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 petition will be taken later.

WEATHER RESEARCH AND FORECASTING INFERENCE 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. 355) to improve the National Oceanic and Atmospheric Administration's weather research through a focused program of investment on affordable and attainable advances in observational, computing, 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:

Title I—United States Weather Research and Forecasting Innovation Act of 2017

Title II—Subseasonal and Seasonal Forecasting Innovation Act of 2017

Title III—Weather Satellite and Data Innovation Act of 2017

SEC. 2. Definitions.

IN THIS ACT:

(1) SEASONAL.—The term "seasonal" means the time range between 3 months and 2 years.

(2) STATE.—The term "State" means a territory, or possession of the United States, including a Commonwealth, or the District of Columbia.

(3) SUBSEASONAL.—The term "subseasonal" 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.
SEC. 102. WEATHER RESEARCH AND FORECASTING INNOVATION.

(a) PROGRAM.—The Assistant Administrator for the Office of Oceanic and Atmospheric Research, in coordination with section 101, shall develop and implement 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 and climate, including collaborative, high performance computing, and other ground-based technologies, including those emphasizing radical, high-performance, and new technologies for improving accuracy, effectiveness, and timeliness of warnings and forecasts of high impact weather events that endanger life and property.

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

(c) KNOWLEDGE TRANSFER.—Research, 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, high-impact, and high-speed sensing of the boundary layer and lower troposphere, and the use of innovative, dual-polarization, phased-array technologies;

(B) 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:

(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 101), observing System Experiments, and Analyses of Alternatives;

(F) atmospheric chemistry and interactions essential to understanding and predicting atmospheric 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 and tropical cyclogenesis.

(c) EXTRAMURAL RESEARCH.—

(1) IN GENERAL.—In carrying out the program under this section, the Assistant Administrator for Oceanic and Atmospheric Research shall collaborate with and support the non-Federal weather research community, which includes institutions of higher education, private entities, and nongovernmental organizations, by making funds available through competitive grants, contracts, and cooperative agreements.

(2) SENSE OF CONGRESS.—It is the sense of Congress that not less than 30 percent of the funds for weather research and development at the Office of Oceanic and Atmospheric Research should be available for the purpose described in paragraph (1).

(d) ANNUAL REPORT.—Each year, concurrent with the annual budget request submitted by the President to Congress pursuant to section 1105 of title 31, United States Code, for the National Oceanic and Atmospheric Administration, the Under Secretary shall submit to Congress a description of current and planned activities under this section.

SEC. 103. TORNADO WARNING IMPROVEMENT AND EXTENSION PROGRAM.

(a) IN GENERAL.—In collaboration, 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 tornadoes through the development and extension of accurate, effective, and timely tornado predictions, forecasts, and warnings, including the prediction of tornadoes 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 program goal.

(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 every 3 years, 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 Administrator considers appropriate, shall maintain a project to improve hurricane forecasting.

(b) GOAL.—The goal of the project maintained under subsection (a) shall be to develop and extend forecasts of hurricanes, storm surges, and tropical cyclone-related phenomena, in order to reduce loss of life, injury, and damage to the economy, with a focus on:

(1) improving the prediction of rapid intensification and track of hurricanes;

(2) improving the forecast and communication of storm surges from hurricanes; and

(3) incorporating risk communication research to create more effective watch and warning products.

(c) PROJECT PLAN.—Not less 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 subsection (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).

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 develop a plan for the project maintained under subsection (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).

SEC. 106. OBSERVING SYSTEM PLANNING.

(a) OBSERVING SYSTEM EXPERIMENTS.—

(1) IN GENERAL.—In support of the requirements of section 109, the Assistant Administrator for Oceanic and Atmospheric Research shall undertake Observing System Experiment Experiments, Analyses of Alternatives, and other appropriate assessment tools to ensure continuous systematic evaluations of the observing system, as well as data, and information needed to meet the requirements of paragraph (1), including options to maximize observational capabilities and their cost-effectiveness;

(2) consistent with section 107, utilize Observing System Experiment Experiments, Analyses of Alternatives, and other appropriate assessment tools to ensure continuous systematic evaluations of the observing system, as well as data, and information needed to meet the requirements of paragraph (1), including options to maximize observational capabilities and their cost-effectiveness;

SEC. 107. OBSERVING SYSTEM SIMULATION EXPERIMENTS.

(a) IN GENERAL.—In support of the requirements of section 106, the Assistant Administrator for Oceanic and Atmospheric Research shall undertake Observing System Simulation Experiments, Analyses of Alternatives, and other appropriate assessment tools to ensure continuous systematic evaluations of the observing system, as well as data, and information needed to meet the requirements of paragraph (1), including options to maximize observational capabilities and their cost-effectiveness.

SEC. 108. WEATHER RESEARCH AND EXTENSION PROGRAMS.

(a) IN GENERAL.—The Assistant Administrator for Satellite and Information Services, shall issue a research and development and research to operations plan to remain in place and maintain United States leadership in numerical weather prediction and monitoring, and for use when transitioning to weather service.

