

114TH CONGRESS
2D SESSION

S. 1886

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 27, 2016

Referred to the Committee on Science, Space, and Technology, and in addition to the Committee on Natural Resources, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

AN ACT

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Coordinated Ocean
3 Monitoring and Research Act”.

4 **SEC. 2. PURPOSES.**

5 Section 12302 of the Integrated Coastal and Ocean
6 Observation System Act of 2009 (33 U.S.C. 3601) is
7 amended to read as follows:

8 **“SEC. 12302. PURPOSES.**

9 “The purposes of this subtitle are—

10 “(1) to establish and sustain a national inte-
11 grated System of ocean, coastal, and Great Lakes
12 observing systems, comprised of Federal and non-
13 Federal components coordinated at the national level
14 by the Council and at the regional level by a network
15 of Regional Coastal Observing Systems, and that in-
16 cludes in situ, remote, and other coastal and ocean
17 observation and modeling capabilities, technologies,
18 data management systems, communication systems,
19 and product development systems, and is designed to
20 address regional and national needs for ocean and
21 coastal information, to gather specific data on key
22 coastal, ocean, and Great Lakes variables, and to en-
23 sure timely and sustained dissemination and avail-
24 ability of these data—

25 “(A) to the public;

1 “(B) to support national defense, search
2 and rescue operations, marine commerce, navi-
3 gation safety, weather, climate, and marine
4 forecasting, energy siting and production, eco-
5 nomic development, ecosystem-based marine,
6 coastal, and Great Lakes resource management,
7 public safety, and public outreach and edu-
8 cation;

9 “(C) to promote greater public awareness
10 and stewardship of the Nation’s ocean, coastal,
11 and Great Lakes resources and the general
12 public welfare;

13 “(D) to provide easy access to ocean,
14 coastal, and Great Lakes data and promote
15 data sharing between Federal and non-Federal
16 sources and promote public data sharing;

17 “(E) to enable advances in scientific un-
18 derstanding to support the sustainable use, con-
19 servation, management, and understanding of
20 healthy ocean, coastal, and Great Lakes re-
21 sources; and

22 “(F) to monitor and model changes in
23 ocean chemistry;

24 “(2) to improve the Nation’s capability to meas-
25 ure, track, observe, understand, and predict events

1 related directly and indirectly to weather and climate
2 change, natural climate variability, and interactions
3 between the oceanic and atmospheric environments,
4 including the Great Lakes; and

5 “(3) to authorize activities—

6 “(A) to promote basic and applied research
7 to develop, test, and deploy innovations and im-
8 provements in coastal and ocean observation
9 technologies, including advanced observing tech-
10 nologies needed to address critical data gaps,
11 modeling systems, other scientific and techno-
12 logical capabilities to improve the under-
13 standing of weather and climate, ocean-atmos-
14 sphere dynamics, global climate change, and the
15 physical, chemical, and biological dynamics of
16 the ocean, coastal and Great Lakes environ-
17 ments; and

18 “(B) to conserve healthy and restore de-
19 graded coastal ecosystems.”.

20 **SEC. 3. DEFINITIONS.**

21 Section 12303 of the Integrated Coastal and Ocean
22 Observation System Act of 2009 (33 U.S.C. 3602) is
23 amended—

24 (1) in paragraph (5), by striking “States, re-
25 gional organizations, universities, nongovernmental

1 organizations, or the private sector.” and inserting
 2 “the regional coastal observing systems, the Na-
 3 tional Oceanic and Atmospheric Administration, or
 4 the Interagency Ocean Observation Committee.”;

5 (2) by amending paragraph (6) to read as fol-
 6 lows:

7 “(6) REGIONAL COASTAL OBSERVING SYS-
 8 TEM.—The term ‘regional coastal observing system’
 9 means an organizational body that is certified or es-
 10 tablished by contract or memorandum by the lead
 11 Federal agency designated in section 12304(c)(3)
 12 and coordinates State, Federal, local, tribal, and pri-
 13 vate interests at a regional level with the responsi-
 14 bility of engaging the private and public sectors in
 15 designing, operating, and improving regional coastal
 16 and ocean observing systems in order to ensure the
 17 provision of data and information that meet the
 18 needs of user groups from the respective regions.”;
 19 and

20 (3) in paragraph (7), by striking “National
 21 Oceanic and Atmospheric Administration.” and in-
 22 serting “Administrator.”.

