ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore, Pursuant to clause 8 of rule XX, the Chair will postpone further proceedings today on the motion to suspend the rules on which a recorded vote or the yeas and nays are ordered, or on which the vote occurs objection under clause 6 of rule XX. Any record vote on the postponed question will be taken later.

WEATHER RESEARCH AND FORECASTING INNOVATION ACT OF 2017

Mr. SMITH of Texas. Mr. Speaker, I move to suspend the rules and concur in the Senate amendment to the bill (H.R. 353) to improve the National Oceanic and Atmospheric Administration's weather research through a focused program of investment on affordable and attainable advances in observational, computational, and modeling capabilities to support substantial improvement in weather forecasting and prediction of high impact weather events, to expand commercial opportunities for the provision of weather data, and for other purposes.

The Clerk read the title of the bill. The text of the Senate amendment is as follows:

Senate amendment:

Strike out all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Weather Research and Forecasting Innovation Act of 2017.”

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

TITLES

TITLE I—UNITED STATES WEATHER RESEARCH AND FORECASTING INNOVATION ACT OF 2017

SECTION 101. PUBLIC SAFETY PRIORITY.

SECTION 102. Weather research and forecasting innovation.

SECTION 103. Tornado warning improvement and reduction program.

SECTION 104. Hurricane forecast improvement program.

SECTION 105. Weather research and development planning.

SECTION 106. Observing system planning.

SECTION 107. Observing system simulation experiments.

SECTION 108. Annual report on computing resources.


SECTION 110. Authorization of appropriations.

TITLES

TITLE II—SUBSEASONAL AND SEASONAL OUTLOOK ACT OF 2017

SECTION 201. Improving subseasonal and seasonal forecasts.

TITLES

TITLE III—WEATHER SATELLITE AND DATA INNOVATION

SECTION 301. National Oceanic and Atmospheric Administration satellite and data management.

SECTION 302. Commercial weather data.

SECTION 303. Unnecessary duplication.

TITLES

TITLE IV—FEDERAL WEATHER SERVICE

SEC. 102. WEATHER RESEARCH AND FORECASTING INNOVATION.

(a) PROGRAM.—The Assistant Administrator for the Office of Oceanic and Atmospheric Research, in coordination with the National Weather Service and other appropriate agencies and entities, shall develop a program to develop improved understanding of and forecast capabilities for atmospheric events and their impacts, placing particular emphasis on developing more accurate, timely, and effective warnings and forecasts of high impact weather events that endanger life and property.

(b) PROGRAM ELEMENTS.—The program described in subsection (a) shall focus on the following activities:

(1) Improving the fundamental understanding of weather systems with high resolution, including the boundary layer and other processes affecting high impact weather events.

(2) Improving the understanding of how the public interprets and responds to warnings and forecasts of high impact weather events that endanger life and property.

(3) Research and development, and transfer of knowledge, technologies, and applications to the National Weather Service and other appropriate agencies and entities, including the United States weather industry and academic partners, related to—

(A) advanced radar, radar networking technologies, and other ground-based technologies, including those emphasizing rapid, fine-scale sensing of the boundary layer and lower troposphere, and the use of innovative, dual-polarization, phased-array technologies; (B) advanced observing systems; (C) high performance computing and information technology and wireless communication networks; (D) advanced numerical weather prediction systems and forecasting tools and techniques that improve the forecasting of timing, track, intensity, and severity of high impact weather, including through—

(i) the development of more effective mesoscale models; (ii) more effective use of existing, and the development of new, regional and national cloud-resolving models; (iii) enhanced global weather models; and (iv) integrated assessment models; (E) quantitative assessment tools for measuring the impact and value of data and observing systems, including observing System Simulation Experiments (as described in section 107); (F) observing System Simulation Experiments, and Analyses of Alternatives; (G) atmospheric chemistry and interactions ex-situ atmospheric, oceanic, and chemical processes; (H) composition and predicting meteorological processes, including cloud microphysical, precipitation, and atmospheric electrification processes, to more effectively understand their role in severe weather; and (G) additional sources of weather data and information, including commercial observing systems.

(4) A technology transfer initiative, carried out jointly and in coordination with the Director of the National Weather Service, and in cooperation with the United States weather industry and academic partners, to ensure continuous development and transition of the latest scientific and technological advances into operations of the National Weather Service and to establish a process to sunset outdated and expensive operational methods and tools to enable improved severe weather planning and decisionmaking on the part of individuals and communities.

(c) EXTRAMURAL RESEARCH.—(1) IN GENERAL.—In carrying out the program under this section, the Assistant Administrator for Oceanic and Atmospheric Research shall—

(D) advanced numerical weather prediction systems and forecasting tools and techniques that improve the forecasting of timing, track, intensity, and severity of high impact weather events; and

(2) Improving the forecast and communication of storm surges from hurricanes; and (3) incorporating risk communication research to create more effective warning and watching products.

(c) PROJECT PLAN.—Not later than 1 year after the date of the enactment of this Act, the Under Secretary, in consultation with the Assistant Administrator for Oceanic and Atmospheric Research and in consultation with the Director of the National Weather Service, shall develop a plan for the project maintained under sub-section (a) that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the goal set forth in subsection (b).

(d) ANNUAL BUDGET FOR PLAN SUBMITTAL.—Following completion of the plan, the Under Secretary, with the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service, shall, not less frequently than once each year, submit to Congress a proposed budget corresponding with the activities identified in the plan.

SEC. 103. TORNADO WARNING IMPROVEMENT AND EXTENSION PROGRAM.

(a) IN GENERAL.—The Under Secretary, in collaboration with the United States weather industry and academic partners, shall establish a tornado warning improvement and extension program.

(b) GOAL.—The goal of such program shall be to reduce the loss of life and economic losses from tornades through the development and extension of accurate, effective, and timely tornado forecasts, predictions, and warnings, including the prediction of tornades beyond 1 hour in advance.

(c) PROGRAM PLAN.—Not later than 180 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research, in coordination with the Director of the National Weather Service, shall develop a program plan that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the goal set forth in subsection (b).

(d) ANNUAL BUDGET FOR PLAN SUBMITTAL.—Following completion of the plan, the Under Secretary, with the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service, shall not less frequently than once each year, submit to Congress a proposed budget corresponding with the activities identified in the plan.

SEC. 104. HURRICANE FORECAST IMPROVEMENT PROGRAM.

(a) IN GENERAL.—The Under Secretary, in collaboration with the United States weather industry and such academic entities as the National Science Foundation, the United States weather industry, and academic partners, shall establish a program to improve hurricane forecasting.

(b) GOAL.—The goal of the program shall be to improve the forecast and communication of storm surges from hurricanes; and to enable improved severe weather planning and decisionmaking on the part of individuals and communities.

(c) PROGRAM PLAN.—Not later than 1 year after the date of the enactment of this Act, the Under Secretary, with the Assistant Administrator for Oceanic and Atmospheric Research and in consultation with the Director of the National Weather Service, shall develop a plan for the project maintained under sub-section (a) that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the goal set forth in sub-section (b).

SEC. 105. WEATHER RESEARCH AND DEVELOPMENT PLANNING.

Not later than 1 year after the date of the enactment of this Act, and not less frequently than once each year thereafter, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research shall—

(a) identify the purpose of proposed space-based, sub-satellite, and in situ observing systems and technologies, including potential impacts on extreme weather events across all parts of the Nation;
(2) evaluate and compare observing system design options; and
(3) assess the relative capabilities and costs of various observing systems and combinations of observing systems in providing data necessary to protect life and property.

(c) IMPLEMENTATION.—Observing System Simulation Experiments—
(1) shall be conducted prior to the acquisition of major Government-owned or Government-leased operational observing systems, including polar-orbiting and geostationary satellite systems, with a once-facility cost of more than $500,000; and
(2) shall be conducted prior to the purchase of any major new commercially provided data with a lifetime cost of more than $500,000,000.

(d) PRIORITY OBSERVING SYSTEM SIMULATION EXPERIMENTS.—
(1) GLOBAL NAVIGATION SATELLITE SYSTEM RADIO OCCULTATION.—Not later than 30 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from Global Navigation Satellite System Radio Occultation.

(2) GEOSTATIONARY HYPERSPECTRAL SOUNDER GLOBAL CONSTELLATION.—Not later than 120 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from a geostationary hyperspectral sounder global constellation.

(e) RESULTS.—Upon completion of all Observing System Simulation Experiments, the Assistant Administrator shall make available to the public the results an assessment of related private and public sector weather data sourcing options, including their availability, affordability, and cost-effectiveness. Such assessments shall be developed in accordance with section 5993 of title 51, United States Code.

SEC. 108. ANNUAL REPORT ON COMPUTING RESOURCES PRIORITY.
Not later than 1 year after the date of the enactment of this Act and not less frequently than once each year thereafter, the Under Secretary, acting through the Chief Information Officer of the National Oceanic and Atmospheric Administration and in coordination with the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service, shall produce and make publicly available a report that explains how the Under Secretary intends—
(1) to continually support upgrades to pursue the fastest, most powerful, and cost-effective high performance computing technologies in support of the planning and prediction mission;
(2) to ensure a balance between the research to operations requirements to develop the next generation of regional and global models as well as high-performance operational models;
(3) to take advantage of advanced development concepts to, as appropriate, make next generation weather prediction models available in beta to operational forecasters, the United States weather industry, and partners in academic and Government research; and
(4) to use existing computing resources to improve advanced research and operational weather prediction.

