

**Minutes**  
**Eighth Meeting of the Ocean Exploration Advisory Board**  
**Hanover, Maryland**  
**July 11-12, 2017**

**Notification and Availability of Meeting Materials**

The eighth meeting of the Ocean Exploration Advisory Board (OEAB) was announced to the public by Federal Register Notification on June 23, 2017, and on the OEAB website at [www.oeab.noaa.gov](http://www.oeab.noaa.gov). Background material and presentations prepared for this meeting are posted on the OEAB website.

**Ocean Exploration Advisory Board Members in Attendance**

Mr. John Kreider, Oceaneering, Inc. (Chair)  
Dr. James Austin, University of Texas/Austin (Vice Chair)  
Ambassador Cameron Hume, Consultant (Vice Chair)

Dr. Amanda Demopoulos, U.S. Geological Survey  
Dr. Christopher German, Woods Hole Oceanographic Institution  
Dr. Darlene Lim, NASA  
Ms. Nicolette Nye, National Ocean Industries Association  
Dr. Dominique Rissolo, University of California at San Diego (as a non-voting observer<sup>1</sup>)  
Mr. Lance Towers, PE, The Boeing Company

**NOAA Leadership**

Mr. Ben Friedman, Deputy Under Secretary Operations performing the duties of the Under Secretary of Commerce for Oceans and Atmosphere

**NOAA Management and Staff in Attendance**

Dr. Alan Leonardi, Director, OER  
Mr. David McKinnie, Designated Federal Officer for the OEAB  
CDR William Mowitt, NOAA Corps, Deputy Director  
Dr. Stephen Hammond, OER  
Ms. Tamara Lewis, OER  
Ms. Yvette Jefferson, OER  
Dr. Adrienne Copeland, OER

**Invited Briefers**

Mr. Tony Macdonald, Director, Urban Coast Institute, Monmouth University  
Ms. Samantha Brooke, Coastal Program Lead, U.S. Fish and Wildlife Service  
Dr. Randi Rotjan, Research Coordinator, Phoenix Islands Protected Area  
Mr. Rob Munier, Vice President for Marine Facilities and Operations, WHOI/Dalio Ocean Initiative  
Dr. Vincent Pieribone, Vice President, Dalio Ocean Initiative

**Meeting Summary**

- 1. Meeting Opening.** The Designated Federal Officer (DFO) opened the meeting on July 11, 2017 at Oceaneering's Advanced Technologies Division.

---

<sup>1</sup> Dr. Rissolo was unable to participate in the meeting as an OEAB member pending submission of required financial disclosure forms.

2. **Approval of Minutes.** The Chair made a motion to approve the minutes from the 7<sup>th</sup> OEAB meeting, held in Austin, Texas, with corrections. Mr. Towers seconded, and the Board approved the minutes (see OEAB website)
3. **Chairman's Remarks.** After welcoming the OEAB to Oceaneering, the Chair previewed the agenda and identified the major issues for Ocean Exploration Advisory Board (OEAB) discussion. He noted that this eighth meeting of the OEAB marked continuity, learning, and productivity and that the question was where the OEAB should focus next. The OEAB engaged in a general discussion of opportunities for the OEAB to provide information relevant to NOAA leadership and influence national dialogue, consistent with its statutory mandate.
4. **Ocean Exploration and Research Update.** Dr. Alan Leonardi, OER Director, provided a program overview that included a summary of the FY 2017 budget, a review of OER's ocean exploration expeditions to date, and a summary of what was planned to close out the CAPSTONE expedition and transition to the Gulf of Mexico in early FY 2018. He shared CAPSTONE results from the Central and South Pacific, reported on the successful repair to the *Okeanos Explorer* hull, highlighted significant expeditions by OER partners, such as the Cooperative Institute for Ocean Exploration, Research, and Technology expedition with Cuba, and updated the OEAB on current work under the U.S. Extended Continental Shelf initiative. Finally, he reviewed OER plans for 2018 and 2019, when the *Okeanos Explorer* will begin work in the Gulf of Mexico and the Atlantic as the office intensifies its efforts in support of the ASPIRE ocean exploration campaign.

