

considered and agreed to; that the bill, as amended, be considered read a third time and passed; and that the motion to reconsider be considered made and laid upon the table with no intervening action or debate.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment (No. 2687) in the nature of a substitute was agreed to, as follows:

(Purpose: In the nature of a substitute)

Strike all after the enacting clause and insert the following:

#### SECTION 1. SHORT TITLE.

This Act may be cited as the “National Purple Heart Hall of Honor Commemorative Coin Act”.

#### SEC. 2. FINDINGS.

The Congress finds the following:

(1) The National Purple Heart Hall of Honor’s mission is—

(A) to commemorate the extraordinary sacrifice of America’s servicemen and servicewomen who were killed or wounded by enemy action; and

(B) to collect and preserve the stories of Purple Heart recipients from all branches of service and across generations to ensure that all recipients are represented.

(2) The National Purple Heart Hall of Honor first opened its doors on November 10, 2006, in New Windsor, NY.

(3) The National Purple Heart Hall of Honor is co-located with the New Windsor Cantonment State Historic Site.

(4) The National Purple Heart Hall of Honor is the first to recognize the estimated 1.8 million U.S. servicemembers wounded or killed in action representing recipients from the Civil War to the present day, serving as a living memorial to their sacrifice by sharing their stories through interviews, exhibits and the Roll of Honor, an interactive computer database of each recipient enrolled.

#### SEC. 3. COIN SPECIFICATIONS.

(a) DENOMINATIONS.—The Secretary of the Treasury (hereafter in this Act referred to as the “Secretary”) shall mint and issue the following coins:

(1) \$5 GOLD COINS.—Not more than 50,000 \$5 coins, which shall—

(A) weigh 8.359 grams;

(B) have a diameter of 0.850 inches; and

(C) contain 90 percent gold and 10 percent alloy.

(2) \$1 SILVER COINS.—Not more than 400,000 \$1 coins, which shall—

(A) weigh 26.73 grams;

(B) have a diameter of 1.500 inches; and

(C) contain not less than 90 percent silver.

(3) HALF-DOLLAR CLAD COINS.—Not more than 750,000 half-dollar coins which shall—

(A) weigh 11.34 grams;

(B) have a diameter of 1.205 inches; and

(C) be minted to the specifications for half-dollar coins contained in section 5112(b) of title 31, United States Code.

(b) LEGAL TENDER.—The coins minted under this Act shall be legal tender, as provided in section 5103 of title 31, United States Code.

(c) NUMISMATIC ITEMS.—For purposes of section 5134 of title 31, United States Code, all coins minted under this Act shall be considered to be numismatic items.

#### SEC. 4. DESIGNS OF COINS.

(a) DESIGNS REQUIREMENTS.—

(1) IN GENERAL.—The designs of the coins minted under this Act shall be emblematic of the National Purple Heart Hall of Honor.

(2) DESIGNATION AND INSCRIPTIONS.—On each coin minted under this Act there shall be—

(A) a designation of the value of the coin;

(B) an inscription of the year “2022”; and

(C) inscriptions of the words “Liberty”, “In God We Trust”, “United States of America”, and “E Pluribus Unum”.

(b) SELECTION.—The design for the coins minted under this Act shall be—

(1) selected by the Secretary after consultation with the Commission of Fine Arts and the National Purple Heart Hall of Honor, Inc.; and

(2) reviewed by the Citizens Coinage Advisory Committee.

#### SEC. 5. ISSUANCE OF COINS.

(a) QUALITY OF COINS.—Coins minted under this Act shall be issued in uncirculated and proof qualities.

(b) MINT FACILITY.—

(1) IN GENERAL.—Only 1 facility of the United States Mint may be used to strike any particular quality of the coins minted under this Act.

(2) USE OF THE UNITED STATES MINT AT WEST POINT, NEW YORK.—It is the sense of Congress that the coins minted under this Act should be struck at the United States Mint at West Point, New York, to the greatest extent possible.

(c) PERIOD FOR ISSUANCE.—The Secretary may issue coins minted under this Act only during the 1-year period beginning on January 1, 2022.

#### SEC. 6. SALE OF COINS.

(a) SALE PRICE.—The coins issued under this Act shall be sold by the Secretary at a price equal to the sum of—

(1) the face value of the coins;

(2) the surcharge provided in section 7(a) with respect to such coins; and

(3) the cost of designing and issuing the coins (including labor, materials, dies, use of machinery, overhead expenses, marketing, and shipping).

(b) BULK SALES.—The Secretary shall make bulk sales of the coins issued under this Act at a reasonable discount.

(c) PREPAID ORDERS.—

(1) IN GENERAL.—The Secretary shall accept prepaid orders for the coins minted under this Act before the issuance of such coins.

(2) DISCOUNT.—Sale prices with respect to prepaid orders under paragraph (1) shall be at a reasonable discount.

#### SEC. 7. SURCHARGES.

(a) IN GENERAL.—All sales of coins issued under this Act shall include a surcharge of—

(1) \$35 per coin for the \$5 coin;

(2) \$10 per coin for the \$1 coin; and

(3) \$5 per coin for the half-dollar coin.

(b) DISTRIBUTION.—Subject to section 5134(f)(1) of title 31, United States Code, all surcharges received by the Secretary from the sale of coins issued under this Act shall be promptly paid by the Secretary to the National Purple Heart Hall of Honor, Inc., to support the mission of the National Purple Heart Hall of Honor, Inc., including capital improvements to the National Purple Heart Hall of Honor facilities.

