

Minutes

25th Meeting of the Ocean Exploration Advisory Board

May 14-15, 2024

Participants:

- **OEAB Members in Attendance:**
 - Dr. Vicki Ferrini, Chair, Columbia University, Lamont-Doherty Earth Observatory
 - Dr. Peter Girguis, Harvard University
 - Dr. Kevin Hand, NASA Jet Propulsion Laboratory
 - Eric King, Schmidt Ocean Institute
 - Dr. Veronique LeRoux, Woods Hole Oceanographic Institution
 - Dr. Mark Moline, University of Delaware
 - Dr. Frank Muller-Karger, University of South Florida
 - Dr. Ellen Prager, Earth2Ocean Inc.
 - Dr. Clara Smart, Johns Hopkins University Applied Physics Laboratory
 - Ramsay Taum, Pacific Islands Leadership Institute, Hawaii Pacific University
 - David Millar, Fugro USA Inc.
 - Justin Manley, Just Innovation Inc.

 - **OEAB Members Absent:**
 - Dr. Lesley K. Iaukea, Indigenous Knowledge & Earth and Environmental Convergent Science Program

 - **NOAA Ocean Exploration Staff in Attendance:**
 - David Turner, Designated Federal Officer (DFO), NOAA Ocean Exploration
 - Jeremy Weirich, Director, NOAA Ocean Exploration
 - Jennifer Lukens, Deputy Director, NOAA Ocean Exploration
 - Rachel Medley, Chief, Expedition and Exploration Division
 - Kristen Crossett, Outreach and Education Division Chief
 - Joanne Flanders, Alternate DFO, NOAA Ocean Exploration
 - Liz Hoadley, Education Team
 - Ashley Marranzino, Science & Technology Division
 - Amanda Maxon, Expeditions and Exploration Division
 - Nina Pruzinsky, Science & Technology Division

 - **Observers:**

A number of individuals from other organizations attended as observers at various points.
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1. Opening Remarks

- **Speaker:** Dr. Vicki Ferrini (Chair)
- **Summary:** Dr. Ferrini began the meeting by welcoming the members and thanking them for their input and updates. She set the tone by emphasizing the importance of forward-thinking strategies in ocean exploration, particularly as the board moves into discussions around expanding NOAA's focus beyond traditional boundaries. The Chair emphasized that the meeting would focus on three key areas: updates on NOAA Ocean Exploration programs, the upcoming FY2025 program review, and preparing recommendations for the NOAA Administrator on how ocean exploration can take innovative and impactful new directions.

2. Approval of Minutes from Meeting #24

- **Outcome:** The minutes from Meeting #24 were reviewed, and the board unanimously approved them. Dr. Ferrini remarked that accurate documentation was critical for maintaining continuity and transparency in the board's deliberations and decisions.

3. Approval of Final Recommendations to the NOAA Administrator

- **Summary:** The board discussed the final slate of recommendations to be presented to NOAA Administrator Dr. Richard Spinrad. Key points in the recommendations included:
 - Expanding exploration activities beyond the U.S. Exclusive Economic Zone (EEZ) to include shallow waters and areas of strategic importance to global ocean science.
 - Making NOAA acquired data more discoverable and usable, particularly for communities and organizations outside the traditional research communities of practice.
 - Encouraging high-risk, high-reward projects with a focus on innovation and unconventional approaches.
 - Addressing the environmental impacts of ocean exploration and incorporating a carbon budget framework into project planning.
 - Proposing a "recommendation traceability matrix" to ensure that feedback from previous advisory meetings and reports is being systematically addressed.

Members also raised the importance of recognizing the long-term impacts of these recommendations, including the need for a clear accountability structure to track progress. After a discussion, the board approved the recommendations with the understanding that further feedback would be incorporated into a memo accompanying the document.

4. Updates on NOAA Ocean Exploration

- **Presenter:** Jeremy Weirich, Director, NOAA Ocean Exploration

- **Summary:** Jeremy Weirich provided an overview of NOAA Ocean Exploration's current mission, strategic objectives, and major initiatives. He discussed the budget challenges facing NOAA, particularly a projected \$21 million reduction in 2025. Despite these constraints, NOAA Ocean Exploration is expanding its efforts internationally, with a focus on helping other nations map their EEZs. For example, the Okeanos Explorer is assisting with deep-sea mapping efforts in Palau, and future collaboration is being sought in the Pacific Islands.

