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(Original Signature of Member)

119TH CONGRESS
2D SESSION

H. R. _____

To provide for interagency coordination and data standards, technology to combat illegal, unreported, and unregulated fishing, ocean innovation prize competitions, the modernization of certain programs of the National Oceanic and Atmospheric Administration, the development of the ocean workforce, a feasibility assessment for the establishment of an Advanced Research Projects Agency–Oceans, and certain oversight related to such activities, 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 provide for interagency coordination and data standards, technology to combat illegal, unreported, and unregulated fishing, ocean innovation prize competitions, the modernization of certain programs of the National Oceanic and Atmospheric Administration, the development of the ocean workforce, a feasibility assessment for the establishment of an Advanced Research Projects Agency–Oceans, and certain oversight related to such activities, 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; TABLE OF CONTENTS.

(a) 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''.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.

TITLE I—GENERAL PROVISIONS

Sec. 101. Definitions.
Sec. 102. Rule of construction.
Sec. 103. Biennial implementation report.

TITLE II—INTERAGENCY COORDINATION AND DATA STANDARDS

Sec. 201. Interagency activities of the National Ocean Mapping, Exploration, and Characterization Council.
Sec. 202. Federal Geographic Data Committee.
Sec. 203. Interagency coordination of ocean and coastal mapping activities.
Sec. 204. Data rights, standardization, and licensing for data of covered waters.
Sec. 205. Annual ocean and coastal mapping progress report.
Sec. 206. Conformance with requirements of Geospatial Data Act of 2018.

TITLE III—TECHNOLOGY TO COMBAT IUU FISHING

Sec. 301. Definitions.
Sec. 302. Pilot program to improve detection and interdiction of IUU fishing.

TITLE IV—OCEAN INNOVATION PRIZE COMPETITIONS

Sec. 401. Ocean Innovation Prize Competitions.

TITLE V—NOAA PROGRAMS AND OBSERVING MODERNIZATION

Sec. 501. Updates to Hydrographic Services Improvement Act of 1998.
Sec. 502. Amendments to Integrated Coastal and Ocean Observation System Act of 2009.
Sec. 503. Connectivity and emerging technologies.
Sec. 504. Technology transition oversight.

TITLE VI—OCEAN WORKFORCE DEVELOPMENT

Sec. 601. Interagency Advisory Committee on Ocean Workforce Pathways.
Sec. 602. Alternative ocean workforce pathways.
Sec. 603. Ocean workforce credentials and certifications.
Sec. 604. Regional Ocean Workforce Partnerships.
Sec. 605. Federal ocean workforce recognition.

TITLE VII—ADVANCED RESEARCH PROJECTS AGENCY–OCEANS FEASIBILITY ASSESSMENT

Sec. 701. Comprehensive assessment.

TITLE VIII—OVERSIGHT AND AUTHORIZATION OF APPROPRIATIONS

Sec. 801. Government Accountability Office review.
Sec. 802. Authorization of appropriations.

TITLE I—GENERAL PROVISIONS

SEC. 101. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Under Secretary of Commerce for Oceans and Atmosphere in the Under Secretary's capacity as the Administrator of the National Oceanic and Atmospheric Administration.

(2) ADVANCED MAPPING TECHNOLOGIES.—The term ''advanced mapping technologies'' means—

(A) satellite-derived bathymetry;

(B) airborne and shipborne light detection and ranging;

(C) multibeam sonar; and

(D) such other technologies as the Administrator determines advance the mapping, exploration, or characterization of covered waters.

(3) APPROPRIATE CONGRESSIONAL COMMITTEES.—The term ''appropriate congressional committees'' means—

(A) the Committee on Science, Space, and Technology of the House of Representatives; and

(B) the Committee on Commerce, Science, and Transportation of the Senate.

(4) ARPA–O.—The term ''ARPA–O'' means the Advanced Research Projects Agency–Oceans described in section 701(a).

(5) ARTIFICIAL INTELLIGENCE.—The term ''artificial intelligence'' has the meaning given the term in section 5002 of the National Artificial Intelligence Initiative Act of 2020 (15 U.S.C. 9401).

(6) AUTONOMOUS AND UNCREWED PLATFORMS.—The term ''autonomous and uncrewed platforms'' means—

(A) uncrewed surface vessels;

(B) uncrewed underwater vehicles;

(C) autonomous underwater vehicles;

(D) autonomous aerial vehicles; and

(E) other remotely operated, uncrewed, or autonomous vessels, vehicles, or platforms the Administrator determines appropriate.

(7) BROADBAND CONNECTIVITY AT SEA.—The term ''broadband connectivity at sea'' means a satellite, radio frequency, or other digital communications technology designed to provide continuous, high-capacity data transmission from an oceanographic platform.

(8) COVERED WATERS.—The term ''covered waters'' means the Great Lakes, oceans, bays, estuaries, coastal waters, and other marine waters, including such waters of the United States and each territory and possession of the United States.

(9) ENVIRONMENTAL DNA.—The term ''environmental DNA'' means genetic material obtained from environmental samples, including seawater, without requiring the capture of individual organisms.

(10) FEDERAL GEOGRAPHIC DATA COMMITTEE.—The term ''Federal Geographic Data Committee'' means the interagency committee established by section 753(a) of the Geospatial Data Act of 2018 (43 U.S.C. 2802(a)).

(11) INNOVATIVE TECHNOLOGIES.—The term ''innovative technologies'' has the meaning given the term in section 3532 of the Maritime Security and

Fisheries Enforcement Act (16 U.S.C. 8001) (as added by this Act).

(12) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given the term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

(13) INTERAGENCY ADVISORY COMMITTEE ON OCEAN WORKFORCE PATHWAYS.—The term ''Interagency Advisory Committee on Ocean Workforce Pathways'' means the Interagency Advisory Committee on Ocean Workforce Pathways established under section 601(a).

(14) INTERAGENCY OCEAN OBSERVATION COMMITTEE.—The term ''Interagency Ocean Observation Committee'' has the meaning given the term in section 12303 of the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3602).

(15) INTERAGENCY WORKING GROUP ON IUU FISHING.—The term ''Interagency Working Group on IUU fishing'' means the interagency working group established by section 3551(a) of the National Defense Authorization Act for Fiscal Year 2020 (16 U.S.C. 8031(a)).

(16) INTERAGENCY WORKING GROUP ON OCEAN AND COASTAL MAPPING.—The term ''Interagency

Working Group on Ocean and Coastal Mapping'' means the Interagency Working Group on Ocean and Coastal Mapping described in section 12203 of the Omnibus Public Land Management Act of 2009 (33 U.S.C. 3502).

(17) INTERAGENCY WORKING GROUP ON OCEAN EXPLORATION AND CHARACTERIZATION.—The term ''Interagency Working Group on Ocean Exploration and Characterization'' means the interagency working group established under section 10304(g)(1) of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (33 U.S.C. 3408(g)(1)).

(18) IUU FISHING.—The term ''IUU fishing'' has the meaning given the term in section 3532 of the Maritime SAFE Act (16 U.S.C. 8001).

(19) MACHINE LEARNING.—The term ''machine learning'' has the meaning given the term in section 5002 of the National Artificial Intelligence Initiative Act of 2020 (15 U.S.C. 9401).

(20) NATIONAL INTEGRATED COASTAL AND OCEAN OBSERVATION SYSTEM.—The term ''National Integrated Coastal and Ocean Observation System'' means the National Integrated Coastal and Ocean Observation System established under section

12304(a) of the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3603(a)).

(21) NATIONAL GEOSPATIAL ADVISORY COMMITTEE.—The term ''National Geospatial Advisory Committee'' means the National Geospatial Advisory Committee established under section 754(a) of the Geospatial Data Act of 2018 (43 U.S.C. 2803(a)).

(22) NATIONAL GEOSPATIAL DATA ASSET DATA THEME.—The term ''National Geospatial Data Asset data theme'' has the meaning given the term in section 752 of the Geospatial Data Act of 2018 (43 U.S.C. 2801).

(23) NATIONAL OCEAN MAPPING, EXPLORATION, AND CHARACTERIZATION COUNCIL.—The term ''National Ocean Mapping, Exploration, and Characterization Council'' means the council established under section 10304(a) of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (33 U.S.C. 3408(a)).

