

Calendar No. 514118TH CONGRESS
2^D SESSION**S. 4343**

To establish and maintain a coordinated program within the National Oceanic and Atmospheric Administration that improves wildfire, fire weather, fire risk, and smoke related forecasting, detection, modeling, observations, and service delivery, and to address growing needs in the wildland-urban interface, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 15, 2024

Ms. CANTWELL (for herself, Mr. CRUZ, Mr. LUJÁN, Mr. SULLIVAN, Ms. ROSEN, Ms. MURKOWSKI, Mr. SCHATZ, and Mr. PADILLA) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

SEPTEMBER 17, 2024

Reported by Ms. CANTWELL, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

A BILL

To establish and maintain a coordinated program within the National Oceanic and Atmospheric Administration that improves wildfire, fire weather, fire risk, and smoke related forecasting, detection, modeling, observations, and service delivery, and to address growing needs in the wildland-urban interface, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
 2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the
 5 “Fire Ready Nation Act of 2024”.

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

- Sec. 1. Short title; table of contents.
- Sec. 2. Definitions.
- Sec. 3. Establishment of fire weather services program.
- Sec. 4. Fire weather testbed.
- Sec. 5. Data management and technology modernization.
- Sec. 6. Surveys and assessments.
- Sec. 7. Incident Meteorologist Service.
- Sec. 8. Emergency response activities.
- Sec. 9. Submissions to Congress regarding the fire weather services program,
 incident meteorologist workforce needs, and National Weather
 Service workforce support.
- Sec. 10. Fire Science and Technology Working Group; strategic plan.
- Sec. 11. Fire weather rating system.
- Sec. 12. Government Accountability Office reports.
- Sec. 13. Cooperation and coordination.
- Sec. 14. General provisions.
- Sec. 15. Authorization of appropriations.

8 **SEC. 2. DEFINITIONS.**

9 In this Act:

10 (1) **ADMINISTRATION.**—The term “Administra-
 11 tion” means the National Oceanic and Atmospheric
 12 Administration.

13 (2) **APPROPRIATE COMMITTEES OF CON-**
 14 **GRESS.**—The term “appropriate committees of Con-
 15 gress” means—

16 (A) the Committee on Commerce, Science,
 17 and Transportation of the Senate; and

1 (B) the Committee on Science, Space, and
2 Technology of the House of Representatives.

3 (3) EARTH SYSTEM MODEL.—The term “Earth
4 system model” means a mathematical model con-
5 taining all relevant components of the Earth, namely
6 the atmosphere, oceans, land, cryosphere, and bio-
7 sphere.

8 (4) FIRE ENVIRONMENT.—The term “fire envi-
9 ronment” means—

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

14 (i) fuel and fire behavior; and
15 (ii) the emission, chemical evolution,
16 and transport of smoke from wildfires; and

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

19 (5) FIRE WEATHER.—The term “fire weather”
20 means the weather conditions that influence the
21 start, spread, character, or behavior of wildfires or
22 fires at the wildland-urban interface and relevant
23 meteorological and chemical phenomena, including
24 air quality, smoke, and meteorological parameters
25 such as relative humidity, air temperature, wind

1 speed and direction, and atmospheric composition
2 and chemistry, including emissions and mixing
3 heights.

4 (6) **IMPACT-BASED DECISION SUPPORT SERV-**
5 **ICES.**—The term “impact-based decision support
6 services” means scientific advice and interpretative
7 services the Administration provides to help core
8 partners, such as emergency personnel and public
9 safety officials, make decisions when the information
10 impacts the lives and livelihoods of the people of the
11 United States.

12 (7) **INDIAN TRIBE.**—The term “Indian tribe”
13 has the meaning given that term in section 4 of the
14 Indian Self-Determination and Education Assistance
15 Act (25 U.S.C. 5304).

16 (8) **NATIVE HAWAIIAN COMMUNITY.**—The term
17 “Native Hawaiian Community” means the distinct
18 Native Hawaiian indigenous political community
19 that Congress, exercising its plenary power over Na-
20 tive American affairs, has recognized and with which
21 Congress has implemented a special political and
22 trust relationship pursuant to the Constitution of
23 the United States.

24 (9) **NATIVE HAWAIIAN ORGANIZATION.**—The
25 term “Native Hawaiian organization” has the mean-

1 ing given that term in section 6207 of the Element-
2 tary and Secondary Education Act of 1965 (20
3 U.S.C. 7517), including the Department of Hawai-
4 ian Home Lands and the Office of Hawaiian Affairs.

5 (10) SEASONAL.—The term “seasonal” has the
6 meaning given that term in section 2 of the Weather
7 Research and Forecasting Innovation Act of 2017
8 (15 U.S.C. 8501).

9 (11) SMOKE.—The term “smoke” means emis-
10 sions, including the gases and particles released into
11 the air as a result of wildfire.

12 (12) STATE.—The term “State” means a State,
13 the District of Columbia, the Commonwealth of
14 Puerto Rico, Guam, American Samoa, the Common-
15 wealth of the Northern Mariana Islands, the United
16 State Virgin Islands, the Federated States of Micro-
17 nesia, the Republic of the Marshall Islands, or the
18 Republic of Palau.

19 (13) TRIBAL ORGANIZATION.—The term “Trib-
20 al organization” has the meaning given that term in
21 section 4 of the Indian Self-Determination and Edu-
22 cation Assistance Act (25 U.S.C. 5304).

23 (14) UNDER SECRETARY.—The term “Under
24 Secretary” means the Under Secretary of Commerce
25 for Oceans and Atmosphere.

1 (15) WILDFIRE.—The term “wildfire” means
 2 any non-structure fire that occurs in vegetation or
 3 natural fuels, originating from an unplanned igni-
 4 tion.

5 (16) WILDLAND-URBAN INTERFACE.—The term
 6 “wildland-urban interface” means the area, zone, or
 7 region of transition between unoccupied or undevel-
 8 oped land and human development where structures
 9 and other human development meet or intermingle
 10 with undeveloped wildland or vegetative fuels.

11 **SEC. 3. ESTABLISHMENT OF FIRE WEATHER SERVICES**
 12 **PROGRAM.**

13 (a) IN GENERAL.—The Under Secretary shall estab-
 14 lish and maintain a coordinated fire weather services pro-
 15 gram among the offices of the Administration in existence
 16 as of the date of the enactment of this Act.

17 (b) PROGRAM FUNCTIONS.—The functions of the
 18 program established under subsection (a), consistent with
 19 the priorities described in section 101 of the Weather Re-
 20 search and Forecasting Innovation Act of 2017 (15 U.S.C.
 21 8511), shall be—

22 (1) to support readiness, responsiveness, under-
 23 standing, and resilience of the United States to
 24 wildfires, fire weather, smoke from wildfires, post-
 25 fire flooding and debris flows, and associated haz-

1 ards and impacts in built and natural environments
2 and at the wildland-urban interface;

3 ~~(2)~~ to collaboratively develop and disseminate
4 accurate, precise, effective, and timely risk commu-
5 nications, forecasts, watches, and warnings relating
6 to wildfires, fire weather, smoke, post-fire flooding
7 and debris flows, and other associated conditions,
8 hazards, and impacts, as applicable, with Federal
9 land management agencies;

10 ~~(3)~~ to partner with and support the public,
11 Federal and State government entities, Indian
12 tribes, the Native Hawaiian Community, and aca-
13 demic and local partners through the development of
14 capabilities, impact-based decision support services,
15 and overall service delivery and utility related to fire
16 weather;

17 ~~(4)~~ to conduct and support research and devel-
18 opment of new and innovative models, technologies,
19 techniques, products, systems, processes, and proce-
20 dures to predict and improve understanding of
21 wildfires, fire weather, related air quality, post-fire
22 flooding and debris flows, and the fire environment;

23 ~~(5)~~ to develop strong research-to-operations and
24 operations-to-research transitions, in order to facili-
25 tate delivery of products, services, and tools to oper-

1 ational users and platforms related to fire weather;
2 and

3 ~~(6) to develop, in coordination with Federal~~
4 ~~land management agencies, impact-based decision~~
5 ~~support services that operationalize and integrate~~
6 ~~the functions described in paragraphs (1) through~~
7 ~~(5) in order to provide comprehensive impact-based~~
8 ~~decision support services that encompass the fire en-~~
9 ~~vironment.~~

10 ~~(c) PROGRAM PRIORITIES.—In developing and imple-~~
11 ~~menting the program established under subsection (a), the~~
12 ~~Under Secretary shall prioritize—~~

13 ~~(1) development of a fire weather-enabled Earth~~
14 ~~system model and data assimilation systems that—~~

15 ~~(A) are capable of prediction and fore-~~
16 ~~casting across relevant spatial and temporal~~
17 ~~scales;~~

18 ~~(B) include variables associated with fire~~
19 ~~weather and the fire environment;~~

20 ~~(C) improve understanding of the connec-~~
21 ~~tions between fire weather and modes of climate~~
22 ~~variability;~~

23 ~~(D) incorporate emerging techniques such~~
24 ~~as artificial intelligence, machine learning, and~~
25 ~~cloud computing; and~~

1 ~~(E)~~ use a rapidly deployable network of
2 rain gauges for post-fire hazard monitoring;

3 ~~(2)~~ advancement of existing and new observa-
4 tional capabilities, including satellite-, airborne-, air-
5 ; and ground-based systems and technologies, and
6 social networking and other public information-gath-
7 ering applications that—

8 (A) identify—

9 (i) high-risk pre-ignition conditions;

10 (ii) conditions that influence fire be-
11 havior and spread including those condi-
12 tions that suppress active fire events; and

13 (iii) fire risk values;

14 (B) support real-time notification and
15 monitoring of ignitions;

16 (C) support observations and data collec-
17 tion of fire weather and fire environment vari-
18 ables, including vegetation state and profiles of
19 smoke, winds, temperature, and humidity, for
20 development of the model and systems under
21 paragraph (1); and

22 (D) support forecasts and research that
23 mitigate the impacts of wildfires on human life,
24 health, and the economy; and

1 (2) development and implementation of ad-
2 vanced and user-oriented impact-based decision
3 tools, science, and technologies that—

4 (A) ensure real-time and retrospective
5 data, products, and services are findable, acces-
6 sible, interoperable, usable, inform further re-
7 search, and are analysis- and decision-ready;

8 (B) provide targeted information through-
9 out the fire lifecycle including pre-ignition, de-
10 tection, forecasting, post-fire, and monitoring
11 phases; and

12 (C) support early assessment of post-fire
13 hazards, such as air quality, debris flows,
14 mudslides, and flooding.

15 (d) PROGRAM ACTIVITIES.—In developing and imple-
16 menting the program established under subsection (a), the
17 Under Secretary may—

18 (1) conduct relevant physical and social science
19 research activities in support of the functions de-
20 scribed in subsection (b) and the priorities described
21 in subsection (c);

22 (2) conduct relevant activities, in coordination
23 with Federal land management agencies and Federal
24 science agencies, to assess fuel characteristics, in-

1 eluding moisture, loading, and other parameters
2 used to determine fire risk levels and outlooks;

3 ~~(3)~~ support and conduct research that assesses
4 impacts to marine, riverine, watershed, and other
5 relevant ecosystems, which may include forest and
6 rangeland ecosystems, resulting from activities asso-
7 ciated with mitigation of and response to wildfires;

8 (4) support and conduct attribution science re-
9 search relating to wildfires, fire weather, fire risk,
10 smoke, and associated conditions, risks, and im-
11 pacts;

12 (5) develop smoke and air quality forecasts,
13 forecast guidance, and prescribed burn weather fore-
14 casts, and conduct research on the impact of such
15 forecasts on response behavior that minimizes
16 health-related impacts from smoke exposure;

17 (6) use, in coordination with Federal land man-
18 agement agencies, wildland fuels information and
19 fire resource intelligence to inform fire environment
20 impact-based decision support services and products
21 for safety;

22 (7) work with Federal agencies to provide data,
23 tools, and services to support determinations by such
24 agencies for the implementation of mitigation meas-
25 ures;

1 (8) provide training and support to ensure ef-
2 fective media utilization of impact-based decision
3 support services and products to the public regard-
4 ing actions needing to be taken;

5 (9) provide comprehensive training to ensure
6 staff of the program established under subsection
7 (a) is properly equipped to deliver the impact-based
8 decision support services and products described in
9 paragraphs (1) through (6); and

10 (10) acquire, through contracted purchase, pri-
11 vate sector-produced observational data to fill identi-
12 fied gaps, as needed.

13 (e) COLLABORATION.—The Under Secretary shall, as
14 the Under Secretary considers appropriate, collaborate
15 with partners in the weather and climate enterprises, aca-
16 demic institutions, States, Indian tribes, Tribal organiza-
17 tions, the Native Hawaiian Community, Native Hawaiian
18 organizations, local partners, and Federal agencies, in-
19 cluding land and fire management agencies, in the devel-
20 opment and implementation of the program established
21 under subsection (a).

22 (f) AGREEMENTS.—In carrying out the activities
23 under this Act and the amendments made by this Act,
24 the Under Secretary may provide support to non-Federal

1 entities by making funds and resources available
2 through—

3 (1) competitive grants;

4 (2) contracts under the mobility program under
5 subchapter VI of chapter 33 of title 5, United States
6 Code (commonly referred to as the “Intergovern-
7 mental Personnel Act Mobility Program”);

8 (3) cooperative agreements; and

9 (4) co-location agreements as described in sec-
10 tion 502 of the National Oceanic and Atmospheric
11 Administration Commissioned Officer Corps Amend-
12 ments Act of 2020 (33 U.S.C. 851 note prec.).

13 (g) PROGRAM ADMINISTRATION PLAN.—

14 (1) IN GENERAL.—Not later than 180 days
15 after the date of the enactment of this Act, the
16 Under Secretary shall submit to the appropriate
17 committees of Congress a plan that details how the
18 program established under subsection (a) will be ad-
19 ministered and governed within the Administration.

20 (2) ELEMENTS.—The plan required by para-
21 graph (1) should include a description of—

22 (A) how the functions described in sub-
23 section (b); the priorities described in sub-
24 section (c); and the activities described in sub-

1 section (d) will be distributed among the line of-
 2 fices of the Administration; and

3 (B) the mechanisms in place to ensure
 4 seamless coordination among those offices.

5 **SEC. 4. FIRE WEATHER TESTBED.**

6 (a) ESTABLISHMENT OF FIRE WEATHER
 7 TESTBED.—The Under Secretary shall establish a fire
 8 weather testbed that enables engagement across the Fed-
 9 eral Government, State and local governments, academia,
 10 private and federally funded research laboratories, the pri-
 11 vate sector, and end-users in order to evaluate the accu-
 12 racy and usability of technology, models, fire weather
 13 products and services, and other research to accelerate the
 14 implementation, transition to operations, and use of new
 15 capabilities by the Administration, Federal and land man-
 16 agement agencies, and other relevant stakeholders.

17 (b) UNCREWED SYSTEMS.—

18 (1) IN GENERAL.—The Under Secretary shall—

19 (A) establish and carry out a research and
 20 development program to support the application
 21 of uncrewed systems technologies to improve
 22 data collection in support of modeling, observa-
 23 tions, predictions, forecasts, and impact-based
 24 decision support services, and for other pur-
 25 poses of the Administration;

1 (B) transition uncrewed systems tech-
2 nologies from research to operations as the
3 Under Secretary considers appropriate; and

4 (C) coordinate with other Federal agencies
5 that may be developing uncrewed systems and
6 related technologies to meet the challenges of
7 wildland fire management.

8 (2) PILOTS REQUIRED.—In carrying out para-
9 graph (1), the Under Secretary shall conduct pilots
10 of uncrewed systems for fire weather and fire envi-
11 ronment observations, including—

12 (A) testing of uncrewed systems in ap-
13 proximations of real-world scenarios;

14 (B) assessment of the utility of meteorolo-
15 gical data collected from fire response and as-
16 sessment aircraft;

17 (C) input of the collected data into appro-
18 priate models to predict fire behavior, including
19 coupled atmosphere and fire models; and

20 (D) collection of best management prac-
21 tices for deployment of uncrewed systems and
22 other remote data technology, including for
23 communication and coordination between the
24 stakeholders described in subsection (a).

25 (3) SAVINGS CLAUSE.—

1 (A) ~~IN GENERAL.~~—In carrying out activi-
2 ties under this subsection, the Under Secretary
3 shall ensure that any testing or deployment of
4 uncrewed systems follow procedures, restric-
5 tions, and protocols established by the heads of
6 the Federal agencies with statutory or regu-
7 latory jurisdiction over any airspace in which
8 wildfire response activities are conducted during
9 an active wildfire event.

10 (B) ~~CONSULTATION AND COORDINA-~~
11 ~~TION.~~—The Under Secretary shall consult and
12 coordinate with relevant Federal land manage-
13 ment agencies, Federal science agencies, and
14 the Federal Aviation Administration to develop
15 processes for the appropriate deployment of the
16 systems described in subparagraph (A).

17 (c) ~~ADDITIONAL PILOT PROJECTS.~~—The Under Sec-
18 retary shall establish additional pilot projects relating to
19 the fire weather testbed that may include the following ele-
20 ments:

21 (1) ~~Advanced products to detect fire from sat-~~
22 ~~ellites.~~

23 (2) ~~Procurement and use of commercial data.~~

24 (3) ~~Investigation and evaluation of information~~
25 ~~needs of users and decision makers.~~

1 (d) REPORT.—Section 108(a)(5) of the National Oceanic and Atmospheric Administration Authorization Act
 2 of 1992 (15 U.S.C. 8520(a)(5)) is amended—

3 (1) in subparagraph (C), by adding “and” at
 4 the end; and

5 (2) in subparagraph (D)—

6 (A) in clause (ii), by striking “and”;

7 (B) in clause (iii), by adding “and” at the
 8 end; and

9 (C) by adding at the end the following:

10 “(iv) a description of the research
 11 that has been transitioned into operations,
 12 including research at the fire weather
 13 testbed established under section 4(a) of
 14 the Fire Ready Nation Act of 2024;”.

15 **SEC. 5. DATA MANAGEMENT AND TECHNOLOGY MOD-**
 16 **ERNIZATION.**

17 (a) DATA AVAILABILITY AND MANAGEMENT.—Sec-
 18 tion 301 of the Weather Research and Forecasting Inno-
 19 vation Act of 2017 (15 U.S.C. 8531) is amended—

20 (1) by redesignating subsections (f) and (g) as
 21 subsections (g) and (h), respectively; and

22 (2) by inserting after subsection (e) the fol-
 23 lowing:

24 “(f) DATA AVAILABILITY AND MANAGEMENT.—

1 “(1) IN GENERAL.—The Under Secretary
2 shall—

3 “(A) make data and metadata generated
4 or collected by the National Oceanic and At-
5 mospheric Administration that the Under Sec-
6 retary has the legal right to redistribute fully
7 and openly available, in accordance with chap-
8 ter 35 of title 44, United States Code, and the
9 Foundations for Evidence-Based Policymaking
10 Act of 2018 (Public Law 115–435, 132 Stat.
11 5529) and the amendments made by that Act,
12 and preserve and curate such data and
13 metadata, in accordance with chapter 31 of title
14 44, United States Code (commonly known as
15 the ‘Federal Records Act of 1950’), in order to
16 maximize use of such data and metadata; and

17 “(B) manage and steward the access, ar-
18 chival, and retrieval activities for the data and
19 metadata described in subparagraph (A) by—

20 “(i) using—

21 “(I) enterprise-wide infrastruc-
22 ture, emerging technologies, commer-
23 cial partnerships, and the skilled
24 workforce needed to provide appro-

1 priate data management from collec-
2 tion to broad access; and

3 “(H) associated information serv-
4 ices; and

5 “(ii) pursuing the maximum inter-
6 operability of data and information by—

7 “(I) leveraging data, information,
8 knowledge, and tools from across the
9 Federal Government to support equi-
10 table access, cross-sectoral collabora-
11 tion and innovation, and local plan-
12 ning and decision-making; and

13 “(H) developing standards and
14 practices for the adoption and citation
15 of digital object identifiers for
16 datasets, models, and analytical tools.

