

FIRE WEATHER DEVELOPMENT ACT OF 2023

SEPTEMBER 22, 2023.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. LUCAS, from the Committee on Science, Space, and Technology, submitted the following

R E P O R T

[To accompany H.R. 4866]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 4866) to direct the Administrator of the National Oceanic and Atmospheric Administration to establish a program to improve fire weather and fire environment forecasting, detection, and local collaboration, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill as amended do pass.

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The amendment is as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Fire Weather Development Act of 2023”.

**SEC. 2. FIRE WEATHER FORECASTING AND DETECTION.**

(a) **ESTABLISHMENT.**—The Administrator of the National Oceanic and Atmospheric Administration, shall establish a program (in this Act referred to as the “Program”) to improve fire weather and fire environment forecasting, detection, and delivery of products or services through collaboration with Federal and State agencies or departments, local emergency managers, and relevant entities.

(b) **GOALS.**—The goals of the Program shall be to develop and improve accurate fire weather and fire environment forecasts and warnings in order to reduce loss of life, reduce injuries, protect property, and reduce damage to the economy from wildfires. The Program shall seek to improve the assessment of fire weather and fire environments, the understanding and prediction of wildfires, and the communications regarding such assessments with State and local emergency officials in a timely and streamlined fashion, with a focus on improving the following:

- (1) The prediction of ignition, intensification and spread of wildfires.
- (2) The observation and monitoring of fire weather and fire environments.
- (3) The forecast and communication of smoke dispersion from wildfires.
- (4) Information dissemination and risk communication to develop more effective watch and warning products relating to wildfires.
- (5) The early detection of wildfires, including pre-ignition analysis and ground condition characterizations.
- (6) The development, testing, and deployment of novel tools and techniques related to understanding, monitoring, and predicting fire weather and fire environments.
- (7) The understanding and association of climate change and its impacts on fire weather and fire environments.
- (8) The unique characteristics, including observation or modeling requirements, related to fires at the wildland-urban interface.
- (9) The forecasting and understanding of the impacts of prescribed burns (as such term is defined in section 2 of the Prescribed Burn Approval Act of 2016 (16 U.S.C. 551c–1 note)).

(c) **COLLABORATION WITH STAKEHOLDERS.**—In developing the Program required under this section, the Administrator of the National Oceanic and Atmospheric Administration shall solicit and take into consideration input from the weather industry, such academic entities as the Administrator considers appropriate, and other relevant stakeholders.

(d) **ACTIVITIES.**—To achieve the goals specified in subsection (b), the Administrator of the National Oceanic and Atmospheric Administration may conduct research, development, testing, demonstration, and operational transition activities related to fire weather and fire environments, including regarding the following:

- (1) Tools and services to inform, support, and complement active land management, local emergency personnel, the United States Forest Service, and State, local, and Tribal entities during their response and mitigation efforts.
- (2) Sensing technologies, such as infrared, microwave, and active sensors suitable for potential deployment on spacecraft, aircraft, and unmanned aircraft systems, to improve the monitoring and forecasting of fire fuel and active wildfires, wildfire behavior models and forecasts, mapping efforts, and the prediction of wildfires and the impacts of such.
- (3) Grid-based assessments and outlooks of fuel moisture and danger levels.
- (4) Social and behavior sciences related to fire weather and fire environment warning products.
- (5) Advanced satellite detection products coupled with atmosphere and fire weather modeling systems.
- (6) Education and training to expand the number of students and researchers in areas of study and research related to wildfires, fire weather, and fire environments.
- (7) Modeling systems to link long-term climate predictions to localized or general land management decisions.
- (8) Communication and outreach to communities, energy utilities, owners and operators of critical infrastructure, and other relevant stakeholders regarding fire weather and fire environment risk.
- (9) Stewardship and dissemination, to the extent practicable, of National Oceanic and Atmospheric Administration scientific data and related products and services in formats meeting shared standards to enhance the interoperability, usability, and accessibility of such data in order to better meet the needs of the National Oceanic and Atmospheric Administration, other Federal agencies, and relevant stakeholders.
- (10) Improvement of spatial and temporal resolution observations.
- (11) Any other topic or activity the Administrator determines relevant.

(e) **NOVEL TOOLS FOR MONITORING AND PREDICTION.**—The Administrator of the National Oceanic and Atmospheric Administration, in consultation with the heads of the agencies specified in section 3, or other appropriate stakeholders, including commercial partners, shall develop novel tools and technologies to support the activities of the Program and which may be applied to broader wildland fire research, monitoring, and mitigation activities, as practicable and appropriate.

(f) **EXTRAMURAL RESEARCH.**—The Administrator of the National Oceanic and Atmospheric Administration shall collaborate with and support the non-Federal wildland fire research community, which includes institutions of higher education, private sector entities, nongovernmental organizations, and other relevant stakeholders, by making funds available through competitive grants, contracts, and cooperative agreements.

(g) **COMMERCIAL DATA.**—

(1) **IN GENERAL.**—Not later than one year after the date of the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration, in consultation with the heads of other Federal agencies and relevant stakeholders, may enter into contracts with one or more private sector entities to obtain additional airborne and space-based data and observations that may enhance or supplement the understanding, monitoring, and prediction, of fire weather and fire environments, and the relevant Program activities under this section.

(2) **CONSULTATION.**—In carrying out activities under paragraph (1), the Administrator of the National Oceanic and Atmospheric Administration shall consult with private sector entities through the National Advisory Committee on Wildfires under section 4 to identify needed tools and data that can be best provided by National Oceanic and Atmospheric Administration satellites and are most beneficial to wildfire and smoke detection and monitoring.

(h) **NONDUPLICATION.**—To the maximum extent practicable, the Administrator of the National Oceanic and Atmospheric Administration shall consult with the National Interagency Fire Center, including the Joint Fire Science Program, to avoid duplication of activities under this section and ensure the Administration's focus on unique research activities best suited for transition to operations.

