

**Calendar No. 265**115TH CONGRESS  
1ST SESSION**S. 1425****[Report No. 115–186]**

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 22, 2017

Mr. WICKER (for himself, Ms. CANTWELL, Ms. MURKOWSKI, Mr. SULLIVAN, Mr. CASSIDY, Mr. GRAHAM, Ms. COLLINS, Mr. MARKEY, Mr. SCHATZ, Mr. PETERS, and Ms. HASSAN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

NOVEMBER 27, 2017

Reported by Mr. THUNE, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

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**A BILL**

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 phere 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(e)(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 one 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 ear-  
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 allocation of funds among contractors,  
21 grantees, and non-Federal assets, including  
22 regional associations in a timely manner;

23 “(viii) develop and implement a proe-  
24 cess 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 pro-  
22 cessed, 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

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

7 “(xii) develop and periodically update  
 8 a plan to efficiently integrate into the Sys-  
 9 tem new, innovative, or emerging tech-  
 10 nologies that have been demonstrated to be  
 11 useful to the System and which will fulfill  
 12 the purposes of this chapter and the Sys-  
 13 tem Plan; and

14 “(xiii) work with users and Regional  
 15 Associations to develop products to enable  
 16 real-time data sharing for decision makers,  
 17 including with respect to weather fore-  
 18 casting and modeling; search and rescue  
 19 operations; corrosive seawater forecasts;  
 20 water quality monitoring and communica-  
 21 tion; and harmful algal bloom forecasting.

22 “(4) REGIONAL COASTAL OBSERVING SYS-  
 23 TEMS.—

24 “(A) IN GENERAL.—A Regional Coastal  
 25 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;

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 transmit 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 “the Council under this subtitle”; and

22 (2) in paragraph (2)—

23 (A) in subparagraph (A), by inserting  
 24 “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  
16                   high-frequency radar and other sea  
17                   surface current mapping infrastruc-  
18                   ture operated 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 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, multi-State moni-  
2           toring to assess sources, movement and  
3           fate of sediments in coastal regions;

4           “(vi) a multi-region 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, and aca-  
10                      demic research institutions; and

11                     “(II) developed, installed, and op-  
12                     erated in coordination with the Na-  
13                     tional Oceanic and Atmospheric Ad-  
14                     ministration and academic research  
15                     institutions; and

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

18                     “(D) in paragraph (3)(B), by inserting  
19                     “The Secretary has the ability to stagger the  
20                     terms of the System advisory committee mem-  
21                     bers.” before “Members”; and

22                     “(E) in paragraph (4)—

23                       (i) in subparagraph (A), by striking  
24                       “and the Interagency Ocean Observing  
25                       Committee”; and

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

3 (d) CIVIL LIABILITY.—Section 12304(e) of the Inte-  
4 grated Coastal and Ocean Observation System Act of  
5 2009 (33 U.S.C. 3603(e)) is amended—

6 (1) by striking “information coordination enti-  
7 ty” and inserting “coastal observation system”; and

8 (2) by striking “non-Federal asset or regional  
9 information coordination entity” and inserting “Re-  
10 gional Coastal Observing System.”

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

12 Section 12305(a) of the Integrated Coastal and  
13 Ocean Observation System Act of 2009 (33 U.S.C.  
14 3604(a)) is amended to read as follows:

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

22 **SEC. 6. REPORTS TO CONGRESS.**

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

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

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

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

10              “(2) an evaluation of the effectiveness of the  
11 System, including an evaluation of progress made by  
12 the Council to achieve the goals identified under the  
13 System Plan;

14              “(3) identification of Federal and non-Federal  
15 assets as determined by the Council that have been  
16 integrated into the System, including assets essential  
17 to the gathering of required observation data vari-  
18 ables necessary to meet the respective missions of  
19 Council agencies;

20              “(4) a review of procurements, planned or initi-  
21 ated, by each Council agency to enhance, expand, or  
22 modernize the observation capabilities and data  
23 products provided by the System, including data  
24 management and communication subsystems;

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

4                   “(A) priorities considered by the System  
5           advisory committee;

6                   “(B) the national sea surface current map-  
7           ping network;

8                   “(C) coastal buoys; and;

9                   “(D) ocean chemistry monitoring;

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

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

21           “(8) recommendations concerning—

22                   “(A) modifications to the System; and

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

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

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

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

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

21 **SEC. 8. INDEPENDENT COST ESTIMATE.**

22           The Integrated Coastal and Ocean Observation Sys-  
23 tem Act of 2009 is amended by striking section 12309  
24 (33 U.S.C. 3608).

1 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2 Section ~~12311~~ of the Integrated Coastal and Ocean  
3 Observation System Act of 2009 (~~33~~ U.S.C. 3610) is  
4 amended by striking section “2013” and inserting  
5 “2021”.

