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[Report No. 116-168]

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, to clarify the authority of the Administrator of the National Oceanic and Atmospheric Administration with respect to post-storm assessments, and to require the establishment of a National Water Center, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 27, 2019

Mr. WICKER (for himself, Ms. CANTWELL, and Mr. SULLIVAN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

DECEMBER 5, 2019

Reported by Mr. WICKER, without amendment

A BILL

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, to clarify the authority of the Administrator of the National Oceanic and Atmospheric Administration with respect to post-storm assessments, and to require the establishment of a National Water Center, and for other purposes.

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

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

4 (a) **SHORT TITLE.**—This Act may be cited as the
 5 “Coordinated Ocean Observations and Research Act of
 6 2019”.

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

Sec. 1. Short title; table of contents.

**TITLE I—REAUTHORIZATION OF INTEGRATED COASTAL AND
 OCEAN OBSERVATION SYSTEM ACT OF 2009**

- Sec. 101. Purposes.
- Sec. 102. Definitions.
- Sec. 103. Integrated Coastal and Ocean Observation System.
- Sec. 104. Financing and agreements.
- Sec. 105. Reports to Congress.
- Sec. 106. Public-private use policy.
- Sec. 107. Repeal of independent cost estimate.
- Sec. 108. Authorization of appropriations.
- Sec. 109. Reports and research plans.
- Sec. 110. Strategic research plan.
- Sec. 111. Stakeholder input on monitoring.
- Sec. 112. Research activities.

**TITLE II—NAMED STORM EVENT MODEL AND POST-STORM
 ASSESSMENTS**

- Sec. 201. Named Storm Event Model and post-storm assessments.

TITLE III—WATER PREDICTION AND FORECASTING

- Sec. 301. Water prediction and forecasting.

1 **TITLE I—REAUTHORIZATION OF**
2 **INTEGRATED COASTAL AND**
3 **OCEAN OBSERVATION SYS-**
4 **TEM ACT OF 2009**

5 **SEC. 101. PURPOSES.**

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

9 **“SEC. 12302. PURPOSES.**

10 “The purposes of this subtitle are—

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

1 “(A) to the public;

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

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

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

18 “(E) to enable advances in scientific un-
19 derstanding to support the sustainable use, con-
20 servation, management, and understanding of
21 healthy ocean, coastal, and Great Lakes re-
22 sources to ensure the Nation can respond to op-
23 portunities to enhance food, economic, and na-
24 tional security; and

1 “(F) to monitor and model changes in the
2 oceans and Great Lakes, including with respect
3 to chemistry, harmful algal blooms, hypoxia,
4 water levels, and other phenomena;

5 “(2) to improve the Nation’s capability to meas-
6 ure, track, observe, understand, and predict events
7 related directly and indirectly to weather and cli-
8 mate, natural climate variability, and interactions
9 between the oceanic and atmospheric environments,
10 including the Great Lakes;

11 “(3) to sustain, upgrade, and modernize the
12 Nation’s ocean and Great Lakes observing infra-
13 structure to detect changes and ensure delivery of
14 reliable and timely information; and

15 “(4) to authorize activities—

16 “(A) to promote basic and applied research
17 to develop, test, and deploy innovations and im-
18 provements in coastal and ocean observation
19 technologies, including advanced observing tech-
20 nologies such as unmanned maritime systems
21 needed to address critical data gaps, modeling
22 systems, other scientific and technological capa-
23 bilities to improve the understanding of weather
24 and climate, ocean-atmosphere dynamics, global
25 climate change, and the physical, chemical, and

1 biological dynamics of the ocean, coastal and
2 Great Lakes environments; and

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

5 **SEC. 102. DEFINITIONS.**

6 Section 12303 of the Integrated Coastal and Ocean
7 Observation System Act of 2009 (33 U.S.C. 3602) is
8 amended—

9 (1) in paragraph (2), by striking “section
10 7902” and inserting “section 8932”;

11 (2) in paragraph (5), by striking “integrated
12 into the System and are managed through States,
13 regional organizations, universities, nongovernmental
14 organizations, or the private sector” and inserting
15 “managed through States, regional organizations,
16 universities, nongovernmental organizations, or the
17 private sector and integrated into the System by a
18 regional coastal ocean observing system, the Na-
19 tional Oceanic and Atmospheric Administration, or
20 the agencies participating in the Interagency Ocean
21 Observation Committee”;

22 (3) by amending paragraph (6) to read as fol-
23 lows:

24 “(6) REGIONAL COASTAL OBSERVING SYS-
25 TEM.—The term ‘regional coastal observing system’

1 means an organizational body that is certified or es-
 2 tablished by contract or memorandum by the lead
 3 Federal agency designated in section 12304(c)(3)
 4 and coordinates State, Federal, local, tribal, and pri-
 5 vate interests at a regional level with the responsi-
 6 bility of engaging the private and public sectors in
 7 designing, operating, and improving regional coastal
 8 and ocean observing systems in order to ensure the
 9 provision of data and information that meet the
 10 needs of user groups from the respective regions.”;
 11 and

12 (4) in paragraph (7), by striking “National
 13 Oceanic and Atmospheric Administration” and in-
 14 serting “Administrator”.