23 **SEC. 4. INTEGRATED COASTAL AND OCEAN OBSERVATION**
 24 **SYSTEM.**

25 (a) SYSTEM ELEMENTS.—

1 (1) IN GENERAL.—Section 12304(b) of the In-
2 tegrated Coastal and Ocean Observation System Act
3 of 2009 (33 U.S.C. 3603(b)) is amended by striking
4 paragraph (1) and inserting the following:

5 “(1) IN GENERAL.—In order to fulfill the pur-
6 poses of this subtitle, the System shall be national
7 in scope and consist of—

8 “(A) Federal assets to fulfill national and
9 international observation missions and prior-
10 ities;

11 “(B) non-Federal assets, including a net-
12 work of regional coastal observing systems iden-
13 tified under subsection (c)(4), to fulfill regional
14 and national observation missions and prior-
15 ities;

16 “(C) data management, communication,
17 and modeling systems for the timely integration
18 and dissemination of data and information
19 products from the System;

20 “(D) a product development system to
21 transform observations into products in a for-
22 mat that may be readily used and understood;
23 and

1 “(E) a research and development program
2 conducted under the guidance of the Council,
3 consisting of—

4 “(i) basic and applied research and
5 technology development—

6 “(I) to improve understanding of
7 coastal and ocean systems and their
8 relationships to human activities; and

9 “(II) to ensure improvement of
10 operational assets and products, in-
11 cluding related infrastructure, observ-
12 ing technologies, and information and
13 data processing and management
14 technologies;

15 “(ii) an advanced observing tech-
16 nology development program to fill gaps in
17 technology;

18 “(iii) large scale computing resources
19 and research to advance modeling of coast-
20 al and ocean processes;

21 “(iv) models to improve regional
22 weather forecasting capabilities and re-
23 gional weather forecasting products; and

24 “(v) reviews of data collection proce-
25 dures across regions and programs to

1 make recommendations for data collection
 2 standards across the System to meet na-
 3 tional ocean observation, applied research,
 4 and weather forecasting needs.”.

5 (2) AVAILABILITY OF DATA.—Paragraph (3) of
 6 section 12304(b) of the Integrated Coastal and
 7 Ocean Observation System Act of 2009 (33 U.S.C.
 8 3603(b)) is amended by striking the period at the
 9 end and inserting “for research and for use in the
 10 development of products to address societal needs.”.

11 (3) COORDINATION OF NON-FEDERAL AS-
 12 SETS.—Paragraph (4) of section 12304(b) of the In-
 13 tegrated Coastal and Ocean Observation System Act
 14 of 2009 (33 U.S.C. 3603(b)) is amended—

15 (A) in the paragraph heading, by striking
 16 “NON-FEDERAL” and inserting “COORDINA-
 17 TION OF NON-FEDERAL”; and

18 (B) by inserting “, the regional coastal ob-
 19 serving system,” after “Interagency Ocean Ob-
 20 serving Committee”.

21 (b) POLICY OVERSIGHT, ADMINISTRATION, AND RE-
 22 GIONAL COORDINATION.—Section 12304(c) of the Inte-
 23 grated Coastal and Ocean Observation System Act of
 24 2009 (33 U.S.C. 3603(c)) is amended by striking para-
 25 graphs (2), (3), and (4), and inserting the following:

1 “(2) INTERAGENCY OCEAN OBSERVATION COM-
2 MITTEE.—

3 “(A) ESTABLISHMENT.—The Council shall
4 establish or designate a committee which shall
5 be known as the Interagency Ocean Observation
6 Committee.

