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117TH CONGRESS
1ST SESSION

H. R. 5781

To improve the Federal effort to reduce wildland fire risks, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

OCTOBER 28, 2021

Ms. LOFGREN (for herself, Mr. MCNERNEY, Mr. PERLMUTTER, and Ms. BONAMICI) introduced the following bill; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committee on Transportation and Infrastructure, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To improve the Federal effort to reduce wildland fire risks, and for other purposes.

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 ''National Wildland Fire Risk Reduction Program Act''.

SEC. 2. ESTABLISHMENT.

The President shall establish a National Wildland Fire Risk Reduction Program with the purpose of achiev-

ing major measurable reductions in the losses of life and property from wildland fires through a coordinated Federal effort to—

(1) improve the assessment of fire environments and the understanding and prediction of wildland fires, associated smoke, and their impacts, including—

(A) at the wildland-urban interface;

(B) on communities, buildings and other infrastructure; and

(C) social and economic impacts;

(2) develop and encourage the adoption of science-based and cost-effective measures to prevent and mitigate wildland fire and associated smoke impacts; and

(3) improve the understanding and mitigation of the impacts of climate change and variability on wildland fire risk, frequency, and severity, and to inform paragraphs (1) and (2).

SEC. 3. PROGRAM ACTIVITIES.

The Program shall consist of the activities described under section 6, which shall be designed—

(1) to support research and development, including interdisciplinary research, related to fire environments, wildland fires, associated smoke, and

their impacts, in furtherance of a coordinated interagency effort to address wildland fire risk reduction;

(2) to support data management and stewardship, and the development and coordination of data systems and computational tools to accelerate the understanding of fire environments, wildland fires, associated smoke, and their impacts;

(3) to support the development of novel tools and technologies to improve understanding, monitoring, prediction, and mitigation of wildland fires, associated smoke, and their impacts;

(4) to support education and training to expand the number of students and researchers in areas of study and research related to wildland fires;

(5) to accelerate the translation of research related to wildland fires and associated smoke into operations to reduce harm to communities, buildings, and other infrastructure;

(6) to conduct communication and outreach regarding wildland fire science and wildland fire risk mitigation, to communities, energy utilities and operators of other critical infrastructure, and other relevant stakeholders;

(7) to support research and development projects funded under joint solicitations or through

memoranda of understanding between no fewer than two agencies participating in the Program; and

(8) to disseminate, to the extent practicable, scientific data and related products and services in formats meeting shared standards to enhance the interoperability, usability, and accessibility of Program Agency data in order to better meet the needs of Program agencies, other Federal agencies, and relevant stakeholders.

SEC. 4. INTERAGENCY COORDINATING COMMITTEE ON WILDLAND FIRE RISK REDUCTION.

(a) ESTABLISHMENT.—Not later than 90 days after enactment of this Act, the Director of the Office of Science and Technology Policy shall establish an Interagency Coordinating Committee on Wildland Fire Risk Reduction, to be co-chaired by the Director and the Director of the National Institute of Standards and Technology.

(b) MEMBERSHIP.—In addition to the co-chairs, the Committee shall be composed of—

(1) the Director of the National Science Foundation;

(2) the Administrator of the National Oceanic and Atmospheric Administration;

(3) the Administrator of the Federal Emergency Management Agency;

(4) the United States Fire Administration;

(5) the Chief of the Forest Service;

(6) the Administrator of the National Aeronautics and Space Administration;

(7) the Administrator of the Environmental Protection Agency;

(8) the Secretary of Energy;

(9) the Director of the Office of Science and Technology Policy;

(10) the Director of the Office of Management and Budget;

(11) the Secretary of the Interior;

(12) the Director of United States Geological Survey;

(13) the Secretary of Health and Human Services;

(14) the Secretary of Defense;

(15) the Secretary of Housing and Urban Development; and

(16) the head of any other Federal agency that the Director considers appropriate.

(c) MEETINGS.—The Committee shall meet not less than twice a year for the first 2 years and then not less than once a year at the call of the Director.

(d) GENERAL PURPOSE AND DUTIES.—The Committee shall oversee the planning, management, and coordination of the Program, and solicit stakeholder input on Program goals.

