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S. 2510

To reduce the health risks of heat by establishing the National Integrated Heat Health Information System Program within the National Oceanic and Atmospheric Administration and the National Integrated Heat Health Information System Interagency Committee to improve extreme heat preparedness, planning, and response, requiring a study, and establishing financial assistance programs to address heat effects, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 28, 2021

Mr. MARKEY (for himself, Mr. PADILLA, Mr. BOOKER, Ms. ROSEN, Mrs. FEINSTEIN, Ms. SINEMA, and Mr. WARNOCK) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

DECEMBER 12, 2022

Reported by Ms. CANTWELL, with an amendment

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

A BILL

To reduce the health risks of heat by establishing the National Integrated Heat Health Information System Program within the National Oceanic and Atmospheric Administration and the National Integrated Heat Health Information System Interagency Committee to improve extreme heat preparedness, planning, and response, re-

quiring a study, and establishing financial assistance programs to address heat effects, 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.**

4 This Act may be cited as the “Preventing Health
5 Emergencies And Temperature-related Illness and Deaths
6 Act of 2021” or the “Preventing HEAT Illness and
7 Deaths Act of 2021”.

8 **SEC. 2. DEFINITIONS.**

9 In this Act:

10 (1) ~~ENVIRONMENTAL JUSTICE COMMUNITY.—~~

11 The term “environmental justice community” means
12 a community with significant representation of com-
13 munities of color, low-income communities, or Tribal
14 and indigenous communities, that experiences, or is
15 at risk of experiencing, higher or more adverse
16 human health or environmental effects, as compared
17 to other communities.

18 (2) ~~EXTREME HEAT.—~~The term “extreme
19 heat” means heat that exceeds local climatological
20 norms in terms of any combination of the following:

21 (A) ~~Duration.~~

22 (B) ~~Intensity.~~

23 (C) ~~Season length.~~

24 (D) ~~Frequency.~~

1 (3) HEAT.—The term “heat” means any com-
 2 bination of the parameters associated with modu-
 3 lating human thermal regulation, such as air tem-
 4 perature, humidity, solar exposure, and wind speed.

5 (4) HEAT EVENT.—The term “heat event”
 6 means an occurrence of extreme heat that may have
 7 heat-health implications.

8 (5) HEAT-HEALTH.—The term “heat-health”
 9 means health effects to humans from heat, during or
 10 outside of heat events, including from vulnerability
 11 and exposure, or the risk of such effects.

12 (6) PLANNING.—The term “planning” means
 13 activities performed across timescales (including
 14 days, weeks, months, years, and decades) with sce-
 15 nario-based, probabilistic or deterministic informa-
 16 tion to identify and take actions to proactively miti-
 17 gate heat-health risks from increased frequency, du-
 18 ration, and intensity of heat waves and increased
 19 ambient temperature.

20 (7) PREPAREDNESS.—The term “preparedness”
 21 means activities performed across timescales (includ-
 22 ing days, weeks, months, years, and decades) with
 23 probabilistic or deterministic information to manage
 24 risk in advance of a heat event and increased ambi-
 25 ent temperature.

(8) URBAN HEAT ISLAND.—The term “urban heat island” means the phenomenon observed in urbanized areas in which heat is more extreme than in the surrounding exurban areas and heat is heterogeneously distributed within urbanized areas, due to factors including—

(A) low albedo and impervious surfaces;

(B) low vegetation coverage; and

(C) waste heat produced in urban areas.

SEC. 3. FINDINGS.

Congress makes the following findings:

(1) Extreme heat events have been the leading cause of weather-related death in the United States over the last 30 years, according to the Centers for Disease Control and Prevention and the National Weather Service.

(2) The fourth National Climate Assessment, mandated by the Global Change Research Act of 1990 (15 U.S.C. 2921 et seq.), finds that during the next few decades, annual average temperature over the contiguous United States is projected to increase by a further 2.2°F relative to current temperatures, regardless of future scenarios. The National Climate Assessment projects that the frequency and intensity

1 of extreme heat events will increase in the future as
2 global temperature increases.

3 (3) Exposure to extreme heat can cause acute
4 heat-related illnesses, such as heat stroke, which al-
5 ready result in more than 65,000 emergency room
6 visits each year and exacerbate respiratory and car-
7 diovascular illnesses.

8 (4) Heat poses the greatest health risks for
9 adults older than 65 years of age, pregnant people,
10 young children, low-income communities, urban com-
11 munities, communities with low air conditioning
12 prevalence, socially isolated individuals, people with
13 mental or physical disabilities, people with under-
14 lying medical conditions, agricultural or other out-
15 door workers, workers without sufficient access to
16 cooling, athletes, incarcerated individuals, people ex-
17 perienceing homelessness, and military personnel.

18 (5) Increasingly common environmental expo-
19 sures exacerbated by climate change, such as ex-
20 treme heat, are significantly associated with serious
21 adverse pregnancy outcomes across the United
22 States. Those adverse pregnancy outcomes dis-
23 proportionately impact Black mothers.

24 (6) Heat exposure is an issue of environmental
25 justice, as people living in low-income communities,

1 communities of color, and Tribal communities face a
2 number of interacting factors that render them more
3 vulnerable to extreme heat.

4 (7) The impacts of heat on human health are
5 more severe in urban areas where land surface prop-
6 erties create an urban heat island, particularly in
7 neighborhoods with limited availability of or access
8 to green spaces, shade, and tree cover, higher den-
9 sity of building structures, and more vehicular traf-
10 fic.

11 (8) Limited availability of tree cover and higher
12 temperatures are correlated with low-income neigh-
13 borhoods in urban areas. In Richmond, Virginia,
14 Baltimore, Maryland, and Washington, D.C., re-
15 searchers found that heat risk is disproportionately
16 distributed to communities of color in patterns asso-
17 ciated with segregation and redlining.

18 (9) Researchers have found that few commu-
19 nities in the United States have sufficient climate
20 and health information, guidance, and resources for
21 heat planning, preparedness, and response.

22 (10) The risks associated with extreme heat
23 have complex interactions and impacts, and the
24 management of those risks requires a
25 transdisciplinary approach.