7 “(B) DUTIES.—The Interagency Ocean
8 Observation Committee shall—

9 “(i) prepare annual and long-term
10 plans for consideration and approval by the
11 Council for the integrated design, oper-
12 ation, maintenance, enhancement, and ex-
13 pansion of the System to meet the objec-
14 tives of this chapter and the System Plan;

15 “(ii) develop and transmit to Con-
16 gress, along with the budget submitted by
17 the President to Congress pursuant to sec-
18 tion 1105(a) of title 31, United States
19 Code, an annual coordinated, comprehen-
20 sive budget—

21 “(I) to operate all elements of
22 the System identified in subsection
23 (b); and

1 “(II) to ensure continuity of data
2 streams from Federal and non-Fed-
3 eral assets;

4 “(iii) establish requirements for obser-
5 vation data variables to be gathered by
6 both Federal and non-Federal assets and
7 identify, in consultation with regional in-
8 formation coordination entities, priorities
9 for System observations;

10 “(iv) establish and define protocols
11 and standards for System data processing,
12 management, collection, configuration
13 standards, formats, and communication for
14 new and existing assets throughout the In-
15 tegrated Ocean Observing System network;

16 “(v) develop contract requirements for
17 each Regional Coastal Observing System—

18 “(I) to establish eligibility for in-
19 tegration into the System;

20 “(II) to ensure compliance with
21 all applicable standards and protocols
22 established by the Council; and

23 “(III) to ensure that regional ob-
24 servations are integrated into the Sys-
25 tem on a sustained basis;

1 “(vi) identify gaps in observation cov-
2 erage or needs for capital improvements of
3 both Federal assets and non-Federal as-
4 sets;

5 “(vii) subject to the availability of ap-
6 propriations, establish through 1 or more
7 participating Federal agencies, in consulta-
8 tion with the System advisory committee
9 established under subsection (d), a com-
10 petitive matching grant or other pro-
11 grams—

12 “(I) to promote intramural and
13 extramural research and development
14 of new, innovative, and emerging ob-
15 servation technologies including test-
16 ing and field trials; and

17 “(II) to facilitate the migration
18 of new, innovative, and emerging sci-
19 entific and technological advances
20 from research and development to
21 operational deployment;

22 “(viii) periodically—

23 “(I) review the System Plan; and

24 “(II) submit to the Council such
25 recommendations as the Interagency

1 Ocean Observation Committee may
2 have for improvements to the System
3 Plan;

4 “(ix) ensure collaboration among Fed-
5 eral agencies participating in the activities
6 of the Interagency Ocean Observation
7 Committee; and

8 “(x) perform such additional duties as
9 the Council may delegate.

10 “(3) LEAD FEDERAL AGENCY.—

11 “(A) IN GENERAL.—The National Oceanic
12 and Atmospheric Administration shall function
13 as the lead Federal agency for the implementa-
14 tion and administration of the System.

15 “(B) CONSULTATION REQUIRED.—In car-
16 rying out this paragraph, the Administrator
17 shall consult with the Council, the Interagency
18 Ocean Observation Committee, other Federal
19 agencies that maintain portions of the System,
20 and the Regional Coastal Observing Systems.

21 “(C) REQUIREMENTS.—In carrying out
22 this paragraph, the Administrator shall—

23 “(i) establish and operate an Inte-
24 grated Ocean Observing System Program

1 Office within the National Oceanic and At-
2 mospheric Administration—

3 “(I) that utilizes, to the extent
4 necessary, personnel from member
5 agencies participating on the Inter-
6 agency Ocean Observation Committee;
7 and

8 “(II) oversees daily operations
9 and coordination of the System;

10 “(ii) implement policies, protocols,
11 and standards approved by the Council
12 and delegated by the Interagency Ocean
13 Observation Committee;

14 “(iii) promulgate program guide-
15 lines—

16 “(I) to certify and integrate re-
17 gional associations into the System;
18 and

19 “(II) to provide regional coastal
20 and ocean observation data that meet
21 the needs of user groups from the re-
22 spective regions;

23 “(iv) have the authority to enter into
24 and oversee contracts, leases, grants, or co-
25 operative agreements with non-Federal as-

1 sets, including regional information coordi-
2 nation entities, to support the purposes of
3 this chapter on such terms as the Adminis-
4 trator deems appropriate;

