118TH CONGRESS 2D SESSION

# H.R.4866

## AN ACT

- To direct the Administrator of the National Oceanic and Atmospheric Administrator to improve fire weather and fire environment forecasting, detection, and local collaboration, 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,

### SECTION 1. SHORT TITLE.

- 2 This Act may be cited as the "Fire Weather Develop-
- 3 ment Act of 2024".

### 4 SEC. 2. FIRE WEATHER FORECASTING AND DETECTION.

- 5 (a) Establishment.—The Administrator of the Na-
- 6 tional Oceanic and Atmospheric Administration, shall es-
- 7 tablish a program (in this Act referred to as the "Pro-
- 8 gram") to improve fire weather and fire environment fore-
- 9 casting, detection, and delivery of products or services
- 10 through collaboration with Federal and State agencies or
- 11 departments, local emergency mangers, and relevant enti-
- 12 ties.
- 13 (b) Goals.—The goals of the Program shall be to
- 14 develop and improve accurate fire weather and fire envi-
- 15 ronment forecasts and warnings in order to reduce loss
- 16 of life, reduce injuries, protect property, and reduce dam-
- 17 age to the economy from wildfires. The Program shall seek
- 18 to improve the assessment of fire weather and fire environ-
- 19 ments, the understanding and prediction of wildfires, and
- 20 the communications regarding such assessments with
- 21 State and local emergency officials in a timely and stream-
- 22 lined fashion, with a focus on improving the following:
- 23 (1) The prediction of ignition, intensification
- and spread of wildfires.
- 25 (2) The observation and monitoring of fire
- weather and fire environments.

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

- 1 ministration shall solicit and take into consideration input
- 2 from the weather industry, such academic entities as the
- 3 Administrator considers appropriate, and other relevant
- 4 stakeholders.
- 5 (d) ACTIVITIES.—To achieve the goals specified in
- 6 subsection (b), the Administrator of the National Oceanic
- 7 and Atmospheric Administration may conduct research,
- 8 development, testing, demonstration, and operational
- 9 transition activities related to fire weather and fire envi-
- 10 ronments, including regarding the following:
- 11 (1) Tools and services to inform, support, and
- 12 complement active land management, local emer-
- gency personnel, the United States Forest Service,
- and State, local, and Tribal entities during their re-
- sponse and mitigation efforts.
- 16 (2) Sensing technologies, such as infrared,
- 17 microwave, and active sensors suitable for potential
- deployment on spacecraft, aircraft, and unmanned
- 19 aircraft systems, to improve the monitoring and
- 20 forecasting of fire fuel and active wildfires, wildfire
- behavior models and forecasts, mapping efforts, and
- the prediction of wildfires and the impacts of such.
- 23 (3) Grid-based assessments and outlooks of fuel
- 24 moisture and danger levels.

- 1 (4) Social and behavior sciences related to fire 2 weather and fire environment warning products.
  - (5) Advanced satellite detection products coupled with atmosphere and fire weather modeling systems.
  - (6) Education and training to expand the number of students and researchers in areas of study and research related to wildfires, fire weather, and fire environments.
  - (7) Modeling systems to link long-term climate predictions to localized or general land management decisions.
  - (8) Communication and outreach to communities, energy utilities, owners and operators of critical infrastructure, and other relevant stakeholders regarding fire weather and fire environment risk.
  - (9) Stewardship and dissemination, to the extent practicable, of National Oceanic and Atmospheric Administration scientific data and related products and services in formats meeting shared standards to enhance the interoperability, usability, and accessibility of such data in order to better meet the needs of the National Oceanic and Atmospheric Administration, other Federal agencies, and relevant stakeholders.

1	(10) Improvement of spatial and temporal reso-
2	lution observations.
3	(11) Any other topic or activity the Adminis-
4	trator determines relevant.
5	(e) Novel Tools for Monitoring and Pre-
6	DICTION.—The Administrator of the National Oceanic
7	and Atmospheric Administration, in consultation with the
8	heads of the agencies specified in section 3, or other ap-
9	propriate stakeholders, including commercial partners,
10	shall develop novel tools and technologies to support the
11	activities of the Program and which may be applied to
12	broader wildland fire research, monitoring, and mitigation
13	activities, as practicable and appropriate.
14	(f) Extramural Research.—The Administrator of
15	the National Oceanic and Atmospheric Administration
16	shall collaborate with and support the non-Federal
17	wildland fire research community, which includes institu-
18	tions of higher education, private sector entities, non-
19	governmental organizations, and other relevant stake-
20	holders, by making funds available through competitive
21	grants, contracts, and cooperative agreements.
22	(g) Commercial Data.—
23	(1) In general.—Not later than one year
24	after the date of the enactment of this Act, the Ad-
25	ministrator of the National Oceanic and Atmos-