SEC. 109. UNITED STATES WEATHER RESEARCH AND OPERATIONS
(1) in subsection (a)—
(A) in paragraph (3), by striking “; and” and inserting a semicolon;
(B) in paragraph (4), by striking the period at the end of subparagraph (A) and inserting a semicolon; and
(C) by inserting after paragraph (4) the following:
“(5) submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives, not less frequently than once each year, a report, including—
(A) a list of ongoing research projects;
(B) project goals and a point of contact for each project;
(C) the five projects related to weather observations, short-term weather, or subseasonal forecasts within Office of Oceanic and Atmospheric Research that are closest to operationalization;
(D) for each project referred to in subparagraph (C)—
(i) the potential benefit;
(ii) any barrier to operationalization; and
(iii) the plan for operationalization, including which line office will financially support the project and how much the line office intends to spend;
(6) establish teams with staff from the Office of Oceanic and Atmospheric Research and the National Weather Service to oversee the operationalization of research products developed by the Office of Oceanic and Atmospheric Research;
(7) develop mechanisms for research priorities of the Office of Oceanic and Atmospheric Research to be informed by the relevant line offices within National Oceanic and Atmospheric Administration, the relevant user community, and the weather enterprise;
(8) develop an internal mechanism to track the progress of each project within the Office of Oceanic and Atmospheric Research and mechanisms to terminate a project that is not adequately progressing;
(9) develop and implement a system to track whether extramural research grant goals were accomplished;
(10) provide facilities for products developed by the Office of Oceanic and Atmospheric Research to be tested in operational simulations, such as test beds; and
(11) encourage academic collaboration with the Office of Oceanic and Atmospheric Research and the National Weather Service by facilitating visiting scholars.”;
(2) in subsection (b), in the matter preceding paragraph (1), by striking “Not later than 90 days after the date of enactment of this Act, the” and inserting “The”;
and
(3) by adding at the end the following new subsection:
“(c) SUBSEASONAL DEFINED.—In this section, the term ‘subseasonal’ means the time range between 2 weeks and 3 months.”

SEC. 110. AUTHORIZATION OF APPROPRIATIONS.
(a) FISCAL YEARS 2017 AND 2018.—For each of fiscal years 2017 and 2018, there are authorized to be appropriated to Office of Oceanic and Atmospheric Research—
(1) $111,316,000 to carry out this title, of which—
(A) $85,758,000 is authorized for weather laboratory activities related to subseasonal and seasonal forecast needs to enhance national security; and
(B) $25,758,000 is authorized for weather and communication coordinators to enable local interpretation and planning based on the information.
(2) REQUIREMENTS.—For each State that requests assistance under this subsection, the Under Secretary may—
(A) provide funds to support an individual in that State;
(B) to serve as a liaison among the National Oceanic and Atmospheric Administration, other Federal departments and agencies, the weather enterprise, the State, and relevant interests within that State; and
(C) to receive the forecasts and information under subsection (c) and disseminate the forecasts and information throughout the State, including to county and tribal governments; and
(3) LIMITATION.—No additional funds are authorized to carry out this title and the amendments made by this title.

TITLE II—SUBSEASONAL AND SEASONAL FORECASTING INNOVATION

SEC. 201. IMPROVING SUBSEASONAL AND SEASONAL FORECASTS
Section 1762 of the National Weather Service Act of 1985 (Public Law 99–198; 15 U.S.C. 313 note) is amended—
(1) in subsection (a), by striking “(a)” and inserting “(a)”; and
(2) in subsection (b), by striking “(b)” and inserting “(b)”.
"(I) IN GENERAL.—Not later than 18 months after the date of the enactment of the Weather Research and Forecasting Innovation Act of 2017, the Under Secretary shall submit to the Committee on Science, Space, and Technology of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report, including—

(A) an identification of research, monitoring, observing, and forecasting requirements to meet the goals described in subparagraph (B);

(B) support the development of real-time data sharing products and forecast products in collaboration with the regional associations of such systems, including contributions from the private sector, academia, and research institutions to improve timely and accurate use of ocean and coastal data in regional forecasts.

(C) an independent study on future of national oceanic and atmospheric administration satellite systems and data—

(I) AGREEMENT.—

(A) IN GENERAL.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this paragraph.

(B) TIMING.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) before September 30, 2018.

(D) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated, out of funds appropriated to National Environmental Satellite, Data, and Information Service, to carry out this subsection $1,000,000 for the period encompassing fiscal years 2018 through 2019.

TITLE III—WEATHER SATELLITE AND DATA INNOVATION

SEC. 301. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SATELLITE AND DATA MANAGEMENT.

(a) SHORT-TERM MANAGEMENT OF ENVIRONMENTAL OBSERVATIONS.—

(I) MICROSATELLITE CONSTELLATIONS.—

(A) GENERAL.—The Under Secretary shall complete and operationalize the Constellation Observing System for Meteorology, Ionosphere, and Climate-1 and Climate-2 (COSMIC) in effect on the day before the date of the enactment of this Act—

(i) by deploying constellations of microsatellites in both the equatorial and polar orbits; (ii) resulting data and research into all national operational and research weather forecast models; and (iii) by ensuring that the resulting data of National Oceanic and Atmospheric Administration’s COSMIC-1 and COSMIC-2 programs are free and open to all communities.

(B) ANNUAL REPORTS.—Not less frequently than once each year until the Under Secretary has completed and operationalized the program described in subparagraph (A) pursuant to such agreement, the Under Secretary shall submit to Congress a report on the status of the efforts of the Under Secretary to carry out such subparagraph.

(2) INTEGRATION OF OCEAN AND COASTAL DATA FROM THE INTEGRATED OCEAN OBSERVING SYSTEM.—In National Weather Service Regions where the Director of the National Weather Service determines that ocean and coastal data could improve forecasts, the Director, in consultation with the Assistant Administrator for Oceanic and Atmospheric Research and the Assistant Administrator for the National Oceanic Service shall—

(A) integrate additional coastal and ocean observations, and other data and research, from the Integrated Ocean Observation System (IOOS) into regional weather forecasts and forecasting decision support systems; and

(B) support the development of real-time data sharing products and forecast products in collaboration with the regional associations of such systems, including contributions from the private sector, academia, and research institutions to improve timely and accurate use of ocean and coastal data in regional forecasts.

(3) SEASONAL.—The term ‘seasonal’ means the time range between 2 weeks and 3 months.

(4) UNDER SECRETARY.—The term ‘Under Secretary’ means the Under Secretary of Commerce for Oceans and Atmosphere.

(5) WEATHER INDUSTRY AND WEATHER ENTERPRISE.—The terms ‘weather industry’ and ‘weather enterprise’ are interchangeable in this section.

(iv) identify and prioritize new environmental monitoring, observation, and forecasting requirements to meet the goals described in subparagraph (B).
contribute to its national interest by developing a comprehensive weather model; and
(ii) if an acquisition or development is not feasible, the model should
be used to improve the existing model's performance.

(3) AUTHORIZE FUNDING FOR ACQUISITION AND DEVELOPMENT.—Not later than 60 days after the date of enactment of this Act, the Under Secretary shall publish a report outlining the funding needs for acquiring, developing, and deploying the national weather model, including any anticipated costs and benefits.

(4) REPORT TO CONGRESS.—Not later than 180 days after the date of enactment of this Act, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a copy of such report.

Title IV—Federal Weather Coordination


(a) Establishment.—The National Oceanic and Atmospheric Administration Science Advisory Board shall continue to maintain a standing working group that provides advice and recommendations to the National Oceanic and Atmospheric Administration on the development of environmental information services. This working group may include representatives from all relevant fields of science and engineering, including atmospheric chemistry, atmospheric physics, meteorology, social science, risk communications, electrical engineering, and computer sciences. The working group shall be jointly selected by the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service.

(b) Composition.—(1) The working group shall be composed of not fewer than 15 members. Members shall be selected from among their number with approval by the Science Advisory Board. Members of the working group may select a chair (or co-chairs) from among their number.

(2) Annual Report.—Not less frequently than once each year, the working group shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on participation in such program and shall highlight any innovation that come from this interaction.

Title V—Federal Weather Coordination


(a) Establishment.—The Director of the Office of Science and Technology Policy shall establish an interagency committee on climate research and forecast innovation activities across the Federal Government. The interagency committee shall include representatives from the National Aeronautics and Space Administration, the Federal Aviation Administration, the National Oceanic and Atmospheric Administration and its constituent agencies, the National Science Foundation, and such other agencies involved in weather forecasting research as the President determines are appropriate. The committee shall identify and prioritize top forecast needs and coordinate those needs against budget requests and program initiatives across participating offices and agencies.

(b) Further Coordination.—The interagency committee shall convene the Federal Weather Coordination Board to serve as a co-chair of the national weather forecasting research and forecasting improvements across relevant agencies.

Title VI—Federal Weather Coordination


(a) In General.—The Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service may establish a program to detail Office of Oceanic and Atmospheric Research personnel to the National Oceanic and Atmospheric Administration, National Weather Service, and National Weather Service personnel to the Office of Oceanic and Atmospheric Research.

(b) Goal.—The goal of this program is to enhance forecasting innovation through regular, direct interaction between the Office of Oceanic and Atmospheric Research’s world-class scientists and the National Weather Service’s operational staff.

(c) Elements.—The program shall allow up to 10 Office of Oceanic and Atmospheric Research staff and National Weather Service staff to spend up to 1 year on detail. Candidates shall be jointly selected by the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service.

(d) Annual Report.—Not less frequently than once each year, the Under Secretary shall submit to the Committees on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on participation in such program and shall highlight any innovation that come from this interaction.


(a) In General.—The Director of the National Weather Service may establish a program to host postdoctoral fellows and academic researchers at any of the National Centers for Environmental Prediction.