(c) AUDITS.—The National Purple Heart Hall of Honor, Inc., shall be subject to the audit requirements of section 5134(f)(2) of title 31, United States Code, with regard to the amounts received under subsection (b).

(d) LIMITATION.—Notwithstanding subsection (a), no surcharge may be included with respect to the issuance under this Act of any coin during a calendar year if, as of the time of such issuance, the issuance of such coin would result in the number of commemorative coin programs issued during such year to exceed the annual 2 commemorative coin program issuance limitation under section 5112(m)(1) of title 31, United States Code (as in effect on the date of the enactment of this Act). The Secretary of the Treasury may issue guidance to carry out this subsection.

SEC. 8. FINANCIAL ASSURANCES. The Secretary shall take such actions as may be necessary to ensure that—

(1) minting and issuing coins under this Act result in no net cost to the Federal Government; and

(2) no funds, including applicable surcharges, are disbursed to any recipient designated in section 7(b) until the total cost of designing and issuing all of the coins authorized by this Act, including labor, materials, dies, use of machinery, overhead expenses, marketing, and shipping, is recovered by the United States Treasury, consistent with sections 5112(m) and 5134(f) of title 31, United States Code.

The amendment was ordered to be engrossed and the bill to be read a third time.

The bill was read the third time.

The bill (H.R. 1830), as amended, was passed.

#### FLOOD LEVEL OBSERVATION, OPERATIONS, AND DECISION SUPPORT ACT

Mr. CORNYN. Madam President, I ask unanimous consent that the Senate proceed to the immediate consideration of Calendar No. 556, S. 4462.

The PRESIDING OFFICER. The clerk will report the bill by title.

The senior assistant legislative clerk read as follows:

A bill (S. 4462) to establish a national integrated flood information system within the National Oceanic and Atmospheric Administration, and for other purposes.

There being no objection, the Senate proceeded to consider the bill, which had been reported from the Committee on Commerce, Science, and Transportation, with an amendment to strike all after the enacting clause and insert in lieu thereof the following:

#### SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Flood Level Observation, Operations, and Decision Support Act” or the “FLOODS Act”.

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

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

Sec. 3. National Integrated Flood Information System.

Sec. 4. Observations and modeling for total water prediction.

Sec. 5. Service coordination hydrologists at River Forecast Centers of the National Weather Service.

Sec. 6. Improving National Oceanic and Atmospheric Administration communication of future flood risks and hazardous flash flood events.

Sec. 7. Freshwater monitoring along the coast.

Sec. 8. Tornado warning improvement.

Sec. 9. Hurricane forecast improvement program.

Sec. 10. Weather and water research and development planning.

Sec. 11. Forecast communication coordinators.

Sec. 12. Estimates of precipitation frequency in the United States.

Sec. 13. Interagency Coordinating Committee on Water Management.

Sec. 14. National Weather Service hydrologic research fellowship program.

Sec. 15. Identification and support of consistent, Federal set of forward-looking, long-term meteorological information.

Sec. 16. Gap analysis on availability of snow-related data to assess and predict flood and flood impacts.

Sec. 17. Availability to the public of flood-related data.

## SEC. 2. DEFINITIONS.

In this Act:

(1) **STATE**.—The term “State” means each State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Virgin Islands of the United States, and any other territory or possession of the United States.

(2) **UNDER SECRETARY**.—The term “Under Secretary” means the Under Secretary of Commerce for Oceans and Atmosphere.

## SEC. 3. NATIONAL INTEGRATED FLOOD INFORMATION SYSTEM.

(a) **IN GENERAL**.—The Under Secretary shall establish a system, to be known as the “National Integrated Flood Information System”, to better inform and provide for more timely decision making to reduce flood-related effects and costs.

(b) **SYSTEM FUNCTIONS**.—The Under Secretary, through the National Integrated Flood Information System, shall—

(1) provide an effective flood early warning system that—

(A) collects and integrates information on the key indicators of floods and flood impacts, including streamflow, reservoir release and diversion, precipitation, soil moisture, snow water equivalent, land cover, and evaporative demand;

(B) makes usable, reliable, and timely forecasts of floods;

(C) assesses the severity of flood conditions and effects;

(D) issues flood watches and warnings when necessary;

(E) provides information described in subparagraph (A), forecasts described in subparagraph (B), and assessments described in subparagraph (C) at the national, regional, and local levels, as appropriate; and

(F) communicates flood forecasts, flood conditions, and flood impacts to public and private entities engaged in flood planning, preparedness, and response, including—

(i) decision makers at the Federal, State, local, and Tribal levels of government;

(ii) the private sector; and

(iii) the public;

(2) provide timely data, information, and products that reflect differences in flood conditions among localities, regions, watersheds, and States;

(3) coordinate and integrate, through interagency agreements as practicable, Federal research and monitoring in support of the flood early warning information system provided under paragraph (1);

(4) use existing forecasting and assessment programs and partnerships;

(5) make improvements in seasonal precipitation and temperature, subseasonal precipitation and temperature, and flood water prediction; and

(6) continue ongoing research and monitoring activities relating to floods, including research activities relating to—

(A) the prediction, length, severity, and impacts of floods and improvement of the accuracy, timing, and specificity of flash flood warnings;

(B) the role of extreme weather events and climate variability in floods; and

(C) how water travels over and through surfaces.