(i) **UNMANNED AIRCRAFT SYSTEMS.**—

(1) **IN GENERAL.**—The Administrator of the National Oceanic and Atmospheric Administration shall—

(A) assess the role and potential benefits of unmanned aircraft systems to improve data collection in support of fire weather and fire environment modeling, meteorological observations, predictions, and forecasts;

(B) identify objectives for testing such systems' use for obtaining fire weather and fire environment observations, and other relevant activities; and

(C) transition unmanned aircraft systems technologies from research to operations as the Administrator considers appropriate.

(2) **BRIEFING.**—Not later than 270 days after the date of enactment of the Act, the Administrator of the National Oceanic and Atmospheric Administration shall brief the appropriate committees of Congress on the activities under paragraph (1).

(3) **PILOT PROGRAMS.**—Not later than 18 months after the date of the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration may conduct pilot programs of unmanned aircraft systems for fire weather and fire environment observations, including relating to the following:

(A) Testing of unmanned aircraft systems in approximations of real-world scenarios.

(B) Assessment of the utility of meteorological data collected from fire response and assessment aircraft.

(C) Input into appropriate models of collected data to predict fire behavior, including coupled atmosphere and fire models.

(D) Collection of best management practices for deployment of unmanned aircraft systems for fire weather and fire environment observations.

(4) **PROHIBITION.**—

(A) **IN GENERAL.**—Except as provided under subparagraphs (B) and (C), the Administrator of the National Oceanic and Atmospheric Administration may not procure any unmanned aircraft system that is manufactured or assembled by an entity in a foreign country of concern.

(B) **EXEMPTION.**—The prohibition under subparagraph (A) shall not apply to the Administrator of the National Oceanic and Atmospheric Administration if the Administrator determines, in consultation with the Secretary of Homeland Security, that the procurement of an unmanned aircraft system

is necessary for the sole purpose of marine or atmospheric science or management.

(C) **WAIVER.**—The Administrator of the National Oceanic and Atmospheric Administration may waive the prohibition under subparagraph (A) on a case-by-case basis—

- (i) with the approval of the Secretary of Homeland Security; and
- (ii) upon written or electronic notification to appropriate committees of Congress not later than 30 days after any such waiver.

(5) **AIRSPACE OPERATIONS SYSTEM.**—The Administrator of the National Oceanic and Atmospheric Administration, in cooperation with the Administrator of the National Aeronautics and Space Administration, shall utilize the capabilities of unmanned aircraft systems as appropriate for fire weather and fire environment observations, and may use a wildfire airspace operations system that accounts for piloted aircraft, unmanned aircraft systems, and other new and emerging capabilities after such airspace operations system is developed and determined ready for operational use by the Administrator of the National Aeronautics and Space Administration.

(6) **AUTHORIZATION OF APPROPRIATIONS.**—From amounts made available for Procurement, Acquisition, and Construction of the National Oceanic and Atmospheric Administration, there is authorized to be appropriated \$5,000,000 for fiscal year 2024 to carry out this section.

(j) **DEFINITIONS.**—In this section:

(1) **APPROPRIATE COMMITTEES OF CONGRESS.**—The term “appropriate committees of Congress” means the Committee on Science, Space, and Technology and the Committee on Homeland Security of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Homeland Security and Governmental Affairs of the Senate.

(2) **CRITICAL INFRASTRUCTURE.**—The term “critical infrastructure” has the meaning given such term in section 1016(e) of Public Law 107–56 (42 U.S.C. 5195c(e)).

(3) **FOREIGN COUNTRY OF CONCERN.**—The term “foreign country of concern” has the meaning given such term in section 9901 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (15 U.S.C. 4651).

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

(5) **UNMANNED AIRCRAFT SYSTEM.**—The term “unmanned aircraft system” has the meaning given such term in section 44801 of title 49, United States Code.

(6) **WEATHER INDUSTRY.**—The term “weather industry” has the meaning given such term in section 2 of the Weather Research and Forecasting Innovation Act of 2017 (15 U.S.C. 8501).

### **SEC. 3. INTERAGENCY COORDINATING COMMITTEE ON WILDFIRES.**

(a) **ESTABLISHMENT.**—Not later than 90 days after the date of the enactment of this Act, the Director of the Office of Science and Technology Policy shall establish an interagency coordinating committee to be known as the “Interagency Coordinating Committee on Wildfires” (in this section referred to as the “Committee”). The chair of the Committee shall be the Administrator of the National Oceanic and Atmospheric Administration.

(b) **PURPOSE.**—The Committee shall coordinate the development of accurate and timely wildfire forecasting, detection, monitoring, and delivery of related products or services that best assist State and local emergency officials while avoiding duplication of activities.

(c) **MEMBERSHIP.**—In addition to the chair, the Committee shall be composed of the heads or appropriate designees of the following program agencies:

- (1) The Federal Emergency Management Agency.
- (2) The United States Fire Administration.
- (3) The United States Forest Service.
- (4) The National Aeronautics and Space Administration.
- (5) The Department of the Interior.
- (6) The Department of Agriculture.
- (7) The United States Geological Survey.
- (8) The Office of Science and Technology Policy.
- (9) Any other Federal department or agency the Director of the Office of Science and Technology Policy considers appropriate.

(d) **STRATEGIC PLAN.**—Not later than one year after the date of the enactment of this Act, the Committee shall submit to Congress a strategic plan for the Program that includes the following:

(1) A description of short-term, mid-term, and long-term objectives to achieve the purpose specified in subsection (b).

(2) A description of how agencies specified in subsection (c) will collaborate with stakeholders and take into account stakeholder needs and recommendations in developing such objectives.

(3) A description of existing and new observational and data infrastructure needed to accomplish such objectives.