1 (11) Regions, communities, and populations
2 that face the greatest health consequences of ex-
3 treme heat often may experience the lowest heat risk
4 perceptions, have limited incentives, or have access
5 to the fewest resources for responding to extreme
6 heat, and as such, may be less likely to take pre-
7 cautions.

8 (12) Research on the impacts of extreme heat
9 on human health and the effectiveness of solutions
10 under varying climate, social, and other contexts is
11 stymied by a lack of access to reliable, timely health
12 observations and surveillance due to proprietary data
13 rights, expense, privacy and security concerns, incon-
14 sistent reporting of health outcomes and contribu-
15 tory factors, poor data integration and interoper-
16 ability, few incentives and little systematic coordina-
17 tion to address those problems, and a lack of ade-
18 quate climate observation, modeling, and assessment
19 in urban, indoor, and occupational settings.

20 (13) Integrated climate and health research and
21 information, when developed in a collaborative,
22 transdisciplinary manner, can inform long- and me-
23 dium-range scenario-based planning and decision
24 making to protect vulnerable communities and popu-
25 lations from extreme heat, reduce exposure to ex-

1 treme heat, and address factors that increase vulner-
2 ability.

3 (14) Heat action plans and early warning sys-
4 tems can reduce heat-related morbidity and mor-
5 tality by clearly identifying roles and responsibilities
6 as well as evidence-based actions and thresholds to
7 enhance preparedness, and by promoting behavior
8 changes and actions taken by local governments,
9 communities, and individuals through awareness and
10 increased risk perception among those most vulner-
11 able to the health impacts of heat.

12 **SEC. 4. NATIONAL INTEGRATED HEAT HEALTH INFORMA-**
13 **TION SYSTEM INTERAGENCY COMMITTEE.**

14 (a) ESTABLISHMENT OF COMMITTEE.—There is es-
15 tablished within the Office of Science and Technology Pol-
16 icy an interagency committee, to be known as the “Na-
17 tional Integrated Heat Health Information System Inter-
18 agency Committee” (in this section referred to as the
19 “Committee”).

20 (b) PURPOSE.—The Committee shall coordinate,
21 plan, and direct agencies represented on the Committee
22 to execute, as appropriate, activities across such agencies
23 to ensure the National Integrated Heat Health Informa-
24 tion System Program established by section 5 provides a
25 united Federal approach to reducing health risks from

1 heat across timescales (including days, weeks, months,
2 years, and decades).

3 ~~(c) MEMBERSHIP.—~~

4 ~~(1) IN GENERAL.—~~In order to carry out and
5 achieve the purpose described in subsection (b), the
6 Committee shall include the following:

7 ~~(A) The Director of the National Inte-~~
8 ~~grated Heat Health Information System Pro-~~
9 ~~gram.~~

10 ~~(B) Not fewer than 1 representative from~~
11 ~~each of the following:~~

12 ~~(i) From the Department of Com-~~
13 ~~merce, the following:~~

14 ~~(I) From the National Oceanic~~
15 ~~and Atmospheric Administration, the~~
16 ~~following:~~

17 ~~(aa) The National Weather~~
18 ~~Service.~~

19 ~~(bb) The Office of Oceanic~~
20 ~~and Atmospheric Research, in-~~
21 ~~cluding the Climate Program Of-~~
22 ~~fice.~~

23 ~~(II) The National Institute of~~
24 ~~Standards and Technology.~~

25 ~~(III) The Bureau of the Census.~~

1 (ii) From the Department of Health
2 and Human Services, the following:

3 (I) The Centers for Disease Con-
4 trol and Prevention, including the Na-
5 tional Institute for Occupational Safe-
6 ty and Health.

7 (II) The Office of the Assistant
8 Secretary of Health and Human Serv-
9 ices for Preparedness and Response.

10 (III) The Substance Abuse and
11 Mental Health Services Administra-
12 tion.

13 (IV) The National Institutes of
14 Health.

15 (iii) From the Department of the In-
16 terior, the following:

17 (I) The Bureau of Indian Affairs.

18 (II) The Bureau of Land Man-
19 agement.

20 (iv) From the Environmental Protec-
21 tion Agency, the following:

22 (I) The Office of Environmental
23 Justice.

24 (II) The Office of Air and Radi-
25 ation, if the Administrator of the En-

1 vironmental Protection Agency deter-
2 mines appropriate.

3 (III) The Office of Research and
4 Development, if the Administrator de-
5 termines appropriate.

6 (v) The Federal Emergency Manage-
7 ment Agency.

8 (vi) The Department of Defense.

9 (vii) The Occupational Safety and
10 Health Administration.

11 (viii) The Department of Agriculture.

12 (ix) The Department of Housing and
13 Urban Development.

14 (x) The Department of Transpor-
15 tation.

16 (xi) The Department of Energy.

17 (xii) Such other Federal agencies as
18 the Director of the Office of Science and
19 Technology Policy considers appropriate.

20 (2) SELECTION OF REPRESENTATIVES.—The
21 head of an agency specified in paragraph (1)(B)
22 shall, in appointing representatives of the agency to
23 the Committee, select representatives who have ex-
24 pertise in areas relevant to the responsibilities of the
25 Committee, such as weather and climate prediction;

1 health impacts, environmental justice, behavioral
 2 science, public health hazard preparedness and re-
 3 sponse, or mental health services.

4 ~~(3)~~ CO-CHAIRS.—

5 (A) IN GENERAL.—The members of the
 6 Committee shall select 2 individuals from
 7 among such members to serve as co-chairs of
 8 the Committee, subject to the approval of the
 9 Director of the Office of Science and Tech-
 10 nology Policy.

11 (B) SELECTION.—

12 (i) INITIAL SELECTION.—Of the co-
 13 chairs first selected, one co-chair shall be
 14 from the National Oceanic and Atmos-
 15 pheric Administration and one co-chair
 16 shall be from the Centers for Disease Con-
 17 trol and Prevention.

18 (ii) SUBSEQUENT SELECTION.—Sub-
 19 sequent co-chairs shall be selected from
 20 among the members of the Committee.

21 (C) TERMS.—Each co-chair shall serve for
 22 a term of not more than 5 years.