15 **SEC. 103. INTEGRATED COASTAL AND OCEAN OBSERVA-**
 16 **TION SYSTEM.**

17 (a) SYSTEM ELEMENTS.—

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

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

1 “(A) Federal assets to fulfill national and
2 international observation missions and prior-
3 ities;

4 “(B) non-Federal assets, including a net-
5 work of regional coastal observing systems iden-
6 tified under subsection (c)(4), to fulfill regional
7 and national observation missions and prior-
8 ities;

9 “(C) observing, modeling, data manage-
10 ment, and communication systems for the time-
11 ly integration and dissemination of data and in-
12 formation products from the System, including
13 reviews of data collection procedures across re-
14 gions and programs to make recommendations
15 for data collection standards across the System
16 to meet national ocean, coastal, and Great
17 Lakes observation, applied research, and weath-
18 er forecasting needs;

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

23 “(E) a research and development program
24 conducted under the guidance of the Council,
25 consisting of—

1 “(i) basic and applied research and
2 technology development—

3 “(I) to improve understanding of
4 coastal and ocean systems and their
5 relationships to human activities; and

6 “(II) to ensure improvement of
7 operational assets and products, in-
8 cluding related infrastructure, observ-
9 ing technologies such as unmanned
10 maritime systems, and information
11 and data processing and management
12 technologies;

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

16 “(iii) large scale computing resources
17 and research to advance modeling of coast-
18 al, ocean, and Great Lakes processes;

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

22 “(v) reviews of data collection proce-
23 dures across regions and programs to
24 make recommendations for data collection
25 standards across the System to meet na-

1 tional ocean, coastal, and Great Lakes ob-
2 servation, applied research, and weather
3 forecasting needs.”.

4 (2) AVAILABILITY OF DATA.—Section
5 12304(b)(3) of such Act (33 U.S.C. 3603(b)(3)) is
6 amended by inserting “for research and for use in
7 the development of products to address societal
8 needs” before the period at the end.

9 (b) POLICY OVERSIGHT, ADMINISTRATION, AND RE-
10 GIONAL COORDINATION.—Section 12304(c) of the Inte-
11 grated Coastal and Ocean Observation System Act of
12 2009 (33 U.S.C. 3603(c)) is amended by striking para-
13 graphs (2), (3), and (4), and inserting the following:

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

16 “(A) ESTABLISHMENT.—The Council shall
17 establish or designate a committee, which shall
18 be known as the Interagency Ocean Observation
19 Committee.

20 “(B) DUTIES.—The Interagency Ocean
21 Observation Committee shall—

22 “(i) prepare annual and long-term
23 plans for consideration and approval by the
24 Council for the integrated design, oper-
25 ation, maintenance, enhancement, and ex-

1 pansion of the System to meet the objec-
2 tives of this subtitle and the System Plan;

3 “(ii) develop and transmit to Con-
4 gress, along with the budget submitted by
5 the President to Congress pursuant to sec-
6 tion 1105(a) of title 31, United States
7 Code, an annual coordinated, comprehen-
8 sive budget—

9 “(I) to operate all elements of
10 the System identified in subsection
11 (b); and

12 “(II) to ensure continuity of data
13 streams from Federal and non-Fed-
14 eral assets;

15 “(iii) establish requirements for obser-
16 vation data variables to be gathered by
17 both Federal and non-Federal assets and
18 identify, in consultation with regional
19 coastal observing systems, priorities for
20 System observations;

21 “(iv) establish and define protocols
22 and standards for System data processing,
23 management, collection, configuration
24 standards, formats, and communication for

1 new and existing assets throughout the
2 System network;

3 “(v) develop contract requirements for
4 each regional coastal observing system—

5 “(I) to establish eligibility for in-
6 tegration into the System;

7 “(II) to ensure compliance with
8 all applicable standards and protocols
9 established by the Council; and

10 “(III) to ensure that regional ob-
11 servations are integrated into the Sys-
12 tem on a sustained basis;

13 “(vi) identify gaps in observation cov-
14 erage or needs for capital improvements of
15 both Federal assets and non-Federal as-
16 sets;

17 “(vii) subject to the availability of ap-
18 propriations, establish through 1 or more
19 Federal agencies participating in the Inter-
20 agency Ocean Observation Committee, in
21 consultation with the System advisory com-
22 mittee established under subsection (d), a
23 competitive matching grant or other pro-
24 grams—

1 “(I) to promote intramural and
2 extramural research and development
3 of new, innovative, and emerging ob-
4 servation technologies including test-
5 ing and field trials; and

6 “(II) to facilitate the migration
7 of new, innovative, and emerging sci-
8 entific and technological advances
9 from research and development to
10 operational deployment;

11 “(viii) periodically—

12 “(I) review the System Plan; and

13 “(II) submit to the Council such
14 recommendations as the Interagency
15 Ocean Observation Committee may
16 have for improvements to the System
17 Plan;

18 “(ix) ensure collaboration among Fed-
19 eral agencies participating in the Inter-
20 agency Ocean Observation Committee; and

21 “(x) perform such additional duties as
22 the Council may delegate.