5. Briefing on NOAA Ship Discoverer

- **Presenter:** Jeremy Weirich
- **Summary:** Jeremy Weirich introduced NOAA's next-generation ocean exploration vessel, the NOAA Ship Discoverer, highlighting its two primary capabilities: deep-sea mapping and telepresence. Weirich provided details on seven critical modifications being made to the ship, which is expected to be delivered by early 2026 and commissioned in late 2027. The presentation included an in-depth discussion of the Discoverer's technological advancements and the ship's role in supporting NOAA's broader mission of ocean science and data dissemination. The board was particularly interested in the ship's potential for remote collaboration through telepresence and its ability to facilitate broader scientific participation.

6. FY25 NOAA Ocean Exploration Program Review

- **Presenter:** David Turner, DFO
- **Summary:** David Turner introduced the FY2025 program review, outlining its purpose, timeline, and importance to NOAA Ocean Exploration's future activities. He explained that the review would assess NOAA's exploration efforts and provide an opportunity for board members to contribute their expertise. However, some members raised concerns about the time commitment involved in the review process. After a robust discussion, the board decided to further explore the role it should play, with the possibility of using subcommittees to bring in external voices and expertise. It was agreed that the members would reconvene after reviewing materials from the 2019 program review to make a final decision.

7. Overview of the "Beyond the Blue: Illuminating the Pacific" Campaign

- **Presenter:** Rachel Medley, Chief, Expedition and Exploration Division
- **Summary:** Rachel Medley presented NOAA's "Beyond the Blue" campaign, which focuses on exploration in the Pacific and incorporates lessons learned from previous campaigns such as ASPIRE and Seascape Alaska. Medley highlighted the importance of public outreach and education, framing the campaign to build stronger relationships with Pacific Island nations while expanding NOAA's exploration footprint. Board members discussed the need for a cohesive strategy that aligns with other federal initiatives, including the NOMECE objectives. The conversation also focused on building consensus with federal partners and using

existing reports, like the Ocean Exploration Forum Federal Priorities report, to guide future efforts.

8. Briefing on NOAA's Center of Excellence for Operational Ocean and Great Lakes Mapping

- **Presenter:** Shannon Hoy, Expedition Coordinator Team Lead
- **Summary:** Shannon Hoy provided an update on the development of NOAA's new Center of Excellence for Operational Ocean and Great Lakes Mapping. She explained the center's four pillars and the timeline for operationalization, noting that the center aims to serve as a central resource for ocean and Great Lakes mapping efforts. Board members expressed concerns about missing IT infrastructure and questioned the timing of funding for the project, particularly the decision to move forward without a completed business plan. The discussion emphasized the importance of early partnership engagement and robust planning to ensure the center's success.

9. Working Session for Board Members: Day 1 Review

- **Summary:** Board members reconvened to review the topics discussed during the day's sessions. A key point of deliberation was the role of the board in the upcoming program review. Concerns were raised about the potential time commitment, with some members suggesting that subcommittees could bring in external experts to reduce the workload. There was also a broader discussion about the consensus-based reporting required under FACA and the perception that the review process could resemble a performance review for NOAA programs. The group decided to reconvene on Day 2 after reviewing the 2019 program review materials.

Day 2: May 15, 2024

10. Opening Remarks

- **Speakers:** Dr. Vicki Ferrini and David Turner
- **Summary:** Dr. Ferrini opened the second day by reviewing the agenda and setting the stage for further discussions on the program review and the board's recommendations to NOAA leadership.

11. Working Session for the Board Members: Follow-Up on Day 1

- **Summary:** The board revisited the program review process, emphasizing the need for a more efficient structure, such as a two-day review. The pros and cons of using subcommittees were discussed again, with the board leaning toward a more flexible approach where each member could focus on 2-3 key areas of interest. David Turner agreed to provide a one-page charter to clarify expectations and allow more flexibility in how the board approaches the review.

12. Working Session: FY25 Goals

- **Summary:** During this session, board members discussed potential areas of focus for FY25, identifying opportunities to expand NOAA Ocean Exploration's reach into non-traditional areas. There was a strong focus on partnerships, with members advocating for NOAA to explore partnerships with sectors not typically involved in ocean exploration, such as the medical community or faith-based organizations. The group also debated the best way to structure future meetings and engagement with NOAA leadership.

13. Review of Recommendations to NOAA Administrator

- **Summary:** Board members finalized their recommendations for NOAA Administrator Dr. Richard Spinrad, focusing on expanding public engagement, increasing collaborations in shallow waters, and taking on riskier projects with higher potential rewards. The recommendations also included calls for NOAA to lead in areas such as deep-sea mining and to broaden its outreach to coastal and inland communities.