(c) **PARTNERSHIPS**.—The Under Secretary, through the National Integrated Flood Information System, may—

(1) engage with the private sector to improve flood monitoring, forecasts, land and topography data, and communication, if the Under Secretary determines that such engagement is appropriate, cost effective, and beneficial to the public and decision makers described in subsection (b)(1)(F)(i);

(2) facilitate the development of 1 or more academic cooperative partnerships to assist in carrying out the functions of the National Integrated Flood Information System described in subsection (b);

(3) use and support monitoring by citizen scientists, including by developing best practices to facilitate maximum data integration, as the Under Secretary considers appropriate; and

(4) engage with, and leverage the resources of, entities within the National Oceanic and Atmospheric Administration in existence as of the date of the enactment of this Act, such as the National Integrated Drought Information System, the Regional Climate Center, and the National Mesonet Program, to improve coordination of water monitoring, forecasting, and management.

(d) **CONSULTATION**.—In developing and maintaining the National Integrated Flood Information System, the Under Secretary shall consult with relevant Federal, State, local, and Tribal government agencies, research institutions, and the private sector.

(e) **COOPERATION FROM OTHER FEDERAL AGENCIES**.—Each Federal agency shall cooperate as appropriate with the Under Secretary in carrying out this section.

## SEC. 4. OBSERVATIONS AND MODELING FOR TOTAL WATER PREDICTION.

(a) **PARTNERSHIPS**.—

(1) **IN GENERAL**.—The Under Secretary shall establish partnerships with 1 or more institutions of higher education (as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001)) to evaluate observations that would improve total water prediction.

(2) **PRIORITY OBSERVATIONS**.—In establishing partnerships under paragraph (1), the Under Secretary shall prioritize partnerships to evaluate observations from unmanned aerial systems.

(b) **MAINTAINED OBSERVATIONS**.—If the Under Secretary determines that incorporating additional observations improves total water prediction, the Under Secretary shall, to the extent practicable, continue incorporating those observations.

(c) **MODELING IMPROVEMENTS**.—The Under Secretary shall advance geographic coverage, resolution, skill, and efficiency of coastal oceanographic modeling, including efforts that improve the coupling of and interoperability between hydrological models and coastal ocean models.

(d) **GEOSPATIAL DATA**.—The Under Secretary shall advance the development of models to vertically transform geospatial data into a common system for use as the Federal standard for surveys and mapping.

## SEC. 5. SERVICE COORDINATION HYDROLOGISTS AT RIVER FORECAST CENTERS OF THE NATIONAL WEATHER SERVICE.

(a) **DESIGNATION OF SERVICE COORDINATION HYDROLOGISTS**.—

(1) **IN GENERAL**.—The Director of the National Weather Service (in this section referred to as the “Director”) shall designate at least 1 service coordination hydrologist at each River Forecast Center of the National Weather Service.

(2) **PERFORMANCE BY OTHER EMPLOYEES**.—Performance of the responsibilities outlined in this section is not limited to the service coordination hydrologist position.

(b) **PRIMARY ROLE OF SERVICE COORDINATION HYDROLOGISTS**.—The primary role of the service coordination hydrologist shall be to carry out the responsibilities required by this section.

(c) **RESPONSIBILITIES**.—

(1) **IN GENERAL**.—Subject to paragraph (2), consistent with the analysis described in section 409 of the Weather Research and Forecasting Innovation Act of 2017 (Public Law 115–25; 131 Stat. 112), and in order to increase impact-based decision support services, each service coordination hydrologist designated under subsection (a) shall, with respect to hydrology—

(A) be responsible for providing service to the geographic area of responsibility covered by the River Forecast Center at which the service co-

ordination hydrologist is employed to help ensure that users of products and services of the National Weather Service can respond effectively to improve outcomes from flood events;

(B) liaise with users of products and services of the National Weather Service, such as the public, academia, media outlets, users in the hydropower, transportation, recreation, and agricultural communities, and forestry, land, fisheries, and water management interests, to evaluate the adequacy and usefulness of the products and services of the National Weather Service;

(C) collaborate with such River Forecast Centers and Weather Forecast Offices and Federal, 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;

(D) engage in interagency partnerships with Federal, State, local, and Tribal government agencies to explore the use of forecast-informed reservoir operations to reduce flood risk;

(E) ensure the maintenance and accuracy of flooding call lists, appropriate office flooding policy or procedures, and other flooding information or dissemination methodologies or strategies; and

(F) work closely with Federal, State, local, and Tribal emergency and floodplain management agencies, and other agencies relating to disaster management, to ensure a planned, coordinated, and effective preparedness and response effort.

(2) **OTHER STAFF**.—The Director may assign a responsibility set forth in paragraph (1) to such other staff as the Director considers appropriate to carry out such responsibility.

(d) **ADDITIONAL RESPONSIBILITIES**.—

(1) **IN GENERAL**.—Subject to paragraph (2), a service coordination hydrologist designated under subsection (a) may, with respect to hydrology—

(A) work with a State agency to develop plans for promoting more effective use of products and services of the National Weather Service throughout the State;

(B) identify priority community preparedness objectives;

(C) develop plans to meet the objectives identified under subparagraph (B); and

(D) conduct flooding event preparedness planning and citizen education efforts with and through various State, local, and Tribal government agencies and other disaster management-related organizations.