(b) Goal.—This program shall be designed to provide direct interaction between forecasters and talented academic and private sector researchers in an effort to bring innovation to forecasting tools and techniques.

(c) Selection and Appointment.—Such fellows shall be competitively selected and appointed for a term not to exceed 1 year.

Title VII—Federal Weather Coordination

SEC. 405. Warning Coordination Meteorologists.
may place a warning coordination meteorologist designated under subsection (a) with a State or local emergency manager if the Director consi-
ders doing so is necessary or convenient to carry out those responsibil-
ities.

(2) TREATMENT.—If the Director determines that the placement of a warning coordination meteorologist placed with a State or local emer-
gency manager under paragraph (1) is near a weather forecast office of the National Weather Service, such placement shall be treated as des-
ignation of the warning coordination meteorolo-
gist at such weather forecast office for purposes of subsection (a).

SEC. 406. IMPROVING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMUNICATION OF HAZARDOUS WEATHER AND WATER EVENTS.

(a) PURPOSE OF SYSTEM.—For purposes of the assessment required by subsection (b)(1)(A), the purpose of National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events shall be risk communication to the general public that informs action to prevent loss of life and property.

(b) ASSESSMENT OF SYSTEM.—

(1) IN GENERAL.—Not later than 2 years after the date of the enactment of this Act, the Under Secretary shall—

(A) assess the National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events; and

(B) submit a report on the findings of the Under Secretary with respect to the assessment conducted under subparagraph (A).

(2) ELEMENTS.—The assessment required by paragraph (1)(A) shall include the following:

(A) An evaluation of whether the National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events meets the purpose described in paragraph (a);

(B) Development of recommendations for—

(i) legislative and administrative action to im-

prove the system described in paragraph (1)(A); and

(ii) such research as the Under Secretary con-

siders necessary to address the focus areas de-
scribed in paragraph (3);

(3) FOCUS AREAS.—The assessment required by paragraph (1)(A) shall focus on the following:

(A) Ways to communicate the risks posed by hazardous weather or water events to the public as broadly and rapidly as practicable.

(B) Ways to communicate the risks posed by hazardous weather or water events to the public as broadly and rapidly as practicable.

(C) Ways to preserve the benefits of the exist-

ing watches and warnings system;

(D) Ways to maintain the utility of the watch-

es and warnings system for Government and commercial users of the system;

(4) CONSULTATION.—In conducting the assess-

ment required by paragraph (1)(A), the Under Secretary shall—

(A) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the Na-

tional Weather Service, and the Office of Oceanic and Atmospheric Research;

(B) consult with individuals in the academic sector, including individuals in the field of social and behavioral sciences, and other weather services;

(C) consult with media outlets that will be dis-

tributing the watches and warnings;

(D) consult with non-Federal forecasters that produce severe weather risk commu-
nication products;

(E) consult with emergency planners and re-

sponders, including State and local emergency management agencies, as well as users of the watches and warnings system, in-

cluding the Federal Emergency Management

Agency, the Office of Personnel Management, the Coast Guard, and such other Federal agen-
cies as the Under Secretary determines rely on watches and warnings for operational decisions; and

(F) make use of the services of the National Academy of Sciences, as the Under Secretary considers necessary and practicable, including the National Research Council, to review the scientific and technical soundness of the assessment required by paragraph (1)(A), including the recommendations developed under paragraph (2)(B).

(5) METHODOLOGIES.—In conducting the as-

sessment required by paragraph (1)(A), the Under Secretary shall use such methodologies as the Under Secretary determines are ac-
cepted by the weather enterprise, including so-
cial and behavioral sciences.

(c) PROGRAM ELEMENTS.—

(1) IN GENERAL.—The Under Secretary shall, based on the assessment required by subsection (b)(1)(A), make such recommendations to Con-
gress to improve the system as the Under Sec-
retary considers necessary—

(A) to improve the system for issuing watches and warnings regarding hazardous weather and water events; and

(B) to support efforts to satisfy research needs to enable future improvements to such system.

(2) REQUIREMENTS REGARDING RECOMMENDA-

TIONS.—The Under Secretary, in carrying out the requirements of this section, shall—

(A) obtain recommendations from the National Commission on Weather Forecasting and Related Research; and

(B) submit recommendations to Congress that include the recommendations developed under subsection (a).

(d) PROGRAM AWARD.—

(1) IN GENERAL.—Subject to paragraph (2), the National Oceanic and Atmospheric Administration is authorized to establish a Weather Watcher Award Program. This award program shall provide annual awards to honor individuals or organizations that use or provide National Oceanic and At-
mospheric Administration Weather Radio All Hazards receivers or transmitters to save lives and protect property, Individuals or organizations that utilize other early warning tools or applications also qualify for this award.

(2) GOAL.—This award program draws atten-
tion to the life-saving work of the National Oce-
nic and Atmospheric Administration Weather Radio All Hazards Program and encourages the development, support, and use of emerging tools and applications, that provide real-
time warning to individuals and communities of severe weather or other hazardous conditions.

(e) PROGRAM ELEMENTS.—

(1) NOMINATIONS.—Nominations for this award shall be made annually by the Weather

(1) IN GENERAL.—Subject to paragraph (2), the Under Secretary may assign a warning coordination meteorologist designated under subsection (a) to such State agency to carry out such responsibilities.

(2) OTHER STAFF.—The Director may assign a warning coordination meteorologist designated under subsection (a) to such State agency to carry out such responsibilities.

(2) OTHER STAFF.—The Director may assign a warning coordination meteorologist designated under subsection (a) to such other staff as the Director considers appropriate to carry out such responsibilities.

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Field Offices to the Director of the National Weather Service. Broadcast meteorologists, weather radio manufacturers and weather warning tools and application developers, emergency officials of the States, and public safety officials may nominate individuals or organizations to their local Weather Field Offices, but the final list of award nominees must come from the Weather Field Offices.

(2) SELECTION OF AWARDSEE. —Annually, the Director of the National Weather Service shall choose winners of this award whose timely actions, or demonstrated public service in support of weather or all hazard warnings.

(3) AWARD CEREMONY. —The Director of the National Weather Service shall establish a means of making these awards to provide maximum public awareness of the importance of National Oceanic and Atmospheric Administration Weather Radio, and such other warning tools and applications as are represented in the awards.

SEC. 408. DEPARTMENT OF DEFENSE WEATHER FORECASTING ACTIVITIES.

Not later than 180 days after the date of the enactment of this Act, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report analyzing the impacts of the proposed Air Force divestiture in the United States Weather Research and Forecasting Model.

(1) the impact on—

(A) the United States weather forecasting capability;

(B) the accuracy of civilian regional forecasts;

(C) the civilian readiness for traditional weather and extreme weather events in the United States;

(D) the research necessary to develop the United States Weather Research and Forecasting Model; and

(2) such other analysis relating to the divestiture as the Under Secretary considers appropriate.

SEC. 409. NATIONAL WEATHER SERVICE; OPERATIONS AND WORKFORCE ANALYSIS.

The Under Secretary may contract or continue to partner with an external organization to conduct a baseline analysis of National Weather Service operations and workforce.

SEC. 410. REPORT ON CONTRACT POSITIONS AT NATIONAL WEATHER SERVICE.

(a) REPORT REQUIRED. —Not later than 180 days after the date of the enactment of this Act, the Under Secretary shall submit to Congress a report on the use of contractors at the National Weather Service for the most recently completed fiscal year.

(b) CONTENTS. —The report required by subsection (a) shall include, with respect to the most recently completed fiscal year, the following:

(1) The total number of full-time equivalent employees at the National Weather Service, disaggregated by each equivalent level of the General Schedule.

(2) The total number of full-time equivalent contractors at the National Weather Service, disaggregated by each equivalent level of the General Schedule that most closely approximates their duties.

(3) The total number of vacant positions at the National Weather Service on the date before the date of enactment of this Act, disaggregated by each equivalent level of the General Schedule.

(4) The five most common positions filled by full-time equivalent contractors at the National Weather Service, disaggregated by each equivalent level of the General Schedule that most closely approximates the duties of such positions.

(5) Of the positions identified under paragraph (4), the percentage of full-time equivalent contractors in those positions that have held a prior position at the National Weather Service or another entity in National Oceanic and Atmospheric Administration.

(6) The average full-time equivalent salary for Federal employees at the National Weather Service for each equivalent level of the General Schedule.

(7) The average salary for full-time equivalent contractors performing at each equivalent level of the General Schedule.

SEC. 411. WEATHER IMPACTS TO COMMUNITIES AND INFRASTRUCTURE.

(a) REVIEW. —

(1) IN GENERAL. —The Director of the National Weather Service shall submit to the Committee on Commerce, Science, and Transportation of the House of Representatives a report analyzing the impacts of the proposed Air Force divestiture in the United States Weather Research and Forecasting Model.

(2) ELEMENTS. —The review required by paragraph (1) shall include research, products, and services with the potential to improve modeling and forecasting, including account of unique physical characteristics and forecasting challenges.

(b) REPORT AND ASSESSMENT. —Upon completion of the review required by subsection (a), the Under Secretary shall submit to Congress a report on the research, products, and services of the National Weather Service, including an assessment of such research, products, and services that is based on the review, public comment, and recent publications by the National Academy of Sciences.

SEC. 412. WEATHER ENTERPRISE OUTREACH.

(a) IN GENERAL. —The Under Secretary may establish mechanisms for outreach to the weather enterprise—

(1) to assess the weather forecasts and forecast products provided by the National Oceanic and Atmospheric Administration;

(2) to assess the weather forecasts and forecast products provided by the National Weather Service, including an assessment of such research, products, and services that is based on the review, public comment, and recent publications by the National Academy of Sciences.

