

AMENDMENT TO RULES COMMITTEE PRINT 117-

31

OFFERED BY MS. BONAMICI OF OREGON

Page 1668, after line 13, insert the following:

1 **TITLE XII—BOLSTERING LONG-**
2 **TERM UNDERSTANDING AND**
3 **EXPLORATION OF THE GREAT**
4 **LAKES, OCEANS, BAYS, AND**
5 **ESTUARIES**

6 **SEC. 71201. PURPOSE.**

7 The purpose of this title is to promote and support—

8 (1) the monitoring, understanding, and explo-
9 ration of the Great Lakes, oceans, bays, estuaries,
10 and coasts; and

11 (2) the collection, analysis, synthesis, and shar-
12 ing of data related to the Great Lakes, oceans, bays,
13 estuaries, and coasts to facilitate science and oper-
14 ational decision making.

15 **SEC. 71202. SENSE OF CONGRESS.**

16 It is the sense of Congress that—

17 (1) agencies should optimize data collection,
18 management, and dissemination, to the extent prac-
19 ticable, to maximize their impact for research, com-

1 mercial, regulatory, and educational benefits and to
2 foster innovation, scientific discoveries, the develop-
3 ment of commercial products, and the development
4 of sound policy with respect to the Great Lakes,
5 oceans, bays, estuaries, and coasts;

6 (2) agencies should consider current and future
7 needs relating to supercomputing capacity, data
8 storage capacity, and public access, address gaps in
9 those areas, and coordinate across agencies as need-
10 ed;

11 (3) the United States is a leading member of
12 the Intergovernmental Oceanographic Commission of
13 the United Nations Educational, Scientific and Cul-
14 tural Organization, a founding member of the Atlan-
15 tic Ocean Research Alliance, and a key partner in
16 developing the United Nations Decade of Ocean
17 Science for Sustainable Development;

18 (4) the Integrated Ocean Observing System and
19 the Global Ocean Observing System are key assets
20 and networks that bolster understanding of the ma-
21 rine environment;

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

1 (6) the National Centers for Environmental In-
2 formation of the National Oceanic and Atmospheric
3 Administration should be looked to by other Federal
4 agencies as a primary, centralized repository for
5 Federal ocean data;

6 (7) the Marine Cadastre, a joint effort of the
7 National Oceanic and Atmospheric Administration
8 and the Bureau of Ocean Energy Management, pro-
9 vides access to data and information for specific
10 issues and activities in ocean resources management
11 to meet the needs of offshore energy and planning
12 efforts;

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

19 (9) the Regional Ocean Partnerships and re-
20 gional data portals, which provide publicly available
21 tools such as maps, data, and other information to
22 inform decisions and enhance marine development,
23 should be supported by and viewed as collaborators
24 with Federal agencies and ocean users.

1 **SEC. 71203. DEFINITION OF ADMINISTRATOR.**

2 In this title, the term “Administrator” means the
3 Under Secretary of Commerce for Oceans and Atmosphere
4 in the Under Secretary’s capacity as Administrator of the
5 National Oceanic and Atmospheric Administration.

6 **SEC. 71204. INCREASED COORDINATION AMONG AGENCIES**
7 **WITH RESPECT TO DATA AND MONITORING.**

8 (a) INTERAGENCY OCEAN OBSERVATION COM-
9 MITTEE.—In addition to its responsibilities as of the date
10 of the enactment of this Act, and in consultation with the
11 associated advisory committee authorized by section
12 12304(d) of the Integrated Coastal and Ocean Observa-
13 tion System Act of 2009 (33 U.S.C. 3603(d)), the Inter-
14 agency Ocean Observation Committee shall—

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

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

23 (b) FEDERAL GEOGRAPHIC DATA COMMITTEE.—In
24 addition to its responsibilities as of the date of the enact-
25 ment of this Act, and in consultation with the National

1 Geospatial Advisory Committee, the Federal Geographic
2 Data Committee shall—

3 (1) work with international coordinating bodies,
4 as necessary, to ensure robust, continuous measure-
5 ments of the Great Lakes, oceans, bays, estuaries,
6 and coasts, including satellite and geospatial data;
7 and

8 (2) support new and old data and metadata cer-
9 tification, quality assurance, quality control, integra-
10 tion, and archiving.

11 (c) INTERAGENCY COMMITTEE ON OCEAN AND
12 COASTAL MAPPING.—In addition to its responsibilities as
13 of the date of the enactment of this Act, and in consulta-
14 tion with its associated advisory panel authorized by sec-
15 tion 12203(g) of the Ocean and Coastal Mapping Integra-
16 tion Act (33 U.S.C. 3502(g)), the Interagency Committee
17 on Ocean and Coastal Mapping shall—

18 (1) work with international coordinating bodies,
19 as necessary, to ensure robust, continuous satellite
20 and direct measurements of the Great Lakes,
21 oceans, bays, estuaries, and coasts, including bathy-
22 metric data; and

23 (2) make recommendations on how to make
24 data, metadata, and model output accessible to a
25 broader public audience, including through geo-

1 graphic information system layers, graphics, and
2 other visuals.