23 (D) RESPONSIBILITIES OF CO-CHAIRS.—

24 The co-chairs of the Committee shall—

1 (i) determine the agenda of the Com-
 2 mittee, in consultation with other members
 3 of the Committee;

4 (ii) direct the work of the Committee;

5 (iii) convene meetings of the Com-
 6 mittee not less frequently than once each
 7 fiscal quarter; and

8 (iv) if necessary, establish a coordina-
 9 tion office for the Committee within the
 10 National Oceanic and Atmospheric Admin-
 11 istration.

12 (d) RESPONSIBILITIES OF COMMITTEE.—The Com-
 13 mittee shall promote an integrated, Federal Government-
 14 wide approach to reducing health risks and impacts of
 15 heat, including by—

16 (1) developing the strategic plan required by
 17 subsection (e);

18 (2) overseeing the study required by section
 19 6(a)(1);

20 (3) coordinating across Federal agencies on
 21 heat-health communication, research, service deliv-
 22 ery, and workforce development;

23 (4) building capacity and partnerships with
 24 Federal and non-Federal entities; and

1 ~~(5)~~ annually preparing a budget for the finan-
 2 cial assistance program under section 7 specifying
 3 how funds will be awarded by the Director of the
 4 National Integrated Heat Health Information Sys-
 5 tem Program in alignment with the strategic plan
 6 required by subsection ~~(e)(1)~~ and in coordination
 7 with the climate and health research grant program
 8 under section ~~5(d)(2)~~.

9 ~~(c)~~ STRATEGIC PLAN.—

10 ~~(1)~~ IN GENERAL.—Not later than 2 years after
 11 the date of the enactment of this Act, the Committee
 12 shall submit to Congress a 5-year integrated stra-
 13 tegic plan that outlines the goals and projects of the
 14 Committee, including how the Committee will—

15 ~~(A)~~ improve coordination and integration
 16 of interagency Federal actions to address health
 17 risks of heat;

18 ~~(B)~~ conduct the study required by section
 19 6(a)(1); and

20 ~~(C)~~ oversee the program for providing fi-
 21 nancial assistance under section 7.

22 ~~(2)~~ UPDATES.—Not later than 5 years after the
 23 submission of the strategic plan required by para-
 24 graph ~~(1)~~; and every 5 years thereafter, the Com-
 25 mittee shall submit to Congress an update of the

1 plan, which shall include progress made toward goals
2 outlined in the plan and new priorities that emerge.

3 ~~(3) PUBLIC AVAILABILITY.—~~The Committee
4 shall make the strategic plan required by paragraph
5 ~~(1)~~ and updates to the plan required by paragraph
6 ~~(2)~~ available to the public on an internet website of
7 the National Oceanic and Atmospheric Administra-
8 tion, with clear visuals indicating progress toward
9 goals.

10 ~~(f) ADMINISTRATIVE SUPPORT.—~~The Administrator
11 of the National Oceanic and Atmospheric Administration
12 shall provide technical and administrative support to the
13 Committee, using amounts authorized to be appropriated
14 to the Administration.

15 ~~(g) CONSULTATION.—~~In carrying out the responsibil-
16 ities of the Committee, the Committee shall consult with
17 relevant regional, State, Tribal, and local government
18 agencies, international organizations and partners, re-
19 search institutions, nongovernmental organizations and
20 associations, and medical experts with expertise in emer-
21 gency response, environmental health, economic or busi-
22 ness development, or community engagement.

1 **SEC. 5. NATIONAL INTEGRATED HEAT HEALTH INFORMA-**
 2 **TION SYSTEM PROGRAM OF THE NATIONAL**
 3 **OCEANIC AND ATMOSPHERIC ADMINISTRA-**
 4 **TION.**

5 (a) **ESTABLISHMENT.**—There is established within
 6 the Office of Oceanic and Atmospheric Research of the
 7 National Oceanic and Atmospheric Administration a pro-
 8 gram, to be known as the “National Integrated Heat
 9 Health Information System Program”.

10 (b) **PURPOSE.**—The purpose of the program estab-
 11 lished by subsection (a) is to improve the capacity of the
 12 United States to plan, prepare for, adapt to, and mitigate
 13 health risks of extreme heat across multiple timescales.

14 (c) **DIRECTOR.**—The Program shall be headed by a
 15 Director.

16 (d) **RESPONSIBILITIES.**—In carrying out the purpose
 17 described in subsection (b), the Director shall carry out
 18 the following responsibilities:

19 (1) **IMPLEMENTATION PLAN.**—

20 (A) **IN GENERAL.**—The Director shall im-
 21 plement the strategic plan required by section
 22 4(e)(1) by developing and implementing a
 23 multi-year implementation plan.

24 (B) **ELEMENTS.**—In developing and imple-
 25 menting the implementation plan under sub-

1 paragraph (A), the Director shall focus on the
2 following:

3 (i) Developing and sustaining robust
4 relationships with climate, public health,
5 environmental justice, and other Federal
6 and non-Federal partners and decision-
7 makers—

8 (I) to respond to the demand for
9 actionable information that reduces
10 health risks on multiple timescales;
11 and

12 (II) to develop and deliver timely
13 and accessible decision support serv-
14 ices, tools, and information to inform
15 planning, preparedness, and risk-re-
16 ducing actions across timescales.

17 (ii) Coordinating and collaborating
18 with the international community and glob-
19 al partners to conduct research and learn
20 from, leverage, and contribute to global
21 knowledge.

22 (iii) Enhancing observations, surveil-
23 lance, and monitoring necessary for the ac-
24 tivities described in clauses (i) and (ii).

1 (iv) Communicating, educating, and
 2 building awareness and capacity to address
 3 heat risk across communities, sectors, and
 4 timescales.

5 (v) Implementing and executing the
 6 grant program under paragraph (2) and
 7 the financial assistance program under sec-
 8 tion (7).

9 (vi) Conducting the study required by
 10 section 6(a)(1).