- 1 pheric Administration, in consultation with the 2 heads of other Federal agencies and relevant stake-3 holders, may enter into contracts with one or more private sector entities to obtain additional airborne 5 and space-based data and observations that may en-6 hance or supplement the understanding, monitoring, 7 and prediction, of fire weather and fire environ-8 ments, and the relevant Program activities under this section. 9
  - (2) Consultation.—In carrying out activities under paragraph (1), the Administrator of the National Oceanic and Atmospheric Administration shall consult with private sector entities through the National Advisory Committee on Wildfires under section 4 to identify needed tools and data that can be best provided by National Oceanic and Atmospheric Administration satellites and are most beneficial to wildfire and smoke detection and monitoring.
- 19 (h) NONDUPLICATION.—To the maximum extent 20 practicable, the Administrator of the National Oceanic 21 and Atmospheric Administration shall consult with the 22 National Interagency Fire Center, including the Joint Fire 23 Science Program, to avoid duplication of activities under 24 this section and ensure the Administration's focus on

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1	unique research activities best suited for transition to op-
2	erations.
3	(i) Unmanned Aircraft Systems.—
4	(1) In General.—The Administrator of the
5	National Oceanic and Atmospheric Administration
6	shall—
7	(A) assess the role and potential benefits
8	of unmanned aircraft systems to improve data
9	collection in support of fire weather and fire en-
10	vironment modeling, meteorological observa-
11	tions, predictions, and forecasts;
12	(B) identify objectives for testing such sys-
13	tems' use for obtaining fire weather and fire en-
14	vironment observations, and other relevant ac-
15	tivities; and
16	(C) transition unmanned aircraft systems
17	technologies from research to operations as the
18	Administrator considers appropriate.
19	(2) Briefing.—Not later than 270 days after
20	the date of enactment of the Act, the Administrator
21	of the National Oceanic and Atmospheric Adminis-
22	tration shall brief the appropriate committees of
23	Congress on the activities under paragraph (1).
24	(3) Pilot programs.—Not later than 18
25	months after the date of the enactment of this Act,

- the Administrator of the National Oceanic and Atmospheric Administration may conduct pilot programs of unmanned aircraft systems for fire weather and fire environment observations, including relating to the following:
  - (A) Testing of unmanned aircraft systems in approximations of real-world scenarios.
  - (B) Assessment of the utility of meteorological data collected from fire response and assessment aircraft.
  - (C) Input into appropriate models of collected data to predict fire behavior, including coupled atmosphere and fire models.
  - (D) Collection of best management practices for deployment of unmanned aircraft systems for fire weather and fire environment observations.

### (4) Prohibition.—

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

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1	(B) Exemption.—The prohibition under
2	subparagraph (A) shall not apply to the Admin-
3	istrator of the National Oceanic and Atmos-
4	pheric Administration if the Administrator de-
5	termines, in consultation with the Secretary of
6	Homeland Security, that the procurement of an
7	unmanned aircraft system is necessary for the
8	sole purpose of marine or atmospheric science
9	or management.
10	(C) WAIVER.—The Administrator of the
11	National Oceanic and Atmospheric Administra-
12	tion may waive the prohibition under subpara-
13	graph (A) on a case-by-case basis—
14	(i) with the approval of the Secretary
15	of Homeland Security; and
16	(ii) upon written or electronic notifica-
17	tion to appropriate committees of Congress
18	not later than 30 days after any such waiv-
19	er.
20	(5) Airspace operations system.—The Ad-
21	ministrator of the National Oceanic and Atmos-
22	pheric Administration, in cooperation with the Ad-
23	ministrator of the National Aeronautics and Space
24	Administration, shall utilize the capabilities of un-

manned aircraft systems as appropriate for fire

- weather and fire environment observations, and may
  use a wildfire airspace operations system that accounts for piloted aircraft, unmanned aircraft systems, and other new and emerging capabilities after
  such airspace operations system is developed and determined ready for operational use by the Administrator of the National Aeronautics and Space Administration.
- 9 (6) AUTHORIZATION OF APPROPRIATIONS.—
  10 There is authorized to be appropriated \$5,000,000
  11 for fiscal year 2025 to carry out this subsection.
  - (j) DEFINITIONS.—In this section:

- (1) APPROPRIATE COMMITTEES OF CONGRESS.—The term "appropriate committees of Congress" means the Committee on Science, Space, and Technology and the Committee on Homeland Security of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Homeland Security and Governmental Affairs of the Senate.
  - (2) CRITICAL INFRASTRUCTURE.—The term "critical infrastructure" has the meaning given such term in section 1016(e) of Public Law 107–56 (42 U.S.C. 5195c(e)).

