

Minutes
15th Meeting of the Ocean Exploration Advisory Board
April 8-9, 2020, Virtual

Notification and Availability of Meeting Materials

The fifteenth meeting of the Ocean Exploration Advisory Board (OEAB) was announced to the public by Federal Register Notification and on the [OEAB website](#). Background materials and presentations prepared for this meeting are posted on the OEAB website.

Ocean Exploration Advisory Board Members in Attendance

Mr. John Kreider, Consultant (Chair)
Ambassador Cameron Hume, Consultant (Vice Chair)

Dr. Amanda Demopoulos, U.S. Geological Survey
Dr. Christopher R. German, Woods Hole Oceanographic Institution
Mr. David Lang, Sofar Ocean Technologies
Dr. Darlene Lim,¹ NASA Ames Research Center
Dr. Dominique Rissolo, University of California at San Diego
Dr. Richard Rikoski, Hadal, Inc.
Mr. Lance Towers, Boeing, Inc. (ret.)

Mr. David McKinnie, Designated Federal Officer for the OEAB

Office of Ocean Exploration and Research

Dr. Alan Leonardi, Director
Mr. Frank Cantelas, Deputy Director (Acting)
Ms. Rachel Medley, Expeditions Division Lead
Dr. Jamie Austin
Ms. Christa Rabenold
Ms. Caitlin Adams
Mr. Chris Beaverson
Ms. Rachel Gulbraa
Mr. Matthew King
Dr. Jennifer Le

Invited Speakers

Charles Alexander, Office of Marine and Aviation Operations (OMAO)
RDML Tim Gallaudet, USN (ret), Deputy NOAA Administrator
Fern Gibbons, Senate Commerce Committee, Subcommittee on Science, Oceans, Fisheries, and Weather
Lauren Linsmayer, House Science Committee
John McLaughlin, NOAA Office of Education
Laura Oremland, NOAA National Marine Fisheries Service, Office of Science and Technology
Chris Pickens, Senate Commerce Committee, Subcommittee on Science, Oceans, Fisheries, and Weather
Alexis Rudd, Senate Commerce Committee, Subcommittee on Science, Oceans, Fisheries, and Weather
Danielle Tillman, NOAA/Office of Ocean and Atmospheric Research, Budget Formulation and Strategic Management
VADM Scott Van Buskirk, USN (ret), Blue Economy Subcommittee

Observers

A number of individuals from NOAA and other organizations observed the meeting at various points.²

¹ Dr. Lim participated on the first day.

² Given the nature of the virtual meeting, it was difficult to tell who was participating and when. Thus, this list may not be complete.

1. **Meeting Opening.** The designated federal officer (DFO), David McKinnie, opened the meeting on April 9, 2020. This meeting was held virtually given the COVID-19 pandemic.
2. **Chair Opening Remarks.** Chair John Kreider reviewed the [agenda](#) for the meeting. He then reviewed three things he identified during the last meeting for the board to consider over the next 18 months: the need for someone to step up as the leader of a national ocean exploration program and the importance of partnerships with the private sector, academia, and philanthropy, as well as a multidisciplinary approach to studying the oceans. He also briefed the board on conversations he had with NOAA leadership. They want to continue to be aggressive with the national ocean exploration program, and they want more partnerships with other agencies, the private sector, academia, and philanthropy. They also expressed concern that NOAA scientists are not sharing data in a timely manner, which restricts the ability to look at complex issues. They have asked the NOAA Science Advisory Board for help with this issue. Finally, they recognize NOAA's need to improve responsiveness. The chair also spoke with NOAA line office leadership, who agreed with NOAA leadership and also want better data fusion across line offices.
3. **Approval of Minutes.** Lance Towers made a motion to approve the [minutes from the 14th OEAB meeting](#), held in Washington, D.C. Dr. Dominique Rissolo seconded, and the board approved the minutes.
4. **OEAB Membership.** Chair John Kreider announced his departure from the OEAB to chair the NOAA Science Advisory Board. RDML Tim Gallaudet offered his congratulations to the chair for all his work on the ocean exploration program, noting it has turned a corner in a significant way in part because of Mr. Kreider's leadership of the OEAB. OEAB members also offered their thanks and wished him well. Five other OEAB members will be departing the board in June. The DFO described the process to recruit and vet new members.
5. **Blue Economy Subcommittee Report.** VADM Scott Van Buskirk spoke on behalf of the OEAB's Blue Economy Subcommittee. He described the work of the subcommittee to date, its members, and its charter. Needed expertise not represented by subcommittee members will be provided by subject matter experts. The subcommittee is working on recommendations to NOAA for the OEAB to consider. These are actionable steps that NOAA can take to contribute to the national economy. The subcommittee will come to the board in late May for a quick turnaround on an initial set of recommendations due to NOAA in early June. The report and a roadmap should be finalized by October.
6. **National Ocean Exploration Strategy and OER Update.** Alan Leonardi informed the board that the national strategies/recommendations in response to the November presidential memorandum should be released soon. He also provided an update on the status of OER-supported expeditions for 2020, including those of Ocean Exploration Trust and the Ocean Exploration Cooperative Institute, noting that much was still uncertain, and provided updates on OER activities since the last meeting. Other updates focused on opportunities for OER in 2020 and beyond, including transitioning NOAA Ship *Okeanos Explorer* from the Atlantic to the Pacific in 2022; the new NOAA Science and Technology Strategies (unmanned systems, 'omics, artificial intelligence, cloud); NOAA unmanned systems efforts; the National Ocean Partnership Program; and new NOAA and OER partnerships (Viking, Ocean Infinity, OceanX, Caladan Oceanic, and Vulcan). [\[Presentation\]](#)
7. **OER 5-Year Program Review.** Danielle Tillman from NOAA/Office of Ocean and Atmospheric Research (OAR) Budget Formulation and Strategic Management presented on the OAR lab and program review process. The purpose of these reviews is to assess if the science being conducted and funded by labs and programs meets criteria for quality, relevance, and performance. The OEAB requested this presentation in response to the pending release of the OER five-year review, which was conducted in October 2019. OAR is finalizing the report for release. OER is aware of the comments and is working on a response plan. The report and the response plan will be publicly available online when they are final. A year after the response plan

is finalized, OER will report on what's been done in response to the review, marking the end of the review process. [\[Presentation\]](#)