(4) A description of the role of each such agency in achieving such objectives.

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

(e) **INTERAGENCY AGREEMENTS.**—The heads of agencies specified in subsection (c) may enter into one or more interagency agreements providing for cooperation and collaboration in the development of wildfire forecasting, detection, and monitoring tools, instruments, technologies, and research to accomplish the purpose described in subsection (b).

(f) **COLLABORATION.**—The head of each agency specified in subsection (c) shall, to the extent practicable, increase engagement and cooperation with international, academic, State, and local communities regarding the infrastructure, data, and scientific research necessary to best advance the forecasting, detection, and monitoring of and preparation for wildfires.

#### **SEC. 4. NATIONAL ADVISORY COMMITTEE ON WILDFIRES.**

(a) **ESTABLISHMENT.**—

(1) **IN GENERAL.**—Not later than 90 days after the submission of the strategic plan required by section 3(d), the Director of the Office of Science and Technology Policy shall establish a national advisory committee to be known as the “National Advisory Committee on Wildfires” (in this section referred to as the “Advisory Committee”). The Advisory Committee shall consist of not fewer than seven and not more than 15 members who are qualified to provide advice regarding wildfire forecasting, detection, monitoring, and delivery of related products or services, including from the following entities:

(A) Research and academic institutions.

(B) Public communication or broadcast entities.

(C) Emergency management agencies.

(D) State, local, or Tribal governments.

(E) The National Association of State Foresters.

(F) Business communities.

(G) Other entities as designated by the Director of the Office of Science and Technology Policy.

(2) **PROHIBITION.**—Members of the Advisory Committee may not be employees of the Federal Government.

(b) **ASSESSMENT.**—The Advisory Committee shall offer assessments and recommendations relating to the following:

(1) Tailored forecasting, detection, and monitoring products and tools.

(2) Communication and delivery methods of wildfire forecasting, detection, and monitoring information.

(3) Opportunities to streamline Federal forecasting, monitoring, and detection information to local emergency personnel and communities.

(4) The management, coordination, implementation, and activities of the Interagency Coordinating Committee on Wildfires under section 3.

(5) The effectiveness of the Interagency Coordinating Committee on Wildfires in meeting its purposes.

(c) **COMPENSATION.**—Members of the Advisory Committee shall serve without compensation.

(d) **REPORTS.**—Not less frequently than biennially, the Advisory Committee shall report to the Director of the Office of Science and Technology Policy on the assessments carried out under subsection (b) and its recommendations for ways to improve the coordination and dissemination of wildfire forecasts, warnings, and detection and monitoring information.

(e) **CHARTER.**—Notwithstanding section 1013(b)(2) of title 5, United States Code, the Advisory Committee shall not be required to file a charter subsequent to its initial charter, filed under section 1008(c) of such title, before the termination date specified in subsection (f) of this section.

(f) **TERMINATION.**—The Advisory Committee shall terminate on September 30, 2028.

(g) **CONFLICT OF INTEREST.**—An Advisory Committee member shall recuse himself or herself from any Advisory Committee activity in which he or she has an actual pecuniary interest.

**SEC. 5. ESTABLISHMENT OF FIRE WEATHER TESTBED.**

(a) **IN GENERAL.**—The Administrator of the National Oceanic and Atmospheric Administration shall establish a fire weather testbed to enable engagement across the Federal Government, State and local governments, academia, private and federally funded research laboratories, the private sector, and end-users in order to evaluate the accuracy and usability of technology, models, fire weather products and services, and other research to accelerate the implementation, transition to operations, and use of new capabilities by the National Oceanic and Atmospheric Administration, Federal and land management agencies, and other relevant stakeholders.

(b) **RESOURCES.**—In carrying out this section, the Administrator of the National Oceanic and Atmospheric Administration may not transfer or reprogram any funds, detail any personnel, or make use of any infrastructure from cooperative institutes of the National Oceanic and Atmospheric Administration in existence as of the date of the enactment of this Act for the fire weather testbed established under subsection (a).

(c) **AUTHORIZATION OF APPROPRIATIONS.**—From amounts made available for Procurement, Acquisition, and Construction of the National Oceanic and Atmospheric Administration, there is authorized to be appropriated \$15,000,000 for fiscal year 2024 to carry out this section.

**SEC. 6. INCIDENT METEOROLOGIST WORKFORCE.**

(a) **WORKFORCE AND TRAINING ASSESSMENT.**—Not later than six months after the date of the enactment of this Act, the Administrator of the National Oceanic and Atmospheric Administration shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate the results of an assessment of National Weather Service workforce and training challenges for Incident Meteorologists, and a roadmap for overcoming such challenges. Such assessment shall take into consideration information technology support, logistical and administrative operations, anticipated weather and climate conditions, and feedback from relevant stakeholders, and shall include, to the maximum extent practicable, an identification by the National Weather Service of the following:

(1) The expected number of Incident Meteorologists needed over the next five years.

(2) Potential hiring authorities necessary to overcome any identified workforce and training challenges.

(3) Alternative services or assistance options the National Weather Service could provide to meet operational needs.

(b) **OVERTIME PAY.**—

(1) **IN GENERAL.**—Any premium pay for services performed by Incident Meteorologists of the National Weather Service that are determined by the Secretary of Commerce to be primarily related to emergency wildland fire suppression activities shall be disregarded in calculating the aggregate of such employee's basic pay and premium pay for purposes of a limitation under section 5547 of title 5, United States Code, or under any other provision of law.

(2) **RATES.**—Section 5542(a)(5) of title 5, United States Code, is amended by inserting “, the National Weather Service,” after “Interior”.