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

7 Section ~~12404(e)~~ of the Federal Ocean Acidification  
8 Research And Monitoring Act of 2009 (~~33~~ U.S.C.  
9 ~~3703(e)~~) is amended by adding at the end the following:

10 “(4) ECONOMIC VULNERABILITY REPORT.—Not  
11 later than 1 year after the enactment of the Coordi-  
12 nated Ocean Monitoring and Research Act, and  
13 every 5 years thereafter, the Subcommittee shall  
14 transmit to the Committee on Commerce, Science,  
15 and Transportation of the Senate and the Com-  
16 mittee on Science, Space, and Technology and the  
17 Committee on Natural Resources of the House of  
18 Representatives a report that—

19 “(A) is named ‘The Ocean Chemistry  
20 Coastal Community Vulnerability Assessment’;

21 “(B) identifies gaps in ocean acidification  
22 monitoring by public, academic, and private as-  
23 sets in the network of regional coastal observing  
24 systems;

25 “(C) identifies areas which have gaps in  
26 ocean acidification research;

1           “(D) identifies United States coastal com-  
2           munities, including fishing communities, low-  
3           population rural communities, tribal and sub-  
4           sistence communities, and island communities,  
5           that may be impacted by ocean acidification;

6           “(E) identifies impacts of changing ocean  
7           pH on the communities described in subpara-  
8           graph (D), including impacts from changes in  
9           ocean and coastal marine resources that are not  
10          managed by the Federal Government;

11          “(F) identifies gaps in understanding of  
12          the impacts of ocean acidification on economi-  
13          cally or commercially important species, par-  
14          ticularly those which support United States  
15          commercial, recreational, and tribal fisheries  
16          and aquaculture;

17          “(G) identifies habitats that are particu-  
18          larly vulnerable to corrosive sea water, includ-  
19          ing areas experiencing multiple stressors such  
20          as hypoxia, sedimentation and harmful algal  
21          blooms;

22          “(H) identifies areas in which existing In-  
23          tegrated Ocean Observing System assets, in-  
24          cluding buoys and gliders, that may be lever-

1           aged as platforms for the deployment of new  
2           sensors; and

3           “(I) is written in collaboration with the  
4           agencies responsible for carrying out this Act.

5           “(5) MONITORING PRIORITIZATION PLAN.—Not  
6           later than 180 days after the submission of the re-  
7           port required by paragraph (4), the Subcommittee  
8           shall transmit to the Committee on Commerce,  
9           Science, and Transportation of the Senate and the  
10          Committee on Science, Space, and Technology and  
11          the Committee on Natural Resources of the House  
12          of Representatives a report that develops a plan to  
13          deploy new sensors—

14                 “(A) based on the report required by para-  
15                 graph (4);

16                 “(B) prioritized by—

17                         “(i) the threat to coastal economies  
18                         and ecosystems;

19                         “(ii) gaps in data; and

20                         “(iii) research needs; and

21                 “(C) that leverage existing platforms,  
22                 where possible.”

1 **SEC. 11. STRATEGIC RESEARCH PLAN.**

2 (a) **CONTENTS.**—Section 12405(b) of the Federal  
3 Ocean Acidification Research And Monitoring Act of 2009  
4 (~~33 U.S.C. 3704(b)~~) is amended—

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

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

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

10 “(10) make recommendations for research to be  
11 conducted, including in the social sciences and eco-  
12 nomics, to address the key knowledge gaps identified  
13 in the economic vulnerability report conducted under  
14 section 12404(c).”.

15 (b) **PROGRAM ELEMENTS.**—Section 12405(c) of the  
16 Federal Ocean Acidification Research And Monitoring Act  
17 of 2009 (~~33 U.S.C. 3704(c)~~) is amended by adding at the  
18 end the following:

19 “(6) Research to understand combined effects  
20 of changes in ocean chemistry, sediment delivery, hy-  
21 poxia and harmful algal blooms and the impact  
22 these processes have on one another, and how these  
23 multiple stressors impact living marine resources  
24 and coastal ecosystems.

25 “(7) Applied research to identify adaptation  
26 strategies for species impacted by changes in ocean

1 chemistry including vegetation-based systems, shell  
2 recycling, species and genetic diversity, applied tech-  
3 nologies, aquaculture methodologies, and manage-  
4 ment recommendations.”.

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

6 Section 12406(a) of the Federal Ocean Acidification  
7 Research And Monitoring Act of 2009 (33 U.S.C.  
8 3705(a)) is amended—

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

11 (2) in paragraph (3), by striking the period at  
12 the end and inserting a semicolon and “and”; and  
13 (3) by adding at the end the following:

14 “(4) includes an ongoing mechanism that allows  
15 potentially affected industry members, coastal stake-  
16 holders, fishery management councils and commis-  
17 sions, non-Federal resource managers, and scientific  
18 experts to provide input on monitoring needs that  
19 are necessary to support on the ground manage-  
20 ment, decision making, and adaptation related to  
21 ocean acidification.”.

22 **SEC. 13. RESEARCH ACTIVITIES.**

23 Section 12407(a) of the Federal Ocean Acidification  
24 Research And Monitoring Act of 2009 (33 U.S.C.  
25 3706(a)) is amended to read as follows:

1       “(a) RESEARCH ACTIVITIES.—The Director of the  
 2 National Science Foundation shall continue to carry out  
 3 research activities on ocean acidification which shall sup-  
 4 port competitive, merit-based, peer-reviewed proposals for  
 5 research, observatories and monitoring of ocean acidifica-  
 6 tion and its impacts, including—

7               “(1) impacts on marine organisms and marine  
 8 ecosystems;

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

11              “(3) the development of methodologies and  
 12 technologies to evaluate ocean acidification and its  
 13 impacts; and

14              “(4) impacts of multiple stressors on eco-  
 15 systems exhibiting hypoxia, harmful algal blooms, or  
 16 sediment delivery, combined with changes in ocean  
 17 chemistry.”

18 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

19       (a) *SHORT TITLE.*—This Act may be cited as the “Co-  
 20 ordinated Ocean Monitoring and Research Act”.

