

Suspend the Rules and Pass the Bill, H.R. 1447, with an Amendment

(The amendment strikes all after the enacting clause and inserts a new text)

117TH CONGRESS
1ST SESSION

H. R. 1447

To amend the Federal Ocean Acidification Research and Monitoring Act of 2009 to establish an Ocean Acidification Advisory Board, to expand and improve the research on Ocean Acidification and Coastal Acidification, to establish and maintain a data archive system for Ocean Acidification data and Coastal Acidification data, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 1, 2021

Ms. BONAMICI (for herself, Mr. YOUNG, Ms. PINGREE, Mr. POSEY, Mr. BEYER, Mr. MCNERNEY, Mr. PAPPAS, Mr. FITZPATRICK, Mr. PANETTA, Ms. VELÁZQUEZ, Ms. BROWNLEY, Mr. DEFAZIO, Mr. LARSEN of Washington, Mr. CASE, Mr. BLUMENAUER, and Mr. CRIST) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To amend the Federal Ocean Acidification Research and Monitoring Act of 2009 to establish an Ocean Acidification Advisory Board, to expand and improve the research on Ocean Acidification and Coastal Acidification, to establish and maintain a data archive system for Ocean Acidification data and Coastal Acidification data, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Coastal and Ocean
5 Acidification Stressors and Threats Research Act of
6 2021” or the “COAST Research Act of 2021”.

7 **SEC. 2. PURPOSES.**

8 (a) IN GENERAL.—Section 12402(a) of the Federal
9 Ocean Acidification Research and Monitoring Act of 2009
10 (33 U.S.C. 3701(a)) is amended—

11 (1) in paragraph (1)—

12 (A) in the matter preceding subparagraph
13 (A), by striking “development and coordina-
14 tion” and inserting “coordination and imple-
15 mentation”;

16 (B) in subparagraph (A), by striking
17 “acidification on marine organisms” and insert-
18 ing “acidification and coastal acidification on
19 marine organisms”; and

20 (C) in subparagraph (B), by striking “es-
21 tablish” and all that follows through the semi-
22 colon and inserting “maintain and advise an
23 interagency research, monitoring, and public
24 outreach program on ocean acidification and
25 coastal acidification;”;

3 (3) in paragraph (3), by inserting “and coastal
4 acidification” after “ocean acidification”; and

5 (4) in paragraph (4), by inserting “and coastal
6 acidification that take into account other environ-
7 mental and anthropogenic stressors” after “ocean
8 acidification”.

9 (b) TECHNICAL AND CONFORMING AMENDMENT.—

10 Section 12402 of the Federal Ocean Acidification Re-
11 search and Monitoring Act of 2009 (33 U.S.C. 3701(a))
12 is amended by striking “(a) PURPOSES.—”.

13 SEC. 3. DEFINITIONS.

14 Section 12403 of the Federal Ocean Acidification Re-
15 search and Monitoring Act of 2009 (33 U.S.C. 3702) is
16 amended—

24 (2) in paragraph (3), by striking “Joint Sub-
25 committee on Ocean Science and Technology of the

1 National Science and Technology Council” and in-
2 serting “National Science and Technology Council
3 Subcommittee on Ocean Science and Technology”;

4 (3) by redesignating paragraphs (1), (2), and
5 (3) as paragraphs (2), (3), and (4), respectively;

6 (4) by inserting before paragraph (2), as so re-
7 designated, the following new paragraph:

8 “(1) COASTAL ACIDIFICATION.—The term
9 ‘coastal acidification’ means the combined decrease
10 in pH and changes in the water chemistry of coastal
11 oceans, estuaries, and other bodies of water from
12 chemical inputs (including carbon dioxide from the
13 atmosphere), freshwater inputs, and excess nutrient
14 run-off from land and coastal atmospheric pollution
15 that result in processes that release carbon dioxide,
16 acidic nitrogen, and sulfur compounds as byproducts
17 which end up in coastal waters.”; and

18 (5) by adding at the end the following new
19 paragraph:

20 “(5) STATE.—The term ‘State’ means each
21 State of the United States, the District of Columbia,
22 the Commonwealth of Puerto Rico, American
23 Samoa, Guam, the Commonwealth of the Northern
24 Mariana Islands, the Virgin Islands of the United