- 1 (3) FOREIGN COUNTRY OF CONCERN.—The
  2 term "foreign country of concern" has the meaning
  3 given such term in section 9901 of the William M.
  4 (Mac) Thornberry National Defense Authorization
  5 Act for Fiscal Year 2021 (15 U.S.C. 4651).
  - (4) Institution of Higher Education.—The term "institution of higher education" has the meaning given such term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).
- 10 (5) UNMANNED AIRCRAFT SYSTEM.—The term
  11 "unmanned aircraft system" has the meaning given
  12 such term in section 44801 of title 49, United
  13 States Code.
- 14 (6) WEATHER INDUSTRY.—The term "weather 15 industry" has the meaning given such term in sec-16 tion 2 of the Weather Research and Forecasting In-17 novation Act of 2017 (15 U.S.C. 8501).
- 18 SEC. 3. INTERAGENCY COORDINATING COMMITTEE ON WILDFIRES.
- 20 (a) ESTABLISHMENT.—Not later than 90 days after 21 the date of the enactment of this Act, the Director of the 22 Office of Science and Technology Policy shall establish an 23 interagency coordinating committee to be known as the 24 "Interagency Coordinating Committee on Wildfires" (in 25 this section referred to as the "Committee"). The chair

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- of the Committee shall be the Administrator of the National Oceanic and Atmospheric Administration. 3 (b) Purpose.—The Committee shall coordinate the development of accurate and timely wildfire forecasting, 5 detection, monitoring, and delivery of related products or services that best assist State and local emergency officials while avoiding duplication of activities. 8 (c) Membership.—In addition to the chair, the Committee shall be composed of the heads or appropriate 10 designees of the following program agencies: 11 (1) The Federal Emergency Management Agen-12 cy. 13 (2) The United States Fire Administration. 14 (3) The United States Forest Service. 15 (4) The National Aeronautics and Space Ad-16 ministration. 17 (5) The Department of the Interior. 18 (6) The Department of Agriculture. 19 (7) The United States Geological Survey.
- (9) Any other Federal department or agency
   the Director of the Office of Science and Technology

(8) The Office of Science and Technology Pol-

24 Policy considers appropriate.

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- 1 (d) STRATEGIC PLAN.—Not later than one year after
- 2 the date of the enactment of this Act, the Committee shall
- 3 submit to Congress a strategic plan for the Program that
- 4 includes the following:
- 5 (1) A description of short-term, mid-term, and
- 6 long-term objectives to achieve the purpose specified
- 7 in subsection (b).
- 8 (2) A description of how agencies specified in
- 9 subsection (c) will collaborate with stakeholders and
- take into account stakeholder needs and rec-
- ommendations in developing such objectives.
- 12 (3) A description of existing and new observa-
- tional and data infrastructure needed to accomplish
- such objectives.
- 15 (4) A description of the role of each such agen-
- cy in achieving such objectives.
- 17 (5) Guidance regarding how the Committee's
- 18 recommendations are best used in climate adapta-
- tion planning for Federal, State, local, Tribal, and
- 20 territorial entities.
- 21 (e) Interagency Agreements.—The heads of
- 22 agencies specified in subsection (c) may enter into one or
- 23 more interagency agreements providing for cooperation
- 24 and collaboration in the development of wildfire fore-
- 25 casting, detection, and monitoring tools, instruments,

- 1 technologies, and research to accomplish the purpose de-
- 2 scribed in subsection (b).
- 3 (f) COLLABORATION.—The head of each agency spec-
- 4 ified in subsection (c) shall, to the extent practicable, in-
- 5 crease engagement and cooperation with international,
- 6 academic, State, and local communities regarding the in-
- 7 frastructure, data, and scientific research necessary to
- 8 best advance the forecasting, detection, and monitoring of
- 9 and preparation for wildfires.