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

*Sec. 1. Short title; table of contents.*

*Sec. 2. Purposes.*

*Sec. 3. Definitions.*

*Sec. 4. Integrated Coastal and Ocean Observation System.*

*Sec. 5. Financing and agreements.*

*Sec. 6. Reports to Congress.*

*Sec. 7. Public-private use policy.*

*Sec. 8. Repeal of independent cost estimate.*

*Sec. 9. Authorization of appropriations.*

*Sec. 10. Reports and research plans.*

*Sec. 11. Strategic research plan.*

*Sec. 12. Stakeholder input on monitoring.*

*Sec. 13. Research activities.*

1 **SEC. 2. PURPOSES.**

2       *Section 12302 of the Integrated Coastal and Ocean Ob-*  
 3 *ervation System Act of 2009 (33 U.S.C. 3601) is amended*  
 4 *to read as follows:*

5 **“SEC. 12302. PURPOSES.**

6       *“The purposes of this subtitle are—*

7           *“(1) to establish and sustain a national inte-*  
 8 *grated System of ocean, coastal, and Great Lakes ob-*  
 9 *servicing systems, comprised of Federal and non-Fed-*  
 10 *eral components coordinated at the national level by*  
 11 *the Council and at the regional level by a network of*  
 12 *regional coastal observing systems, and that includes*  
 13 *in situ, remote, and other coastal and ocean observa-*  
 14 *tion and modeling capabilities, technologies, data*  
 15 *management systems, communication systems, and*  
 16 *product development systems, and is designed to ad-*  
 17 *dress regional and national needs for ocean and*  
 18 *coastal information, to gather specific data on key*  
 19 *coastal, ocean, and Great Lakes variables, and to en-*  
 20 *sure timely and sustained dissemination and avail-*  
 21 *ability of these data—*

22           *“(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 fore-  
4           casting, energy siting and production, economic  
5           development, ecosystem-based marine, coastal,  
6           and Great Lakes resource management, public  
7           safety, and public outreach and education;

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

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

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

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

23          “(2) to improve the Nation’s capability to meas-  
24          ure, track, observe, understand, and predict events re-  
25          lated directly and indirectly to weather and climate

1 *change, natural climate variability, and interactions*  
 2 *between the oceanic and atmospheric environments,*  
 3 *including the Great Lakes; and*

4 “(3) to authorize activities—

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

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

18 **SEC. 3. DEFINITIONS.**

19 *Section 12303 of the Integrated Coastal and Ocean Ob-*  
 20 *servaion System Act of 2009 (33 U.S.C. 3602) is amend-*  
 21 *ed—*

22 (1) in paragraph (5), by striking “integrated  
 23 into the System and are managed through States, re-  
 24 gional organizations, universities, nongovernmental  
 25 organizations, or the private sector” and inserting

1       *“managed through States, regional organizations,*  
2       *universities, nongovernmental organizations, or the*  
3       *private sector and integrated into the system by the*  
4       *regional coastal ocean observing system, the National*  
5       *Oceanic and Atmospheric Administration, or the*  
6       *agencies on the Interagency Ocean Observation Com-*  
7       *mittee”;*

8             *(2) by amending paragraph (6) to read as fol-*  
9       *lows:*

10            *“(6) REGIONAL COASTAL OBSERVING SYSTEM.—*  
11       *The term ‘regional coastal observing system’ means*  
12       *an organizational body that is certified or established*  
13       *by contract or memorandum by the lead Federal*  
14       *agency designated in section 12304(c)(3) and coordi-*  
15       *nates State, Federal, local, tribal, and private inter-*  
16       *ests at a regional level with the responsibility of en-*  
17       *gaging the private and public sectors in designing,*  
18       *operating, and improving regional coastal and ocean*  
19       *observing systems in order to ensure the provision of*  
20       *data and information that meet the needs of user*  
21       *groups from the respective regions.”; and*

22            *(3) in paragraph (7), by striking “National Oce-*  
23       *anic and Atmospheric Administration” and inserting*  
24       *“Administrator”.*

1 **SEC. 4. INTEGRATED COASTAL AND OCEAN OBSERVATION**  
2 **SYSTEM.**

3 (a) *SYSTEM ELEMENTS.*—

4 (1) *IN GENERAL.*—*Section 12304(b) of the Inte-*  
5 *grated Coastal and Ocean Observation System Act of*  
6 *2009 (33 U.S.C. 3603(b)) is amended by striking*  
7 *paragraph (1) and inserting the following:*

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

11 “(A) *Federal assets to fulfill national and*  
12 *international observation missions and prior-*  
13 *ities;*

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

19 “(C) *data management, communication,*  
20 *and modeling systems for the timely integration*  
21 *and dissemination of data and information*  
22 *products from the System;*

23 “(D) *a product development system to*  
24 *transform observations into products in a format*  
25 *that may be readily used and understood; 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 re-  
8                           lationships 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 tech-  
14                          nologies;

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

18                   “(iii) large scale computing resources  
19                   and research to advance modeling of coast-  
20                   al, ocean, and Great Lakes 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 make

1           *recommendations for data collection stand-*  
 2           *ards across the System to meet national*  
 3           *ocean, coastal, and Great Lakes observation,*  
 4           *applied research, and weather forecasting*  
 5           *needs.”.*

6           (2) *AVAILABILITY OF DATA.*—*Section*  
 7           *12304(b)(3) of such Act (33 U.S.C. 3603(b)(3)) is*  
 8           *amended by inserting “for research and for use in the*  
 9           *development of products to address societal needs” be-*  
 10          *fore the period at the end.*