23 “(3) LEAD FEDERAL AGENCY.—

24 “(A) IN GENERAL.—The National Oceanic
25 and Atmospheric Administration shall function

1 as the lead Federal agency for the implementa-
2 tion and administration of the System.

3 “(B) CONSULTATION REQUIRED.—In car-
4 rying out this paragraph, the Administrator
5 shall consult with the Council, the Interagency
6 Ocean Observation Committee, other Federal
7 agencies that maintain portions of the System,
8 and the regional coastal observing systems.

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

11 “(i) establish and operate an Inte-
12 grated Ocean Observing System Program
13 Office within the National Oceanic and At-
14 mospheric Administration that—

15 “(I) utilizes, to the extent nec-
16 essary, personnel from Federal agen-
17 cies participating in the Interagency
18 Ocean Observation Committee; and

19 “(II) oversees daily operations
20 and coordination of the System;

21 “(ii) implement policies, protocols,
22 and standards approved by the Council
23 and delegated by the Interagency Ocean
24 Observation Committee;

1 “(iii) promulgate program guide-
2 lines—

3 “(I) to certify and integrate re-
4 gional associations into the System;
5 and

6 “(II) to provide regional coastal
7 and ocean observation data that meet
8 the needs of user groups from the re-
9 spective regions;

10 “(iv) have the authority to enter into
11 and oversee contracts, leases, grants, or co-
12 operative agreements with non-Federal as-
13 sets, including regional coastal observing
14 systems, to support the purposes of this
15 subtitle on such terms as the Adminis-
16 trator deems appropriate;

17 “(v) implement and maintain a merit-
18 based, competitive funding process to sup-
19 port non-Federal assets, including the de-
20 velopment and maintenance of a national
21 network of regional coastal observing sys-
22 tems, and develop and implement a process
23 for the periodic review and evaluation of
24 the regional associations;

1 “(vi) provide opportunities for com-
2 petitive contracts and grants for dem-
3 onstration projects to design, develop, inte-
4 grate, deploy, maintain, and support com-
5 ponents of the System;

6 “(vii) establish and maintain efficient
7 and effective administrative procedures for
8 the timely allocation of funds among con-
9 tractors, grantees, and non-Federal assets,
10 including regional coastal observing sys-
11 tems;

12 “(viii) develop and implement a proc-
13 ess for the periodic review and evaluation
14 of the regional coastal observing systems;

15 “(ix) formulate an annual process by
16 which gaps in observation coverage or
17 needs for capital improvements of Federal
18 assets and non-Federal assets of the Sys-
19 tem are—

20 “(I) identified by the regional as-
21 sociations described in the System
22 plan, the Administrator, or other
23 members of the System; and

24 “(II) submitted to the Inter-
25 agency Ocean Observation Committee;

1 “(x) develop and be responsible for a
2 data management and communication sys-
3 tem, in accordance with standards and
4 protocols established by the Interagency
5 Ocean Observation Committee, by which
6 all data collected by the System regarding
7 ocean and coastal waters of the United
8 States including the Great Lakes, are proc-
9 essed, stored, integrated, and made avail-
10 able to all end-user communities;

11 “(xi) not less frequently than once
12 each year, submit to the Interagency
13 Ocean Observation Committee a report on
14 the accomplishments, operational needs,
15 and performance of the System to con-
16 tribute to the annual and long-term plans
17 prepared pursuant to paragraph (2)(B)(i);

18 “(xii) develop and periodically update
19 a plan to efficiently integrate into the Sys-
20 tem new, innovative, or emerging tech-
21 nologies that have been demonstrated to be
22 useful to the System and which will fulfill
23 the purposes of this subtitle and the Sys-
24 tem Plan; and

1 “(xiii) work with users and regional
 2 associations to develop products to enable
 3 real-time data sharing for decision makers,
 4 including with respect to weather fore-
 5 casting and modeling, search and rescue
 6 operations, corrosive seawater forecasts,
 7 water quality monitoring and communica-
 8 tion, and harmful algal bloom forecasting.