5 “(v) implement and maintain a merit-
6 based, competitive funding process to sup-
7 port non-Federal assets, including the de-
8 velopment and maintenance of a network
9 of Regional Coastal Observing Systems,
10 and develop and implement a process for
11 the periodic review and evaluation of the
12 regional associations;

13 “(vi) provide opportunities for com-
14 petitive contracts and grants for dem-
15 onstration projects to design, develop, inte-
16 grate, deploy, maintain, and support com-
17 ponents of the System;

18 “(vii) establish and maintain efficient
19 and effective administrative procedures for
20 the timely allocation of funds among con-
21 tractors, grantees, and non-Federal assets,
22 including regional associations;

23 “(viii) develop and implement a proc-
24 ess for the periodic review and evaluation

1 of the Regional Coastal Observing Sys-
2 tems;

3 “(ix) formulate an annual process by
4 which gaps in observation coverage or
5 needs for capital improvements of Federal
6 assets and non-Federal assets of the Sys-
7 tem are—

8 “(I) identified by the regional as-
9 sociations described in the System
10 Plan, the Administrator, or other
11 members of the System; and

12 “(II) submitted to the Inter-
13 agency Ocean Observing Committee;

14 “(x) develop and be responsible for a
15 data management and communication sys-
16 tem, in accordance with standards and
17 protocols established by the Interagency
18 Ocean Observing Committee, by which all
19 data collected by the System regarding
20 ocean and coastal waters of the United
21 States including the Great Lakes, are proc-
22 essed, stored, integrated, and made avail-
23 able to all end-user communities;

24 “(xi) not less frequently than once
25 each year, submit to the Interagency

Ocean Observing Observation Committee a report on the accomplishments, operational needs, and performance of the System to contribute to the annual and long-term plans prepared pursuant to paragraph (2)(B)(i);

“(xii) develop and periodically update a plan to efficiently integrate into the System new, innovative, or emerging technologies that have been demonstrated to be useful to the System and which will fulfill the purposes of this chapter and the System Plan; and

“(xiii) work with users and Regional Associations to develop products to enable real-time data sharing for decision makers, including with respect to weather forecasting and modeling, search and rescue operations, corrosive seawater forecasts, water quality monitoring and communication, and harmful algal bloom forecasting.

“(4) REGIONAL COASTAL OBSERVING SYSTEMS.—

“(A) IN GENERAL.—A Regional Coastal Observing System operated by a Regional Asso-

1 ciation described in the System Plan may not
2 be certified or established under this subtitle
3 unless it—

4 “(i) has been or shall be certified or
5 established by contract or agreement by
6 the Administrator;

7 “(ii) meets—

8 “(I) the certification standards
9 and compliance procedure guidelines
10 issued by the Administrator; and

11 “(II) the information needs of
12 user groups in the region while adher-
13 ing to national standards;

14 “(iii) demonstrates an organizational
15 structure, that under funding limitations is
16 capable of—

17 “(I) gathering required System
18 observation data;

19 “(II) supporting and integrating
20 all aspects of coastal and ocean ob-
21 serving and information programs
22 within a region; and

23 “(III) reflecting the needs of
24 State, local, and tribal governments,
25 commercial interests, and other users

1 and beneficiaries of the System and
2 other requirements specified under
3 this subtitle and the System Plan;

4 “(iv) identifies—

5 “(I) gaps in observation coverage
6 needs for capital improvements of
7 Federal assets and non-Federal assets
8 of the System; and

9 “(II) other recommendations to
10 assist in the development of the an-
11 nual and long-term plans prepared
12 pursuant to paragraph (2)(B)(i) and
13 transmits such information to the
14 Interagency Ocean Observation Com-
15 mittee via the Program Office estab-
16 lished under paragraph (3)(C)(i);

17 “(v) develops and operates under a
18 strategic operational plan that will ensure
19 the efficient and effective administration of
20 programs and assets to support daily data
21 observations for integration into the Sys-
22 tem, pursuant to the standards approved
23 by the Council;

24 “(vi) works cooperatively with govern-
25 mental and nongovernmental entities at all

1 levels to identify and provide information
 2 products of the System for multiple users
 3 within the service area of the regional
 4 coastal observing system; and

5 “(vii) complies with all financial over-
 6 sight requirements established by the Ad-
 7 ministrator, including requirements relat-
 8 ing to audits.