11          (3) *COORDINATION OF NON-FEDERAL ASSETS.*—  
 12          *Section 12304(b)(4) of such Act (33 U.S.C. 3603(b))*  
 13          *is amended—*

14                 (A) *in the paragraph heading, by striking*  
 15                 *“NON-FEDERAL” and inserting “COORDINATION*  
 16                 *OF NON-FEDERAL”;* *and*

17                 (B) *by striking “or by” and inserting “, the*  
 18                 *regional coastal observing system, or”.*

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

24                 “(2) *INTERAGENCY OCEAN OBSERVATION COM-*  
 25                 *MITTEE.*—

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

5           “(B) *DUTIES.*—*The Interagency Ocean Ob-*  
6           *servation Committee shall—*

7                   “(i) *prepare annual and long-term*  
8                   *plans for consideration and approval by the*  
9                   *Council for the integrated design, operation,*  
10                   *maintenance, enhancement, and expansion*  
11                   *of the System to meet the objectives of this*  
12                   *chapter and the System Plan;*

13                   “(ii) *develop and transmit to Congress,*  
14                   *along with the budget submitted by the*  
15                   *President to Congress pursuant to section*  
16                   *1105(a) of title 31, United States Code, an*  
17                   *annual coordinated, comprehensive budg-*  
18                   *et—*

19                           “(I) *to operate all elements of the*  
20                           *System identified in subsection (b);*  
21                           *and*

22                           “(II) *to ensure continuity of data*  
23                           *streams from Federal and non-Federal*  
24                           *assets;*

1           “(iii) establish requirements for obser-  
2           vation data variables to be gathered by both  
3           Federal and non-Federal assets and iden-  
4           tify, in consultation with regional informa-  
5           tion coordination entities, priorities for  
6           System observations;

7           “(iv) establish and define protocols and  
8           standards for System data processing, man-  
9           agement, collection, configuration stand-  
10          ards, formats, and communication for new  
11          and existing assets throughout the Inte-  
12          grated Ocean Observing System network;

13          “(v) develop contract requirements for  
14          each regional coastal observing system—

15               “(I) to establish eligibility for in-  
16               tegration into the System;

17               “(II) to ensure compliance with  
18               all applicable standards and protocols  
19               established by the Council; and

20               “(III) to ensure that regional ob-  
21               servations are integrated into the Sys-  
22               tem on a sustained basis;

23          “(vi) identify gaps in observation cov-  
24          erage or needs for capital improvements of  
25          both Federal assets and non-Federal assets;

1           “(vii) subject to the availability of ap-  
2           propriations, establish through 1 or more  
3           participating Federal agencies, in consulta-  
4           tion with the System advisory committee es-  
5           tablished under subsection (d), a competi-  
6           tive matching grant or other programs—

7                   “(I) to promote intramural and  
8                   extramural research and development  
9                   of new, innovative, and emerging ob-  
10                  servation technologies including testing  
11                  and field trials; and

12                  “(II) to facilitate the migration of  
13                  new, innovative, and emerging sci-  
14                  entific and technological advances from  
15                  research and development to oper-  
16                  ational deployment;

17           “(viii) periodically—

18                   “(I) review the System Plan; and

19                   “(II) submit to the Council such  
20                  recommendations as the Interagency  
21                  Ocean Observation Committee may  
22                  have for improvements to the System  
23                  Plan;

24           “(ix) ensure collaboration among Fed-  
25           eral agencies participating in the activities

1                   *of the Interagency Ocean Observation Com-*  
2                   *mittee; and*

3                   *“(x) perform such additional duties as*  
4                   *the Council may delegate.*

5                   *“(3) LEAD FEDERAL AGENCY.—*

6                   *“(A) IN GENERAL.—The National Oceanic*  
7                   *and Atmospheric Administration shall function*  
8                   *as the lead Federal agency for the implementa-*  
9                   *tion and administration of the System.*

10                  *“(B) CONSULTATION REQUIRED.—In car-*  
11                  *rying out this paragraph, the Administrator*  
12                  *shall consult with the Council, the Interagency*  
13                  *Ocean Observation Committee, other Federal*  
14                  *agencies that maintain portions of the System,*  
15                  *and the regional coastal observing systems.*

16                  *“(C) REQUIREMENTS.—In carrying out this*  
17                  *paragraph, the Administrator shall—*

18                    *“(i) establish and operate an Inte-*  
19                    *grated Ocean Observing System Program*  
20                    *Office within the National Oceanic and At-*  
21                    *mospheric Administration—*

22                    *“(I) that utilizes, to the extent*  
23                    *necessary, personnel from member*  
24                    *agencies participating on the Inter-*

1                   *agency Ocean Observation Committee;*

2                   *and*

3                   “*(II) oversees daily operations*

4                   *and coordination of the System;*

5                   “*(ii) implement policies, protocols, and*

6                   *standards approved by the Council and del-*

7                   *egated by the Interagency Ocean Observa-*

8                   *tion Committee;*

9                   “*(iii) promulgate program guide-*

10                  *lines—*

11                  “*(I) to certify and integrate re-*

12                  *gional associations into the System;*

13                  *and*

14                  “*(II) to provide regional coastal*

15                  *and ocean observation data that meet*

16                  *the needs of user groups from the re-*

17                  *spective regions;*

18                  “*(iv) have the authority to enter into*

19                  *and oversee contracts, leases, grants, or co-*

20                  *operative agreements with non-Federal as-*

21                  *sets, including regional information coordi-*

22                  *nation entities, to support the purposes of*

23                  *this chapter on such terms as the Adminis-*

24                  *trator deems appropriate;*

1           “(v) implement and maintain a merit-  
2 based, competitive funding process to sup-  
3 port non-Federal assets, including the devel-  
4 opment and maintenance of a network of  
5 regional coastal observing systems, and de-  
6 velop and implement a process for the peri-  
7 odic review and evaluation of the regional  
8 associations;