17 “(2) COLLABORATION.—In carrying out this
18 subsection, the Under Secretary shall collaborate
19 with such Federal partners and stakeholders as the
20 Under Secretary considers relevant—

21 “(A) to develop standards to pursue max-
22 imum interoperability of data, information,
23 knowledge, and tools across the Federal Gov-
24 ernment, convert historical records into com-

1 mon digital formats, and improve access and
2 usability of data by partners and stakeholders;

3 “(B) to identify and solicit relevant data
4 from Federal and international partners and
5 other relevant stakeholders, as the Under Sec-
6 retary considers appropriate; and

7 “(C) to develop standards and practices for
8 the adoption and citation of digital object iden-
9 tifiers for datasets, models, and analytical
10 tools.”.

11 (b) WILDLAND FIRE COMMISSION.—The Infrastruc-
12 ture Investment and Jobs Act (Public Law 117–58; 135
13 Stat. 429) is amended—

14 (1) in section 70202—

15 (A) in paragraph (1)—

16 (i) in subparagraph (J), by striking “;
17 and” and inserting a semicolon;

18 (ii) in subparagraph (K), by striking
19 the period at the end and inserting a semi-
20 colon; and

21 (iii) by adding at the end the fol-
22 lowing:

23 “(L) the Committee on Commerce,
24 Science, and Transportation of the Senate; and

1 “(M) the Committee on Science, Space,
2 and Technology of the House of Representa-
3 tives.”; and

4 (B) in paragraph (6)—

5 (i) in subparagraph (B), by striking “,
6 and” and inserting a semicolon;

7 (ii) in subparagraph (C), by striking
8 the period at the end and inserting “,
9 and”; and

10 (iii) by adding at the end the fol-
11 lowing:

12 “(D) The Secretary of Commerce, acting
13 through the Under Secretary of Commerce for
14 Oceans and Atmosphere.”; and

15 (2) in section 70203(b)(1)(B)—

16 (A) in the matter preceding clause (i), by
17 striking “9” and inserting “not fewer than 10”;

18 (B) in clause (i)—

19 (i) in subclause (IV), by striking “,
20 and” and inserting a semicolon;

21 (ii) in subclause (V), by adding “and”
22 at the end; and

23 (iii) by adding at the end the fol-
24 lowing:

1 “(VI) the National Oceanic and
2 Atmospheric Administration;”;

3 (C) in clause (iv), by striking “; and” and
4 inserting a semicolon; and

5 (D) by adding at the end the following:

6 “(vi) if the Secretaries determine it to
7 be appropriate, 1 or more representatives
8 from the relevant line offices of the Na-
9 tional Oceanic and Atmospheric Adminis-
10 tration; and”.

11 (e) WILDFIRE TECHNOLOGY MODERNIZATION.—See-
12 tion 1114 of the John D. Dingell, Jr. Conservation, Man-
13 agement, and Recreation Act (43 U.S.C. 1748b-1) is
14 amended—

15 (1) in subsection (e)(3), by inserting “the Na-
16 tional Oceanic and Atmospheric Administration;”
17 after “Federal Aviation Administration;”;

18 (2) in subsection (e)(2)—

19 (A) by redesignating subparagraph (B) as
20 subparagraph (C); and

21 (B) by inserting after subparagraph (A)
22 the following:

23 “(B) CONSULTATION.—

24 “(i) IN GENERAL.—In carrying out
25 subparagraph (A), the Secretaries shall

1 consult with the Under Secretary of Com-
 2 merce for Oceans and Atmosphere regard-
 3 ing any development of impact-based deci-
 4 sion support services that relate to wildlife-
 5 related activities of the National Oceanic
 6 and Atmospheric Administration.

7 “(ii) DEFINITION OF IMPACT-BASED
 8 DECISION SUPPORT SERVICES.—In this
 9 subparagraph, the term ‘impact-based deci-
 10 sion support services’ means scientific ad-
 11 vice and interpretative services the Na-
 12 tional Oceanic and Atmospheric Adminis-
 13 tration provides to help core partners, such
 14 as emergency personnel and public safety
 15 officials, make decisions when the informa-
 16 tion impacts the lives and livelihoods of the
 17 people of the United States.”; and

18 (3) in subsection (f)—

19 (A) by redesignating paragraphs (1) and
 20 (2) as subparagraphs (A) and (B), respectively,
 21 and moving such subparagraphs, as so redesign-
 22 ated, 2 ems to the right;

23 (B) by striking “The Secretaries” and in-
 24 serting the following:

25 “(1) IN GENERAL.—The Secretaries”; and

1 (C) by adding at the end the following:

2 “(2) COLLABORATION.—In carrying out para-
3 graph (1), the Secretaries shall collaborate with the
4 Under Secretary of Commerce for Oceans and At-
5 mosphere to improve coordination, utility of systems
6 and assets, and interoperability of data for smoke
7 prediction, forecasting, and modeling.”

8 (d) DIGITAL PRESENCE.—

9 (1) IN GENERAL.—The Under Secretary shall
10 develop and maintain a comprehensive, centralized,
11 and publicly accessible digital presence designed to
12 promote findability, accessibility, interoperability,
13 usability, and utility of the services, tools, data, and
14 information produced by the program established
15 under section 3(a).

16 (2) DIGITAL PLATFORM AND TOOLS.—In ear-
17 rying out paragraph (1), the Under Secretary shall
18 seek to ensure the digital platform and tools of the
19 Administration integrate geospatial data, decision
20 support tools, training, and best practices to provide
21 real-time fire weather forecasts and address fire-re-
22 lated issues and needs.

23 (e) HIGH-PERFORMANCE COMPUTING.—

24 (1) IN GENERAL.—The Under Secretary shall
25 seek to acquire sufficient high-performance com-

1 puting resources and capacity for research, oper-
 2 ations, and data storage in support of the program
 3 established under section 3(a).

4 (2) CONSIDERATIONS.—In acquiring high-per-
 5 formance computing capacity under paragraph (1),
 6 the Under Secretary shall consider requirements
 7 needed for—

8 (A) conducting research, development, and
 9 testbed experiments;

10 (B) the transition of research and testbed
 11 developments into operations;

12 (C) sustaining capabilities in operations;

13 (D) capabilities existing in other Federal
 14 agencies and the commercial sector; and

15 (E) skilled workforce development.

16 **SEC. 6. SURVEYS AND ASSESSMENTS.**

17 (a) ~~POST-FIRE SURVEYS AND ASSESSMENTS .—~~

18 (1) ~~ANNUAL POST-FIRE-WEATHER-SEASON SUR-~~
 19 ~~VEY AND ASSESSMENT.—~~

20 (A) ~~IN GENERAL.—~~During the second win-
 21 ter following the enactment of this Act, and
 22 each year thereafter, the Under Secretary shall
 23 conduct a post-fire-weather-season survey and
 24 assessment.

1 (B) ELEMENTS.—After conducting a post-
2 fire-weather-season survey and assessment
3 under subparagraph (A), the Under Secretary
4 shall—

5 (i) investigate any gaps in data col-
6 lected during the assessment;

7 (ii) identify and implement strategies
8 and procedures to improve program serv-
9 ices and information dissemination;

10 (iii) update systems, processes, strate-
11 gies, and procedures to enhance the effi-
12 ciency and reliability of data obtained from
13 the assessment;

14 (iv) evaluate the accuracy and efficacy
15 of physical fire weather forecasting infor-
16 mation for each incident included in the
17 survey and assessment; and

18 (v) assess and refine performance
19 measures, as needed.

20 (2) SURVEYS AND ASSESSMENTS FOLLOWING
21 INDIVIDUAL WILDFIRE EVENTS.—The Under Sec-
22 retary may conduct surveys and assessments fol-
23 lowing individual wildfire events as the Under Sec-
24 retary determines necessary.

1 (3) GOAL.—In carrying out activities under this
2 subsection, the Under Secretary shall seek to in-
3 crease the number of post-wildfire community im-
4 pact studies, including by surveying individual and
5 collective responses and incorporating other applica-
6 ble topics of social science research.

7 (4) ANNUAL BRIEFING.—Not less frequently
8 than once each year, the Under Secretary shall pro-
9 vide a briefing to the appropriate committees of
10 Congress that provides—

11 (A) an overview of the fire season; and

12 (B) an outlook for the fire season for the
13 coming year.

14 (5) COORDINATION.—In conducting any survey
15 or assessment under this subsection, the Under Sec-
16 retary shall coordinate with Federal, State, and local
17 partners, Indian tribes, the Native Hawaiian Com-
18 munity, private entities, and such institutions of
19 higher education as the Under Secretary considers
20 relevant in order to—

21 (A) improve operations and collaboration;

22 and

23 (B) optimize data collection, sharing, inte-
24 gration, assimilation, and dissemination.

1 (6) DATA AVAILABILITY.—The Under Secretary
2 shall make the data and findings obtained from each
3 assessment conducted under this subsection available
4 to the public in an accessible digital format as soon
5 as practicable after conducting the assessment.

6 (7) SERVICE IMPROVEMENTS.—The Under Sec-
7 retary shall make best efforts to incorporate the re-
8 sults and recommendations of each assessment con-
9 ducted under this subsection into the research and
10 development plan and operations of the Administra-
11 tion.

12 (b) JOINT ASSESSMENT AND PLAN FOR AUTOMATED
13 SURFACE OBSERVING SYSTEM.—

14 (1) IN GENERAL.—The Under Secretary, in col-
15 laboration with the Administrator of the Federal
16 Aviation Administration and the Secretary of De-
17 fense, shall—

18 (A) conduct an assessment of resources,
19 personnel, procedures, and activities necessary
20 to maximize the functionality and utility of the
21 automated surface observing system of the
22 United States that identifies—

23 (i) key system upgrades needed to im-
24 prove observation quality and utility for

1 weather forecasting, aviation safety, and
2 other users;

3 (ii) improvements needed in observa-
4 tions within the planetary boundary layer,
5 including mixing height;

6 (iii) improvements needed in public
7 accessibility of observational data;

8 (iv) improvements needed to reduce
9 latency in reporting of observational data;

10 (v) relevant data to be collected for
11 the production of forecasts or forecast
12 guidance relating to atmospheric composi-
13 tion, including particulate and air quality
14 data related to wildfires, and aviation safe-
15 ty;

16 (vi) areas of concern regarding oper-
17 ational continuity and reliability of the sys-
18 tem, which may include needs for on-night
19 staff, particularly in remote and rural
20 areas and areas where system failure
21 would have the greatest negative impact to
22 the community;

23 (vii) stewardship, data handling, data
24 distribution, and product generation needs

1 arising from upgrading and changing the
2 automated surface observation systems;

3 (viii) possible solutions for areas of
4 concern identified under clause (vi), includ-
5 ing with respect to the potential use of
6 backup systems; power and communication
7 system reliability; staffing needs and per-
8 sonnel location; and the acquisition of crit-
9 ical component backups and proper storage
10 location to ensure rapid system repair nec-
11 essary to ensure system operational con-
12 tinuity; and

13 (ix) research, development, and transi-
14 tion to operations needed to develop ad-
15 vanced data collection, quality control, and
16 distribution so that the data are provided
17 to models, users, and decision support sys-
18 tems in a timely manner; and

19 (B) develop and implement a plan that ad-
20 dresses the findings of the assessment con-
21 ducted under subparagraph (A), including by
22 seeking and allocating resources necessary to
23 ensure that system upgrades are standardized
24 across the Administration, the Federal Aviation

1 Administration, and the Department of Defense
2 to the extent practicable.

3 ~~(2) STANDARDIZATION.—Any system standard-~~
4 ~~ization implemented under paragraph (1)(B) shall~~
5 ~~not impede activities to upgrade or improve indi-~~
6 ~~vidual units of the system.~~

7 ~~(3) REMOTE AUTOMATIC WEATHER STATION~~
8 ~~COORDINATION.—The Under Secretary, in collabora-~~
9 ~~tion with relevant Federal agencies and the National~~
10 ~~Interagency Fire Center, shall assess and develop co-~~
11 ~~operative agreements to improve coordination, inter-~~
12 ~~operability standards, operations, and placement of~~
13 ~~remote automatic weather stations for the purpose~~
14 ~~of improving utility and coverage of remote auto-~~
15 ~~matic weather stations, automated surface observa-~~
16 ~~tion systems, smoke monitoring platforms, and other~~
17 ~~similar stations and systems for weather and climate~~
18 ~~operations.~~

19 ~~(4) REPORT TO CONGRESS.—~~

20 ~~(A) IN GENERAL.—Not later than 2 years~~
21 ~~after the date of the enactment of this Act, the~~
22 ~~Under Secretary, in collaboration with the Ad-~~
23 ~~ministrator of the Federal Aviation Administra-~~
24 ~~tion and the Secretary of Defense, shall submit~~

1 to the appropriate committees of Congress a re-
2 port that—

3 (i) details the findings of the assess-
4 ment required by subparagraph (A) of
5 paragraph (1); and

6 (ii) the plan required by subparagraph
7 (B) of such paragraph.

8 (B) ELEMENTS.—The report required by
9 subparagraph (A) shall include a detailed as-
10 sessment of appropriations required—

11 (i) to address the findings of the as-
12 sessment required by subparagraph (A) of
13 paragraph (1); and

14 (ii) to implement the plan required by
15 subparagraph (B) of such paragraph.

16 **SEC. 7. INCIDENT METEOROLOGIST SERVICE.**

17 (a) ESTABLISHMENT.—The Under Secretary shall es-
18 tablish and maintain an Incident Meteorologist Service
19 within the National Weather Service (in this section re-
20 ferred to as the “Service”).

21 (b) INCLUSION OF EXISTING INCIDENT METEOROLO-
22 GISTS.—The Service shall include—

23 (1) the incident meteorologists of the Adminis-
24 tration as of the date of the enactment of this Act;
25 and

1 (2) such incident meteorologists of the Adminis-
2 tration as may be appointed after such date.

3 (c) FUNCTIONS.—The Service shall provide—

4 (1) on-site impact-based decision support serv-
5 ices to Federal, State, and local government emer-
6 gency response agencies, Indian tribes, and the Na-
7 tive Hawaiian Community preceding, during, and
8 following significant weather-related events, such as
9 wildland fires, that threaten human life, property, or
10 the economy; and

11 (2) support to Federal, State, and local govern-
12 ment decision makers, partners, and stakeholders,
13 Indian tribes, Tribal organizations, the Native Ha-
14 waiian Community, and Native Hawaiian organiza-
15 tions for seasonal planning and pre-fire mitigation
16 activities.

17 (d) DEPLOYMENT.—The Service shall be deployed—

18 (1) as determined by the Under Secretary; or
19 (2) at the request of the head of another Fed-
20 eral agency and with the approval of the Under Sec-
21 retary.

22 (e) STAFFING AND RESOURCES.—In establishing and
23 maintaining the Service, the Under Secretary shall iden-
24 tify, acquire, and maintain adequate levels of staffing and
25 resources to meet user needs.

1 (f) SUPPORT FOR INCIDENT METEOROLOGISTS.—
2 The Under Secretary shall provide resources, access to
3 real-time fire weather forecasts, training, administrative
4 and logistical support, and access to professional coun-
5 seling or other forms of support as the Under Secretary
6 considers appropriate for the betterment of the emotional
7 and mental health and well-being of incident meteorolo-
8 gists and other employees of the Administration so long
9 as the need for such resources, training, access, or support
10 is due to the response of such employees to high-impact
11 and extreme fire weather events.

12 **SEC. 8. EMERGENCY RESPONSE ACTIVITIES.**

13 (a) DEFINITIONS.—In this section:

14 (1) BASIC PAY.—The term “basic pay” includes
15 any applicable locality-based comparability payment
16 under section 5304 of title 5, United States Code,
17 any applicable special rate supplement under section
18 5305 of such title, or any equivalent payment under
19 a similar provision of law.

20 (2) COVERED EMPLOYEE.—The term “covered
21 employee” means an employee of the Department of
22 Commerce, the Department of Agriculture, or the
23 Department of the Interior.

1 (3) COVERED SERVICES.—The term “covered
2 services” means services that are performed by a
3 covered employee while serving—

4 (A) as a wildland firefighter or a fire man-
5 agement response official, including a regional
6 fire director, a deputy regional fire director,
7 and a fire management officer;

8 (B) as an incident meteorologist accom-
9 panying a wildland firefighter crew; or

10 (C) on an incident management team; at
11 the National Interagency Fire Center; at a Geo-
12 graphic Area Coordinating Center; or at an op-
13 erations center.

14 (4) PREMIUM PAY.—The term “premium pay”
15 means premium pay paid under a provision of law
16 described in the matter preceding paragraph (1) of
17 section 5547(a) of title 5, United States Code.

18 (5) RELEVANT CONGRESSIONAL COMMIT-
19 TEES.—The term “relevant congressional commit-
20 tees” means—

21 (A) the Committee on Commerce, Science,
22 and Transportation of the Senate;

23 (B) the Committee on Homeland Security
24 and Governmental Affairs of the Senate;

1 (C) the Committee on Agriculture, Nutri-
2 tion, and Forestry of the Senate;

3 (D) the Committee on Appropriations of
4 the Senate;

5 (E) the Committee on Energy and Natural
6 Resources of the Senate;

7 (F) the Committee on Oversight and Re-
8 form of the House of Representatives;

9 (G) the Committee on Natural Resources
10 of the House of Representatives;

11 (H) the Committee on Science, Space, and
12 Technology of the House of Representatives;

13 (I) the Committee on Agriculture of the
14 House of Representative; and

15 (J) the Committee on Appropriations of
16 the House of Representatives.

17 (6) SECRETARY CONCERNED.—The term “Sec-
18 retary concerned” means—

19 (A) the Secretary of Commerce, with re-
20 spect to an employee of the Department of
21 Commerce;

22 (B) the Secretary of Agriculture, with re-
23 spect to an employee of the Department of Ag-
24 riculture; and

1 (C) the Secretary of the Interior, with re-
2 spect to an employee of the Department of the
3 Interior.

4 (b) WAIVER.—

5 (1) IN GENERAL.—Any premium pay received
6 by a covered employee for covered services shall be
7 disregarded in calculating the aggregate of the basic
8 pay and premium pay for the covered employee for
9 purposes of applying the limitation on premium pay
10 under section 5547(a) of title 5, United States Code.

11 (2) CALCULATION OF AGGREGATE PAY.—Any
12 pay that is disregarded under paragraph (1) shall be
13 disregarded in calculating the aggregate pay of the
14 applicable covered employee for purposes of applying
15 the limitation under section 5307 of title 5, United
16 States Code, during calendar year 2025.