9 “(B) PARTICIPATION.—For the purposes
 10 of this title, employees of Federal agencies are
 11 permitted to be members of the governing body
 12 for the Regional Coastal Observing Systems
 13 and may participate in the functions of the re-
 14 gional information coordination entities.”.

15 (c) SYSTEM ADVISORY COMMITTEE.—Section
 16 12304(d) of the Integrated Coastal and Ocean Observa-
 17 tion System Act of 2009 (33 U.S.C. 3603(d)) is amend-
 18 ed—

19 (1) in paragraph (1), by striking “or the Inter-
 20 agency Ocean Observing Observation Committee.”
 21 and inserting “or the Council under this subtitle”;
 22 and

23 (2) in paragraph (2)—

24 (A) in subparagraph (A), by inserting “,
 25 data sharing,” after “data management”;

1 (B) in subparagraph (C), by striking
2 “and” at the end; and

3 (C) by striking subparagraph (D) and in-
4 serting the following:

5 “(D) additional priorities, including—

6 “(i) a national surface current map-
7 ping network designed to improve fine
8 scale sea surface mapping using high fre-
9 quency radar technology and other emerg-
10 ing technologies to address national prior-
11 ities, including Coast Guard search and
12 rescue operation planning and harmful
13 algal bloom forecasting and detection
14 that—

15 “(I) is comprised of existing high
16 frequency radar and other sea surface
17 current mapping infrastructure oper-
18 ated by regional associations;

19 “(II) incorporates new high fre-
20 quency radar assets or other fine scale
21 sea surface mapping technology as-
22 sets, and other assets needed to fill
23 gaps in coverage on United States
24 coastlines; and

1 “(III) follows a deployment plan
2 that prioritizes closing gaps in high
3 frequency radar infrastructure in the
4 United States, starting with areas
5 demonstrating significant sea surface
6 current data needs, especially in areas
7 where additional data will improve
8 Coast Guard search and rescue mod-
9 els;

10 “(ii) fleet acquisition for autonomous
11 underwater and surface vehicles for deploy-
12 ment and data integration to fulfill the
13 purposes of the Act;

14 “(iii) an integrative survey program
15 for application of manned and unmanned
16 vehicles to the real-time or near real-time
17 collection and transmission of seafloor,
18 water column, and sea surface data on bi-
19 ology, chemistry, geology, physics, and hy-
20 drography;

21 “(iv) remote sensing and data assimi-
22 lation to develop new analytical methodolo-
23 gies to assimilate data from the Integrated
24 Ocean Observing System into hydro-
25 dynamic models;

1 “(v) integrated, multistate monitoring
2 to assess sources, movement and fate of
3 sediments in coastal regions;

4 “(vi) a multiregion marine sound
5 monitoring system to be—

6 “(I) planned in consultation with
7 the International Ocean Observing
8 Committee, the National Oceanic and
9 Atmospheric Administration, the De-
10 partment of the Navy, and academic
11 research institutions; and

12 “(II) developed, installed, and op-
13 erated in coordination with the Na-
14 tional Oceanic and Atmospheric Ad-
15 ministration, the Department of the
16 Navy, and academic research institu-
17 tions; and

18 “(E) any other purpose identified by the
19 Administrator or the Council.”;

20 (D) in paragraph (3)(B), by inserting
21 “The Administrator has the ability to stagger
22 the terms of the System advisory committee
23 members.” before “Members”; and

24 (E) in paragraph (4)—

1 (i) in subparagraph (A), by striking
 2 “and the Interagency Ocean Observing
 3 Committee”; and

4 (ii) in subparagraph (C), by striking
 5 “Observing” and inserting “Observation”.