(b) REQUIREMENTS.—Observing System Simulation Experiments shall quantitatively—

(1) determine the potential impact of proposed space-based, suborbital, and in-situ observing systems, and technologies, and their cost-effectiveness; and

(2) identify potential impacts on extreme weather events across all parts of the Nation;

(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 such paragraph 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 seasonal 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 the 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 and 12 weeks;"

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) $111,516,000 to carry out this title, of which—

(A) $85,758,000 is authorized for weather laboratories and cooperative institutes; and

(B) $25,758,000 is authorized for weather and air chemistry research programs; and

(2) an additional amount of $20,000,000 for the joint technology transfer initiative described in section 102(b)(4)."

(b) LIMITATION.—No additional funds are authorized to carry out this title and the amendments made by this title.
“(1) 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 on behalf of the Senate, the Committee on Science, Space, and Technology on behalf of the House of Representatives a report, including—

(A) how information from the National Oceanic and Atmospheric Administration on seasonal and long-term forecasts, as provided under subsection (c), is utilized in public and private forecasts; and

(B) specific plans and goals for the continued development of the seasonal and long-term forecasts and related products described in subsection (c); and

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

(2) Consultation.—In developing the report under paragraph (1), the Under Secretary shall consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector.

(i) Definitions.—In this section:

(1) Foundational forecast.—The term ‘foundational forecast’ means basic weather observations and forecast data, largely in raw form, before further processing is applied.

(2) National weather service core partners.—The term ‘National Weather Service core partners’ means government and nongovernmental entities that are directly involved in the preparation or dissemination of, or discussions involving, hazardous weather or other emergency information put out by the National Weather Service.

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

(4) State.—The term ‘State’ means a State, a territory, or possession of the United States, including the Commonwealth of the District of Columbia.

(5) Subseasonal.—The term ‘subseasonal’ means the time range between 2 weeks and 3 months.

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

(7) Weather Industry and weather enterprise.—The terms ‘weather industry’ and ‘weather enterprise’ are interchangeable in this section and include individuals and organizations from public, private, and academic sectors that conduct research, development, and production of weather forecast products, and primary consumers of these weather forecast products.

(ii) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Weather Service, $26,500,000 to carry out the activities of this section.

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.—

(1) 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) by entering into agreements with data and research into all national operational and re- search 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 agreements, 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) Utilization 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 would improve forecasts, the Director, in consultation with the Assistant Administrator for Oceanic and Atmospheric Research and the Assistant Administrator for the National Ocean Service, shall—

(A) integrate additional coastal and ocean observations, and other data and research, from the Integrated Ocean Observing System (IOOS) into regional weather forecasts to improve 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, from the private sector, academia, and research institutions to ensure timely and accurate use of ocean and coastal data in regional forecasts.

(3) Existing monitoring and observation capability.—The Under Secretary shall identify prioritization for new satellite systems, orbiters, and other data and research, from the private sector, academia, and research institutions to ensure the specifications are determined to the extent practicable by the recommendations of the reports under subsection (b) of this section.

(i) Specifications for new satellite systems or data determined by operational needs.—In developing specifications for any satellite systems or data to follow the Joint Polar Satellite System, Geostationary Operational Environmental Satellites, and any other satellites, in effect on the day before the date of the enactment of this Act, the Under Secretary shall ensure the specifications are determined to the extent practicable by the recommendations of the reports under subsection (b) of this section.

(ii) Elements.—In conducting the study under subparagraph (A), the National Academy of Sciences shall conduct a study on matters concerning future satellite data needs.

(iii) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(4) Specifications for new satellite systems or data determined by operational needs.—In developing specifications for any satellite systems or data to follow the Joint Polar Satellite System, Geostationary Operational Environmental Satellites, and any other satellites, in effect on the day before the date of the enactment of this Act, the Under Secretary shall ensure the specifications are determined to the extent practicable by the recommendations of the reports under subsection (b) of this section.

(ii) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(b) Long-term Management of Environmental Observations.—

(1) Agreement.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3)獨立 Study on Future of National Oceanic and Atmospheric Administration Satellite Systems and Data.—

(A) Agreement.—

(i) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(ii) Elements.—In conducting the study under subparagraph (A), the National Academy of Sciences shall conduct a study on matters concerning future satellite data needs.

(iii) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(c) Development and Research.—

(1) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(d) National Oceanic and Atmospheric Administration Satellite and Data Management.—

(1) Agreement.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(e) Development and Research.—

(1) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(f) Development and Research.—

(1) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(g) Development and Research.—

(1) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.

(h) Development and Research.—

(1) General.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this section.

(2) Timing.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) no later than 180 days after the date of enactment of this Act.