(e) STRATEGIC PLAN.—The Committee shall develop and submit to Congress, not later than 1 year after enactment, a Strategic Plan for the Program that includes—

(1) prioritized goals for the Program, consistent with the purposes of the Program as described in section 2;

(2) short-term, mid-term, and long-term research and development objectives to achieve those goals;

(3) a description of the role of each Program agency in achieving the prioritized goals;

(4) a description of how the Committee will foster collaboration between and among the Program agencies to help meet the goals of the Program;

(5) the methods by which progress toward the goals will be assessed;

(6) an explanation of how the Program will foster the translation of research into measurable reductions in the losses of life and property from wildland fires, including recommended outcomes and metrics for each program goal and how operational

Program agencies will transition demonstrated technologies and research findings into operations;

(7) a description of the research infrastructure, including databases and computational tools, needed to accomplish the research and development objectives outlined in paragraph (2), a description of how research infrastructure in existence at the time of the development of the plan will be used to meet the objectives, and an explanation of how new research infrastructure will be developed to meet the objectives;

(8) a description of how Program agencies will collaborate with stakeholders and take into account stakeholder needs and recommendations in developing research and development objectives;

(9) recommendations on the most effective means to integrate the research results into wildland fire preparedness and response actions across Federal, State, and local levels; and

(10) guidance on how the Committee's recommendations are best used in climate adaptation planning for Federal, State, local, Tribal, and territorial entities.

(f) COORDINATION WITH OTHER FEDERAL EFFORTS.—The Director shall ensure that the activities of

the Program are coordinated with other relevant Federal initiatives as appropriate.

(g) PROGRESS REPORT.—Not later than 18 months after the date transmission of the Strategic Plan from subsection (e) to Congress and not less frequently than once every 2 years thereafter, the Committee shall submit to the Congress a report on the progress of the Program that includes—

(1) a description of the activities funded under the Program, a description of how those activities align with the prioritized goals and research objectives established in the Strategic Plan, and the budgets, per agency, for these activities; and

(2) the outcomes achieved by the Program for each of the goals identified in the Strategic Plan.

SEC. 5. GOVERNMENT ACCOUNTABILITY OFFICE REVIEW.

Not later than 3 years after the date of enactment of this Act, the Comptroller General of the United States shall submit a report to Congress that—

(1) evaluates the progress and performance of the Program in establishing and making progress toward the goals of the Program as set forth in this Act; and

(2) includes such recommendations as the Comptroller General determines are appropriate to improve the Program.

SEC. 6. RESPONSIBILITIES OF PROGRAM AGENCIES.

(a) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—The responsibilities of the Director of the National Institute of Standards and Technology with respect to the Program are as follows:

(1) RESEARCH AND DEVELOPMENT ACTIVITIES.—The Director of the National Institute of Standards and Technology shall—

(A) carry out research on the impact of wildland fires on communities, buildings, and other infrastructure;

(B) carry out research on the generation of firebrands from wildland fires and on methods and materials to prevent or reduce firebrand ignition of communities, buildings, and other infrastructure;

(C) carry out research on novel materials, systems, structures, and construction designs to harden structures, parcels, and communities to the impact of wildland fires;

(D) carry out research on the impact of environmental factors on wildland fire behavior, including wind, terrain, and moisture; and

(E) support the development of performance-based tools to mitigate the impact of wildland fires, and work with appropriate groups to promote the use of such tools, including through model building codes and fire codes, standard test methods, voluntary consensus standards, and construction and retrofit best practices.

(2) WILDLAND-URBAN INTERFACE FIRE POST-INVESTIGATIONS.—The Director of the National Institute of Standards and Technology shall—

(A) coordinate Federal post-wildland fire investigations of fires at the wildland-urban interface; and

(B) develop methodologies to characterize the impact of wildland fires on communities and the impact of changes in building and fire codes, including methodologies—

(i) for collecting, inventorying, and analyzing information on the performance of communities, buildings, and other infrastructure in wildland fires; and

(ii) for improved collection of pertinent information from different sources, including first responders, the design and construction industry, insurance companies, and building officials.

(b) NATIONAL SCIENCE FOUNDATION.—As a part of the Program, the Director of the National Science Foundation shall support—

(1) research to improve the understanding and prediction of wildland fire risks, including the conditions that increase the likelihood of a wildland fire, the behavior of wildland fires, and their impacts on buildings, communities, infrastructure, ecosystems and living systems;

(2) development and improvement of tools and technologies, including databases and computational models, to enable and accelerate the understanding and prediction of wildland fires and their impacts;

(3) development of research infrastructure, as appropriate, to enable and accelerate the understanding and prediction of wildland fires and their impacts, including upgrades or additions to the National Hazards Engineering Research Infrastructure;

(4) research to improve the understanding of—

(A) the response to wildland fire risk messages by individuals, communities, and policymakers;

(B) economic and other factors influencing the implementation and adoption of wildland fire risk reduction measures by individuals, communities, and policymakers; and

(C) decision making and emergency response to wildland fires;

(5) undergraduate and graduate research opportunities and graduate and postdoctoral fellowships and traineeships in fields of study relevant to wildland fires and their impacts; and

(6) research to improve the understanding of the impacts of climate change and climate variability on wildland fires, including wildland fire risk, frequency, and severity, and wildland fire prediction, mitigation, and resilience strategies.