6 (d) CIVIL LIABILITY.—Section 12304(e) of the Inte-
 7 grated Coastal and Ocean Observation System Act of
 8 2009 (33 U.S.C. 3603(e)) is amended—

9 (1) by striking “information coordination enti-
 10 ty” and inserting “coastal observing system”; and

11 (2) by striking “non-Federal asset or regional
 12 information coordination entity,” and inserting “Re-
 13 gional Coastal Observing System,”.

14 **SEC. 5. INTERAGENCY FINANCING AND AGREEMENTS.**

15 Section 12305(a) of the Integrated Coastal and
 16 Ocean Observation System Act of 2009 (33 U.S.C.
 17 3604(a)) is amended to read as follows:

18 “(a) IN GENERAL.—To carry out interagency activi-
 19 ties under this subtitle, the Secretary of Commerce may
 20 execute an agreement, on a reimbursable or nonreimburs-
 21 able basis, with any State or subdivision thereof, any Fed-
 22 eral agency, or any public or private organization, or indi-
 23 vidual to carry out interagency activities under this sub-
 24 title.”.

1 **SEC. 6. REPORTS TO CONGRESS.**

2 Section 12307 of the Integrated Coastal and Ocean
3 Observation System Act of 2009 (33 U.S.C. 3606) is
4 amended to read as follows:

5 **“SEC. 12307. REPORT TO CONGRESS.**

6 “(a) REQUIREMENT.—Not later than 2 years after
7 March 30, 2009, and every 3 years thereafter, the Admin-
8 istrator shall prepare and the President acting through the
9 Council shall approve and transmit to the Congress a re-
10 port on progress made in implementing this subtitle.

11 “(b) CONTENTS.—Each report required by sub-
12 section (a) shall include—

13 “(1) a description of activities carried out under
14 this subtitle and the System Plan;

15 “(2) an evaluation of the effectiveness of the
16 System, including an evaluation of progress made by
17 the Council to achieve the goals identified under the
18 System Plan;

19 “(3) identification of Federal and non-Federal
20 assets as determined by the Council that have been
21 integrated into the System, including assets essential
22 to the gathering of required observation data vari-
23 ables necessary to meet the respective missions of
24 Council agencies;

25 “(4) a review of procurements, planned or initi-
26 ated, by each Council agency to enhance, expand, or

1 modernize the observation capabilities and data
2 products provided by the System, including data
3 management and communication subsystems;

4 “(5) a summary of the existing gaps in observa-
5 tion infrastructure and monitoring data collection,
6 including—

7 “(A) priorities considered by the System
8 advisory committee;

9 “(B) the national sea surface current map-
10 ping network;

11 “(C) coastal buoys, and;

12 “(D) ocean chemistry monitoring;

13 “(6) an assessment regarding activities to inte-
14 grate Federal and non-Federal assets, nationally and
15 on the regional level, and discussion of the perform-
16 ance and effectiveness of regional information co-
17 ordination entities to coordinate regional observation
18 operations;

19 “(7) a description of benefits of the program to
20 users of data products resulting from the System
21 (including the general public, industries, scientists,
22 resource managers, emergency responders, policy
23 makers, and educators);

24 “(8) recommendations concerning—

25 “(A) modifications to the System; and

1 “(B) funding levels for the System in sub-
2 sequent fiscal years; and

3 “(9) the results of a periodic external inde-
4 pendent programmatic audit of the System.”.

5 **SEC. 7. PUBLIC-PRIVATE USE POLICY.**

6 Section 12308 of the Integrated Coastal and Ocean
7 Observation System Act of 2009 (33 U.S.C. 3607) is
8 amended to read as follows:

9 **“SEC. 12308. PUBLIC-PRIVATE USE POLICY.**

10 “The Council shall maintain a policy that defines
11 processes for making decisions about the roles of the Fed-
12 eral Government, the States, regional information coordi-
13 nation entities, the academic community, and the private
14 sector in providing to end-user communities environmental
15 information, products, technologies, and services related to
16 the System. The Administrator shall ensure that National
17 Oceanic and Atmospheric Administration adheres to the
18 decision making process developed by the Council regard-
19 ing the roles of the Federal Government, the States, the
20 Regional Coastal Observing Systems, the academic com-
21 munities, and the private sector in providing the end-user
22 communities environmental information, data products,
23 technologies, and services related to the System.”.