(3) Authorization of appropriations.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Oceanic and Atmospheric Administration, $26,500,000 to carry out the activities of this section.
States weather industry and the public continue to have access to information critical to their work; and
(iv) in accordance with section 5092 of title 51, United States Code, methods to address potential termination liability or cancellation costs associated with weather data or service contracts;
(C) an identification of any changes needed in the requirements development and approval processes of the Department of Commerce to facilitate effective and efficient implementation of such strategy.
(3) AUTHORITY FOR AGREEMENTS.—The Assistant Administrator for National Environmental Satellite, Data, and Information Service may enter into multiyear agreements necessary to carry out the strategy developed under this subsection.
(c) PILOT PROGRAM.—
(1) CRITERIA.—Not later than 30 days after the date of the enactment of this Act, the Under Secretary shall publish data and metadata standards and specifications for space-based commercial weather data, including radio occultation data, and, as soon as possible, geostationary hyperspectral sounder data.
(2) PILOT CONTRACTS.—
(A) CONTRACTS.—Not later than 90 days after the date of this Act, the Under Secretary shall, through an open competition, enter into at least one pilot contract with one or more private sector entities capable of providing data that are complementary and specifications that are set by the Under Secretary for providing commercial weather data in a manner that allows the Under Secretary to calibrate and evaluate the data for its use in National Oceanic and Atmospheric Administration meteorological models.
(B) ASSESSMENT OF DATA VIABILITY.—Not later than the date that is 3 years after the date on which the Under Secretary enters into a contract under subparagraph (A), the Under Secretary shall assess and submit to the Committee on Science, Commerce, and Transportation of the Senate, and the Committee on Science, Space, and Technology of the House of Representatives a report regarding the results of a determination of the extent to which data provided under the contract entered into under subparagraph (A) meet the criteria published under paragraph (1) and the extent to which the pilot program has demonstrated—
(i) the viability of assimilating the commercially provided data into National Oceanic and Atmospheric Administration meteorological models,
(ii) whether, and by how much, the data add value to weather forecasts; and
(iii) the accuracy, quality, timeliness, validity, reliability, and information technology security, and cost-effectiveness of obtaining commercial weather data from private sector providers.
(2) AUTHORIZATION OF APPROPRIATIONS.—For each of fiscal years 2017 through 2020, there are authorized to be appropriated for procurement, acquisition, and construction at National Environmental Satellite, Data, and Information Service, $6,000,000 to carry out this subsection.
(3) AUTHORIZATION OF APPROPRIATIONS.—For each of fiscal years 2017 through 2020, there are authorized to be appropriated for procurement, acquisition, and construction at National Environmental Satellite, Data, and Information Service, $6,000,000 to carry out this subsection.
(d) OBTAINING FUTURE DATA.—If an assessment under subsection (b)(2) demonstrates that the data and metadata standards and specifications previously published under subsection (c)(1), the Under Secretary shall—
(1) determine whether it is in the national interest to develop a governmental meteorological space system; and
(2) 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 detailing any determination made under paragraph (2).
(e) DATA SHARING PRACTICES.—The Under Secretary shall continue to meet the international meteorological agreements into which the Under Secretary has entered, including practices set forth through World Meteorological Organization Resolution 40.

SEC. 303. UNNECESSARY DUPLICATION.
In meeting the requirements under this title, the Under Secretary shall avoid unnecessary duplication between public and private sources of data and the corresponding expenditure of funds and employment of personnel.

TITLE IV—FEDERAL WEATHER COORDINATION

SEC. 401. ENVIRONMENTAL INFORMATION SERVICES WORKING GROUP.

(a) ESTABLISHMENT.—The National Oceanic and Atmospheric Administration Science Advisory Board shall continue to maintain a standing working group on Environmental Information Services Working Group (in this section referred to as the “Working Group”)—
(1) to provide advice for prioritizing weather research initiatives related to the National Oceanic and Atmospheric Administration to produce real improvement in weather forecasting;
(2) to provide advice on existing or emerging technologies or techniques that can be found in private industry or the research community that could be incorporated into forecasting at the National Weather Service to improve forecasting skill;
(3) to identify opportunities to improve—
(A) communications between weather forecasters, Federal, State, local, tribal, and other emergency management personnel, and the public;
(B) communications and partnerships among the National Oceanic and Atmospheric Administration and the private and academic sectors; and
(C) to address such other matters as the Science Advisory Board requests of the Working Group.
(b) COMPOSITION.—
(1) IN GENERAL.—The Working Group shall be composed of leading experts and innovators from all relevant fields of science and engineering including atmospheric chemistry, atmospheric physics, meteorology, social science, risk communications, electrical engineering, and computer sciences. In carrying out this section, the Working Group may organize into subpanels.
(2) NUMBER.—The Working Group shall be composed of no fewer than 15 members. Nominees for the Working Group may be forwarded by the Workgroup Advisory Board, Members of the Working Group may choose a chair (or co-chairs) from among their number with approval by the Science Advisory Board.
(c) ANNUAL REPORT.—Not less frequently than once each year, the Working Group shall transmit to the Science Advisory Board for submission to the Under Secretary a report on progress made by National Oceanic and Atmospheric Administration in adopting the Working Group’s recommendations. The Science Advisory Board shall transmit a report to the Under Secretary. Within 30 days of receipt of such report, 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.