9 “(4) REGIONAL COASTAL OBSERVING SYS-
 10 TEMS.—

11 “(A) IN GENERAL.—A regional coastal ob-
 12 serving system described in the System Plan as
 13 a regional association may not be certified or
 14 established under this subtitle unless it—

15 “(i) has been or shall be certified or
 16 established by contract or agreement by
 17 the Administrator;

18 “(ii) meets—

19 “(I) the certification standards
 20 and compliance procedure guidelines
 21 issued by the Administrator; and

22 “(II) the information needs of
 23 user groups in the region while adher-
 24 ing to national standards;

1 “(iii) demonstrates an organizational
2 structure, that under funding limitations is
3 capable of—

4 “(I) gathering required System
5 observation data;

6 “(II) supporting and integrating
7 all aspects of coastal and ocean ob-
8 serving and information programs
9 within a region; and

10 “(III) reflecting the needs of
11 State, local, and tribal governments,
12 commercial interests, and other users
13 and beneficiaries of the System and
14 other requirements specified under
15 this subtitle and the System Plan;

16 “(iv) identifies—

17 “(I) gaps in observation coverage
18 needs for capital improvements of
19 Federal assets and non-Federal assets
20 of the System; and

21 “(II) other recommendations to
22 assist in the development of the an-
23 nual and long-term plans prepared
24 pursuant to paragraph (2)(B)(i) and
25 transmits such information to the

1 Interagency Ocean Observation Com-
2 mittee through the Program Office es-
3 tablished under paragraph (3)(C)(i);

4 “(v) develops and operates under a
5 strategic plan that will ensure the efficient
6 and effective administration of programs
7 and assets to support daily data observa-
8 tions for integration into the System, pur-
9 suant to the standards approved by the
10 Council;

11 “(vi) works cooperatively with govern-
12 mental and nongovernmental entities at all
13 levels to identify and provide information
14 products of the System for multiple users
15 within the service area of the regional
16 coastal observing system; and

17 “(vii) complies with all financial over-
18 sight requirements established by the Ad-
19 ministrator, including requirements relat-
20 ing to audits.

21 “(B) PARTICIPATION.—For the purposes
22 of this subtitle, employees of Federal agencies
23 are permitted to be members of the governing
24 body for the regional coastal observing systems

1 and may participate in the functions of the re-
2 gional coastal ocean observing systems.”.

3 (c) SYSTEM ADVISORY COMMITTEE.—Section
4 12304(d) of the Integrated Coastal and Ocean Observa-
5 tion System Act of 2009 (33 U.S.C. 3603(d)) is amend-
6 ed—

7 (1) in paragraph (1), by striking “or the Inter-
8 agency Ocean Observing Committee.” and inserting
9 “or the Council under this subtitle.”; and

10 (2) in paragraph (2)—

11 (A) in subparagraph (A), by inserting “,
12 data sharing,” after “data management”;

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

15 (C) by striking subparagraph (D) and in-
16 serting the following:

17 “(D) additional priorities, including—

18 “(i) a national surface current map-
19 ping network designed to improve fine
20 scale sea surface mapping using high fre-
21 quency radar technology and other emerg-
22 ing technologies to address national prior-
23 ities, including Coast Guard search and
24 rescue operation planning and harmful

1 algal bloom forecasting and detection
2 that—

3 “(I) is comprised of existing high
4 frequency radar and other sea surface
5 current mapping infrastructure oper-
6 ated by national programs and re-
7 gional coastal observing systems;

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

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

23 “(ii) fleet acquisition for unmanned
24 maritime systems for deployment and data

1 integration to fulfill the purposes of this
2 subtitle;

3 “(iii) an integrative survey program
4 for application of unmanned maritime sys-
5 tems to the real-time or near real-time col-
6 lection and transmission of sea floor, water
7 column, and sea surface data on biology,
8 chemistry, geology, physics, and hydrog-
9 raphy;

10 “(iv) remote sensing and data assimi-
11 lation to develop new analytical methodolo-
12 gies to assimilate data from the System
13 into hydrodynamic models;

14 “(v) integrated, multi-State moni-
15 toring to assess sources, movement, and
16 fate of sediments in coastal regions; and

17 “(vi) a multi-region marine sound
18 monitoring system to be—

19 “(I) planned in consultation with
20 the Interagency Ocean Observation
21 Committee, the National Oceanic and
22 Atmospheric Administration, the De-
23 partment of the Navy, and academic
24 research institutions; and

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

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

9 (D) in paragraph (3)(B), by inserting
10 “The Administrator may stagger the terms of
11 the System advisory committee members.” be-
12 fore “Members”; and

13 (E) in paragraph (4)—

14 (i) in subparagraph (A), by striking
15 “and the Interagency Ocean Observing
16 Committee”; and

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

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

22 (1) by striking “information coordination enti-
23 ty” each place it appears and inserting “coastal ob-
24 serving system”; and

1 (2) by striking “contract, lease, grant, or coop-
2 erative agreement under subsection (c)(3)(D)” and
3 inserting “a memorandum of agreement of certifi-
4 cation under subsection (c)(3)(C)(iii)”.

5 (e) CONFORMING AMENDMENTS.—The Integrated
6 Coastal and Ocean Observation System Act of 2009 (33
7 U.S.C. 3601 et seq.) is amended by striking “regional in-
8 formation coordination entities” each place it appears and
9 inserting “regional ocean observing systems”.

10 **SEC. 104. FINANCING AND AGREEMENTS.**

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

14 “(a) IN GENERAL.—The Secretary of Commerce may
15 execute an agreement, on a reimbursable or nonreimburs-
16 able basis, with any State or subdivision thereof, any Fed-
17 eral agency, any public or private organization, or any in-
18 dividual to carry out activities under this subtitle.”.