1 States, and any other territory or possession of the
2 United States.”.

3 **SEC. 4. INTERAGENCY WORKING GROUP.**

4 Section 12404 of the Federal Ocean Acidification Re-
5 search and Monitoring Act of 2009 (33 U.S.C. 3703) is
6 amended—

7 (1) in the heading, by striking “**SUB-**
8 **COMMITTEE**” and inserting “**WORKING GROUP**”;

9 (2) in subsection (a)—

10 (A) in paragraph (1), by striking “Joint
11 Subcommittee on Ocean Science and Tech-
12 nology of the National Science and Technology
13 Council shall coordinate Federal activities on
14 ocean acidification and establish” and insert
15 “Subcommittee shall establish and maintain”;

16 (B) in paragraph (2), by striking “Wildlife
17 Service,” and inserting “Wildlife Service, the
18 Bureau of Ocean Energy Management, the En-
19 vironmental Protection Agency, the Department
20 of Agriculture, the Department of State, the
21 Department of Energy, the Department of the
22 Navy, the National Park Service, the Bureau of
23 Indian Affairs, the National Institute of Stand-
24 ards and Technology, the Smithsonian Institu-
25 tion,”; and

1 (C) in paragraph (3), in the heading, by
2 striking “CHAIRMAN” and inserting “CHAIR”;
3 (3) in subsection (b)—

8 (B) in paragraph (2)—

9 (i) in subparagraph (A), by inserting
10 “and coastal acidification” after “ocean
11 acidification”; and

12 (ii) in subparagraph (B), by inserting
13 “and coastal acidification” after “ocean
14 acidification”;

15 (C) in paragraph (4), by striking “; and”
16 and inserting a semicolon;

17 (D) in paragraph (5)—

18 (i) by striking “developed” and insert-
19 ing “and coastal acidification developed”;
20 and

(ii) by striking the period at the end
and inserting “and coastal acidification;
and”; and

24 (E) by adding at the end the following new
25 paragraph:

1 “(6) ensure that each of the Federal agencies
2 represented on the interagency working group—

3 “(A) participates in the Ocean Acidifica-
4 tion Information Exchange established under
5 paragraph (5); and

6 “(B) delivers data and information to sup-
7 port the data archive system established under
8 section 12406(d).”;

9 (4) in subsection (c), in paragraph (2)—

10 (A) by inserting “, and to the Office of
11 Management and Budget,” after “House of
12 Representatives”; and

13 (B) in subparagraph (B), by striking “the
14 interagency research” and inserting “inter-
15 agency strategic research”;

16 (5) by redesignating subsection (c) as sub-
17 section (d); and

18 (6) by inserting after subsection (b) the fol-
19 lowing:

20 “(c) ADVISORY BOARD.—

21 “(1) ESTABLISHMENT.—The Chair of the Sub-
22 committee shall establish an Ocean Acidification Ad-
23 visory Board.

24 “(2) DUTIES.—The Advisory Board shall—

1 “(A) not later than 180 days before the
2 Subcommittee submits the most recent report
3 under subsection (d)(2)—

4 “(i) review such report;
5 “(ii) submit an analysis of such report
6 to the Subcommittee for consideration in
7 the final report submitted under subsection
8 (d)(2); and

9 “(iii) concurrently with the Sub-
10 committee’s final submission of the report
11 under subsection (d)(2), the Advisory
12 Board shall submit a copy of the analysis
13 provided to the Subcommittee to the Com-
14 mittee on Commerce, Science, and Trans-
15 portation of the Senate, the Committee on
16 Science, Space, and Technology of the
17 House of Representatives, and the Com-
18 mittee on Natural Resources of the House
19 of Representatives;

20 “(B) not later than 180 days before the
21 Subcommittee submits the most recent strategic
22 research plan under subsection (d)(3) to Con-
23 gress—

24 “(i) review such plan;

1 “(ii) submit an analysis of such plan
2 and the implementation thereof to the Sub-
3 committee for consideration in the final
4 strategic research plan submitted under
5 subsection (d)(3); and

