



August 27, 2018

Ms. Stacy Aguilera-Peterson
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue, NW
Washington, DC 20504

Submitted Electronically via Email to oceandecadalvision@ostp.eop.gov

RE: Science and Technology for America's Oceans: A Decadal Vision

Dear Ms. Aguilera-Peterson:

The National Ocean Policy Coalition ("Coalition") is pleased to submit the comments herein on the draft report regarding "Science and Technology for America's Oceans: A Decadal Vision" ("Decadal Vision").¹ The Coalition is an organization of diverse interests representing sectors and entities that support tens of millions of jobs, contribute trillions of dollars to the U.S. economy, and seek to ensure ocean policies that best benefit the National interest, including protection of the commercial and recreational value of the oceans, marine-related natural resources, and terrestrial lands of the United States.

Introduction

In seeking public input,² the National Science and Technology Council's Subcommittee on Ocean Science and Technology's ("Subcommittee") draft Decadal Vision identifies ocean science and technology needs and areas of opportunity for 2018-2028. The draft document defines five goals and related objectives and priorities to advance ocean science and technology and the nation over the next ten years, identifies five areas of immediate ocean research and technology opportunities, and includes modernized ocean research infrastructure and an educated, diverse, and dynamic "blue" workforce as cross-cutting topics relevant to all five goals.

The draft also clarifies that rather than prescribing policies, the Decadal Vision is intended to provide guidance for federal agencies and non-federal sectors to align resources and expertise and further build the scientific and technological foundation needed to improve ocean knowledge and stewardship, address areas of national and global importance, and inform decision-making.³

The Coalition supports the draft Decadal Vision's recognition of the contribution of the oceans to the American economy. As the draft Decadal Vision acknowledges, from jobs, food, and energy to transportation, tourism, and beyond, the American people significantly depend on access to the oceans and their natural resources. For example, in examining six major ocean economy sectors, the 2018

¹ See <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

² See <https://www.gpo.gov/fdsys/pkg/FR-2018-06-28/pdf/2018-13926.pdf>.

³ See <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

NOAA Report on the U.S. Ocean and Great Lakes Economy” found that in 2015, the ocean economy accounted for 3.2 million jobs, \$128 billion in wages, and \$320 billion in Gross Domestic Product.⁴

The development of the new Decadal Vision represents an opportunity to ensure continued ocean science and technological innovation and informed decision-making by promoting a collaborative effort to increase knowledge of the marine environment, including the existing and potential future economic and societal benefits that the oceans provide.

By finalizing an effective ocean science and technology strategy that supports the federal government’s new Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States⁵ – which emphasizes data and information sharing, interagency and interjurisdictional collaboration, and public-private partnerships -- the Subcommittee can keep the nation on course toward a future in which the American people continue to receive the diverse array of economic, recreational, and societal benefits that the oceans provide for generations to come.

Goals

The draft Decadal Vision proposes the following five goals and associated objectives and priorities for 2018-2028:

- Goal I: Understand the Ocean in the Earth System
- Goal II: Promote Economic Prosperity
- Goal III: Ensure Maritime Security
- Goal IV: Safeguard Human Health
- Goal V: Develop Resilient Coastal Communities

The Coalition provides targeted comments on the goals as described below.

Goal I: Understand the Ocean in the Earth System

The Coalition has long supported efforts to enrich our understanding of the resources and benefits oceans can provide to our nation in order to facilitate well-informed decision-making grounded in sound science and research, and generally supports Goal I and its related objectives and priorities to Understand the Ocean in the Earth System, Modernize R&D Infrastructure, Harness Big Data, Develop Models of the Earth System, and Facilitate Research to Operations.⁶

Goal I includes a proposed “Harness Big Data” objective with associated priorities,⁷ and notes that Big Data is “characterized by high volume (enormous size of data), high velocity (timely response requirements), high variety (diversified data types), **low veracity (uncertainties in the data)**, and high value (significance in knowledge and products.”⁸ (emphasis added) As the draft also notes, information resulting from Big Data can produce models and products to aid decision-making.⁹

⁴ See NOAA Report on the U.S. Ocean and Great Lakes Economy, available at <https://coast.noaa.gov/data/digitalcoast/pdf/econ-report.pdf>.

⁵ See Executive Order Regarding the Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States, available at <https://www.whitehouse.gov/presidential-actions/executive-order-regarding-ocean-policy-advance-economic-security-environmental-interests-united-states/>.

⁶ See Pages 7-14, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

⁷ See Pages 11-12, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

⁸ See Page 9, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

⁹ See Page 11, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

To better ensure the veracity of information generated by Big Data, and thus promote informed decision-making based on sound science, the Coalition recommends the addition of a priority to strengthen the veracity of Big Data and clearly communicate any data uncertainties so that those who access Big Data can make informed decisions about its appropriate use and application.

Consistent with the renewed federal focus on partnerships with both public and private entities, as reflected in the draft Decadal Vision, the Coalition also recommends that the objective to “Facilitate Research to Operations” include a priority to “Advance collaborations with the private sector to leverage knowledge and resources, ensure the successful application of ocean research, and avoid duplication of efforts.”

