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(Original Signature of Member)

117TH CONGRESS
1ST SESSION

H. R. _____

To improve data collection and monitoring of the Great Lakes, oceans, bays, estuaries, and coasts, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Ms. BONAMICI introduced the following bill; which was referred to the Committee on _____

A BILL

To improve data collection and monitoring of the Great Lakes, oceans, bays, estuaries, and coasts, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Bolstering Long-term Understanding and Exploration of the Great Lakes, Oceans, Bays, and Estuaries Act'' or the ''BLUE GLOBE Act''.

SEC. 2. PURPOSE.

The purpose of this Act is to promote and support—

(1) the monitoring, understanding, and exploration of the Great Lakes, oceans, bays, estuaries, and coasts; and

(2) the collection, analysis, synthesis, and sharing of data related to the Great Lakes, oceans, bays, estuaries, and coasts to facilitate science and operational decision making.

SEC. 3. SENSE OF CONGRESS.

It is the sense of Congress that—

(1) agencies should optimize data collection, management, and dissemination, to the extent practicable, to maximize their impact for research, commercial, regulatory, and educational benefits and to foster innovation, scientific discoveries, the development of commercial products, and the development of sound policy with respect to the Great Lakes, oceans, bays, estuaries, and coasts;

(2) agencies should consider current and future needs relating to supercomputing capacity, data storage capacity, and public access, address gaps in those areas, and coordinate across agencies as needed;

(3) the United States is a leading member of the Intergovernmental Oceanographic Commission of

the United Nations Educational, Scientific and Cultural Organization, a founding member of the Atlantic Ocean Research Alliance, and a key partner in developing the United Nations Decade of Ocean Science for Sustainable Development;

(4) the Integrated Ocean Observing System and the Global Ocean Observing System are key assets and networks that bolster understanding of the marine environment;

(5) the National Oceanographic Partnership Program is a meaningful venue for collaboration and coordination among Federal agencies, scientists, and ocean users;

(6) the National Centers for Environmental Information of the National Oceanic and Atmospheric Administration should be looked to by other Federal agencies as a primary, centralized repository for Federal ocean data;

(7) the Marine Cadastre, a joint effort of the National Oceanic and Atmospheric Administration and the Bureau of Ocean Energy Management, provides access to data and information for specific issues and activities in ocean resources management to meet the needs of offshore energy and planning efforts;

(8) the regional associations of the Integrated Ocean Observing System, certified by the National Oceanic and Atmospheric Administration for the quality and reliability of their data, are important sources of observation information for the Great Lakes, oceans, bays, estuaries, and coasts; and

(9) the Regional Ocean Partnerships and regional data portals, which provide publicly available tools such as maps, data, and other information to inform decisions and enhance marine development, should be supported by and viewed as collaborators with Federal agencies and ocean users.

SEC. 4. DEFINITION OF ADMINISTRATOR.

In this Act, the term ''Administrator'' means the Under Secretary of Commerce for Oceans and Atmosphere in the Under Secretary's capacity as Administrator of the National Oceanic and Atmospheric Administration.

SEC. 5. INCREASED COORDINATION AMONG AGENCIES WITH RESPECT TO DATA AND MONITORING.

(a) INTERAGENCY OCEAN OBSERVATION COMMITTEE.—In addition to its responsibilities as of the date of the enactment of this Act, and in consultation with the associated advisory committee authorized by section 12304(d) of the Integrated Coastal and Ocean Observa-

tion System Act of 2009 (33 U.S.C. 3603(d)), the Interagency Ocean Observation Committee shall—

(1) work with international coordinating bodies, as necessary, to ensure robust, direct measurements of the Great Lakes, oceans, bays, estuaries, and coasts, including oceanographic data; and

(2) support cross-agency and multi-platform synergy, by coordinating overlapping data collection by satellites, buoys, submarines, gliders, vessels, and other data collection vehicles and technologies.

(b) FEDERAL GEOGRAPHIC DATA COMMITTEE.—In addition to its responsibilities as of the date of the enactment of this Act, and in consultation with the National Geospatial Advisory Committee, the Federal Geographic Data Committee shall—

(1) work with international coordinating bodies, as necessary, to ensure robust, continuous measurements of the Great Lakes, oceans, bays, estuaries, and coasts, including satellite and geospatial data; and

(2) support new and old data and metadata certification, quality assurance, quality control, integration, and archiving.

(c) INTERAGENCY COMMITTEE ON OCEAN AND COASTAL MAPPING.—In addition to its responsibilities as

of the date of the enactment of this Act, and in consultation with its associated advisory panel authorized by section 12203(g) of the Ocean and Coastal Mapping Integration Act (33 U.S.C. 3502(g)), the Interagency Committee on Ocean and Coastal Mapping shall—

(1) work with international coordinating bodies, as necessary, to ensure robust, continuous satellite and direct measurements of the Great Lakes, oceans, bays, estuaries, and coasts, including bathymetric data; and

(2) make recommendations on how to make data, metadata, and model output accessible to a broader public audience, including through geographic information system layers, graphics, and other visuals.

