

AMENDMENT NO. _____ Calendar No. _____

Purpose: In the nature of a substitute.

IN THE SENATE OF THE UNITED STATES—117th Cong., 1st Sess.

S. 140

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

Referred to the Committee on _____ and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended
to be proposed by Mr. SCHATZ

Viz:

1 Strike all after the enacting clause and insert the fol-
2 lowing:

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Bolstering Long-term
5 Understanding and Exploration of the Great Lakes,
6 Oceans, Bays, and Estuaries Act” or the “BLUE GLOBE
7 Act”.

8 **SEC. 2. PURPOSE.**

9 The purpose of this Act is to promote and support—

1 (1) the monitoring, understanding, and explo-
2 ration of the Great Lakes, oceans, bays, estuaries,
3 and coasts; and

4 (2) the collection, analysis, synthesis, and shar-
5 ing of data related to the Great Lakes, oceans, bays,
6 estuaries, and coasts to facilitate science and oper-
7 ational decision making.

8 **SEC. 3. SENSE OF CONGRESS.**

9 It is the sense of Congress that Federal agencies
10 should optimize data collection, management, and dissemi-
11 nation, to the extent practicable, to maximize their impact
12 for research, conservation, commercial, regulatory, and
13 educational benefits and to foster innovation, scientific
14 discoveries, the development of commercial products, and
15 the development of sound policy with respect to the Great
16 Lakes, oceans, bays, estuaries, and coasts.

17 **SEC. 4. DEFINITIONS.**

18 In this Act:

19 (1) ADMINISTRATOR.—The term “Adminis-
20 trator” means the Under Secretary of Commerce for
21 Oceans and Atmosphere in the Under Secretary’s
22 capacity as Administrator of the National Oceanic
23 and Atmospheric Administration.

24 (2) INDIAN TRIBE.—The term “Indian Tribe”
25 has the meaning given that term in section 4 of the

1 Indian Self-Determination and Education Assistance
2 Act (25 U.S.C. 5304).

3 **SEC. 5. WORKFORCE STUDY.**

4 (a) IN GENERAL.—Section 303(a) of the America
5 COMPETES Reauthorization Act of 2010 (33 U.S.C.
6 893e(a)) is amended—

7 (1) in the matter preceding paragraph (1), by
8 striking “Secretary of Commerce” and inserting
9 “Under Secretary of Commerce for Oceans and At-
10 mosphere”;

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

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

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

18 (5) in paragraph (5)—

19 (A) by striking “scientist”; and

20 (B) by striking “; and” and inserting “,
21 observations, and monitoring;”

22 (6) in paragraph (6), by striking “into Federal”
23 and all that follows and inserting “, technical profes-
24 sionals, and tradespeople into Federal career posi-
25 tions;”

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

3 (8) by inserting after paragraph (1) the fol-
4 lowing:

5 “(2) whether there is a shortage in the number
6 of individuals with technical or trade-based skillsets
7 or credentials suited to a career in oceanic and at-
8 mospheric data collection, processing, satellite pro-
9 duction, or satellite operations;” and

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

11 “(8) workforce diversity and actions the Fed-
12 eral Government can take to increase diversity in the
13 scientific workforce; and

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

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

20 (c) REPORT.—Section 303(c) of such Act (33 U.S.C.
21 893c(c)) is amended—

22 (1) by striking “the date of enactment of this
23 Act” and inserting “the date of the enactment of the
24 Bolstering Long-term Understanding and Explo-

1 ration of the Great Lakes, Oceans, Bays, and Estu-
2 aries Act”;

3 (2) by striking “Secretary of Commerce” and
4 inserting “Under Secretary of Commerce for Oceans
5 and Atmosphere”; and

6 (3) by striking “to each committee” and all
7 that follows through “section 302 of this Act” and
8 inserting “to the Committee on Commerce, Science,
9 and Transportation of the Senate and the Com-
10 mittee on Natural Resources and the Committee on
11 Science, Space, and Technology of the House of
12 Representatives”.

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

15 (1) by striking “Administrator of the National
16 Oceanic and Atmospheric Administration” and in-
17 serting “Under Secretary of Commerce for Oceans
18 and Atmosphere”; and

19 (2) by striking “academic partners” and all
20 that follows and inserting “academic partners.”.

21 **SEC. 6. ACCELERATING INNOVATION AT COOPERATIVE IN-**
22 **STITUTES.**

23 (a) FOCUS ON EMERGING TECHNOLOGIES.—The Ad-
24 ministrator shall consider evaluating the goals of one or
25 more Cooperative Institutes of the National Oceanic and

1 Atmospheric Administration to include focusing on ad-
2 vancing or applying emerging technologies, which may in-
3 clude—

4 (1) applied uses and development of real-time
5 and other advanced genetic technologies and applica-
6 tions, including such technologies and applications
7 that derive genetic material directly from environ-
8 mental samples without any obvious signs of biologi-
9 cal source material;

10 (2) deployment of, and improvements to, the
11 durability, maintenance, and other lifecycle concerns
12 of advanced unmanned vehicles, regional small re-
13 search vessels, and other research vessels that sup-
14 port and launch unmanned vehicles and sensors; and

15 (3) supercomputing and big data management,
16 including data collected through model outputs, elec-
17 tronic monitoring, and remote sensing.