11 (2) GRANT PROGRAM.—The Director shall de-
 12 velop and implement a climate and health research
 13 grant program, in coordination with the financial as-
 14 sistance program under section 7 and other Federal
 15 programs—

16 (A) to improve understanding of—

17 (i) the climate epidemiology and social
 18 drivers of heat-health vulnerability and
 19 risk;

20 (ii) the drivers of climate variability,
 21 predictability, and changes in extreme
 22 heat; and

23 (iii) the impacts of extreme heat and
 24 compound hazards across timescales;

(B) to investigate and evaluate the effectiveness of risk management actions, interventions, policies, standards, codes, and guidelines; and

(C) to address other topics as appropriate, including topics outlined in the strategic plan required by section 4(e)(1) and relevant to the study required by section 6(a)(1) and the financial assistance program under section 7.

~~(3)~~ **ADDITIONAL ACTIVITIES.**—The Director shall carry out such other activities as the Committee considers appropriate.

SEC. 6. STUDY ON EXTREME HEAT INFORMATION AND RESPONSE.

~~(a)~~ **STUDY.**—

(1) **IN GENERAL.**—Not later than 2 years after the date of the enactment of this Act, the Director of the National Integrated Heat Health Information System Program shall, in consultation with the entities described in section 4(g), complete a study on extreme heat information and response.

(2) **OVERSIGHT.**—The National Integrated Heat Health Information System Interagency Committee shall oversee the study required by paragraph (1).

1 (3) ELEMENTS.—The study required by para-
2 graph (1) shall—

3 (A) identify policy and research gaps;
4 which may include—

5 (i) regions of the United States with
6 the largest gaps between awareness, pre-
7 paredness, and capacity to address extreme
8 heat; and

9 (ii) heat-related gaps in data, such
10 as—

11 (I) the number of schools, pris-
12 ons, and other public facilities that
13 lack air conditioning; and

14 (II) the demographic breakdown
15 of people affected by heat events, in-
16 cluding by race, age, gender, occupa-
17 tion, and income;

18 (B) provide recommendations for address-
19 ing gaps with respect to policy, research, oper-
20 ations, communications, and data, including the
21 gaps identified under subparagraph (A), affect-
22 ing heat-health planning, preparedness, re-
23 sponse, resilience, adaptation, and environ-
24 mental justice and equity;

1 (C) provide such other recommendations as
2 the Director considers appropriate, which may
3 include strategies for—

4 (i) communicating warnings to and
5 promoting resilience of populations vulner-
6 able to extreme heat;

7 (ii) effectively distributing extreme
8 heat warnings, including to individuals
9 with limited English proficiency and indi-
10 viduals who are socially isolated or have
11 other established barriers to such informa-
12 tion;

13 (iii) designing warnings described in
14 clause (ii) to convey the urgency and sever-
15 ity of heat events and achieve behavior
16 changes that reduce the mortality and
17 morbidity of extreme heat effects, without
18 creating warning fatigue or confusion with
19 other types of weather disaster warnings;

20 (iv) understanding compound and eas-
21 cading risks, and implementing alternative
22 heat-health risk reduction interventions to
23 manage those risks collectively, such as re-
24 ducing risk of the transmission of infec-
25 tious diseases during heat waves by cre-

1 ating outdoor cooling locations or increas-
 2 ing ventilation and filtration in indoor cool-
 3 ing centers;

4 (v) promoting community resilience to
 5 heat events and incorporating principles of
 6 environmental justice in community re-
 7 sponse to heat waves;

8 (vi) addressing the impacts of extreme
 9 heat on energy cost and availability; and

10 (vii) establishing labor and other
 11 standards for workers and heat; and

12 (D) consider such other subjects as the
 13 Committee considers appropriate, which may in-
 14 clude—

15 (i) the feasibility of enhancing existing
 16 nationwide data collection on heat-related
 17 illnesses and mortalities to improve and
 18 ensure consistent collection of national-
 19 level heat illness data across all 50 States;
 20 territories, and local jurisdictions of the
 21 United States;

22 (ii) mechanisms for financing heat
 23 preparedness; and

24 (iii) the effectiveness of county- or
 25 local-level heat awareness and communica-

1 tion tools, preparedness plans, or mitiga-
2 tion.

3 ~~(4) DEVELOPMENT OF DEFINITIONS.~~—In con-
4 ducting the study required by paragraph (1), the Di-
5 rector shall work with heat and health experts to
6 identify consistent and agreed upon definitions for
7 heat events, heat waves, and other relevant terms.

8 ~~(b) REPORT.~~—Not later than 90 days after com-
9 pleting the study required by subsection (a)(1), the Com-
10 mittee shall—

11 ~~(1)~~ make available to the public on an internet
12 website of the National Oceanic and Atmospheric
13 Administration a report on the findings and conclu-
14 sions of the study; and

15 ~~(2)~~ submit the report to—

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

18 ~~(B)~~ the Committee on Health, Education,
19 Labor, and Pensions of the Senate;

20 ~~(C)~~ the Committee on Science, Space, and
21 Technology of the House of Representatives;

22 ~~(D)~~ the Committee on Energy and Com-
23 merce of the House of Representatives; and

24 ~~(E)~~ the Committee on Education and
25 Labor of the House of Representatives.

1 **SEC. 7. FINANCIAL ASSISTANCE FOR RESILIENCE IN AD-**
2 **DRESSING EXTREME HEAT AND HEALTH**
3 **RISKS.**

4 (a) IN GENERAL.—

5 (1) ESTABLISHMENT.—Not later than 1 year
6 after the date of the enactment of this Act, the Di-
7 rector of the National Integrated Heat Health Infor-
8 mation System Program may, in coordination with
9 the National Integrated Heat Health Information
10 System Interagency Committee, establish and ad-
11 minister a community heat resilience program to
12 provide financial assistance to eligible entities to
13 carry out projects described in subsection (c) to
14 ameliorate human health impacts of extreme heat
15 events.

16 (2) REVISION.—Upon completion of the stra-
17 tegic plan required by section 4(c)(1), the Com-
18 mittee may revise the community heat resilience pro-
19 gram to ensure the program aligns with the strategic
20 plan and is administered in accordance with the
21 plan.