(2) **OTHER STAFF**.—The Director may assign a responsibility set forth in paragraph (1) to such other staff as the Director considers appropriate to carry out such responsibility.

(e) **PLACEMENT WITH STATE AND LOCAL EMERGENCY AND FLOODPLAIN MANAGERS**.—

(1) **IN GENERAL**.—In carrying out this section, the Director may place a service coordination hydrologist designated under subsection (a) with a State or local emergency or floodplain manager, if the Director determines that such placement is necessary or convenient to carry out this section.

(2) **TREATMENT**.—If the Director determines that the placement of a service coordination hydrologist with a State or local emergency or floodplain manager under paragraph (1) is near a River Forecast Center of the National Weather Service, such placement shall be treated as designation of the service coordination hydrologist at such River Forecast Center for purposes of subsection (a).

## SEC. 6. IMPROVING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMUNICATION OF FUTURE FLOOD RISKS AND HAZARDOUS FLASH FLOOD EVENTS.

(a) **ASSESSMENT OF FLASH FLOOD WATCHES AND WARNINGS**.—

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

(A) conduct an assessment of—  
(i) the flash flood watches and warnings of the National Weather Service; and

(ii) the information delivery to support preparation and responses to floods; and

(B) submit to Congress a report on the findings of the Under Secretary with respect to the assessment required by subparagraph (A).

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

(A) An evaluation of whether the watches, warnings, and information described in paragraph (1)(A)—

(i) communicate risk to the general public;

(ii) inform action to prevent loss of life and property;

(iii) inform action to support flood preparation and response; and

(iv) deliver information in a manner designed to lead to appropriate action.

(B) Subject to subsection (b)(2), such recommendations as the Under Secretary may have for—

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

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

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

(A) Ways to communicate the risks posed by hazardous flash flood events to the public that are most likely to result in informed decision making regarding the mitigation of those risks.

(B) Ways to provide actionable geographic information to the recipient of a watch or warning for a flash flood, including partnering with emergency response agencies, as appropriate.

(C) Evaluation of information delivery to support the preparation for and response to floods.

(4) CONSULTATION.—In conducting the assessment required by paragraph (1)(A), the Under Secretary shall consult with—

(A) such line offices of the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including—

(i) the National Ocean Service;

(ii) the National Weather Service; and

(iii) the Office of Oceanic and Atmospheric Research;

(B) individuals in the academic sector, including individuals in the field of social and behavioral sciences;

(C) other weather services;

(D) media outlets and other entities that distribute the watches and warnings described in paragraph (1)(A)(i);

(E) floodplain managers and emergency planners and responders, including State, local, and Tribal emergency management agencies;

(F) other government users of the watches and warnings described in paragraph (1)(A)(i), including the Federal Highway Administration; and

(G) such other Federal agencies as the Under Secretary determines rely on watches and warnings regarding flash floods for operational decisions.

(5) NATIONAL ACADEMY OF SCIENCES.—The Under Secretary shall engage with the National Academy of Sciences, as the Under Secretary considers necessary and practicable, including by contracting with the National Research Council to review the scientific and technical soundness of the assessment required by paragraph (1)(A), including the recommendations under paragraph (2)(B).

(6) METHODOLOGIES.—In conducting the assessment required by paragraph (1)(A), the Under Secretary shall use such methodologies as the Under Secretary considers are generally accepted by the weather enterprise, including social and behavioral sciences.

(b) IMPROVEMENTS TO FLASH FLOOD WATCHES AND WARNINGS.—

(1) IN GENERAL.—Based on the assessment required by subsection (a)(1)(A), the Under Sec-

retary shall make such improvements to the watches and warnings described in that subsection as the Under Secretary considers necessary—

(A) to improve the communication of the risks posed by hazardous flash flood events; and

(B) to provide actionable geographic information to the recipient of a watch or warning for a flash flood.

(2) REQUIREMENTS REGARDING RECOMMENDATIONS.—In conducting the assessment required by subsection (a)(1)(A), the Under Secretary shall ensure that any recommendation under subsection (a)(2)(B) that the Under Secretary considers a major change—

(A) is validated by social and behavioral science using a generalizable sample;

(B) accounts for the needs of various demographics, vulnerable populations, and geographic regions;

(C) responds to the needs of Federal, State, local, and Tribal government partners and media partners; and

(D) accounts for necessary changes to federally operated watch and warning propagation and dissemination infrastructure and protocols.

(c) DEFINITIONS.—In this section:

(1) WATCH; WARNING.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the terms “watch” and “warning”, with respect to a hazardous flash flood event, mean products issued by the National Oceanic and Atmospheric Administration, intended for use by the general public—

(i) to alert the general public to the potential for or presence of the event; and

(ii) to inform action to prevent loss of life and property.

(B) EXCLUSION.—The terms “watch” and “warning” do not include technical or specialized meteorological and hydrological forecasts, outlooks, or model guidance products.

(2) WEATHER ENTERPRISE.—The term “weather enterprise” has the meaning given that term in section 2 of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8501).

## SEC. 7. FRESHWATER MONITORING ALONG THE COAST.

(a) DATA AVAILABILITY ASSESSMENT.—The Under Secretary shall assess the availability of short- and long-term data on large-scale freshwater flooding into oceans, bays, and estuaries, including data on—

(1) flow rate, including discharge;

(2) conductivity;

(3) oxygen concentration;

(4) nutrient load;

(5) water temperature; and

(6) sediment load.