9           “(vi) provide opportunities for com-  
10 petitive contracts and grants for demonstra-  
11 tion projects to design, develop, integrate,  
12 deploy, maintain, and support components  
13 of the System;

14           “(vii) establish and maintain efficient  
15 and effective administrative procedures for  
16 the timely allocation of funds among con-  
17 tractors, grantees, and non-Federal assets,  
18 including regional associations;

19           “(viii) develop and implement a proc-  
20 ess for the periodic review and evaluation of  
21 the regional coastal observing systems;

22           “(ix) formulate an annual process by  
23 which gaps in observation coverage or needs  
24 for capital improvements of Federal assets  
25 and non-Federal assets of the System are—

1                   “(I) identified by the regional as-  
2                   sociations described in the System  
3                   Plan, the Administrator, or other  
4                   members of the System; and

5                   “(II) submitted to the Interagency  
6                   Ocean Observation Committee;

7                   “(x) develop and be responsible for a  
8                   data management and communication sys-  
9                   tem, in accordance with standards and pro-  
10                  tocols established by the Interagency Ocean  
11                  Observation Committee, by which all data  
12                  collected by the System regarding ocean and  
13                  coastal waters of the United States includ-  
14                  ing the Great Lakes, are processed, stored,  
15                  integrated, and made available to all end-  
16                  user communities;

17                  “(xi) not less frequently than once each  
18                  year, submit to the Interagency Ocean Ob-  
19                  servation Committee a report on the accom-  
20                  plishments, operational needs, and perform-  
21                  ance of the System to contribute to the an-  
22                  nual and long-term plans prepared pursu-  
23                  ant to paragraph (2)(B)(i);

24                  “(xii) develop and periodically update  
25                  a plan to efficiently integrate into the Sys-

1            *tem new, innovative, or emerging tech-*  
2            *nologies that have been demonstrated to be*  
3            *useful to the System and which will fulfill*  
4            *the purposes of this chapter and the System*  
5            *Plan; and*

6            *“(xiii) work with users and Regional*  
7            *Associations to develop products to enable*  
8            *real-time data sharing for decision makers,*  
9            *including with respect to weather fore-*  
10           *casting and modeling, search and rescue op-*  
11           *erations, corrosive seawater forecasts, water*  
12           *quality monitoring and communication,*  
13           *and harmful algal bloom forecasting.*

14           *“(4) REGIONAL COASTAL OBSERVING SYSTEMS.—*

15           *“(A) IN GENERAL.—A regional coastal ob-*  
16           *servicing system operated by a Regional Associa-*  
17           *tion described in the System Plan may not be*  
18           *certified or established under this subtitle unless*  
19           *it—*

20           *“(i) has been or shall be certified or es-*  
21           *tablished by contract or agreement by the*  
22           *Administrator;*

23           *“(ii) meets—*

1           “(I) the certification standards  
2           and compliance procedure guidelines  
3           issued by the Administrator; and

4           “(II) the information needs of  
5           user groups in the region while adher-  
6           ing to national standards;

7           “(iii) demonstrates an organizational  
8           structure, that under funding limitations is  
9           capable of—

10           “(I) gathering required System  
11           observation data;

12           “(II) supporting and integrating  
13           all aspects of coastal and ocean observ-  
14           ing and information programs within  
15           a region; and

16           “(III) reflecting the needs of State,  
17           local, and tribal governments, commer-  
18           cial interests, and other users and  
19           beneficiaries of the System and other  
20           requirements specified under this sub-  
21           title and the System Plan;

22           “(iv) identifies—

23           “(I) gaps in observation coverage  
24           needs for capital improvements of Fed-

1                    *eral assets and non-Federal assets of*  
2                    *the System; and*

3                    *“(II) other recommendations to*  
4                    *assist in the development of the annual*  
5                    *and long-term plans prepared pursu-*  
6                    *ant to paragraph (2)(B)(i) and trans-*  
7                    *mits such information to the Inter-*  
8                    *agency Ocean Observation Committee*  
9                    *via the Program Office established*  
10                   *under paragraph (3)(C)(i);*

11                   *“(v) develops and operates under a*  
12                   *strategic operational plan that will ensure*  
13                   *the efficient and effective administration of*  
14                   *programs and assets to support daily data*  
15                   *observations for integration into the Sys-*  
16                   *tem, pursuant to the standards approved by*  
17                   *the Council;*

18                   *“(vi) works cooperatively with govern-*  
19                   *mental and nongovernmental entities at all*  
20                   *levels to identify and provide information*  
21                   *products of the System for multiple users*  
22                   *within the service area of the regional coast-*  
23                   *al observing system; and*

24                   *“(vii) complies with all financial over-*  
25                   *sight requirements established by the Ad-*

1            *ministrator, including requirements relat-*  
2            *ing to audits.*

3            *“(B) PARTICIPATION.—For the purposes of*  
4            *this title, employees of Federal agencies are per-*  
5            *mitted to be members of the governing body for*  
6            *the regional coastal observing systems and may*  
7            *participate in the functions of the regional infor-*  
8            *mation coordination entities.”.*