6 “(iii) concurrently with the Sub-
7 committee’s final submission of the stra-
8 tegic research plan under subsection
9 (d)(3), the Advisory Board shall submit a
10 copy of the analysis provided to the Sub-
11 committee to the Committee on Commerce,
12 Science, and Transportation of the Senate,
13 the Committee on Science, Space, and
14 Technology of the House of Representa-
15 tives, and the Committee on Natural Re-
16 sources of the House of Representatives;

17 “(C) provide ongoing advice to the Sub-
18 committee and the interagency working group
19 on matters related to Federal activities on
20 ocean acidification and coastal acidification;

21 “(D) advise the Subcommittee and the
22 interagency working group on—

23 “(i) efforts to coordinate research and
24 monitoring activities related to ocean acidifi-
25 cation and coastal acidification; and

1 “(ii) the best practices for the stand-
2 ards developed for data archiving under
3 section 12406(e);

4 “(E) publish in the Federal Register a
5 charter;

6 “(F) provide the Library of Congress
7 with—

8 “(i) the charter described in subpara-
9 graph (E);

10 “(ii) any schedules and minutes for
11 meetings of the Advisory Board;

12 “(iii) any documents that are ap-
13 proved by the Advisory Board; and

14 “(iv) any reports and analysis pre-
15 pared by the Advisory Board; and

16 “(G) establish a publicly accessible web
17 page on the website of the National Oceanic
18 and Atmospheric Administration, that contains
19 the information described in clauses (i) through
20 (iv) of subparagraph (F).

21 “(3) MEMBERSHIP.—The Advisory Board shall
22 consist of 24 members as follows:

23 “(A) Two representatives of the shellfish
24 and crab industry.

1 “(B) One representative of the finfish in-
2 dustry.

3 “(C) One representative of seafood proc-
4 essors.

5 “(D) Three representatives from academia,
6 including both natural and social sciences.

7 “(E) One representative of recreational
8 fishing.

9 “(F) One representative of a relevant non-
10 governmental organization.

11 “(G) Six representatives from relevant
12 State, local, and Tribal governments.

13 “(H) One representative from the Alaska
14 Ocean Acidification Network or a subsequent
15 entity that represents the same geographical re-
16 gion and has a similar purpose.

17 “(I) One representative from the California
18 Current Acidification Network or a subsequent
19 entity that represents the same geographical re-
20 gion and has a similar purpose.

21 “(J) One representative from the North-
22 east Coastal Acidification Network or a subse-
23 quent entity that represents the same geo-
24 graphical region and has a similar purpose.

1 “(K) One representative from the South-
2 east Coastal Acidification Network or a subse-
3 quent entity that represents the same geo-
4 graphical region and has a similar purpose.

5 “(L) One representative from the Gulf of
6 Mexico Coastal Acidification Network or a sub-
7 sequent entity that represents the same geo-
8 graphical region and has a similar purpose.

9 “(M) One representative from the Mid-At-
10 lantic Coastal Acidification Network or a subse-
11 quent entity that represents the same geo-
12 graphical region and has a similar purpose.

13 “(N) One representative from the Pacific
14 Islands Ocean Observing System or a subse-
15 quent entity that represents the island terri-
16 tories and possessions of the United States in
17 the Pacific Ocean, and the State of Hawaii and
18 has a similar purpose.

19 “(O) One representative from the Carib-
20 bean Regional Association for Coastal Ocean
21 Observing or a subsequent entity that rep-
22 resents Puerto Rico and the United States Vir-
23 gin Islands and has a similar purpose.

24 “(P) One representative from the National
25 Oceanic and Atmospheric Administration shall

1 serve as an ex-officio member of the Advisory
2 Board without a vote.