(b) OUTREACH COMMUNITY. —In conducting outreach under subsection (a), the Under Secretary shall contact leading experts and innovators from relevant stakeholders, including the representation of the following:

(1) State or local emergency management agencies.

(2) State agriculture agencies.

(3) Indian tribes (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304)) and Native Hawaiians (as defined in section 6207 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7517)).

(4) The private aerospace industry.

(5) The private weather industry.

(6) The operational forecasting community.

(7) The academic community.

(8) Professional societies that focus on meteorology.

(c) AWARD RECIPIENTS. —The Under Secretary shall award the weather enterprise outreach awards to the congressional committees referred to in subsection (a)(3) recommendations for improving
hazardous weather detection and forecasting coverage in the areas identified under subsection (a)(2)(A) by integrating additional observation solutions to the extent practicable and necessary to protect public safety.

(c) Third-Party Consultation Regarding Recommendations to Improve Party Coordination.—The Secretary of Commerce may seek reviews by, or consult with, appropriate third parties regarding the scientific methodology relating to, and the feasibility and advisability of implementing recommendations submitted under subsection (b), including the extent to which warning and forecast services of the National Weather Service would be improved by additional observations.

TITLE V—TSUNAMI WARNING, EDUCATION, AND RESEARCH ACT OF 2017

SEC. 501. SHORT TITLE.

This title may be cited as the “Tsunami Warning, Education, and Research Act of 2017.”

SEC. 502. REFERENCES TO THE TSUNAMI WARNING AND EDUCATION ACT.

Except as otherwise expressly provided, whenever in this title an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provisions of the Tsunami Warning and Education Act enacted as title VIII of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109-231, 43 U.S.C. 3901 et seq.).

SEC. 503. EXPANSION OF PURPOSES OF TSUNAMI WARNING AND EDUCATION ACT.

Section 803 (33 U.S.C. 3203) is amended—

(1) in paragraph (1), by inserting “research,” after “warning;”;

(2) by amending paragraph (2) to read as follows:

“(2) to enhance and modernize the existing United States Tsunami Warning System to increase the accuracy of forecasts and warnings, to ensure full coverage of tsunami threats to the United States with a network of detection assets, and to reduce false alarms;”;

(3) by amending paragraph (3) to read as follows:

“(3) to improve and develop standards and guidelines for mapping, modeling, and assessment efforts to improve tsunami detection, forecasting, warnings, notification, mitigation, response, outreach, and recovery;”;

(4) by redesignating paragraphs (4), (5), and (6) as paragraphs (5), (6), and (8), respectively;

(5) by inserting after paragraph (3) the following:

“(4) to improve research efforts related to improving tsunami detection, forecasting, warnings, notification, mitigation, response, outreach, and recovery;”;

(6) in paragraph (5), as redesignated—

(A) by striking “and increase” and inserting “increase, and develop uniform standards and guidelines for;” and

(B) by inserting “, including the warning signs of locally generated tsunami” after “approaches;”;

(7) in paragraph (6), as redesignated, by striking “, including the Indian Ocean; and” and inserting a semicolon; and

(8) by redesigning paragraph (6), as redesignated, the following:

“(7) to foster resilient communities in the face of tsunami and other similar coastal hazards;”.

SEC. 504. MODIFICATION OF TSUNAMI FORECASTING AND WARNING PROGRAM.

(a) In General.—Subsection (a) of section 804 (33 U.S.C. 3203(c)) is amended by striking “Atlantic Ocean, Caribbean Sea, and Gulf of Mexico region” and inserting “Atlantic Ocean region, including the Caribbean Sea and the Gulf of Mexico region”;

(b) Components.—Subsection (b) of section 804 (33 U.S.C. 3203(b)) is amended—

(1) in paragraph (1), by striking “established,” and inserting “supported or maintained;”;

(2) by redesignating paragraphs (7) through (9) as paragraphs (8) through (10), respectively; and

(3) by redesigning paragraph (2) through (6) as paragraphs (3) through (7), respectively;

(4) by inserting after paragraph (1) the following:

“(2) to the degree practicable, maintain not less than 80 percent of the Deep-ocean Assessment and Reporting of Tsunamis buoy array at operational capacity to optimize data reliability;”;

(5) by amending paragraph (5), as redesignated by paragraph (3), to read as follows:

“(5) provide forecasting capability based on models and measurements, including tsunami inundation models and maps for use in increasing the preparedness of communities and safeguarding ports and harbor operations, that incorporate inputs, including—

(A) the United States and global ocean and coastal observing system;

(B) the global Earth observing system;

(C) the global seismic network;

(D) the Advanced National Seismic system;

(E) tsunami model validation using historical and paleotsunami data;

(F) digital elevation models and bathymetry; and

(G) newly developing tsunami detection methodologies using satellites and airborne remote sensing;”;

(6) by amending paragraph (7), as redesignated by paragraph (3), to read as follows:

“(7) in coordination among the Administration, the United States Geological Survey, and the National Science Foundation under which the Director of the United States Geological Survey and the Director of the National Science Foundation shall—

(A) provide rapid and reliable seismic information to the Administrator from international and domestic seismic networks; and

(B) support seismic stations installed before the date of the enactment of the Tsunami Warning, Education, and Research Act of 2017 to supplement coverage areas of sparse instrumentation;”;

(7) in paragraph (8), as redesignated by paragraph (2)—

(A) by inserting “, including graphical warning products,” after “warnings;”;

(B) by inserting “, territories,” after “States,” and

(C) by inserting “and Wireless Emergency Alerts” after “Hazardous Program;” and

(8) in paragraph (9), as redesignated by paragraph (2)—

(A) by inserting “provide and before “allow;” and

(B) by inserting “and commercial and Federal undersea communications cables” after “observing technologies;”;

(c) Tsunami Warning System.—Subsection (c) of section 804 (33 U.S.C. 3203(c)) is amended to read as follows:

“(c) Tsunami Warning System.—The program under this section shall operate a tsunami warning system that—

(1) is capable of forecasting tsunami, including forecasting tsunami arrival time and inundation estimates, anywhere in the Pacific and Arctic Ocean regions and providing adequate warnings;

(2) is capable of forecasting and providing adequate warnings, including tsunami arrival time and inundation models that were applicable, in areas of the Atlantic Ocean, including the Caribbean Sea and Gulf of Mexico, that are determined—

(A) to be geologically active, or to have significant potential for geological activity; and

(B) to pose significant risks of tsunami for States along the coastal areas of the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico; and

(3) supports other international tsunami forecasting and warning efforts.”.

(d) Tsunami Warning Centers.—Subsection (d) of section 804 (33 U.S.C. 3203(d)) is amended to read as follows:

“(d) Tsunami Warning Centers.—

(1) In General.—The Administrator shall support or maintain centers to support the tsunami warning system required by subsection (c). The Centers shall include—

(A) the National Tsunami Warning Center, located in Alaska, which is primarily responsible for Alaska and the continental United States;

(B) the Pacific Tsunami Warning Center, located in Hawaii, which is primarily responsible for Hawaii, the Caribbean, and other areas of the Pacific not covered by the National Center; and

(C) any additional forecast and warning centers determined by the National Weather Service to be necessary.

(2) Responsibilities.—The responsibilities of the centers supported or maintained under paragraph (1) shall include the following:

(A) Continuously monitoring data from seismological, deep ocean, coastal sea level, and tidal monitoring stations and other data sources as may be developed and deployed;

(B) Evaluating earthquakes, landslides, and volcanic eruptions that have the potential to generate tsunamis;

(C) Evaluating deep ocean buoy data and tidal monitoring stations for indications of tsunamis resulting from earthquakes and other seismic events;

(D) To the extent practicable, utilizing a range of models, including ensemble models, to predict tsunamis, including arrival times, flooding estimates, coastal and harbor currents, and duration.

(E) Using data from the Integrated Ocean Observing System of the Administration in coordination with regional associations to calculate new inundation estimates and periodically update existing inundation estimates.

(F) Disseminating tsunami warning bulletins to Federal, State, tribal, and local government officials and the public.

(G) Coordinating with the local coastal hazard mitigation program conducted under section 805 to ensure ongoing sharing of information between forecasters and emergency management officials.

(H) In coordination with the Commandant of the Coast Guard and the Administrator of the Federal Emergency Management Agency, evaluating and recommending procedures for ports and harbors at risk of tsunami inundation, including review of readiness, response, and communication strategies, and data sharing policies to the maximum extent practicable.

(I) Making data gathering under this Act and post-warning analyses conducted by the National Oceanic and Atmospheric Administration available to the public.

(J) Integrating and modernizing the program operated under this section with advances in tsunami science to improve performance without compromising service.

(3) Fail-Safe Warning Capability.—The tsunami warning centers supported or maintained under paragraph (1) shall maintain a fail-safe warning capability and perform back-up duties for each other.

(i) Coordination with National Weather Service.—The Administrator shall have the coordinating committee, as established in section 853(d), consider appropriate to ensure the national and local coordination with the National Weather Service.

(j) Have the technical knowledge and capability to disseminate tsunami warnings for the communities they serve.

(k) Be capable of sharing with other local emergency management officials for optimally disseminating tsunami warnings and forecasts; and

(I) Implement mass notification tools in effect on the day before the date of the enactment of the Tsunami Warning, Education, and
Research Act of 2017 used by the National Weather Service on such date and newer mass communication technologies as they are developed as a part of the Weather-Ready Nation program to improve preparedness, or otherwise, for the purpose of timely and effective delivery of tsunami warnings.

