

**Ocean Exploration Advisory Board**  
*A Federal Advisory Committee Act Board*

May 11, 2021

Mr. Benjamin Friedman  
Deputy Under Secretary for Operations,  
Performing the Duties of Under Secretary of Commerce for  
Oceans and Atmosphere and NOAA Administrator  
National Oceanic and Atmospheric Administration  
14<sup>th</sup> and Constitution, NW  
Washington, DC 20230

Dear Mr. Friedman:

The Ocean Exploration and Advisory Board (OEAB) congratulates NOAA on 20 years of ocean exploration. NOAA Ocean Exploration now performs a central role in the federal government's work to map, explore, and characterize the nation's Exclusive Economic Zone. It supports U.S. claims under the United Nations Convention for the Law of the Sea for an expanded sovereign area based on the continental shelf, delivers high-quality information about the deep ocean, and promotes public understanding of the importance of the oceans for the nation's security and prosperity.

The Board notes support for increased funding for NOAA's ocean exploration activities and welcomes the recent decision by NOAA to build NOAA Ship *Discoverer* to perform and expand the exploration and scientific work now done by NOAA Ship *Okeanos Explorer*. These are significant signs of confidence in the work of NOAA Ocean Exploration.

Information presented to the OEAB during its April meeting convinced the Board that NOAA has a significant opportunity to lead a national ocean exploration effort along with other federal government partners, and with external stakeholders from the philanthropic, academic, and private sectors. There are similar opportunities to lead internationally.

Today the nation faces concerns about diminished fish stocks, and changes to sea level, ocean currents, water temperature, salinity, and acidity—all with implications for our response to climate change. At the same time, new and emerging technologies, such as remote operations, robotics, sampling and monitoring technologies (e.g., eDNA sampling), and artificial intelligence have made possible transformative advances in understanding our ocean. To meet the challenges of the 21st century, the United States must remain a leader in ocean sciences and technology.

The Board heard remarks from Karen Hyun, NOAA chief of staff; Dr. Jane Lubchenco, White House Office of Science and Technology Policy deputy director for climate and the environment; and Craig McLean, NOAA Research assistant administrator. The speakers described Biden administration priorities relating to climate change, economic recovery, and equity for all Americans and indicated the administration's support for important

ongoing ocean exploration initiatives such as the National Strategy for Mapping, Exploring, and Characterizing the United States Exclusive Economic Zone and the work of the National Ocean Mapping Exploration and Characterization Council. They also expressed positive interest in Blue Economy endeavors, such as offshore wind energy, that support administration climate and economic recovery objectives.

Senate and House staff members briefed the Board on possible bipartisan legislation to reauthorize NOAA's ocean exploration program. Like the recent reauthorization of the National Oceanographic Partnership Program (NOPP), which raised NOAA's role to co-equal leadership with the U.S. Navy, new legislation could further strengthen NOAA's leadership role.

Also during the meeting, the Board had a discussion with members of its Blue Economy Subcommittee. As the Administration moves to address climate change and economic recovery, the Subcommittee's recommendations may be of particular interest, such as:

- Using high-quality information, whether maps, habitat characterization, or biological assessments, to provide a thorough understanding of areas proposed for wind farms or aquaculture facilities. These uses of the ocean will expand as the U.S. responds to climate change, food security, and other critical issues.
- Establishing an Advanced Research Projects Agency for the Ocean ("ARPA-O") modeled on the Department of Energy's "ARPA-E" to promote innovative technologies and to de-risk initial investments in promising technologies.
- Promoting and facilitating broader public conversations, rather than adversarial procedures, to address different points of view within the permitting process.

Several times during the meeting, Board members returned to an ongoing discussion on how to provide their best advice to an incoming NOAA administrator. The views expressed were not conclusive, but several themes recurred and are worth stressing.

*Why explore?* The traditional view has been to discover unknown but enduring features. Today, we continue to map, explore, and characterize the U.S. Exclusive Economic Zone. But increasingly there is a demand to understand not just what is enduring but what is changing in the oceans, particularly how that information relates to changes in climate or biomass. New technologies enable more efficient, cost effective, and sustainable acquisition and analysis of existing and new information streams. NOAA should lead the coordination of acquiring and disseminating information from the ocean to the desktops of explorers— wherever they are.

*What are the policy priorities?* Mapping, exploration, and characterization activities are indispensable to understanding climate change; supporting national, energy, and food security; and in an economic recovery that builds back better during our economic recovery. Providing information that supports these activities is a core NOAA responsibility. NOAA Ocean Exploration has built a diverse and inclusive core team, and they have fostered outreach to underserved communities, who in turn have enriched NOAA programs. Such work needs to be expanded.

*What is the role for the civilian lead agency?* NOAA Ocean Exploration, now in its 21st year, originated as an agency program, but it has grown into a larger role. Last year's reauthorization of NOPP recognized NOAA's role in ocean exploration within the federal government. But ocean exploration in the 21st century includes other actors, such as scientific institutions, philanthropic organizations, businesses, and citizen scientists. Ocean exploration, as currently conducted, is not just a *federal* activity but a *national* activity. In the coming years, NOAA must aspire to extend its national leadership role.

*What support is needed?* NOAA needs broad public support in order to lead this enterprise. NOAA Ocean Exploration did groundbreaking work in using telepresence to expand the participation in ocean exploration to include desktops and classrooms. NOAA is the natural place for citizens to go to learn about the oceans. Policies, business decisions, and personal choices rely on NOAA information, knowledge, and understanding. NOAA should use new approaches and partnerships to expand access to ocean information for the widest possible audience.

*What partners are needed?* NOAA Ocean Exploration has built strong partnerships, such as with the Ocean Exploration Trust and the Schmidt Ocean Institute, to conduct ocean mapping, exploration, and characterization. Partnerships provide access to data and expedition results, from the remote southern oceans to the ice-covered Arctic, far beyond what NOAA can do alone. NOAA can supplement specific partnerships with broader alliances, such as with the agencies of friendly nations and with private sector entities, to collaborate on strategic ocean mapping, exploration, and characterization goals.

*What about the U.N. Decade of Ocean Science for Sustainable Development?* NOAA should take advantage of the leadership opportunities presented by the U.N. Ocean Decade, both to attract public support for ocean exploration and to work with other nations to set international standards and collaborate in ocean basins of common interest. Predator fishing fleets can damage fish stocks everywhere, including in marine protected areas, and plastic waste is an active threat to ocean life. Beyond a coordinated response to problems of the high seas like these, maritime cooperation with the civilian fleets of other nations can bolster our national security. Now is the time to seize these opportunities and lead internationally as well as at home.

The Board looks forward to engaging on these concerns and supporting the NOAA administrator.

Sincerely,



Cameron R. Hume  
Chair, Ocean Exploration Advisory Board