22 (b) PURPOSE.—The purpose of the financial assist-
23 ance provided under this section is to improve community
24 resilience to heat and heat-health impacts and further sci-
25 entific research to address adaptation gaps and priorities.

1 (c) FORMS OF ASSISTANCE.—Financial assistance
 2 provided under this section may be in the form of con-
 3 tracts, grants, or cooperative agreements.

4 (d) ELIGIBLE ENTITIES.—Entities eligible to receive
 5 financial assistance under this section to carry out
 6 projects described in subsection (c) include—

- 7 (1) nonprofit entities;
- 8 (2) States;
- 9 (3) Tribes;
- 10 (4) local governments; and
- 11 (5) such other entities as the Director deter-
 12 mines to be eligible.

13 (e) ELIGIBLE PROJECTS.—Projects described in this
 14 subsection include the following:

15 (1) Projects for cool roofs, cool pavements,
 16 urban forestry or tree plantings and maintenance,
 17 the provision of shade, cooling centers, retrofitting
 18 buildings for cooling, and acquisitions or upgrades of
 19 filtration systems or high-efficiency air conditioning
 20 systems.

21 (2) Training programs to support the develop-
 22 ment and integration of education and training pro-
 23 grams for identifying and addressing risks associ-
 24 ated with climate change for vulnerable individuals.

25 (3) Projects—

1 (A) to expand public awareness of heat
2 risks;

3 (B) to communicate risks and warnings to
4 geographically, socially, and linguistically iso-
5 lated communities;

6 (C) to educate such communities about
7 how to respond to extreme heat events; and

8 (D) to further scientific research regarding
9 extreme heat events.

10 (4) Other projects that the Director determines
11 will achieve a significant reduction in heat exposure
12 or increased resilience to extreme heat events.

13 (f) PRIORITIES.—In selecting eligible entities to re-
14 ceive financial assistance under this section, the Director
15 shall prioritize entities that will carry out projects that
16 provide benefits for historically disadvantaged commu-
17 nities and communities with significant heat disparities
18 associated with race, ethnicity, or income.

19 (g) DISTRIBUTION OF ASSISTANCE.—

20 (1) ENVIRONMENTAL JUSTICE AND LOW-IN-
21 COME COMMUNITIES.—Not less than 40 percent of
22 the amount of financial assistance provided under
23 this section in any fiscal year shall be provided to el-
24 igible entities to implement projects described in

1 subsection (c) in environmental justice communities
 2 or low-income communities.

3 ~~(2) EQUITABLE DISTRIBUTION.—~~The Director
 4 shall seek to equitably distribute financial assistance
 5 provided under this section based on geographic lo-
 6 cation or such other factors as the Director deter-
 7 mines appropriate.

8 ~~(h) MATCHING REQUIREMENT.—~~

9 ~~(1) IN GENERAL.—~~An entity that receives fi-
 10 nancial assistance to carry out a project under this
 11 section shall contribute, from non-Federal sources,
 12 funds for the project in such amount as the Director
 13 determines appropriate.

14 ~~(2) WAIVER.—~~The Director may waive the re-
 15 quirement under paragraph ~~(1)~~ for an entity if the
 16 Director determines that the entity does not have
 17 adequate resources to meet the requirement.

18 ~~(i) REPORTS.—~~The Committee shall require the Di-
 19 rector to submit to the Committee, on an annual basis,
 20 a report on actions, outcomes, research needs, and data
 21 gaps under this section.

22 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

23 ~~(a) NATIONAL INTEGRATED HEAT HEALTH INFOR-~~
 24 ~~MATION SYSTEM INTERAGENCY COMMITTEE; NATIONAL~~
 25 ~~INTEGRATED HEAT HEALTH INFORMATION SYSTEM PRO-~~

1 ~~GRAM; STUDY ON EXTREME HEAT INFORMATION AND~~
 2 ~~RESPONSE.~~—There are authorized to be appropriated to
 3 the National Oceanic and Atmospheric Administration to
 4 carry out sections 4, 5, and 6, including for any adminis-
 5 trative costs for the National Integrated Heat Health In-
 6 formation System Interagency Committee and the Na-
 7 tional Integrated Heat Health Information System Pro-
 8 gram, the following:

9 (1) For fiscal year 2022, \$20,000,000.

10 (2) For fiscal year 2023, \$20,000,000.

11 (3) For fiscal year 2024, \$20,000,000.

12 (4) For fiscal year 2025, \$20,000,000.

13 (5) For fiscal year 2026, \$20,000,000.

14 (b) ~~FINANCIAL ASSISTANCE FOR RESILIENCE IN AD-~~
 15 ~~DRESSING EXTREME HEAT AND HEALTH RISKS.~~—There
 16 are authorized to be appropriated to the National Oceanic
 17 and Atmospheric Administration to carry out section 7 the
 18 following:

19 (1) For fiscal year 2022, \$10,000,000.

20 (2) For fiscal year 2023, \$10,000,000.

21 (3) For fiscal year 2024, \$20,000,000.

22 (4) For fiscal year 2025, \$30,000,000.

23 (5) For fiscal year 2026, \$30,000,000.

1 **SECTION 1. SHORT TITLE.**

2 *This Act may be cited as the “Preventing Health*
 3 *Emergencies And Temperature-related Illness and Deaths*
 4 *Act of 2021” or the “Preventing HEAT Illness and Deaths*
 5 *Act of 2021”.*

6 **SEC. 2. DEFINITIONS.**

7 *In this Act:*

8 (1) *EXTREME HEAT.*—*The term “extreme heat”*
 9 *means heat that substantially exceeds local climato-*
 10 *logical norms in terms of any combination of the fol-*
 11 *lowing:*

12 (A) *Duration of an individual heat event.*

13 (B) *Intensity.*

14 (C) *Season length.*

15 (D) *Frequency.*

16 (2) *HEAT.*—*The term “heat” means any com-*
 17 *bination of the atmospheric parameters associated*
 18 *with modulating human thermal regulation, such as*
 19 *air temperature, humidity, solar exposure, and wind*
 20 *speed.*

21 (3) *HEAT EVENT.*—*The term “heat event” means*
 22 *an occurrence of extreme heat that may have heat-*
 23 *health implications.*