Dr. Leonardi also followed up on a request by the OEAB for additional information on the Federal Funding Opportunity (FFO) to show new data about the percentage of non-NOAA applicants that receive FFO funding and measures of potential impact of the FFO effort on the community, such as the number of graduate students and post-docs OER grants support. He closed by noting OER's plans to conduct an evaluation of the FFO program's effectiveness. Dr. Leonardi's presentations are posted on the OEAB website.

5. **Briefings on the Use of Ocean Exploration Data.** To learn more about how NOAA ocean exploration data are used by managers and decision makers, the OEAB requested briefings on the Mid-Atlantic Ocean Data Portal; on the uses of NOAA data in characterizing deep water marine protected areas; and the value of ocean exploration in understanding and managing these areas.
  - a. **Tony MacDonald, Director of the Monmouth University Urban Coast Institute**, provided an in-depth briefing on the Mid-Atlantic Ocean Data Portal, a service of the Mid-Atlantic Regional Ocean Council (MARCO). MARCO is a coordinating mechanism for its members (New York, New Jersey, Delaware, Maryland and Virginia) on regional ocean planning. The Ocean Data Portal is a service that provides geospatial data, analysis tools, and other data and resources for coastal, ocean, and urban planners and decision makers. Ocean exploration data from the *Okeanos Explorer* and other sources are linked to other data portals, such as the Bureau of Ocean Energy Management's [marinecadastre.gov](http://marinecadastre.gov). NOAA ocean exploration data provide important bathymetry base layers for the Northeast Canyons and for habitat characterization data. These data helped drive decisions related to deep coral conservation. Combined with other data from fisheries surveys and environmental data, for example, *Okeanos Explorer* data help give planners the ability to anticipate ocean fronts. In discussion, Mr. MacDonald urged OER to provide a more cohesive strategy for cumulative data collection to enhance the value of ocean exploration data for potential users.

- b. **Samantha Brooke, U.S. Fish and Wildlife Service**, explained the importance of ocean exploration data in managing the Marine National Monuments in the Pacific. The Monuments are mostly deep water greater than 200 meters. She cited the value of collaboration in setting ocean exploration priorities, in sharing ocean exploration results, and in coordinated education and outreach. She also noted challenges for Monument managers: data sets are large, and difficult to manipulate. There is a need for value-added products that ingest ocean exploration data and provide products and services managers and decision makers can access.
- c. **Randi Rotjan, Phoenix Islands Protected Area (PIPA) Research Coordinator**, presented on the unique attributes of PIPA and the global contribution the Republic of Kiribati has made in protecting this area. After describing the PIPA management regime, she reviewed the contribution made by NOAA and the Schmidt Ocean Institute to data needs, which are particularly acute for Small Island Developing States. She concluded with a discussion of how deep ocean exploration data are used in PIPA management plans and decisions about the resources within PIPA.

The OEAB discussed the importance of data for managers in terms of a “digital infrastructure” that can share remote protected areas with the public analogous to the National Park Service development of roads and facilities in parks. Members also expressed interest in the challenge of making terabytes of data useable and accessible to resource managers, and the value and importance of characterization and synthesis products derived from ocean exploration expeditions.

- 6. **Briefing on Ocean Exploration Organizations: Dalio Ocean Initiative (DOI).** Mr. Rob Munier of Woods Hole Oceanographic Institution (WHOI), which operates DOI ocean exploration assets under an agreement between DOI and WHOI, provided background on the Dalio Foundation and the Ocean Initiative and Mr. Dalio's interest in linking science, exploration, and media to raise awareness by making discoveries and advancing science. He described a number of DOI projects and expeditions and their results, including notable achievements like filming a giant squid for the first time. He explained that experience with *M/V Alucia* and various human-occupied and remotely operated vehicles (HOVs and AUVs) and other submersible assets has led to the acquisition of a new platform (*M/V Alucia II*) with new capabilities, including a media center. He stressed DOI's interest in partnering with other institutions and agencies to bring ocean exploration and ocean science to the public in a way that is engaging and compelling.