SEC. 402. INTERAGENCY WEATHER RESEARCH AND FORECAST INNOVATION COORDINATION.

(a) ESTABLISHMENT.—The Director of the Office of Science and Technology Policy shall establish an Interagency Committee for Advancing Weather Services to improve coordination of relevant weather research and forecast innovation activities across the Federal Government. The Interagency Committee shall—
(1) include participants from the National Aeronautics and Space Administration, the Federal Aviation Administration, 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;
(2) identify and prioritize top forecast needs and coordinate those needs against budget requests and program initiatives across participating offices and agencies; and
(3) share information regarding operational needs and forecasting improvements across relevant agencies.
(b) FURTHER COORDINATION.—The Federal Coordinator for Meteorology shall serve as a co-chair of this panel.

SEC. 403. OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH AND NATURAL RESOURCE EXCHANGE PROGRAM.

(a) IN GENERAL.—The Assistant Administrator for Oceanic and Atmospheric Research and the Director of National Weather Service may establish a program to detail Office of Oceanic and Atmospheric Research personnel to the 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 operating 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 innovations that come from this interaction.

SEC. 404. VISITING FELLOWS AT NATIONAL WEATHER SERVICE.

(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 to the National Weather Service.
(c) SELECTION AND APPOINTMENT.—Such fellows shall be competitively selected and appointed for a term not to exceed 1 year.

SEC. 405. WARNING COORDINATION METEOROLOGISTS AT WEATHER FORECAST OFFICES OF NATIONAL WEATHER SERVICE.

(a) DESIGNATION OF WARNING COORDINATION METEOROLOGISTS.—

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(1) IN GENERAL.—The Director of the National Weather Service shall designate at least one warning coordination meteorologist at each weather forecast office of the National Weather Service.

(2) NO ADDITIONAL EMPLOYEES AUTHORIZED.—Nothing in this section shall be construed to authorize or require a change in the authorized number of full time equivalent employees in the National Weather Service or otherwise result in the employment of any additional employees.

(3) RESPONSIBILITIES.—In carrying out the responsibilities outlined in this section the Director shall:

(A) be responsible for providing service to the geographic area of responsibility covered by the weather forecast office at which the warning coordination meteorologist is employed to help ensure that users of products of the National Weather Service can respond effectively to improve outcomes from weather events;

(B) liaise with users of products and services of the National Weather Service, such as the public, media outlets, users in the aviation, marine, and agricultural communities, andistry, in carrying out the responsibilities required by paragraph (1) shall:

(a) be responsible for providing service to the geographic area of responsibility covered by the warning coordination meteorologist designated under subsection (a) that are most likely to result in action to mitigate the risks posed by hazardous weather and water events;

(b) collaborate with such weather forecast offices and State, local, and tribal government agencies as the Director considers appropriate in developing, proposing, and implementing plans to develop, modify, or tailor products and services of the National Weather Service to improve the usefulness of such products and services;

(c) work closely with State, local, and tribal emergency management agencies, and other agencies in carrying out the responsibilities required by paragraph (1)(A), the Under Secretary shall:

(i) legislative and administrative action to improve the system described in paragraph (1)(A); and

(ii) such research as the Under Secretary considers necessary to address the focus areas described in paragraph (3).

(F) respond to the needs of Federal, State, and local government partners and media partners and

(E) development of whether the National Oceanic and Atmospheric Administration and the Office of Oceanic and Atmospheric Research, and the Office of Oceanic and Atmospheric Research, and the Under Secretary considers necessary to address the focus areas described in paragraph (3).

(G) accounts for the differences between types of weather and water hazards;

(H) accounts to the needs of various demographics, vulnerable populations, and geographic regions;

(I) accounts for necessary changes to the national oceanic and atmospheric research, intended for consumption, and other purposes as the Under Secretary considers necessary.

(5) METHODS.—In conducting the assessment 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 National Weather Service, and the Office of Oceanic and Atmospheric Research;

(B) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(C) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(D) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(E) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(F) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(G) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(H) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(I) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(J) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(K) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(L) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(M) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(N) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(O) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(P) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(Q) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(R) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(S) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(T) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(U) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(V) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(W) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(X) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(Y) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(Z) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;
Field Offices to the Director of the National Weather Service. Broadcast meteorologists, weather radio manufacturers and weather warning tool and application developers, emergency managers, and local 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 Awardees.—Annually, the Director of the National Weather Service shall choose winners of this award whose timely actions, 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, including—

(1) the impact on—
(A) the United States weather forecasting capabilities;
(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 operation, applications and workforce analysis.

The Under Secretary shall 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 day 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 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 Congress a report on the research, products, and services that meet the specific needs of the urban environment, given its unique physical characteristics and forecasting challenges.