(24) NATIONAL OCEAN WORKFORCE STRATEGY.—The term ''National Ocean Workforce Strategy'' means the National Ocean Workforce Strategy developed under section 601.

(25) NONPROFIT ORGANIZATION.—The term ''nonprofit organization'' has the meaning given the term in section 201 of title 35, United States Code.

(26) OCEAN INNOVATION PRIZE COMPETITION.—The term ''Ocean Innovation Prize Competition'' means a prize competition carried out under section 401.

(27) OCEAN WORKFORCE.—The term ''ocean workforce'' means any individual employed, trained, or seeking employment in—

(A) an occupation that supports, with respect to covered waters—

(i) observation, mapping, monitoring, modeling, or data management;

(ii) the research, development, testing, or demonstration of marine science, engineering, or technology;

(iii) the operation or maintenance of observing systems, autonomous and uncrewed platforms, vessels, sensors, or associated infrastructure used for applications;

(iv) applied data science, data analysis, prediction, or modeling, artificial in-

telligence, machine learning, or digital systems that support applications; or

(v) the transition or commercialization of or innovation activities with respect to technology; or

(B) an occupation—

(i) related to an occupation described in subparagraph (A);

(ii) related to an ocean workforce sector and activity area; or

(iii) the Administrator determines appropriate.

(28) OCEAN WORKFORCE SECTORS AND ACTIVITY AREAS.—The term ''ocean workforce sectors and activity areas'' means the following sectors and activity areas:

(A) Observing, mapping, and data collection activities, including hydrography, bathymetric mapping, and remote sensing of covered waters.

(B) Data science, including the integration, prediction, modeling, modeling, and analysis, including with respect to artificial intelligence and machine learning applications, of data related to covered waters.

(C) Operation, maintenance, and deployment of vessels, autonomous and uncrewed platforms, sensors, and observing infrastructure.

(D) Engineering, marine technology development, and advanced manufacturing related to covered waters.

(E) Fisheries, aquaculture, and seafood systems, including monitoring, compliance, and traceability of such systems.

(F) Resource management, conservation, restoration, and resilience activities related to covered waters, including habitat restoration.

(G) Maritime transportation, ports, and marine logistics.

(H) Weather, climate, and ocean forecasting services.

(I) Education, training, and administering workforce development programs to support the ocean workforce.

(J) Such sectors and activity areas identified on an iterative basis by the Marine Economy Satellite Account of the Bureau of Economic Analysis.

(K) Other related sectors and activity areas the Administrator determines appropriate.

(29) PARTNERSHIP.—The term ''Partnership'' means a Regional Ocean Workforce Partnership designated under section 604(a).

(30) PRIORITY FLAG STATE.—The term ''priority flag state'' has the meaning given the term in section 3532 of the Maritime SAFE Act (16 U.S.C. 8001).

(31) REGIONAL FISHERIES MANAGEMENT ORGANIZATION.—The term ''Regional Fisheries Management Organization'' has the meaning given the term in section 3532 of the Maritime SAFE Act (16 U.S.C. 8001).

(32) SYSTEM ADVISORY COMMITTEE.—The term ''System advisory committee'' means the System advisory committee established under section 12304(d) of the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3603(d)).

SEC. 102. RULE OF CONSTRUCTION.

Nothing in this Act may be construed to limit the authorities of the Administrator under—

(1) section 24 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719); or

(2) the Geospatial Data Act of 2018 (43 U.S.C. 2801 et seq.).

SEC. 103. BIENNIAL IMPLEMENTATION REPORT.

(a) IN GENERAL.—Not later than 18 months after the date of the enactment of this Act and biennially thereafter, the Administrator shall submit to Congress a consolidated report regarding the implementation of each activity authorized under this Act.

(b) REQUIREMENTS.—Each report submitted under subsection (a) shall include—

(1) a reference to the contents of each most recent and available report required under this Act;

(2) a summary of the activities carried out under each title of this Act;

(3) a description of interagency coordination activities carried out under this Act;

(4) a description of international coordination activities carried out under this Act;

(5) a summary of outcomes of—

(A) the pilot program carried out under section 302;

(B) each pilot program carried out under section 503;

(C) each activity carried out by the Administrator under section 601(e);

(D) each activity carried out by the Administrator under section 604(e); and

(E) the most recent Ocean Innovation Prize Competitions;

(6) a description of activities carried out under this Act related to observing system recapitalization and technology transition;

(7) a summary of activities carried out pursuant to and outcomes of the Regional Ocean Workforce Partnerships;

(8) the status of the comprehensive assessment conducted under section 701, and, if the comprehensive assessment has been completed, a summary of the implementation of any resulting recommendations; and

(9) any additional information the Administrator determines appropriate to describe the implementation of this Act.

(c) RELATION TO OTHER REPORTS.—To the extent that information required to be included in a report submitted under subsection (a) is also required to be included in a report submitted under another provision of this Act, such information shall be included only in the report required under such other provision and incorporated by reference in the report submitted under subsection (a).

TITLE II—INTERAGENCY COORDINATION AND DATA STANDARDS

SEC. 201. INTERAGENCY ACTIVITIES OF THE NATIONAL OCEAN MAPPING, EXPLORATION, AND CHARACTERIZATION COUNCIL.

(a) IN GENERAL.—In addition to the responsibilities of the National Ocean Mapping, Exploration, and Characterization Council as of the date of the enactment of this Act, the National Ocean Mapping, Exploration, and Characterization Council, in consultation with the Interagency Ocean Observation Committee and System advisory committee, shall—

(1) work with relevant international bodies and intergovernmental organizations, as necessary, to ensure the collection of robust, direct measurements of covered waters; and

(2) to the extent not otherwise carried out as of the date of the enactment of this Act, support Federal interagency coordination across multiple observation and data collection platforms with respect to covered waters, including—

(A) satellites;

(B) buoys;

(C) submarines;

(D) gliders;

(E) vessels;

(F) multi-source data collection platforms; and

(G) other data collection vehicles and technologies.

(b) ANNUAL REPORT.—Not later than 1 year after the date of the enactment of this Act and annually thereafter, the National Ocean Mapping, Exploration, and Characterization Council shall submit to the appropriate congressional committees a report regarding updates, gaps, and recommendations with respect to activities carried out under subsection (a), including—

(1) with respect to the activities described in paragraph (1) of that subsection—

(A) ongoing international coordination efforts;

(B) research and development gaps;

(C) data sharing gaps; and

(D) operational gaps; and

(2) with respect to the activities described in paragraph (2) of that subsection—

(A) updates, including with respect to data collection vehicles and technologies described in that paragraph that are not in operational use

by relevant Federal agencies as of the date of the submission of the report; and

(B) recommendations for investment with respect to and piloting and scaling of the data collection vehicles and technologies described in that paragraph.

SEC. 202. FEDERAL GEOGRAPHIC DATA COMMITTEE.

(a) IN GENERAL.—In addition to the responsibilities of the Federal Geographic Data Committee as of the date of the enactment of this Act, the Federal Geographic Data Committee, in consultation with the National Geospatial Advisory Committee, shall—

(1) work with relevant international bodies and intergovernmental organizations, as necessary, to ensure the collection of robust, continuous geospatial and satellite-based measurements of covered waters;

(2) to the extent not otherwise carried out as of the date of the enactment of this Act, with respect to Federal geospatial datasets related to covered waters, support the development of—

(A) data and metadata standards;

(B) certification practices;

(C) quality assurance and quality control procedures;

(D) integration methods; and

(E) archiving processes; and

(3) in administering the National Geospatial Data Asset data theme for water, oceans, and coasts pursuant to section 756 of the Geospatial Data Act of 2018 (43 U.S.C. 2805), seek to align the priorities, standards, and activities of the applicable lead covered agencies (as that term is defined in section 752 of that Act (43 U.S.C. 2801)) with the priorities of the National Ocean Mapping, Exploration, and Characterization Council and the interagency working groups affiliated with the National Ocean Mapping, Exploration, and Characterization Council with respect to emerging technologies, data science, and data standards related to covered waters.