17 (3) LIMITATION.—A covered employee may not
18 be paid premium pay under this subsection if, or to
19 the extent that, the aggregate of the basic pay and
20 premium pay (including premium pay for covered
21 services) of the covered employee for a calendar year
22 would exceed the rate of basic pay payable for a po-
23 sition at level II of the Executive Schedule under
24 section 5313 of title 5, United States Code, as in ef-
25 fect at the end of that calendar year.

1 (4) TREATMENT OF ADDITIONAL PREMIUM
2 PAY.—If the application of this subsection results in
3 the payment of additional premium pay to a covered
4 employee of a type that is normally creditable as
5 basic pay for retirement or any other purpose, that
6 additional premium pay shall not be—

7 (A) considered to be basic pay of the cov-
8 ered employee for any purpose; or

9 (B) used in computing a lump-sum pay-
10 ment to the covered employee for accumulated
11 and accrued annual leave under section 5551 or
12 5552 of title 5, United States Code.

13 (5) EFFECTIVE PERIOD.—This subsection shall
14 be in effect during calendar year 2024 and apply to
15 premium pay payable during that year.

16 (e) AMENDMENT.—Section 5542(a)(5) of title 5,
17 United States Code, is amended by inserting “, the De-
18 partment of Commerce,” after “Interior”.

19 (d) PLAN TO ADDRESS NEEDS.—

20 (1) DEVELOPMENT AND IMPLEMENTATION.—

21 Not later than March 30, 2025, the Secretaries re-
22 ferred to in subsection (a)(6), in consultation with
23 the Director of the Office of Management and Budget
24 and the Director of the Office of Personnel Man-
25 agement, shall jointly develop and implement a plan

1 that addresses the needs of the Department of Com-
2 merce, the Department of Agriculture, and the De-
3 partment of the Interior, as applicable, to hire, ap-
4 point, promote, or train additional covered employees
5 who carry out covered services such that sufficient
6 covered employees are available throughout each fis-
7 cal year, beginning in fiscal year 2025, without the
8 need for waivers of premium pay limitations.

9 (2) ~~SUBMITTAL.~~—Not later than 30 days before
10 the date on which the Secretaries implement the
11 plan developed under paragraph (1), the Secretaries
12 shall submit the plan to the relevant congressional
13 committees.

14 (3) ~~LIMITATION.~~—The plan developed under
15 paragraph (1) shall not be contingent on any Sec-
16 retary receiving amounts appropriated for fiscal
17 years beginning in fiscal year 2025 in amounts
18 greater than amounts appropriated for fiscal year
19 2023.

20 (e) ~~POLICIES AND PROCEDURES FOR HEALTH, SAFE-~~
21 ~~TY, AND WELL-BEING.~~—The Secretary concerned shall
22 maintain policies and procedures to promote the health,
23 safety, and well-being of covered employees.

1 **SEC. 9. SUBMISSIONS TO CONGRESS REGARDING THE FIRE**
2 **WEATHER SERVICES PROGRAM, INCIDENT**
3 **METEOROLOGIST WORKFORCE NEEDS, AND**
4 **NATIONAL WEATHER SERVICE WORKFORCE**
5 **SUPPORT.**

6 (a) **REPORT TO CONGRESS.**—Not later than 18
7 months after the date of the enactment of this Act, the
8 Under Secretary shall submit to the appropriate commit-
9 tees of Congress—

10 (1) the plan described in subsection (b);

11 (2) the assessment described in subsection (c);

12 and

13 (3) the assessment described in subsection (d).

14 (b) **FIRE WEATHER SERVICES PROGRAM PLAN.**—

15 (1) **ELEMENTS.**—The plan submitted under
16 subsection (a)(1) shall detail—

17 (A) the observational data, modeling re-
18 quirements, ongoing computational needs, re-
19 search, development, and technology transfer
20 activities, data management, skilled-personnel
21 requirements, engagement with relevant Federal
22 emergency and land management agencies and
23 partners, and corresponding research, develop-
24 ment, and operational resources and timelines
25 necessary to achieve the functions described in

1 subsection (b) of section 3 and the priorities de-
 2 scribed in subsection (c) of such section; and

3 (B) plans and needs for all other activities
 4 and requirements under this Act and the
 5 amendments made by this Act.

6 (2) SUBMITTAL OF ANNUAL BUDGET FOR
 7 PLAN.—Following completion of the plan submitted
 8 under subsection (a)(1), the Under Secretary shall,
 9 not less frequently than once each year concurrent
 10 with the submission of the budget by the President
 11 to Congress under section 1105 of title 31, United
 12 States Code, submit to Congress a proposed budget
 13 corresponding with the elements detailed in the plan.

14 (c) INCIDENT METEOROLOGIST WORKFORCE NEEDS
 15 ASSESSMENT.—

16 (1) IN GENERAL.—The Under Secretary shall
 17 conduct a workforce needs assessment on the cur-
 18 rent and future demand for additional incident me-
 19 teorologists for wildfires and other high-impact fire
 20 weather events.

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

23 (A) A description of staffing levels as of
 24 the date on which the assessment is submitted

1 under subsection (a)(2) and projected future
2 staffing levels.

3 (B) An assessment of the state of the re-
4 search, development, and operational infrastruc-
5 ture of the National Weather Service as of the
6 date on which the assessment is submitted and
7 future needs of such infrastructure in order to
8 meet current and future demands, including
9 with respect to information technology support
10 and logistical and administrative operations.

11 (3) CONSIDERATIONS.—In conducting the as-
12 sessment required by paragraph (1), the Under Sec-
13 retary shall consider user needs and feedback from
14 relevant stakeholders.

15 (d) SUPPORT SERVICES ASSESSMENT.—

16 (1) IN GENERAL.—The Under Secretary shall
17 conduct a workforce support services assessment
18 with respect to employees of the National Weather
19 Service engaged in emergency response.

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

22 (A) An assessment of need for further sup-
23 port of employees of the National Weather
24 Service engaged in emergency response through
25 services provided by the Public Health Service.

1 (B) A detailed assessment of appropria-
2 tions required to secure the level of support
3 services needed as identified in the assessment
4 described in subparagraph (A).

5 (3) **ADDITIONAL SUPPORT SERVICES.**—Fol-
6 lowing the completion of the assessment required by
7 paragraph (1), the Under Secretary shall seek to ac-
8 quire additional support services to meet the needs
9 identified in the assessment.

10 **SEC. 10. FIRE SCIENCE AND TECHNOLOGY WORKING**
11 **GROUP; STRATEGIC PLAN.**

12 (a) **FIRE SCIENCE AND TECHNOLOGY WORKING**
13 **GROUP.**—

14 (1) **ESTABLISHMENT.**—Not later than 90 days
15 after the date of the enactment of this Act, the Ex-
16 ecutive Director of the Interagency Committee for
17 Advancing Weather Services established under sec-
18 tion 402 of the Weather Research and Forecasting
19 Innovation Act of 2017 (15 U.S.C. 8542) (in this
20 section referred to as the “Interagency Committee”)
21 shall establish a working group, to be known as the
22 “Fire Science and Technology Working Group” (in
23 this section referred to as the “Working Group”).

24 (2) **CHAIR.**—The Working Group shall be
25 chaired by the Under Secretary, or designee.

1 (3) GENERAL DUTIES.—

2 (A) IN GENERAL.—The Working Group
3 shall seek to build efficiencies among the agen-
4 cies listed under section 12(c)(1) and coordinate
5 the planning and management of science, re-
6 search, technology, and operations related to
7 science and support services for wildland fire
8 prediction, detection, forecasting, modeling, re-
9 siliency, response, management, and assess-
10 ments.

11 (B) INPUT.—The Working Group shall so-
12 licit input from non-Federal stakeholders.

13 (b) STRATEGIC PLAN.—

14 (1) IN GENERAL.—Not later than 18 months
15 after the date of the enactment of this Act, the
16 Interagency Committee shall prepare and submit to
17 Congress a strategic plan for interagency coordina-
18 tion, research, and development that will improve
19 the assessment of fire environments and the under-
20 standing and prediction of wildland fires, associated
21 smoke, and the impacts of such fires and smoke, in-
22 cluding—

23 (A) at the wildland-urban interface;

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

1 (C) on ecosystem services and watersheds;

2 (D) social and economic impacts;

3 (E) by developing and encouraging the

4 adoption of science-based and cost-effective

5 measures—

6 (i) to enhance community resilience to

7 wildland fires;

8 (ii) to address and mitigate the im-

9 pacts of wildland fires and associated

10 smoke; and

11 (iii) to restore natural fire regimes in

12 fire-dependent ecosystems;

13 (F) by improving the understanding and

14 mitigation of the effects of weather and long-

15 term drought on wildland fire risk, frequency,

16 and severity;

17 (G) through integrations of social and be-

18 havioral sciences in public safety fire commu-

19 nication;

20 (H) by improving the forecasting and un-

21 derstanding of prescribed fires and the impacts

22 of such fires; and how those impacts may differ

23 from impacts of wildland fires that originate

24 from an unplanned ignition; and

1 (I) consideration and adoption of any rec-
2 ommendations included in the report required
3 by section 12(e).

4 (2) PLAN ELEMENTS.—The strategic plan re-
5 quired by paragraph (1) shall include the following:

6 (A) A description of the priorities and
7 needs of vulnerable populations.

8 (B) A description of high-performance
9 computing, visualization, and dissemination
10 needs.

11 (C) A timeline and guidance for implemen-
12 tation of—

13 (i) an interagency data sharing sys-
14 tem for data relevant to performing fire
15 assessments and modeling fire risk and fire
16 behavior;

17 (ii) a system for ensuring that the fire
18 prediction models of relevant agencies can
19 be interconnected; and

20 (iii) to the maximum extent prae-
21 ticable, any recommendations included in
22 the report required by section 12(e).

23 (D) A plan for incorporating and coordi-
24 nating research and operational observations,
25 including from infrared technologies, micro-

1 wave, radars, satellites, mobile weather stations,
2 and uncrewed aerial systems.

3 ~~(E)~~ A flexible framework to communicate
4 clear and simple fire event information to the
5 public.

6 ~~(F)~~ Integration of social, behavioral, risk,
7 and communication research to improve the fire
8 operational environment and societal informa-
9 tion reception and response.

10 **SEC. 11. FIRE WEATHER RATING SYSTEM.**

11 (a) ~~IN GENERAL.~~—The Under Secretary shall, in col-
12 laboration with the Chief of the United States Forest
13 Service, the Director of the United States Geological Sur-
14 vey, the Director of the National Park Service, the Admin-
15 istrator of the Federal Emergency Management Agency,
16 and such stakeholders as the Under Secretary considers
17 appropriate—

18 (1) evaluate the system used as of the date of
19 the enactment of this Act to rate the risk of wildfire;
20 and

21 (2) determine whether updates to that system
22 are required to ensure that the ratings accurately re-
23 flect the severity of fire risk.

24 (b) ~~UPDATE REQUIRED.~~—If the Under Secretary de-
25 termines under subsection (a) that updates to the system

1 described in paragraph (1) of such subsection are nec-
 2 essary, the Under Secretary shall update that system.

3 **SEC. 12. GOVERNMENT ACCOUNTABILITY OFFICE RE-**
 4 **PORTS.**

5 (a) REPORT ON FIRE WEATHER SERVICES PRO-
 6 GRAM.—

7 (1) IN GENERAL.—Not later than 3 years after
 8 the date of the enactment of this Act, the Comp-
 9 troller General of the United States shall submit to
 10 Congress a report on the program established under
 11 section 3(a).

12 (2) ELEMENTS.—The report required by para-
 13 graph (1) shall—

14 (A) evaluate the performance of the pro-
 15 gram by establishing initial baseline capabilities
 16 and tracking progress made toward fully
 17 operationalizing the functions described in sec-
 18 tion 3(b); and

19 (B) include such other recommendations as
 20 the Comptroller General determines are appro-
 21 priate to improve the program.

22 (b) REPORT ON INTERAGENCY BODIES FOR WILD-
 23 FIRE FORECASTING, PREVENTION, PLANNING, AND MAN-
 24 AGEMENT.—Not later than 1 year after the date of the

1 enactment of this Act, the Comptroller General of the
2 United States shall submit to Congress a report that—

3 (1) identifies all Federal interagency bodies es-
4 tablished for the purpose of wildfire forecasting, pre-
5 vention, planning, and management (such as wildfire
6 councils, commissions, and workgroups), including—

7 (A) the Wildland Fire Leadership Council;

8 (B) the White House Wildfire Resilience
9 Interagency Group;

10 (C) the Wildland Fire Management Policy
11 Committee;

12 (D) the Wildland Fire Mitigation and
13 Management Commission;

14 (E) the Joint Science Fire Program;

15 (F) the National Interagency Coordination
16 Center;

17 (G) the National Predictive Services Over-
18 sight Group;

19 (H) the Interagency Council for Advancing
20 Meteorological Services;

21 (I) the National Wildfire Coordinating
22 Group;

23 (J) the National Multi-Agency Coordi-
24 nating Group; and

1 ~~(K)~~ the Mitigation Framework Leadership
2 Group;

3 ~~(2)~~ evaluates the roles, functionality, and utility
4 of such interagency bodies;

5 ~~(3)~~ evaluates the progress, performance, and
6 implementation of such interagency bodies;

7 ~~(4)~~ assesses efficacy and identifies potential
8 overlap and duplication of such interagency bodies in
9 carrying out interagency collaboration with respect
10 to wildfire prevention, planning, and management;
11 and

12 ~~(5)~~ includes such other recommendations as the
13 Comptroller General determines are appropriate to
14 streamline and improve wildfire forecasting, preven-
15 tion, planning, and management, including rec-
16 ommendations regarding the interagency bodies for
17 which the addition of the Administration is nec-
18 essary to improve wildfire forecasting, prevention,
19 planning, and management.

20 ~~(c)~~ REPORT ON INTERAGENCY COORDINATION.—Not
21 later than 1 year after the date of the enactment of this
22 Act, the Comptroller General of the United States shall
23 submit to Congress a report that identifies—

24 ~~(1)~~ the authorities, roles, and science and sup-
25 port services relating to wildland fire prediction, de-

1 tection, forecasting, modeling, resilience, response,
2 management, and assessment provided by—

3 (A) the Department of Commerce, includ-
4 ing the Administration and the National Insti-
5 tute of Standards and Technology;

6 (B) the National Aeronautics and Space
7 Administration;

8 (C) the Department of the Interior;

9 (D) the Department of Agriculture;

10 (E) the National Science Foundation;

11 (F) the Department of Energy;

12 (G) the Federal Emergency Management
13 Agency;

14 (H) the Department of Transportation;

15 (I) the Environmental Protection Agency;

16 and

17 (J) the Department of Defense; and

18 (2) recommended areas in and mechanisms by
19 which the agencies listed under paragraph (1) could
20 support and improve—

21 (A) coordination between Federal agencies,
22 State and local governments, Indian tribes,
23 Tribal organizations, the Native Hawaiian Com-
24 munity, Native Hawaiian organizations, and
25 other relevant stakeholders, including through

1 examination of possible public-private partner-
2 ships;

3 (B) research and development, including
4 interdisciplinary research, related to fire envi-
5 ronments, wildland fires, associated smoke, and
6 the impacts of such environments, fires, and
7 smoke, in furtherance of a coordinated inter-
8 agency effort to address wildland fire risk re-
9 duction;

10 (C) data management and stewardship, the
11 development and coordination of data systems
12 and computational tools, and the creation of a
13 centralized, integrated data collaboration envi-
14 ronment for agency data, including historical
15 data, relating to weather, fire environments,
16 wildland fires, associated smoke, and the im-
17 pacts of such environments, fires, and smoke,
18 and the assessment of wildland fire risk mitiga-
19 tion measures;

20 (D) interoperability, usability, and accessi-
21 bility of the scientific data, data systems, and
22 computational and information tools of the
23 agencies listed under paragraph (1);

24 (E) coordinated public safety communica-
25 tions relating to fire weather events, fire haz-

1 ards, and wildland fire and smoke risk reduc-
2 tion strategies; and

3 ~~(F)~~ secure and accurate real-time data,
4 alerts, and advisories to wildland firefighters
5 and other decision support tools for wildland
6 fire incident command posts.

7 (d) REPORT ON AUTOMATED SURFACE OBSERVING
8 SYSTEM.—Not later than 4 years after the date of the
9 enactment of this Act, the Comptroller General of the
10 United States shall submit to Congress a report that—

11 (1) evaluates the functionality, utility, reli-
12 ability, and operational status of the automated sur-
13 face observing system across the Administration, the
14 Federal Aviation Administration, and the Depart-
15 ment of Defense;

16 (2) evaluates the progress, performance, and
17 implementation of the plan required by section
18 6(b)(1)(B);

19 (3) assesses the efficacy of cross-agency collabo-
20 ration and stakeholder engagement in carrying out
21 the plan and provides recommendations to improve
22 such activities;

23 (4) evaluates the operational continuity and re-
24 liability of the system, particularly in remote and
25 rural areas and areas where system failure would

1 have the greatest negative impact to the community,
2 and provides recommendations to improve such con-
3 tinuity and reliability;

4 (5) assesses Federal coordination regarding the
5 remote automatic weather station network, air re-
6 source advisors, and other Federal observing assets
7 used for weather and climate modeling and response
8 activities, and provides recommendations for im-
9 provements; and

10 (6) includes such other recommendations as the
11 Comptroller General determines are appropriate to
12 improve the system.

13 **SEC. 13. COOPERATION AND COORDINATION.**

14 (a) COOPERATION.—Each Federal agency shall co-
15 operate and coordinate with the Under Secretary, as ap-
16 propriate, in carrying out this Act and the amendments
17 made by this Act.

18 (b) COORDINATION.—

19 (1) IN GENERAL.—In meeting the requirements
20 under this Act and the amendments made by this
21 Act, the Under Secretary shall coordinate, and as
22 appropriate, establish agreements with Federal and
23 external partners to fully use and leverage existing
24 assets, systems, networks, technologies, and sources
25 of data.

1 (2) INCLUSIONS.—Coordination carried out
2 under paragraph (1) shall include coordination
3 with—

4 (A) the agencies represented at the Na-
5 tional Interagency Fire Center;

6 (B) the Predictive Services Program of the
7 National Interagency Coordination Center;

8 (C) the National Wildfire Coordinating
9 Group; and

10 (D) relevant interagency bodies identified
11 in the report required by section 12(b).

12 (3) CONSULTATION.—In carrying out this sub-
13 section, the Under Secretary shall consult with Fed-
14 eral partners including—

15 (A) the National Aeronautics and Space
16 Administration;

17 (B) the Department of the Interior;

18 (C) the Federal Emergency Management
19 Agency;

20 (D) the National Science Foundation;

21 (E) the United States Geological Survey;

22 (F) the Department of Agriculture;

23 (G) the Environmental Protection Agency;

24 (H) the Department of Energy;

25 (I) the Department of Defense;

1 ~~(J)~~ the National Institute of Standards
2 and Technology; and

3 ~~(K)~~ such other departments and agencies
4 as the Under Secretary considers relevant.

5 ~~(e)~~ PROCESS FOR ANNUAL COORDINATION WITH
6 ~~NON-FEDERAL ENTITIES.~~—Not later than 18 months
7 after the date of the enactment of this Act, the Under
8 Secretary shall develop and submit to the appropriate
9 committees of Congress a process for annual coordination
10 with State and local governments, Indian tribes, Tribal or-
11 ganizations, and the Native Hawaiian Community to as-
12 sist the development of improved fire weather products
13 and services.