(5) UNIFORM OPERATING PROCEDURES.—The Administrator shall—

"(a) develop uniform operational procedures for the centers supported or maintained under paragraph (1), including the use of software applications, checklists, decision support tools, and tsunami warning products that have been standardized across the program supported under this section;

"(B) require that processes and products of the warning system operated under subsection (c)—

"(i) reflect industry best practices when practicable;

"(ii) conform to the maximum extent practicable with internationally recognized standards for information technology; and

"(iii) conform to the maximum extent practicable with other warning products and practices of the National Weather Service;

"(C) ensure that future adjustments to operational protocols, processes, and warning products—

"(i) are made consistently across the warning system operated under subsection (c); and

"(ii) are applied in a uniform manner across such warning system;

"(D) establish a systematic method for information technology product development to improve long-term technology planning efforts; and

"(E) disseminate guidelines and metrics for evaluating and improving tsunami forecast models;

(6) AVAILABLE RESOURCES.—The Administrator, through the National Weather Service, shall—

"(1) develop requirements for the equipment and maintaining tsunami detection technologies for community-based tsunami early warning systems to develop and implement activities conducted under subsection (c);

"(2) develop and execute a plan for the transfer of technology to other Federal, State, tribal, and local governments and non-governmental entities, including educational and risk communication programs to discourage development in high-risk areas;

"(3) conduct and maintain ongoing vulnerability assessments with other United States and global ocean and coastal observation systems, the global Earth observing system of systems, the global seismic networks, and the Advanced National Seismic System;

"(4) develop and execute a plan for the transfer of technology to other Federal, State, tribal, and local governments and non-governmental entities, including educational and risk communication programs to discourage development in high-risk areas;

"(5) in paragraph (1), including the use of software applications, checklists, decision support tools, and tsunami warning products that have been standardized across the program supported under this section;

"(B) in subparagraph (A), as redesignated by subsection (g)(3), is amended—

"(i) by redesignating subsection (g)(1) as paragraph (1), as redesignated by subsection (g)(3), as amended—

"(1) by redesignating paragraphs (1) and (2) as subparagraphs (A) and (B), respectively, and moving such subparagraphs to the right;

"(ii) and moving such subparagraphs to the right;

"(C) in paragraph (1), as redesignated by paragraph (2), by striking "The Administrator" and inserting the following:

"(D) in paragraph (1), as redesignated by paragraph (2), by striking ""and"" and inserting ""for"";

"(E) in paragraph (1), as redesignated by paragraph (2), by striking "The Administrator" and inserting the following:

"(F) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(G) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(H) in subparagraph (B), as redesignated by paragraph (2), by striking ""and"" and inserting ""for"";

"(I) in subparagraph (B), as redesignated by paragraph (2), by striking ""and"" and inserting ""for"";

"(J) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(K) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(L) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(M) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(N) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(O) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon;

"(P) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon; and

"(Q) by redesignating paragraph (2), as redesignated by paragraph (2), by striking the period at the end of such paragraph and inserting semicolon.

SEC. 505. MODIFICATION OF NATIONAL TSUNAMI HAZARD MITIGATION PROGRAM.

(a) IN GENERAL.—Section 804(a) (33 U.S.C. 2304(a)) is amended to read as follows:

"(a) PROGRAM.—The Administrator, in coordination with the Administrator of the Federal Emergency Management Agency and the heads of such other agencies as the Administrator considers relevant, shall conduct a community-based tsunami hazard mitigation program to improve tsunami preparedness and resiliency of at-risk areas in the United States and the territories of the United States.

(b) NATIONAL TSUNAMI HAZARD MITIGATION PROGRAM.—Section 803 (33 U.S.C. 2304) is amended by striking subsections (c) and (d) and inserting the following:

"(c) PROGRAM COMPONENTS.—The Program conducted under subsection (a) shall include the following:

"(1) Technical and financial assistance to coastal States, territories, tribes, and local governments to develop and implement activities under this subsection.

"(2) Integration of tsunami preparedness and mitigation programs into ongoing State-based hazard warning, resilience planning, and risk communication guidelines.

"(3) Coordination with other Federal preparedness and mitigation programs to leverage Federal investment, avoid duplication, and maximize efforts.

"(4) Activities to support the development of tsunami resilience, preparedness, warning, and mitigation measures by Federal, State, territorial, tribal, and local governments and non-governmental entities, including educational and risk communication programs to discourage development in high-risk areas.

"(5) Activities to support the development of regional tsunami hazard and risk assessments. Such regional risk assessments may include the following:

"(A) The sources, sizes, and other relevant historical data of tsunami in the region, including tsunami data.

"(B) Foundation models and maps of critical infrastructure and socioeconomic vulnerability in areas subject to tsunami inundation.

"(6) Activities to support the development of evacuation areas and evacuation routes, including, when appropriate, traffic studies that evaluate the viability of evacuation routes.

"(7) Activities to support the development of community-based outreach and education programs to support community readiness and resilience, including the following:

"(A) The development, implementation, and assessment of technical training and public education programs, including evacuation education programs that address unique characteristics of distant and near-field tsunamis.

"(B) The development of decision support tools.

"(C) The incorporation of social science research into community readiness and resilience programs.


"(E) Dissemination of guidelines and standards to community planning and training programs, programs, and tools, including—

"(i) standards for—

"(ii) mapping products;

"(iii) inundation models; and

"(ii) effective emergency exercises; and

"(B) recommended guidance for at-risk port and harbor tsunami warning, evacuation, and response procedures in coordination with the Coast Guard and the Federal Emergency Management Agency.

"(D) AUTHORIZED ACTIVITIES.—In addition to activities conducted under subsection (c), the program conducted under subsection (a) may include the following:

"(1) Multidisciplinary vulnerability assessment research, education, and training to help integrate risk management and resilience objectives with community development planning and policies.

"(2) Risk management training for local officials and community organizations to enhance understanding and preparedness.

"(3) In coordination with the Federal Emergency Management Agency, interagency, Federal, State, tribal, and territorial interagency national tsunami response exercise planning and implementation in high risk areas.

"(4) Development of practical applications for existing or emerging tsunami technologies, such as modeling, remote sensing, geospatial technology, engineering, and observing systems, including the
integration of tsunami sensors into Federal and commercial submarine telecommunication cables if practicable.

“(g) Risk management, risk assessment, and resilience data and information services, including—

(A) access to data and products derived from observing systems; and

(B) development and maintenance of new integrated data products to support risk management, risk assessment, and resilience programs.

“(h) Risk notification systems that coordinate with and build upon existing systems and actively engage decisionmakers, State, local, tribal, and territorial governments and agencies, business communities, nongovernmental organizations, and the media.

“(c) NO PREEMPTION WITH RESPECT TO DESIGNATION OF AT-RISK AREAS.—The establishment of national standards for inundation models under this section shall not prevent States, territories, tribes, and local governments from designating additional areas as being at risk based on knowledge of local conditions.

“(d) NO NEW REGULATORY AUTHORITY.—Nothing in this Act may be construed as establishing a new regulatory authority for any Federal agency.

“(e) REPORT ON ACCREDITATION OF TSHunamiReady PROGRAM.—Not later than 180 days after the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration shall submit to the Committee on Commerce, Science, and Transportation of the Congress, the Committee on Science, Space, and Technology of the House of Representatives a report on which authorities and activities would be needed to have the TsunamiReady program of the National Weather Service accredited by the Emergency Management Accreditation Program.

SEC. 506. MODIFICATION OF TSUNAMI RESEARCH PROGRAM.

Section 806 (33 U.S.C. 3206) is amended—

(1) in the matter before paragraph (1), by striking "The Administrator shall, in consultation with such other Federal agencies, State, tribal, and territorial governments, and academic institutions as the Administrator considers appropriate, the coordinating committee established under section 806(a), support or maintain"; and

(2) in subsection (a), as designated by paragraph (1), by striking "and assessment for tsunami tracking and numerical forecast modeling, and standards development." and inserting the following: "assessment for tsunami tracking and numerical forecast modeling, and standards development; and"

(b) RESPONSIBILITIES.—The research program supported or maintained under subsection (a) shall—

(1) in paragraph (1), by striking "establish and" and inserting "establishing and"; and

(2) in paragraph (2), by striking "support" and inserting "supporting;" and

(C) by redesignating paragraph (4) as paragraph (5), and striking paragraph (5) and inserting the following:

"(5) Risk management, risk assessment, and resilience data and information services, including—

(A) develop the technical basis for validation of tsunami maps, numerical tsunami models, digital elevation models, and forecasts; and

(B) in paragraph (5), as redesignated by subparagraph (C), by striking "to the scientific community" and inserting "to the public and the scientific community."

"SEC. 507. GLOBAL TSUNAMI WARNING AND MITIGATION NETWORK.

Section 807 (33 U.S.C. 3206) is amended—

(1) by amending subsection (a) to read as follows:

"(a) SUPPORT FOR DEVELOPMENT OF AN INTERNATIONAL TSUNAMI WARNING SYSTEM.—The Administrator shall, in coordination with the Secretary of Commerce and in consultation with such other agencies as the Administrator considers relevant, provide technical assistance, operational support, and training to the intergovernmental Oceanographic Commission of the United Nations Educational, Scientific, and Cultural Organization, the World Meteorological Organization of the United Nations, and such other international entities as the Administrator considers appropriate, as part of the international efforts to develop a fully functional global tsunami forecast and warning system comprised of regional tsunami warning networks.

"(b) in subsection (b), by striking "shall" each place it appears and inserting "may"; and

(1) in subsection (b), by striking "establishing and inserting "establishing and"

"SEC. 508. TSUNAMI SCIENCE AND TECHNOLOGY ADVISORY PANEL.