19 **SEC. 105. REPORTS TO CONGRESS.**

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

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

24 “(a) REQUIREMENT.—Not later than 2 years after
25 March 30, 2020, and every 5 years thereafter, the Admin-

1 istrator shall prepare, and the President acting through
2 the Council shall approve and transmit to Congress, a re-
3 port on progress made in implementing this subtitle.

4 “(b) CONTENTS.—Each report required under sub-
5 section (a) shall include—

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

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

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

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

9 “(D) ocean chemistry monitoring;

10 “(E) marine sound monitoring; and

11 “(F) unmanned maritime systems tech-
12 nology gaps;

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 coastal observing
17 systems to coordinate regional observation oper-
18 ations;

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. 106. 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 coastal observing
13 systems, the academic community, and the private sector
14 in providing to end-user communities environmental infor-
15 mation, products, technologies, and services related to the
16 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 commu-
21 nity, and the private sector in providing end-user commu-
22 nities environmental information, data products, tech-
23 nologies, and services related to the System.”.

1 **SEC. 107. REPEAL OF INDEPENDENT COST ESTIMATE.**

2 (a) IN GENERAL.—The Integrated Coastal and
3 Ocean Observation System Act of 2009 (33 U.S.C. 3601
4 et seq.) is amended by striking section 12309 (33 U.S.C.
5 3608).

6 (b) TABLE OF CONTENTS AMENDMENT.—The table
7 of contents in section 1(b) of the Omnibus Public Land
8 Management Act of 2009 (Public Law 111–11; 123 Stat.
9 991) is amended by striking the item related to section
10 12309.

11 **SEC. 108. AUTHORIZATION OF APPROPRIATIONS.**

12 Section 12311 of the Integrated Coastal and Ocean
13 Observation System Act of 2009 (33 U.S.C. 3610) is
14 amended to read as follows:

15 **“SEC. 12311. AUTHORIZATION OF APPROPRIATIONS.**

16 “To fulfill the purposes set forth in section 12302
17 and to support activities identified in the annual coordi-
18 nated System budget developed by the Interagency Ocean
19 Observation Committee, there are authorized to be appro-
20 priated to the Secretary of Commerce—

21 “(1) \$54,900,000 for fiscal year 2020;

22 “(2) \$61,600,000 for fiscal year 2021;

23 “(3) \$68,300,000 for fiscal year 2022;

24 “(4) \$75,000,000 for fiscal year 2023; and

25 “(5) \$81,700,000 for fiscal year 2024.”.

1 **SEC. 109. REPORTS AND RESEARCH PLANS.**

2 Section 12404(c) of the Federal Ocean Acidification
3 Research And Monitoring Act of 2009 (33 U.S.C.
4 3703(c)) is amended by adding at the end the following:

5 “(4) ECONOMIC VULNERABILITY REPORT.—

6 “(A) IN GENERAL.—Not later than 2 years
7 after the date of the enactment of the Coordi-
8 nated Ocean Observations and Research Act of
9 2019, and every 6 years thereafter, the Sub-
10 committee shall transmit to the appropriate
11 committees of Congress a report that—

12 “(i) is named the ‘Ocean Chemistry
13 Coastal Community Vulnerability Assess-
14 ment’;

15 “(ii) identifies gaps in ocean acidifica-
16 tion monitoring by public, academic, and
17 private assets in the network of regional
18 coastal observing systems;

19 “(iii) identifies geographic areas which
20 have gaps in ocean acidification research;

21 “(iv) identifies United States coastal
22 communities, including fishing commu-
23 nities, low-population rural communities,
24 tribal and subsistence communities, and is-
25 land communities, that may be impacted
26 by ocean acidification;

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

7 “(vi) identifies gaps in understanding
8 of the impacts of ocean acidification on
9 economically or commercially important
10 species, particularly those which support
11 United States commercial, recreational,
12 and tribal fisheries and aquaculture;

13 “(vii) identifies habitats that may be
14 particularly vulnerable to corrosive sea
15 water, including areas experiencing mul-
16 tiple stressors such as hypoxia, sedimenta-
17 tion, and harmful algal blooms;

18 “(viii) identifies areas in which exist-
19 ing National Integrated Coastal and Ocean
20 Observation System assets, including un-
21 manned maritime systems, may be lever-
22 aged as platforms for the deployment of
23 new sensors or other applicable observing
24 technologies; and

1 “(ix) is written in collaboration with
2 the agencies responsible for carrying out
3 this subtitle.

4 “(B) FORM OF REPORT.—

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

9 “(ii) SUBSEQUENT REPORTS.—Each
10 report required under subparagraph (A)
11 after the initial report—

12 “(I) may describe the informa-
13 tion described in clauses (i) through
14 (ix) on a national level; or

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

19 “(iii) REGIONAL REPORTS.—If the
20 Subcommittee opts to prepare a report re-
21 quired under subparagraph (A) as separate
22 regional reports under clause (ii)(II), the
23 Subcommittee shall submit a report for
24 each region of the National Oceanic and
25 Atmospheric Administration not less fre-

1 frequently than once during each 6-year re-
2 porting period.