14 ~~(d)~~ INTERNATIONAL COORDINATION.—

15 ~~(1)~~ IN GENERAL.—The Under Secretary may
16 develop collaborative relationships and agreements
17 with foreign partners and counterparts to address
18 transboundary issues pertaining to wildfires, fire
19 weather, smoke, air quality, and associated condi-
20 tions and hazards or other relevant meteorological
21 phenomena, as appropriate, to facilitate full and
22 open exchange of data and information.

23 ~~(2)~~ CONSULTATION.—In carrying out activities
24 under this subsection, the Under Secretary shall
25 consult with the Department of State and such other

1 Federal partners as the Under Secretary considers
2 relevant.

3 **SEC. 14. GENERAL PROVISIONS.**

4 (a) **AVOIDANCE OF DUPLICATION.—**

5 (1) **IN GENERAL.—**The Under Secretary shall
6 ensure, to the greatest extent practicable, that ac-
7 tivities carried out under this Act and the amend-
8 ments made by this Act are not duplicative of activi-
9 ties supported by other parts of the Administration
10 or other relevant Federal agencies.

11 (2) **COORDINATION.—**In carrying out activities
12 under this Act and the amendments made by this
13 Act, the Under Secretary shall coordinate with the
14 Administration and heads of other Federal research
15 agencies—

16 (A) to ensure those activities enhance and
17 complement, but do not constitute unnecessary
18 duplication of, efforts; and

19 (B) to ensure the responsible stewardship
20 of funds.

21 (b) **RULE OF CONSTRUCTION.—**Nothing in this Act
22 may be construed—

23 (1) to satisfy any requirement for government-
24 to-government consultation with Indian tribes; or

1 (2) to affect or modify any treaty or other right
2 of any Indian tribe.

3 **SEC. 15. AUTHORIZATION OF APPROPRIATIONS.**

4 (a) **IN GENERAL.**—There are authorized to be appro-
5 priated to the Administration to carry out this Act and
6 the amendments made by this Act—

7 (1) \$15,000,000 for fiscal year 2025;

8 (2) \$20,000,000 for fiscal year 2026;

9 (3) \$27,000,000 for fiscal year 2027;

10 (4) \$36,000,000 for fiscal year 2028; and

11 (5) \$50,000,000 for fiscal year 2029.

12 (b) **PROHIBITION.**—None of the amounts authorized
13 to be appropriated by subsection (a) may be used to un-
14 necessarily duplicate activities funded under title VIII of
15 division D of the Infrastructure Investment and Jobs Act
16 (Public Law 117–58; 135 Stat. 1094).

17 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

18 (a) **SHORT TITLE.**—*This Act may be cited as the “Fire*
19 *Ready Nation Act of 2024”.*

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

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

Sec. 3. Establishment of fire weather services program.

Sec. 4. Fire weather testbed.

Sec. 5. Data management and technology modernization.

Sec. 6. Surveys and assessments.

Sec. 7. Incident Meteorologist Service.

Sec. 8. Emergency response activities.

- Sec. 9. Submissions to Congress regarding the fire weather services program, incident meteorologist workforce needs, and National Weather Service workforce support.*
- Sec. 10. Fire Science and Technology Working Group; strategic plan.*
- Sec. 11. Fire weather rating system.*
- Sec. 12. Government Accountability Office reports.*
- Sec. 13. Cooperation and coordination.*
- Sec. 14. General provisions.*
- Sec. 15. Authorization of appropriations.*
- Sec. 1. Short title; table of contents.*

TITLE I—FIRE WEATHER

- Sec. 101. Definitions.*
- Sec. 102. Establishment of fire weather services program.*
- Sec. 103. Fire weather testbed.*
- Sec. 104. Data management and technology modernization.*
- Sec. 105. Surveys and assessments.*
- Sec. 106. Incident Meteorologist Service.*
- Sec. 107. Emergency response activities.*
- Sec. 108. Submissions to Congress regarding the fire weather services program, incident meteorologist workforce needs, and National Weather Service workforce support.*
- Sec. 109. Fire Science and Technology Working Group; strategic plan.*
- Sec. 110. Fire weather rating system.*
- Sec. 111. Government Accountability Office reports.*
- Sec. 112. Cooperation and coordination.*
- Sec. 113. General provisions.*
- Sec. 114. Authorization of appropriations.*

TITLE II—USE OF ARTIFICIAL INTELLIGENCE BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FOR WEATHER FORECASTING

- Sec. 201. Definitions.*
- Sec. 202. Purpose.*
- Sec. 203. Earth system forecasting and information delivery.*
- Sec. 204. Advanced artificial intelligence applications for weather and information delivery.*
- Sec. 205. Technical assistance on use of artificial intelligence weather, water, and space weather models.*
- Sec. 206. Fire environment modeling program.*
- Sec. 207. Partnerships for transformational innovation.*
- Sec. 208. Availability of dataset.*
- Sec. 209. Retention of Federal Government expertise.*
- Sec. 210. Protection of national security interests.*
- Sec. 211. Authorization of appropriations.*

TITLE III—NATIONAL MESONET PROGRAM

- Sec. 301. National Mesonet Program.*

1 **TITLE I—FIRE WEATHER**

2 **SEC. 101. DEFINITIONS.**

3 *In this title:*

4 (1) *ADMINISTRATION.*—*The term “Administra-*
5 *tion” means the National Oceanic and Atmospheric*
6 *Administration.*

7 (2) *APPROPRIATE COMMITTEES OF CONGRESS.*—
8 *The term “appropriate committees of Congress”*
9 *means—*

10 (A) *the Committee on Commerce, Science,*
11 *and Transportation of the Senate; and*

12 (B) *the Committee on Science, Space, and*
13 *Technology of the House of Representatives.*

14 (3) *EARTH SYSTEM MODEL.*—*The term “Earth*
15 *system model” means a mathematical model con-*
16 *taining all relevant components of the Earth, namely*
17 *the atmosphere, oceans, land, cryosphere, and bio-*
18 *sphere.*

19 (4) *FIRE ENVIRONMENT.*—*The term “fire envi-*
20 *ronment” means—*

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

25 (i) *fuel and fire behavior; and*

1 (ii) the emission, chemical evolution,
2 and transport of smoke from wildfires; and
3 (B) the associated environmental impacts
4 occurring during and after fire events.

5 (5) *FIRE WEATHER*.—The term “fire weather”
6 means the weather conditions that influence the start,
7 spread, character, or behavior of wildfires or fires at
8 the wildland-urban interface and relevant meteorolog-
9 ical and chemical phenomena, including air quality,
10 smoke, and meteorological parameters such as relative
11 humidity, air temperature, wind speed and direction,
12 and atmospheric composition and chemistry, includ-
13 ing emissions and mixing heights.

14 (6) *IMPACT-BASED DECISION SUPPORT SERV-*
15 *ICES*.—The term “impact-based decision support serv-
16 ices” means scientific advice and interpretative serv-
17 ices the Administration provides to help core part-
18 ners, such as emergency personnel and public safety
19 officials, make decisions when the information im-
20 pacts the lives and livelihoods of the people of the
21 United States.

22 (7) *INDIAN TRIBE*.—The term “Indian tribe” has
23 the meaning given that term in section 4 of the In-
24 dian Self-Determination and Education Assistance
25 Act (25 U.S.C. 5304).

1 (8) *NATIVE HAWAIIAN COMMUNITY*.—*The term*
2 *“Native Hawaiian Community” means the distinct*
3 *Native Hawaiian indigenous political community*
4 *that Congress, exercising its plenary power over Na-*
5 *tive American affairs, has recognized and with which*
6 *Congress has implemented a special political and*
7 *trust relationship pursuant to the Constitution of the*
8 *United States.*

9 (9) *NATIVE HAWAIIAN ORGANIZATION*.—*The term*
10 *“Native Hawaiian organization” has the meaning*
11 *given that term in section 6207 of the Elementary*
12 *and Secondary Education Act of 1965 (20 U.S.C.*
13 *7517), including the Department of Hawaiian Home*
14 *Lands and the Office of Hawaiian Affairs.*

15 (10) *SEASONAL*.—*The term “seasonal” has the*
16 *meaning given that term in section 2 of the Weather*
17 *Research and Forecasting Innovation Act of 2017 (15*
18 *U.S.C. 8501).*

19 (11) *SMOKE*.—*The term “smoke” means emis-*
20 *sions, including the gases and particles released into*
21 *the air as a result of wildfire.*

22 (12) *STATE*.—*The term “State” means a State,*
23 *the District of Columbia, the Commonwealth of Puer-*
24 *to Rico, Guam, American Samoa, the Commonwealth*
25 *of the Northern Mariana Islands, the United State*

1 *Virgin Islands, the Federated States of Micronesia,*
2 *the Republic of the Marshall Islands, or the Republic*
3 *of Palau.*

4 (13) *TRIBAL ORGANIZATION.*—*The term “Tribal*
5 *organization” has the meaning given that term in*
6 *section 4 of the Indian Self-Determination and Edu-*
7 *cation Assistance Act (25 U.S.C. 5304).*

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

11 (15) *WILDFIRE.*—*The term “wildfire” means*
12 *any non-structure fire that occurs in vegetation or*
13 *natural fuels, originating from an unplanned igni-*
14 *tion.*

15 (16) *WILDLAND-URBAN INTERFACE.*—*The term*
16 *“wildland-urban interface” means the area, zone, or*
17 *region of transition between unoccupied or undevel-*
18 *oped land and human development where structures*
19 *and other human development meet or intermingle*
20 *with undeveloped wildland or vegetative fuels.*

21 **SEC. 102. ESTABLISHMENT OF FIRE WEATHER SERVICES**
22 **PROGRAM.**

23 (a) *IN GENERAL.*—*The Under Secretary shall establish*
24 *and maintain a coordinated fire weather services program*

1 *among the offices of the Administration in existence as of*
2 *the date of the enactment of this Act.*

3 (b) *PROGRAM FUNCTIONS.*—*The functions of the pro-*
4 *gram established under subsection (a), consistent with the*
5 *priorities described in section 101 of the Weather Research*
6 *and Forecasting Innovation Act of 2017 (15 U.S.C. 8511),*
7 *shall be—*

8 (1) *to support readiness, responsiveness, under-*
9 *standing, and resilience of the United States to*
10 *wildfires, fire weather, smoke from wildfires, post-fire*
11 *flooding and debris flows, and associated hazards and*
12 *impacts in built and natural environments and at the*
13 *wildland-urban interface;*

14 (2) *to collaboratively develop and disseminate*
15 *accurate, precise, effective, and timely risk commu-*
16 *nications, forecasts, watches, and warnings relating to*
17 *wildfires, fire weather, smoke, post-fire flooding and*
18 *debris flows, and other associated conditions, hazards,*
19 *and impacts, as applicable, with Federal land man-*
20 *agement agencies;*

21 (3) *to partner with and support the public, Fed-*
22 *eral and State government entities, Indian tribes, the*
23 *Native Hawaiian Community, and academic and*
24 *local partners through the development of capabilities,*

1 *impact-based decision support services, and overall*
2 *service delivery and utility related to fire weather;*

3 *(4) to conduct and support research and develop-*
4 *ment of new and innovative models, technologies,*
5 *techniques, products, systems, processes, and proce-*
6 *dures to predict and improve understanding of*
7 *wildfires, fire weather, related air quality, post-fire*
8 *flooding and debris flows, and the fire environment;*

9 *(5) to develop strong research-to-operations and*
10 *operations-to-research transitions, in order to facili-*
11 *tate delivery of products, services, and tools to oper-*
12 *ational users and platforms related to fire weather;*

13 *(6) to develop communications networks and*
14 *strategies to ensure parity of fire forecasts, warning*
15 *services, and information about current fire location,*
16 *for remote, isolated, and rural communities, includ-*
17 *ing communities where the public acts as the first re-*
18 *sponder to wildfire; and*

19 *(7) to develop, in coordination with Federal land*
20 *management agencies, impact-based decision support*
21 *services that operationalize and integrate the func-*
22 *tions described in paragraphs (1) through (6) in*
23 *order to provide comprehensive impact-based decision*
24 *support services that encompass the fire environment.*

1 (c) *PROGRAM PRIORITIES.*—*In developing and imple-*
2 *menting the program established under subsection (a), the*
3 *Under Secretary shall prioritize—*

4 (1) *development of a fire weather-enabled Earth*
5 *system model and data assimilation systems that—*

6 (A) *are capable of prediction and fore-*
7 *casting across relevant spatial and temporal*
8 *scales;*

9 (B) *include variables associated with fire*
10 *weather and the fire environment;*

11 (C) *improve understanding of the connec-*
12 *tions between fire weather and modes of climate*
13 *variability;*

14 (D) *incorporate emerging techniques such as*
15 *artificial intelligence, machine learning, and*
16 *cloud computing; and*

17 (E) *use a rapidly deployable network of*
18 *rain gauges for post-fire hazard monitoring;*

19 (2) *advancement of existing and new observa-*
20 *tional capabilities, including satellite-, airborne-, air-*
21 *, and ground-based systems and technologies, and so-*
22 *cial networking and other public information-gath-*
23 *ering applications that—*

24 (A) *identify—*

25 (i) *high-risk pre-ignition conditions;*

1 (ii) conditions that influence fire be-
2 havior and spread including those condi-
3 tions that suppress active fire events; and

4 (iii) fire risk values;

5 (B) support real-time notification and mon-
6 itoring of ignitions;

7 (C) support observations and data collection
8 of fire weather and fire environment variables,
9 including vegetation state and profiles of smoke,
10 winds, temperature, and humidity, for develop-
11 ment of the model and systems under paragraph
12 (1); and

13 (D) support forecasts and research that
14 mitigate the impacts of wildfires on human life,
15 health, and the economy;

16 (3) development and implementation of advanced
17 and user-oriented impact-based decision tools, science,
18 and technologies that—

19 (A) ensure real-time and retrospective data,
20 products, and services are findable, accessible,
21 interoperable, usable, inform further research,
22 and are analysis- and decision-ready;

23 (B) provide targeted information through-
24 out the fire lifecycle including pre-ignition, de-

1 *tection, forecasting, post-fire, and monitoring*
2 *phases; and*

3 *(C) support early assessment of post-fire*
4 *hazards, such as air quality, debris flows,*
5 *mudslides, and flooding; and*

6 *(4) ensuring the parity of access to and support*
7 *from the tools, science, and technologies developed*
8 *under this subsection for remote, isolated, and rural*
9 *communities.*

10 *(d) PROGRAM ACTIVITIES.—In developing and imple-*
11 *menting the program established under subsection (a), the*
12 *Under Secretary may—*

13 *(1) conduct relevant physical and social science*
14 *research activities in support of the functions de-*
15 *scribed in subsection (b) and the priorities described*
16 *in subsection (c);*

17 *(2) conduct relevant activities, in coordination*
18 *with Federal land management agencies and Federal*
19 *science agencies, to assess fuel characteristics, includ-*
20 *ing moisture, loading, and other parameters used to*
21 *determine fire risk levels and outlooks;*

22 *(3) support and conduct research that assesses*
23 *impacts to marine, riverine, watershed, and other rel-*
24 *evant ecosystems, which may include forest and*

1 *rangeland ecosystems, resulting from activities associ-*
2 *ated with mitigation of and response to wildfires;*

3 *(4) support and conduct attribution science re-*
4 *search relating to wildfires, fire weather, fire risk,*
5 *smoke, and associated conditions, risks, and impacts;*

6 *(5) develop smoke and air quality forecasts, fore-*
7 *cast guidance, and prescribed burn weather forecasts,*
8 *and conduct research on the impact of such forecasts*
9 *on response behavior that minimizes health-related*
10 *impacts from smoke exposure;*

11 *(6) use, in coordination with Federal land man-*
12 *agement agencies, wildland fuels information and fire*
13 *resource intelligence to inform fire environment im-*
14 *part-based decision support services and products for*
15 *safety;*

16 *(7) work with Federal agencies to provide data,*
17 *tools, and services to support determinations by such*
18 *agencies for the implementation of mitigation meas-*
19 *ures;*

20 *(8) provide training and support to ensure effec-*
21 *tive media utilization of impact-based decision sup-*
22 *port services and products to the public regarding ac-*
23 *tions needing to be taken;*

24 *(9) provide comprehensive training to ensure*
25 *staff of the program established under subsection (a)*

1 *is properly equipped to deliver the impact-based deci-*
2 *sion support services and products described in para-*
3 *graphs (1) through (6); and*

4 *(10) acquire, through contracted purchase, pri-*
5 *vate sector-produced observational data to fill identi-*
6 *fied gaps, as needed.*

7 *(e) PARITY FOR REMOTE, ISOLATED, AND RURAL COM-*
8 *MUNITIES.—In developing and implementing the program*
9 *established under subsection (a), the Under Secretary shall*
10 *ensure parity of coverage and programmatic activity for*
11 *remote, isolated, and rural communities, including commu-*
12 *nities where the public acts as the first responder to wild-*
13 *fire.*

14 *(f) COLLABORATION.—The Under Secretary shall, as*
15 *the Under Secretary considers appropriate, collaborate with*
16 *partners in the weather and climate enterprises, academic*
17 *institutions, States, Indian tribes, Tribal organizations, the*
18 *Native Hawaiian Community, Native Hawaiian organiza-*
19 *tions, local partners, and Federal agencies, including land*
20 *and fire management agencies, in the development and im-*
21 *plementation of the program established under subsection*
22 *(a).*

23 *(g) AGREEMENTS.—In carrying out the activities*
24 *under this title and the amendments made by this title, the*

1 *Under Secretary may provide support to non-Federal enti-*
2 *ties by making funds and resources available through—*

3 *(1) competitive grants;*

4 *(2) contracts under the mobility program under*
5 *subchapter VI of chapter 33 of title 5, United States*
6 *Code (commonly referred to as the “Intergovernmental*
7 *Personnel Act Mobility Program”);*

8 *(3) cooperative agreements; and*

9 *(4) co-location agreements as described in section*
10 *502 of the National Oceanic and Atmospheric Admin-*
11 *istration Commissioned Officer Corps Amendments*
12 *Act of 2020 (33 U.S.C. 851 note prec.).*

13 *(h) PROGRAM ADMINISTRATION PLAN.—*

14 *(1) IN GENERAL.—Not later than 180 days after*
15 *the date of the enactment of this Act, the Under Sec-*
16 *retary shall submit to the appropriate committees of*
17 *Congress a plan that details how the program estab-*
18 *lished under subsection (a) will be administered and*
19 *governed within the Administration.*

20 *(2) ELEMENTS.—The plan required by para-*
21 *graph (1) should include a description of—*

22 *(A) how the functions described in sub-*
23 *section (b), the priorities described in subsection*
24 *(c), and the activities described in subsection (d)*

1 *will be distributed among the line offices of the*
2 *Administration; and*

3 *(B) the mechanisms in place to ensure*
4 *seamless coordination among those offices.*