8. **NOAA Citizen Science Activities.** As the NOAA citizen science co-coordinators, John McLaughlin from the NOAA Office of Education and Laura Oremland from the NOAA National Marine Fisheries Service's Office of Science and Technology provided an update on NOAA citizen science and discussed the agency's response to recommendations from the NOAA Science Advisory Board 2018 report on citizen science. A NOAA citizen science strategy is in progress with the first NOAA Citizen Science Workshop planned for April 22-24, 2020. A citizen science report by the Office of Science and Technology Policy is in development for a 2021 release. [\[Presentation\]](#)
9. **NOAA UxS Strategy Status.** Charles Alexander from the NOAA Office of Marine and Aviation Operations (OMAO) presented on the new NOAA Unmanned Systems (UxS) Strategy. On March 31, NOAA announced a new Unmanned Systems Operations Program to support the rapidly expanding use of these systems across the agency. The new program will promote the safe, efficient, and economical operation of UxS NOAA uses to collect high-quality environmental data for the agency's science, products, and services. The goals of the strategy are 1) Coordinate and support UxS operations at an enterprise level, 2) expand UxS applications across NOAA's mission portfolio, 3) accelerate transition of UxS research to applications, 4) strengthen and expand UxS partnerships, and 5) promote workforce proficiency in UxS use and operations.

The first draft of the UxS five-year implementation plan is due mid to late May with a community workshop planned in late July. Roll-out of the final plan is planned for OCEANS'20 in Biloxi, Mississippi, in October. OER is represented on the implementation planning team. The OEAB suggested setting up an informal working group to provide input to these UxS efforts. The OEAB was pleased to hear that each of the new NOAA strategies has connections to the others and are signed by all line office leaders and encourages NOAA to continue the cross-line office dialogue. [\[Presentation\]](#)

10. **OEAB Discussion: Diversity Opportunities.** Amanda Demopoulos and Dominique Rissolo led a discussion about how NOAA can promote and support diversity and inclusion in ocean exploration (internally and externally) as part of the national strategy. They have drafted a position statement and shared it with board members as a starting point. It was agreed that it would be useful to have information about diversity and inclusion in the "About Us" section of the OER website and to better highlight the program's diversity throughout the website. Based on this discussion, the OEAB will finalize their position statement and provide a letter/white paper with actionable recommendations to NOAA leadership.
11. **Public Comment Period.** The DFO read a public comment from "Jean Public" for the record. The commenter expressed concern that NOAA is not providing adequate advance information to the public about OEAB meetings and is doing work that threatens sea life. In addition, Kristen Yarincik from the Consortium of Ocean Leadership (COL) provided an update on the alternate plans for the Workshop to Identify National Ocean Exploration Priorities in the Pacific. They will likely be holding virtual sessions over the summer and hope to have an in-person session in September. [White papers from participants and the community](#) are available on the COL website.
12. **Ocean Exploration Reauthorization and Congressional Updates.** Chris Pickens, Fern Gibbons, and Alexis Rudd from the Senate Commerce Committee, Subcommittee on Science, Oceans, Fisheries, and Weather; and Lauren Linsmayer from the House Science Committee spoke about bipartisan efforts in both Houses of Congress to advance reauthorization of ocean exploration legislation. On the Senate side, the subcommittee had hoped to introduce the reauthorization before Capitol Hill Ocean Week, but it will probably be later. The House Science Committee is still working on their draft, which is a priority for the committee. The Senate and the House have been talking to each other about mutual priorities and engaging with stakeholders and will reach out to the OEAB for feedback when drafts are available. In regard to accessing

stimulus funds for ocean exploration, the challenge will be making a direct nexus between ocean programs and short-term recovery and shorter-term response (direct and immediate impacts).

13. OEAB Discussion. Chair John Kreider read an email from RADM Michael Silah, director of the NOAA Corps and OMAO, sharing that NOAA Ship *Discoverer* (one of two new NOAA ships) will replace NOAA Ship *Okeanos Explorer*. He also provided an OMAO status update.

14. NOAA Administrator's Requests of the OEAB. RDML Tim Gallaudet requested that the OEAB provide advice to NOAA about requirements for full ocean depth exploration, appropriate technologies for the deepest parts of the ocean, and approaches to acquire appropriate UxS capabilities for hadal exploration;³ ways to supercharge American Blue Economy activities in the context of economic recovery; and continuing OER's growth with static resources in response to the forthcoming national strategies. In addition, he expressed interest in citizen science and diversity efforts.

15. Next Meeting. The board agreed its next meeting would be in late May and would be virtual.

16. Meeting Close. The DFO closed the meeting at approximately 5:30 p.m. EDT on April 9, 2020.

³ RDML Gallaudet revised his initial request, which was that the OEAB assess the value of acquiring Caladan Oceanic's assets as U.S. interagency assets, possibly through a consortium and/or leveraging National Oceanographic Partnership Program funds.