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

12 “(5) MONITORING PRIORITIZATION PLAN.—Not
13 later than 180 days after the date of the submission
14 of the initial report under paragraph (4)(A), the
15 Subcommittee shall transmit to the appropriate com-
16 mittees of Congress a report that develops a plan to
17 deploy new sensors or other applicable observing
18 technologies such as unmanned maritime systems—

19 “(A) based on such initial report;

20 “(B) prioritized by—

21 “(i) the threat to coastal economies
22 and ecosystems;

23 “(ii) gaps in data; and

24 “(iii) research needs; and

1 “(C) that leverage existing platforms,
2 where possible.”.

3 **SEC. 110. STRATEGIC RESEARCH PLAN.**

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

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

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

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

12 “(10) make recommendations for research to be
13 conducted, including in the social sciences and eco-
14 nomics, to address the key knowledge gaps identified
15 in the Ocean Chemistry Coastal Community Vulner-
16 ability Assessment conducted under section
17 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 the combined im-
23 pact of changes in ocean chemistry and other
24 stressors, including sediment delivery, hypoxia, and
25 harmful algal blooms, on each other and on living

1 marine resources, including aquaculture 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
6 recycling, species and genetic diversity, applied tech-
7 nologies, aquaculture methodologies, and manage-
8 ment recommendations.”.

9 (c) REVISED STRATEGIC RESEARCH PLAN.—Not
10 later than one year after the date of the enactment of this
11 Act, the Joint Subcommittee on Ocean Science and Tech-
12 nology of the National Science and Technology Council
13 shall submit to Congress a revised strategic research plan
14 under section 12405 of the Federal Ocean Acidification
15 Research And Monitoring Act of 2009 (33 U.S.C. 3704)
16 that includes the matters required by the amendments
17 made by this section.

18 **SEC. 111. STAKEHOLDER INPUT ON MONITORING.**

19 Section 12406(a) of the Federal Ocean Acidification
20 Research And Monitoring Act of 2009 (33 U.S.C.
21 3705(a)) is amended—

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

24 (2) in paragraph (3), by striking the period at
25 the end and inserting “; and”; and

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

2 “(4) includes an ongoing mechanism that allows
3 industry, coastal stakeholders, fishery management
4 councils and commissions, non-Federal resource
5 managers, and scientific experts to provide input on
6 monitoring needs that are necessary to support on
7 the ground management, decision making, and adap-
8 tation related to ocean acidification.”.

9 **SEC. 112. RESEARCH ACTIVITIES.**

10 Section 12407(a) of the Federal Ocean Acidification
11 Research And Monitoring Act of 2009 (33 U.S.C.
12 3706(a)) is amended to read as follows:

13 “(a) RESEARCH ACTIVITIES.—The Director of the
14 National Science Foundation shall continue to carry out
15 research activities on ocean acidification which shall sup-
16 port competitive, merit-based, peer-reviewed proposals for
17 research, observation, and monitoring of ocean acidifica-
18 tion and its impacts, including—

19 “(1) impacts on marine organisms, including
20 species cultured for aquaculture, and marine eco-
21 systems;

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

1 “(3) the development of methodologies and
2 technologies to evaluate ocean acidification and its
3 impacts; and

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

8 **TITLE II—NAMED STORM EVENT**
9 **MODEL AND POST-STORM AS-**
10 **SESSMENTS**

11 **SEC. 201. NAMED STORM EVENT MODEL AND POST-STORM**
12 **ASSESSMENTS.**

13 (a) AMENDMENTS TO THE OMNIBUS PUBLIC LAND
14 MANAGEMENT ACT OF 2009.—Section 12312 of the Om-
15 nibus Public Land Management Act of 2009 (33 U.S.C.
16 3611) is amended—

17 (1) in subsection (a)—

18 (A) in paragraph (2), by striking the pe-
19 riod at the end and inserting the following: “,
20 except that the term shall not apply with re-
21 spect to a State or territory that has an oper-
22 ational wind and flood loss allocation system.”;

23 (B) in paragraph (6), by inserting “sus-
24 tained” before “winds”; and

1 (C) in paragraph (7), by striking “that
2 threaten any portion of a coastal State” and in-
3 sserting “for which post-storm assessments are
4 conducted”;

5 (2) in subsection (b)—

6 (A) in paragraph (1)—

7 (i) in subparagraph (A)—

8 (I) by striking “540 days after
9 the date of the enactment of the Con-
10 sumer Option for an Alternative Sys-
11 tem to Allocate Losses Act of 2012”
12 and inserting “December 31, 2019”;
13 and

14 (II) by striking “by regulation”;

15 (ii) in subparagraph (B), by striking
16 “every” and inserting “an”; and

17 (iii) by adding at the end the fol-
18 lowing:

19 “(C) PUBLIC REVIEW.—The Administrator
20 shall seek input and suggestions from the public
21 before the Named Storm Event Model, or any
22 modification to the Named Storm Event Model,
23 takes effect.”; and

24 (B) in paragraph (2)—

1 (i) by redesignating subparagraphs
2 (B) and (C) as subparagraphs (D) and
3 (E), respectively;

4 (ii) by inserting after subparagraph
5 (A) the following:

6 “(B) DATA COLLECTION.—

7 “(i) IN GENERAL.—Upon identifica-
8 tion of a named storm under subparagraph
9 (A), and pursuant to the protocol estab-
10 lished under subsection (c), the Adminis-
11 trator may deploy sensors to enhance the
12 collection of covered data in the areas in
13 coastal States that the Administrator de-
14 termines are at the highest risk of experi-
15 encing geophysical events that would cause
16 indeterminate losses.

17 “(ii) RULE OF CONSTRUCTION.—If
18 the Administrator takes action under
19 clause (i), that action may not be con-
20 strued as indicating that a post-storm as-
21 sessment will be developed for any coastal
22 State in which that action is taken.

23 “(C) IDENTIFICATION OF INDETERMINATE
24 LOSSES IN COASTAL STATES.—Not later than
25 30 days after the first date on which sustained

1 winds of not less than 39 miles per hour are
2 measured in a coastal State during a named
3 storm identified under subparagraph (A), the
4 Secretary of Homeland Security shall notify the
5 Administrator with respect to the existence of
6 any indeterminate losses in that coastal State
7 resulting from that named storm.”;

8 (iii) in subparagraph (D), as so reded-
9 ignated—

10 (I) by striking “identification of
11 a named storm under subparagraph
12 (A)” and inserting “confirmation of
13 indeterminate losses identified under
14 subparagraph (C) with respect to a
15 named storm”; and

16 (II) by striking “assessment for
17 such named storm” and inserting “as-
18 sessment for each coastal State that
19 suffered such indeterminate losses as
20 a result of the named storm”;

21 (iv) in subparagraph (E), as so reded-
22 ignated—

23 (I) by striking “an identification
24 of a named storm is made under sub-
25 paragraph (A)” and inserting “any in-

1 determinate losses are identified
2 under subparagraph (C)”; and

3 (II) by striking “for such storm
4 under subparagraph (B)” and insert-
5 ing “under subparagraph (D) for any
6 coastal State that suffered such inde-
7 terminate losses”; and

8 (v) by adding at the end the following:

9 “(F) SEPARATE POST-STORM ASSESS-
10 MENTS FOR A SINGLE NAMED STORM.—

11 “(i) IN GENERAL.—The Administrator
12 may conduct a separate post-storm assess-
13 ment for each coastal State in which inde-
14 terminate losses are identified under sub-
15 paragraph (C).

16 “(ii) TIMELINE.—If the Administrator
17 conducts a separate post-storm assessment
18 under clause (i), the Administrator shall
19 complete the assessment based on the
20 dates of actions that the Administrator
21 takes under subparagraphs (C) and (D).”;
22 and

23 (3) in subsection (c)—

24 (A) in paragraph (1), by striking “540
25 days after the date of the enactment of the

1 Consumer Option for an Alternative System to
2 Allocate Losses Act of 2012” and inserting
3 “December 31, 2019”;

4 (B) in paragraph (2), by inserting “, in the
5 discretion of the Administrator,” after “of sen-
6 sors as may”; and

7 (C) in paragraph (4)(B), by inserting “and
8 expend” after “receive”.

9 (b) AMENDMENTS TO THE NATIONAL FLOOD INSUR-
10 ANCE ACT OF 1968.—Section 1337 of the National Flood
11 Insurance Act of 1968 (42 U.S.C. 4057) is amended—

12 (1) in subsection (a)—

13 (A) in paragraph (3), by striking the pe-
14 riod at the end and inserting the following: “,
15 except that the term shall not apply with re-
16 spect to a State or territory that has an oper-
17 ational wind and flood loss allocation system.”;
18 and

19 (B) in paragraph (5), by inserting “sus-
20 tained” after “maximum”;

21 (2) in subsection (b)—

22 (A) in paragraph (1), by striking “estab-
23 lish by rule” and inserting “publish for com-
24 ment in the Federal Register”; and

1 (B) in paragraph (2)(B), by inserting after
2 “Elevation Certificate” the following: “, or
3 other data or information used to determine a
4 property’s current risk of flood, as determined
5 by the Administrator,”;

6 (3) in subsection (c)(3)(A)(i), by striking “the
7 issuance of the rule establishing the COASTAL For-
8 mula” and inserting “publication of the COASTAL
9 Formula in the Federal Register as required by sub-
10 section (b)(1)”;

11 (4) in subsection (h)—

12 (A) by inserting “that issues a standard
13 flood insurance policy under the national flood
14 insurance program” after “company”; and

15 (B) by striking “or the COASTAL For-
16 mula” and inserting “, the COASTAL For-
17 mula, or any other loss allocation or post-storm
18 assessment arising under the laws or ordinances
19 of any State”;

20 (5) in subsection (i), by striking “after the date
21 on which the Administrator issues the rule estab-
22 lishing the COASTAL Formula under subsection
23 (b)” and inserting “60 days after publication of the
24 COASTAL Formula in the Federal Register as re-
25 quired by subsection (b)(1)”;

1 (6) by adding at the end the following:

2 “(k) RULE OF CONSTRUCTION.—Nothing in this sec-
3 tion shall be construed to create a cause of action under
4 this Act.”.