Goal II: Promote Economic Prosperity

Maximizing the opportunities associated with America’s oceans will significantly benefit the American people and economy, and the Coalition therefore generally supports Goal II.¹⁰

The draft Decadal Vision notes that “As resource identification and surveying progresses, it is critical to ensure balance among multiple uses, such as between exploring energy resources while also supporting recreational activities.”¹¹

Given the long and successful history of multi-use management of U.S. ocean waters, including the successful coexistence among varied commercial, recreational, and government/military activities and interests, the Coalition recommends revising the statement as follows: “As resource identification and surveying progresses, ~~science and technology advancements can continue to ensure that multiple uses such as energy exploration and recreational activities successfully coexist-it is critical to ensure balance among multiple uses, such as between exploring energy resources while also supporting recreational activities.~~”

Elsewhere, under the objective to “Explore Potential Energy Resources,” the draft Decadal Vision states that new acoustic technologies will “expand ocean exploration and discovery, and **provide a better understanding of energy development impacts on the marine environment,**”¹² (emphasis added) with a priority to “Support new technologies to measure underwater noise levels and acoustic conditions in coastal and open ocean environments in order to quantify long-term trends in ocean noise levels, monitor changes in acoustic habitats, and assess the impacts of increases in human produced noise.”¹³

With decades of experience and research completed regarding energy development and its relationship with the marine environment, the Coalition recommends revising the first statement to state that new acoustic technologies will “expand ocean exploration and discovery ~~and provide a better understanding of energy development impacts on the marine environment,~~” and revising the priority as follows: “Support new technologies to ~~continue to~~ measure underwater ~~noise levels and~~ acoustic conditions in coastal and open ocean environments in order to ~~continue to~~ quantify long-term trends in ~~the~~ ocean

¹⁰ See Pages 7-14, available at

<http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹¹ See Page 16, available at

<http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹² See Page 19, available at

<http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹³ See Page 20, available at

<http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

noise levels, and monitor changes in acoustic habitats, and assess the impacts of increases in human produced noise.”

Under Goal II’s objective to “Balance Economic and Ecological Benefits,” the draft states that “Integrating socioeconomics and ecosystem-based management can facilitate more adaptive management.”¹⁴

Given the present state of knowledge, practical experience with the design and implementation of monitoring programs intended to enable ecosystem-based management remains limited, especially given the different kinds of ecological and socioeconomic data that would be necessary on broad spatial and temporal scales. Therefore, the Coalition recommends removing the reference to ecosystem-based management, or at minimum revising the sentence as follows: “Integrating socioeconomics and **building the knowledge necessary to properly inform** ecosystem-based management can facilitate more adaptive management.”

Goal III: Ensure Maritime Security

The Coalition recognizes the critical role that our oceans play in U.S. national security and supports efforts to ensure the country’s maritime security.

The draft Decadal Vision notes that “Any disruption to the MTS [U.S. Marine Transportation System], whether man-made or natural, would have a potentially devastating impact on the domestic and global supply chain,” and that “New technologies, which often add complexity to vessel designs, propulsion systems, operations, automation, robotics, and networked systems, and new methods for offshore natural resource exploration, production, and transportation, make the MTS even more vulnerable to disruption.”¹⁵

While the MTS plays a critical role in U.S. economic and national security, and its disruption could lead to significant impacts, advanced technologies and mechanisms currently exist to help safely manage the variety of activities that occur on the nation’s navigable waters.

Therefore, the Coalition recommends removing the statement beginning with “New technologies...” and incorporating a revised version of it into the existing sentence in Box 3.2¹⁶ as follows: “**Amidst the advent of new technologies that often both play a decisive role in enhancing safety and reducing threats of disruption to the MTS and add complexity to vessel designs, propulsion systems, operations, automation, robotics, and networked systems, and with the development of new methods for offshore natural resource exploration, production, and transportation,** the Federal government, in its enduring role of promoting safety, security, and stewardship, safeguards the MTS and helps ensure the uninterrupted flow of maritime commerce.”

Goal V: Develop Resilient Coastal Communities

Goal V includes an objective to “Empower Local and Regional Decision-Making,” with a notation that “Access to local and regional specific data and data tools is key to effective decision-making when

¹⁴ See Page 22, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹⁵ See Page 30, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹⁶ See Page 30, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

planning for the future of coastal communities.”¹⁷ The statement includes a footnote with citations to examples of tools including the Northeast Ocean Data Portal.

To ensure that federal agency use of sources such as regional data portals does not occur to the exclusion of other sources and is consistent with their statutory and regulatory authorities, the Coalition recommends revising the following statement as follows: “Access to local and regional specific data and data tools ~~is key to can assist~~ effective decision-making when planning for the future of coastal communities and when consistent with statutory authorities and established federal policies and guidance.”

Areas of Immediate Opportunity

In addition to the five goals, the draft Decadal Vision identifies the following five “Areas of Immediate Opportunity:”

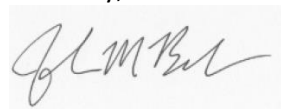
- Fully integrate Big Data approaches in Earth system science
- Advance monitoring and predictive modeling capabilities
- Improve data integration in decision support tools
- Support ocean exploration and characterization
- Support ongoing research and technology partnerships¹⁸

The Coalition recognizes the value of acquiring and sharing data to learn more about the oceans and the benefits they provide, and particularly welcomes federal efforts to engage in public-private partnerships and collaborative projects to advance ocean science and technology in the 21st century.

Conclusion

The Coalition appreciates the opportunity to comment on the draft Decadal Vision and urges the Subcommittee to finalize a product that continues to embrace partnerships and growth of the blue economy so that the nation can receive the maximum economic, recreational, and societal benefits that the oceans provide.

Sincerely,



John M. Belcher
Managing Director

¹⁷ See Page 42, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.

¹⁸ See Pages 45-47, available at <http://www.noaa.gov/sites/default/files/atoms/files/Science%20and%20Technology%20for%20Americas%20Oceans%20A%20Decadal%20Vision.pdf>.