(b) ANNUAL REPORT.—Not later than 1 year after the date of the enactment of this Act and annually thereafter, the Federal Geographic Data Committee shall submit to the National Ocean Mapping, Exploration, and Characterization Council a report regarding updates, gaps, and recommendations with respect to activities carried out under subsection (a), including—

(1) with respect to the activities described in paragraph (1) of that subsection—

(A) ongoing international coordination efforts;

(B) research and development gaps;

(C) data sharing gaps; and

(D) operational gaps;

(2) a description of each standard, practice, procedure, method, or process the development of which is supported under paragraph (2) of that subsection;

(3) a description of each action taken pursuant to paragraph (3) of that subsection to align priorities as described in that paragraph, including—

(A) an identification of any gaps or conflicts between existing standards of the National Geospatial Data Asset data theme for water, oceans, and coasts and emerging technology, data science, or data standard priorities of the interagency working groups affiliated with the National Ocean Mapping, Exploration, and Characterization Council; and

(B) recommendations to resolve any gaps or conflicts so identified; and

(4) recommendations for additional data and metadata standards, certification practices, quality assurance and quality control procedures, integration methods, and archiving processes needed to improve accessibility, interoperability, and stewardship

of Federal geospatial datasets related to covered waters.

SEC. 203. INTERAGENCY COORDINATION OF OCEAN AND COASTAL MAPPING ACTIVITIES.

In addition to the responsibilities of the National Ocean Mapping, Exploration, and Characterization Council as of the date of the enactment of this Act, the National Ocean Mapping, Exploration, and Characterization Council, in consultation with the Interagency Working Group on Ocean and Coastal Mapping, shall, to the extent not otherwise carried out as of the date of the enactment of this Act—

(1) work with relevant international bodies and intergovernmental organizations, as necessary, to support the collection of robust bathymetric and seabed characterization data for covered waters; and

(2) in coordination with the National Centers for Environmental Information of the National Oceanic and Atmospheric Administration, take such steps as the National Ocean Mapping, Exploration, and Characterization Council determines necessary to improve the findability, accessibility, and usability of ocean and coastal mapping data, metadata, and model outputs related to covered waters for research, education, and coastal planning purposes, including

through the use of geographic information system layers, graphics, and other visual products.

SEC. 204. DATA RIGHTS, STANDARDIZATION, AND LICENSING FOR DATA OF COVERED WATERS.

(a) IN GENERAL.—The Administrator, in coordination with the Interagency Ocean Observation Committee, the Federal Geographic Data Committee, and the Interagency Working Group on Ocean and Coastal Mapping, shall—

(1) consistent with, and in addition to, any applicable requirements under part 200 of title 2, Code of Federal Regulations (or any similar successor regulation), include in any grant, cooperative agreement, contract, prize award, or other Federal funding mechanism (referred to in this section as a ''Federal funding mechanism'') awarded or entered into under this Act terms requiring the entity that is awarded or enters into the Federal funding mechanism—

(A) to provide the Federal Government with a nonexclusive, royalty-free, irrevocable license to use, reproduce, distribute, display, and prepare derivative products using any data, metadata, or model outputs generated in whole or in part with amounts made available under

this Act for governmental, research, educational, and other public interest purposes; and

(B) subject to such conditions as the Administrator, in coordination with the Interagency Ocean Observation Committee, the Federal Geographic Data Committee, and the Interagency Working Group on Ocean and Coastal Mapping, and such entity mutually agree upon, to provide to federally funded researchers, State, Tribal, territorial, and local governments, nonprofit organizations, and other users the Administrator determines appropriate access to any such data, metadata, or model outputs; and

(2) to advance mapping, monitoring, observing, forecasting, research, or operational applications related to covered waters, procure commercial—

(A) data;

(B) metadata;

(C) model outputs; or

(D) related data services the Administrator determines necessary.

(b) REQUIRED TERMS.—The Administrator shall, to the maximum extent practicable and consistent with appli-

cable law, include in each Federal funding mechanism awarded or entered into under this Act terms requiring that—

(1) any data, metadata, or model outputs generated under the Federal funding mechanism be documented, formatted, and submitted in accordance with each applicable Federal data and metadata standard and protocol, including such a standards or protocol adopted or recognized by the Federal Geographic Data Committee, National Ocean Mapping, Exploration, and Characterization Council, or other relevant Federal entity;

(2) except as provided in paragraph (4), such data, metadata, and model outputs be made publicly available in an open, machine-readable, and interoperable format;

(3) to the maximum extent practicable, derivative products prepared using any such data, metadata, or model outputs be made available in a manner that permits reuse, redistribution, and interoperability for governmental, research, educational, and public interest purposes; and

(4) the entity that is awarded or enters into the Federal funding mechanism document in accordance with guidance issued by the Administrator under

subsection (e) any exceptions to the public availability of such data, metadata, or model outputs based on—

(A) privacy concerns;

(B) confidentiality concerns;

(C) national security;

(D) proprietary restrictions;

(E) data validation needs; or

(F) other legal limitations.

(c) COMPLIANCE.—If the Administrator determines that an entity that is awarded or enters into a Federal funding mechanism under this Act has materially failed to comply with the terms of that Federal funding mechanism required pursuant to this section, the Administrator may, consistent with applicable law and the terms of the Federal funding mechanism—

(1) require corrective action;

(2) withhold, suspend, or terminate all or part of the Federal funding mechanism;

(3) require repayment of funds made available pursuant to the Federal funding mechanism, to the extent otherwise authorized by law; or

(4) consider such noncompliance in future decisions related to awarding or entering into Federal funding mechanisms under this Act.

(d) INTERNATIONAL COORDINATION.—In carrying out this section, the Administrator shall, as the Administrator determines appropriate, seek to promote compatibility and interoperability between the requirements described in this section and those used by relevant international bodies, intergovernmental organizations, and Regional Fisheries Management Organizations.

(e) GUIDANCE.—The Administrator shall issue guidance regarding the documentation under subsection (b)(4) of exceptions to the public availability of data, metadata, or model outputs generated under a Federal funding mechanism awarded or entered into under this Act.

(f) REPORT.—Not later than 1 year after the date of the enactment of this Act and annually thereafter, the Administrator shall submit to the appropriate congressional committees a report regarding the implementation of this section, including—

(1) a summary of each Federal funding mechanism awarded or entered into under this Act during the preceding year that included terms required or otherwise provided for under this section;

(2) a summary of any such terms;

(3) the categories of entities from which commercial data, metadata, model outputs, or related data services were procured under subsection (a)(2)

and the purposes for which such data, metadata, model outputs, or related data services were procured;

(4) a description of any material barriers encountered in implementing open, interoperable, or reusable data terms pursuant to this section, including barriers related to—

(A) proprietary restrictions;

(B) data validation;

(C) cybersecurity; or

(D) administrative burden;

(5) a summary of any activities carried out under subsection (d), including the approaches promoted and a list of the international partners, intergovernmental organizations, or Regional Fisheries Management Organizations involved; and

(6) recommendations, if any, for legislative or administrative action to improve the implementation of this section.

SEC. 205. ANNUAL OCEAN AND COASTAL MAPPING PROGRESS REPORT.

(a) IN GENERAL.—The National Ocean Mapping, Exploration, and Characterization Council shall annually publish and make publicly available a progress report re-

garding ocean and coastal mapping and characterization objectives that—

(1) incorporates the information included in the reports submitted under sections 201(b) and 202(b);

(2) includes—

(A) the percentage of covered waters mapped by basin;

(B) the percentage of mapped covered waters for which backscatter data and seabed characterization data are available, as developed in consultation with the Interagency Working Group on Ocean Exploration and Characterization; and

(C) the status of progress toward mapping and characterization objectives established by the National Ocean Mapping, Exploration, and Characterization Council.

SEC. 206. CONFORMANCE WITH REQUIREMENTS OF GEOSPATIAL DATA ACT OF 2018.

The Federal Geographic Data Committee shall ensure that ocean and coastal datasets developed or supported under this Act conform to applicable requirements of the Geospatial Data Act of 2018 (43 U.S.C. 2801 et seq.).