(c) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—

(1) IN GENERAL.—The Administrator of the National Oceanic and Atmospheric Administration (in this subsection referred to as the ''Administrator'') shall conduct research, observations, modeling, forecasting, prediction, and historical analysis

of wildland fires to improve understanding of wildland fires, and associated fire weather and smoke, for the protection of life and property and for the enhancement of the national economy.

(2) WEATHER FORECASTING AND DECISION SUPPORT FOR WILDLAND FIRES.—The Administrator shall—

(A) develop and provide accurate, timely, and effective warnings and forecasts of wildland fires and fire weather events that endanger life and property. Such warnings may include red flag warnings, operational fire weather alerts, and any other warnings or alerts the Administrator deems appropriate;

(B) provide stakeholders and the public with impact-based decision support services, seasonal climate predictions, air quality products, and smoke forecasts; and

(C) provide on-site weather forecasts, seasonal climate predictions, and other decision support to wildland fire incident command posts.

(3) WILDLAND FIRE INCIDENT RESEARCH DATABASE.—The Administrator, in collaboration with Program agencies and relevant stakeholders,

shall develop a publicly accessible Fire Incident Research Database to support the archiving, stewardship, and understanding of historical wildland fire and fire weather data, and to advance wildland fire science. In developing the database, NOAA shall collaborate with Program agencies and stakeholders to—

(A) develop data standards to enhance interoperability of diverse wildland fire data and improve usability of data for a diverse range of stakeholders; and

(B) solicit data from other Program agencies and from relevant stakeholders.

(4) WILDLAND FIRE AND FIRE WEATHER SURVEILLANCE AND OBSERVATIONS.—The Administrator, in coordination with Administrator of the National Aeronautics and Space Administration, shall

(A) leverage existing observations, technologies and assets and develop new technologies to sustain and enhance environmental observations used for wildland fire prediction and detection, fire weather and smoke forecasting and monitoring, and post-wildland fire recovery, with a focus on—

(i) collecting data for pre-ignition analysis, such as drought, fuel conditions, and soil moisture, that will help predict severe wildland fire conditions on subseasonal to decadal timescales;

(ii) supporting identification and classification of fire environments to determine vulnerability to wildland fires and rapid wildland fire growth;

(iii) detecting, observing, and monitoring wildland fires and smoke;

(iv) supporting research on the interaction of weather and wildland fire behavior; and

(v) supporting post-fire assessments conducted by Program agencies; and

(B) prioritize the ability to detect wildfire and smoke in its requirements for its current and future operational space-based assessments and commercial data purchases.

(5) FIRE WEATHER TESTBED.—In collaboration with Program agencies, the Administrator shall establish a Fire Weather Testbed to evaluate physical and social science, technology, and other research to

develop fire weather products and services for implementation by relevant stakeholders.

(6) WILDLAND FIRE AND FIRE WEATHER RESEARCH AND DEVELOPMENT.—The Administrator shall support a wildland fire and smoke research and development program with the goals of—

(A) improving the understanding, prediction, detection, forecasting, monitoring, and assessments of wildland fires and associated fire weather and smoke;

(B) developing products and services to meet stakeholder needs;

(C) transitioning physical and social science research into operations;

(D) improving modeling and technology, including coupled fire-atmosphere fire behavior modeling; and

(E) better understanding of links between fire weather events and subseasonal-to-climate impacts.

(7) EXTRAMURAL RESEARCH.—The Administrator shall collaborate with and support the non-Federal wildland fire research community, which includes institutions of higher education, private entities, nongovernmental organizations, and other rel-

evant stakeholders, by making funds available through competitive grants, contracts, and cooperative agreements.

(8) HIGH PERFORMANCE COMPUTING.—The Administrator shall acquire high performance computing technologies and supercomputing technologies to conduct research and development activities, support research to operations under this section, and host operational fire and smoke forecast models.