SEC. 6. TECHNOLOGY INNOVATION TO COMBAT ILLEGAL, UNREPORTED, AND UNREGULATED FISHING.

(a) DEFINITIONS.—Section 3532 of the Maritime Security and Fisheries Enforcement Act (16 U.S.C. 8001) is amended—

(1) by redesignating paragraphs (6) through (13) as paragraphs (7) through (14), respectively; and

(2) by inserting after paragraph (5) the following:

''(6) INNOVATIVE TECHNOLOGIES.—The term 'innovative technologies' includes the following:

''(A) Improved satellite imagery and tracking.

''(B) Advanced electronic monitoring equipment.

''(C) Vessel location data.

''(D) Improved genetic, molecular, or other biological methods of tracking sources of seafood.

''(E) Electronic catch documentation and traceability.

''(F) Such other technologies as the Administrator of the National Oceanic and Atmospheric Administration considers appropriate.''.

(b) TECHNOLOGY PROGRAMS.—Section 3546 of the Maritime Security and Fisheries Enforcement Act (16 U.S.C. 8016) is amended—

(1) in paragraph (3), by striking ''and'' after the semicolon;

(2) in paragraph (4), by striking the period at the end and inserting ''; and''; and

(3) by adding at the end the following:

''(5) coordinating the application of existing innovative technologies and the development of emerging innovative technologies.''.

SEC. 7. WORKFORCE STUDY.

(a) IN GENERAL.—Section 303(a) of the America COMPETES Reauthorization Act of 2010 (33 U.S.C. 893c(a)) is amended—

(1) in the matter preceding paragraph (1), by striking ''Secretary of Commerce'' and inserting ''Under Secretary of Commerce for Oceans and Atmosphere'';

(2) in paragraph (2), by inserting '', skillsets, or credentials'' after ''degrees'';

(3) in paragraph (3), by inserting ''or highly qualified technical professionals and tradespeople'' after ''atmospheric scientists'';

(4) in paragraph (4), by inserting '', skillsets, or credentials'' after ''degrees'';

(5) in paragraph (5)—

(A) by striking ''scientist''; and

(B) by striking ''; and'' and inserting '', observations, and monitoring;''

(6) in paragraph (6), by striking ''into Federal'' and all that follows and inserting '', technical profes-

sionals, and tradespeople into Federal career positions;''

(7) by redesignating paragraphs (2) through (6) as paragraphs (3) through (7), respectively;

(8) by inserting after paragraph (1) the following:

''(2) whether there is a shortage in the number of individuals with technical or trade-based skillsets or credentials suited to a career in oceanic and atmospheric data collection, processing, satellite production, or satellite operations;''; and

(9) by adding at the end the following:

''(8) workforce diversity and actions the Federal Government can take to increase diversity in the scientific workforce; and

''(9) actions the Federal Government can take to shorten the hiring backlog for such workforce.''.

(b) COORDINATION.—Section 303(b) of such Act (33 U.S.C. 893c(b)) is amended by striking ''Secretary of Commerce'' and inserting ''Under Secretary of Commerce for Oceans and Atmosphere''.

(c) REPORT.—Section 303(c) of such Act (33 U.S.C. 893c(c)) is amended—

(1) by striking ''the date of enactment of this Act'' and inserting ''the date of the enactment of the

Bolstering Long-term Understanding and Exploration of the Great Lakes, Oceans, Bays, and Estuaries Act'';

(2) by striking ''Secretary of Commerce'' and inserting ''Under Secretary of Commerce for Oceans and Atmosphere''; and

(3) by striking ''to each committee'' and all that follows through ''section 302 of this Act'' and inserting ''to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Natural Resources and the Committee on Science, Space, and Technology of the House of Representatives''.

(d) PROGRAM AND PLAN.—Section 303(d) of such Act (33 U.S.C. 893c(d)) is amended—

(1) by striking ''Administrator of the National Oceanic and Atmospheric Administration'' and inserting ''Under Secretary of Commerce for Oceans and Atmosphere''; and

(2) by striking ''academic partners'' and all that follows and inserting ''academic partners.''.

SEC. 8. ACCELERATING INNOVATION AT COOPERATIVE INSTITUTES.