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

### (a) Establishment.—

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

1	(B) Public communication or broadcast en-
2	tities.
3	(C) Emergency management agencies.
4	(D) State, local, or Tribal governments.
5	(E) The National Association of State For-
6	esters.
7	(F) Business communities.
8	(G) Other entities as designated by the Di-
9	rector of the Office of Science and Technology
10	Policy.
11	(2) Prohibition.—Members of the Advisory
12	Committee may not be employees of the Federal
13	Government.
14	(b) Assessment.—The Advisory Committee shall
15	offer assessments and recommendations relating to the
16	following:
17	(1) Tailored forecasting, detection, and moni-
18	toring products and tools.
19	(2) Communication and delivery methods of
20	wildfire forecasting, detection, and monitoring infor-
21	mation.
22	(3) Opportunities to streamline Federal fore-
23	casting, monitoring, and detection information to
24	local emergency personnel and communities.

- 1 (4) The management, coordination, implemen-
- 2 tation, and activities of the Interagency Coordi-
- anating Committee on Wildfires under section 3.
- 4 (5) The effectiveness of the Interagency Coordi-
- 5 nating Committee on Wildfires in meeting its pur-
- 6 poses.
- 7 (c) Compensation.—Members of the Advisory Com-
- 8 mittee shall serve without compensation.
- 9 (d) Reports.—Not less frequently than biennially,
- 10 the Advisory Committee shall report to the Director of the
- 11 Office of Science and Technology Policy on the assess-
- 12 ments carried out under subsection (b) and its rec-
- 13 ommendations for ways to improve the coordination and
- 14 dissemination of wildfire forecasts, warnings, and detec-
- 15 tion and monitoring information.
- 16 (e) Charter.—Notwithstanding section 1013(b)(2)
- 17 of title 5, United States Code, the Advisory Committee
- 18 shall not be required to file a charter subsequent to its
- 19 initial charter, filed under section 1008(c) of such title,
- 20 before the termination date specified in subsection (f) of
- 21 this section.
- 22 (f) Termination.—The Advisory Committee shall
- 23 terminate on September 30, 2028.
- 24 (g) Conflict of Interest.—An Advisory Com-
- 25 mittee member shall recuse himself or herself from any

- 1 Advisory Committee activity in which he or she has an
- 2 actual pecuniary interest.

### 3 SEC. 5. ESTABLISHMENT OF FIRE WEATHER TESTBED.

- 4 (a) In General.—The Administrator of the Na-
- 5 tional Oceanic and Atmospheric Administration shall es-
- 6 tablish a fire weather testbed to enable engagement across
- 7 the Federal Government, State and local governments,
- 8 academia, private and federally funded research labora-
- 9 tories, the private sector, and end-users in order to evalu-
- 10 ate the accuracy and usability of technology, models, fire
- 11 weather products and services, and other research to accel-
- 12 erate the implementation, transition to operations, and use
- 13 of new capabilities by the National Oceanic and Atmos-
- 14 pheric Administration, Federal and land management
- 15 agencies, and other relevant stakeholders.
- 16 (b) RESOURCES.—In carrying out this section, the
- 17 Administrator of the National Oceanic and Atmospheric
- 18 Administration may not transfer or reprogram any funds,
- 19 detail any personnel, or make use of any infrastructure
- 20 from cooperative institutes of the National Oceanic and
- 21 Atmospheric Administration in existence as of the date of
- 22 the enactment of this Act for the fire weather testbed es-
- 23 tablished under subsection (a).

1	(c) Authorization of Appropriations.—There is
2	authorized to be appropriated \$4,000,000 for each of fis-
3	cal years 2025 through 2028 to carry out this section.
4	SEC. 6. INCIDENT METEOROLOGIST WORKFORCE.
5	(a) Workforce and Training Assessment.—Not
6	later than six months after the date of the enactment of
7	this Act, the Administrator of the National Oceanic and
8	Atmospheric Administration shall submit to the Com-
9	mittee on Science, Space, and Technology of the House
10	of Representatives and the Committee on Commerce
11	Science, and Transportation of the Senate the results of
12	an assessment of National Weather Service workforce and
13	training challenges for Incident Meteorologists, and a
14	roadmap for overcoming such challenges. Such assessment
15	shall take into consideration information technology sup-
16	port, logistical and administrative operations, anticipated
17	weather and climate conditions, and feedback from rel-
18	evant stakeholders, and shall include, to the maximum ex-
19	tent practicable, an identification by the National Weather
20	Service of the following:
21	(1) The expected number of Incident Meteorolo-
22	gists needed over the next five years.
23	(2) Potential hiring authorities necessary to
24	overcome any identified workforce and training chal-
25	lenges.