(b) DATA NEEDS ASSESSMENT.—The Under Secretary shall assess the need for additional data to assess and predict the effect of the flooding and freshwater discharge described in subsection (a).

(c) INVENTORY OF DATA NEEDS.—Based on the assessments required by subsections (a) and (b), the Under Secretary shall create an inventory of data needs with respect to the flooding and freshwater discharge described in subsections (a) and (b).

(d) PLANNING.—In planning for the collection of additional data necessary for ecosystem-based modeling of the effect of the flooding and freshwater discharge described in subsections (a) and (b), the Under Secretary shall use the inventory created under subsection (c).

## SEC. 8. TORNADO WARNING IMPROVEMENT.

Section 103 of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8513) is amended—

(1) by redesignating subsections (c) and (d) as subsections (d) and (e), respectively; and

(2) by inserting after subsection (b) the following:

“(c) INNOVATIVE OBSERVATIONS.—The Under Secretary shall ensure that the program periodically examines the value of incorporating inno-

vative observations, such as acoustic or infrasonic measurements, observations from phased array radars, and observations from mesonets, with respect to the improvement of tornado forecasts, predictions, and warnings.”.

## SEC. 9. HURRICANE FORECAST IMPROVEMENT PROGRAM.

Section 104(b) of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8514(b)) is amended—

(1) in paragraph (2), by striking “; and” and inserting a semicolon;

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

(3) by adding at the end the following:

“(4) evaluating and incorporating, as appropriate, innovative observations, including acoustic or infrasonic measurements.”.

## SEC. 10. WEATHER AND WATER RESEARCH AND DEVELOPMENT PLANNING.

Section 105(2) of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8515(2)) is amended by inserting “and flood-event” after “operational weather”.

## SEC. 11. FORECAST COMMUNICATION COORDINATORS.

Section 1762(f)(1) of the Food Security Act of 1985 (15 U.S.C. 8521(f)(1)) is amended, in the second sentence, by striking “may” and inserting “shall”.

## SEC. 12. ESTIMATES OF PRECIPITATION FREQUENCY IN THE UNITED STATES.

(a) DEFINITIONS.—In this section:

(1) FREELY ASSOCIATED STATES.—The term “Freely Associated States” means the Republic of Palau, the Republic of the Marshall Islands, and the Federated States of Micronesia, which have each entered into a Compact of Free Association with the United States.

(2) UNITED STATES.—The term “United States” means the 50 States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Freely Associated States.

(b) IN GENERAL.—The Administrator of the National Oceanic and Atmospheric Administration shall establish a program, to be known as the “NOAA Precipitation Frequency Atlas of the United States”, to compile, estimate, analyze, and communicate the frequency of precipitation in the United States.

(c) FUNCTIONS.—The NOAA Precipitation Frequency Atlas of the United States—

(1) shall better inform the public and provide information on—

(A) temporal and spatial distribution of heavy precipitation;

(B) analyses of seasonality in precipitation; and

(C) trends in annual maximum series data; and

(2) may serve as the official source of the Federal Government on estimates of precipitation frequency and associated information with respect to the United States.

(d) REQUIREMENTS.—

(1) COVERAGE.—The NOAA Precipitation Frequency Atlas of the United States shall include such estimates of the frequency of precipitation in the United States as the Administrator determines appropriate.

(2) FREQUENCY.—Such estimates—

(A) shall be conducted not less frequently than once every 10 years; and

(B) may be conducted more frequently if determined appropriate by the Administrator.

(3) PUBLICATION.—Such estimates and methodologies used to conduct such estimates shall be—

(A) subject to an appropriate, scientific process, as determined by the Administrator; and

(B) published on a publicly accessible website of the National Oceanic and Atmospheric Administration.

(e) PARTNERSHIPS.—The Administrator may partner with other Federal agencies, members of

the private sector, academic cooperative partnerships, or nongovernment associations to assist in carrying out the functions described in subsection (c).

(f) **CONSULTATION.**—In carrying out this section, the Administrator may consult with relevant Federal, State, local, Tribal, and Territorial government agencies, research institutions, and the private sector, as the Administrator determines necessary.

(g) **COORDINATION.**—In carrying out this section, the Administrator may coordinate with other Federal agencies.

(h) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to carry out this section, from amounts otherwise authorized to be appropriated to the Administrator to carry out this Act, \$3,500,000 for each of fiscal years 2021 through 2030.

### SEC. 13. INTERAGENCY COORDINATING COMMITTEE ON WATER MANAGEMENT.

(a) **ESTABLISHMENT.**—There is established a committee, to be known as the “Interagency Coordinating Committee on Water Management” (in this section referred to as the “Committee”).

(b) **MEMBERSHIP.**—The Committee shall be composed of the following members:

- (1) The Under Secretary.
- (2) The Assistant Secretary for Water and Science of the Department of the Interior.
- (3) The head of each of the following:
  - (A) The Federal Emergency Management Agency.
  - (B) The Army Corps of Engineers.
  - (C) The National Science Foundation.
  - (D) The Office of Science and Technology Policy.
  - (E) The Council on Environmental Quality.
  - (F) The Department of Energy.
  - (G) The Department of Agriculture.
  - (H) Any other Federal agency, as the co-chairs consider appropriate.