5 **TITLE III—WATER PREDICTION** 6 **AND FORECASTING**

7 **SEC. 301. WATER PREDICTION AND FORECASTING.**

8 (a) NATIONAL WATER CENTER.—

9 (1) ESTABLISHMENT.—

10 (A) IN GENERAL.—The Under Secretary of
11 Commerce for Oceans and Atmosphere shall es-
12 tablish a center—

13 (i) to serve as the research and oper-
14 ational center of excellence for hydrologic
15 analyses, forecasting, and related decision
16 support services within the National Oce-
17 anic and Atmospheric Administration and
18 the National Weather Service; and

19 (ii) to facilitate collaboration across
20 Federal and State departments and agen-
21 cies, academia, and the private sector on
22 matters relating to water resources.

23 (B) DESIGNATION.—The center estab-
24 lished under subparagraph (A) shall be known
25 as the “National Water Center”.

1 (2) FUNCTIONS.—The functions of the National
2 Water Center shall include the following:

3 (A) Improving understanding of water re-
4 sources, stakeholder needs regarding water re-
5 sources, and identifying science and services
6 gaps relating to water resources.

7 (B) Developing and implementing ad-
8 vanced water resources modeling capabilities.

9 (C) Facilitating the transition of hydro-
10 logic research into operations.

11 (D) Delivering analyses, forecasts, and in-
12 undation information and guidance for all hy-
13 drologic events in the United States, including
14 flash flooding, riverine flooding, and water re-
15 sources outlooks.

16 (E) In coordination with warning coordina-
17 tion meteorologists, providing decision-support
18 services to inform emergency management and
19 water resources decisions.

20 (b) NATIONAL INSTRUCTIONS.—

21 (1) IN GENERAL.—Not later than one year
22 after the date of the enactment of this Act, the
23 Under Secretary, acting through the Director of the
24 National Weather Service, shall make public an op-

1 erations and services policy directive for the Na-
2 tional Water Center.

3 (2) CONTENTS.—The directive required by
4 paragraph (1) shall include national instructions to
5 perform the functions of the National Water Center,
6 including the following:

7 (A) Operational staff responsibilities.

8 (B) Guidelines for content, format, and
9 provision of hydrologic and inundation products
10 developed by the National Water Center.

11 (C) Procedures for cooperation and coordi-
12 nation between the National Water Center, the
13 National Weather Service National Centers for
14 Environmental Prediction, National Weather
15 Service River Forecast Centers, and National
16 Weather Service Weather Forecast Offices.

17 (c) TOTAL WATER PREDICTION.—The Under Sec-
18 retary, acting through the Director of the Office of Water
19 Prediction of the National Weather Service, shall—

20 (1) initiate and lead research and development
21 activities to develop operational water resource pre-
22 diction and related decision support products;

23 (2) collaborate with, and provide decision sup-
24 port regarding total water prediction to—

1 (A) the relevant Federal agencies rep-
2 resented on the National Science and Tech-
3 nology Council, Committee on Environment,
4 Natural Resources, and Sustainability and the
5 Subcommittee on Disaster Reduction;

6 (B) State water resource agencies; and

7 (C) State and local emergency manage-
8 ment agencies; and

9 (3) in carrying out the responsibilities described
10 in paragraphs (1) and (2), collaboratively develop
11 capabilities necessary for total water predictive ca-
12 pacity, including observations, modeling, data man-
13 agement, supercomputing, social science, and com-
14 munications.

15 (d) AUTHORIZATION OF APPROPRIATIONS.—There
16 are authorized to be appropriated to carry out the activi-
17 ties under this section amounts as follows:

18 (1) \$44,000,000 for fiscal year 2020.

19 (2) \$44,500,000 for fiscal year 2021.

20 (3) \$45,000,000 for fiscal year 2022.

21 (4) \$45,500,000 for fiscal year 2023.

22 (5) \$46,000,000 for fiscal year 2024.

23 (e) DERIVATION OF FUNDS.—Amounts made avail-
24 able to carry out this section shall be derived from

- 1 amounts appropriated or otherwise made available to the
- 2 National Weather Service and the National Ocean Service.

Calendar No. 318

116TH CONGRESS
1ST Session

S. 914

[Report No. 116-168]

A BILL

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, to clarify the authority of the Administrator of the National Oceanic and Atmospheric Administration with respect to post-storm assessments, and to require the establishment of a National Water Center, and for other purposes.

DECEMBER 5, 2019

Reported without amendment