TITLE III—TECHNOLOGY TO COMBAT IUU FISHING

SEC. 301. DEFINITIONS.

(a) INNOVATIVE TECHNOLOGIES.—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 technologies, tools, systems, and data capabilities, including the following:

''(A) Satellite imagery and tracking.

''(B) Advanced electronic monitoring equipment.

''(C) Vessel location data.

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

''(E) Electronic catch documentation and seafood traceability systems.

''(F) Such other technologies, tools, systems, or data capabilities as the Under Sec-

retary of the National Oceanic and Atmospheric Administration determines 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'' at the end;

(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. 302. PILOT PROGRAM TO IMPROVE DETECTION AND INTERDICTION OF IUU FISHING.

(a) IN GENERAL.—The Secretary of Homeland Security, acting through the Commandant of the Coast Guard, in coordination with the Administrator and Secretary of State, shall establish a pilot program to improve the detection and interdiction of IUU fishing, which shall—

(1) integrate, to the maximum extent practicable—

(A) vessel monitoring;

(B) automated identification systems;

(C) synthetic aperture radar;

(D) environmental DNA sampling and analysis;

(E) radio frequency detection;

(F) optical imagery;

(G) intelligence sources; and

(H) other technologies the Secretary of Homeland Security, acting through the Commandant of the Coast Guard, in coordination with the Administrator and Secretary of State, determines appropriate; and

(2) include the testing and demonstration of the technologies described in subparagraphs (A) through (H) of paragraph (1) prior to the deployment of such technologies for the detection and interdiction of IUU fishing pursuant to the pilot program.

(b) DEVELOPMENT OF EVIDENCE PROTOCOLS.—In carrying out the pilot program established under subsection (a), the Secretary of Homeland Security, acting through the Commandant of the Coast Guard, in coordination with the Administrator and Secretary of State, shall develop protocols suitable for use in enforcement actions and prosecutions, as applicable, with respect to electronic evidence—

(1) collection;

(2) preservation;

(3) authentication; and

(4) chain-of-custody.

(c) INTERAGENCY ACTIVITIES.—In carrying out the pilot program established under subsection (a), the Secretary of Homeland Security, acting through the Commandant of the Coast Guard—

(1) shall consult with the Interagency Working Group on IUU fishing to coordinate the application of innovative technologies to the detection and interdiction of IUU fishing; and

(2) may enter into joint procurement arrangements and information-sharing memoranda of understanding with—

(A) the heads of relevant Federal agencies;

(B) Regional Fisheries Management Organizations;

(C) the University-National Oceanographic Laboratory System and other academic research vessel operators; and

(D) the governments of foreign countries that the Administrator and Secretary of State jointly determine are partners of the United States in combating IUU fishing, including such foreign countries that are priority flag states.

(d) REPORT.—

(1) IN GENERAL.—Not later than 1 year after the date on which the pilot program is established under subsection (a) and annually thereafter, the Secretary of Homeland Security, acting through the Commandant of the Coast Guard, and Administrator shall jointly submit to Congress a report regarding activities carried out under the pilot program established under subsection (a), including—

(A) each technology tested or demonstrated;

(B) the performance and effectiveness of each such technology, including with respect to the success, limitations, or potential for operational deployment to detect or interdict IUU fishing of each such technology;

(C) interdiction outcomes;

(D) coordination with entities described in subsection (c)(2); and

(E) a summary of the protocols developed under subsection (b) and the use of such protocols in enforcement actions or prosecutions during the preceding year.

(2) CLASSIFIED ANNEX.—A report submitted under paragraph (1) may include a classified annex

as the Secretary of Homeland Security and Administrator jointly determine appropriate.

TITLE IV—OCEAN INNOVATION PRIZE COMPETITIONS

SEC. 401. OCEAN INNOVATION PRIZE COMPETITIONS.

(a) IN GENERAL.—Not later than two years after the date of the enactment of this Act and annually thereafter, the Administrator, in cooperation with the heads of relevant Federal departments and agencies (including the Secretary of Defense), shall carry out in accordance with section 24 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719) a prize competition for eligible entities, to catalyze the rapid development and deployment of data collection and monitoring technology relating to the Great Lakes, oceans, bays, estuaries, and coasts, with respect to at least one specified subject area.

(b) DESIGN.—

(1) SBIR AND STTR PROGRAMS.—The Administrator shall, to the maximum extent practicable, design each Ocean Innovation Prize Competition to complement, but not duplicate, SBIR and STTR programs.

(2) ITERATIVE EVALUATION FEATURES.—

(A) IN GENERAL.—Subject to subparagraph (B), the Administrator may structure an

Ocean Innovation Prize Competition to include any of the following features:

(i) Phased awards.

(ii) Milestone-based payments.

(iii) Prototype demonstration.

(iv) Other iterative evaluation features.

(B) ITERATIVE COMPETITIONS.—The Administrator may structure an Ocean Innovation Prize Competition as a multi-phase or iterative competition, which may include staged evaluation, down-selection of participants in such Competition, and one or more features referred to in subparagraph (A), if the Administrator determines such structure would satisfy any of the following requirements:

(i) Accelerate the development or deployment of technology under such Competition.

(ii) Reduce operational or commercialization risk with respect to such technology.

(iii) Enable a broad range of eligible entities, including entities referred to in subparagraphs (A) through (C) of sub-

section (i)(1), to participate in such Competition.

(iv) Improve the ability to evaluate the performance of such a participant.

(v) Facilitate the operation, commercialization, or sustained non-Federal adoption of such technology.

(c) AGREEMENTS.—The Administrator may not enter into an agreement with a non-Federal entity to assist in the carrying out of an Ocean Innovation Prize Competition unless such non-Federal entity satisfies the following requirements:

(1) Has experience in carrying out prize competitions relating to Federally supported research and development, including with respect to financial management and conflicts of interest.

(2) Is able to conduct a review process in accordance with subsection (d).

(d) REVIEW PROCESS.—The Administrator shall ensure that each Ocean Innovation Prize Competition includes a review process that satisfies the following requirements:

(1) Is merit-based.

(2) Includes the following:

(A) Judges with scientific and technical expertise in the specific subject area at issue, who evaluate the participants in such Competition on the following factors:

(i) Scientific and technical merit.

(ii) Feasibility.

(iii) Scalability.

(iv) Potential economic and scientific impact.

(v) The potential to attract investment by private sector entities, or other cost-sharing.

(vi) Market demand beyond Federal departments and agencies, if applicable.

(B) Conflict-of-interest safeguards, including the following:

(i) The screening of such judges and other individuals involved in such evaluation, for financial, organizational, and familial conflicts of interest, if any.

(ii) A requirement for such judges and other individuals to disclose such conflicts of interest, if any.

(iii) A process through which such a judge or other individual may be recused

or otherwise disqualified from such evaluation, as a result of a conflict of interest.

(iv) The mitigation of the possibility of undue preferential treatment or other undue advantages in, or as a result of, such Competition.

(e) PRIORITIZATION.—In determining specified subject areas for and selecting winners of an Ocean Innovation Prize Competition, the Administrator shall, to the maximum extent practicable, prioritize technologies that satisfy the following requirements:

(1) Demonstrate applicability across Federal, commercial, academic, or international markets.

(2) Are capable of integration into existing observing, mapping, or monitoring systems.

(3) Have a pathway to commercialization or sustained non-Federal adoption.

(f) ACCESS AND OPPORTUNITIES.—A head of a Federal department or agency referred to in subsection (a) may grant to a participant in an Ocean Innovation Prize Competition access to the facilities or data management capabilities of such department or agency, as the case may be, to the extent such facilities or capabilities, as the case may be, are relevant to testing, validating, demonstrating,

and other activities with respect to the development and deployment of technology under such Competition.

(g) WINNERS.—

(1) SELECTION.—The Administrator shall select each winner of an Ocean Innovation Prize Competition, and such selection shall be based on a consensus review and evaluation that is conducted pursuant to subsection (d).

(2) REPORT.—Before receiving an award for winning an Ocean Innovation Prize Competition, the winner of such Competition shall provide to the Administrator a report that includes information relating to the following:

(A) The technical outcomes demonstrated through the technology for which such Competition was won.