5 **SEC. 103. FIRE WEATHER TESTBED.**

6 *(a) ESTABLISHMENT OF FIRE WEATHER TESTBED.—*

7 *The Under Secretary shall establish a fire weather testbed*
8 *that enables engagement across the Federal Government,*
9 *State and local governments, academia, private and feder-*
10 *ally funded research laboratories, the private sector, and*
11 *end-users in order to evaluate the accuracy and usability*
12 *of technology, models, fire weather products and services,*
13 *and other research to accelerate the implementation, transi-*
14 *tion to operations, and use of new capabilities by the Ad-*
15 *ministration, Federal and land management agencies, and*
16 *other relevant stakeholders.*

17 *(b) UNCREWED SYSTEMS.—*

18 *(1) IN GENERAL.—The Under Secretary shall—*

19 *(A) establish and carry out a research and*
20 *development program to support the application*
21 *of uncrewed systems technologies to improve data*
22 *collection in support of modeling, observations,*
23 *predictions, forecasts, and impact-based decision*
24 *support services, and for other purposes of the*
25 *Administration;*

1 (B) *transition uncrewed systems tech-*
2 *nologies from research to operations as the Under*
3 *Secretary considers appropriate; and*

4 (C) *coordinate with other Federal agencies*
5 *that may be developing uncrewed systems and*
6 *related technologies to meet the challenges of*
7 *wildland fire management.*

8 (2) *PILOTS REQUIRED.—In carrying out para-*
9 *graph (1), the Under Secretary shall conduct pilots of*
10 *uncrewed systems for fire weather and fire environ-*
11 *ment observations, including—*

12 (A) *testing of uncrewed systems in approxi-*
13 *mations of real-world scenarios;*

14 (B) *assessment of the utility of meteorolog-*
15 *ical data collected from fire response and assess-*
16 *ment aircraft;*

17 (C) *input of the collected data into appro-*
18 *priate models to predict fire behavior, including*
19 *coupled atmosphere and fire models; and*

20 (D) *collection of best management practices*
21 *for deployment of uncrewed systems and other*
22 *remote data technology, including for commu-*
23 *nication and coordination between the stake-*
24 *holders described in subsection (a).*

25 (3) *SAVINGS CLAUSE.—*

1 (A) *IN GENERAL.*—*In carrying out activi-*
2 *ties under this subsection, the Under Secretary*
3 *shall ensure that any testing or deployment of*
4 *uncrewed systems follow procedures, restrictions,*
5 *and protocols established by the heads of the Fed-*
6 *eral agencies with statutory or regulatory juris-*
7 *isdiction over any airspace in which wildfire re-*
8 *sponse activities are conducted during an active*
9 *wildfire event.*

10 (B) *CONSULTATION AND COORDINATION.*—
11 *The Under Secretary shall consult and coordi-*
12 *nate with relevant Federal land management*
13 *agencies, Federal science agencies, and the Fed-*
14 *eral Aviation Administration to develop proc-*
15 *esses for the appropriate deployment of the sys-*
16 *tems described in subparagraph (A).*

17 (c) *ADDITIONAL PILOT PROJECTS.*—*The Under Sec-*
18 *retary shall establish additional pilot projects relating to*
19 *the fire weather testbed that may include the following ele-*
20 *ments:*

21 (1) *Advanced products to detect fire from sat-*
22 *ellites.*

23 (2) *Procurement and use of commercial data.*

24 (3) *Investigation and evaluation of information*
25 *needs of users and decision makers.*

1 (d) *REPORT.*—Section 108(a)(5) of the National Oce-
 2 *anic and Atmospheric Administration Authorization Act of*
 3 1992 (15 U.S.C. 8520(a)(5)) is amended—

4 (1) in subparagraph (C), by adding “and” at the
 5 end; and

6 (2) in subparagraph (D)—

7 (A) in clause (ii), by striking “and”;

8 (B) in clause (iii), by adding “and” at the
 9 end; and

10 (C) by adding at the end the following:

11 “(iv) a description of the research that
 12 has been transitioned into operations, in-
 13 cluding research at the fire weather testbed
 14 established under section 103(a) of the Fire
 15 Ready Nation Act of 2024;”.

16 **SEC. 104. DATA MANAGEMENT AND TECHNOLOGY MOD-**
 17 **ERNIZATION.**

18 (a) *DATA AVAILABILITY AND MANAGEMENT.*—Section
 19 301 of the Weather Research and Forecasting Innovation
 20 Act of 2017 (15 U.S.C. 8531) is amended—

21 (1) by redesignating subsections (f) and (g) as
 22 subsections (g) and (h), respectively; and

23 (2) by inserting after subsection (e) the following:

24 “(f) *DATA AVAILABILITY AND MANAGEMENT.*—

25 “(1) *IN GENERAL.*—The Under Secretary shall—

1 “(A) make data and metadata generated or
2 collected by the National Oceanic and Atmos-
3 pheric Administration that the Under Secretary
4 has the legal right to redistribute fully and open-
5 ly available, in accordance with chapter 35 of
6 title 44, United States Code, and the Founda-
7 tions for Evidence-Based Policymaking Act of
8 2018 (Public Law 115–435; 132 Stat. 5529) and
9 the amendments made by that Act, and preserve
10 and curate such data and metadata, in accord-
11 ance with chapter 31 of title 44, United States
12 Code (commonly known as the ‘Federal Records
13 Act of 1950’), in order to maximize use of such
14 data and metadata; and

15 “(B) manage and steward the access, archi-
16 val, and retrieval activities for the data and
17 metadata described in subparagraph (A) by—

18 “(i) using—

19 “(I) enterprise-wide infrastruc-
20 ture, emerging technologies, commercial
21 partnerships, and the skilled workforce
22 needed to provide appropriate data
23 management from collection to broad
24 access; and

1 “(II) associated information serv-
2 ices; and

3 “(ii) pursuing the maximum inter-
4 operability of data and information by—

5 “(I) leveraging data, information,
6 knowledge, and tools from across the
7 Federal Government to support equi-
8 table access, cross-sectoral collaboration
9 and innovation, and local planning
10 and decision-making; and

11 “(II) developing standards and
12 practices for the adoption and citation
13 of digital object identifiers for datasets,
14 models, and analytical tools.

15 “(2) COLLABORATION.—In carrying out this sub-
16 section, the Under Secretary shall collaborate with
17 such Federal partners and stakeholders as the Under
18 Secretary considers relevant—

19 “(A) to develop standards to pursue max-
20 imum interoperability of data, information,
21 knowledge, and tools across the Federal Govern-
22 ment, convert historical records into common
23 digital formats, and improve access and
24 usability of data by partners and stakeholders;

1 “(B) to identify and solicit relevant data
2 from Federal and international partners and
3 other relevant stakeholders, as the Under Sec-
4 retary considers appropriate; and

5 “(C) to develop standards and practices for
6 the adoption and citation of digital object identi-
7 fiers for datasets, models, and analytical tools.”.

8 (b) WILDLAND FIRE COMMISSION.—*The Infrastruc-*
9 *ture Investment and Jobs Act (Public Law 117–58; 135*
10 *Stat. 429) is amended—*

11 (1) in section 70202—

12 (A) in paragraph (1)—

13 (i) in subparagraph (J), by striking “;
14 and” and inserting a semicolon;

15 (ii) in subparagraph (K), by striking
16 the period at the end and inserting a semi-
17 colon; and

18 (iii) by adding at the end the fol-
19 lowing:

20 “(L) the Committee on Commerce, Science,
21 and Transportation of the Senate; and

22 “(M) the Committee on Science, Space, and
23 Technology of the House of Representatives.”;
24 and

25 (B) in paragraph (6)—

1 (i) in subparagraph (B), by striking “;
2 and” and inserting a semicolon;

3 (ii) in subparagraph (C), by striking
4 the period at the end and inserting “; and”;
5 and

6 (iii) by adding at the end the fol-
7 lowing:

8 “(D) The Secretary of Commerce, acting
9 through the Under Secretary of Commerce for
10 Oceans and Atmosphere.”; and

11 (2) in section 70203(b)(1)(B)—

12 (A) in the matter preceding clause (i), by
13 striking “9” and inserting “not fewer than 10”;

14 (B) in clause (i)—

15 (i) in subclause (IV), by striking “;
16 and” and inserting a semicolon;

17 (ii) in subclause (V), by adding “and”
18 at the end; and

19 (iii) by adding at the end the fol-
20 lowing:

21 “(VI) the National Oceanic and
22 Atmospheric Administration;”;

23 (C) in clause (iv), by striking “; and” and
24 inserting a semicolon; and

25 (D) by adding at the end the following:

1 “(vi) if the Secretaries determine it to
2 be appropriate, 1 or more representatives
3 from the relevant line offices of the National
4 Oceanic and Atmospheric Administration;
5 and”.

6 (c) *WILDFIRE TECHNOLOGY MODERNIZATION*.—Sec-
7 tion 1114 of the *John D. Dingell, Jr. Conservation, Man-
8 agement, and Recreation Act* (43 U.S.C. 1748b-1) is
9 amended—

10 (1) in subsection (c)(3), by inserting “the Na-
11 tional Oceanic and Atmospheric Administration,”
12 after “Federal Aviation Administration,”;

13 (2) in subsection (e)(2)—

14 (A) by redesignating subparagraph (B) as
15 subparagraph (C); and

16 (B) by inserting after subparagraph (A) the
17 following:

18 “(B) *CONSULTATION*.—

19 “(i) *IN GENERAL*.—In carrying out
20 subparagraph (A), the Secretaries shall con-
21 sult with the Under Secretary of Commerce
22 for Oceans and Atmosphere regarding any
23 development of impact-based decision sup-
24 port services that relate to wildlife-related

1 *activities of the National Oceanic and At-*
 2 *mospheric Administration.*

3 “(ii) *DEFINITION OF IMPACT-BASED*
 4 *DECISION SUPPORT SERVICES.—In this sub-*
 5 *paragraph, the term ‘impact-based decision*
 6 *support services’ means scientific advice*
 7 *and interpretative services the National*
 8 *Oceanic and Atmospheric Administration*
 9 *provides to help core partners, such as*
 10 *emergency personnel and public safety offi-*
 11 *cial, make decisions when the information*
 12 *impacts the lives and livelihoods of the peo-*
 13 *ple of the United States.’; and*

14 (3) *in subsection (f)—*

15 (A) *by redesignating paragraphs (1) and*
 16 (2) *as subparagraphs (A) and (B), respectively,*
 17 *and moving such subparagraphs, as so redesign-*
 18 *ated, 2 ems to the right;*

19 (B) *by striking “The Secretaries” and in-*
 20 *serting the following:*

21 “(1) *IN GENERAL.—The Secretaries’; and*

22 (C) *by adding at the end the following:*

23 “(2) *COLLABORATION.—In carrying out para-*
 24 *graph (1), the Secretaries shall collaborate with the*
 25 *Under Secretary of Commerce for Oceans and Atmos-*

1 *phere to improve coordination, utility of systems and*
2 *assets, and interoperability of data for smoke pre-*
3 *dition, forecasting, and modeling.”.*

4 *(d) DIGITAL PRESENCE.—*

5 *(1) IN GENERAL.—The Under Secretary shall de-*
6 *velop and maintain a comprehensive, centralized, and*
7 *publicly accessible digital presence designed to pro-*
8 *mote findability, accessibility, interoperability,*
9 *usability, and utility of the services, tools, data, and*
10 *information produced by the program established*
11 *under section 102(a).*

12 *(2) DIGITAL PLATFORM AND TOOLS.—In car-*
13 *rying out paragraph (1), the Under Secretary shall*
14 *seek to ensure the digital platform and tools of the*
15 *Administration integrate geospatial data, decision*
16 *support tools, training, and best practices to provide*
17 *real-time fire weather forecasts and address fire-re-*
18 *lated issues and needs.*

19 *(e) HIGH-PERFORMANCE COMPUTING.—*

20 *(1) IN GENERAL.—The Under Secretary shall*
21 *seek to acquire sufficient high-performance computing*
22 *resources and capacity for research, operations, and*
23 *data storage in support of the program established*
24 *under section 102(a).*

1 (2) *CONSIDERATIONS.*—*In acquiring high-per-*
 2 *formance computing capacity under paragraph (1),*
 3 *the Under Secretary shall consider requirements need-*
 4 *ed for—*

5 (A) *conducting research, development, and*
 6 *testbed experiments;*

7 (B) *the transition of research and testbed*
 8 *developments into operations;*

9 (C) *sustaining capabilities in operations;*

10 (D) *capabilities existing in other Federal*
 11 *agencies and the commercial sector; and*

12 (E) *skilled workforce development.*

13 **SEC. 105. SURVEYS AND ASSESSMENTS.**

14 (a) *POST-FIRE SURVEYS AND ASSESSMENTS .—*

15 (1) *ANNUAL POST-FIRE-WEATHER-SEASON SUR-*
 16 *VEY AND ASSESSMENT.—*

17 (A) *IN GENERAL.*—*During the second win-*
 18 *ter following the date of the enactment of this*
 19 *Act, and each year thereafter, the Under Sec-*
 20 *retary shall conduct a post-fire-weather-season*
 21 *survey and assessment.*

22 (B) *ELEMENTS.*—*After conducting a post-*
 23 *fire-weather-season survey and assessment under*
 24 *subparagraph (A), the Under Secretary shall—*

1 (i) investigate any gaps in data col-
2 lected during the assessment;

3 (ii) identify and implement strategies
4 and procedures to improve program services
5 and information dissemination;

6 (iii) update systems, processes, strate-
7 gies, and procedures to enhance the effi-
8 ciency and reliability of data obtained from
9 the assessment;

10 (iv) evaluate the accuracy and efficacy
11 of physical fire weather forecasting informa-
12 tion for each incident included in the sur-
13 vey and assessment; and

14 (v) assess and refine performance
15 measures, as needed.

16 (2) *SURVEYS AND ASSESSMENTS FOLLOWING IN-*
17 *DIVIDUAL WILDFIRE EVENTS.*—*The Under Secretary*
18 *may conduct surveys and assessments following indi-*
19 *vidual wildfire events as the Under Secretary deter-*
20 *mines necessary.*

21 (3) *GOAL.*—*In carrying out activities under this*
22 *subsection, the Under Secretary shall seek to increase*
23 *the number of post-wildfire community impact stud-*
24 *ies, including by surveying individual and collective*

1 *responses and incorporating other applicable topics of*
2 *social science research.*

3 (4) *ANNUAL BRIEFING.*—*Not less frequently than*
4 *once each year, the Under Secretary shall provide a*
5 *briefing to the appropriate committees of Congress*
6 *that provides—*

7 (A) *an overview of the fire season; and*

8 (B) *an outlook for the fire season for the*
9 *coming year.*

10 (5) *COORDINATION.*—*In conducting any survey*
11 *or assessment under this subsection, the Under Sec-*
12 *retary shall coordinate with Federal, State, and local*
13 *partners, Indian tribes, the Native Hawaiian Com-*
14 *munity, private entities, and such institutions of*
15 *higher education as the Under Secretary considers rel-*
16 *evant in order to—*

17 (A) *improve operations and collaboration;*

18 *and*

19 (B) *optimize data collection, sharing, inte-*
20 *gration, assimilation, and dissemination.*

21 (6) *DATA AVAILABILITY.*—*The Under Secretary*
22 *shall make the data and findings obtained from each*
23 *assessment conducted under this subsection available*
24 *to the public in an accessible digital format as soon*
25 *as practicable after conducting the assessment.*

1 (7) *SERVICE IMPROVEMENTS.*—*The Under Sec-*
2 *retary shall make best efforts to incorporate the re-*
3 *sults and recommendations of each assessment con-*
4 *ducted under this subsection into the research and de-*
5 *velopment plan and operations of the Administration.*

6 (b) *JOINT ASSESSMENT AND PLAN FOR AUTOMATED*
7 *SURFACE OBSERVING SYSTEM.*—

8 (1) *IN GENERAL.*—*The Under Secretary, in col-*
9 *laboration with the Administrator of the Federal*
10 *Aviation Administration and the Secretary of De-*
11 *fense, shall—*

12 (A) *conduct an assessment of resources, per-*
13 *sonnel, procedures, and activities necessary to*
14 *maximize the functionality and utility of the*
15 *automated surface observing system of the United*
16 *States that identifies—*

17 (i) *key system upgrades needed to im-*
18 *prove observation quality and utility for*
19 *weather forecasting, aviation safety, and*
20 *other users;*

21 (ii) *improvements needed in observa-*
22 *tions within the planetary boundary layer,*
23 *including mixing height;*

24 (iii) *improvements needed in public*
25 *accessibility of observational data;*

1 (iv) improvements needed to reduce la-
2 tency in reporting of observational data;

3 (v) relevant data to be collected for the
4 production of forecasts or forecast guidance
5 relating to atmospheric composition, includ-
6 ing particulate and air quality data related
7 to wildfires, and aviation safety;

8 (vi) areas of concern regarding oper-
9 ational continuity and reliability of the sys-
10 tem, which may include needs for on-night
11 staff, particularly in remote and rural
12 areas and areas where system failure would
13 have the greatest negative impact to the
14 community;

15 (vii) stewardship, data handling, data
16 distribution, and product generation needs
17 arising from upgrading and changing the
18 automated surface observation systems;

19 (viii) possible solutions for areas of
20 concern identified under clause (vi), includ-
21 ing with respect to the potential use of
22 backup systems, power and communication
23 system reliability, staffing needs and per-
24 sonnel location, and the acquisition of crit-
25 ical component backups and proper storage

1 *location to ensure rapid system repair nec-*
2 *essary to ensure system operational con-*
3 *tinuity; and*

4 *(ix) research, development, and transi-*
5 *tion to operations needed to develop ad-*
6 *vanced data collection, quality control, and*
7 *distribution so that the data are provided to*
8 *models, users, and decision support systems*
9 *in a timely manner; and*

10 *(B) develop and implement a plan that ad-*
11 *dresses the findings of the assessment conducted*
12 *under subparagraph (A), including by seeking*
13 *and allocating resources necessary to ensure that*
14 *system upgrades are standardized across the Ad-*
15 *ministration, the Federal Aviation Administra-*
16 *tion, and the Department of Defense to the extent*
17 *practicable.*

18 *(2) STANDARDIZATION.—Any system standard-*
19 *ization implemented under paragraph (1)(B) shall*
20 *not impede activities to upgrade or improve indi-*
21 *vidual units of the system.*

22 *(3) REMOTE AUTOMATIC WEATHER STATION CO-*
23 *ORDINATION.—The Under Secretary, in collaboration*
24 *with relevant Federal agencies and the National*
25 *Interagency Fire Center, shall assess and develop co-*

1 *operative agreements to improve coordination, inter-*
2 *operability standards, operations, and placement of*
3 *remote automatic weather stations for the purpose of*
4 *improving utility and coverage of remote automatic*
5 *weather stations, automated surface observation sys-*
6 *tems, smoke monitoring platforms, and other similar*
7 *stations and systems for weather and climate oper-*
8 *ations.*

9 (4) *REPORT TO CONGRESS.—*

10 (A) *IN GENERAL.—Not later than 2 years*
11 *after the date of the enactment of this Act, the*
12 *Under Secretary, in collaboration with the Ad-*
13 *ministrator of the Federal Aviation Administra-*
14 *tion and the Secretary of Defense, shall submit*
15 *to the appropriate committees of Congress a re-*
16 *port that—*

17 (i) *details the findings of the assess-*
18 *ment required by subparagraph (A) of*
19 *paragraph (1); and*

20 (ii) *the plan required by subparagraph*
21 *(B) of such paragraph.*

22 (B) *ELEMENTS.—The report required by*
23 *subparagraph (A) shall include a detailed assess-*
24 *ment of appropriations required—*

1 (i) to address the findings of the assess-
2 ment required by subparagraph (A) of
3 paragraph (1); and

4 (ii) to implement the plan required by
5 subparagraph (B) of such paragraph.