Dr. Vincent Pieribone, Vice President of the Dalio Ocean Initiative, presented next with more details about the *M/V Alucia II*, describing the goal of DOI's investment as creating a vessel that will serve both exploration and visualization, travel to remote locations and insert humans back into ocean exploration, and to use state-of-the-art science and media to capture new discoveries. He also outlined a new media project that will network a wide range of media and non-governmental partners to share ocean exploration results with the public. He also described DOI's science priority and mission development process and solicited OEAB input on significant questions about the deep ocean.

An OEAB discussion followed about considerations involved in operating platforms and assets, identifying science priorities, and engaging the public in ocean issues through science. An initial list of ideas resulted, which were shared with DOI representatives and are posted on the OEAB website.

7. **Discussion with Acting NOAA Administrator Ben Friedman.** Mr., Friedman opened his informal remarks with a statement of the importance of ocean exploration to NOAA to meet economic, national security, and ocean resource needs. He also stated that ocean exploration was a “charismatic” program that engaged the public and provided substantive benefits across NOAA as a result. He provided a review of his priorities as acting NOAA Administrator, as well as priorities he will advance as Deputy Undersecretary for Operations when he returns to that role: diversity and inclusion; making NOAA’s review processes more efficient; improving internal and external communications; and advancing NOAA’s education and outreach programs. In response to OEAB member questions, Mr. Friedman:

- described the NOAA budget development process and the dynamics that ensured the NOAA ocean exploration budget proposal remained constant;
- indicated his interest in pursuing ways to increase ocean exploration capacity, including through charter mechanisms with the private sector and creative public/private partnerships;
- endorsed a multi-agency approach to ocean exploration and asked the OEAB for advice on how to build a federal coalition to support ocean exploration and to conduct expeditions;
- described successful advisory boards as “partnerships” between board members and the agency receiving advice. He invited regular interaction between the board and himself.

Mr. Friedman’s briefing marked the first time a NOAA Administrator had met with the OEAB.

8. **Letter to NOAA Administrator Friedman.** The OEAB prepared a letter to Mr. Friedman thanking him for his time and suggesting areas where the OEAB could focus in support of NOAA priorities. These included improving collaboration with stakeholders; fostering new and expanded partnerships; assist with planning to expand NOAA ocean exploration operations to charter, ship-of-opportunity, and other non-government platforms; advise on modular mission packages such as fly-away ROVs; evaluate OER modes of operation and advise the program on improvements; and, advise on the development of the future workforce and improve education and outreach. The letter is posted on the OEAB website.

9. **Public Comment Period.** No public comments were received.

10. **National Ocean Exploration Forum 2017.** Dr. Dominique Rissolo presented an overview of plans for “Ocean Exploration in a Sea of Data,” to be held 21-22 October 2017 at the University of California, San Diego and explained the focus on demonstrations new visualization techniques using ocean exploration data. The DFO provided information about past National Ocean Exploration Forums and noted their consistency through the 2016 Forum (“Beyond the Ships”). The OEAB discussed the real and potential value of the Forum process and agreed that the 2017 Forum—which will focus on data synthesis and visualization—is a logical step toward a 2018 Forum that features public engagement.

11. **OEAB Actions:** The OEAB established its first subcommittee, to evaluate alternatives to augment the *Okeanos Explorer*. Dr. Amanda Demopoulos will chair the subcommittee, which will review the suitability of platforms and vehicles typically used for industrial applications for ocean exploration. Other OEAB decisions and requests are:

- Dr. James Austin and Dr. Amanda Demopoulos will follow up with the Dalio Ocean Institute on possible partnerships.
  - The OEAB requested OER to identify a test case for the use of leased or chartered platforms and vehicles before the next OEAB meeting.
- 12. Next Meeting.** The OEAB agreed the next meeting will take place on the west coast, preferably in San Francisco or Seattle, with the date and other details to be determined later.
- 13. Meeting Close.** The DFO closed the meeting at approximately 5:00 P.M. on 12 July.