9            *(c) SYSTEM ADVISORY COMMITTEE.—Section 12304(d)*  
10          *of the Integrated Coastal and Ocean Observation System*  
11          *Act of 2009 (33 U.S.C. 3603(d)) is amended—*

12            *(1) in paragraph (1), by striking “or the Inter-*  
13            *agency Ocean Observing Committee.” and inserting*  
14            *“or the Council under this subtitle”; and*

15            *(2) in paragraph (2)—*

16            *(A) in subparagraph (A), by inserting “,*  
17            *data sharing,” after “data management”;*

18            *(B) in subparagraph (C), by striking “and”*  
19            *at the end; and*

20            *(C) by striking subparagraph (D) and in-*  
21            *serting the following:*

22            *“(D) additional priorities, including—*

23            *“(i) a national surface current map-*  
24            *ping network designed to improve fine scale*  
25            *sea surface mapping using high frequency*

1           *radar technology and other emerging tech-*  
2           *nologies to address national priorities, in-*  
3           *cluding Coast Guard search and rescue op-*  
4           *eration planning and harmful algal bloom*  
5           *forecasting and detection that—*

6                     *“(I) is comprised of existing high*  
7                     *frequency radar and other sea surface*  
8                     *current mapping infrastructure oper-*  
9                     *ated by national programs and re-*  
10                    *gional associations;*

11                    *“(II) incorporates new high fre-*  
12                    *quency radar assets or other fine scale*  
13                    *sea surface mapping technology assets,*  
14                    *and other assets needed to fill gaps in*  
15                    *coverage on United States coastlines;*  
16                    *and*

17                    *“(III) follows a deployment plan*  
18                    *that prioritizes closing gaps in high*  
19                    *frequency radar infrastructure in the*  
20                    *United States, starting with areas*  
21                    *demonstrating significant sea surface*  
22                    *current data needs, especially in areas*  
23                    *where additional data will improve*  
24                    *Coast Guard search and rescue models;*

1           “(ii) *fleet acquisition for autonomous*  
2           *underwater and surface vehicles for deploy-*  
3           *ment and data integration to fulfill the pur-*  
4           *poses of this Act;*

5           “(iii) *an integrative survey program*  
6           *for application of manned and unmanned*  
7           *vehicles to the real-time or near real-time*  
8           *collection and transmission of sea floor,*  
9           *water column, and sea surface data on biol-*  
10           *ogy, chemistry, geology, physics, and hy-*  
11           *drography;*

12           “(iv) *remote sensing and data assimi-*  
13           *lation to develop new analytical methodolo-*  
14           *gies to assimilate data from the Integrated*  
15           *Ocean Observing System into hydro-*  
16           *dynamic models;*

17           “(v) *integrated, multi-State moni-*  
18           *toring to assess sources, movement, and fate*  
19           *of sediments in coastal regions;*

20           “(vi) *a multi-region marine sound*  
21           *monitoring system to be—*

22                   “(I) *planned in consultation with*  
23                   *the Interagency Ocean Observation*  
24                   *Committee, the National Oceanic and*  
25                   *Atmospheric Administration, the De-*

1                    *partment of the Navy, and academic*  
2                    *research institutions; and*

3                    *“(II) developed, installed, and op-*  
4                    *erated in coordination with the Na-*  
5                    *tional Oceanic and Atmospheric Ad-*  
6                    *ministration, the Department of the*  
7                    *Navy, and academic research institu-*  
8                    *tions; and*

9                    *“(E) any other purpose identified by the*  
10                  *Administrator or the Council.”;*

11                  *(D) in paragraph (3)(B), by inserting “The*  
12                  *Administrator may stagger the terms of the Sys-*  
13                  *tem advisory committee members.” before “Mem-*  
14                  *bers”;* and

15                  *(E) in paragraph (4)—*

16                    *(i) in subparagraph (A), by striking*  
17                    *“and the Interagency Ocean Observing*  
18                    *Committee”;* and

19                    *(ii) in subparagraph (C), by striking*  
20                    *“Observing” and inserting “Observation”.*

21                  *(d) CIVIL LIABILITY.—Section 12304(e) of the Inte-*  
22                  *grated Coastal and Ocean Observation System Act of 2009*  
23                  *(33 U.S.C. 3603(e)) is amended—*

24                    *(1) by striking “information coordination enti-*  
25                    *ty” and inserting “coastal observing system”;* and

1           (2) by striking “non-Federal asset or regional in-  
2           formation coordination entity,” and inserting “re-  
3           gional coastal observing system,”.

4   **SEC. 5. FINANCING AND AGREEMENTS.**

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

8           “(a) *IN GENERAL.*—To carry out activities under this  
9   subtitle, the Secretary of Commerce may execute an agree-  
10   ment, on a reimbursable or nonreimbursable basis, with  
11   any State or subdivision thereof, any Federal agency, any  
12   public or private organization, or any individual to carry  
13   out activities under this subtitle.”.

14   **SEC. 6. REPORTS TO CONGRESS.**

15           Section 12307 of the Integrated Coastal and Ocean Ob-  
16   servation System Act of 2009 (33 U.S.C. 3606) is amended  
17   to read as follows:

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

19           “(a) *REQUIREMENT.*—Not later than 2 years after  
20   March 30, 2009, and every 3 years thereafter, the Adminis-  
21   trator shall prepare, and the President acting through the  
22   Council shall approve and transmit to the Congress, a re-  
23   port on progress made in implementing this subtitle.