6 **SEC. 106. INCIDENT METEOROLOGIST SERVICE.**

7 (a) *ESTABLISHMENT.*—The Under Secretary shall es-
8 tablish and maintain an Incident Meteorologist Service
9 within the National Weather Service (in this section re-
10 ferred to as the “Service”).

11 (b) *INCLUSION OF EXISTING INCIDENT METEOROLO-*
12 *GISTS.*—The Service shall include—

13 (1) the incident meteorologists of the Administra-
14 tion as of the date of the enactment of this Act; and

15 (2) such incident meteorologists of the Adminis-
16 tration as may be appointed after such date.

17 (c) *FUNCTIONS.*—The Service shall provide—

18 (1) on-site impact-based decision support services
19 to Federal, State, and local government emergency re-
20 sponse agencies, Indian tribes, and the Native Hawai-
21 ian Community preceding, during, and following sig-
22 nificant weather-related events, such as wildland
23 fires, that threaten human life, property, or the econ-
24 omy; and

1 (2) *support to Federal, State, and local govern-*
2 *ment decision makers, partners, and stakeholders, In-*
3 *Indian tribes, Tribal organizations, the Native Hawai-*
4 *ian Community, and Native Hawaiian organizations*
5 *for seasonal planning and pre-fire mitigation activi-*
6 *ties.*

7 (d) *DEPLOYMENT.—The Service shall be deployed—*

8 (1) *as determined by the Under Secretary; or*

9 (2) *at the request of the head of another Federal*
10 *agency and with the approval of the Under Secretary.*

11 (e) *STAFFING AND RESOURCES.—In establishing and*
12 *maintaining the Service, the Under Secretary shall iden-*
13 *tify, acquire, and maintain adequate levels of staffing and*
14 *resources to meet user needs.*

15 (f) *SUPPORT FOR INCIDENT METEOROLOGISTS.—The*
16 *Under Secretary shall provide resources, access to real-time*
17 *fire weather forecasts, training, administrative and*
18 *logistical support, and access to professional counseling or*
19 *other forms of support as the Under Secretary considers ap-*
20 *propriate for the betterment of the emotional and mental*
21 *health and well-being of incident meteorologists and other*
22 *employees of the Administration so long as the need for such*
23 *resources, training, access, or support is due to the response*
24 *of such employees to high-impact and extreme fire weather*
25 *events.*

1 **SEC. 107. EMERGENCY RESPONSE ACTIVITIES.**

2 (a) *DEFINITIONS.—In this section:*

3 (1) *BASIC PAY.—The term “basic pay” includes*
4 *any applicable locality-based comparability payment*
5 *under section 5304 of title 5, United States Code, any*
6 *applicable special rate supplement under section 5305*
7 *of such title, or any equivalent payment under a*
8 *similar provision of law.*

9 (2) *COVERED EMPLOYEE.—The term “covered*
10 *employee” means an employee of the Department of*
11 *Commerce, the Department of Agriculture, or the De-*
12 *partment of the Interior.*

13 (3) *COVERED SERVICES.—The term “covered*
14 *services” means services that are performed by a cov-*
15 *ered employee while serving—*

16 (A) *as a wildland firefighter or a fire man-*
17 *agement response official, including a regional*
18 *fire director, a deputy regional fire director, and*
19 *a fire management officer;*

20 (B) *as an incident meteorologist accom-*
21 *panying a wildland firefighter crew; or*

22 (C) *on an incident management team, at*
23 *the National Interagency Fire Center, at a Geo-*
24 *graphic Area Coordinating Center, or at an op-*
25 *erations center.*

1 (4) *PREMIUM PAY.*—*The term “premium pay”*
2 *means premium pay paid under a provision of law*
3 *described in the matter preceding paragraph (1) of*
4 *section 5547(a) of title 5, United States Code.*

5 (5) *RELEVANT CONGRESSIONAL COMMITTEES.*—
6 *The term “relevant congressional committees”*
7 *means—*

8 (A) *the Committee on Commerce, Science,*
9 *and Transportation of the Senate;*

10 (B) *the Committee on Homeland Security*
11 *and Governmental Affairs of the Senate;*

12 (C) *the Committee on Agriculture, Nutri-*
13 *tion, and Forestry of the Senate;*

14 (D) *the Committee on Appropriations of the*
15 *Senate;*

16 (E) *the Committee on Energy and Natural*
17 *Resources of the Senate;*

18 (F) *the Committee on Oversight and Reform*
19 *of the House of Representatives;*

20 (G) *the Committee on Natural Resources of*
21 *the House of Representatives;*

22 (H) *the Committee on Science, Space, and*
23 *Technology of the House of Representatives;*

24 (I) *the Committee on Agriculture of the*
25 *House of Representative; and*

1 *(J) the Committee on Appropriations of the*
2 *House of Representatives.*

3 (6) *SECRETARY CONCERNED.*—*The term “Sec-*
4 *retary concerned” means—*

5 (A) *the Secretary of Commerce, with respect*
6 *to an employee of the Department of Commerce;*

7 (B) *the Secretary of Agriculture, with re-*
8 *spect to an employee of the Department of Agri-*
9 *culture; and*

10 (C) *the Secretary of the Interior, with re-*
11 *spect to an employee of the Department of the*
12 *Interior.*

13 (b) *WAIVER.*—

14 (1) *IN GENERAL.*—*Any premium pay received by*
15 *a covered employee for covered services shall be dis-*
16 *regarded in calculating the aggregate of the basic pay*
17 *and premium pay for the covered employee for pur-*
18 *poses of applying the limitation on premium pay*
19 *under section 5547(a) of title 5, United States Code.*

20 (2) *CALCULATION OF AGGREGATE PAY.*—*Any*
21 *pay that is disregarded under paragraph (1) shall be*
22 *disregarded in calculating the aggregate pay of the*
23 *applicable covered employee for purposes of applying*
24 *the limitation under section 5307 of title 5, United*
25 *States Code, during calendar year 2025.*

1 (3) *LIMITATION.*—A covered employee may not
2 be paid premium pay under this subsection if, or to
3 the extent that, the aggregate of the basic pay and
4 premium pay (including premium pay for covered
5 services) of the covered employee for a calendar year
6 would exceed the rate of basic pay payable for a posi-
7 tion at level II of the Executive Schedule under sec-
8 tion 5313 of title 5, United States Code, as in effect
9 at the end of that calendar year.

10 (4) *TREATMENT OF ADDITIONAL PREMIUM*
11 *PAY.*—If the application of this subsection results in
12 the payment of additional premium pay to a covered
13 employee of a type that is normally creditable as
14 basic pay for retirement or any other purpose, that
15 additional premium pay shall not be—

16 (A) considered to be basic pay of the covered
17 employee for any purpose; or

18 (B) used in computing a lump-sum pay-
19 ment to the covered employee for accumulated
20 and accrued annual leave under section 5551 or
21 5552 of title 5, United States Code.

22 (5) *EFFECTIVE PERIOD.*—This subsection shall
23 be in effect during calendar year 2024 and apply to
24 premium pay payable during that year.

1 (c) *AMENDMENT.*—Section 5542(a)(5) of title 5,
2 *United States Code*, is amended by inserting “, the Depart-
3 *ment of Commerce*,” after “*Interior*”.

4 (d) *PLAN TO ADDRESS NEEDS.*—

5 (1) *DEVELOPMENT AND IMPLEMENTATION.*—Not
6 *later than March 30, 2025*, the Secretaries referred to
7 *in subsection (a)(6)*, in consultation with the Director
8 *of the Office of Management and Budget* and the Di-
9 *rector of the Office of Personnel Management*, shall
10 *jointly develop and implement a plan that addresses*
11 *the needs of the Department of Commerce, the Depart-*
12 *ment of Agriculture, and the Department of the Inte-*
13 *rior, as applicable, to hire, appoint, promote, or train*
14 *additional covered employees who carry out covered*
15 *services such that sufficient covered employees are*
16 *available throughout each fiscal year, beginning in*
17 *fiscal year 2025, without the need for waivers of pre-*
18 *mium pay limitations.*

19 (2) *SUBMITTAL.*—Not later than 30 days before
20 *the date on which the Secretaries implement the plan*
21 *developed under paragraph (1)*, the Secretaries shall
22 *submit the plan to the relevant congressional commit-*
23 *tees.*

24 (3) *LIMITATION.*—The plan developed under
25 *paragraph (1) shall not be contingent on any Sec-*

1 retary receiving amounts appropriated for fiscal
 2 years beginning in fiscal year 2025 in amounts great-
 3 er than amounts appropriated for fiscal year 2023.

4 (e) *POLICIES AND PROCEDURES FOR HEALTH, SAFE-*
 5 *TY, AND WELL-BEING.*—The Secretary concerned shall
 6 maintain policies and procedures to promote the health,
 7 safety, and well-being of covered employees.

8 **SEC. 108. SUBMISSIONS TO CONGRESS REGARDING THE**
 9 **FIRE WEATHER SERVICES PROGRAM, INCI-**
 10 **DENT METEOROLOGIST WORKFORCE NEEDS,**
 11 **AND NATIONAL WEATHER SERVICE WORK-**
 12 **FORCE SUPPORT.**

13 (a) *REPORT TO CONGRESS.*—Not later than 18 months
 14 after the date of the enactment of this Act, the Under Sec-
 15 retary shall submit to the appropriate committees of Con-
 16 gress—

17 (1) the plan described in subsection (b);

18 (2) the assessment described in subsection (c);

19 and

20 (3) the assessment described in subsection (d).

21 (b) *FIRE WEATHER SERVICES PROGRAM PLAN.*—

22 (1) *ELEMENTS.*—The plan submitted under sub-
 23 section (a)(1) shall detail—

24 (A) the observational data, modeling re-
 25 quirements, ongoing computational needs, re-

1 search, development, and technology transfer ac-
2 tivities, data management, skilled-personnel re-
3 quirements, engagement with relevant Federal
4 emergency and land management agencies and
5 partners, and corresponding research, develop-
6 ment, and operational resources and timelines
7 necessary to achieve the functions described in
8 subsection (b) of section 102 and the priorities
9 described in subsection (c) of such section; and

10 (B) plans and needs for all other activities
11 and requirements under this title and the
12 amendments made by this title.

13 (2) *SUBMITTAL OF ANNUAL BUDGET FOR*
14 *PLAN.*—Following completion of the plan submitted
15 under subsection (a)(1), the Under Secretary shall,
16 not less frequently than once each year concurrent
17 with the submission of the budget by the President to
18 Congress under section 1105 of title 31, United States
19 Code, submit to Congress a proposed budget cor-
20 responding with the elements detailed in the plan.

21 (c) *INCIDENT METEOROLOGIST WORKFORCE NEEDS*
22 *ASSESSMENT.*—

23 (1) *IN GENERAL.*—The Under Secretary shall
24 conduct a workforce needs assessment on the current
25 and future demand for additional incident meteorolo-

1 *gists for wildfires and other high-impact fire weather*
2 *events.*

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

5 (A) *A description of staffing levels as of the*
6 *date on which the assessment is submitted under*
7 *subsection (a)(2) and projected future staffing*
8 *levels.*

9 (B) *An assessment of the state of the re-*
10 *search, development, and operational infrastruc-*
11 *ture of the National Weather Service as of the*
12 *date on which the assessment is submitted and*
13 *future needs of such infrastructure in order to*
14 *meet current and future demands, including*
15 *with respect to information technology support*
16 *and logistical and administrative operations.*

17 (3) *CONSIDERATIONS.—In conducting the assess-*
18 *ment required by paragraph (1), the Under Secretary*
19 *shall consider user needs and feedback from relevant*
20 *stakeholders.*

21 (d) *SUPPORT SERVICES ASSESSMENT.—*

22 (1) *IN GENERAL.—The Under Secretary shall*
23 *conduct a workforce support services assessment with*
24 *respect to employees of the National Weather Service*
25 *engaged in emergency response.*

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

3 (A) *An assessment of need for further sup-*
4 *port of employees of the National Weather Serv-*
5 *ice engaged in emergency response through serv-*
6 *ices provided by the Public Health Service.*

7 (B) *A detailed assessment of appropriations*
8 *required to secure the level of support services*
9 *needed as identified in the assessment described*
10 *in subparagraph (A).*

11 (3) *ADDITIONAL SUPPORT SERVICES.*—*Following*
12 *the completion of the assessment required by para-*
13 *graph (1), the Under Secretary shall seek to acquire*
14 *additional support services to meet the needs identi-*
15 *fied in the assessment.*

16 **SEC. 109. FIRE SCIENCE AND TECHNOLOGY WORKING**
17 **GROUP; STRATEGIC PLAN.**

18 (a) *FIRE SCIENCE AND TECHNOLOGY WORKING*
19 *GROUP.*—

20 (1) *ESTABLISHMENT.*—*Not later than 90 days*
21 *after the date of the enactment of this Act, the Execu-*
22 *utive Director of the Interagency Committee for Ad-*
23 *vancing Weather Services established under section*
24 *402 of the Weather Research and Forecasting Innova-*
25 *tion Act of 2017 (15 U.S.C. 8542) (in this section re-*

1 ferred to as the “Interagency Committee”) shall estab-
2 lish a working group, to be known as the “Fire
3 Science and Technology Working Group” (in this sec-
4 tion referred to as the “Working Group”).

5 (2) CHAIR.—The Working Group shall be
6 chaired by the Under Secretary, or designee.

7 (3) GENERAL DUTIES.—

8 (A) IN GENERAL.—The Working Group
9 shall seek to build efficiencies among the agencies
10 listed under section 111(c)(1) and coordinate the
11 planning and management of science, research,
12 technology, and operations related to science and
13 support services for wildland fire prediction, de-
14 tection, forecasting, modeling, resilience, re-
15 sponse, management, and assessments.

16 (B) INPUT.—The Working Group shall so-
17 licit input from non-Federal stakeholders.

18 (b) STRATEGIC PLAN.—

19 (1) IN GENERAL.—Not later than 18 months
20 after the date of the enactment of this Act, the Inter-
21 agency Committee shall prepare and submit to Con-
22 gress a strategic plan for interagency coordination,
23 research, and development that will improve the as-
24 sessment of fire environments and the understanding

1 *and prediction of wildland fires, associated smoke,*
2 *and the impacts of such fires and smoke, including—*

3 *(A) at the wildland-urban interface;*

4 *(B) on communities, buildings, and other*
5 *infrastructure;*

6 *(C) on ecosystem services and watersheds;*

7 *(D) social and economic impacts;*

8 *(E) by developing and encouraging the*
9 *adoption of science-based and cost-effective meas-*
10 *ures—*

11 *(i) to enhance community resilience to*
12 *wildland fires;*

13 *(ii) to address and mitigate the im-*
14 *pacts of wildland fires and associated*
15 *smoke; and*

16 *(iii) to restore natural fire regimes in*
17 *fire-dependent ecosystems;*

18 *(F) by improving the understanding and*
19 *mitigation of the effects of weather and long-term*
20 *drought on wildland fire risk, frequency, and se-*
21 *verity;*

22 *(G) through integrations of social and be-*
23 *havioral sciences in public safety fire commu-*
24 *nication;*

1 (H) by improving the forecasting and un-
2 derstanding of prescribed fires and the impacts
3 of such fires, and how those impacts may differ
4 from impacts of wildland fires that originate
5 from an unplanned ignition; and

6 (I) consideration and adoption of any rec-
7 ommendations included in the report required by
8 section 111(c).

9 (2) *PLAN ELEMENTS.*—The strategic plan re-
10 quired by paragraph (1) shall include the following:

11 (A) A description of the priorities and needs
12 of vulnerable populations.

13 (B) A description of high-performance com-
14 puting, visualization, and dissemination needs.

15 (C) A timeline and guidance for implemen-
16 tation of—

17 (i) an interagency data sharing system
18 for data relevant to performing fire assess-
19 ments and modeling fire risk and fire be-
20 havior;

21 (ii) a system for ensuring that the fire
22 prediction models of relevant agencies can
23 be interconnected; and

1 (iii) to the maximum extent prac-
2 ticable, any recommendations included in
3 the report required by section 111(c).

4 (D) A plan for incorporating and coordi-
5 nating research and operational observations, in-
6 cluding from infrared technologies, microwave,
7 radars, satellites, mobile weather stations, and
8 uncrewed aerial systems.

9 (E) A flexible framework to communicate
10 clear and simple fire event information to the
11 public.

12 (F) Integration of social, behavioral, risk,
13 and communication research to improve the fire
14 operational environment and societal informa-
15 tion reception and response.

16 **SEC. 110. FIRE WEATHER RATING SYSTEM.**

17 (a) *IN GENERAL.*—The Under Secretary shall, in col-
18 laboration with the Chief of the United States Forest Serv-
19 ice, the Director of the United States Geological Survey, the
20 Director of the National Park Service, the Administrator
21 of the Federal Emergency Management Agency, and such
22 stakeholders as the Under Secretary considers appro-
23 priate—

24 (1) evaluate the system used as of the date of the
25 enactment of this Act to rate the risk of wildfire; and

1 (2) *determine whether updates to that system are*
2 *required to ensure that the ratings accurately reflect*
3 *the severity of fire risk.*

4 (b) *UPDATE REQUIRED.—If the Under Secretary de-*
5 *termines under subsection (a) that updates to the system*
6 *described in paragraph (1) of such subsection are necessary,*
7 *the Under Secretary shall update that system.*

8 **SEC. 111. GOVERNMENT ACCOUNTABILITY OFFICE RE-**
9 **PORTS.**

10 (a) *REPORT ON FIRE WEATHER SERVICES PRO-*
11 *GRAM.—*

12 (1) *IN GENERAL.—Not later than 3 years after*
13 *the date of the enactment of this Act, the Comptroller*
14 *General of the United States shall submit to Congress*
15 *a report on the program established under section*
16 *102(a).*

17 (2) *ELEMENTS.—The report required by para-*
18 *graph (1) shall—*

19 (A) *evaluate the performance of the pro-*
20 *gram by establishing initial baseline capabilities*
21 *and tracking progress made toward fully*
22 *operationalizing the functions described in sec-*
23 *tion 102(b); and*

1 (B) include such other recommendations as
2 the Comptroller General determines are appro-
3 priate to improve the program.