1 **SEC. 8. REPEAL OF INDEPENDENT COST ESTIMATE.**

2 (a) IN GENERAL.—The Integrated Coastal and
3 Ocean Observation System Act of 2009 is amended by
4 striking section 12309 (33 U.S.C. 3608).

5 (b) TABLE OF CONTENTS AMENDMENT.—The table
6 of contents in section 1(b) of the Omnibus Public Land
7 Management Act of 2009 (Public Law 111–11; 123 Stat.
8 991) is amended by striking the item related to section
9 12309.

10 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

11 Section 12311 of the Integrated Coastal and Ocean
12 Observation System Act of 2009 (33 U.S.C. 3610) is
13 amended by striking “2013” and inserting “2019”.

14 **SEC. 10. REPORTS AND RESEARCH PLANS.**

15 Section 12404(c) of the Federal Ocean Acidification
16 Research And Monitoring Act of 2009 (33 U.S.C.
17 3703(c)) is amended by adding at the end the following:

18 “(4) ECONOMIC VULNERABILITY REPORT.—

19 “(A) IN GENERAL.—Not later than 2 years
20 after the date of the enactment of the Coordi-
21 nated Ocean Monitoring and Research Act, and
22 every 5 years thereafter, the Subcommittee
23 shall transmit to appropriate committees of
24 Congress a report that—

1 “(i) is named ‘The Ocean Chemistry
2 Coastal Community Vulnerability Assess-
3 ment’;

4 “(ii) identifies gaps in ocean acidifica-
5 tion monitoring by public, academic, and
6 private assets in the network of regional
7 coastal observing systems;

8 “(iii) identifies geographic areas which
9 have gaps in ocean acidification research;

10 “(iv) identifies United States coastal
11 communities, including fishing commu-
12 nities, low-population rural communities,
13 tribal and subsistence communities, and is-
14 land communities, that may be impacted
15 by ocean acidification;

16 “(v) identifies impacts of changing
17 ocean carbonate chemistry on the commu-
18 nities described in clause (iv), including
19 impacts from changes in ocean and coastal
20 marine resources that are not managed by
21 the Federal Government;

22 “(vi) identifies gaps in understanding
23 of the impacts of ocean acidification on
24 economically or commercially important
25 species, particularly those which support

1 United States commercial, recreational,
2 and tribal fisheries and aquaculture;

3 “(vii) identifies habitats that may be
4 particularly vulnerable to corrosive sea
5 water, including areas experiencing mul-
6 tiple stressors such as hypoxia, sedimenta-
7 tion, and harmful algal blooms;

8 “(viii) identifies areas in which exist-
9 ing Integrated Ocean Observing System
10 assets, including buoys and gliders, may be
11 leveraged as platforms for the deployment
12 of new sensors or other applicable observ-
13 ing technologies; and

14 “(ix) is written in collaboration with
15 the agencies responsible for carrying out
16 this Act.

17 “(B) FORM OF REPORT.—

18 “(i) INITIAL REPORT.—The initial re-
19 port required by subparagraph (A) shall
20 include the information described in
21 clauses (i) through (ix) on a national level.

22 “(ii) SUBSEQUENT REPORTS.—Each
23 report required by subparagraph (A) after
24 the initial report—

1 “(I) may describe the informa-
2 tion described in clauses (i) through
3 (ix) on a national level; or

4 “(II) may consist of separate re-
5 ports for each region of the National
6 Oceanic and Atmospheric Administra-
7 tion.

8 “(iii) REGIONAL REPORTS.—If the
9 Subcommittee opts to prepare a report re-
10 quired by subparagraph (A) as separate re-
11 gional reports under clause (ii)(II), the
12 Subcommittee shall submit a report for
13 each region of the National Oceanic and
14 Atmospheric Administration not less often
15 than once during each 5-year reporting pe-
16 riod.

