

Ocean Exploration Advisory Board

*A Federal Advisory Committee Act
Board*

March 21, 2022

Dr. Richard Spinrad

Under Secretary of Commerce for
Oceans and Atmosphere and
NOAA Administrator
14th and Constitution Ave. NW
Washington, DC 20230

Dear Dr. Spinrad,

On February 17 and 18, 2022, the Ocean Exploration Advisory Board (OEAB) held its meeting at Woods Hole Oceanographic Institution to discuss topics regarding NOAA's ocean exploration mission. This letter reports to you the results of those discussions.

At the outset, members shared the view that advances in marine technology and research have provided new opportunities to better understand the relationship between the ocean and climate change. The demand for ocean related data is growing and new entrants to the community of ocean explorers are emerging to meet that demand. The Department of Commerce and NOAA have supported the growth of Blue Economy sectors. However, commercial and philanthropic investments in technological innovation, at-sea operational capacity, and data governance have begun to eclipse federal allocations to similar categories. Members questioned how well NOAA was resourced and equipped to lead the nation's efforts to improve our knowledge of the ocean.

NOAA Ocean Exploration can rally the attention of this broad coalition of organizations to the cause of exploration. NOAA set the standard for ocean exploration over the past 20 years. As the agency looks to its future, the Board is unanimous in advising NOAA to exercise its intellectual leadership and imagine what the next 20 years of ocean exploration should look like. NOAA should continue expanding its network of commercial, philanthropic, and academic partners; harness the power of their innovations, capabilities and expertise; guide their contributions to national level goals; and encourage community consensus around the technological, operational, and data governance standards.

We heard from leaders within NOAA Ocean Exploration about the work done by that office and the Board commends them for their many accomplishments. The Board appreciated the thoughtful response to the recommendations that were provided in FY 2021, regarding the NOAA Ocean Exploration Competitive Grants Program. This program appears well run and highly impactful. However, the Board advises NOAA Ocean Exploration to expand its sphere of influence beyond traditional academic interests to the private sector, including small businesses and start-up companies that may be unfamiliar with federal opportunities, grant processes, timelines, and expectations.

The Board reviewed NOAA Ocean Exploration's proposed strategic plan for FY 2022 through FY 2027. That document recognizes data to be a "strategic asset" and that the act of exploration is the beginning of an entire value chain of scientific discovery, research, and understanding. The Board advises NOAA to continue pursuing this theme through its investments in formal partnerships, data governance, data infrastructure, and expertise.

The Board received an update from NOAA Ocean Exploration staff about the status of the Pacific Campaign. The Board saw that the items raised at the *2020 Workshop to Identify National Ocean Exploration Priorities in the Pacific* have been incorporated into the planning for this Campaign. The Board advises NOAA to continue with the practice of early engagement with partners, resource managers, and members of the academic, industry, and philanthropic communities to identify exploration priorities.

The Board was grateful for the briefing provided by Rear Admiral Nancy Hann regarding updates to the NOAA Fleet Plan and the impact on resources for ocean exploration. She explained that the predicted lifespan of the NOAA Ship *Okeanos Explorer*, on further examination, had been extended. She also reported that, contrary to what her predecessor had told the Board, the fleet no longer planned to replace the *Okeanos Explorer* with a Class A vessel but that perhaps a Class B vessel, not yet funded, could potentially support ocean exploration duties. While members expressed appreciation for the continued service of the *Okeanos Explorer*, they were concerned that the change in fleet planning would have a negative impact on ocean exploration capacity. In subsequent discussion some members were concerned about the capacity of existing data infrastructure. A specific concern focused on the availability and reliability of a sufficient telepresence capacity to support shorebased command and control.

Additionally, some members raised concerns that a Class B vessel would not have the capacity to explore in many areas of the Pacific due to endurance and/or instrumentation limitations. Some members were of the view that certain essential exploration tasks could only be accomplished with a dedicated ship, while others recognized that technological advances could enable many tasks to be performed by other means. The Board advises NOAA to consider how an early commitment to diversifying the portfolio of commercial, academic, and non-governmental vessels, platforms and systems might contribute to increased effectiveness of the NOAA Ocean Exploration program.

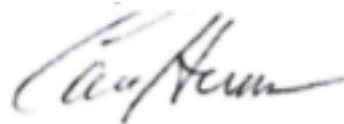
On February 18, 2022 the Board enjoyed presentations from three guest speakers: 1) Dr. Peter De Menocal, President of the Woods Hole Oceanographic Institution; 2) an Analyst from the National Intelligence Council (NIC); and 3) Dr. Jennifer Francis, the acting Deputy Director of the Woodwell Climate Research Center. All of their presentations discussed how data about the ocean are informing our collective understanding about climate change and its effect on the world.

Dr. De Menocal considered the benefits to science that come from partnering with the private sector and focused on how technology companies can strengthen the capacities for data acquisition, transmission, and analysis. Dr. De Menocal also argued for the urgent need to improve understanding of the relationship between carbon sequestration and the deep ocean. The briefer from the NIC described, for the Board, the risks to US national security that are likely to increase during the next 20 years because of climate change. She emphasized that reliable scientific data and analysis provide the foundation for the Intelligence Community's analysis of how populations and governments might respond to changes resulting from warming global temperatures. Dr. Francis discussed the state of the science around ocean and climate interactions and noted that reliable forecasting and modeling are possible only with available, accessible, and valid granular level datasets. Several Board members observed the need for a functional understanding of where ocean exploration community datasets are currently held, in what formats, and under what governance structures.

A conclusion from this meeting is that the ocean exploration data collected by NOAA are indispensable and the immediate need for more complete datasets about the marine environment is rapidly growing. There is a tremendous opportunity for NOAA Ocean Exploration to make meaningful contributions to the growing body of ocean/climate research and analysis. The Board encourages NOAA to consider the value of its ocean exploration data and to identify opportunities for those data to contribute to climate research.

The board welcomes the opportunities ahead and remains ready to be of assistance to you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cameron R. Hume', written in a cursive style.

Cameron R. Hume
Chair, Ocean Exploration Advisory Board