**SEC. 7. RESEARCH ON WILDLAND FIRE COMMUNICATIONS AND INFORMATION DISSEMINATION.**

(a) **IN GENERAL.**—

(1) **PUBLIC SAFETY RESEARCH.**—Not later than 60 days after the date of the enactment of this Act, the Director, acting through the head of the Public Safety and Communications Research Division and in consultation with the Fire Research Division and technology manufacturers, shall carry out research on the following:

(A) Public safety communication coordination standards among Federal, State, Tribal, and local wildland firefighters, fire management response officials, and member agencies.

(B) Improving and integrating existing communications systems to transmit secure real-time data, alerts, and advisories to and from fire management response officials and wildland firefighters.

(2) **FIELD TESTING AND MEASUREMENT OF INFORMATION DISSEMINATION AND TECHNOLOGY.**—The Public Safety and Communications Research Division, in consultation with the Fire Research Division and member agencies, shall conduct both live and virtual field testing of equipment, software, and other technologies to determine current times of information dissemination and develop standards for the delivery of useful and secure real-time data among member agencies, fire management response officials, and wildland firefighters, based on findings from research under subsection (a).

## (b) RECOMMENDATIONS.—

(1) IN GENERAL.—The Director shall develop and publish recommendations to improve public safety communication coordination standards among wildland first responders and fire management response officials.

(2) TRANSMITTAL.—The Director shall transmit the recommendations under paragraph (1) to the Office of Management and Budget and the Office of Science and Technology Policy for member agencies to implement.

## (3) REPORTING REQUIREMENTS.—

(A) IN GENERAL.—The Director shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report containing the recommendations published under paragraph (1).

(B) IMPLEMENTATION.—Not later than 1 year after the date of the publication of the Director's recommendations under paragraph (1), the Comptroller General of the United States shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the extent to which member agencies have implemented such recommendations.

(c) FUNDING.—From amounts made available to the National Institute of Standards and Technology, the Director shall allocate \$3,000,000 for each of fiscal years 2024 through 2028 to carry out this section.

## (d) DEFINITIONS.—In this section:

(1) DIRECTOR.—The term “Director” means the Director of the National Institute of Standards and Technology.

(2) MEMBER AGENCY.—The term “member agency” means a member agency of the National Interagency Fire Center, including the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, Forest Service, United States Fire Administration, and the Department of Defense.

(3) WILDLAND FIREFIGHTER.—The term “wildland firefighter” means any person who participates in wildland firefighting activities.

(4) FIRE MANAGEMENT RESPONSE OFFICIALS.—The term “fire management response officials” means regional fire directors, deputy regional fire directors, agency officials who directly oversee fire operations, fire management officers, and individuals serving on incident management teams.

(5) TECHNOLOGY MANUFACTURERS.—The term “technology manufacturers” means private sector entities that manufacture communications technologies used by Federal, State, Tribal, or local wildland fire authorities.

**SEC. 8. DEFINITIONS.**

In this Act:

(1) FIRE ENVIRONMENT.—The term “fire environment” means—

(A) the environmental conditions, such as soil moisture, vegetation, topography, snowpack, atmospheric temperature, moisture, and wind, that influence—

(i) fuel and fire behavior; and

(ii) smoke dispersion and transport; and

(B) the associated environmental impacts occurring during and after fire events.

(2) FIRE WEATHER.—The term “fire weather” means the weather conditions that influence the start, spread, character, or behavior of wildfires or fires at the wildland-urban interface and relevant meteorological and chemical phenomena, including air quality, smoke, and meteorological parameters such as relative humidity, air temperature, wind speed and direction, and atmospheric composition and chemistry, including emissions and mixing heights.

**PURPOSE AND SUMMARY**

H.R. 4866, the Fire Weather Development Act of 2023, improves Federal assessment of fire weather and fire environments, understanding and prediction of wildfires, and communications regarding such assessments with State and local emergency officials in a timely and streamlined fashion. Specifically, this bill directs the Administrator of the National Oceanic and Atmospheric Administration (NOAA) to establish a program to improve fire weather and fire environment forecasting, detection, and delivery of products or

services through collaboration with other Federal and State agencies or departments, local emergency managers, and relevant entities.

#### BACKGROUND AND NEED FOR LEGISLATION

In 2022 alone, the National Interagency Fire Center reported almost 69,000 wildfires that burned nearly 7.6 million acres across the country. Over the last 5 years, the average annual cost for Federal firefighting and suppression has been \$2.8 billion. While forest and land management can help prevent wildfires, long- and short-term fire weather observations and modeling also play a critical role.

The Fire Weather Development Act of 2023 directs NOAA to develop and improve accurate fire weather and fire environment forecasts and warnings in order to reduce loss of life, reduce injuries, protect property, and reduce damage to the economy from wildfires. This will improve forecasting, detection, and delivery of products or services through collaboration with Federal and State agencies or departments, local emergency managers, and other relevant entities.

As demonstrated by reduced air quality on the East Coast caused by smoke from wildfires in Canada this year, even remote wildfires can have impacts on the health and wellbeing of distant people and environments. Therefore, H.R. 4866 places an emphasis on developing and using novel technologies such as advanced satellite detection coupled with atmosphere and fire weather modeling systems and active sensors suitable for potential deployment on spacecraft, aircraft, and unmanned aircraft systems. These technologies improve the monitoring and forecasting of fire fuel and active wildfires, wildfire behavior models and forecasts, fire mapping, and the prediction of wildfires and their impacts, while also reducing the risks of sending firefighters and operators into potential danger.

The Fire Weather Development Act of 2023 also recognizes the critical need for interagency collaboration. The legislation establishes an Interagency Coordinating Committee on Wildfires, whose purpose is to coordinate at the Federal level the development of accurate and timely wildfire forecasting, detection, monitoring, and delivery of related products or services that best assist State and local emergency officials while avoiding duplication of activities.