(B) The performance metrics, if any, applicable to such outcomes.

(C) Transition or commercialization pathways for such technology.

(D) Any other information the Administrator determines appropriate.

(h) ADMINISTRATOR REPORTS.—Not later than one year after carrying out an Ocean Innovation Prize Com-

petition and annually thereafter, the Administrator shall carry out the following:

(1) Assess to the extent practicable the progress toward commercialization of, or another pathway for the adoption of, the technology for which an Ocean Innovation Prize Competition was won.

(2) Submit to the appropriate congressional committees a report on each Ocean Innovation Prize Competition carried out in the annual period covered by such report, and such report shall include the following with respect to each such Competition:

(A) An identification of each specified subject area and objective.

(B) A specification of the following:

(i) The number of eligible entities who participated in such Competition.

(ii) The number of winners of such Competition.

(C) Information relating to the following:

(i) If the Administrator made a determination in the affirmative under subsection (b)(2)(B) with respect to such Competition, the basis on which the Administrator made such determination.

(ii) The types of eligible entities who so participated.

(iii) The technology for which such Competition was won.

(iv) The awards for such winners.

(v) The progress toward commercialization of, or another pathway for the adoption of, such technology.

(vi) The activities of the Administrator toward such commercialization or other pathway, as the case may be.

(vii) Lessons learned as a result of such Competition.

(viii) Recommendations for improving Ocean Innovation Prize Competitions.

(ix) Such assessment.

(i) DEFINITIONS.—In this section:

(1) ELIGIBLE ENTITY.—The term ''eligible entity'' means any of the following entities:

(A) An institution of higher education (as such term is defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001)).

(B) A nonprofit institution (as such term is defined in section 4 of the Stevenson-Wydler

Technology Innovation Act of 1980 (15 U.S.C. 3703)).

(C) A private sector entity, including a small business firm (as such term is defined in such section).

(D) A consortium of any of the entities referred to in subparagraphs (A) through (C).

(E) Any other entity the Administrator determines appropriate.

(2) SBIR; STTR.—The terms ''SBIR'' and ''STTR'' have the meanings given such terms in section 9 of the Small Business Act (15 U.S.C. 638).

(3) SPECIFIED SUBJECT AREA.—The term ''specified subject area'' means any of the following subject areas:

(A) Environmental DNA analytics and deployment with autonomous vehicles.

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

(C) Advanced satellite data and other advanced technology for improving scientific assessments or environmental, coastal hazard, or emergency risk assessments.

(D) New stock assessment methods that utilize such advanced technology.

(E) Advanced electronic fisheries monitoring equipment and data analysis tools, including any of the following:

(i) Fish species recognition software.

(ii) Confidential data management, analysis, and visualization.

(iii) The storage of electronic reports, imagery, location information, and other data.

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

(G) Artificial intelligence and machine learning applications for data collection, monitoring, analysis, modeling, or prediction related to the Great Lakes, oceans, bays, estuaries, and coasts.

(H) Coral reef ecosystem monitoring.

(I) 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.

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

(K) The discovery and dissemination of data related to the Great Lakes, oceans, bays, estuaries, and coasts, for public education and outreach.

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

(M) Blue carbon sequestration and other ocean acidification mitigation opportunities.

(N) Any other subject area the Administrator determines appropriate.

TITLE V—NOAA PROGRAMS AND OBSERVING MODERNIZATION

SEC. 501. UPDATES TO HYDROGRAPHIC SERVICES IMPROVEMENT ACT OF 1998.

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

(1) in paragraph (1), by striking ''$71,000,000 for each of fiscal years 2023 through 2028'' and in-

serting ''$71,000,000 for each of fiscal years 2027 through 2031'';

(2) in paragraph (2), by striking ''$34,000,000 for each of fiscal years 2023 through 2028'' and inserting ''$34,000,000 for each of fiscal years 2027 through 2031'';

(3) in paragraph (3), by striking ''$38,000,000 for each of fiscal years 2023 through 2028'' and inserting ''$38,000,000 for each of fiscal years 2027 through 2031'';

(4) in paragraph (4), by striking ''$45,000,000 for each of fiscal years 2023 through 2028'' and inserting ''$45,000,000 for each of fiscal years 2027 through 2031''; and

(5) in paragraph (5), by striking ''$35,000,000 for each of fiscal years 2023 through 2028'' and inserting ''$35,000,000 for each of fiscal years 2027 through 2031''.

SEC. 502. AMENDMENTS TO INTEGRATED COASTAL AND OCEAN OBSERVATION SYSTEM ACT OF 2009.

Section 12304 of the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3603) is amended by adding at the end the following:

''(g) TECHNOLOGY TRANSITION, OPERATIONS, AND RECAPITALIZATION.—

''(1) IN GENERAL.—Of the amounts authorized to be appropriated under this section for each fiscal year, not less than 15 percent shall be used for the transition to operations, operational integration, and recapitalization of observing technologies, including—

''(A) high-frequency radar;

''(B) autonomous platforms;

''(C) biogeochemical sensors;

''(D) animal telemetry systems; and

''(E) coupled forecast model development.

''(2) 5-YEAR PLAN.—Not later than 1 year after the date of the enactment of this subsection, the Administrator shall submit to Congress a 5-year plan regarding the activities described in paragraph (1), including—

''(A) objectives for the transition to operations, operational integration, and recapitalization of observing technologies described in paragraph (1);

''(B) an identification of barriers to transition to operations, operational integration, and recapitalization of observing technologies described in paragraph (1);

''(C) an identification of operational uses for observing technologies described in paragraph (1);

''(D) emerging observing technologies that the Administrator determines may warrant inclusion as an observing technology under paragraph (1); and

''(E) strategies to improve the transition to operations, operational integration, and recapitalization of observing technologies described in paragraph (1) consistent with the technology transition and recapitalization plan required under section 504 of the BLUE GLOBE Act.''.

SEC. 503. CONNECTIVITY AND EMERGING TECHNOLOGIES.

(a) IN GENERAL.—The Administrator shall support the testing, adoption, and integration into existing observing, mapping, monitoring, forecasting, and related operational systems related to covered waters of—

(1) advanced mapping technologies;

(2) autonomous and uncrewed platforms;

(3) broadband connectivity at sea;

(4) artificial intelligence;

(5) machine learning;

(6) acoustic monitoring systems; and

(7) environmental DNA sampling and analysis.

(b) EXPANSION OF ACCESS TO TEST RANGES, DATA STANDARDS, AND PLATFORMS.—The Administrator shall coordinate with the Secretary of Defense, Director of the National Science Foundation, and heads of other Federal agencies the Administrator determines appropriate to expand access by, as the Administrator determines appropriate, Federal agencies, nonprofit organizations, and private sector entities to test ranges, data standards, and platforms for—

(1) the items described in paragraphs (1) through (7) of subsection (a); and

(2) other emerging observing, mapping, monitoring, forecasting, and related operational systems related to covered waters.

(c) ACADEMIC FLEET COORDINATION.—The Administrator shall coordinate with the Director of the National Science Foundation, in the Director's role in the administration of the Rolling Deck to Repository program in partnership with the University-National Oceanographic Laboratory System, to—

(1) as practicable, leverage existing systems for the collection, transmission, and archiving of oceanographic data gathered by research vessels operated by members of the University-National Oceanographic Laboratory System for integration into ob-

serving, mapping, and monitoring systems supported pursuant to this Act; and

(2) promote consistency between data standards and archiving protocols used by such research vessels and Federal data systems, including such systems maintained by the National Centers for Environmental Information of the National Oceanic and Atmospheric Administration.

(d) IMPLEMENTATION MECHANISMS.—The Administrator may carry out activities under this section by—

(1) awarding competitive grants;

(2) entering into cooperative agreements;

(3) entering into memoranda of understanding with the heads of other Federal agencies;

(4) carrying out pilot programs;

(5) entering into public-private partnerships; and

(6) using other mechanisms authorized by Federal law.

SEC. 504. TECHNOLOGY TRANSITION OVERSIGHT.