14. Remarks by Dr. Richard Spinrad, NOAA Administrator

- **Summary:** Dr. Spinrad addressed the board, sharing his perspective on NOAA's role in supporting economic development, enhancing environmental stewardship, and prioritizing equity and inclusivity in NOAA's products and services. He encouraged the board to think creatively about how formal acquisition structures, such as those used in NOAA's satellite programs, could benefit ocean exploration. Spinrad also stressed the importance of maintaining a politically defensible and apolitical portfolio, particularly as the organization faces budget cuts and increased scrutiny ahead of the 2024 elections.

15. Remarks by Dr. Steve Thur, Assistant Administrator for NOAA Research

- **Summary:** Dr. Thur discussed OAR's core mission of public service through science and outlined the four societal challenges OAR is addressing: climate change, environmental hazards, hydrological cycles, and sustaining a healthy environment. He emphasized the need for AI and cloud-based solutions to manage data more effectively, echoing earlier discussions about improving NOAA's data pipeline. Dr. Thur praised NOAA Ocean Exploration's focus on community engagement and encouraged the board to continue advocating for innovative partnerships.

16. Presentation of Recommendations to NOAA Administrator

The discussion that followed between the OEAB members, Dr. Spinrad, and Dr. Thur highlighted several critical areas for NOAA's future focus:

- **Data Accessibility and Usability:** One of the core discussions revolved around how NOAA could make data more deliverable and usable, particularly for communities and organizations outside the traditional research space. Dr. Spinrad emphasized the need for NOAA to "co-produce" scientific information with external stakeholders, including community groups, policymakers, and industry.

- **Overcoming Cultural Inertia:** A key challenge identified during the discussion was overcoming the cultural inertia that can slow the adoption of new approaches within NOAA and the broader scientific community. Dr. Thur suggested that one way to address this issue was to engage early-career scientists, who could bring fresh perspectives and ideas. Programs like small planning grants were proposed as a mechanism to encourage innovative thinking and allow NOAA to pilot new approaches without large upfront commitments.
- **Environmental Hazards and Ocean Exploration:** Another significant point of conversation was the intersection between ocean exploration and the identification of environmental hazards. Dr. Spinrad pointed out that exploration efforts could uncover potential hazards—or their absence—in the deep sea and coastal areas.
- **Creative Partnerships and New Business Models:** The conversation then shifted to partnerships, with an emphasis on creative and non-traditional collaborations. There was discussion about the possibility of forming partnerships with sectors that have not historically been engaged in ocean exploration, such as the gaming industry, arts, fashion, music, and faith-based organizations.
- **Embracing Risk in NOAA's Programs:** Both Dr. Spinrad and Dr. Thur noted that NOAA needs to foster a greater willingness to accept risk, particularly among its program managers. Innovation inherently involves risk, and for NOAA to remain at the cutting edge of ocean exploration, it must be willing to invest in high-risk, high-reward projects. The board was encouraged to continue advocating for this shift, even in the face of policy and regulatory barriers that can make it challenging to engage in multi-sector partnerships.
- **Expanding NOAA's Public Engagement:** Dr. Spinrad responded positively to the Board recommendation that NOAA place more emphasis on public engagement, making it a "front-end priority." Dr. Spinrad referenced NASA's success in generating public excitement as a model for how NOAA might increase engagement and generate more visibility for its initiatives.
- **The Information-Based Economy:** Finally, the board and NOAA leadership reflected on the importance of understanding how the information NOAA generates is relevant to society. This includes not just the collection of data but ensuring that the information produced can be turned into usable products and services that benefit the public. There was a strong focus on transforming NOAA's data into practical tools that support the information-based economy, with an emphasis on collaboration with private sector innovators.
- **Conclusion and Next Steps:** Dr. Spinrad concluded by acknowledging the value of the board's recommendations, but also noted that they could be further augmented with more specific examples and actionable steps. He encouraged the board to consider developing pilot projects or case studies that could serve as proof of concept for some of the more ambitious ideas presented. Spinrad urged the board to submit its refined recommendations without delay, stressing the importance of moving forward promptly to capitalize on current opportunities.

17. Public Comment Period

- **Speaker:** Katy Croff Bell, Ocean Discovery League
- **Summary:** Bell presented her research on the percentage of the seafloor that has been visually observed, estimating that only 0.001% has been mapped with cameras or video. She called for a new approach to deep-sea exploration, proposing a strategy of targeting 10,000 specific seafloor locations. Board members engaged Bell in a discussion on why the focus was on the seabed rather than the water column, with Bell explaining that the seabed provides a more stable and constrained starting point for exploration.

18. Adjournment

- **Speakers:** Dr. Vicki Ferrini and David Turner
- **Summary:** The meeting concluded with a recap of the major points discussed and a commitment to developing pilot project concepts for the next meeting. David Turner confirmed the next meeting will take place on October 9-11, 2024, in a hybrid format. The meeting was adjourned with thanks to all participants for their engagement.