(9) INCIDENT METEOROLOGIST WORKFORCE ASSESSMENT.—Not later than 6 months after the date of enactment of this Act, the Administrator shall submit to the Committee on Science, Space, and Technology in the House, and the Committee on Commerce, Science, and Transportation in the Senate the results of an assessment of National Weather Service workforce and training needs for Incident Meteorologists for wildland fires and other extreme events and the potential need for more such Incident Meteorologists. Such assessment shall take into consideration information technology support, logistical and administrative operations, future climate conditions, and feedback from relevant stakeholders.

(d) FEDERAL EMERGENCY MANAGEMENT AGENCY.—The Administrator of the Federal Emergency Management Agency shall—

(1) support—

(A) the development of risk assessment tools and effective mitigation techniques for wildland fires;

(B) wildland fire-related data collection and analysis;

(C) public outreach and information dissemination related to wildland fires and wildland fire risk; and

(D) promotion of the adoption of wildland fire preparedness and risk reduction measures, including for households, businesses, and communities;

(2) work closely with standards development organizations and building code organizations, in conjunction with the National Institute of Standards and Technology, to promote the implementation of research results and promote better buildings and retrofit practices within the design and construction industry, including architects, engineers, contractors, builders, and inspectors; and

(3) acting through the United States Fire Administration—

(A) help translate new information and research findings into best practices to improve the training of firefighters in wildland fire firefighting; and

(B) conduct outreach and information dissemination to fire departments regarding best practices for wildland fire firefighting and training in wildland fire firefighting.

(e) NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.—The responsibilities of the Administrator of the National Aeronautics and Space Administration (in this subsection referred to as the ''Administrator'') with respect to the Program are as follows:

(1) IN GENERAL.—The Administrator shall, with respect to the Program—

(A) support relevant basic and applied scientific research and modeling;

(B) ensure the use in the Program of all relevant National Aeronautics and Space Administration Earth observations data for maximum utility;

(C) explore and apply novel tools and technologies in the activities of the Program;

(D) support the translation of research to operations, including to Program agencies and relevant stakeholders; and

(E) facilitate the communication of wildland fire research, knowledge, and tools to relevant stakeholders.

(2) WILDLAND FIRE RESEARCH AND APPLICATIONS.—The Administrator shall support basic and applied wildland fire research and modeling activities, including competitively-selected research, to—

(A) improve the understanding and prediction of fire environments, wildland fires, associated smoke, and their impacts;

(B) improve the understanding of the impacts of climate change and variability on wildland fire risk, frequency, and severity;

(C) characterize the pre-fire phase and fire-inducing conditions, such as soil moisture and vegetative fuel availability;

(D) characterize the active fire phase, such as fire and smoke plume mapping, fire behavior and spread modeling, and domestic and global fire activity;

(E) characterize the post-fire phase, such as landscape changes, air quality, erosion, land-

slides, and impacts on carbon distributions in forest biomass;

(F) contribute to advancing predictive wildland fire models;

(G) address other relevant investigations and measurements prioritized by the National Academies of Sciences, Engineering, and Medicine Decadal Survey on Earth Science and Applications from Space;

(H) improve the translation of research knowledge into actionable information;

(I) develop research and data products, including maps, decision-support information, and tools, and support related training as appropriate and practicable;

(J) collaborate with other Program agencies and relevant stakeholders, as appropriate, on joint research and development projects, including research grant solicitations and field campaigns; and

(K) transition research advances to operations, including to Program agencies and relevant stakeholders, as practicable.

(3) WILDLAND FIRE DATA SYSTEMS AND COMPUTATIONAL TOOLS.—

(A) IN GENERAL.—The Administrator shall—

(i) identify, from the National Aeronautics and Space Administration's Earth science data systems, data, including combined data products, that can contribute to improving the understanding, monitoring, prediction, and mitigation of wildland fires and their impacts, including data related to fire weather, plume dynamics, smoke and fire behavior, impacts of climate change and variability, land and property burned, wildlife and ecosystem destruction, among other areas;

(ii) prioritize the dissemination of data identified under this subparagraph to the widest extent practicable to support relevant research and operational stakeholders;

(iii) consider opportunities to support the Program under section 2 and the Program activities under section 3 when planning and developing Earth observation satellites, instruments, and airborne measurement platforms;

(iv) identify opportunities, in collaboration with Program agencies and relevant stakeholders, as practicable and appropriate, to acquire additional airborne and space-based data and observations that may enhance or supplement the understanding, monitoring, prediction, and mitigation of wildland fire risks, and the relevant Program activities under section 3; and

(v) lead, in collaboration with Program agencies, the development of a Wildland Fire Risk Reduction Scientific Data Collaboration Environment for the purposes of accelerating the understanding and prediction of wildland fires and to facilitate communications and outreach on wildland fire data, science, and risk to Program agencies and relevant stakeholders.