(a) 5-YEAR PLAN.—Not later than 2 years after the date of the enactment of this Act and every 5 years thereafter, the Administrator shall submit to the appropriate congressional committees a 5-year technology transition and recapitalization plan, including—

(1) recapitalization schedules for high-frequency radar, gliders, and other observing platforms and associated infrastructure;

(2) a description of the status and planned integration into observing and operational workflows of the National Oceanic and Atmospheric Administration of—

(A) broadband connectivity at sea;

(B) artificial intelligence;

(C) machine learning;

(D) uncrewed surface vessels;

(E) autonomous underwater vehicles;

(F) acoustic monitoring systems; and

(G) environmental DNA technologies; and

(3) performance metrics for the items described in subparagraphs (A) through (G) of paragraph (2), including—

(A) system uptime;

(B) data latency;

(C) forecast skill improvements; and

(D) such other metrics the Administrator determines appropriate.

(b) INDEPENDENT REVIEW BY NATIONAL ACADEMIES.—The Administrator shall seek to enter into an agreement with the National Academies of Sciences, Engi-

neering, and Medicine for the National Academies, not later than 1 year after the date on which a plan is submitted under subsection (a), to conduct an independent review of such plan and submit to Congress recommendations regarding the adequacy, feasibility, and implementation of such plan.

TITLE VI—OCEAN WORKFORCE DEVELOPMENT

SEC. 601. INTERAGENCY ADVISORY COMMITTEE ON OCEAN WORKFORCE PATHWAYS.

(a) ESTABLISHMENT.—The Administrator, in coordination with the Interagency Ocean Observation Committee, Secretary of Labor, Secretary of Education, and heads of other relevant Federal agencies, shall establish an Interagency Advisory Committee on Ocean Workforce Pathways (in this section referred to as the ''Committee'').

(b) PURPOSES.—The purposes of the Committee are to—

(1) coordinate Federal activities related to the development, training, and retention of the ocean workforce;

(2) assess workforce needs, skills gaps, and occupational shortages across ocean workforce sectors and activity areas;

(3) identify, on a regional and national basis, ocean workforce sectors and activity areas for which growth is expected;

(4) in accordance with subsection (d), develop and periodically update the National Ocean Workforce Strategy with actionable recommendations;

(5) evaluate Federal, State, private sector, academic, and nonprofit capacity to meet the needs of ocean workforce sectors and activity areas with respect to skills, recruitment, and employment retention;

(6) support regionally driven education, training, credentialing, and employment pathways related to the ocean workforce aligned with national priorities;

(7) strengthen transitions of technologies, skills, and workers from research and development to operations, commercialization, and sustained observing activities; and

(8) promote broad access to education, training, credentialing, and employment opportunities by the ocean workforce, including through alternative and nontraditional educational and training pathways.

(c) MEMBERSHIP.—

(1) IN GENERAL.—The Committee shall be composed of not more than 13 members, and shall include representatives of the following entities:

(A) The Assistant Administrator for the National Ocean Service of the National Oceanic and Atmospheric Administration.

(B) The Director of the Office of Education of the National Oceanic and Atmospheric Administration.

(C) The Chief Economist of the National Oceanic and Atmospheric Administration.

(D) The Assistant Director for the Directorate of STEM Education of the National Science Foundation.

(E) The Assistant Secretary for Career, Technical, and Adult Education of the Department of Education.

(F) The Assistant Secretary for Employment and Training of the Department of Labor.

(G) Not more than 2 representatives from regionally distinct businesses with demonstrated expertise in development of the ocean workforce, including—

(i) startups;

(ii) small businesses; or

(iii) such private sector industries as the Administrator determines relevant and applicable.

(H) Not more than 2 representatives from the University-National Oceanographic Laboratory System.

(I) Not more than 1 representative from a training center, hub, partnership, or program for the development of the ocean workforce.

(J) Not more than 1 representative from an institution of higher education.

(2) CHAIR.—The Committee shall be chaired by the Administrator.

(3) APPOINTMENTS.—

(A) IN GENERAL.—The Administrator shall appoint each of the representatives described in subparagraphs (G) through (J) of paragraph (1).

(B) REQUIREMENTS.—In appointing each of the representatives described in subparagraphs (G) through (J) of paragraph (1), the Administrator shall—

(i) in accordance with the criteria described in each such subparagraph, base

such appointments on demonstrated expertise, experience, or leadership; and

(ii) to the extent practicable, solicit nominations or recommendations from relevant stakeholders, including—

(I) industry;

(II) academic institutions;

(III) workforce development organizations;

(IV) labor organizations; and

(V) State, Tribal, territorial, and local governments.

(d) NATIONAL OCEAN WORKFORCE STRATEGY.—Not later than 18 months after the date of the enactment of this Act and every 5 years thereafter, the Committee shall develop and submit to the appropriate congressional committees a National Ocean Workforce Strategy (in this section referred to as the ''Strategy'') that includes—

(1) an assessment of workforce needs across ocean workforce sectors and activity areas, including barriers to recruitment and retention, capacity for training, and such other factors the Committee determines appropriate;

(2) an identification of critical skills gaps and emerging occupational roles with respect to the ocean workforce;

(3) an analysis of ocean workforce sectors and activity areas for which growth is expected;

(4) an evaluation of Federal workforce development programs and best practices related to the ocean workforce, that, to the extent practicable, is based on specified criteria;

(5) recommendations to—

(A) improve coordination among Federal workforce-related activities the Administrator determines are relevant to the ocean workforce;

(B) reduce duplication among such activities;

(C) accelerate development of the ocean workforce; and

(D) facilitate improved access to such activities by State, local, and Tribal entities related to the ocean workforce;

(6) an identification of opportunities to expand alternative pathways related to the ocean workforce, including—

(A) industry-recognized credentials;

(B) certifications;

(C) registered apprenticeships;

(D) fellowships; and

(E) short-cycle and competency-based training programs;

(7) metrics and timelines for implementation of the Strategy; and

(8) regionally specific ocean workforce priorities that reflect—

(A) regional economic, ecological, and operational needs related to the ocean workforce and ocean workforce sectors and activity areas;

(B) input from regional entities, including—

(i) industry;

(ii) small businesses;

(iii) labor organizations;

(iv) State, Tribal, and local governments; and

(v) nonprofit organizations; and

(C) opportunities to leverage existing regional assets, testbeds, and workforce pipelines.

(e) IMPLEMENTATION.—In carrying out this section, the Administrator, in coordination with the Committee, shall seek to—

(1) to the extent relevant and practicable, leverage existing programs and facilities of the National Oceanic and Atmospheric Administration, including—

(A) the National Sea Grant College Program;

(B) the National Integrated Coastal and Ocean Observation System;

(C) the Cooperative Institute system of the National Oceanic and Atmospheric Administration;

(D) the Technology Partnerships Office of the National Institute of Standards and Technology;

(E) the Office of Research, Transition, and Application of the National Oceanic and Atmospheric Administration; and

(F) competitive grant programs;

(2) support pilot projects and partnerships that implement recommendations of the Strategy;

(3) coordinate with prize competitions, technology transition activities, and public-private partnerships authorized under this Act; and

(4) enter into interagency agreements to support data collection, credentialing pilot programs,

and training initiatives related to the ocean workforce.

(f) REVIEW; STRATEGY UPDATES.—

(1) REVIEW.—Not later than 2 years after the date on which the Committee submits each Strategy, the Committee shall review implementation activities carried out pursuant thereto and submit to the appropriate congressional committees a report regarding the implementation of the Strategy and any associated recommendations, including—

(A) the status and results of interagency activities carried out under this section;

(B) ocean workforce pathways, occupations, and careers and ocean workforce sectors and activity areas identified pursuant to the Strategy, and information related to—

(i) the national and regional economic impact of such ocean workforce pathways, occupations, and careers and ocean workforce sectors and activity areas;

(ii) skills, employment, and retention gaps of such ocean workforce pathways, occupations, and careers and ocean workforce sectors and activity areas; and

(iii) challenges to effective implementation of the Strategy to support such ocean workforce pathways, occupations, and careers and ocean workforce sectors and activity areas;

(C) Regional Ocean Workforce Partnerships designated under section 604; and

(D) recommendations for improved implementation of the Strategy, including a review of—

(i) authorities;

(ii) funding needs;

(iii) program effectiveness;

(iv) duplication of activities; and

(v) such other recommendations the Committee determines appropriate.