(2) Elements.—The review required by paragraph (1) shall include research, products, and services with the potential to improve modeling and forecasting account for unique factors including varying building heights, impermeable surfaces, lack of tree canopy, traffic, pollution, and inter-building wind effects.

(b) Report and Assessment.—Upon completion of the review required by subsection (a), the Under Secretary shall submit to Congress a report on the review, 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; and

(2) to determine the highest priority weather forecast needs of the community described in subsection (b).

(b) Outreach Community.—In conducting outreach under subsection (a), the Under Secretary shall contact leading experts and innovators from relevant stakeholders, including the representatives 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. 3004)) 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 enterprise observing industry.

(6) The operational forecasting community.

(7) The academic community.

(8) Professional societies that focus on meteorology.

(9) Such other stakeholder groups as the Under Secretary considers appropriate.

SEC. 413. Hurricane hunter aircraft.

(a) Backup capability.—The Under Secretary shall acquire backup for the capabilities of the WP–3D Orion and G–IV hurricane aircraft and the Equivalent Level of the National Oceanic and Atmospheric Administration that is sufficient to prevent a single point of failure.

(b) Authority to enter agreements.—In order to carry out subchapters I and II and the National Oceanic and Atmospheric Administration, the Under Secretary shall negotiate and enter into 1 or more agreements or contracts, to the extent practicable and necessary, with governmental and non-governmental entities.

SEC. 414. Study on gaps in NEXRAD coverage and recommendations to address such gaps.

(a) Study on gaps in NEXRAD coverage.—

(1) In General.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Commerce 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 gaps in the coverage of the Next Generation Weather Radar of the National Weather Service ("NEXRAD").

(2) Elements.—In conducting the study required under paragraph (1), the Secretary shall—

(A) identify areas in the United States where limited or no NEXRAD coverage has resulted in—

(i) instances in which no or insufficient warnings were given for hazardous weather events, including tornadoes; or

(ii) degraded forecasts for hazardous weather events that resulted in fatalities, significant injuries, or substantial property damage;

(B) for the areas identified in subparagraph (A)—

(i) identify the key weather effects for which prediction would improve with improved radar detection; and

(ii) identify additional sources of observations for high impact weather that were available and operational for such areas on the day before the date of the enactment of this Act, including dense networks of 2–band radars, Terminal Doppler Weather Radar or TDWR, and NEXRAD, including radar capabilities of the Federal Aviation Administration and the Department of Defense; and

(C) assess the feasibility and advisability of efforts to integrate and upgrade Federal radar capabilities that are not owned or controlled by the National Oceanic and Atmospheric Administration, including radar capabilities of the Federal Aviation Administration and the Department of Defense.

(b) Recommendations to improve radar coverage.—Not later than 90 days after the completion of the study under subsection (a), the Secretary of Commerce shall submit to the congressional committees referred to in subsection (a)(3) recommendations for improving

(1) the highest priority weather forecast needs of the community described in subsection (b).

(2) the feasibility and advisability of incorporating State-operated and other non–Federal radars into the operations of the National Weather Service.

(3) identify options to improve hazardous weather detection and forecasting coverage; and

(4) provide the estimated cost of, and timeline for, each of the options identified under clause (a).
hazardous weather detection and forecasting coverage in the areas identified under subsection (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 (A) by integrating additional observation solutions to the extent practicable and necessary to protect public safety.

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 provision 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 109–479; 33 U.S.C. 3201 et seq.).

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

Section 803 (33 U.S.C. 3202) is amended—

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

(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, residency, response, outreach, and recovery;”;

(4) by redesigning 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, residency, 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;”;

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

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

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

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

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

(a) In general—Subsection (a) of section 804 (33 U.S.C. 3230c(a)) 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.”

(b) Components.—Subsection (b) of section 804 (33 U.S.C. 3230c(b)) is amended—

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

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

(3) by redesigning paragraphs (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 capability to optimize data reliability;

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

(5) provide tsunami 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;

(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) include a cooperative effort 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 “Hazards Program;” and

(D) by redesigning paragraph (2) to read as follows:

(2) 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. 3230c(c)) is amended to read as follows:

(THE) 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

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

(b) Tsunami Warning Centers.—Subsection (d) of section 804 (33 U.S.C. 3230c(d)) is amended to read as follows:

(THE) 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 tsunami 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 and evacuation information, including tsunami warning bulletins to Federal, State, tribal, and local government officials and the public.

(G) Coordinating with other tsunami 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 gathered under this Act and post-warning analyses conducted by the National Weather Service or other relevant Administrations available to the public.

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

(2) 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.

(k) Coordination With National Weather Service.—The Administrator shall coordinate with the forecast offices of the National Weather Service, the centers supported or maintained under paragraph (1), and such program offices of the Administration as the Administrator or the coordinating committee, as established in section 865(d), consider appropriate to ensure the national and local coordination of activities.