3 “(4) APPOINTMENT OF MEMBERS.—The Chair
4 of the Subcommittee shall—

5 “(A) appoint members to the Advisory
6 Board (taking into account the geographical in-
7 terests of each individual to be appointed as a
8 member of the Advisory Board to ensure that
9 an appropriate balance of geographical interests
10 are represented by the members of the Advisory
11 Board) who—

12 “(i) represent the interest group for
13 which each seat is designated;

14 “(ii) demonstrate expertise on ocean
15 acidification or coastal acidification and its
16 scientific, economic, industry, cultural, and
17 community impacts; and

18 “(iii) have a record of distinguished
19 service with respect to ocean acidification
20 or coastal acidification, and such impacts;

21 “(B) give consideration to nominations and
22 recommendations from the members of the
23 interagency working group and the public for
24 such appointments; and

1 “(C) ensure that an appropriate balance of
2 scientific, industry, and geographical interests
3 are represented by the members of the Advisory
4 Board.

5 “(5) TERM OF MEMBERSHIP.—Each member of
6 the Advisory Board—

7 “(A) shall be appointed for a 5-year term;
8 and

9 “(B) may be appointed to more than one
10 term.

11 “(6) CHAIR.—The Chair of the Subcommittee
12 shall appoint one member of the Advisory Board to
13 serve as the Chair of the Advisory Board.

14 “(7) MEETINGS.—Not less than once each cal-
15 endar year, the Advisory Board shall meet at such
16 times and places as may be designated by the Chair
17 of the Advisory Board, in consultation with the
18 Chair of the Subcommittee and the Chair of the
19 interagency working group.

20 “(8) BRIEFING.—The Chair of the Advisory
21 Board shall brief the Subcommittee and the inter-
22 agency working group on the progress of the Advi-
23 sory Board as necessary or at the request of the
24 Subcommittee.

1 “(9) FEDERAL ADVISORY COMMITTEE ACT.—

2 Section 14 of the Federal Advisory Committee Act
3 shall not apply to the Advisory Board.”.

4 **SEC. 5. STRATEGIC RESEARCH PLAN.**

5 Section 12405 of the Federal Ocean Acidification Re-
6 search and Monitoring Act of 2009 (33 U.S.C. 3704) is
7 amended—

8 (1) in subsection (a)—

9 (A) by striking “acidification” each place it
10 appears and inserting “acidification and coastal
11 acidification”;

12 (B) in the first sentence—

13 (i) by inserting “, and not later than
14 every 5 years thereafter” after “the date of
15 enactment of this Act”;

16 (ii) by inserting “address the socio-
17 economic impacts of ocean acidification
18 and coastal acidification and to” after
19 “mitigation strategies to”; and

20 (iii) by striking “marine ecosystems”
21 each place it appears and inserting “eco-
22 systems”; and

23 (C) in the second sentence, by inserting
24 “and recommendations made by the Advisory
25 Board in the review of the plan required under

1 section 12404(c)(2)(B)(i)" after "subsection
2 (d)";

3 (2) in subsection (b)—

4 (A) in paragraph (1), by inserting "and so-
5 cial sciences" after "among the ocean sciences";

6 (B) in paragraph (2)—

7 (i) in subparagraph (A), by striking
8 "impacts" and inserting "impacts, includ-
9 ing trends of changes in ocean chemistry,";

10 (ii) in subparagraph (B)—

11 (I) by striking "improve the abil-
12 ity to assess the" and inserting "as-
13 sess the short-term and long-term";
14 and

15 (II) by striking ";" and" at the
16 end and inserting a semicolon;

17 (iii) by amending subparagraph (C) to
18 read as follows:

19 "(C) provide information for the—

20 "(i) development of adaptation and
21 mitigation strategies to address the socio-
22 economic impacts of ocean acidification
23 and coastal acidification;

24 "(ii) conservation of marine organisms
25 and ecosystems;

1 “(iii) assessment of the effectiveness
2 of such adaptation and mitigation strate-
3 gies; and”;

4 (iv) by adding at the end the following
5 new subparagraph:

6 “(D) improve research on—

7 “(i) ocean acidification and coastal
8 acidification;

9 “(ii) the interactions between and ef-
10 fects of multiple combined stressors includ-
11 ing changes in water chemistry, changes in
12 sediment delivery, hypoxia, and harmful
13 algal blooms, on ocean acidification and
14 coastal acidification; and

15 “(iii) the effect of environmental
16 stressors on marine resources and eco-
17 systems;”;

18 (C) in paragraph (3)—

19 (i) in subparagraph (F), by striking
20 “database development” and inserting
21 “data management”;