3 **SEC. 71205. TECHNOLOGY INNOVATION TO COMBAT ILLE-**
4 **GAL, UNREPORTED, AND UNREGULATED**
5 **FISHING.**

6 (a) DEFINITIONS.—Section 3532 of the Maritime Se-
7 curity and Fisheries Enforcement Act (16 U.S.C. 8001)
8 is amended—

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

12 (2) by inserting after paragraph (5) the fol-
13 lowing:

14 “(6) INNOVATIVE TECHNOLOGIES.—The term
15 ‘innovative technologies’ includes the following:

16 “(A) Improved satellite imagery and track-
17 ing.

18 “(B) Advanced electronic monitoring
19 equipment.

20 “(C) Vessel location data.

21 “(D) Improved genetic, molecular, or other
22 biological methods of tracking sources of sea-
23 food.

24 “(E) Electronic catch documentation and
25 traceability.

1 “(F) Such other technologies as the Ad-
2 ministrator of the National Oceanic and Atmos-
3 pheric Administration considers appropriate.”.

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

7 (1) in paragraph (3), by striking “and” after
8 the semicolon;

9 (2) in paragraph (4), by striking the period at
10 the end and inserting “; and”; and

11 (3) by adding at the end the following:

12 “(5) coordinating the application of existing in-
13 novative technologies and the development of emerg-
14 ing innovative technologies.”.

15 **SEC. 71206. WORKFORCE STUDY.**

16 (a) **IN GENERAL.**—Section 303(a) of the America
17 **COMPETES** Reauthorization Act of 2010 (33 U.S.C.
18 893e(a)) is amended—

19 (1) in the matter preceding paragraph (1), by
20 striking “Secretary of Commerce” and inserting
21 “Under Secretary of Commerce for Oceans and At-
22 mosphere”;

23 (2) in paragraph (2), by inserting “, skillsets,
24 or credentials” after “degrees”;

1 (3) in paragraph (3), by inserting “or highly
2 qualified technical professionals and tradespeople”
3 after “atmospheric scientists”;

4 (4) in paragraph (4), by inserting “, skillsets,
5 or credentials” after “degrees”;

6 (5) in paragraph (5)—

7 (A) by striking “scientist”; and

8 (B) by striking “; and” and inserting “,
9 observations, and monitoring;”

10 (6) in paragraph (6), by striking “into Federal”
11 and all that follows and inserting “, technical profes-
12 sionals, and tradespeople into Federal career posi-
13 tions;”

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

16 (8) by inserting after paragraph (1) the fol-
17 lowing:

18 “(2) whether there is a shortage in the number
19 of individuals with technical or trade-based skillsets
20 or credentials suited to a career in oceanic and at-
21 mospheric data collection, processing, satellite pro-
22 duction, or satellite operations;”; and

23 (9) by adding at the end the following:

1 “(8) workforce diversity and actions the Fed-
2 eral Government can take to increase diversity in the
3 scientific workforce; and

4 “(9) actions the Federal Government can take
5 to shorten the hiring backlog for such workforce.”.

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

10 (c) REPORT.—Section 303(c) of such Act (33 U.S.C.
11 893c(c)) is amended—

12 (1) by striking “the date of enactment of this
13 Act” and inserting “the date of the enactment of the
14 America COMPETES Act of 2022”;

15 (2) by striking “Secretary of Commerce” and
16 inserting “Under Secretary of Commerce for Oceans
17 and Atmosphere”; and

18 (3) by striking “to each committee” and all
19 that follows through “section 302 of this Act” and
20 inserting “to the Committee on Commerce, Science,
21 and Transportation of the Senate and the Com-
22 mittee on Natural Resources and the Committee on
23 Science, Space, and Technology of the House of
24 Representatives”.

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

3 (1) by striking “Administrator of the National
4 Oceanic and Atmospheric Administration” and in-
5 serting “Under Secretary of Commerce for Oceans
6 and Atmosphere”; and

7 (2) by striking “academic partners” and all
8 that follows and inserting “academic partners.”.