(c) **CO-CHAIRS.**—The Committee shall be co-chaired by the Secretary of the Interior and the Administrator of the Environmental Protection Agency.

(d) **MEETINGS.**—The Committee shall meet not less frequently than once each year at the call of the co-chairs.

(e) **GENERAL PURPOSE AND DUTIES.**—The Committee shall ensure that agencies across the Federal Government that engage in water-related matters, including water storage and supplies, water quality and restoration activities, water infrastructure, transportation on United States rivers and inland waterways, and water forecasting, work together where such agencies have joint or overlapping responsibilities to—

- (1) improve interagency coordination by Federal agencies on water resource management and water-related infrastructure issues;
- (2) coordinate existing water-related Federal task forces, working groups, and other formal cross-agency initiatives, as appropriate;
- (3) designate and consolidate repositories responsible for archiving and managing water-related matters;
- (4) improve interagency coordination of data management, access, modeling, and visualization with respect to water-related matters;
- (5) conduct integrated planning for Federal investments in water-related infrastructure; and
- (6) support workforce development and efforts to recruit, train, and retain professionals to operate and maintain essential water facilities in the United States.

(f) **CROSS-AGENCY PRIORITY RESEARCH NEEDS.**—Not later than 1 year after the date of the enactment of this Act, the Committee shall develop and submit to Congress a list of research needs that includes needs for cross-agency research and coordination.

### SEC. 14. NATIONAL WEATHER SERVICE HYDROLOGIC RESEARCH FELLOWSHIP PROGRAM.

(a) **DEFINITIONS.**—In this section:

(1) **DECISION SUPPORT SERVICES.**—The term “decision support services” means information,

including data and refined products, that supports water resources-related decision-making processes.

(2) **INSTITUTION OF HIGHER EDUCATION.**—The term “institution of higher education” has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

(b) **HYDROLOGIC RESEARCH FELLOWSHIP PROGRAM.**—

(1) **ESTABLISHMENT.**—The Under Secretary, acting through the Director of the National Weather Service (in this section referred to as the “Director”) shall establish a hydrologic research fellowship program (in this section referred to as the “program”) for qualified individuals.

(2) **QUALIFIED INDIVIDUAL.**—For purposes of this section, a qualified individual is an individual who is—

- (A) a citizen of the United States; and
- (B) enrolled in a research-based graduate program, at an institution of higher education, in a field that advances the research priorities developed by the Under Secretary under paragraph (7), such as—
  - (i) hydrology;
  - (ii) earth sciences;
  - (iii) atmospheric sciences;
  - (iv) computer sciences;
  - (v) engineering;
  - (vi) environmental sciences;
  - (vii) geosciences;
  - (viii) urban planning; or
  - (ix) related social sciences.

(3) **AWARD GUIDELINES.**—Fellowships under the program shall be awarded pursuant to guidelines established by the Under Secretary.

(4) **SELECTION PREFERENCE.**—In selecting qualified individuals for participation in the program, the Under Secretary, acting through the Director, shall give preference to applicants from historically Black colleges and universities and minority-serving institutions.

(5) **PLACEMENT.**—The program shall support the placement of qualified individuals in positions within the executive branch of the Federal Government where such individuals can address and advance the research priorities developed by the Under Secretary under paragraph (7).

(6) **FELLOWSHIP TERM.**—A fellowship under the program shall be for a period of up to 2 years.

(7) **FELLOWSHIP RESEARCH PRIORITIES.**—The Under Secretary, acting through the Director, and in consultation with representatives from the United States Geological Survey, the Federal Emergency Management Agency, and the Army Corps of Engineers, as appropriate, shall develop and publish priorities for the conduct of research by fellows, which may include the following:

- (A) Advance the collaborative development of a flexible community-based water resources modeling system.
- (B) Apply artificial intelligence and machine learning capabilities to advance existing hydrologic modeling capabilities.
- (C) Support the evolution and integration of hydrologic modeling within an Earth Systems Modeling Framework.
- (D) Improve visualizations of hydrologic model outputs.
- (E) Advance the state of coupled freshwater and salt water modeling and forecasting capabilities.
- (F) Advance understanding and process representation of water quality parameters.
- (G) Advance the assimilation of in-situ and remotely sensed observations and data.
- (H) Support the integration of social science to advance decision support services.
- (I) Develop methods to study groundwater sustainability and estimate the efficiency of recharge management.

(c) **DIRECT HIRING.**—

(1) **AUTHORITY.**—During fiscal year 2021 and any fiscal year thereafter, the head of any Federal agency may appoint, without regard to the

provisions of subchapter I of chapter 33 of title 5, United States Code, other than sections 3303 and 3328 of that title, to a position with the Federal agency a recipient of a fellowship under the program who—

(A) earned a degree from a program described in subsection (b)(2)(B);

(B) successfully fulfilled the requirements of the fellowship within the executive branch of the Federal Government; and

(C) meets qualification standards established by the Office of Personnel Management.

(2) **EXERCISE OF AUTHORITY.**—The direct hire authority provided by this subsection shall be exercised with respect to an individual described in paragraph (1) not later than 2 years after the date on which the individual completed the fellowship under the program.

### SEC. 15. IDENTIFICATION AND SUPPORT OF CONSISTENT, FEDERAL SET OF FORWARD-LOOKING, LONG-TERM METEOROLOGICAL INFORMATION.