22 (ii) in subparagraph (H) by striking
23 “and” at the end; and

24 (iii) by adding at the end the fol-
25 lowing new subparagraphs:

1 “(J) assessment of adaptation and mitigation
2 strategies; and
3 “(K) education and outreach activities;”;
4 (D) in paragraph (4), by striking “set
5 forth” and inserting “ensure an appropriate
6 balance of contribution in establishing”;
7 (E) in paragraph (5), by striking “reports”
8 and inserting “the best available peer-reviewed
9 scientific reports”;
10 (F) in paragraph (6)—
11 (i) by inserting “and coastal acidification”
12 after “ocean acidification”; and
13 (ii) by striking “of the United States”
14 and inserting “within the United States”;
15 (G) in paragraph (7), by striking “outline
16 budget requirements” and inserting “estimate
17 costs associated for full implementation of each
18 element of the plan by fiscal year”;
19 (H) in paragraph (8)—
20 (i) by inserting “and coastal acidification”
21 after “ocean acidification” each place
22 it appears;
23 (ii) by striking “its” and inserting
24 “their”; and

1 (iii) by striking “; and” at the end
2 and inserting a semicolon;

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

5 (J) by adding at the end the following new
6 paragraph:

7 “(11) describe monitoring needs necessary to
8 support potentially affected industry members,
9 coastal stakeholders, fishery management councils
10 and commissions, non-Federal resource managers,
11 and scientific experts on decision-making and adap-
12 tation related to ocean acidification and coastal
13 acidification.”;

14 (3) in subsection (c)—

15 (A) in paragraph (1)(C), by striking “sur-
16 face”;

17 (B) in paragraph (2), by inserting “and
18 coastal acidification” after “ocean acidification”
19 each place it appears;

20 (C) in paragraph (3)—

21 (i) by striking “input, and” and in-
22 serting “inputs.”;

23 (ii) by inserting “, marine food webs,”
24 after “marine ecosystems”; and

1 (iii) by inserting “, and modeling that
2 supports fisheries management” after
3 “marine organisms”;

4 (D) in paragraph (5), by inserting “and
5 coastal acidification” after “ocean acidifica-
6 tion”; and

7 (E) by adding at the end the following new
8 paragraph:

9 “(8) Research to understand related and cumu-
10 lative stressors and other biogeochemical processes
11 occurring in conjunction with ocean acidification and
12 coastal acidification.”; and

13 (4) by striking subsection (e) and inserting the
14 following:

15 "(e) ADVISORY BOARD EVALUATION.—Not later
16 than 180 days before a plan is submitted to Congress, the
17 Subcommittee shall provide the Advisory Board estab-
18 lished under section 12404(c) a copy of the plan for pur-
19 poses of review under paragraph (2)(B)(i) of such section.

20 "(f) PUBLICATION AND PUBLIC COMMENT.—Not
21 later than 90 days before the strategic research plan, or
22 any revision thereof, is submitted to Congress, the Sub-
23 committee shall publish the plan in the Federal Register
24 and provide an opportunity for submission of public com-
25 ments for a period of not less than 60 days.".

1 **SEC. 6. NOAA OCEAN ACIDIFICATION ACTIVITIES.**

2 Section 12406 of the Federal Ocean Acidification Re-
3 search and Monitoring Act of 2009 (33 U.S.C. 3705) is
4 amended—

5 (1) in subsection (a)—

6 (A) in the matter preceding paragraph (1),
7 by inserting “coordination,” after “research,
8 monitoring,”;

9 (B) in paragraph (1)—

10 (i) in subparagraph (B)—

11 (I) by inserting “including the
12 Integrated Ocean Observing System
13 and the ocean observing assets of
14 other Federal, State, and Tribal agen-
15 cies,” after “ocean observing assets,”;
16 and

17 (II) by inserting “and agency
18 and department missions, prioritizing
19 the location of monitoring instru-
20 ments, assets, and projects to maxi-
21 mize the efficiency of resources and to
22 optimize understanding of socio-
23 economic impacts and ecosystem
24 health” after “research program”;

25 (ii) in subparagraph (C)—

1 (I) by striking “adaptation” and
2 inserting “adaptation and mitigation”;
3 and