(2) INCORPORATION OF INFORMATION.—The Committee shall incorporate information and recommendations developed under this subsection in the Strategy.

(g) SPECIFIED CRITERIA DEFINED.—In this section, the term ''specified criteria'' means the following:

(1) Workforce outcomes, including with respect to—

(A) education;

(B) training;

(C) credential attainment;

(D) job placement;

(E) job retention; and

(F) career advancement.

(2) Alignment with ocean workforce needs across ocean workforce sectors and activity areas.

(3) Consideration of emerging ocean workforce needs across ocean workforce sectors and activity areas based on expected growth or changes in demand for such sectors and activity areas.

(4) Access to participation, including with respect to populations from underserved, rural, Tribal, and non-coastal communities.

(5) Engagement with employers.

(6) Potential for replication or scaling.

(7) Integration with secondary and post-secondary education and workforce training systems, including with respect to—

(A) credential attainment;

(B) job placement;

(C) job retention; and

(D) career advancement.

SEC. 602. ALTERNATIVE OCEAN WORKFORCE PATHWAYS.

The Administrator shall, through grants, cooperative agreements, or partnerships, support programs and activities to expand access to education, training, credentialing, and employment opportunities related to the ocean workforce through alternative and nontraditional pathways, including—

(1) paid internships, fellowships, and registered apprenticeship programs aligned with occupations in ocean workforce sectors and activity areas;

(2) short-cycle, competency-based, or modular training programs with respect to skills needed for occupations in the ocean workforce;

(3) experiential learning tied to observing systems, test ranges, vessels, autonomous platforms, or data infrastructure;

(4) pathways supporting transitions of workers and technologies from research and development to operational or commercial roles; and

(5) programs designed to reskill or upskill incumbent workers to advance competencies necessary for work with emerging technologies relevant to occupations in the ocean workforce.

SEC. 603. OCEAN WORKFORCE CREDENTIALS AND CERTIFICATIONS.

(a) IN GENERAL.—The Administrator shall, in coordination with the Interagency Advisory Committee on Ocean Workforce Pathways—

(1) support the development, recognition, and alignment of industry-recognized credentials, certifications, and competency-based assessments relevant to the ocean workforce;

(2) partner with institutions of higher education and private sector entities to—

(A) identify priority occupational roles within the ocean workforce;

(B) define associated skill and competency qualifications and benchmarks for such roles; and

(C) develop or adapt credentials, certifications, and competency-based assessments described in paragraph (1) to attest to such qualifications and benchmarks; and

(3) ensure that credentials, certifications, and competency-based assessments supported under this section—

(A) to the maximum extent practicable, are portable across regions and economic sectors;

(B) align with emerging technologies and operational needs, including findings and recommendations from the National Ocean Workforce Strategy; and

(C) complement, rather than duplicate, existing Federal workforce credentialing efforts.

(b) RULE OF CONSTRUCTION.—Nothing in this section may be construed to require the Administrator to act as an accrediting authority for any institution of higher education, private sector entity, or credential, certification, or competency-based assessment described in this section.

SEC. 604. REGIONAL OCEAN WORKFORCE PARTNERSHIPS.

(a) IN GENERAL.—The Administrator is authorized to designate, on a competitive basis and with the consent of the eligible entity, not more than 5 eligible entities as Regional Ocean Workforce Partnerships to implement the National Ocean Workforce Strategy.

(b) DESIGNATION.—In designating Partnerships under this section, the Administrator shall prioritize the selection of eligible entities in regionally distinct areas of the United States and shall, to the maximum extent practicable, seek to designate as Partnerships eligible entities that the Administrator determines—

(1) demonstrate the capacity to support ocean workforce development, including through education,

training, credentialing, or workforce placement activities;

(2) are capable of leveraging existing regional workforce and talent development partnerships, networks, programs, or resources;

(3) demonstrate meaningful engagement with private sector employers operating in ocean or ocean-adjacent sectors;

(4) address identified or projected ocean workforce needs and skills gaps aligned with the National Ocean Workforce Strategy; and

(5) reflect distinct regional, economic, geographic, and operational features, including regions that are located near or are economically reliant on covered waters or inland regions with relevance to ocean workforce-related supply chains.

(c) GEOGRAPHIC SCOPE.—Each Partnership shall serve a defined geographic region, which may include—

(1) a region that is located near or is economically reliant on covered waters; and

(2) an inland region with demonstrated relevance to ocean workforce-related supply chains.

(d) PARTNERSHIP FUNCTIONS.—In implementing the National Ocean Workforce Strategy, each Partnership

shall carry out activities to support regional ocean workforce development, which shall include—

(1) regional ocean workforce assessments, including identifying current and projected ocean workforce needs, priorities, occupations, and skills gaps within the region;

(2) pathway and credential development, including supporting or aligning education, training, and credentialing pathways, including—

(A) industry-recognized certifications;

(B) non-degree pathways;

(C) stackable credentials;

(D) registered apprenticeships; and

(E) short-cycle or competency-based training programs;

(3) coordinating with employers, including private sector employers, to—

(A) align training with ocean workforce demand;

(B) support paid work-based learning opportunities; and

(C) facilitate job placement and career advancement;

(4) leveraging regional assets, including vessels, test ranges, observing systems, autonomous plat-

forms, laboratories, data infrastructure, and other relevant facilities, to support hands-on training and experiential learning; and

(5) expanding access to ocean workforce opportunities through outreach to—

(A) individuals pursuing nontraditional education pathways;

(B) incumbent workers seeking reskilling or upskilling; and

(C) other relevant populations identified by the Partnership.

(e) FEDERAL COORDINATION.—In carrying out this section, to the extent relevant and practicable, the Administrator may coordinate Partnership activities with existing Federal programs and authorities, including—

(1) the National Sea Grant College Program;

(2) the National Integrated Coastal and Ocean Observation System;

(3) the Cooperative Institute system of the National Oceanic and Atmospheric Administration;

(4) prize competitions, pilot programs, and technology transition activities authorized under this Act; and

(5) relevant workforce development programs administered by other Federal agencies, as the Administrator determines appropriate.

(f) DURATION; REVIEW.—Each Partnership designation under this section shall be for a period of not more than 5 years, subject to renewal at the discretion of the Administrator based on performance and continued alignment of the activities of the Partnership with the National Ocean Workforce Strategy.

(g) SUPPORT.—Activities carried out under this section by a Partnership may be supported through competitive grants, cooperative agreements, public-private partnerships, or other Federal funding mechanisms the Administrator determines appropriate.

(h) ANNUAL REPORT.—Each Partnership shall annually submit to the Administrator such information as the Administrator determines necessary to assess the progress of the Partnership in carrying out the functions of the Partnership described in subsection (d), including information regarding—

(1) ocean workforce activities conducted by the Partnership;

(2) credentials, pathways, or training programs supported by the Partnership;

(3) employer engagement with the Partnership; and

(4) ocean workforce placement or advancement outcomes pursuant to activities carried out by the Partnership, to the extent applicable.

(i) ELIGIBLE ENTITY DEFINED.—In this section, the term ''eligible entity'' means a consortium—

(1) led by 1 or more of—

(A) a nonprofit organization with demonstrated expertise in ocean workforce development;

(B) a State, Tribal, regional, or local government;

(C) a research consortium or Cooperative Institute; or

(D) another entity the Administrator determines appropriate;

(2) that includes at least 1 private sector employer; and

(3) that may include 1 or more of a labor organization, industry association, and nonprofit organization.

SEC. 605. FEDERAL OCEAN WORKFORCE RECOGNITION.

The Administrator shall coordinate with the heads of relevant Federal agencies to encourage consideration,

where appropriate and consistent with applicable law, of credentials, certifications, and competencies related to the development of the ocean workforce supported or otherwise recognized under this title in—

(1) Federal hiring and workforce development programs related to ocean and coastal activities; and

(2) procurement, contracting, and cooperative agreement activities carried out pursuant to this Act.