(a) IN GENERAL.—The Act is further amended—

(1) by redesigning section 808 (33 U.S.C. 3207) as section 809; and

(2) by inserting after section 807 (33 U.S.C. 3206) the following:

"SEC. 808. TSUNAMI SCIENCE AND TECHNOLOGY ADVISORY PANEL.

"(a) DESIGNATION.—The Administrator shall designate an existing working group within the Science and Technology Advisory Panel to serve as the Tsunami Science and Technology Advisory Panel to provide advice to the Administrator on matters regarding tsunami science, technology, and operational preparedness.

"(b) MEMBERSHIP.—

"(1) COMPOSITION.—The Panel shall be composed of no fewer than 7 members selected by the Administrator, from among individuals from academia or State agencies who have academic or practical expertise in physical sciences, social sciences, information technology, coastal resilience, emergency management, or other disciplines as the Administrator considers appropriate.

"(2) FEDERAL EMPLOYMENT.—No member of the Panel may serve as a Federal employee.

"(c) RESPONSIBILITIES.—Not less frequently than once every 4 years, the Panel shall—

"(1) review the activities of the Administration, and other Federal activities as appropriate, relating to tsunami science, research, forecasting, warning, mitigation, resiliency, and preparation; and

"(2) submit to the Administrator and such others as the Administrator considers appropriate—

(A) the findings of the working group with respect to the reports required under paragraph (1); and

(B) such recommendations for legislative or administrative action as the working group considers appropriate, relating to tsunami science, research, detection, forecasting, warning, mitigation, resiliency, and preparation.

"(d) REPORTS TO CONGRESS.—Not less frequently than once every 4 years, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Science, Space, and Technology of the House of Representatives a report on the findings and recommendations received by the Administrator under subsection (c)."

"(b) TABLE OF CONTENTS AMENDMENT.—The table of contents in section 1(b) of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–179; 120 Stat. 389) is amended by striking the item relating to section 808 and inserting the following:

"Sec. 806. Tsunami Science and Technology Advisory Panel.

Sec. 809. Authorization of appropriations.

"SEC. 509. REPORTS.

(a) REPORT ON IMPLEMENTATION OF TSUNAMI WARNING AND EDUCATION ACT.—

(1) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration shall submit to Congress a report on the implementation of the Tsunami Warning and Education Act enacted as title VI of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–179; 33 U.S.C. 3201 et seq.), as amended by this Act.

(b) A description of the ways that tsunami warnings and warning products issued by the Tsunami Warning and Education Act the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–179; 33 U.S.C. 3201 et seq.)


(a) REPORT ON NATIONAL EFFORTS THAT SUPPORT RAPID RESPONSE FOLLOWING NEAR-SHORE TSUNAMI EVENTS.—

(1) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the Administrator and the Department of Homeland Security shall jointly, in coordination with the Director of the United States Geological Survey, the Administrator of the Emergency Management Agency, the Chief of the National Guard Bureau, and the heads of such other Federal agencies as the Administrator considers appropriate, submit to the appropriate committees of Congress a report on the national efforts in effect on the day before the date of the enactment of this Act that support and facilitate rapid and effective response following near-shore tsunami events to better understand domestic effects of earthquake derived tsunami on people, infrastructure, and communities in the United States.


(a) REPORT ON NATIONAL EFFORTS THAT SUPPORT RAPID RESPONSE FOLLOWING NEAR-SHORE TSUNAMI EVENTS.—

(1) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration shall submit to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Science, Space, and Technology of the House of Representatives a report on the findings and recommendations received by the Administrator under subsection (c).

"(b) IDENTIFICATION AND EVALUATION OF FEDERAL, STATE, LOCAL, TRIBAL, AND MILITARY FIRST RESPONDER AND SEARCH AND RESCUE OPERATIONAL RESOURCES, AS WELL AS OTHER CRITICAL RESPONSE RESOURCES AND INFRASTRUCTURE, INCLUDING SEARCH AND RESCUE AIRCRAFT, LOCATED
within near-shore and distant tsunami inundation areas on the day before the date of the enactment of this Act.

(D) An evaluation of near-shore tsunami response activities described in subparagraph (C) in effect on the day before the date of the enactment of this Act, and how those response plans would be affected by the loss of search and rescue and communication infrastructure described in such subparagraph.

(E) A description of redevelopment plans and reports in effect on the day before the date of the enactment of this Act, and how those response plans would be affected by the loss of search and rescue and communication infrastructure described in such subparagraph.

(F) To enhance near-shore tsunami preparedness and response plans, including recommended responder exercises, predaster planning, and mitigation needs.

(G) Such other data and analysis information as the Administrator and the Secretary of Homeland Security consider appropriate.

(3) APPROPRIATE COMMITTEE OF CONGRESS.—In this subsection, the term ‘appropriate committees of Congress’ means—

(A) the Committee on Commerce, Science, and Transportation of the Committee on Homeland Security and Governmental Affairs of the Senate; and

(B) the Committee on Science, Space, and Technology and the Committee on Homeland Security, and the Committee on Transportation and Infrastructure of the House of Representatives.

SEC. 510. AUTHORIZATION OF APPROPRIATIONS.

Section 809 of the Act, as redesignated by section 90(a)(1) of this Act, is amended—

(1) in paragraph (4)(B), by striking ‘‘and’’ at the end;

(2) in paragraph (5)(B), by striking the period at the end and inserting ‘‘; and’’; and

(3) by adding at the end the following:

‘‘(6) $25,800,000 for each of fiscal years 2016 through 2021, of which—

(A) not less than 27 percent of the amount appropriated for each fiscal year shall be for activities conducted at the State level under the tsunami hazard mitigation program under section 805;

(B) less than 8 percent of the amount appropriated shall be for the tsunami research program under section 806.’’.

SEC. 511. OUTREACH RESPONSIBILITIES.

The Administrator of the National Oceanic and Atmospheric Administration, in coordination with State and local emergency managers, shall carry out formal outreach activities to improve tsunami education and awareness and foster the development of resilient communities. Outreach activities may include—

(1) the development of outreach plans to ensure the close integration of tsunami warning centers supported or maintained under section 804(d) of the Tsunami Warning and Education Act (33 U.S.C. 3204(d)), as amended by this Act, with local Weather Forecast Offices of the National Weather Service and emergency managers;

(2) working with appropriate local Weather Forecast Offices to ensure they have the technical knowledge and capability to disseminate tsunami warnings to the communities they serve; and

(3) evaluating the effectiveness of warnings and of coordination with local Weather Forecast Offices and first responders.

SEC. 512. REPEAL OF DUPLICATE PROVISIONS OF LAW.

(a) REPEAL.—The Tsunami Warning and Education Act enacted by Public Law 109–479 (120 Stat. 2902) is repealed.

(b) CONSTRUCTION.—Nothing in this section may be construed to repeal, or affect in any way, the Tsunami Warning and Education Act enacted as title VIII of the Magnuson-Stevens Fishery Conservation and Management Reau-
Congressman FRANK LUCAS, Chairman LAMAR SMITH, and former Environment Subcommittee Chairs Jim BRIDENSTINE and Chris STEWART, who were great partners in getting us here today.

The National Oceanic and Atmospheric Administration is responsible for important work at the cutting edge of science and public service. Weather forecasting is one of the most critical tasks for our country. At a time when budget uncertainty jeopardizes some of the most essential services NOAA provides to our Nation, it is imperative that we support legislation like H.R. 353 to give the agency the resources and flexibility needed to fulfill its mission.

The northwest Oregon communities I represent and communities across the country rely on timely and accurate weather forecasts to decide when to harvest their crops, when to go to sea to fish, how to navigate the roads safely when there is freezing rain or snow and to prepare for possible flood conditions.

The National Weather Service provides excellent forecasting products to support our economy, but with the increasing frequency and severity of severe weather events, there can be and should be improvements in our forecasting capabilities and delivery. Improvements in forecasts can provide more lead time to allow communities to prepare, especially in severe weather events. More effective communication of forecast information to the public and those in harm’s way can reduce the loss of life and property.

This bill connects the research side of NOAA—the Office of Oceanic and Atmospheric Research—more effectively to the forecasting needs of the National Weather Service, cultivating a research-to-operations pipeline that is essential for the continued improvement of our weather forecasting enterprise. The bill contains several provisions that will improve interactions and information sharing between NOAA’s researchers and the National Weather Service. It improves communication between NOAA and the broader research and private weather communities. The bill also formally establishes the pilot program currently operating at NOAA to engage in contracts with the commercial sector for weather forecasting data.

Everyone at this hearing will not adequately serve the public’s needs unless there are effective communication systems in place. H.R. 353 directs NOAA to do more research, listen to experts, and improve its risk communication techniques.

The bill also establishes interagency coordination through the Office of Science and Technology Policy across multiple agencies outside NOAA that share responsibilities for weather research and forecast communications. This is essential, and it highlights the important role the Office of Science and Technology Policy and NOAA share to help speed the adoption of best tools and practices across the various agencies of the Federal Government.

The legislation before us today also includes the Tsunami Warning, Education, and Research Act, legislation I have introduced over the past three Congresses. The Committee on Science, Space, and Technology Act seeks to improve our country’s understanding of the threat posed by tsunami events by improving forecasting and notification systems, developing supportive technologies, and supporting local community emergency preparedness and response plans. This bill helps to address the risk faced by communities on both coasts and in the Gulf of Mexico by improving our mitigation and research program and enhancing community outreach and planning.