(B) DATA COLLABORATION ENVIRONMENT SPECIFICATIONS.—The Wildland Fire Risk Reduction Scientific Data Collaboration Environment under clause (v) of subparagraph (A) shall be—

(i) a publicly available means of accessing Program agencies' wildland fire risk scientific data related to active wildland fires; and

(ii) comprised of observations, available real-time and near-real-time measurements, derived science and data products, such as risk and spread maps, and other relevant decision support and information tools.

(4) NOVEL TOOLS FOR ACTIVE WILDLAND FIRE MONITORING AND RISK MITIGATION.—The Administrator, in collaboration with other Program agencies and relevant stakeholders shall apply novel tools and technologies to support active wildland fire research, monitoring, mitigation, and risk reduction, as practicable and appropriate. In particular, the Administrator shall:

(A) Establish a program to develop and demonstrate a unified concept of operations for the safe and effective deployment of diverse air capabilities in active wildland fire monitoring, mitigation, and risk reduction. The objectives of the Program shall be to—

(i) develop a wildland fire airspace operations system accounting for piloted aircraft, uncrewed aerial systems, and other new and emerging capabilities such as autonomous and high-altitude assets;

(ii) develop an interoperable communications strategy to support such system;

(iii) develop a roadmap for the on-ramping of new technologies, capabilities, or entities into such system;

(iv) identify additional development, testing, and demonstration that would be required to expand the scale of operations of such system;

(v) identify actions that would be required to transition the program into ongoing, operational use; and

(vi) identify other objectives for such system, as deemed appropriate by the Administrator.

(B) Develop and demonstrate affordable and deployable sensing technologies, in consultation with other Program agencies and relevant stakeholders, to improve the monitoring of fire fuel and active wildland fires, wildland

fire behavior models and forecast, mapping efforts, and the prediction and mitigation of wildland fires and their impacts. The Administrator shall—

(i) test and demonstrate technologies such as infrared, microwave, and active sensors suitable for deployment on spacecraft, aircraft, and uncrewed aerial systems, as appropriate and practicable;

(ii) develop and demonstrate affordable and deployable sensing technologies that can be transitioned to operations for collection of near-real-time localized measurements;

(iii) identify opportunities and actions required, in collaboration with Program agencies and relevant stakeholders, to transition relevant technologies, techniques, and data to science operations, upon successful demonstration of the feasibility and scientific utility of the sensors and data;

(iv) transition demonstrated technologies, techniques, and data into ongo-

ing, operational use, including to Program agencies and relevant stakeholders; and

(v) prioritize and facilitate, to the greatest extent practicable, the dissemination of these science data to operations, including to Program agencies and relevant stakeholders.

(f) ENVIRONMENTAL PROTECTION AGENCY.—The Administrator of the Environmental Protection Agency shall support environmental research and development activities to—

(1) improve the understanding of—

(A) wildland fire and smoke impacts on communities, and on water and outdoor and indoor air quality;

(B) wildland fire smoke plume characteristics, chemical transformation, and transport;

(C) wildland fire and smoke impacts to contaminant containment and remediation;

(D) the contribution of wildland fire emissions to climate forcing emissions;

(E) differences between the impacts of prescribed fires compared to other wildland fires on communities and air and water quality; and

(F) climate change and variability on wildland fires and smoke plumes, including on smoke exposure;

(2) develop and improve tools, sensors, and technologies including databases and computational models, to accelerate the understanding, monitoring, and prediction of wildland fires and smoke exposure;

(3) better integrate observational data into wildland fire and smoke characterization models to improve modeling at finer temporal and spatial resolution; and

(4) improve communication of wildland fire and smoke risk reduction strategies to the public in coordination with relevant stakeholders and other Federal agencies.