(a) **DEFINITIONS.**—In this section:

(1) **EXTREME WEATHER.**—The term “extreme weather” includes observed or anticipated severe and unseasonable atmospheric conditions, including drought, heavy precipitation, hurricanes, tornadoes and other windstorms (including derechos), extreme heat, extreme cold, flooding, sustained temperatures or precipitation that deviate substantially from historical averages, and any other weather event that the Under Secretary determines qualifies as extreme weather.

(2) **LONG-TERM.**—The term “long-term” shall have such meaning as the Director of the National Institute of Standards and Technology, in consultation with the Under Secretary, considers appropriate for purposes of this section.

(3) **OTHER ENVIRONMENTAL TRENDS.**—The term “other environmental trends” means wildfires, coastal flooding, inland flooding, land subsidence, rising sea levels, and any other challenges relating to changes in environmental systems over time that the Under Secretary determines qualify as environmental challenges other than extreme weather.

(b) **IDENTIFICATION AND SUPPORT OF CONSISTENT, FEDERAL SET OF FORWARD-LOOKING, LONG-TERM METEOROLOGICAL INFORMATION.**—The Under Secretary shall identify, and support research that enables, a consistent, Federal set of forward-looking, long-term meteorological information that models future extreme weather events, other environmental trends, projections, and up-to-date observations, including mesoscale information as determined appropriate by the Under Secretary.

### SEC. 16. GAP ANALYSIS ON AVAILABILITY OF SNOW-RELATED DATA TO ASSESS AND PREDICT FLOOD AND FLOOD IMPACTS.

(a) **IN GENERAL.**—The Under Secretary, in consultation with the Department of Agriculture, the Department of the Interior, and the Army Corps of Engineers, shall conduct an analysis of gaps in the availability of snow-related data to assess and predict floods and flood impacts, including data on the following:

- (1) Snow water equivalent.
- (2) Snow depth.
- (3) Snowpack temperature.
- (4) Snow precipitation.
- (5) Snow melt.
- (6) Rain-snow line.

(b) **REPORT.**—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 on—

- (1) the findings of the gap analysis required by subsection (a); and
- (2) opportunities for additional collaboration among Federal agencies to collect snow-related data to better assess and predict floods and flood impacts.

**SEC. 17. AVAILABILITY TO THE PUBLIC OF FLOOD-RELATED DATA.**

(a) *IN GENERAL.*—The Under Secretary shall make flood-related data available to the public on the website of the National Oceanic and Atmospheric Administration.

(b) *COST.*—The Under Secretary may make the data under subsection (a) freely accessible or available at a cost that does not exceed the cost of preparing the data.

Mr. CORNYN. Madam President, I ask unanimous consent that the committee-reported substitute amendment be agreed to; that the bill, as amended, be considered read a third time and passed; and that the motion to reconsider be considered made and laid upon the table.

The PRESIDING OFFICER. Without objection, it is so ordered.

The committee-reported amendment, in the nature of a substitute, was agreed to.

The bill (S. 4462), as amended, was ordered to be engrossed for a third reading, was read the third time, and passed.

# **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMISSIONED OFFICER CORPS AMENDMENTS ACT OF 2019**

Mr. CORNYN. Madam President, I ask unanimous consent that the Senate proceed to the immediate consideration of Calendar No. 561, S. 2981.

The PRESIDING OFFICER. The clerk will report the bill by title.

The senior assistant legislative clerk read as follows:

A bill (S. 2981) to reauthorize and amend the National Oceanic and Atmospheric Administration Commissioned Officer Corps Act of 2002, and for other purposes.

There being no objection, the Senate proceeded to consider the bill which had been reported from the Committee on Commerce, Science and Transportation with an amendment, as follows:

(The parts of the bill intended to be stricken are shown in boldface brackets and the parts of the bill intended to be inserted are shown in italics.)

S. 2981

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

**[SECTION 1. SHORT TITLE; TABLE OF CONTENTS.]**

(a) *SHORT TITLE.*—This Act may be cited as the “National Oceanic and Atmospheric Administration Commissioned Officer Corps Amendments Act of 2019”.

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

- Sec. 1. Short title; table of contents.
- Sec. 2. References to National Oceanic and Atmospheric Administration Commissioned Officer Corps Act of 2002.

**TITLE I—GENERAL PROVISIONS**

- Sec. 101. Strength and distribution in grade.
- Sec. 102. Recalled officers.
- Sec. 103. Obligated service requirement.
- Sec. 104. Training and physical fitness.
- Sec. 105. Aviation accession training programs.
- Sec. 106. Recruiting materials.
- Sec. 107. Procurement of charting and survey services.
- Sec. 108. Technical correction.

**TITLE II—PARITY AND RECRUITMENT**

- Sec. 201. Education loans.
- Sec. 202. Interest payments.
- Sec. 203. Student pre-commissioning program.
- Sec. 204. Limitation on educational assistance.
- Sec. 205. Applicability of certain provisions of title 10, United States Code, and extension of certain authorities applicable to members of the Armed Forces to commissioned officer corps.
- Sec. 206. Applicability of certain provisions of title 37, United States Code.
- Sec. 207. Prohibition on retaliatory personnel actions.
- Sec. 208. Application of certain provisions of competitive service law.
- Sec. 209. Employment and reemployment rights.
- Sec. 210. Treatment of commission in commissioned officer corps for purposes of certain hiring decisions.