1 (3) Alternative services or assistance options 2 the National Weather Service could provide to meet 3 operational needs. 4 (b) Overtime Pay.— (1) In General.—Any premium pay for serv-6 ices performed by Incident Meteorologists of the Na-7 tional Weather Service that are determined by the 8 Secretary of Commerce to be primarily related to 9 emergency wildland fire suppression activities shall 10 be disregarded in calculating the aggregate of such 11 employee's basic pay and premium pay for purposes 12 of a limitation under section 5547 of title 5, United 13 States Code, or under any other provision of law. 14 (2) Rates.—Section 5542(a)(5) of title 5, 15 United States Code, is amended by inserting ", the 16 National Weather Service," after "Interior". 17 SEC. 7. RESEARCH ON WILDLAND FIRE COMMUNICATIONS 18 AND INFORMATION DISSEMINATION. 19 (a) IN GENERAL.— 20 (1) Public Safety Research.—Not later 21 than 60 days after the date of the enactment of this 22 Act, the Director, acting through the head of the 23 Public Safety and Communications Research Divi-

sion and in consultation with the Fire Research Di-

- vision and technology manufacturers, shall carry out
  research on the following:
  - (A) Public safety communication coordination standards among Federal, State, Tribal, and local wildland firefighters, fire management response officials, and member agencies.
    - (B) Improving and integrating existing communications systems to transmit secure real-time data, alerts, and advisories to and from fire management response officials and wildland firefighters.
    - (2) FIELD TESTING AND MEASUREMENT OF IN-FORMATION DISSEMINATION AND TECHNOLOGY.— The Public Safety and Communications Research Division, in consultation with the Fire Research Division and member agencies, shall conduct both live and virtual field testing of equipment, software, and other technologies to determine current times of information dissemination and develop standards for the delivery of useful and secure real-time data among member agencies, fire management response officials, and wildland firefighters, based on findings from research under paragraph (1).
  - (b) Recommendations.—

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- (1) In General.—The Director shall develop and publish recommendations to improve public safety communication coordination standards among wildland first responders and fire management response officials.
  - (2) Transmittal.—The Director shall transmit the recommendations under paragraph (1) to the Office of Management and Budget and the Office of Science and Technology Policy for member agencies to implement.

### (3) Reporting requirements.—

- (A) IN GENERAL.—The Director shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report containing the recommendations published under paragraph (1).
- (B) IMPLEMENTATION.—Not later than 1 year after the date of the publication of the Director's recommendations under paragraph (1), the Comptroller General of the United States shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce,

- 1 Science, and Transportation of the Senate a re-2 port on the extent to which member agencies 3 have implemented such recommendations.
  - (c) Definitions.—In this section:

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- (1) Director.—The term "Director" means the Director of the National Institute of Standards and Technology.
- MEMBER AGENCY.—The term "member 8 9 agency" means a member agency of the National 10 Interagency Fire Center, including the Bureau of Indian Affairs, Bureau of Land Management, National 12 Park Service, National Oceanic and Atmospheric 13 Administration, U.S. Fish and Wildlife Service, For-14 est Service, United States Fire Administration, and 15 the Department of Defense.
  - (3)WILDLAND FIREFIGHTER.—The term "wildland firefighter" means any person who participates in wildland firefighting activities.
  - (4)FIRE MANAGEMENT RESPONSE OFFI-CIALS.—The term "fire management response officials" means regional fire directors, deputy regional fire directors, agency officials who directly oversee fire operations, fire management officers, and individuals serving on incident management teams.

1	(5) Technology manufacturers.—The term
2	"technology manufacturers" means private sector
3	entities that manufacture communications tech-
4	nologies used by Federal, State, Tribal, or local
5	wildland fire authorities.
6	SEC. 8. DEFINITIONS.
7	In this Act:
8	(1) 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) smoke dispersion and transport;
16	and
17	(B) the associated environmental impacts
18	occurring during and after fire events.
19	(2) 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.

Passed the House of Representatives April 29, 2024.

Attest:

Clerk.

# 118TH CONGRESS H. R. 4866

# AN ACT

To direct the Administrator of the National Oceanic and Atmospheric Administrator to improve fire weather and fire environment forecasting, detection, and local collaboration, and for other purposes.