In addition to the creation of the committee, H.R. 4866 also establishes a National Advisory Council on Wildfires. This advisory committee will comprise of members independent of the federal government to provide advice to the Coordinating Committee regarding wildfire forecasting, detection, monitoring, and delivery of products and services. This ensures that the local officials, communities, and people who are directly affected by wildfires have a seat at the table and can provide input on what tools or services are most needed.

#### LEGISLATIVE HISTORY

H.R. 4866 was introduced on July 25, 2023, by Representative Garcia (R-CA) and is cosponsored by Reps. Caraveo (D-CO) and Kim (R-CA).



On July 27, 2023, the Committee on Science, Space, and Technology met to consider H.R. 4866.

Rep. Babin offered an amendment to authorize NOAA to utilize the capabilities of unmanned aircraft systems for fire weather and fire environment observations and use a wildfire airspace operations system when developed by NASA. The amendment was agreed to by voice vote.

Rep. Ross offered an amendment to exempt premium pay collected by Incident Meteorologists during emergency wildland fire suppression activities from the aggregate of such employee's annual basic and premium pay. The amendment was agreed to by voice vote.

Chairman Lucas offered an amendment inserting the text of H.R. 369, the NIST Wildland Fire Communications and Information Dissemination Act, into the bill. The amendment was agreed to by voice vote.

Chairman Lucas moved that Committee favorably report the bill, H.R. 4866, as amended, to the House of Representatives with the recommendation that the bill be approved. The motion was agreed to by a vote of 33–2.

#### SECTION-BY-SECTION

##### *Section 1. Short title*

The short title of this legislation is the “Fire Weather Development Act of 2023.”

##### *Section 2. Fire weather forecasting and detection*

This section directs the directs the Administrator of the National Oceanic and Atmospheric Administration (NOAA) to establish a program to improve fire weather and fire environment forecasting, detection, and delivery of products or services through collaboration with Federal and State agencies or departments, local emergency managers, and relevant entities. This program is directed to be done in consultation with the National Interagency Fire Center to ensure a focus on unique research activities best suited for transition to operations.

Within this section, the Administrator is directed to develop, including by competitive grants, contracts, and cooperative agreements, novel tools and technologies which may be applied to wildland fire research, monitoring, and mitigation activities.

This section also directs NOAA to enter contracts with one or more private sector entities to obtain additional airborne and space-based data and observations that may enhance or supplement the understanding, monitoring, and prediction, of fire weather and fire environments.

Additionally, this section authorizes the assessment, identification for testing, and transition of research to operations of unmanned aircraft systems (UAS) in support of fire weather and fire environment modeling, meteorological observations, predictions, and forecasts. In carrying out these activities, NOAA is prohibited from procuring any UAS that is manufactured or assembled by an entity in a foreign country of concern.

### *Section 3. Interagency Coordinating Committee on Wildfires*

This section directs the Director of the Office of Science and Technology Policy to establish the Interagency Coordinating Committee on Wildfires to coordinate the development of accurate and timely wildfire forecasting, detection, monitoring, and delivery of related products or services that best assist State and local emergency officials while avoiding duplication of activities at the Federal level.

The Coordinating Committee is to be chaired by the Administrator of NOAA and include the heads or appropriate designees of the Federal Emergency Management Agency, United States Fire Administration, United States Forest Service, National Aeronautics and Space Administration, Department of the Interior, Department of Agriculture, United States Geological Survey, Office of Science and Technology Policy, and any other Federal department or agency the Director of the Office of Science and Technology Policy considers appropriate.

This section requires that the Coordinating Committee submit to Congress a strategic plan for the NOAA Program that includes short-term, mid-term, and long-term objectives, a description of each agencies' role and how each will collaborate with stakeholders, a description of existing and new observational and data infrastructure needed, and how the Coordinating Committee's recommendation can be used by Federal, State, local, Tribal, and territorial planning.

### *Section 4. National Advisory Committee on Wildfires*

This section directs the Director of the Office of Science and Technology Policy to establish the National Advisory Committee on Wildfires to provide advice regarding wildfire forecasting, detection, monitoring, and delivery of related products or services.

The Advisory Committee will consist of between 7 and 15 non-Federal members from research and academic institutions, public communication or broadcast entities, emergency management agencies, State, local, or Tribal governments, the National Association of State Foresters, business communities, and other entities as designated by the Director of the Office of Science and Technology Policy.

The Advisory Committee will offer assessments and recommendations related to tailored forecasting, detection, and monitoring products and tools; communication and delivery methods; opportunities to streamline Federal information dissemination; and the management, coordination, implementation, activities, and effectiveness of the Coordinating Committee. These assessments and reports will be transmitted biennially.

### *Section 5. Establishment of fire weather testbed*

This section directs the NOAA Administrator to establish a fire weather testbed in order to increase engagement across the Federal Government, State and local governments, academia, private and federally funded research laboratories, the private sector, and end-users. This research testbed will develop new and improved models, technologies and tools to support decisions that involve the total fire environment forecast including fire weather, ignition, spread, and behavior.

This section authorizes \$15,000,000 in FY 24 to be appropriated from amounts made available to the Procurement, Acquisition, and Construction account of NOAA to carry out this testbed.

*Section 6. Incident Meteorologist workforce*

This section directs the NOAA Administrator to carry out an assessment of the National Weather Service workforce and training challenges for Incident Meteorologists and a roadmap for overcoming such challenges. The Administrator is directed to include the expected number of Incident Meteorologists needed over the next five years, as well as any hiring authorities needed or alternative services and assistance options to meet these needs.

This section also included language to exempt premium pay collected by Incident Meteorologists during emergency wildland fire suppression activities from the aggregate of such employee's annual basic and premium pay. This ensures that meteorologist employed at a Weather Forecast Office can be deployed as Incident Meteorologists, receive overtime pay, and still be eligible to work overtime if another emergency situation arises when they return to the Weather Forecast Office.