TITLE VII—ADVANCED RESEARCH PROJECTS AGENCY–OCEANS FEASIBILITY ASSESSMENT

SEC. 701. COMPREHENSIVE ASSESSMENT.

(a) IN GENERAL.—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 a comprehensive assessment of the need for and the feasibility of establishing an Advanced Research Projects Agency–Oceans 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.

(b) ELEMENTS.—The comprehensive assessment carried out pursuant to subsection (a) shall include—

(1) 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—

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

(B) overcoming barriers to the application of ocean technologies, such as high costs and the scale of operational missions;

(C) improved management practices for protecting ecological sustainability;

(D) improved technology for fishery population assessments;

(E) 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

(F) ensuring that the United States maintains a technological lead over competitors, as the Administrator so identifies, in developing and deploying ocean technologies;

(2) an evaluation of the organizational and governance structures under which an ARPA–O could be organized and governed, that is based on the specified criterion and takes into account—

(A) best practices for new research programs;

(B) consolidation and reorganization of existing Federal oceanic research programs to effectuate coordination and nonduplication of such programs;

(C) metrics and approaches for periodic evaluation of programs or projects carried out by an ARPA–O;

(D) the capacity of an ARPA–O or host entity of an ARPA–O to fund and manage research awards to non-Federal entities; and

(E) options for oversight of the activities of an ARPA–O through a Federal agency, an interagency organization, nongovernmental organization, or other institutional arrangement;

(3) recommendations on the most effective and practicable placement in the Federal Government for an ARPA–O, that are based on—

(A) the respective expertise of the Federal agencies the Administrator determines relevant;

(B) existing authorities;

(C) workforce, technology, and budgetary capacity; and

(D) any other factor the Administrator determines relevant;

(4) an identification of priority ocean research and development areas and technology projects related to covered waters for an ARPA–O to develop, based on the extent to which such projects could—

(A) address significant gaps or opportunities in research, technology, or operations;

(B) demonstrate a credible pathway to transition into operational use, commercialization, or adoption by Federal, State, Tribal, territorial, or non-Federal entities;

(C) involve technical, scientific, or operational uncertainty such that such projects would be unlikely to be supported through alternative Federal research programs;

(D) be able to be structured with clear technical milestones and deliverables within a defined timeline;

(E) build upon, integrate with, or significantly enhance existing capabilities, including observing systems, data assets, infrastructure, or research efforts;

(F) have the potential to be scaled, replicated, or deployed in distinct regions or sectors; and

(G) support applications of such research or projects across multiple sectors;

(5) an estimate of the scale of investment necessary to pursue each project identified under paragraph (4);

(6) consideration of organizational models modeled after the Defense Advanced Research Projects Agency and the Advanced Research Projects Agency–Health, including—

(A) terms for which to hire program managers;

(B) use of transactions and mechanisms other than procurement contracts, grants, and cooperative agreements for project development, where not otherwise authorized by Federal law;

(C) milestone-based awards;

(D) the authority of such a program manager to terminate or otherwise respond to an ARPA–O project that such manager determines to be unsatisfactory; and

(E) intellectual property and data rights policies to enable transition of projects conducted by an ARPA–O into operational use, commercialization, or adoption by Federal, State, Tribal, territorial, or non-Federal entities;

(7) an identification of ocean workforce sectors and activity areas that would benefit from the establishment of an ARPA–O;

(8) an analysis of and recommendations on alternative programmatic models for an ARPA–O, that are distinct from the programmatic models of the Defense Advanced Research Projects Agency and the Advanced Research Projects Agency–Health and might result in the outcomes specified in paragraph (1);

(9) an analysis of and recommendations on the ways in which an ARPA–O might complement, but not duplicate, projects and activities under the De-

fense Advanced Research Projects Agency and the Advanced Research Projects Agency–Energy; and

(10) recommendations for the establishment of an ARPA–O consistent with precedents for the Defense Advanced Research Projects Agency and the Advanced Research Projects Agency–Health, which shall include recommendations related to any additional programmatic or administrative actions required to establish an ARPA–O.

(c) REPORT.—Not later than 18 months after an agreement is entered into under subsection (a), the Administrator shall submit to the appropriate congressional committees a report regarding the comprehensive assessment carried out under this section.

(d) BRIEFING.—Not later than 60 days after the report required by subsection (c) is submitted, the Administrator shall brief the appropriate congressional committees on the findings of the report.

(e) SPECIFIED CRITERION DEFINED.—In this section, the term ''specified criterion'' means the extent to which the organizational structure at issue facilitates the following:

(1) Flexible authorities and mechanisms for funding, contracting, and program management, to support high-risk, high-reward projects.

(2) The recruitment, retention, and empowerment of program managers with technical expertise.

(3) The transition of research and development into operational use, commercialization, or adoption by Federal, State, Tribal, territorial, and non-Federal entities.

(4) Adaptation to evolving scientific and technological needs.

(5) Participation by academic institutions, nonprofit organizations, and other non-Federal entities.

TITLE VIII—OVERSIGHT AND AUTHORIZATION OF APPROPRIATIONS

SEC. 801. GOVERNMENT ACCOUNTABILITY OFFICE REVIEW.

(a) IN GENERAL.—Not later than 5 years after the date of the enactment of this Act, the Comptroller General of the United States shall carry out a review of—

(1) the pilot program carried out under section 302;

(2) Ocean Innovation Prize Competitions; and

(3) the ocean workforce development programs carried out under title VI, including—

(A) the National Ocean Workforce Strategy developed under section 601;

(B) the ocean workforce credentials and certifications framework established under section 603; and

(C) the Regional Ocean Workforce Partnerships designated under section 604.

(b) ELEMENTS.—The review carried out under subsection (a) shall assess—

(1) with respect to the pilot program carried out under section 302—

(A) the effectiveness of innovative technologies tested or demonstrated in detecting and interdicting IUU fishing;

(B) the suitability of evidence protocols developed under subsection (b) of that section for use in enforcement actions and prosecutions;

(C) the effectiveness of coordination with the heads of other Federal agencies, Regional Fisheries Management Organizations, the University-National Oceanographic Laboratory System, and governments of foreign countries;

(D) barriers to effective implementation; and

(E) recommendations for legislative or administrative improvements;

(2) with respect to Ocean Innovation Prize Competitions—

(A) the extent to which the technologies developed through such Competitions have achieved commercialization or sustained adoption by Federal, State, or non-governmental entities;

(B) the effectiveness of iterative evaluation features in reducing commercialization risk and accelerating development with respect to the technologies referred to in subparagraph (A);

(C) the diversity of participants in such Competitions, including with respect to small business firms (as such term is defined in section 4 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703)), institutions of higher education, and nonprofit organizations;

(D) barriers to effective implementation of such Competition with respect to the technologies referred to in subparagraph (A); and

(E) recommendations for legislative or administrative action; and

(3) with respect to the ocean workforce development programs carried out under title VI—

(A) the effectiveness of the National Ocean Workforce Strategy in addressing identified skills gaps and workforce needs across ocean workforce sectors and activity areas;

(B) workforce outcomes achieved through Regional Ocean Workforce Partnerships, including credential attainment, job placement, and employer engagement;

(C) the extent to which credentials and certifications supported pursuant to section 603 have been adopted by employers and recognized across regions and economic sectors;

(D) barriers to effective implementation; and

(E) recommendations for legislative or administrative improvements.

(c) REPORT.—Not later than 180 days after the date on which the Comptroller General of the United States completes the review required under subsection (a), the Comptroller General shall submit to the appropriate congressional committees and made publicly available the findings of such review, including any recommendations provided under subparagraph (E) of paragraph (1), (2), or (3) of subsection (b).

SEC. 802. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Administrator to carry out this Act the following amounts for the following activities for each of fiscal years 2027 through 2031, to remain available until expended:

(1) For activities under title II, $75,000,000.

(2) For activities under title III, $50,000,000.

(3) For activities under title IV, $110,000,000.

(4) For activities under title V, $150,000,000.

(5) For activities under title VI, $125,000,000.

(6) For the assessment required under title VII, $5,000,000.

(7) For activities under title VIII, $5,000,000.

(8) For general administration and implementation of this Act, $80,000,000.