4 (II) by inserting “and supporting
5 socioeconomically vulnerable States,
6 local governments, Tribes, commu-
7 nities, and industries through tech-
8 nical assistance and mitigation strate-
9 gies” after “marine ecosystems”;

10 (iii) in subparagraph (E), by striking
11 “its impacts” and inserting “their respec-
12 tive impacts”;

13 (iv) in subparagraph (F), by striking
14 “monitoring and impacts research” and in-
15 serting “research, monitoring, and adapta-
16 tion and mitigation strategies”; and

17 (v) by adding at the end the following
18 new subparagraph:

19 “(G) research to improve understanding of
20 the effect of—

1 “(ii) multiple environmental stressors
2 on living marine resources and coastal eco-
3 systems; and

4 “(iii) adaptation and mitigation strat-
5 egies to address the socioeconomic impacts
6 of ocean acidification and coastal acidifica-
7 tion.”;

8 (C) in paragraph (2), by striking “critical
9 research projects that explore” and inserting
10 “critical research, education, and outreach
11 projects that explore and communicate”; and

12 (D) in paragraphs (1) and (2), by striking
13 “acidification” each place it appears and insert-
14 ing “acidification and coastal acidification”;
15 and

16 (2) by adding at the end the following new sub-
17 sections:

18 “(c) RELATIONSHIP TO INTERAGENCY WORKING
19 GROUP.—The National Oceanic and Atmospheric Admin-
20 istration shall serve as the lead Federal agency responsible
21 for coordinating the Federal response to ocean acidifica-
22 tion and coastal acidification, by—

23 “(1) leading the interagency working group in
24 implementing the strategic research plan under sec-
25 tion 12405;

1 “(2) coordinating monitoring and research ef-
2 forts among Federal agencies in cooperation with
3 State, local, and Tribal government and intern-
4 national partners;

5 “(3) maintaining an Ocean Acidification Infor-
6 mation Exchange described under section
7 12404(b)(5) to allow for information to be electroni-
8 cally accessible, including information—

9 “(A) on ocean acidification developed
10 through or used by the ocean acidification pro-
11 gram described under section 12406(a); or

12 “(B) that would be useful to State govern-
13 ments, local governments, Tribal governments,
14 resource managers, policymakers, researchers,
15 and other stakeholders in mitigating or adapt-
16 ing to the impacts of ocean acidification and
17 coastal acidification; and

18 “(4) establishing and maintaining the data ar-
19 chive system under subsection (d).

20 “(d) DATA ARCHIVE SYSTEM.—

21 “(1) MANAGEMENT.—The Secretary, in coordi-
22 nation with members of the interagency working
23 group, shall provide for the long-term stewardship
24 of, and access to, data relating to ocean acidification
25 and coastal acidification by establishing and main-

1 taining a data archive system that the National Cen-
2 ter for Environmental Information uses to process,
3 store, archive, provide access to, and incorporate to
4 the extent possible, such data collected—

5 “(A) through relevant federally-funded re-
6 search; and

7 “(B) by a Federal agency, State agency,
8 local agency, Tribe, academic scientist, citizen
9 scientist, or industry organization.

10 “(2) EXISTING GLOBAL OR NATIONAL DATA AS-
11 SETS.—In establishing and maintaining the data ar-
12 chive system under paragraph (1), the Secretary
13 shall ensure that existing global or national data as-
14 sets (including the data assets maintained by the
15 National Centers for Environmental Information,
16 the Integrated Ocean Observing System, and other
17 existing data systems within Federal agencies) are
18 incorporated to the greatest extent possible.

19 “(e) STANDARDS, PROTOCOLS, AND PROCEDURES.—
20 With respect to the data described in subsection (d), the
21 Secretary, in coordination with members of the inter-
22 agency working group, shall establish and revise as nec-
23 essary the standards, protocols, or procedures for—

24 “(1) processing, storing, archiving, and pro-
25 viding access to such data;

1 “(2) the interoperability and intercalibration of
2 such data;

3 “(3) the collection of any metadata underlying
4 such data; and

5 “(4) sharing such data with State, local, and
6 Tribal government programs, potentially affected in-
7 dustry members, coastal stakeholders, fishery man-
8 agement councils and commissions, non-Federal re-
9 source managers, and academia.