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

(M) Leverage connections with local emergency management officials for optimally disseminating tsunami warnings and forecasts; and

(N) Implement mass communication 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 never new mass communication technologies as they are developed as a part of the Weather-Ready Nation programs, forecasts, and education, or otherwise, for the purpose of timely and effective delivery of tsunami warnings.

(f) FEDERAL COOPERATION.—Subsection (f) of section 804 (33 U.S.C. 3204(f)) is amended to read as follows:

(f) FEDERAL COOPERATION.—When deploying and maintaining tsunami detection technologies under this section, the Administration shall—

(1) identify which assets of other Federal agencies are necessary to support such program, and

(2) work with each agency identified under paragraph (1)—

(A) to acquire the agency's assistance; and

(B) to prioritize the necessary assets in support of the tsunami forecast and warning program.

(g) C ONGRESSIONAL NOTIFICATIONS.—Section 804 (33 U.S.C. 3204) is further amended—

(1) by striking subsection (a), (b), and (c); and

(2) by redesignating subsection (d) as subsection (g).

(h) C ONGRESSIONAL NOTIFICATIONS.—Section 804 (33 U.S.C. 3204) is further amended—

(1) by striking subsection (a), (b), and (c); and

(2) by redesignating subsection (d) as subsection (g).

(1) Technical and financial assistance to communities for community planning, education, and training programs, including education programs that address unique characteristics of distant or near-field tsunamis.

(2) Evaluation of the effect of tsunami current on the foundations of closely-spaced, coastal high-rise structures.

(3) Activities to promote preparedness in at-risk ports and harbors, including the following:

(A) A review of readiness, response, and communication strategies and data sharing with the Coast Guard.

(B) Activities to support the development of community-based outreach and education programs, including education programs that address unique characteristics of distant and near-field tsunamis.

(2) The development of evidence-based education guidelines.

(3) Dissemination of guidelines and standards for community planning and training programs, programs, and tools, including—

(A) standards for—

(i) mapping products;

(ii) inundation models; and

(iii) 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.

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

(A) Multidisciplinary vulnerability assessments of community capacity to enhance understanding and preparedness.

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

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

(3) Development of practical applications for existing or emerging 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.

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

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

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

“(6) 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.

“(e) 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.

“(f) No New Regulatory Authority.—Nothing in this Act may be construed as establishing new regulatory authority for any Federal agency.

(c) Report on Accreditation of TsunamiReady Program.—Not later than 180 days 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 House of Representatives a report on which authorities and activities would be needed to have the Tsunami Ready 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. 3205) is amended—

(1) in the matter before paragraph (1), by striking “The Administrator shall” and that follows through “establish or maintain” and inserting the following:

“(a) In General.—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 committees under section 806(d), and the panel under section 806(a), support or maintain;”

(2) in subsection (a), as designated by paragraph (1), by striking “and for tsunami tracking and numerical forecast modeling. Each such research program shall—” and inserting the following: “assessment for tsunami tracking and numerical forecast modeling, and standards development.

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

(1) consider other appropriate and cost effective solutions to mitigate the impact of tsunami, including the improvement of near-field and distant tsunami detection and forecasting capabilities, which may include use of a new generation of the Deep Ocean Assessment and Reporting of Tsunamis and detection of tsunamis sensors into commercial and Federal telecommunication cables, and other real-time tsunami monitoring systems and supercomputer capacity of the tsunami modeling for all United States coastlines;”

(B) in paragraph (3)—

(i) by striking “and” at the end;

(C) by redesignating paragraph (4) as paragraph (5); and

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

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

and

(2) 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. GOVERNMENT 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 Defense and in consultation with such other agencies as the Administrator considers relevant, provide technical assistance, operational support, and training to the international governmental 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.”

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

and

(3) in subsection (c), by striking—

(A) in paragraph (1), by striking “establishing” and inserting “supporting”; and

(B) in paragraph (2)—

(i) by striking “establish” and inserting “support”;

and

(ii) by striking “establishing” and inserting “supporting”.

SEC. 508. TSUNAMI SCIENCE AND TECHNOLOGY ADVISORY PANEL.

(a) In General.—The Act is further amended—

(1) by redesignating 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 Advisory Board of the Administration to serve as the Tsunami Science and Technology Advisory Panel to provide advice to the Administrator on matters regarding tsunami science, technology, and educational 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 be 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 research, detection, forecasting, warning, mitigation, 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 recent review conducted under paragraph (1); and

(B) such recommendations for legislative or administrative action as the working group considers appropriate, including recommendations relating to tsunami 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 Transportation and Infrastructure of the House of Representatives, and 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 11(b) of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–149; 120 Stat. 3575) is amended by striking the item relating to section 808 and inserting the following:

“Sec. 808. 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 titles V and VI of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–149; 33 U.S.C. 3201 et seq.), as amended by this Act.

(b) Elements.—The report required by paragraph (1) shall include the following:

(A) A detailed description of the progress made in implementing sections 804(b)(1), 805(b), and 806(b)(4) of the Tsunami Warning and Education Act the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–149; 33 U.S.C. 3201 et seq.).