9 **SEC. 71207. ACCELERATING INNOVATION AT COOPERATIVE**
10 **INSTITUTES.**

11 (a) FOCUS ON EMERGING TECHNOLOGIES.—The Ad-
12 ministrator shall ensure that the goals of the Cooperative
13 Institutes of the National Oceanic and Atmospheric Ad-
14 ministration include focusing on advancing or applying
15 emerging technologies, which may include—

16 (1) applied uses and development of real-time
17 and other advanced genetic technologies and applica-
18 tions, including such technologies and applications
19 that derive genetic material directly from environ-
20 mental samples without any obvious signs of biologi-
21 cal source material;

22 (2) deployment of, and improvements to, the
23 durability, maintenance, and other lifecycle concerns
24 of advanced unmanned vehicles, regional small re-

1 search vessels, and other research vessels that sup-
2 port and launch unmanned vehicles and sensors; and

3 (3) supercomputing and big data management,
4 including data collected through electronic moni-
5 toring and remote sensing.

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

10 (c) COORDINATION WITH OTHER PROGRAMS.—The
11 Cooperative Institutes shall work with the Interagency
12 Ocean Observation Committee, the regional associations
13 of the Integrated Ocean Observing System, and other
14 ocean observing programs to coordinate technology needs
15 and the transition of new technologies from research to
16 operations.

17 **SEC. 71208. OCEAN INNOVATION PRIZE AND**
18 **PRIORITIZATION.**

19 (a) OCEAN INNOVATIVE PRIZES.—Not later than 4
20 years after the date of the enactment of this Act, and
21 under the authority provided by section 24 of the Steven-
22 son-Wylder Technology Innovation Act of 1980 (15 U.S.C.
23 3719), the Administrator, in consultation with the heads
24 of relevant Federal agencies, including the Secretary of
25 Defense, and in conjunction with nongovernmental part-

1 ners, as appropriate and at the discretion of the Adminis-
2 trator, shall establish at least one Ocean Innovation Prize
3 to catalyze the rapid development and deployment of data
4 collection and monitoring technology related to the Great
5 Lakes, oceans, bays, estuaries, and coasts in at least one
6 of the areas specified in subsection (b).

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

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

11 (2) Plastic pollution detection, quantification,
12 and mitigation, including with respect to used fish-
13 ing gear and tracking technologies to reduce or
14 eliminate bycatch.

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

17 (4) New stock assessment methods using sat-
18 ellite data or other advanced technologies.

19 (5) Advanced electronic fisheries monitoring
20 equipment and data analysis tools, including im-
21 proved fish species recognition software, confidential
22 data management, data analysis and visualization,
23 and storage of electronic reports, imagery, location
24 information, and other data.

1 (6) Autonomous and other advanced surface ve-
2 hicles, underwater vehicles, or airborne platforms for
3 data collection and monitoring.

4 (7) Artificial intelligence and machine learning
5 applications for data collection and monitoring re-
6 lated to the Great Lakes, oceans, bays, estuaries,
7 and coasts.

8 (8) Coral reef ecosystem monitoring.

9 (9) Electronic equipment, chemical or biological
10 sensors, data analysis tools, and platforms to iden-
11 tify and fill gaps in robust and shared continuous
12 data related to the Great Lakes, oceans, bays, estu-
13 aries, and coasts to inform global earth system mod-
14 els.

15 (10) Means for protecting aquatic life from in-
16 jury or other ill effects caused, in whole or in part,
17 by monitoring or exploration activities.

18 (11) Discovery and dissemination of data re-
19 lated to the Great Lakes, oceans, bays, estuaries,
20 and coasts.

21 (12) Water quality monitoring, including im-
22 proved detection and prediction of harmful algal
23 blooms and pollution.

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

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

3 (c) **PRIORITIZATION OF PROPOSALS.**—In selecting re-
4 cipients of Small Business Innovation Research (SBIR)
5 and Small Business Technology Transfer (STTR) solicita-
6 tions and interagency grants for ocean innovation, includ-
7 ing the National Oceanographic Partnership Program, the
8 Administrator shall prioritize proposals for fiscal years
9 2023 and 2024 that address at least one of the areas spec-
10 ified in subsection (b).

11 **SEC. 71209. REAUTHORIZATION OF NOAA PROGRAMS.**

12 Section 306 of the Hydrographic Services Improve-
13 ment Act of 1998 (33 U.S.C. 892d) is amended—

14 (1) in paragraph (1), by striking “\$70,814,000
15 for each of fiscal years 2019 through 2023” and in-
16 serting “\$71,000,000 for each of fiscal years 2023
17 through 2026”;

18 (2) in paragraph (2), by striking “\$25,000,000
19 for each of fiscal years 2019 through 2023” and in-
20 serting “\$34,000,000 for each of fiscal years 2023
21 through 2026”;

22 (3) in paragraph (3), by striking “\$29,932,000
23 for each of fiscal years 2019 through 2023” and in-
24 serting “\$38,000,000 for each of fiscal years 2023
25 through 2026”;

1 (4) in paragraph (4), by striking “\$26,800,000
2 for each of fiscal years 2019 through 2023” and in-
3 serting “\$45,000,000 for each of fiscal years 2023
4 through 2026”; and

5 (5) in paragraph (5), by striking “\$30,564,000
6 for each of fiscal years 2019 through 2023” and in-
7 serting “\$35,000,000 for each of fiscal years 2023
8 through 2026”.