**TITLE III—APPOINTMENTS AND PROMOTION OF OFFICERS**

- Sec. 301. Appointments.
- Sec. 302. Personnel boards.
- Sec. 303. Positions of importance and responsibility.
- Sec. 304. Temporary appointments.
- Sec. 305. Officer candidates.
- Sec. 306. Procurement of personnel.
- Sec. 307. Career intermission program.

**TITLE IV—SEPARATION AND RETIREMENT OF OFFICERS**

- Sec. 401. Involuntary retirement or separation.
- Sec. 402. Separation pay.

**[SEC. 2. REFERENCES TO NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMISSIONED OFFICER CORPS ACT OF 2002.]**

Except as otherwise expressly provided, whenever in this Act 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 National Oceanic and Atmospheric Administration Commissioned Officer Corps Act of 2002 (33 U.S.C. 3001 et seq.).

**TITLE I—GENERAL PROVISIONS****SEC. 101. STRENGTH AND DISTRIBUTION IN GRADE.**

Section 214 (33 U.S.C. 3004) is amended to read as follows:

**“SEC. 214. STRENGTH AND DISTRIBUTION IN GRADE.**

“(a) *GRADES.*—The commissioned grades in the commissioned officer corps of the Administration are the following, in relative rank with officers of the Navy:

- “(1) Vice admiral.
- “(2) Rear admiral.
- “(3) Rear admiral (lower half).
- “(4) Captain.
- “(5) Commander.
- “(6) Lieutenant commander.
- “(7) Lieutenant.
- “(8) Lieutenant (junior grade).
- “(9) Ensign.

“(b) *GRADE DISTRIBUTION.*—The Secretary shall prescribe, with respect to the distribution on the lineal list in grade, the percentages applicable to the grades set forth in subsection (a).

“(c) *ANNUAL COMPUTATION OF NUMBER IN GRADE.*—

“(1) *IN GENERAL.*—Not less frequently than once each year, the Secretary shall make a computation to determine the number of officers on the lineal list authorized to be serving in each grade.

“(2) *METHOD OF COMPUTATION.*—The number in each grade shall be computed by applying

the applicable percentage to the total number of such officers serving on active duty on the date the computation is made.

“(3) *FRACTIONS.*—If a final fraction occurs in computing the authorized number of officers in a grade, the nearest whole number shall be taken. If the fraction is  $\frac{1}{2}$ , the next higher whole number shall be taken.

“(d) *TEMPORARY INCREASE IN NUMBERS.*—The total number of officers authorized by law to be on the lineal list during a fiscal year may be temporarily exceeded if the average number on that list during that fiscal year does not exceed the authorized number.

“(e) *POSITIONS OF IMPORTANCE AND RESPONSIBILITY.*—Officers serving in positions designated under section 228(a) and officers recalled from retired status shall not be counted when computing authorized strengths under subsection (c) and shall not count against those strengths.

“(f) *PRESERVATION OF GRADE AND PAY.*—No officer may be reduced in grade or pay or separated from the commissioned officer corps of the Administration as the result of a computation made to determine the authorized number of officers in the various grades.”.

**SEC. 102. RECALLED OFFICERS.**

(a) *IN GENERAL.*—Section 215 (33 U.S.C. 3005) is amended to read as follows:

**“SEC. 215. NUMBER OF AUTHORIZED COMMISSIONED OFFICERS.**

“(a) *IN GENERAL.*—The total number of authorized commissioned officers on the lineal list of the commissioned officer corps of the Administration shall not exceed 500.

“(b) *POSITIONS OF IMPORTANCE AND RESPONSIBILITY.*—Officers serving in positions designated under section 228 and officers recalled from retired status or detailed to an agency other than the Administration—

“(1) may not be counted in determining the total number of authorized officers on the lineal list under this section; and

“(2) may not count against such number.”.

(b) *CLERICAL AMENDMENT.*—The table of contents in section 1 of the Act entitled “An Act to authorize the Hydrographic Services Improvement Act of 1998, and for other purposes” (Public Law 107–372) is amended by striking the item relating to section 215 and inserting the following:

“Sec. 215. Number of authorized commissioned officers.”.

**SEC. 103. OBLIGATED SERVICE REQUIREMENT.**

(a) *IN GENERAL.*—Subtitle A (33 U.S.C. 3001 et seq.) is amended by adding at the end the following:

**“SEC. 216. OBLIGATED SERVICE REQUIREMENT.**

“(a) *IN GENERAL.*—

“(1) *REGULATIONS.*—The Secretary shall prescribe the obligated service requirements for appointments, training, promotions, separations, continuations, and retirement of officers not otherwise covered by law.

“(2) *WRITTEN AGREEMENTS.*—The Secretary and officers shall enter into written agreements that describe the officers’ obligated service requirements prescribed under paragraph (1) in return for such appointments, training, promotions, separations, and retirements as the Secretary considers appropriate.

“(b) *REPAYMENT FOR FAILURE TO SATISFY REQUIREMENTS.*—

“(1) *IN GENERAL.*—The Secretary may require an officer who fails to meet the service requirements prescribed under subsection (a)(1) to reimburse the Secretary in an amount that bears the same ratio to the total costs of the training provided to that officer by the Secretary as the unserved portion of active duty bears to the total period of active duty the officer agreed to serve.

“(2) *OBLIGATION AS DEBT TO UNITED STATES.*—An obligation to reimburse the