24           “(b) *CONTENTS.*—Each report required under sub-  
25   section (a) shall include—

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

3           “(2) an evaluation of the effectiveness of the Sys-  
4           tem, including an evaluation of progress made by the  
5           Council to achieve the goals identified under the Sys-  
6           tem Plan;

7           “(3) the identification of Federal and non-Fed-  
8           eral assets as determined by the Council that have  
9           been integrated into the System, including assets es-  
10          sential to the gathering of required observation data  
11          variables necessary to meet the respective missions of  
12          Council agencies;

13          “(4) a review of procurements, planned or initi-  
14          ated, by each Council agency to enhance, expand, or  
15          modernize the observation capabilities and data prod-  
16          ucts provided by the System, including data manage-  
17          ment and communication subsystems;

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

21                  “(A) priorities considered by the System ad-  
22                  visory committee;

23                  “(B) the national sea surface current map-  
24                  ping network;

25                  “(C) coastal buoys;

- 1           “(D) ocean chemistry monitoring;
- 2           “(E) marine sound monitoring; and
- 3           “(F) autonomous underwater and surface
- 4           vehicle technology gaps;
- 5           “(6) an assessment regarding activities to inte-
- 6           grate Federal and non-Federal assets, nationally and
- 7           on the regional level, and discussion of the perform-
- 8           ance and effectiveness of regional information coordi-
- 9           nation entities to coordinate regional observation op-
- 10          erations;
- 11          “(7) a description of benefits of the program to
- 12          users of data products resulting from the System (in-
- 13          cluding the general public, industries, scientists, re-
- 14          source managers, emergency responders, policy mak-
- 15          ers, and educators);
- 16          “(8) recommendations concerning—
- 17                 “(A) modifications to the System; and
- 18                 “(B) funding levels for the System in subse-
- 19                 quent fiscal years; and
- 20          “(9) the results of a periodic external inde-
- 21          pendent programmatic audit of the System.”.

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

23         Section 12308 of the Integrated Coastal and Ocean Ob-

24         servation System Act of 2009 (33 U.S.C. 3607) is amended

25         to read as follows:

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

2       *“The Council shall maintain a policy that defines*  
3 *processes for making decisions about the roles of the Federal*  
4 *Government, the States, regional information coordination*  
5 *entities, the academic community, and the private sector*  
6 *in providing to end-user communities environmental infor-*  
7 *mation, products, technologies, and services related to the*  
8 *System. The Administrator shall ensure that National Oce-*  
9 *anic and Atmospheric Administration adheres to the deci-*  
10 *sion making process developed by the Council regarding the*  
11 *roles of the Federal Government, the States, the regional*  
12 *coastal observing systems, the academic communities, and*  
13 *the private sector in providing the end-user communities*  
14 *environmental information, data products, technologies,*  
15 *and services related to the System.”.*

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

17       *(a) IN GENERAL.—The Integrated Coastal and Ocean*  
18 *Observation System Act of 2009 (33 U.S.C. 3601 et seq.)*  
19 *is amended by striking section 12309 (33 U.S.C. 3608).*

20       *(b) TABLE OF CONTENTS AMENDMENT.—The table of*  
21 *contents in section 1(b) of the Omnibus Public Land Man-*  
22 *agement Act of 2009 (Public Law 111–11; 123 Stat. 991)*  
23 *is amended by striking the item related to section 12309.*

1 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2 *Section 12311 of the Integrated Coastal and Ocean Ob-*  
3 *ervation System Act of 2009 (33 U.S.C. 3610) is amended*  
4 *by striking “2013” and inserting “2019”.*

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

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

9 *“(4) ECONOMIC VULNERABILITY REPORT.—*

10 *“(A) IN GENERAL.—Not later than 2 years*  
11 *after the date of the enactment of the Coordi-*  
12 *nated Ocean Monitoring and Research Act, and*  
13 *every 5 years thereafter, the Subcommittee shall*  
14 *transmit to appropriate committees of Congress*  
15 *a report that—*

16 *“(i) is named ‘The Ocean Chemistry*  
17 *Coastal Community Vulnerability Assess-*  
18 *ment’;*

19 *“(ii) identifies gaps in ocean acidifica-*  
20 *tion monitoring by public, academic, and*  
21 *private assets in the network of regional*  
22 *coastal observing systems;*

23 *“(iii) identifies geographic areas which*  
24 *have gaps in ocean acidification research;*

25 *“(iv) identifies United States coastal*  
26 *communities, including fishing commu-*

1            *nities, low-population rural communities,*  
2            *tribal and subsistence communities, and is-*  
3            *land communities, that may be impacted by*  
4            *ocean acidification;*

5            *“(v) identifies impacts of changing*  
6            *ocean carbonate chemistry on the commu-*  
7            *nities described in clause (iv), including*  
8            *impacts from changes in ocean and coastal*  
9            *marine resources that are not managed by*  
10           *the Federal Government;*

11           *“(vi) identifies gaps in understanding*  
12           *of the impacts of ocean acidification on eco-*  
13           *nomically or commercially important spe-*  
14           *cies, particularly those which support*  
15           *United States commercial, recreational, and*  
16           *tribal fisheries and aquaculture;*

17           *“(vii) identifies habitats that may be*  
18           *particularly vulnerable to corrosive sea*  
19           *water, including areas experiencing mul-*  
20           *tiple stressors such as hypoxia, sedimenta-*  
21           *tion, and harmful algal blooms;*

22           *“(viii) identifies areas in which exist-*  
23           *ing Integrated Ocean Observing System as-*  
24           *sets, including buoys and gliders, may be le-*  
25           *veraged as platforms for the deployment of*

