one group works on question (1) at the same time another group works on question (2);

Round 2: after 1 hour, switch groups. Those working on question (1) will work on question (2), building on what the first group did. Groups working on question (2) will switch to work on question (1), building on what that first group did.

12:00 – 12:45 Lunch

12:45 Continue pathways mapping exercise

2:00 Report Outs

2:45 BREAK

3:00 Final Convergence Discussion

Moderator: Mark Abbott

- What must not be lost during transition?
- Where is innovation most urgent?
- What does success look like in 2036?
- What does failure look like

4:00pm Adjourn