*Section 7. Research on wildland fire communications and information dissemination*

This section directs the National Institute of Standards and Technology (NIST) to research and improve communication coordination standards among firefighters, fire management response officials, and the National Interagency Fire Center. It also authorizes NIST to carry out live and virtual field testing of equipment, software, and other technologies to improve communications during wildfires.

*Section 8. Definitions*

This section defined the terms fire environment and fire weather.

#### RELATED COMMITTEE HEARINGS

On July 12, 2023, the Committee held a hearing entitled *Enhancing Fire Weather Prediction and Coordination*. Members and witnesses discussed potential areas of improvement and their priorities related to the collection, distribution, and use of fire weather data, including the accessibility of both long- and short-term fire weather data and gaps.

Witnesses:

- Mr. Mark Goeller, State Forester/Director Oklahoma Department of Agriculture, Food and Forestry.
- Mr. James Peverill, Founder/CEO, GreenSight.
- Dr. Ali Tohidi, Assistant Professor of Mechanical Engineering and Wildfire Dynamics, San Jose State University.

#### COMMITTEE CONSIDERATION

On July 27, 2023, the Committee met in open session and ordered reported favorably the bill, H.R. 4866, as amended, by roll call vote, a quorum being present.

ROLL CALL VOTES

Clause 3(b) of rule XIII requires the Committee to list the recorded votes on the motion to report legislation and amendments thereto. The following reflects the record votes taken during the Committee consideration:

House Committee on Science, Space, and Technology  
118th Congress  
Full Committee Markup

Bill # HR 4866

Motion to report HR 4866 to the House, as amended

Majority	Aye	No	Present	Date: 7/27/23	Result?			
Frank Lucas, Oklahoma	1					Agreed To: [ X ]		
Bill Posey, Florida	1					Not Agreed To: [ ]		
Randy Weber, Texas	1					Withdrawn: [ ]		
Brian Babin, Texas	1							
Jim Baird, Indiana	1							
Daniel Webster, Florida								
Mike Garcia, California	1							
Stephanie Bice, Oklahoma								
Jay Obernolte, California	1							
Chuck Fleischmann, Tennessee	1							
Darrell Issa, California	1							
Rick Crawford, Arkansas	1							
Claudia Tenney, New York	1							
Ryan Zinke, Montana								
Scott Franklin, Florida	1							
Dale Strong, Alabama		1						
Max Miller, Ohio	1							
Rich McCormick, Georgia	1							
Mike Collins, Georgia		1						
Brandon Williams, New York								
Tom Kean, New Jersey	1							
Minority	Aye	No	Present	Voice Vote	Ayes	Nays	Present	
Zoe Lofgren, California	1				33	2		
Suzanne Bonamici, Oregon	1							
Haley Stevens, Michigan	1							
Jamaal Bowman, New York	1							
Deborah Ross, New Carolina	1							
Eric Sorensen, Illinois	1							
Andrea Salinas, Oregon	1							
Val Foushee, North Carolina	1							
Kevin Mullin, California	1							
Jeff Jackson, North Carolina	1							
Emilia Sykes, Ohio	1							
Maxwell Frost, Florida	1							
Yadira Caraveo, Colorado	1							
Summer Lee, Pennsylvania	1							
Jennifer McClellan, Virginia	1							
Ted Lieu, California	1							
Sean Casten, Illinois	1							
Paul Tonko	1							
Total	33	2						

## APPLICATION OF LAW TO THE LEGISLATIVE BRANCH

The Committee finds that H.R. 4866 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

## STATEMENT OF OVERSIGHT FINDINGS AND RECOMMENDATIONS OF THE COMMITTEE

In compliance with clause 3(c)(1) of rule XIII and clause (2)(b)(1) of rule X, the Committee's oversight findings and recommendations are reflected in the descriptive portions of this report.

## STATEMENT OF GENERAL PERFORMANCE GOALS AND OBJECTIVES

Pursuant to clause (3)(c)(4) of rule XIII, the goal of H.R. 4866 is to improve fire weather and fire environment forecasting, detection, and local collaboration.

## DUPLICATION OF FEDERAL PROGRAMS

Pursuant to clause 3(c)(5) of rule XIII, the Committee finds that no provision of H.R. 4866 establishes or reauthorizes a program of the Federal Government known to be duplicative of another Federal program, including any program that was included in a report to Congress pursuant to section 21 of Public Law 111–139 or identified in the most recent Catalog of Federal Domestic Assistance.

## FEDERAL ADVISORY COMMITTEE ACT

The Committee finds that the legislation directs the establishment of an advisory committee within the definition of section 5(b) of the Federal Advisory Committee Act.

## UNFUNDED MANDATE STATEMENT

The Committee adopts as its own the estimate of Federal mandates prepared by the Director of the Congressional Budget Office pursuant to section 423 of the Unfunded Mandates Reform Act. At the time this report was filed, this estimate was not yet available.

## EARMARK IDENTIFICATION

Pursuant to clauses 9(e), 9(f), and 9(g) of rule XXI, the Committee finds that H.R. 4866 does not include any congressional earmarks, limited tax benefits, or limited tariff benefits.

## COMMITTEE COST ESTIMATE

Pursuant to clause 3(d)(1) of rule XIII, the Committee adopts as its own the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974. At the time this report was filed, the estimate was not available.