24 (4) *HEAT-HEALTH.*—*The term “heat-health”*
 25 *means health effects to humans from heat or the risk*
 26 *of such effects.*

1 (5) *PLANNING.*—*The term “planning” means ac-*
 2 *tivities performed across timescales (including days,*
 3 *weeks, months, years, and decades) with scenario-*
 4 *based, probabilistic or deterministic information to*
 5 *identify and take actions to proactively mitigate heat-*
 6 *health risks from increased frequency, duration, and*
 7 *intensity of heat waves and increased ambient tem-*
 8 *perature.*

9 (6) *PREPAREDNESS.*—*The term “preparedness”*
 10 *means activities performed across timescales (includ-*
 11 *ing days, weeks, months, years, and decades) with*
 12 *probabilistic or deterministic information to manage*
 13 *risk in advance of a heat event and increased ambient*
 14 *temperature.*

15 (7) *TRIBAL GOVERNMENT.*—*The term “Tribal*
 16 *government” means the recognized governing body of*
 17 *any Indian or Alaska Native tribe, band, nation,*
 18 *pueblo, village, community, component band, or com-*
 19 *ponent reservation, individually identified (including*
 20 *parenthetically) in the list published most recently as*
 21 *of the date of enactment of this Act pursuant to sec-*
 22 *tion 104 of the Federally Recognized Indian Tribe*
 23 *List Act of 1994 (25 U.S.C. 5131).*

24 (8) *VULNERABLE POPULATIONS.*—*The term “vul-*
 25 *nerable populations” means populations that face*

1 *health, financial, educational, or housing disparities*
 2 *that would render them more susceptible to the nega-*
 3 *tive impacts of extreme heat.*

4 **SEC. 3. NATIONAL INTEGRATED HEAT HEALTH INFORMA-**
 5 **TION SYSTEM INTERAGENCY COMMITTEE.**

6 *(a) ESTABLISHMENT OF COMMITTEE.—There is estab-*
 7 *lished within the Office of Science and Technology Policy*
 8 *an interagency committee, to be known as the “National*
 9 *Integrated Heat Health Information System Interagency*
 10 *Committee” (in this section referred to as the “Committee”).*

11 *(b) PURPOSE.—The Committee shall coordinate, plan,*
 12 *and direct agencies represented on the Committee to execute,*
 13 *as appropriate, activities across such agencies to ensure a*
 14 *united Federal approach to reducing health risks from heat*
 15 *across timescales (including days, weeks, months, years,*
 16 *and decades).*

17 *(c) MEMBERSHIP.—*

18 *(1) IN GENERAL.—In order to carry out and*
 19 *achieve the purpose described in subsection (b), the*
 20 *Committee shall include the following:*

21 *(A) The Director of the National Integrated*
 22 *Heat Health Information System.*

23 *(B) Not fewer than 1 representative from*
 24 *each of the following:*

1 (i) *From the Department of Commerce,*
2 *the following:*

3 (I) *From the National Oceanic*
4 *and Atmospheric Administration, the*
5 *following:*

6 (aa) *The National Weather*
7 *Service.*

8 (bb) *The Climate Program*
9 *Office of the Office of Oceanic and*
10 *Atmospheric Research.*

11 (II) *The National Institute of*
12 *Standards and Technology.*

13 (III) *The Bureau of the Census.*

14 (ii) *From the Department of Health*
15 *and Human Services, the following:*

16 (I) *The National Institute for Oc-*
17 *cupational Safety and Health of the*
18 *Centers for Disease Control and Pre-*
19 *vention.*

20 (II) *The Office of the Assistant*
21 *Secretary of Health and Human Serv-*
22 *ices for Preparedness and Response.*

23 (III) *The Substance Abuse and*
24 *Mental Health Services Administra-*
25 *tion.*

1 (IV) *The National Institutes of*
 2 *Health.*

3 (V) *The Indian Health Service.*

4 (iii) *From the Department of the Inte-*
 5 *rior, the following:*

6 (I) *The Bureau of Indian Affairs.*

7 (II) *The Bureau of Land Manage-*
 8 *ment.*

9 (iv) *From the Environmental Protec-*
 10 *tion Agency, the following:*

11 (I) *The Office of Environmental*
 12 *Justice.*

13 (II) *The Office of Air and Radi-*
 14 *ation, if the Administrator of the En-*
 15 *vironmental Protection Agency deter-*
 16 *mines appropriate.*

17 (III) *The Office of Research and*
 18 *Development, if the Administrator de-*
 19 *termines appropriate.*

20 (v) *The Federal Emergency Manage-*
 21 *ment Agency.*

22 (vi) *The Department of Defense.*

23 (vii) *The Occupational Safety and*
 24 *Health Administration.*

25 (viii) *The Department of Agriculture.*

1 *(ix) The Department of Housing and*
 2 *Urban Development.*

3 *(x) The Department of Transportation.*

4 *(xi) The Department of Energy.*

5 *(xii) The National Aeronautics and*
 6 *Space Administration.*

7 *(xiii) Such other Federal agencies as*
 8 *the Director of the Office of Science and*
 9 *Technology Policy considers appropriate.*

10 (2) *SELECTION OF REPRESENTATIVES.—The*
 11 *head of an agency specified in paragraph (1)(B)*
 12 *shall, in appointing representatives of the agency to*
 13 *the Committee, select representatives who have exper-*
 14 *tise in areas relevant to the responsibilities of the*
 15 *Committee.*

16 (3) *CO-CHAIRS.—*

17 (A) *IN GENERAL.—The members of the*
 18 *Committee shall select 2 individuals from among*
 19 *such members to serve as co-chairs of the Com-*
 20 *mittee, subject to the approval of the Director of*
 21 *the Office of Science and Technology Policy.*

22 (B) *SELECTION.—*

23 (i) *INITIAL SELECTION.—Of the co-*
 24 *chairs first selected, one co-chair shall be*
 25 *from the National Oceanic and Atmospheric*

1 *Administration and one co-chair shall be*
 2 *from the Centers for Disease Control and*
 3 *Prevention.*

4 (ii) *SUBSEQUENT SELECTION.*—*Subse-*
 5 *quent co-chairs shall be selected from among*
 6 *the members of the Committee.*