17 “(C) APPROPRIATE COMMITTEES OF CON-
18 GRESS DEFINED.—In this paragraph and in
19 paragraph (5), the term ‘appropriate commit-
20 tees of Congress’ means the Committee on
21 Commerce, Science, and Transportation of the
22 Senate and the Committee on Science, Space,
23 and Technology and the Committee on Natural
24 Resources of the House of Representatives.

1 “(5) MONITORING PRIORITIZATION PLAN.—Not
2 later than 180 days after the date of the submission
3 of the initial report required by paragraph (4)(A),
4 the Subcommittee shall transmit to the appropriate
5 committees of Congress a report that develops a
6 plan to deploy new sensors or other applicable ob-
7 serving technologies—

8 “(A) based on such initial report;

9 “(B) prioritized by—

10 “(i) the threat to coastal economies
11 and ecosystems;

12 “(ii) gaps in data; and

13 “(iii) research needs; and

14 “(C) that leverage existing platforms,
15 where possible.”.

16 **SEC. 11. STRATEGIC RESEARCH PLAN.**

17 (a) CONTENTS.—Section 12405(b) of the Federal
18 Ocean Acidification Research And Monitoring Act of 2009
19 (33 U.S.C. 3704(b)) is amended—

20 (1) in paragraph (8), by striking “and” at the
21 end;

22 (2) in paragraph (9), by striking the period at
23 the end and inserting a semicolon and “and”; and

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

1 “(10) make recommendations for research to be
2 conducted, including in the social sciences and eco-
3 nomics, to address the key knowledge gaps identified
4 in the economic vulnerability report conducted under
5 section 12404(c).”.

6 (b) PROGRAM ELEMENTS.—Section 12405(c) of the
7 Federal Ocean Acidification Research And Monitoring Act
8 of 2009 (33 U.S.C. 3704(c)) is amended by adding at the
9 end the following:

10 “(6) Research to understand combined effects
11 of changes in ocean chemistry, sediment delivery, hy-
12 poxia, and harmful algal blooms and the impact
13 these processes have on each other, and how these
14 multiple stressors impact living marine resources
15 and coastal ecosystems.

16 “(7) Applied research to identify adaptation
17 strategies for species impacted by changes in ocean
18 chemistry including vegetation-based systems, shell
19 recycling, species and genetic diversity, applied tech-
20 nologies, aquaculture methodologies, and manage-
21 ment recommendations.”.

22 **SEC. 12. STAKEHOLDER INPUT ON MONITORING.**

23 Section 12406(a) of the Federal Ocean Acidification
24 Research And Monitoring Act of 2009 (33 U.S.C.
25 3705(a)) is amended—

1 (1) in paragraph (2), by striking “and” at the
2 end;

3 (2) in paragraph (3), by striking the period at
4 the end and inserting a semicolon and “and”; and

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

6 “(4) includes an ongoing mechanism that allows
7 potentially affected industry members, coastal stake-
8 holders, fishery management councils and commis-
9 sions, non-Federal resource managers, and scientific
10 experts to provide input on monitoring needs that
11 are necessary to support on the ground manage-
12 ment, decision making, and adaptation related to
13 ocean acidification.”.

14 **SEC. 13. RESEARCH ACTIVITIES.**

15 Section 12407(a) of the Federal Ocean Acidification
16 Research And Monitoring Act of 2009 (33 U.S.C.
17 3706(a)) is amended to read as follows:

18 “(a) RESEARCH ACTIVITIES.—The Director of the
19 National Science Foundation shall continue to carry out
20 research activities on ocean acidification which shall sup-
21 port competitive, merit-based, peer-reviewed proposals for
22 research, observatories and monitoring of ocean acidifica-
23 tion and its impacts, including—

24 “(1) impacts on marine organisms and marine
25 ecosystems;

1 “(2) impacts on ocean, coastal, and estuarine
2 biogeochemistry;

3 “(3) the development of methodologies and
4 technologies to evaluate ocean acidification and its
5 impacts, and;

6 “(4) impacts of multiple stressors on eco-
7 systems exhibiting hypoxia, harmful algal blooms, or
8 sediment delivery, combined with changes in ocean
9 chemistry.”.

Passed the Senate September 26, 2016.

Attest:

JULIE E. ADAMS,

Secretary.