(a) FOCUS ON EMERGING TECHNOLOGIES.—The Administrator shall ensure that the goals of the Cooperative

Institutes of the National Oceanic and Atmospheric Administration include focusing on advancing or applying emerging technologies, which may include—

(1) applied uses and development of real-time and other advanced genetic technologies and applications, including such technologies and applications that derive genetic material directly from environmental samples without any obvious signs of biological source material;

(2) deployment of, and improvements to, the durability, maintenance, and other lifecycle concerns of advanced unmanned vehicles, regional small research vessels, and other research vessels that support and launch unmanned vehicles and sensors; and

(3) supercomputing and big data management, including data collected through electronic monitoring and remote sensing.

(b) DATA SHARING.—Each Cooperative Institute shall ensure that data collected from the work of the institute, other than classified, confidential, or proprietary data, are archived and made publicly accessible.

(c) COORDINATION WITH OTHER PROGRAMS.—The Cooperative Institutes shall work with the Interagency Ocean Observation Committee, the regional associations of the Integrated Ocean Observing System, and other

ocean observing programs to coordinate technology needs and the transition of new technologies from research to operations.

SEC. 9. OCEAN INNOVATION PRIZE AND PRIORITIZATION.

(a) OCEAN INNOVATIVE PRIZES.—Not later than 4 years after the date of the enactment of this Act, and under the authority provided by section 24 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719), the Administrator, in consultation with the heads of relevant Federal agencies, including the Secretary of Defense, and in conjunction with nongovernmental partners, as appropriate and at the discretion of the Administrator, shall establish at least one Ocean Innovation Prize to catalyze the rapid development and deployment of data collection and monitoring technology related to the Great Lakes, oceans, bays, estuaries, and coasts in at least one of the areas specified in subsection (b).

(b) AREAS.—The areas specified in this subsection are the following:

(1) Improved eDNA analytics and deployment with autonomous vehicles.

(2) Plastic pollution detection, quantification, and mitigation, including with respect to used fishing gear and tracking technologies to reduce or eliminate bycatch.

(3) Advanced satellite data and other advanced technology for improving scientific assessment.

(4) New stock assessment methods using satellite data or other advanced technologies.

(5) Advanced electronic fisheries monitoring equipment and data analysis tools, including improved fish species recognition software, confidential data management, data analysis and visualization, and storage of electronic reports, imagery, location information, and other data.

(6) Autonomous and other advanced surface vehicles, underwater vehicles, or airborne platforms for data collection and monitoring.

(7) Artificial intelligence and machine learning applications for data collection and monitoring related to the Great Lakes, oceans, bays, estuaries, and coasts.

(8) Coral reef ecosystem monitoring.

(9) Electronic equipment, chemical or biological sensors, data analysis tools, and platforms to identify and fill gaps in robust and shared continuous data related to the Great Lakes, oceans, bays, estuaries, and coasts to inform global earth system models.

(10) Means for protecting aquatic life from injury or other ill effects caused, in whole or in part, by monitoring or exploration activities.

(11) Discovery and dissemination of data related to the Great Lakes, oceans, bays, estuaries, and coasts.

(12) Water quality monitoring, including improved detection and prediction of harmful algal blooms and pollution.

(13) Enhancing blue carbon sequestration and other ocean acidification mitigation opportunities.

(14) Such other areas as may be identified by the Administrator.

(c) PRIORITIZATION OF PROPOSALS.—In selecting recipients of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) solicitations and interagency grants for ocean innovation, including the National Oceanographic Partnership Program, the Administrator shall prioritize proposals for fiscal years 2021 and 2022 that address at least one of the areas specified in subsection (b).

SEC. 10. REAUTHORIZATION OF NOAA PROGRAMS.

Section 306 of the Hydrographic Services Improvement Act of 1998 (33 U.S.C. 892d) is amended—

(1) in paragraph (1), by striking ''$70,814,000 for each of fiscal years 2019 through 2023'' and inserting ''$71,000,000 for each of fiscal years 2021 through 2024'';

(2) in paragraph (2), by striking ''$25,000,000 for each of fiscal years 2019 through 2023'' and inserting ''$34,000,000 for each of fiscal years 2021 through 2024'';

(3) in paragraph (3), by striking ''$29,932,000 for each of fiscal years 2019 through 2023'' and inserting ''$38,000,000 for each of fiscal years 2021 through 2024'';

(4) in paragraph (4), by striking ''$26,800,000 for each of fiscal years 2019 through 2023'' and inserting ''$45,000,000 for each of fiscal years 2021 through 2024''; and

(5) in paragraph (5), by striking ''$30,564,000 for each of fiscal years 2019 through 2023'' and inserting ''$35,000,000 for each of fiscal years 2021 through 2024''.

SEC. 11. BLUE ECONOMY VALUATION.