NEW BUDGET AUTHORITY, ENTITLEMENT AUTHORITY, AND TAX  
EXPENDITURES

Pursuant to clause 3(c)(2) of rule XIII, the Committee finds that H.R. 4866 would result in no new or increased budget authority, entitlement authority, or tax expenditures or revenues.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

Pursuant to clause 3(c)(3) of rule XIII, at the time this report was filed, the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974 was not available.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (new matter is printed in italics and existing law in which no change is proposed is shown in roman):

**TITLE 5, UNITED STATES CODE**

\* \* \* \* \*

**PART III—EMPLOYEES**

\* \* \* \* \*

**SUBPART D—PAY AND ALLOWANCES**

\* \* \* \* \*

**CHAPTER 55—PAY ADMINISTRATION**

\* \* \* \* \*

**SUBCHAPTER V—PREMIUM PAY**

\* \* \* \* \*

**§ 5542. Overtime rates; computation**

(a) For full-time, part-time and intermittent tours of duty, hours of work officially ordered or approved in excess of 40 hours in an administrative workweek, or (with the exception of an employee engaged in professional or technical engineering or scientific activities for whom the first 40 hours of duty in an administrative workweek is the basic workweek and an employee whose basic pay exceeds the minimum rate for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law) for whom the first 40 hours of duty in an administrative workweek is the basic workweek) in excess of 8 hours in a day, performed by an employee are overtime work and shall be paid for, except as otherwise provided by this subchapter, at the following rates:

(1) For an employee whose basic pay is at a rate which does not exceed the minimum rate of basic pay for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law), the overtime hourly rate of pay is an amount equal to one and one-half times the hourly rate of basic pay of the employee, and all that amount is premium pay.

(2) For an employee whose basic pay is at a rate which exceeds the minimum rate of basic pay for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law), the overtime hourly rate of pay is an amount equal to the greater of one and one-half times the hourly rate of the minimum rate of basic pay for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law) or the hourly rate of basic pay of the employee, and all that amount is premium pay.

(3) Notwithstanding paragraphs (1) and (2) of this subsection for an employee of the Department of Transportation who occupies a nonmanagerial position in GS-14 or under and, as determined by the Secretary of Transportation,

(A) the duties of which are critical to the immediate daily operation of the air traffic control system, directly affect aviation safety, and involve physical or mental strain or hardship;

(B) in which overtime work is therefore unusually taxing; and

(C) in which operating requirements cannot be met without substantial overtime work;

the overtime hourly rate of pay is an amount equal to one and one-half times the hourly rate of basic pay of the employee, and all that amount is premium pay.

(4) Notwithstanding paragraph (2) of this subsection, for an employee who is a law enforcement officer, and whose basic pay is at a rate which exceeds the minimum rate of basic pay for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law), the overtime hourly rate of pay is an amount equal to the greater of—

(A) one and one-half times the minimum hourly rate of basic pay for GS-10 (including any applicable locality-based comparability payment under section 5304 or similar provision of law and any applicable special rate of pay under section 5305 or similar provision of law); or

(B) the hourly rate of basic pay of the employee, and all that amount is premium pay.

(5) Notwithstanding paragraphs (1) and (2), for an employee of the Department of the Interior, *the National Weather Service*, or the United States Forest Service in the Department of Agriculture engaged in emergency wildland fire suppression activities, the overtime hourly rate of pay is an amount equal



to one and one-half times the hourly rate of basic pay of the employee, and all that amount is premium pay.

(6)(A) Notwithstanding paragraphs (1) and (2), for an employee of the Department of the Navy who is assigned to temporary duty outside the United States to perform work aboard, or dockside in direct support of, naval vessels and who would be nonexempt under the Fair Labor Standards Act of 1938 but for the application of the foreign area exemption in section 13(f) of that Act (29 U.S.C. 213(f)), the employee shall be coded and paid overtime as if the employee's exemption status under that Act is the same as it is at the employee's permanent duty station.

(B) Subparagraph (A) shall expire on September 30, 2026.

(b) For the purpose of this subchapter—

(1) unscheduled overtime work performed by an employee on a day when work was not scheduled for him, or for which he is required to return to his place of employment, is deemed at least 2 hours in duration; and

(2) time spent in a travel status away from the official-duty station of an employee is not hours of employment unless—

(A) the time spent is within the days and hours of the regularly scheduled administrative workweek of the employee, including regularly scheduled overtime hours; or

(B) the travel (i) involves the performance of work while traveling, (ii) is incident to travel that involves the performance of work while traveling, (iii) is carried out under arduous conditions, or (iv) results from an event which could not be scheduled or controlled administratively, including travel by an employee to such an event and the return of such employee from such event to his or her official-duty station.

(c) Subsection (a) shall not apply to an employee who is subject to the overtime pay provisions of section 7 of the Fair Labor Standards Act of 1938. In the case of an employee who would, were it not for the preceding sentence, be subject to this section, the Office of Personnel Management shall by regulation prescribe what hours shall be deemed to be hours of work and what hours of work shall be deemed to be overtime hours for the purpose of such section 7 so as to ensure that no employee receives less pay by reason of the preceding sentence.

(d) In applying subsection (a) of this section with respect to any criminal investigator who is paid availability pay under section 5545a—

(1) such investigator shall be compensated under such subsection (a), at the rates there provided, for overtime work which is scheduled in advance of the administrative workweek—

(A) in excess of 10 hours on a day during such investigator's basic 40 hour workweek; or

(B) on a day outside such investigator's basic 40 hour workweek; and

(2) such investigator shall be compensated for all other overtime work under section 5545a.

(e) Notwithstanding subsection (d)(1) of this section, all hours of overtime work scheduled in advance of the administrative work-

week shall be compensated under subsection (a) if that work involves duties as authorized by section 3056(a) of title 18 or section 37(a)(3) of the State Department Basic Authorities Act of 1956, and if the investigator performs, on that same day, at least 2 hours of overtime work not scheduled in advance of the administrative workweek.

(f) In applying subsection (a) of this section with respect to a firefighter who is subject to section 5545b—

(1) such subsection shall be deemed to apply to hours of work officially ordered or approved in excess of 106 hours in a biweekly pay period, or, if the agency establishes a weekly basis for overtime pay computation, in excess of 53 hours in an administrative workweek; and

(2) the overtime hourly rate of pay is an amount equal to one and one-half times the hourly rate of basic pay under section 5545b(b)(1)(A) or (c)(1)(B), as applicable, and such overtime hourly rate of pay may not be less than such hourly rate of basic pay in applying the limitation on the overtime rate provided in paragraph (2) of such subsection (a).