1           *new sensors or other applicable observing*  
2           *technologies; and*

3           “(ix) *is written in collaboration with*  
4           *the agencies responsible for carrying out*  
5           *this Act.*

6           “(B) *FORM OF REPORT.—*

7           “(i) *INITIAL REPORT.—The initial re-*  
8           *port required under subparagraph (A) shall*  
9           *include the information described in clauses*  
10          *(i) through (ix) on a national level.*

11          “(ii) *SUBSEQUENT REPORTS.—Each*  
12          *report required under subparagraph (A)*  
13          *after the initial report—*

14                 “(I) *may describe the information*  
15                 *described in clauses (i) through (ix) on*  
16                 *a national level; or*

17                 “(II) *may consist of separate re-*  
18                 *ports for each region of the National*  
19                 *Oceanic and Atmospheric Administra-*  
20                 *tion.*

21          “(iii) *REGIONAL REPORTS.—If the*  
22          *Subcommittee opts to prepare a report re-*  
23          *quired under subparagraph (A) as separate*  
24          *regional reports under clause (ii)(II), the*  
25          *Subcommittee shall submit a report for each*

1           *region of the National Oceanic and Atmos-*  
2           *spheric Administration not less frequently*  
3           *than once during each 5-year reporting pe-*  
4           *riod.*

5           “(C) *APPROPRIATE COMMITTEES OF CON-*  
6           *GRESS DEFINED.—In this paragraph and in*  
7           *paragraph (5), the term ‘appropriate committees*  
8           *of Congress’ means the Committee on Commerce,*  
9           *Science, and Transportation of the Senate, the*  
10          *Committee on Science, Space, and Technology of*  
11          *the House of Representatives, and the Committee*  
12          *on Natural Resources of the House of Represent-*  
13          *atives.*

14          “(5) *MONITORING PRIORITIZATION PLAN.—Not*  
15          *later than 180 days after the date of the submission*  
16          *of the initial report under paragraph (4)(A), the Sub-*  
17          *committee shall transmit to the appropriate commit-*  
18          *tees of Congress a report that develops a plan to de-*  
19          *ploy new sensors or other applicable observing tech-*  
20          *nologies—*

21                 “(A) *based on such initial report;*

22                 “(B) *prioritized by—*

23                         “(i) *the threat to coastal economies and*  
24                         *ecosystems;*

25                         “(ii) *gaps in data; and*

1                   “(iii) research needs; and  
2                   “(C) that leverage existing platforms, where  
3                   possible.”.

4 **SEC. 11. STRATEGIC RESEARCH PLAN.**

5       (a) *CONTENTS.*—Section 12405(b) of the Federal  
6 *Ocean Acidification Research And Monitoring Act of 2009*  
7 (33 U.S.C. 3704(b)) is amended—

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

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

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

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

18       (b) *PROGRAM ELEMENTS.*—Section 12405(c) of the  
19 *Federal Ocean Acidification Research And Monitoring Act*  
20 *of 2009* (33 U.S.C. 3704(c)) is amended by adding at the  
21 end the following:

22           “(6) Research to understand combined effects of  
23       changes in ocean chemistry, sediment delivery, hy-  
24       poxia, and harmful algal blooms and the impact these  
25       processes have on each other, and how these multiple

1       *stressors impact living marine resources and coastal*  
2       *ecosystems.*

3           “(7) *Applied research to identify adaptation*  
4       *strategies for species impacted by changes in ocean*  
5       *chemistry including vegetation-based systems, shell re-*  
6       *cycling, species and genetic diversity, applied tech-*  
7       *nologies, aquaculture methodologies, and management*  
8       *recommendations.”.*

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

10       *Section 12406(a) of the Federal Ocean Acidification*  
11       *Research And Monitoring Act of 2009 (33 U.S.C. 3705(a))*  
12       *is amended—*

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

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

17           (3) *by adding at the end the following:*

18           “(4) *includes an ongoing mechanism that allows*  
19       *potentially affected industry members, coastal stake-*  
20       *holders, fishery management councils and commis-*  
21       *sions, non-Federal resource managers, and scientific*  
22       *experts to provide input on monitoring needs that are*  
23       *necessary to support on the ground management, de-*  
24       *cision making, and adaptation related to ocean acidi-*  
25       *fication.”.*

1 **SEC. 13. RESEARCH ACTIVITIES.**

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

5 “(a) *RESEARCH ACTIVITIES.*—*The Director of the Na-*  
6 *tional Science Foundation shall continue to carry out re-*  
7 *search activities on ocean acidification which shall support*  
8 *competitive, merit-based, peer-reviewed proposals for re-*  
9 *search, observatories and monitoring of ocean acidification*  
10 *and its impacts, including—*

11 *“(1) impacts on marine organisms and marine*  
12 *ecosystems;*

13 *“(2) impacts on ocean, coastal, and estuarine*  
14 *biogeochemistry;*

15 *“(3) the development of methodologies and tech-*  
16 *nologies to evaluate ocean acidification and its im-*  
17 *pacts; and*

18 *“(4) impacts of multiple stressors on ecosystems*  
19 *exhibiting hypoxia, harmful algal blooms, or sediment*  
20 *delivery, combined with changes in ocean chemistry.”.*



Calendar No. 265

115<sup>TH</sup> CONGRESS  
1<sup>ST</sup> Session

**S. 1425**

[Report No. 115-186]

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## **A BILL**

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

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NOVEMBER 27, 2017

Reported with an amendment