(a) MEASUREMENT OF BLUE ECONOMY INDUSTRIES.—The Administrator, the Director of the Bureau of Economic Analysis, the Commissioner of the Bureau of Labor Statistics, the Secretary of the Treasury, and

the heads of other relevant Federal agencies, shall prioritize the collection, aggregation, and analysis of data to measure the value and impact of industries related to the Great Lakes, oceans, bays, estuaries, and coasts on the economy of the United States, including living resources, marine construction, marine transportation, offshore mineral extraction, ship and boat building, tourism, recreation, subsistence, and such other industries the Administrator considers appropriate (known as ''Blue Economy'' industries).

(b) COLLABORATION.—In carrying out subsection (a), the Administrator shall—

(1) work with the Director of the Bureau of Economic Analysis and the heads of other relevant Federal agencies to develop a Coastal and Ocean Economy Satellite Account that includes national and State-level statistics to measure the contribution of the Great Lakes, oceans, bays, estuaries, and coasts to the overall economy of the United States; and

(2) collaborate with national and international organizations and governments to promote consistency of methods, measurements, and definitions to ensure comparability of results between countries.

(c) REPORT.—Not less frequently than once every 2 years, the Administrator, in consultation with the Director of the Bureau of Economic Analysis, the Commissioner of the Bureau of Labor Statistics, the Secretary of the Treasury, and the heads of other relevant Federal agencies, shall publish a report that—

(1) defines the Blue Economy, in coordination with Tribal governments, academia, industry, nongovernmental organizations, and other relevant experts;

(2) makes recommendations for updating North American Industry Classification System (NAICS) reporting codes to reflect the Blue Economy; and

(3) provides a comprehensive estimate of the value and impact of the Blue Economy with respect to each State and territory of the United States, including—

(A) the value and impact of—

(i) economic activities that are dependent upon the resources of the Great Lakes, oceans, bays, estuaries, and coasts;

(ii) the population and demographic characteristics of the population along the coasts;

(iii) port and shoreline infrastructure;

(iv) the volume and value of cargo shipped by sea or across the Great Lakes; and

(v) data collected from the Great Lakes, oceans, bays, estuaries, and coasts, including such data collected by businesses that purchase and commodify the data, including weather prediction and seasonal agricultural forecasting; and

(B) to the extent possible, the qualified value and impact of the natural capital of the Great Lakes, oceans, bays, estuaries, and coasts with respect to tourism, recreation, natural resources, and cultural heritage, including other indirect values.

SEC. 12. ADVANCED RESEARCH PROJECTS AGENCY–OCEANS.

(a) AGREEMENT.—Not later than 45 days after the date of the enactment of this Act, the Administrator shall seek to enter into an agreement with the National Academy of Sciences to conduct the comprehensive assessment under subsection (b).

(b) COMPREHENSIVE ASSESSMENT.—

(1) IN GENERAL.—Under an agreement between the Administrator and the National Academy

of Sciences under this section, the National Academy of Sciences shall conduct a comprehensive assessment of the need for and feasibility of establishing an Advanced Research Projects Agency–Oceans (ARPA–O) that operates in coordination with and with nonduplication of existing Federal oceanic research programs, including programs of the Office of Oceanic and Atmospheric Research of the National Oceanic and Atmospheric Administration.

(2) ELEMENTS.—The comprehensive assessment carried out pursuant to paragraph (1) shall include—

(A) an assessment of how an ARPA–O could help overcome the long-term and high-risk technological barriers in the development of ocean technologies, with the goal of enhancing the economic, ecological, and national security of the United States through the rapid development of technologies that result in—

(i) improved data collection, monitoring, and prediction of the ocean environment, including sea ice conditions;

(ii) overcoming barriers to the application of new and improved technologies,

such as high costs and scale of operational missions;

(iii) improved management practices for protecting ecological sustainability;

(iv) improved national security capacity;

(v) improved technology for fishery population assessments;

(vi) expedited processes between and among Federal agencies to successfully identify, transition, and coordinate research and development output to operations, applications, commercialization, and other uses; and

(vii) ensuring that the United States maintains a technological lead in developing and deploying advanced ocean technologies;

(B) an evaluation of the organizational structures under which an ARPA–O could be organized, which takes into account—

(i) best practices for new research programs;

(ii) consolidation and reorganization of existing Federal oceanic programs to ef-

fectuate coordination and nonduplication of such programs;

(iii) metrics and approaches for periodic program evaluation;

(iv) capacity to fund and manage external research awards; and

(v) options for oversight of the activity through a Federal agency, an interagency organization, nongovernmental organization, or other institutional arrangement; and

(C) an estimation of the scale of investment necessary to pursue high priority ocean technology projects.

(c) REPORT.—Not later than 18 months after the date of the enactment of this Act, the Administrator shall submit to Congress a report on the comprehensive assessment conducted under subsection (b).