7 (C) *TERMS.*—*Each co-chair shall serve for a*
 8 *term of not more than 3 years.*

9 (D) *RESPONSIBILITIES OF CO-CHAIRS.*—*The*
 10 *co-chairs of the Committee shall—*

11 (i) *determine the agenda of the Com-*
 12 *mittee, in consultation with other members*
 13 *of the Committee;*

14 (ii) *direct the work of the Committee;*
 15 *and*

16 (iii) *convene meetings of the Committee*
 17 *not less frequently than once each fiscal*
 18 *quarter.*

19 (d) *RESPONSIBILITIES OF COMMITTEE.*—*The Com-*
 20 *mittee shall promote an integrated, Federal Government-*
 21 *wide approach to reducing health risks and impacts of heat,*
 22 *including by—*

23 (1) *developing the strategic plan required by sub-*
 24 *section (e);*

1 (2) *coordinating across Federal agencies on heat-*
 2 *health communication, research, service delivery, and*
 3 *workforce development; and*

4 (3) *building capacity and partnerships with*
 5 *Federal and non-Federal entities.*

6 (e) *STRATEGIC PLAN.*—

7 (1) *IN GENERAL.*—*Not later than 2 years after*
 8 *the date of the enactment of this Act, the Committee*
 9 *shall submit to Congress and make available on a*
 10 *public website a 5-year integrated strategic plan that*
 11 *outlines the goals and projects of the Committee, in-*
 12 *cluding how the Committee will improve coordination*
 13 *and integration of interagency Federal actions to ad-*
 14 *dress health risks of heat, including—*

15 (A) *a strategy for improving and coordi-*
 16 *nating existing Federal data collection and shar-*
 17 *ing on heat-related illnesses and mortalities to*
 18 *inform Federal heat-related activities; and*

19 (B) *mechanisms for financing heat pre-*
 20 *paredness within such agencies as the Committee*
 21 *considers appropriate.*

22 (2) *IMPLEMENTATION PLANS.*—*The head of an*
 23 *agency represented on the Committee may implement*
 24 *the portions of the strategic plan required by para-*
 25 *graph (1) that are relevant to that agency by devel-*

(f) CONSULTATION.—In carrying out the responsibilities of the Committee, the Committee shall consult with relevant regional, State, Tribal, and local governments, international organizations and partners, research institutions, nongovernmental organizations and associations, and medical experts with expertise in emergency response, environmental health, economic or business development, or community engagement.

18 *SEC. 4. NATIONAL INTEGRATED HEAT HEALTH INFORMA-*
19 *TION SYSTEM.*

(a) *ESTABLISHMENT.—The Under Secretary of Commerce for Oceans and Atmosphere shall establish within the National Oceanic and Atmospheric Administration a system, to be known as the “National Integrated Heat Health Information System” (NIHHIS) (in this section referred to as the “System”).*

1 (b) *PURPOSE.*—*The purpose of the System is—*

2 (1) *to improve the capacity of weather, subsea-*
3 *sonal, and seasonal forecasts for the United States to*
4 *allow the Federal Government and stakeholders to*
5 *plan, prepare for, adapt to, and mitigate risks of ex-*
6 *treme heat across multiple timescales; and*

7 (2) *to facilitate the work of the National Inte-*
8 *grated Heat Health Information System Interagency*
9 *Committee.*

10 (c) *DIRECTOR.*—*The System shall be headed by a Di-*
11 *rector.*

12 (d) *RESPONSIBILITIES.*—*In carrying out the purpose*
13 *described in subsection (b), the Director shall—*

14 (1) *develop and sustain robust relationships with*
15 *Federal and non-Federal partners and decision-*
16 *makers—*

17 (A) *to respond to the demand for actionable*
18 *weather- and climate-related information that*
19 *reduces health risks on multiple timescales; and*

20 (B) *to develop and deliver timely and acces-*
21 *sible weather- and climate-related decision sup-*
22 *port services, tools, and information to inform*
23 *planning, preparedness, and risk-reducing ac-*
24 *tions across timescales;*

1 (2) *coordinate and collaborate with the inter-*
 2 *national community and global partners to conduct*
 3 *research and learn from, leverage, and contribute to*
 4 *global weather and climate knowledge as it pertains*
 5 *to extreme heat;*

6 (3) *enhance observations and monitoring nec-*
 7 *essary for the activities described in paragraphs (1)*
 8 *and (2); and*

9 (4) *communicate, educate, and build awareness*
 10 *regarding extreme heat events to communities, edu-*
 11 *cational and economic sectors, Tribal governments,*
 12 *and other relevant stakeholders.*

13 **SEC. 5. STUDY ON EXTREME HEAT INFORMATION AND RE-**
 14 **SPONSE.**

15 (a) *STUDY.*—

16 (1) *IN GENERAL.*—*Not later than 120 days after*
 17 *the date of the enactment of this Act, the Under Sec-*
 18 *retary of Commerce for Oceans and Atmosphere, in*
 19 *consultation with the National Integrated Heat*
 20 *Health Information System Interagency Committee*
 21 *and the entities described in section 3(f), shall seek to*
 22 *enter into an agreement with the National Academies*
 23 *of Science, Engineering, and Medicine to conduct a*
 24 *study on extreme heat information and response, to be*

1 *completed not later than 2 years after the date of the*
2 *enactment of this Act.*

3 (2) *ELEMENTS.—The study described in para-*
4 *graph (1) shall—*

5 (A) *identify the policy, research, operations,*
6 *communications, and data gaps affecting heat-*
7 *health planning, preparedness, response, resil-*
8 *ience, and adaptation, and impacts to vulnerable*
9 *populations;*

10 (B) *provide recommendations for addressing*
11 *gaps identified under subparagraph (A);*

12 (C) *provide recommendations, in addition*
13 *to the recommendations provided under subpara-*
14 *graph (B), which may include strategies for—*

15 (i) *communicating warnings to and*
16 *promoting resilience of populations vulner-*
17 *able to extreme heat;*