(B) A description of the ways that tsunami warnings and warning products issued by the Tsunami Forecasting and Warning System established under section 804 of the Tsunami Warning and Education Act (33 U.S.C. 3203), as amended by this Act, may be standardized and streamlined with warnings and warning products for hurricanes, coastal storms, and other coastal flooding events.

(c) 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 Secretary of Homeland Security shall jointly, in coordination with the Director of the United States Geological Survey, Administrator of the Federal 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 emergency response following a near-shore tsunami event to better understand domestic effects of earthquake derived tsunami on people, infrastructure, and communities in the United States.

(2) Elements.—The report required by paragraph (1) shall include the following:

(A) A description of scientific or other measurements collected on the day before the date of the enactment of this Act to quickly identify and quantify lost or degraded critical response assets 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 and recovery activities conducted at the State level under the direction of protecting lives and property.

(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 infrastructure described in such subparagraph.

(F) A description of the tsunami warning system, and including recommended responder exercises, prediaster 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 committee 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 of 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 801(a)(1) of this Act, is amended—

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

(2) in paragraph (5)(B), by striking the period at the end and inserting ‘; ‘ 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) not 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. 3203(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 responder tsunami events.

SEC. 512. REPEAL OF DUPLICATE PROVISIONS OF LAW.

(a) REPEAL.—The Tsunami Warning and Education Act of 2006 (Public Law 109–479; 33 U.S.C. 3201 et seq.) is repealed.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Texas (Mr. SMITH) and the gentlewoman from Oregon (Ms. BONAMICI) each will control 20 minutes.

The Chair recognizes the gentleman from Texas.

General Leav€

Mr. SMITH of Texas. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days within which to revise and extend their remarks and include any extraneous materials on the bill under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

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

Mr. Speaker, H.R. 353, the Weather Research and Forecasting Innovation Act of 2017, authorizes research and technology and will transform our Nation’s weather industry.

I thank the vice chairman of the Science Committee, Mr. LUCAS, for sponsoring this legislation.

We must understand short-term weather events so that we can better protect lives and property. Severe weather routinely affects large portions of the United States. Nearly every year, we witness the devastating effects of tornadoes and intense storms across our country. This bill will ensure that Americans are more protected from severe weather because of accurate supercomputing, forecasts, and earlier warnings.

H.R. 353 directs the National Oceanic and Atmospheric Administration, NOAA, to prioritize its research to improve weather data, modeling, computing, forecasting, and warnings. This enables NOAA to support its core mission of protecting lives and property.

The bill strengthens NOAA’s ability to study the underlying atmospheric science while simultaneously advancing innovative technologies and re-forming operations to provide better weather data models and forecasts.

Also, the legislation creates a tornado research program to develop more accurate, effective, and timely tornado forecasts. This program will increase our understanding of these deadly events. The Tornado Forecast Improvement Program advanced our ability to predict and forecast hurricanes.

The bill improves weather observation systems through the use of observing system simulation experiments and next generation computing and modeling capabilities. These requirements will help ensure we use the best and most appropriate technologies to protect our country from severe weather.

It prompts NOAA to actively embrace new commercial and private sector weather solutions through a multiyear commercial weather data pilot program. Further, it directs NOAA to seriously consider commercial data options rather than rely on slow, costly, and often delayed government-owned satellites.

For far too long, our government has relied on these massive multi-billion-dollar government weather satellites. The government failed to consider other options that could help strengthen our weather industry. The Science Committee has jurisdiction over NOAA’s satellite office and conducts ongoing oversight of the agency’s satellite program. Our conclusion is that NOAA is in need of real reform.

Over the years, events at NOAA have revealed mismanagement, cost overruns, and launching delays of its weather satellites. This detracts from our ability to accurately predict our own weather, which places Americans in harm’s way. It is also a tremendous burden to taxpayers who have to pay the massive bills for these satellites. This is a waste of resources that should be used to develop new technologies.

This bill gives NOAA a new vision and allows NOAA the flexibility to buy new, affordable, and potentially better sources of data from the private sector. With more and better options, we can finally have the power to make real improvements to our weather forecasting capabilities. This is long overdue.

The bill also creates a much-needed technology transfer fund in NOAA’s research office to help push technologies into operation. This ensures that the technologies that are developed are effectively employed and do not sit idly on the lab bench.

I again thank the gentleman from Oklahoma (Mr. LUCAS) and I thank the former Environment Subcommittee chairman, Mr. BRIDENSTINE, for their initiative on this issue. I also want to thank Senator THUNE for helping produce bipartisan and bicameral legislation that will protect all Americans from harmful weather systems. Americans from coast to coast will now be better prepared for severe weather with the passage of this bill.

Recently, we have seen the devastating effects of severe weather across our country, especially in Texas, Oklahoma, Louisiana, Missouri, Kansas, Alabama, and Mississippi, among other States. This bill will help these residents be better prepared so that they can protect their property and their families.

I urge my colleagues to support this bill.