Many, if not most, of my colleagues represent districts that have experienced some kind of natural disaster. The threat of a catastrophic earthquake and tsunami is real because of the Coast Zone. West Coast Members take this threat very seriously.

I have heard from coastal communities, people who fish, the tourism and maritime industries, marine and public safety officials, sheriffs, emergency managers, small-business owners, older Americans, and students who are concerned that their communities are not prepared for a tsunami.

Student body at High School, a coastal community in my district, engaged in a year-long project to educate Oregonians about the threat a tsunami has on lives and property. Three of the four public schools in Seaside are still located inside the tsunami inundation zone. The high school students have practiced their evacuation route, and they know that, in the projected time between a major earthquake and the devastating wave of a tsunami, they couldn’t make it to higher ground. That is unacceptable.

The University of Oregon and Oregon State University are working on seismic warning systems and tsunami preparedness to help make sure that our communities are prepared and have the best research available to give the most warning time possible, and this bill compliments their work.

I am proud to have worked on this legislation which is so important to the people of northwest Oregon and all coastal communities, but I do remain very concerned that the funding level is below current spending. This cut would have serious consequences. The operation and maintenance funding for the buoy network we rely on to detect tsunami could decrease, adding hours of delay in appropriately warning coastal communities.

Tsunami warning centers in Alaska and Hawaii are likely to see a reduction in staff, resulting in gaps in coverage and creating greater risks because of delays in sending out accurate warnings and, in some instances, not being able to provide adequate warning at all.

Tsunami are among the most deadly natural disasters. In the past two decades, tsunami have caused the deaths of roughly a quarter million people around the world. These disasters also have profound economic consequences. The 2001 tsunami in Japan caused more than $206 billion in economic losses.

We are fortunate, in the United States, to have been spared these catastrophes so far.

But our coastlines, from the Gulf of Mexico to Alaska, are very susceptible to the same kind of disasters we have seen in Indonesia and in Japan. It is not a matter of if, it is a matter of when.

Tsunami program activities protect coastal Oregonians just as hurricane forecasting protects coastal Floridians, Carolinians, and others up and down the East Coast of the United States. It is important that we reauthorize these lifesaving activities, and just as important to provide the necessary funding to support them.

I will work tirelessly with my colleagues to make sure this program receives the full funding it needs to protect our communities and save lives and property.

Although there are always areas where we can do more, this underlying bill, the Weather Research and Forecasting Innovation Act, with the tsunami bill, is a good bipartisan agreement and one that I am proud to support while continuing to ask for current levels of funding.

I ask my colleagues to join me in voting “yes” on H.R. 353.

Mr. Speaker, I reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield 5 minutes to the gentleman from Oklahoma (Mr. LUCAS), who is the vice chairman of the Committee on Science, Space, and Technology, and the sponsor of this legislation.

Mr. LUCAS. Mr. Speaker, I want to thank the gentleman from Texas, Chairman SMITH, for his continued leadership on the Science, Space, and Technology Committee, and for bringing forward this important legislation. H.R. 353, the Weather Research and Forecasting Innovation Act of 2017, prioritizes improving weather forecasting for the protection of lives and property at the National Oceanic and Atmospheric Administration. This is a core program of the agency that has been in need of improved direction and investment for years.

The bill directs NOAA to develop plans to restore our country’s leadership in weather forecasting. It is no secret that many people in our weather community are distraught that our forecasting capacities have deteriorated in recent years. Some even say that America no longer has the best weather forecasting service in the world. In fact, we routinely rely on forecasts of other countries to predict what will happen in this country. This
is unacceptable, but I am glad we are here today to pass legislation that will dramatically improve our weather forecasting system.

The bill before us today enhances our ability to predict severe weather by focusing on research and computing resources on improved weather forecasting, quantitative observing data planning, next generation modeling, and an emphasis on research-to-operational technology transfer.

As a Representative from Oklahoma, I understand the need for accurate and timely weather predictions firsthand. Every year, the loss of life from deadly tornadoes in my home State is a stark reminder that we can do better to predict severe weather events and provide longer lead times to protect Americans in harm’s way.

I am proud that this legislation has a dedicated tornado warning improvement program. The goal of this program is to reduce the loss of life from tornadoes by encouraging outstanding fundamental meteorological science. This will allow detection and notifications of severe weather that are more accurate, effective, and timely.

Constituents in my home State will live longer, free from longer tornado warning lead times, which will save lives and better protect property.

Being better prepared for severe weather events is of the utmost importance. The bill will improve our forecasting capabilities by encouraging innovations and new technologies through a joint technology transfer fund at NOAA’s Office of Oceanic and Atmospheric Research. This transfer is essential to get new forecasting, models, and technologies out of the research side of NOAA and into the operational forecasters to better protect our country.

Furthermore, the legislation will enhance our forecasting by directing NOAA to engage new commercial data and solutions. This legislation includes a pilot project, which will provide NOAA a clear demonstration of the valuable data from commercial technologies.

The private sector has the potential to aid our forecasting skill while reducing government cost with innovative solutions. In order to increase our weather skills, we must not limit ourselves by solely relying on government data.

This legislation packs in multiple efforts to protect lives and property from severe weather. It is encouraging new technology both inside and outside of NOAA to the careful planning and prioritization of weather research, this legislation will put our country back on track to be a world leader in weather predictions.

The time has come for Americans to have the most accurate and timely weather predictions. They deserve nothing less.

Mr. Speaker, I urge my colleagues to vote for the bill.

Ms. BONAMICI. Mr. Speaker, I yield such time as she may consume to the gentlewoman from Texas (Ms. EDDIE BERNECE JOHNSON), the ranking member of the Science, Space, and Technology Committee.

Ms. EDDIE BERNECE JOHNSON of Texas, Mr. Speaker, I rise in support of H.R. 353, the Weather Research and Forecasting Innovation Act of 2017. Climate and weather are not fundamentally partisan concerns; they affect all of our constituents, regardless of their party affiliation. The bill we are considering today, which is the culmination of years of bipartisan compromise and negotiation, demonstrates what can be accomplished when we work together to address the concerns of our constituents.

Mr. Speaker, weather affects all of us each and every day. It is a constant presence in our lives. Extreme weather events, which are becoming more severe and more frequent, are damaging lives and property in my home State of Texas, across the continental U.S., and all the way to the islands of Hawaii. Sadly, the severe weather incidents we face are caused by tornadoes, hurricanes, and other severe weather incidents have become a far more familiar occurrence and, really, too much of it for far more Americans.

It should go without saying that we need to be better able to avoid and cope with these potentially devastating events by utilizing the very best weather forecasting and warning capabilities.

In that regard, the National Weather Service and the Office of Oceanic and Atmospheric Research, or NOAA, play a central role in protecting the lives and property of every American. H.R. 353 will help accelerate innovation that NOAA can make use of, turning cutting-edge weather research into essential weather forecasting tools and products; tools the forecasters can then use to protect American lives.

The legislation improves collaboration and cooperation within NOAA and removes barriers that hinder the weather research community, our Nation’s forecasters, and the private sector weather enterprise. Improving these relationships will strengthen the accuracy and timing of our weather predictions and ultimately, will save lives and make our communities safer.

H.R. 353 also reauthorizes NOAA’s tsunami warning activities. Communities along our Western Coasts are particularly impacted by the threat of tsunamis. This bill reauthorizes tsunami warning and research activities at NOAA. It does so at a level far below current agency spending. Such a cut makes little sense. Even in a tough fiscal climate, we should be wary of cuts to programs that negatively affect our ability to protect American lives and property from natural disasters.

I want to applaud Environment Sub-committee Ranking Member SUZANNE BONAMICI for her fight to retain funding for these programs at their current level, and I hope that we can work together with our colleagues to maintain current tsunami funding when it comes time for appropriations.

Mr. Speaker, strengthening our resilience to severe weather events is both vital and necessary to strengthen our Nation’s economic security. H.R. 353 will advance our weather forecasting capabilities, and I urge my colleagues to support its passage.

Mr. SMITH of Texas. Mr. Speaker, I yield 2 minutes to the gentleman from Arizona (Mr. BIGGS), who is the chairman of the Environment Subcommittee.

Mr. BIGGS. Mr. Speaker, I thank the gentleman from Texas, Chairman SMITH, for yielding me time to speak on this important legislation. It has become increasingly apparent with every major weather event that our forecasting services are desperately in need of a major overhaul. I am happy to support legislation that will do just that.

H.R. 353, the Weather Research and Forecasting Innovation Act of 2017, will put our country’s weather forecasting back on track to provide citizens with life-saving predictions and warnings.

I specifically point to this bill’s innovative language on weather technology planning. H.R. 353 calls on NOAA to evaluate the combination of observing systems it needs to meet weather forecasting requirements. It also requires the agency to conduct experiments on different observing systems to evaluate their costs and benefits.

Such reforms will grant NOAA more flexibility to develop new technologies while scrapping older approaches that do not bring enough value to our forecasters. We need to be better at observing system resources instead of continuing to rely on outdated methods.

This bill will help push NOAA to consider new approaches, including those from the private sector. For its part, the growing private sector has signaled it is ready and willing to work with NOAA to bring better weather forecasting to our citizens, and we should welcome this development.

I am confident that H.R. 353 will create the kind of meaningful change that we want to see at NOAA. This bill will better protect American lives and property with more accurate weather forecasting. I applaud the sponsors. I encourage all Members to support this bill.

Ms. BONAMICI. Mr. Speaker, I continue to reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield 2 minutes to the gentleman from North Carolina (Mr. PITTENGER), who is also a member of the Financial Services Committee.

Mr. PITTENGER. Mr. Speaker, I thank the chairman for his exceptional leadership on this very important legislation.