18 (ii) *distributing extreme heat warn-*
19 *ings, including to individuals with limited*
20 *English proficiency and individuals who*
21 *may have other established barriers to such*
22 *information;*

23 (iii) *designing warnings described in*
24 *clause (ii) to convey the urgency and sever-*
25 *ity of heat events and achieve behavior*

1 *changes that reduce the mortality and mor-*
 2 *bidity of extreme heat effects;*

3 *(iv) understanding compound and cas-*
 4 *cading risks to inform development and im-*
 5 *plementation of heat-health risk reduction*
 6 *interventions; and*

7 *(v) promoting community resilience*
 8 *and addressing specific decision support*
 9 *service needs of vulnerable populations; and*

10 *(D) consider the effectiveness of country- or*
 11 *local-level heat awareness and communication*
 12 *tools, preparedness plans, or mitigation.*

13 *(3) DEVELOPMENT OF DEFINITIONS.—In con-*
 14 *ducting the study described in paragraph (1), the Na-*
 15 *tional Academies of Sciences, Engineering, and Medi-*
 16 *cine shall work with heat and health experts to iden-*
 17 *tify consistent and agreed upon definitions for heat*
 18 *events, heat waves, and other relevant terms.*

19 *(b) REPORT.—Not later than 90 days after completion*
 20 *of the study described in subsection (a)(1), the Committee*
 21 *shall—*

22 *(1) make available to the public on an internet*
 23 *website of the National Oceanic and Atmospheric Ad-*
 24 *ministration a report on the findings and conclusions*
 25 *of the study; and*

1 (2) *submit the report to—*

2 (A) *the Committee on Commerce, Science,*
3 *and Transportation of the Senate;*

4 (B) *the Committee on Health, Education,*
5 *Labor, and Pensions of the Senate;*

6 (C) *the Committee on Science, Space, and*
7 *Technology of the House of Representatives;*

8 (D) *the Committee on Energy and Com-*
9 *merce of the House of Representatives; and*

10 (E) *the Committee on Education and Labor*
11 *of the House of Representatives.*

12 **SEC. 6. FINANCIAL ASSISTANCE FOR RESEARCH AND RESIL-**
13 **IENCE IN ADDRESSING EXTREME HEAT**
14 **RISKS.**

15 (a) *ESTABLISHMENT OF PROGRAM.*—*Subject to the*
16 *availability of appropriations, not later than 1 year after*
17 *the date of the enactment of this Act, the Under Secretary*
18 *of Commerce for Oceans and Atmosphere shall establish and*
19 *administer a community heat resilience program to provide*
20 *financial assistance to eligible entities to carry out projects*
21 *described in subsection (e) to ameliorate human health im-*
22 *pacts of extreme heat events.*

23 (b) *PURPOSE.*—*The purpose of the financial assistance*
24 *provided under this section is to further scientific research*

1 *regarding extreme heat and fund efforts to educate commu-*
 2 *nities about extreme heat.*

3 (c) *FORMS OF ASSISTANCE.—Financial assistance*
 4 *provided under this section may be in the form of contracts,*
 5 *grants, or cooperative agreements.*

6 (d) *ELIGIBLE ENTITIES.—Entities eligible to receive*
 7 *financial assistance under this section to carry out projects*
 8 *described in subsection (e) include—*

9 (1) *nonprofit entities;*

10 (2) *States;*

11 (3) *Tribal governments;*

12 (4) *local governments; and*

13 (5) *academic institutions.*

14 (e) *ELIGIBLE PROJECTS.—Projects described in this*
 15 *subsection include projects—*

16 (1) *to expand public awareness of heat risks;*

17 (2) *to conduct heat mapping campaigns;*

18 (3) *to conduct scientific research to assess gaps*
 19 *and priorities regarding the risks of extreme heat in*
 20 *communities;*

21 (4) *to communicate risks to isolated commu-*
 22 *nities; and*

23 (5) *to educate such communities about how to re-*
 24 *spond to extreme heat events.*

1 (f) *PRIORITIES.*—*In selecting eligible entities to receive*
 2 *financial assistance under this section, the Under Secretary*
 3 *of Commerce for Oceans and Atmosphere shall prioritize en-*
 4 *tities that will carry out projects that provide benefits for*
 5 *historically disadvantaged communities and communities*
 6 *found to have the greatest risk or highest incidence of heat-*
 7 *related illnesses and mortalities.*

8 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

9 (a) *NATIONAL INTEGRATED HEAT HEALTH INFORMA-*
 10 *TION SYSTEM INTERAGENCY COMMITTEE; NATIONAL INTE-*
 11 *GRATED HEAT HEALTH INFORMATION SYSTEM.*—*There is*
 12 *authorized to be appropriated to the National Oceanic and*
 13 *Atmospheric Administration to carry out sections 3 and 4,*
 14 *including for any administrative costs for the National In-*
 15 *tegrated Heat Health Information System Interagency*
 16 *Committee and the National Integrated Heat Health Infor-*
 17 *mation System, \$5,000,000 for each of fiscal years 2023*
 18 *through 2027.*

19 (b) *STUDY ON EXTREME HEAT INFORMATION AND RE-*
 20 *SPONSE.*—*There is authorized to be appropriated to the Na-*
 21 *tional Oceanic and Atmospheric Administration to contract*
 22 *with the National Academies of Science, Engineering, and*
 23 *Medicine to carry out section 5 \$500,000 for each of fiscal*
 24 *years 2023 through 2025.*

1 (c) *FINANCIAL ASSISTANCE TO ADDRESS EXTREME*
2 *HEAT.*—*There is authorized to be appropriated to the Na-*
3 *tional Oceanic and Atmospheric Administration to carry*
4 *out section 6 \$1,500,000 for each of fiscal years 2023*
5 *through 2027.*

Calendar No. 624

117TH CONGRESS
2D Session

S. 2510

A BILL

To reduce the health risks of heat by establishing the National Integrated Heat Health Information System Program within the National Oceanic and Atmospheric Administration and the National Integrated Heat Health Information System Interagency Committee to improve extreme heat preparedness, planning, and response, requiring a study, and establishing financial assistance programs to address heat effects, and for other purposes.

DECEMBER 12, 2022

Reported with an amendment