4 (b) *REPORT ON INTERAGENCY BODIES FOR WILDFIRE*
5 *FORECASTING, PREVENTION, PLANNING, AND MANAGE-*
6 *MENT.*—Not later than 1 year after the date of the enact-
7 ment of this Act, the Comptroller General of the United
8 States shall submit to Congress a report that—

9 (1) identifies all Federal interagency bodies es-
10 tablished for the purpose of wildfire forecasting, pre-
11 vention, planning, and management (such as wildfire
12 councils, commissions, and workgroups), including—

13 (A) the Wildland Fire Leadership Council;

14 (B) the White House Wildfire Resilience
15 Interagency Group;

16 (C) the Wildland Fire Management Policy
17 Committee;

18 (D) the Wildland Fire Mitigation and Man-
19 agement Commission;

20 (E) the Joint Science Fire Program;

21 (F) the National Interagency Coordination
22 Center;

23 (G) the National Predictive Services Over-
24 sight Group;

1 (H) the Interagency Council for Advancing
2 Meteorological Services;

3 (I) the National Wildfire Coordinating
4 Group;

5 (J) the National Multi-Agency Coordinating
6 Group; and

7 (K) the Mitigation Framework Leadership
8 Group;

9 (2) evaluates the roles, functionality, and utility
10 of such interagency bodies;

11 (3) evaluates the progress, performance, and im-
12 plementation of such interagency bodies;

13 (4) assesses efficacy and identifies potential over-
14 lap and duplication of such interagency bodies in
15 carrying out interagency collaboration with respect to
16 wildfire prevention, planning, and management; and

17 (5) includes such other recommendations as the
18 Comptroller General determines are appropriate to
19 streamline and improve wildfire forecasting, preven-
20 tion, planning, and management, including rec-
21 ommendations regarding the interagency bodies for
22 which the addition of the Administration is necessary
23 to improve wildfire forecasting, prevention, planning,
24 and management.

1 (c) *REPORT ON INTERAGENCY COORDINATION.*—Not
2 later than 1 year after the date of the enactment of this
3 Act, the Comptroller General of the United States shall sub-
4 mit to Congress a report that identifies—

5 (1) the authorities, roles, and science and sup-
6 port services relating to wildland fire prediction, de-
7 tecton, forecasting, modeling, resilience, response,
8 management, and assessment provided by—

9 (A) the Department of Commerce, including
10 the Administration and the National Institute of
11 Standards and Technology;

12 (B) the National Aeronautics and Space
13 Administration;

14 (C) the Department of the Interior;

15 (D) the Department of Agriculture;

16 (E) the National Science Foundation;

17 (F) the Department of Energy;

18 (G) the Federal Emergency Management
19 Agency;

20 (H) the Department of Transportation;

21 (I) the Environmental Protection Agency;

22 and

23 (J) the Department of Defense; and

1 (2) *recommended areas in and mechanisms by*
2 *which the agencies listed under paragraph (1) could*
3 *support and improve—*

4 (A) *coordination between Federal agencies,*
5 *State and local governments, Indian tribes, Trib-*
6 *al organizations, the Native Hawaiian Commu-*
7 *nity, Native Hawaiian organizations, and other*
8 *relevant stakeholders, including through exam-*
9 *ination of possible public-private partnerships;*

10 (B) *research and development, including*
11 *interdisciplinary research, related to fire envi-*
12 *ronments, wildland fires, associated smoke, and*
13 *the impacts of such environments, fires, and*
14 *smoke, in furtherance of a coordinated inter-*
15 *agency effort to address wildland fire risk reduc-*
16 *tion;*

17 (C) *data management and stewardship, the*
18 *development and coordination of data systems*
19 *and computational tools, and the creation of a*
20 *centralized, integrated data collaboration envi-*
21 *ronment for agency data, including historical*
22 *data, relating to weather, fire environments,*
23 *wildland fires, associated smoke, and the impacts*
24 *of such environments, fires, and smoke, and the*

1 *assessment of wildland fire risk mitigation meas-*
2 *ures;*

3 *(D) interoperability, usability, and accessi-*
4 *bility of the scientific data, data systems, and*
5 *computational and information tools of the agen-*
6 *cies listed under paragraph (1);*

7 *(E) coordinated public safety communica-*
8 *tions relating to fire weather events, fire hazards,*
9 *and wildland fire and smoke risk reduction*
10 *strategies; and*

11 *(F) secure and accurate real-time data,*
12 *alerts, and advisories to wildland firefighters*
13 *and other decision support tools for wildland fire*
14 *incident command posts.*

15 *(d) REPORT ON AUTOMATED SURFACE OBSERVING*
16 *SYSTEM.—Not later than 4 years after the date of the enact-*
17 *ment of this Act, the Comptroller General of the United*
18 *States shall submit to Congress a report that—*

19 *(1) evaluates the functionality, utility, reli-*
20 *ability, and operational status of the automated sur-*
21 *face observing system across the Administration, the*
22 *Federal Aviation Administration, and the Depart-*
23 *ment of Defense;*

1 (2) *evaluates the progress, performance, and im-*
2 *plementation of the plan required by section*
3 *105(b)(1)(B);*

4 (3) *assesses the efficacy of cross-agency collabora-*
5 *tion and stakeholder engagement in carrying out the*
6 *plan and provides recommendations to improve such*
7 *activities;*

8 (4) *evaluates the operational continuity and reli-*
9 *ability of the system, particularly in remote and*
10 *rural areas and areas where system failure would*
11 *have the greatest negative impact to the community,*
12 *and provides recommendations to improve such con-*
13 *tinuity and reliability;*

14 (5) *assesses Federal coordination regarding the*
15 *remote automatic weather station network, air re-*
16 *source advisors, and other Federal observing assets*
17 *used for weather and climate modeling and response*
18 *activities, and provides recommendations for im-*
19 *provements; and*

20 (6) *includes such other recommendations as the*
21 *Comptroller General determines are appropriate to*
22 *improve the system.*

23 **SEC. 112. COOPERATION AND COORDINATION.**

24 (a) *COOPERATION.*—*Each Federal agency shall cooper-*
25 *ate and coordinate with the Under Secretary, as appro-*

1 *priate, in carrying out this title and the amendments made*
2 *by this title.*

3 *(b) COORDINATION.—*

4 *(1) IN GENERAL.—In meeting the requirements*
5 *under this title and the amendments made by this*
6 *title, the Under Secretary shall coordinate, and as ap-*
7 *propriate, establish agreements with Federal and ex-*
8 *ternal partners to fully use and leverage existing as-*
9 *sets, systems, networks, technologies, and sources of*
10 *data.*

11 *(2) INCLUSIONS.—Coordination carried out*
12 *under paragraph (1) shall include coordination*
13 *with—*

14 *(A) the agencies represented at the National*
15 *Interagency Fire Center;*

16 *(B) the Predictive Services Program of the*
17 *National Interagency Coordination Center;*

18 *(C) the National Wildfire Coordinating*
19 *Group; and*

20 *(D) relevant interagency bodies identified*
21 *in the report required by section 111(b).*

22 *(3) CONSULTATION.—In carrying out this sub-*
23 *section, the Under Secretary shall consult with Fed-*
24 *eral partners including—*

1 (A) *the National Aeronautics and Space*
2 *Administration;*

3 (B) *the Department of the Interior;*

4 (C) *the Federal Emergency Management*
5 *Agency;*

6 (D) *the National Science Foundation;*

7 (E) *the United States Geological Survey;*

8 (F) *the Department of Agriculture;*

9 (G) *the Environmental Protection Agency;*

10 (H) *the Department of Energy;*

11 (I) *the Department of Defense;*

12 (J) *the National Institute of Standards and*
13 *Technology; and*

14 (K) *such other departments and agencies as*
15 *the Under Secretary considers relevant.*

16 (c) *PROCESS FOR ANNUAL COORDINATION WITH NON-*
17 *FEDERAL ENTITIES.*—*Not later than 18 months after the*
18 *date of the enactment of this Act, the Under Secretary shall*
19 *develop and submit to the appropriate committees of Con-*
20 *gress a process for annual coordination with State and local*
21 *governments, Indian tribes, Tribal organizations, and the*
22 *Native Hawaiian Community to assist the development of*
23 *improved fire weather products and services.*

24 (d) *INTERNATIONAL COORDINATION.*—

1 (1) *IN GENERAL.*—*The Under Secretary may de-*
2 *velop collaborative relationships and agreements with*
3 *foreign partners and counterparts to address trans-*
4 *boundary issues pertaining to wildfires, fire weather,*
5 *smoke, air quality, and associated conditions and*
6 *hazards or other relevant meteorological phenomena,*
7 *as appropriate, to facilitate full and open exchange of*
8 *data and information.*

9 (2) *CONSULTATION.*—*In carrying out activities*
10 *under this subsection, the Under Secretary shall con-*
11 *sult with the Department of State and such other*
12 *Federal partners as the Under Secretary considers*
13 *relevant.*

14 **SEC. 113. GENERAL PROVISIONS.**

15 (a) *AVOIDANCE OF DUPLICATION.*—

16 (1) *IN GENERAL.*—*The Under Secretary shall en-*
17 *sure, to the greatest extent practicable, that activities*
18 *carried out under this title and the amendments made*
19 *by this title are not duplicative of activities supported*
20 *by other parts of the Administration or other relevant*
21 *Federal agencies.*

22 (2) *COORDINATION.*—*In carrying out activities*
23 *under this title and the amendments made by this*
24 *title, the Under Secretary shall coordinate with the*

1 *Administration and heads of other Federal research*
2 *agencies—*

3 *(A) to ensure those activities enhance and*
4 *complement, but do not constitute unnecessary*
5 *duplication of, efforts; and*

6 *(B) to ensure the responsible stewardship of*
7 *funds.*

8 *(b) RULE OF CONSTRUCTION.—Nothing in this title*
9 *may be construed—*

10 *(1) to satisfy any requirement for government-to-*
11 *government consultation with Indian tribes; or*

12 *(2) to affect or modify any treaty or other right*
13 *of any Indian tribe.*

14 **SEC. 114. AUTHORIZATION OF APPROPRIATIONS.**

15 *(a) IN GENERAL.—There are authorized to be appro-*
16 *priated to the Administration to carry out this title and*
17 *the amendments made by this title—*

18 *(1) \$15,000,000 for fiscal year 2025;*

19 *(2) \$20,000,000 for fiscal year 2026;*

20 *(3) \$27,000,000 for fiscal year 2027;*

21 *(4) \$36,000,000 for fiscal year 2028; and*

22 *(5) \$50,000,000 for fiscal year 2029.*

23 *(b) PROHIBITION.—None of the amounts authorized to*
24 *be appropriated by subsection (a) may be used to unneces-*
25 *sarily duplicate activities funded under title VIII of divi-*

1 *sion D of the Infrastructure Investment and Jobs Act (Pub-*
 2 *lic Law 117–58; 135 Stat. 1094).*

3 **TITLE II—USE OF ARTIFICIAL IN-**
 4 **TELLIGENCE BY NATIONAL**
 5 **OCEANIC AND ATMOSPHERIC**
 6 **ADMINISTRATION FOR**
 7 **WEATHER FORECASTING**

8 **SEC. 201. DEFINITIONS.**

9 *In this title:*

10 (1) *ADMINISTRATOR.*—*The term “Adminis-*
 11 *trator” means the Administrator of the National Oce-*
 12 *anic and Atmospheric Administration, also known as*
 13 *the Under Secretary of Commerce for Oceans and At-*
 14 *mosphere.*

15 (2) *ARTIFICIAL INTELLIGENCE.*—*The term “arti-*
 16 *ficial intelligence”—*

17 (A) *has the meaning given that term in sec-*
 18 *tion 5002 of the National Artificial Intelligence*
 19 *Initiative Act of 2020 (15 U.S.C. 9401); and*

20 (B) *includes machine learning, neural net-*
 21 *works, and natural language processing.*

22 (3) *ARTIFICIAL INTELLIGENCE WEATHER*
 23 *MODEL.*—*The term “artificial intelligence weather*
 24 *model” means a weather model based primarily on*
 25 *artificial intelligence technology to project future*

1 *Earth system conditions based on machine learning*
2 *using weather forecasting training datasets.*

3 (4) *CURATE.*—*The term “curate”, with respect to*
4 *a dataset, means—*

5 (A) *to collect and maintain the dataset—*

6 (i) *to ensure and document its quality;*

7 *and*

8 (ii) *to provide metadata on its prove-*
9 *nance; and*

10 (B) *to update the dataset periodically, as*
11 *appropriate and practicable.*

12 (5) *NUMERICAL WEATHER MODEL.*—*The term*
13 *“numerical weather model” means a weather model*
14 *based primarily on coupled Earth System processes*
15 *that uses numerical computation to forecast future*
16 *Earth system conditions.*

17 (6) *OBSERVATIONAL DATA.*—*The term “observa-*
18 *tional data” means data and metadata from actual*
19 *observations of environmental conditions, including*
20 *remote sensing and in situ platforms.*

21 (7) *SYNTHETIC DATA.*—*The term “synthetic*
22 *data” means data produced from a model or statis-*
23 *tical method in order to fill gaps in observational*
24 *data.*

1 (8) WEATHER FORECASTING TRAINING
2 DATASET.—The term “weather forecasting training
3 dataset”—

4 (A) means a dataset that contains contin-
5 uous global observational data and synthetic
6 data for Earth system variables relevant to
7 weather forecasting, aviation weather, marine
8 weather, and hydrology and water management;
9 and

10 (B) may include model reanalysis and fore-
11 casts initialized through a data assimilation sys-
12 tem.

13 **SEC. 202. PURPOSE.**

14 The purpose of this title is to—

15 (1) improve accuracy and timeliness of weather,
16 water, and space weather forecasts and effective dis-
17 semination of critical information;

18 (2) strengthen analytic capacity to inform re-
19 source deployments in response to and to mitigate
20 harm from weather, water, and space weather hazards
21 through the mandated exploration and use of artifi-
22 cial intelligence by Federal agencies;

23 (3) strengthen public-private partnerships to ac-
24 celerate adoption and outcomes of the use of artificial

1 *intelligence in response to and to mitigate such harm;*
2 *and*

3 *(4) strengthen public-private partnerships in*
4 *highly technical, high-risk, and high-reward fields re-*
5 *lated to weather, water, and space weather forecasts.*

6 **SEC. 203. EARTH SYSTEM FORECASTING AND INFORMATION**
7 **DELIVERY.**

8 *(a) TRAINING DATASETS.—Not later than 4 years after*
9 *the date of the enactment of this Act, the Administrator,*
10 *in consultation with the Secretary of Energy, the Adminis-*
11 *trator of the National Aeronautics and Space Administra-*
12 *tion, the Director of the National Science Foundation, the*
13 *Director of the National Center for Atmospheric Research,*
14 *the Interagency Council on Advancing Meteorological Serv-*
15 *ices, other appropriate Federal advisory committees as de-*
16 *termined by the Administrator, and such other technical ex-*
17 *perts as the Administrator considers appropriate, shall de-*
18 *velop and curate comprehensive weather forecasting train-*
19 *ing datasets with relevant Earth system data, quality infor-*
20 *mation, and metadata necessary for weather forecasting.*

21 *(b) USE OF EXISTING DATASETS.—In order to speed*
22 *the development of the weather forecasting training datasets*
23 *required under subsection (a), the Administrator shall as-*
24 *sess, and to the greatest extent practicable build on, existing*

1 *Earth system reanalysis datasets of the Federal Govern-*
2 *ment.*

3 (c) *ARTIFICIAL INTELLIGENCE WEATHER MODEL.—*

4 (1) *GLOBAL MODEL.—In carrying out this sec-*
5 *tion, the Administrator, in consultation with appro-*
6 *priate Federal advisory committees as determined by*
7 *the Administrator, may develop and test a global*
8 *weather model based on artificial intelligence tech-*
9 *nologies utilizing data of the National Oceanic and*
10 *Atmospheric Administration to the extent possible.*

11 (2) *REGIONAL AND LOCAL MODELS.—In addition*
12 *to a global weather model under paragraph (1), the*
13 *Administrator may experiment with regional and*
14 *local weather models based on artificial intelligence*
15 *technologies.*

16 (d) *USE OF ARTIFICIAL INTELLIGENCE TO DISSEMI-*
17 *NATE INFORMATION.—In coordination with an artificial*
18 *intelligence weather model or models developed under sub-*
19 *section (c), the Administrator may explore the use of artifi-*
20 *cial intelligence to enhance the dissemination of informa-*
21 *tion with respect to weather and evaluate the effectiveness*
22 *of communication for improved public understanding and*
23 *preparedness.*

24 (e) *CONTINUED SUPPORT FOR OBSERVATIONS, BASIC*
25 *RESEARCH, AND NUMERICAL WEATHER MODELS.—Not-*

1 *withstanding the requirements of this section, the Adminis-*
2 *trator shall continue to support and advance the activities*
3 *of the National Oceanic and Atmospheric Administration—*

4 (1) *to collect and acquire traditional and novel*
5 *observational data relevant for artificial intelligence*
6 *and numerical weather, water, and space weather*
7 *forecasting;*

8 (2) *to advance research on the Earth system and*
9 *numerical weather model forecasting;*

10 (3) *to develop and advance numerical Earth sys-*
11 *tem modeling for predictions;*

12 (4) *to develop weather model data post-proc-*
13 *essing techniques; and*

14 (5) *to improve data assimilation techniques.*

15 (f) *OBSERVING SYSTEM COVERAGE.—In carrying out*
16 *this section, the Administrator may evaluate the use of cost*
17 *functions in data-driven machine learning model training*
18 *to balance inequities in observing system coverage and data*
19 *poor areas.*

20 (g) *UNCERTAINTY QUANTIFICATION RESEARCH.—In*
21 *carrying out this section, the Administrator shall develop*
22 *uncertainty quantification research, as well as trustworthy*
23 *artificial intelligence methods and processes for the purpose*
24 *of accurate environmental risk and hazard communications*
25 *of probabilistic predictions and forecasts.*

1 (h) *REPORT.*—Not later than 2 years after the date
2 of the enactment of this Act, and not less frequently than
3 every 2 years thereafter through 2035, the Administrator
4 shall submit to the Committee on Commerce, Science, and
5 Transportation of the Senate and the Committee on
6 Science, Space, and Technology of the House of Representa-
7 tives a report on the activities conducted under this section.