In 2012, 7-year-old Jamal Stevens was in his bed when a tornado tore through the house, tossing him onto the embankment along Interstate 485, hundreds of feet from his room.

The warning from the National Weather Service came 10 minutes later,
after the tornado had already touched down. This is because my hometown of Charlotte relies on radar nearly 100 miles away, meaning that the National Weather Service is using weak or inaccurate safety warnings for Charlotteans.

In 2015, this forecasting system provided a tornado warning, but for citizens in an entirely wrong neighborhood. More recently, a tornado in December of 2015 struck neighboring Union County with no warning from the National Weather Service.

Fortunately, our region has not suffered any fatalities due to the inadequate coverage, but we shouldn’t wait for tragedy to act.

The Weather Research and Forecasting Innovation Act requires the Commerce Department to identify weak coverage areas and identify solutions to the problem by improving existing government radars or incorporating non-Federal radars into the National Weather Service’s operations.

Americans across the country rely on the National Weather Service to detect and provide warning for severe weather such as thunderstorms and tornadoes. But Charlotte is currently the largest metropolitan area without an adequate radar coverage. Addressing this shortcoming is an important step for public safety.

With that in mind, I do urge my colleagues to support H.R. 353. I thank the chairman so much for his support on this critical legislation.

Ms. BONAMICI. Mr. Speaker, I continue to reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield 2 minutes to the gentleman from Louisiana (Mr. HIGGINS), who is a very active member of the Science, Space, and Technology Committee.

Mr. HIGGINS of Louisiana. Mr. Speaker, I thank the gentleman from Texas, Chairman SMITH, for yielding me time to highlight my support for H.R. 353, the Weather Research and Forecasting Innovation Act of 2017.

This past weekend, deadly storms ravaged Louisiana’s Third District, my district, tragically taking the lives of Francine Gotch and her 3-year-old daughter, Nevaeh Alexander, when their singlewide trailer flipped during high winds produced by a tornado.

The United States was once at the forefront of weather forecasting; however, that ability has diminished over the years with the capabilities of some other countries now paralleling or even exceeding our own.

I do not know if a better weather forecasting service would have made a difference this past weekend. However, as elected officials, we must make it a priority to protect American lives and property to the fullest extent.

We must never waver in this most significant responsibility. This legislation will put America back on track to lead the world in accurately predicting severe weather events with a renewed focus on increasing weather research and placing new technologies into operation.

More specifically, this bill also creates a tornado forecasting improvement program to develop more accurate tornado forecasts that will allow for increased tornado warning lead times, which is crucial to saving lives and would perhaps have saved the lives of that mother and her young daughter this past weekend.

Mr. Speaker, with the number of hurricanes, floods, and tornadoes that have hit Louisiana in the last few decades, my constituency knows all too well the danger that mother nature can pose, as well as the need for reliable information to adequately prepare for such occurrences.

Constituents in my district need good, commonsense legislation like this to protect their families and their property. I applaud the efforts of the Science, Space, and Technology Committee Chairman SMITH and Representative LUCAS for leading this effort to protect Americans from severe weather.

Ms. BONAMICI. Mr. Speaker, I reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield 2 minutes to the gentleman from Indiana (Mr. BANKS) who is the vice chairman of the Environment Subcommittee.

Mr. BANKS of Indiana. Mr. Speaker, I thank the chairman for his leadership on important issues like these.

Unfortunately, my home State of Indiana is no stranger to severe weather. As we enter peak tornado season, my constituents are vulnerable to tornado outbreaks which could lead to loss of life and destruction. Protecting lives and property from severe weather needs to be a top priority at NOAA.

I am glad we are addressing this issue for that reason today.

This legislation will greatly improve our ability to predict severe weather, like the tornadoes that affect my district, through a focused program to enhance forecasting. When mere seconds make the difference between life and death, my constituents deserve the most accurate and timely forecasts available, and I am confident that this legislation will help give them that information.

I am also pleased that this bill gives NOAA the ability to incorporate data and forecasting skill from private sector companies like Harris Corporation in northeast Indiana, which employs about 450 engineers and technicians in my district. These talented professionals build the world’s most advanced weather satellite instruments.

Many government-operated systems are slow and costly, and the private sector can fill critical weather data needs. Directing NOAA to integrate next-generation commercial solutions improves our ability to protect lives and property.

The time to think outside of the government-only-weather-data box is now. That is why I applaud the chairman of the Science, Space, and Technology Committee, Mr. SMITH, as well as my colleague from Oklahoma (Mr. LUCAS) for bringing this important legislation to the forefront. I look forward to its passage into law.

Ms. BONAMICI. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, in addressing all my colleagues on both sides of the aisle who have worked so hard on this legislation, I want to take a moment, also, to thank all of the staff in our offices and committee on both sides of the aisle who worked so hard on this legislation.

I encourage all my colleagues to support the Weather Research and Forecasting Innovation Act, which includes the Tsunami Warning, Education, and Research Act. This legislation will improve weather forecasting and tsunami preparedness.

Mr. Speaker, I encourage everyone to support this bipartisan legislation, and I yield back the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, this bill is the culmination of hard work and negotiations that have spanned 5 years. Today, we finalize this House-initiated weather policy reform legislation that will benefit residents throughout the United States.

H.R. 353 greatly improves our ability to predict short-term severe weather events. It better protects lives and property, a core mission of NOAA that has needed greater attention in recent years.

Again, I want to thank Mr. LUCAS and Mr. BRIDENSTINE for their initiative on this issue. I thank the former Environment Subcommittee chairman, Representative CHRISS STEWART, for his years of commitment to this subject as well.

I especially appreciate Ms. BONAMICI and her 5 years of effort to make this a bipartisan bill. I would like to thank the Science, Space, and Technology Subcommittee on Environment staff for their years of effort on this bill, especially Taylor Jordan, who worked diligently to ensure that this bill became a reality. I also recognize the minority staff who were central to the process as well.

Mr. Speaker, this legislation will transform our weather forecasting ability. It ensures that we, once again, have a world-class forecasting system that will protect lives and property from the dangers of severe weather.

Mr. Speaker, I urge my colleagues to support this bill, and I yield back the balance of my time.
The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

Mr. HENSARLING. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I rise in support of H.R. 1343, the Encouraging Employee Ownership Act. I also want to commend the Republican and Democrat sponsors of this important bill: Mr. HULTGREN of Illinois, Mr. DELANEY of Maryland, Mr. HIGGINS of New York, Mr. MACARTHUR of New Jersey, Ms. SINEMA of Arizona, and Mr. STIVERS of Ohio.

Their bipartisan efforts resulted in a bipartisan bill that will help small businesses, including startups, to successfully reward their hardworking employees; and, while doing so, this bill will allow small businesses to effectively deploy their capital to grow and to create jobs on Main Streets all across our 50 states.

We all know, Mr. Speaker, that small businesses are the heart and soul of the American economy. In fact, they helped create more than 60 percent of the Nation’s net new jobs over the past two decades. So if our Nation is to have a healthier workforce and offer more opportunity to more Americans, then we must encourage small-business growth and small-business startups, and this starts with ensuring they have access to the capital and credit they need to grow.

Yet as we have heard from countless witnesses who have appeared before the House Financial Services Committee, community banks and credit unions in particular—the primary source of our small-business loans—are simply drowning. Mr. Speaker, in a sea of complicated and costly regulations. The same occurs with the maze of burdensome securities regulations that are written with the largest public companies in mind but end up hurting smaller companies.

Although small companies are at the forefront of innovation and job creation, they often face significant obstacles in obtaining funding in our capital markets. These obstacles often result from the proportionately larger burden that securities regulations place on small companies when they seek to access capital both in the public and private markets.

These small companies also face difficult challenges on how best they can deploy their limited resources and capital—to grow and thrive or to be able to sufficiently compensate their workforce, which is a critical component of their success.

Currently, the SEC allows private companies to offer their own securities to employees as part of written compensation agreements without having to comply with burdensome Federal securities registration requirements under what is called SEC rule 701. Now, unfortunately, one of the rule’s thresholds has not been adjusted in two decades. What the bipartisan supporters of this bill are proposing is simply to modernize this SEC rule with a modest increase in that threshold.

Increasing the rule 701 threshold gives private companies more flexibility to reward and retain employees and permits private companies to keep valuable, skilled employees without having to use other methods such as borrowing money or selling securities. Updating this rule can encourage more companies to offer more incentives to more employees.

As one witness who testified before Congress said, this bill “would support a valuable compensation practice that allows small businesses to hire the most highly skilled workers” and better enable small, emerging growth companies that are at a competitive disadvantage with bigger businesses to attract and retain employees.

Allowing employees to become owners in the cockpit at GoDaddy and MoPub? Don’t we want more Americans to have an opportunity to obtain an ownership stake in the places that they work? That way the workers can earn the large financial upside that comes when the company performs well, and the company benefits by being able to attract talented workers.

Unfortunately, again, Mr. Speaker, too many companies right now shy away from offering employees greater ownership opportunities because an expensive, bureaucratic, burdensome, top-down regulation in Washington hasn’t been updated in nearly 20 years. Mr. Speaker, we can fix that today. We can fix that by passing this common-sense, bipartisan bill, the Encouraging Employee Ownership Act.

We can provide American workers with more opportunities to share in the successes and profits of companies they work for. We can help fund and foster capital formation so more Americans can go back to work, have good careers, pay their mortgages, plan for a secure retirement, and ultimately give their families a better life.

Mr. Speaker, I urge all my colleagues to join me in supporting this commonsense bipartisan legislation, and I reserve the balance of my time.