(g) In applying subsection (a) with respect to a border patrol agent covered by section 5550, the following rules apply:

(1) Notwithstanding the matter preceding paragraph (1) in subsection (a), for a border patrol agent who is assigned to the level 1 border patrol rate of pay under section 5550—

(A) hours of work in excess of 100 hours during a 14-day biweekly pay period shall be overtime work; and

(B) the border patrol agent—

(i) shall receive pay at the overtime hourly rate of pay (as determined in accordance with paragraphs (1) and (2) of subsection (a)) for hours of overtime work that are officially ordered or approved in advance of the workweek; and

(ii) except as provided in paragraphs (4) and (5), shall receive compensatory time off for an equal amount of time spent performing overtime work that is not overtime work described in clause (i).

(2) Notwithstanding the matter preceding paragraph (1) in subsection (a), for a border patrol agent who is assigned to the level 2 border patrol rate of pay under section 5550—

(A) hours of work in excess of 90 hours during a 14-day biweekly pay period shall be overtime work; and

(B) the border patrol agent—

(i) shall receive pay at the overtime hourly rate of pay (as determined in accordance with paragraphs (1) and (2) of subsection (a)) for hours of overtime work that are officially ordered or approved in advance of the workweek; and

(ii) except as provided in paragraphs (4) and (5), shall receive compensatory time off for an equal amount of time spent performing overtime work that is not overtime work described in clause (i).

(3) Notwithstanding the matter preceding paragraph (1) in subsection (a), for a border patrol agent who is assigned to the basic border patrol rate of pay under section 5550—

(A) hours of work in excess of 80 hours during a 14-day biweekly pay period shall be overtime work; and

(B) the border patrol agent—

(i) shall receive pay at the overtime hourly rate of pay (as determined in accordance with paragraphs (1) and (2) of subsection (a)) for hours of overtime work that are officially ordered or approved in advance of the workweek; and

(ii) except as provided in paragraphs (4) and (5), shall receive compensatory time off for an equal amount of time spent performing overtime work that is not overtime work described in clause (i).

(4)(A) Except as provided in subparagraph (B), during a 14-day biweekly pay period, a border patrol agent may not earn compensatory time off for more than 10 hours of overtime work.

(B) U.S. Customs and Border Protection may, as it determines appropriate, waive the limitation under subparagraph (A) for an individual border patrol agent for hours of irregular or occasional overtime work, but such waiver must be approved in writing in advance of the performance of any such work for which compensatory time off is earned under paragraph (1)(B)(ii), (2)(B)(ii), or (3)(B)(ii). If a waiver request by a border patrol agent is denied, the border patrol agent may not be ordered to perform the associated overtime work.

(5) A border patrol agent—

(A) may not earn more than 240 hours of compensatory time off during a leave year;

(B) shall use any hours of compensatory time off not later than the end of the 26th pay period after the pay period during which the compensatory time off was earned;

(C) shall be required to use 1 hour of compensatory time off for each hour of regular time not worked for which the border patrol agent is not on paid leave or other paid time off or does not substitute time in accordance with section 5550(f);

(D) shall forfeit any compensatory time off not used in accordance with this paragraph and, regardless of circumstances, shall not be entitled to any cash value for compensatory time earned under section 5550;

(E) shall not receive credit towards the computation of the annuity of the border patrol agent for compensatory time, whether used or not; and

(F) shall not be credited with compensatory time off if the value of such time off would cause the aggregate premium pay of the border patrol agent to exceed the limitation established under section 5547 in the period in which it was earned.

(h)(1)(A) Notwithstanding any other provision of this section or section 5545b, any hours worked by a firefighter under a qualified trade-of-time arrangement shall be disregarded for purposes of any determination relating to eligibility for, or the amount of, any overtime pay under this section, including overtime pay under the Fair Labor Standards Act in accordance with subsection (c).

(B) The Director of the Office of Personnel Management—

(i) shall identify the situations in which a firefighter shall be deemed to have worked hours actually worked by a substituting firefighter under a qualified trade-of-time arrangement; and

(ii) may adopt necessary policies governing the treatment of both a substituting and substituted firefighter under a qualified trade-of-time arrangement, without regard to how those firefighters would otherwise be treated under other provisions of law or regulation.

(2) In this subsection—

(A) the term “firefighter” means an employee—

(i) the work schedule of whom includes 24-hour duty shifts; and

(ii) who—

(I) is a firefighter, as defined in section 8331(21) or 8401(14);

(II) in the case of an employee who holds a supervisory or administrative position and is subject to subchapter III of chapter 83, but who does not qualify to be considered a firefighter within the meaning of section 8331(21), would so qualify if such employee had transferred directly to such position after serving as a firefighter within the meaning of such section;

(III) in the case of an employee who holds a supervisory or administrative position and is subject to chapter 84, but who does not qualify to be considered a firefighter within the meaning of section 8401(14), would so qualify if such employee had transferred directly to such position after performing duties described in section 8401(14)(A) and (B) for at least 3 years; and

(IV) in the case of an employee who is not subject to subchapter III of chapter 83 or chapter 84, holds a position that the Office of Personnel Management determines would satisfy subclause (I), (II), or (III) if the employee were subject to subchapter III of chapter 83 or chapter 84; and

(B) the term “qualified trade-of-time arrangement” means an arrangement under which 2 firefighters who are subject to the supervision of the same fire chief agree, solely at their option and with the approval of the employing agency, to substitute for one another during scheduled work hours in the performance of work in the same capacity.

\* \* \* \* \*