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

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

Mr. Speaker, I rise in support of H.R. 353, the Weather Research and Forecasting Innovation Act, which also includes the Tsunami Warning, Education, and Research Act. The Weather Research and Forecasting Innovation Act is a product of hard work and negotiation over the past two Congresses. I want to thank
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H2664

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 beneficial services NOAA provides to our Nation, it is imperative that we support legislation like H.R. 353 to help 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.

Every dollar that the agency 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 Tsunami Warning, Education, and Research 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 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 Cascadia Subduction 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 College 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 time 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 a billion dollars in additional 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 save 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 Science, Space, and Technology Committee, and also 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. 333, 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 forecasters 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 resources on improved observing systems, high-performance computing, and collaboration with the private sector.

Mr. Speaker, I urge my colleagues to support this legislation.

Ms. BONAMICI. Mr. Speaker, I yield 2 minutes to the gentleman from Texas (Mr. PITTENGER), who is the ranking member of the Science, Space, and Technology Committee.

Mr. PITTENGER. Mr. Speaker, I thank the gentleman for yielding me time to speak.

The legislation improves collaboration and cooperation within NOAA and 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 authorizes 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 Subcommittee Ranking Member SUZANNE SMITH, 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, I urge my colleagues to support the bill.
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 readings when issuing crucial severe weather warnings for Charlotte and the surrounding area.

In 2013, the government radar 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 address 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 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 (Mr. SMITH), for yielding me the 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 parcelling 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, effective tornado forecasting 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 speaking with 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 CHRIS 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. The question is on the motion offered by the gentleman from Texas (Mr. SMITH) that the House suspend the rules and pass the Senate amendment to the bill, H.R. 353.

The question was taken; and (two-thirds being in the affirmative)
rules were suspended and the Senate amendment was concurred in.

A motion to reconsider was laid on the table.

ENCOURAGING EMPLOYEE OWNERSHIP ACT OF 2017

Mr. HENSARLING. Mr. Speaker, pursuant to House Resolution 240, I call up the bill (H.R. 1343) to direct the Securities and Exchange Commission to revise its rules so as to increase the threshold amount for requiring issuers to provide certain disclosures relating to compensatory benefit plans, and ask for its immediate consideration in the House.

The Clerk read the title of the bill.

The SPEAKER pro tempore. The SPEAKER pro tempore. Pursuant to House Resolution 240, an amendment in the nature of a substitute consisting of the text of Rules Committee Print 115–11 is adopted and the bill, as amended is read a second time.

The text of the bill, as amended, is as follows:

H.R. 1343

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Encouraging Employee Ownership Act of 2017.”

SEC. 2. INCREASED THRESHOLD FOR DISCLOSURES RELATING TO COMPENSATORY BENEFIT PLANS.

Not later than 60 days after the date of the enactment of this Act, the Securities and Exchange Commission shall revise section 230.701(e) of title 17, Code of Federal Regulations, so as to increase from $5,000,000 to $10,000,000 the aggregate sales price or amount of securities sold during any consecutive 12-month period in excess of which the issuer is required under such section to deliver an additional disclosure to investors. The Commission shall index for inflation such aggregate sales price or amount every 5 years to reflect the change in the Consumer Price Index for All Urban Consumers published by the Bureau of Labor Statistics, rounding to the nearest $1,000,000.

The SPEAKER pro tempore. The SPEAKER pro tempore. The bill shall be debatable for 1 hour equally divided and controlled by the chair and ranking minority member of the Committee on Financial Services.

After 1 hour of debate, it shall be in order to consider the amendment printed in House Report 115–75, if offered by the Member designated in the report, which shall be considered read, shall be separately debatable for the time specified in the report equally divided and controlled by the proponent and an opponent.

The gentleman from Texas (Mr. HENSARLING) and the gentleman from Michigan (Mr. KILDEE) each will control 30 minutes.

The Chair recognizes the gentleman from Texas.

GENERAL LEAVE

Mr. HENSARLING. Mr. Speaker, I ask unanimous consent that all Members of the Committee on Financial Services and the Committee on Small Business be permitted to make their remarks and submit extraneous materials on the bill under consideration.

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. HULT green 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 country.

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 new jobs over the past two decades. So if our Nation is to have healthier and wealthier workers, it offers a greater 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 requirements. The 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 make employee ownership plans.

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 companies that those employees work for as startups and small companies reach success, we all want their employees to also reap the benefits of that success. That is what is happening with companies that are able to offer stock options as part of their employee compensation plans.

For example, when Google was in its early stages, it hired someone to be an in-house, part-time masseuse and compensated her with both cash and stock options. That masseuse is now worth millions today. Another example is from an ad-tech company, MoPub. Thirty-six of its 100 employees became millionaires when the company was acquired. Twitter’s CEO set his employees up for success by offering them performance-based stock-option grants.

So, Mr. Speaker, shouldn’t we want more American workers to have the opportunity to work like Google 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 commonsense, 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 families and communities, 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.