9 **SEC. 71210. BLUE ECONOMY VALUATION.**

10 (a) MEASUREMENT OF BLUE ECONOMY INDUS-
11 TRIES.—The Administrator, the Director of the Bureau
12 of Economic Analysis, the Commissioner of the Bureau
13 of Labor Statistics, the Secretary of the Treasury, and
14 the heads of other relevant Federal agencies, shall
15 prioritize the collection, aggregation, and analysis of data
16 to measure the value and impact of industries related to
17 the Great Lakes, oceans, bays, estuaries, and coasts on
18 the economy of the United States, including living re-
19 sources, marine construction, marine transportation, off-
20 shore mineral extraction, ship and boat building, tourism,
21 recreation, subsistence, and such other industries the Ad-
22 ministrator considers appropriate (known as “Blue Econ-
23 omy” industries).

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

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

9 (2) collaborate with national and international
10 organizations and governments to promote consist-
11 ency of methods, measurements, and definitions to
12 ensure comparability of results between countries.

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

19 (1) defines the Blue Economy, in coordination
20 with Tribal governments, academia, industry, non-
21 governmental organizations, and other relevant ex-
22 perts;

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

1 (3) provides a comprehensive estimate of the
2 value and impact of the Blue Economy with respect
3 to each State and territory of the United States, in-
4 cluding—

5 (A) the value and impact of—

6 (i) economic activities that are de-
7 pendent upon the resources of the Great
8 Lakes, oceans, bays, estuaries, and coasts;

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

12 (iii) port and shoreline infrastructure;

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

16 (v) data collected from the Great
17 Lakes, oceans, bays, estuaries, and coasts,
18 including such data collected by businesses
19 that purchase and commodify the data, in-
20 cluding weather prediction and seasonal
21 agricultural forecasting; and

22 (B) to the extent possible, the qualified
23 value and impact of the natural capital of the
24 Great Lakes, oceans, bays, estuaries, and coasts
25 with respect to tourism, recreation, natural re-

1 sources, and cultural heritage, including other
2 indirect values.

3 **SEC. 71211. ADVANCED RESEARCH PROJECTS AGENCY-**
4 **OCEANS.**

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

10 (b) COMPREHENSIVE ASSESSMENT.—

11 (1) IN GENERAL.—Under an agreement be-
12 tween the Administrator and the National Academy
13 of Sciences under this section, the National Acad-
14 emy of Sciences shall conduct a comprehensive as-
15 sessment of the need for and feasibility of estab-
16 lishing an Advanced Research Projects Agency-
17 Oceans (ARPA-O) that operates in coordination
18 with and with nonduplication of existing Federal
19 oceanic research programs, including programs of
20 the Office of Oceanic and Atmospheric Research of
21 the National Oceanic and Atmospheric Administra-
22 tion.

23 (2) ELEMENTS.—The comprehensive assess-
24 ment carried out pursuant to paragraph (1) shall in-
25 clude—

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

8 (i) improved data collection, moni-
9 toring, and prediction of the ocean environ-
10 ment, including sea ice conditions;

11 (ii) overcoming barriers to the appli-
12 cation of new and improved technologies,
13 such as high costs and scale of operational
14 missions;

15 (iii) improved management practices
16 for protecting ecological sustainability;

17 (iv) improved national security capac-
18 ity;

19 (v) improved technology for fishery
20 population assessments;

21 (vi) expedited processes between and
22 among Federal agencies to successfully
23 identify, transition, and coordinate re-
24 search and development output to oper-

1 ations, applications, commercialization, and
2 other uses; and

3 (vii) ensuring that the United States
4 maintains a technological lead in devel-
5 oping and deploying advanced ocean tech-
6 nologies;

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

10 (i) best practices for new research
11 programs;

12 (ii) consolidation and reorganization
13 of existing Federal oceanic programs to ef-
14 fectuate coordination and nonduplication of
15 such programs;

16 (iii) metrics and approaches for peri-
17 odic program evaluation;

18 (iv) capacity to fund and manage ex-
19 ternal research awards; and

20 (v) options for oversight of the activ-
21 ity through a Federal agency, an inter-
22 agency organization, nongovernmental or-
23 ganization, or other institutional arrange-
24 ment; and

1 (C) an estimation of the scale of invest-
2 ment necessary to pursue high priority ocean
3 technology projects.

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