(g) DEPARTMENT OF ENERGY.—The Secretary of Energy shall carry out activities to research and develop tools, techniques, and technologies for—

(1) withstanding and addressing the current and projected impact of wildland fires on energy sector infrastructure;

(2) providing real-time or near-time awareness of the risks posed by wildland fires to the operation of energy infrastructure in affected and potentially affected areas;

(3) early detection of malfunctioning electrical equipment on the transmission and distribution grid, including detection of spark ignition causing wildland fires;

(4) assisting with the planning, safe execution of, and safe and timely restoration of power after emergency power shut offs following wildland fires started by grid infrastructure;

(5) improving electric grid and energy sector safety and resilience in the event of multiple simultaneous or co-located weather or climate events leading to extreme conditions, such as extreme wind, wildland fires, extreme cold, and extreme heat;

(6) coordinating data across relevant entities to promote resilience and wildland fire prevention in the planning, design, construction, operation, and maintenance of transmission infrastructure; and

(7) considering optimal building energy efficiency practices, as practicable, in wildland fire research.

SEC. 7. BUDGET ACTIVITIES.

The Director of the National Institute of Standards and Technology, the Director of the National Science Foundation, the Administrator of the National Oceanic and Atmospheric Administration, the Director of the Fed-

eral Emergency Management Agency, the Administrator of the National Aeronautics and Space Administration, the Administrator of the Environmental Protection Agency, and the Secretary of Energy shall each include in the annual budget request to Congress of each respective agency a description of the projected activities of such agency under the Program for the fiscal year covered by the budget request and an estimate of the amount such agency plans to spend on such activities for the relevant fiscal year.

SEC. 8. DEFINITIONS.

In this Act:

(1) DIRECTOR.—The term ''Director'' means the Director of the Office of Science and Technology Policy.

(2) PROGRAM.—The term ''Program'' means the Program established under section 2.

(3) PROGRAM AGENCIES.—The term ''Program agencies'' means any Federal agency with responsibilities under the Program.

(4) STAKEHOLDERS.—The term ''stakeholders'' means any public or private organization engaged in addressing wildland fires, associated smoke, and their impacts, and shall include relevant Federal agencies, States, territories, Tribes, State and local

governments, businesses, not-for-profit organizations, including national standards and building code organizations, firefighting departments and organizations, academia, and other users of wildland fire data products.

(5) WILDLAND FIRE.—The term ''wildland fire'' means any non-structure fire that occurs in vegetation or natural fuels and includes wildfires and prescribed fires.

(6) WILDLAND-URBAN INTERFACE.—The term ''Wildland-Urban Interface'' has the meaning given such term in section 4(11) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2203(11)).

(7) FIRE ENVIRONMENT.—The term ''fire environment'' means surrounding conditions, influences, and modifying forces of topography, fuel, and weather that determine fire behavior.

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—There are authorized to be appropriated to the National Institute of Standards and Technology for carrying out this Act—

(1) $35,800,000 for fiscal year 2022;

(2) $36,100,000 for fiscal year 2023;

(3) $36,400,000 for fiscal year 2024;

(4) $36,700,000 for fiscal year 2025; and

(5) $37,100,000 for fiscal year 2026.

(b) NATIONAL SCIENCE FOUNDATION.—There are authorized to be appropriated to the National Science Foundation for carrying out this Act—

(1) $50,000,000 for fiscal year 2022;

(2) $53,000,000 for fiscal year 2023;

(3) $56,200,000 for fiscal year 2024;

(4) $59,600,000 for fiscal year 2025; and

(5) $63,100,000 for fiscal year 2026.

(c) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.—There are authorized to be appropriated to the National Oceanic and Atmospheric Administration for carrying out this Act—

(1) $200,000,000 for fiscal year 2022;

(2) $215,000,000 for fiscal year 2023;

(3) $220,000,000 for fiscal year 2024;

(4) $230,000,000 for fiscal year 2025; and

(5) $250,000,000 for fiscal year 2026.

(d) NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.—There are authorized to be appropriated to the National Aeronautics and Space Administration for carrying out this Act—

(1) $95,000,000 for fiscal year 2022;

(2) $100,000,000 for fiscal year 2023;

(3) $110,000,000 for fiscal year 2024;

(4) $110,000,000 for fiscal year 2025; and

(5) $110,000,000 for fiscal year 2026.

(e) ENVIRONMENTAL PROTECTION AGENCY.—There are authorized to be appropriated to the Environmental Protection Agency for carrying out this Act—

(1) $11,000,000 for fiscal year 2022;

(2) $11,700,000 for fiscal year 2023;

(3) $12,400,000 for fiscal year 2024;

(4) $13,100,000 for fiscal year 2025; and

(5) $13,900,000 for fiscal year 2026.

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