18 (b) COORDINATION WITH OTHER PROGRAMS.—If
19 appropriate, the Cooperative Institutes shall work with the
20 Interagency Ocean Observation Committee, the regional
21 associations of the Integrated Ocean Observing System,
22 and other ocean observing programs to coordinate tech-
23 nology needs and the transition of new technologies from
24 research to operations.

1 **SEC. 7. ELECTRONIC MONITORING INNOVATION PRIZE.**

2 Not later than 2 years after the date of the enact-
3 ment of this Act, and under the authority provided by sec-
4 tion 24 of the Stevenson-Wydler Technology Innovation
5 Act of 1980 (15 U.S.C. 3719), the Administrator, in con-
6 sultation with the heads of relevant Federal agencies and
7 nongovernmental partners, as appropriate, shall establish
8 an Electronic Monitoring Innovation Prize, which may be
9 awarded for the development of advanced electronic fish-
10 eries monitoring equipment and data analysis tools, in-
11 cluding improved fish species recognition software.

12 **SEC. 8. BLUE ECONOMY VALUATION.**

13 (a) MEASUREMENT OF BLUE ECONOMY INDUS-
14 TRIES.—The Administrator, in consultation with the
15 heads of other relevant Federal agencies, shall establish
16 a program to improve the collection, aggregation, and
17 analysis of data to measure the value and impact of indus-
18 tries related to the Great Lakes, oceans, bays, estuaries,
19 and coasts on the economy of the United States, including
20 living resources, marine construction, marine transpor-
21 tation, offshore energy development and siting including
22 for renewable energy, offshore mineral production, ship
23 and boat building, tourism, recreation, subsistence, com-
24 mercial, recreational, and charter fishing, seafood proc-
25 essing, and other fishery-related businesses, aquaculture
26 such as kelp and shellfish, and other industries the Admin-

1 istrator considers appropriate (known as “Blue Economy”
2 industries).

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

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

13 (2) collaborate with national and international
14 organizations and governments to promote consist-
15 ency of methods, measurements, and definitions to
16 ensure comparability of results between countries.

17 (c) REPORT.—Not less frequently than once every 2
18 years until the date that is 20 years after the date of the
19 enactment of this Act, the Administrator, in consultation
20 with the heads of other relevant Federal agencies, shall
21 publish a report that—

22 (1) defines the Blue Economy, in coordination
23 with Indian Tribes, academia, the private sector,
24 nongovernmental organizations, and other relevant
25 experts;

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

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

8 (A) the value and impact of—

9 (i) economic activities that are de-
10 pendent upon the resources of the Great
11 Lakes, oceans, bays, estuaries, and coasts;

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

15 (iii) port and shoreline infrastructure;

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

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

1 (B) to the extent possible, the qualified
2 value and impact of the natural capital of the
3 Great Lakes, oceans, bays, estuaries, and coasts
4 with respect to tourism, recreation, natural re-
5 sources, and cultural heritage, including other
6 indirect values.

7 **SEC. 9. ADVANCED RESEARCH PROJECTS AGENCY–OCEANS.**

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

13 (b) COMPREHENSIVE ASSESSMENT.—

14 (1) IN GENERAL.—Under an agreement be-
15 tween the Administrator and the National Academy
16 of Sciences under this section, the National Acad-
17 emy of Sciences shall conduct a comprehensive as-
18 sessment to evaluate—

19 (A) whether there is a need for an Ad-
20 vanced Research Projects Agency–Oceans
21 (ARPA–O) that operates within the National
22 Oceanic and Atmospheric Administration in co-
23 ordination with, but not duplicative of, existing
24 Federal oceanic research programs, including
25 programs of the Office of Oceanic and Atmos-

1 oping and deploying advanced ocean tech-
2 nologies;

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

6 (i) best practices for new research
7 programs;

8 (ii) metrics and approaches for peri-
9 odic program evaluation;

10 (iii) capacity to fund and manage ex-
11 ternal research awards; and

12 (iv) options for oversight of the activ-
13 ity through the National Oceanic and At-
14 mospheric Administration;

15 (C) an estimation of the scale of invest-
16 ment necessary to pursue high priority ocean
17 technology projects; and

18 (D) in a case in which an ARPA–O is not
19 recommended as an independent office, rec-
20 ommendations to improve the Office of Oceanic
21 and Atmospheric Research of the National Oce-
22 anic and Atmospheric Administration to achieve
23 the goals described in subparagraph (A).

24 (c) REPORT.—

1 (1) IN GENERAL.—Not later than 18 months
2 after the date of the enactment of this Act, the Ad-
3 ministrator shall submit to the appropriate commit-
4 tees of Congress a report on the comprehensive as-
5 sessment conducted under subsection (b).

6 (2) DEFINITION OF APPROPRIATE COMMITTEES
7 OF CONGRESS.—In this section, the term “appro-
8 priate committees of Congress” means—

9 (A) the Committee on Commerce, Science,
10 and Transportation of the Senate;

11 (B) the Committee on Appropriations of
12 the Senate;

13 (C) the Committee on Natural Resources
14 of the House of Representatives;

15 (D) the Committee on Science, Space, and
16 Technology of the House of Representatives;
17 and

18 (E) the Committee on Appropriations of
19 the House of Representatives.

20 **SEC. 10. NO ADDITIONAL FUNDS AUTHORIZED.**

21 No additional funds are to be authorized to carry out
22 this Act.