8 **SEC. 204. ADVANCED ARTIFICIAL INTELLIGENCE APPLICA-**
9 **TIONS FOR WEATHER AND INFORMATION DE-**
10 **LIVERY.**

11 *The Administrator shall explore advanced applications*
12 *of artificial intelligence to improve weather forecasts and*
13 *information delivery, such as by—*

14 (1) *improving data assimilation;*

15 (2) *accounting for coupled Earth system proc-*
16 *esses;*

17 (3) *using artificial intelligence weather models to*
18 *generate ensemble forecasts to more accurately assess*
19 *flow-dependent forecast uncertainties; and*

20 (4) *improving impact-based decision support to*
21 *diverse users and communities for greater societal*
22 *benefits based on those forecasts.*

1 **SEC. 205. TECHNICAL ASSISTANCE ON USE OF ARTIFICIAL**
2 **INTELLIGENCE WEATHER, WATER, AND**
3 **SPACE WEATHER MODELS.**

4 (a) *IN GENERAL.*—*The Administrator shall provide—*

5 (1) *technical assistance, data access, and support*
6 *for forecasters, scientists, social scientists, and engi-*
7 *neers to test and evaluate the use and effectiveness of*
8 *the artificial intelligence models of the National Oce-*
9 *anic and Atmospheric Administration, including*
10 *within the testbeds of the Administration;*

11 (2) *best practices on providing forecasts based on*
12 *outputs from artificial intelligence weather models*
13 *and numerical weather models, or a combination*
14 *thereof; and*

15 (3) *support for emergency managers to make*
16 *operational decisions based on outputs from artificial*
17 *intelligence weather models and numerical weather*
18 *models, or a combination thereof.*

19 (b) *ASSESSMENT OF WEATHER MODELS.*—

20 (1) *IN GENERAL.*—*The Administrator shall sup-*
21 *port the development of a common framework for the*
22 *assessment of numerical weather models and artificial*
23 *intelligence weather models by comparing model out-*
24 *put and observational data over a period of time in*
25 *the past through the use of such methodologies as the*
26 *Administrator considers appropriate.*

1 (2) *BEST PRACTICES.*—*In carrying out this sub-*
2 *section, the Administrator may develop and dissemi-*
3 *nate best practices in collaboration with—*

4 (A) *the National Institute of Standards and*
5 *Technology, the National Aeronautics and Space*
6 *Administration, the National Science Founda-*
7 *tion, and the Department of Energy;*

8 (B) *academic and research institutions; and*

9 (C) *the private sector.*

10 (c) *TECHNICAL ASSISTANCE.*—*In carrying out this*
11 *section, the Administrator shall provide technical assist-*
12 *ance, best practices, and support required under subsection*
13 *(a) through the National Weather Service of the National*
14 *Oceanic and Atmospheric Administration.*

15 (d) *INDEPENDENT STUDY ON THE IMPACTS OF ARTIFI-*
16 *CIAL INTELLIGENCE WEATHER, WATER, AND SPACE*
17 *WEATHER MODELS.*—*The Administrator may enter into*
18 *an agreement with the National Academy of Sciences or an-*
19 *other entity as determined appropriate by the Adminis-*
20 *trator to assess the impacts of artificial intelligence weather*
21 *models on the weather enterprise and make recommenda-*
22 *tions to improve the integration of such models in oper-*
23 *ational forecasting.*

1 **SEC. 206. FIRE ENVIRONMENT MODELING PROGRAM.**

2 (a) *IN GENERAL.*—Not later than 1 year after the date
3 of the enactment of this Act, the Administrator, in coordi-
4 nation with the Secretary of the Interior, the Secretary of
5 Agriculture, and the United States Fire Administrator, and
6 in consultation with the Administrator of the National Aer-
7 onautics and Space Administration, the Secretary of En-
8 ergy, the Director of the National Science Foundation, the
9 Director of the National Center for Atmospheric Research,
10 appropriate Federal advisory committees as determined by
11 the Administrator, and such other technical experts as the
12 Administrator considers appropriate, shall develop a pro-
13 gram to use artificial intelligence to analyze available data
14 on the built and natural environments—

15 (1) *to provide forecasts, data, and information*
16 *on the impacts of such environments on the lives and*
17 *livelihoods of the people of the United States, inte-*
18 *grating social science informed research and develop-*
19 *ment;*

20 (2) *to detect wildfires as early as possible; and*

21 (3) *to forecast wildland and built environment*
22 *fire potential, fire propagation, and possible impacts*
23 *based on an analysis of the elements influencing fire*
24 *danger, fire behavior, weather conditions, terrain, and*
25 *observations of the fire environment.*

1 (b) *TRAINING DATASET.*—*In carrying out this section,*
2 *Federal, State, Tribal, and local land management agencies*
3 *may gather observational data and synthetic data on the*
4 *built and natural environments collected across the United*
5 *States to develop and curate a related artificial intelligence-*
6 *ready training dataset for purposes of training the artifi-*
7 *cial intelligence technology used in furtherance of this sec-*
8 *tion.*

9 (c) *DATA ACQUISITION.*—*In carrying out this section,*
10 *the Administrator may contract to acquire relevant data.*

11 (d) *WEATHER INTEGRATION.*—*In carrying out this*
12 *section, the Administrator shall integrate outputs from*
13 *weather and other environmental models and data.*

14 **SEC. 207. PARTNERSHIPS FOR TRANSFORMATIONAL INNO-**
15 **VATION.**

16 (a) *IN GENERAL.*—*The Administrator shall explore*
17 *novel structures for partnerships with private, academic,*
18 *and international entities for research and development of*
19 *transformative innovation in weather forecasting and other*
20 *environmental forecasts—*

21 (1) *to further the understanding of weather,*
22 *water, and space weather, and their societal impact;*

23 (2) *to advance the science of weather and water*
24 *forecasting, including seasonal and subseasonal fore-*
25 *casting; and*

1 (3) to develop, evaluate, and transition artificial
2 intelligence weather, water, and hazard forecasting
3 applications to operations.

4 (b) CO-INVESTMENT.—Subject to applicable law, the
5 Administrator shall consider and adopt novel co-investment
6 strategies with the private academic and international sec-
7 tors to carry out subsection (a), including—

8 (1) non-Federal Government contributions to re-
9 source and support high-risk, high-return research
10 and development in environmental forecasting, data
11 science, artificial intelligence, and related fields;

12 (2) shared rights to intellectual property from re-
13 search and development activities under this section;
14 and

15 (3) other approaches to sharing resources and re-
16 sults under this section.

17 **SEC. 208. AVAILABILITY OF DATASET.**

18 (a) IN GENERAL.—The Administrator shall develop
19 and implement a plan to make available to the public, at
20 no cost and subject to applicable law and policy, the fol-
21 lowing:

22 (1) Operational artificial intelligence weather
23 models developed by the National Oceanic and Atmos-
24 pheric Administration.

1 (2) *Artificial intelligence weather models that*
2 *are not operational models, including experimental*
3 *and developmental models, as the Administrator de-*
4 *termines appropriate.*

5 (3) *Applicable information and documentation*
6 *for artificial intelligence weather models described in*
7 *paragraphs (1) and (2), including a description of in-*
8 *tended model outputs.*

9 (4) *Subject to section 210, all data owned by the*
10 *Federal Government and data that the Administrator*
11 *has the legal right to redistribute that are associated*
12 *with artificial intelligence weather models made*
13 *available to the public pursuant to the plan and used*
14 *in operational forecasting by the Administration, in-*
15 *cluding—*

16 (A) *relevant metadata; and*

17 (B) *data used for operational artificial in-*
18 *telligence weather models used by the Adminis-*
19 *tration.*

20 (b) *ACCOMMODATIONS.—In developing and imple-*
21 *menting the plan under subsection (a), the Administrator*
22 *may make such accommodations as the Administrator con-*
23 *siders appropriate to ensure that the public release of any*
24 *artificial intelligence weather model, information, docu-*

1 *mentation, or data pursuant to the plan does not jeop-*
2 *ardize—*

3 *(1) national security;*

4 *(2) intellectual property or redistribution rights,*
5 *including under titles 17 and 35, United States Code;*

6 *(3) any trade secret or commercial or financial*
7 *information subject to section 552(b)(4) of title 5,*
8 *United States Code;*

9 *(4) any models or data that are otherwise re-*
10 *stricted by contract or other written agreement; or*

11 *(5) the mission of the Administration to protect*
12 *lives and property.*

13 *(c) REPORT.—*

14 *(1) IN GENERAL.—Not later than 1 year after*
15 *the date of the enactment of this Act, the Adminis-*
16 *trator shall submit to Congress a report, in both un-*
17 *classified and classified form, regarding the risks to*
18 *the economic and intellectual security of the United*
19 *States from foreign countries of concern through ac-*
20 *cess by those countries to weather data in the United*
21 *States.*

22 *(2) ELEMENTS.—The report required under*
23 *paragraph (1) shall include—*

24 *(A) a full analysis of the national, intellec-*
25 *tual, and economic security implications for the*

1 *United States with respect to intellectual prop-*
2 *erty theft or cyber or human espionage through*
3 *access to weather data; and*

4 *(B) conclusions of the Administrator and*
5 *recommendations for legislative and administra-*
6 *tive action, if any.*

7 (3) *FOREIGN COUNTRY OF CONCERN DEFINED.—*
8 *In this subsection, the term “foreign country of con-*
9 *cern” has the meaning given that term in section*
10 *9901 of the William M. (Mac) Thornberry National*
11 *Defense Authorization Act for Fiscal Year 2021 (15*
12 *U.S.C. 4651).*

13 **SEC. 209. RETENTION OF FEDERAL GOVERNMENT EXPER-**
14 **TISE.**

15 *Subject to applicable law, the Administrator shall con-*
16 *sider novel methods to recruit, retrain, and retain expert*
17 *personnel to support activities under this title, including*
18 *by—*

19 *(1) using methods to be competitive with salaries*
20 *outside the Federal Government;*

21 *(2) developing staff exchange programs and*
22 *training programs; and*

23 *(3) leveraging diverse hiring strategies.*

1 **SEC. 210. PROTECTION OF NATIONAL SECURITY INTER-**
 2 **ESTS.**

3 (a) *IN GENERAL.*—Notwithstanding any other provi-
 4 sion of this title, the Administrator, in consultation with
 5 the Secretary of Defense, as appropriate, may withhold
 6 models or data used under this title if the Administrator
 7 determines doing so to be necessary to protect the national
 8 security interests of the United States.

9 (b) *RULE OF CONSTRUCTION.*—Nothing in this title
 10 shall be construed to supersede any other provision of law
 11 governing the protection of the national security interests
 12 of the United States.

13 **SEC. 211. AUTHORIZATION OF APPROPRIATIONS.**

14 *There are authorized to be appropriated such sums as*
 15 *are necessary to carry out this title.*

16 **TITLE III—NATIONAL MESONET**
 17 **PROGRAM**

18 **SEC. 301. NATIONAL MESONET PROGRAM.**

19 (a) *PROGRAM.*—The Under Secretary shall maintain
 20 the National Mesonet Program (referred to in this section
 21 as the “Program”), which shall—

22 (1) *obtain observations to improve under-*
 23 *standing of and forecast capabilities for atmospheric,*
 24 *drought, fire, and water events, with a prioritization*
 25 *on leveraging available commercial, academic, and*
 26 *other non-Federal Government environmental data to*

1 *enhance coordination across the private, public, and*
2 *academic sectors of the weather enterprise in the*
3 *United States;*

4 (2) *establish means to integrate greater density*
5 *and more types of environmental observations into the*
6 *Program on an annual basis, including by encour-*
7 *aging local and regional networks of environmental*
8 *monitoring stations, in situ sensor networks, includ-*
9 *ing soil moisture and ground-based profilers, and sat-*
10 *ellite constellations, to participate in the Program;*
11 *and*

12 (3) *establish memoranda of understanding with*
13 *networks outside of the scope of the Program in fur-*
14 *therance of this section.*

15 (b) *PROGRAM ELEMENTS.—In carrying out the Pro-*
16 *gram, the Under Secretary shall—*

17 (1) *increase data density by—*

18 (A) *improving and increasing the quantity*
19 *and density of environmental observations used*
20 *by the Administration and the National Weather*
21 *Service to support baseline forecasts, including*
22 *nowcasts, warnings, and forecasts with increased*
23 *resolution that protect individuals, businesses,*
24 *agricultural production, food security, military,*
25 *and government agencies in the United States,*

1 *and enabling such individuals and entities to*
2 *operate in a safe, efficient, and orderly manner;*

3 *(B) yielding increased quantities of bound-*
4 *ary-layer data to improve numerical weather*
5 *prediction performance, including in subseasonal*
6 *to seasonal timescales;*

7 *(C) identifying available terrestrial or ma-*
8 *rine environmental data, or quantifiable gaps in*
9 *such data, to improve the understanding of air-*
10 *sea interactions; and*

11 *(D) supporting the National Weather Serv-*
12 *ice in reaching its target of a 30-minute warn-*
13 *ing time for severe weather through better pre-*
14 *dictive model algorithms driven by increasingly*
15 *effective observations;*

16 *(2) monitor local meteorological conditions by—*

17 *(A) acquiring soil and moisture data to*
18 *monitor soil moisture, vegetation water content,*
19 *and moisture loss from evaporation, in support*
20 *of operational forecasting, the National Inte-*
21 *grated Drought Information System, and local*
22 *commercial, agricultural, and emergency man-*
23 *agement needs;*

24 *(B) supporting the National Coordinated*
25 *Soil Moisture Monitoring Network in acquiring*

1 *soil moisture and related data to support the de-*
2 *velopment of decision-support products and other*
3 *information services; and*

4 *(C) expanding and enhancing environ-*
5 *mental observational networks in the roadway*
6 *environment to provide real-time road weather*
7 *and surface conditions for surface transportation*
8 *and related economic sectors; and*

9 *(3) administer the Program by—*

10 *(A) obtaining data in furtherance of this*
11 *section only when demonstrably cost effective and*
12 *meeting or exceeding data quality standards*
13 *available to the National Oceanic and Atmos-*
14 *pheric Administration (referred to in this section*
15 *as the “Administration”);*

16 *(B) subject to the requirement in subpara-*
17 *graph (A), leveraging existing networks of envi-*
18 *ronmental monitoring stations, including supple-*
19 *mental radar systems, to increase the quantity*
20 *and density of environmental observations and*
21 *data available to the Administration;*

22 *(C) providing the critical technical and ad-*
23 *ministrative infrastructure needed to facilitate*
24 *rapid integration and sustained use of new and*
25 *emerging networks of environmental monitoring*

1 *stations anticipated in coming years from non-*
2 *Federal Government sources;*

3 *(D) coordinating with existing data devel-*
4 *oped by the Administration and used for fore-*
5 *casts, including data from the National Environ-*
6 *mental Satellite, Data, and Information Service,*
7 *the Integrated Ocean Observing System, the*
8 *Global Ocean Monitoring and Observing Pro-*
9 *gram, the National Data Buoy Center, and the*
10 *National Ocean Service; and*

11 *(E) identifying and communicating to the*
12 *Office of Oceanic and Atmospheric Research and*
13 *other partners priorities of research and develop-*
14 *ment needed to advance observations in the Pro-*
15 *gram.*

16 *(c) FINANCIAL AND TECHNICAL ASSISTANCE.—*

17 *(1) IN GENERAL.—In furtherance of the Pro-*
18 *gram, in a fiscal year, the Under Secretary may*
19 *award not less than 15 percent of the amount appro-*
20 *priated for the Program for that fiscal year for finan-*
21 *cial assistance to State, Tribal, private, and academic*
22 *entities seeking to build, expand, or upgrade equip-*
23 *ment and capacity of mesonet systems.*

24 *(2) OTHER FEDERAL AWARDS.—Financial as-*
25 *sistance under this subsection may be made in coordi-*

1 *nation with and in addition to awards from other*
2 *Federal agencies.*

3 (3) *AGREEMENTS.—Before receiving financial*
4 *assistance under paragraph (1), the State, Tribal,*
5 *private, or academic entity seeking financial assist-*
6 *ance under this subsection shall enter into an agree-*
7 *ment with the Under Secretary to provide data to the*
8 *Program, subject to verification by the Program of the*
9 *relative operational value and evaluation of the cost*
10 *of such data, for use in weather prediction, severe*
11 *weather warnings, and emergency response.*

12 (4) *ASSISTANCE AND OTHER SUPPORT.—The*
13 *Under Secretary may provide—*

14 (A) *technical assistance, project implemen-*
15 *tation support, and guidance to State, Tribal,*
16 *private, and academic entities seeking financial*
17 *assistance under this subsection; and*

18 (B) *technical and financial assistance for*
19 *maintenance of monitoring stations in underrep-*
20 *resented or remote areas of the country where it*
21 *is financially unfeasible for 1 entity to operate*
22 *such stations without such assistance.*

23 (5) *TERMS.—In providing financial assistance*
24 *under this subsection, the Under Secretary shall es-*
25 *tablish terms to ensure that each State, Tribal, pri-*

1 *vate, or academic entity that receives financial assist-*
2 *ance under this subsection receives a level of support*
3 *commensurate with the quality and other characteris-*
4 *tics of the data to be provided.*

5 (6) *DETERMINATION.*—*A State, Tribal, private,*
6 *or academic entity may only receive financial assist-*
7 *ance under this subsection if the Under Secretary de-*
8 *termines such entity will provide sufficient financial*
9 *support from non-Federal Government sources and*
10 *fully maintain the quality of the mesonet system and*
11 *associated data standards required by the Program*
12 *for a period of not less than 5 years.*

13 (7) *PRIORITY.*—*The Under Secretary shall*
14 *prioritize providing assistance under paragraph (1)*
15 *to not fewer than 1 entity in a remote area or an*
16 *area that has a lack of environmental monitoring sta-*
17 *tions described in subsection (a)(2).*

18 (d) *ADVISORY COMMITTEE.*—

19 (1) *IN GENERAL.*—*The Under Secretary shall en-*
20 *sure the Program has an active advisory committee of*
21 *subject matter experts to make recommendations to*
22 *the Administration on the identification, implementa-*
23 *tion, procurement, and tracking of data needed to*
24 *supplement the Program, and recommend improve-*
25 *ments, expansions, and acquisitions of available data.*

1 (2) *DESIGNATION OF EXISTING COMMITTEE.*—
2 *The Under Secretary may designate an existing advi-*
3 *sory committee, subcommittee, or working group of*
4 *the Federal Government, including the Science Advi-*
5 *sory Board of the Administration, to carry out the re-*
6 *quirement under paragraph (1).*

7 (3) *ACADEMIC EXPERTISE.*—*The advisory com-*
8 *mittee under paragraph (1), in consultation with the*
9 *Program, shall include expertise from 1 or more insti-*
10 *tutions of higher education (as defined in section 101*
11 *of the Higher Education Act of 1965 (20 U.S.C.*
12 *1001)) to assist the advisory committee to identify,*
13 *evaluate, and recommend potential partnerships, re-*
14 *gional or subregional consortia, and collaborative*
15 *methods that would expand the number of partici-*
16 *pants and volume of data in the Program.*

17 (e) *REGULAR BRIEFINGS.*—

18 (1) *IN GENERAL.*—*Not less frequently than an-*
19 *nually through 2035, the Under Secretary shall pro-*
20 *vide regular briefings to the Committee on Commerce,*
21 *Science, and Transportation of the Senate and the*
22 *Committee on Science, Space, and Technology of the*
23 *House of Representatives on all activities under the*
24 *Program.*

1 (2) *BRIEFING CONTENT.*—*Each briefing required*
2 *under paragraph (1) shall include information relat-*
3 *ing to the following:*

4 (A) *Efforts to implement the activities de-*
5 *scribed in subsection (b).*

6 (B) *Any financial or technical assistance*
7 *provided pursuant to subsection (c).*

8 (C) *Efforts to address recommendations re-*
9 *ceived from the advisory committee under sub-*
10 *section (d), if any.*

11 (D) *The potential need and associated bene-*
12 *fits of a coastal and ocean mesonet, or other*
13 *emerging areas of weather data needs.*

14 (E) *Progress toward eliminating gaps in*
15 *weather observation data in States and regions*
16 *of the United States.*

17 (F) *Any other topic the Under Secretary de-*
18 *termines relevant.*

19 (f) *DEFINITIONS.*—*In this section, the terms “sea-*
20 *sonal”, “State”, “subseasonal”, “Under Secretary”, and*
21 *“weather enterprise” have the meanings given those terms*
22 *in section 2 of the Weather Research and Forecasting Inno-*
23 *vation Act of 2017 (15 U.S.C. 8501).*

1 *(g) AUTHORIZATION OF APPROPRIATIONS.—There are*
2 *authorized to be appropriated to the Under Secretary such*
3 *sums as may be necessary to carry out this section.*

Calendar No. 514

118TH CONGRESS
2^D SESSION
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A BILL

To establish and maintain a coordinated program within the National Oceanic and Atmospheric Administration that improves wildfire, fire weather, fire risk, and smoke related forecasting, detection, modeling, observations, and service delivery, and to address growing needs in the wildland-urban interface, and for other purposes.

SEPTEMBER 17, 2024

Reported with an amendment