10 “(f) DISSEMINATION OF OCEAN ACIDIFICATION
11 DATA AND COASTAL ACIDIFICATION DATA.—The Sec-
12 retary, in coordination with members of the interagency
13 working group, shall disseminate the data described under
14 subsection (d) to the greatest extent practicable by sharing
15 such data on full and open access exchanges.

16 “(g) REQUIREMENT.—Recipients of grants from the
17 National Oceanic and Atmospheric Administration under
18 this subtitle that collect data described under subsection
19 (d) shall—

20 “(1) collect such data in accordance with the
21 standards, protocols, or procedures established pur-
22 suant to subsection (e); and

23 “(2) submit such data to the data archive sys-
24 tem under subsection (d) after publication, in ac-

1 cordance with any rules promulgated by the Sec-
2 retary.”.

3 **SEC. 7. NSF OCEAN ACIDIFICATION ACTIVITIES.**

4 Section 12407 of the Federal Ocean Acidification Re-
5 search and Monitoring Act of 2009 (33 U.S.C. 3706) is
6 amended—

7 (1) by striking “ocean acidification” each place
8 it appears and inserting “ocean acidification and
9 coastal acidification”;

10 (2) in subsection (a)—

11 (A) in the matter preceding paragraph (1),
12 by striking “its impacts” and inserting “their
13 respective impacts”;

14 (B) in paragraph (3), by striking “and its
15 impacts” and inserting “and their respective
16 impacts”;

17 (C) in paragraph (4), by striking the pe-
18 riod at the end and inserting “; and”; and

19 (D) by adding at the end the following new
20 paragraph:

21 “(5) adaptation and mitigation strategies to ad-
22 dress socioeconomic effects of ocean acidification and
23 coastal acidification.”; and

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

1 “(d) REQUIREMENT.—Recipients of grants from the
2 National Science Foundation under this subtitle that col-
3 lect data described under section 12406(d) shall—

4 “(1) collect data in accordance with the stand-
5 ards, protocols, or procedures established pursuant
6 to section 12406(e); and

7 “(2) submit such data to the Director and the
8 Secretary after publication, in accordance with any
9 rules promulgated by the Director or the Sec-
10 retary.”.

11 **SEC. 8. NASA OCEAN ACIDIFICATION ACTIVITIES.**

12 Section 12408 of the Federal Ocean Acidification Re-
13 search and Monitoring Act of 2009 (33 U.S.C. 3707) is
14 amended—

15 (1) by striking “ocean acidification” each place
16 it appears and inserting “ocean acidification and
17 coastal acidification”;

18 (2) in subsection (a), by striking “its impacts”
19 and inserting “their respective impacts”; and

20 (3) by adding at the end the following new sub-
21 section:

22 “(d) REQUIREMENT.—Researchers from the National
23 Aeronautics and Space Administration under this subtitle
24 that collect data described under section 12406(d) shall—

1 “(1) collect such data in accordance with the
2 standards, protocols, or procedures established pur-
3 suant to section 12406(e); and

4 “(2) submit such data to the Administrator and
5 the Secretary, in accordance with any rules promul-
6 gated by the Administrator or the Secretary.”.

7 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

8 Section 12409 of the Federal Ocean Acidification Re-
9 search and Monitoring Act of 2009 (33 U.S.C. 3708) is
10 amended—

11 (1) in subsection (a), by striking “subtitle—”
12 and all that follows through paragraph (4) and in-
13 serting the following: “subtitle—

14 “(1) \$30,500,000 for fiscal year 2022;

15 “(2) \$35,000,000 for fiscal year 2023;

16 “(3) \$40,000,000 for fiscal year 2024;

17 “(4) \$45,000,000 for fiscal year 2025; and

18 “(5) \$50,000,000 for fiscal year 2026.”; and

19 (2) in subsection (b), by striking “subtitle—”
20 and all that follows through paragraph (4) and in-
21 serting the following: “subtitle \$20,000,000 for each
22 of the fiscal years 2022 through 2026.”.