117TH CONGRESS
1ST SESSION

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, and Mr. BOOKER) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Preventing Health Emergencies And Temperature-related Illness and Deaths Act of 2021'' or the ''Preventing HEAT Illness and Deaths Act of 2021''.

SEC. 2. DEFINITIONS.

In this Act:

(1) ENVIRONMENTAL JUSTICE COMMUNITY.—The term ''environmental justice community'' means a community with significant representation of communities of color, low-income communities, or Tribal and indigenous communities, that experiences, or is at risk of experiencing, higher or more adverse human health or environmental effects, as compared to other communities.

(2) EXTREME HEAT.—The term ''extreme heat'' means heat that exceeds local climatological norms in terms of any combination of the following:

(A) Duration.

(B) Intensity.

(C) Season length.

(D) Frequency.

(3) HEAT.—The term ''heat'' means any combination of the parameters associated with modulating human thermal regulation, such as air temperature, humidity, solar exposure, and wind speed.

(4) HEAT EVENT.—The term ''heat event'' means an occurrence of extreme heat that may have heat-health implications.

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

(6) PLANNING.—The term ''planning'' means activities performed across timescales (including days, weeks, months, years, and decades) with scenario-based, probabilistic or deterministic information to identify and take actions to proactively mitigate heat-health risks from increased frequency, duration, and intensity of heat waves and increased ambient temperature.

(7) PREPAREDNESS.—The term ''preparedness'' means activities performed across timescales (including days, weeks, months, years, and decades) with probabilistic or deterministic information to manage risk in advance of a heat event and increased ambient 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 hetero-

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

(3) Exposure to extreme heat can cause acute heat-related illnesses, such as heat stroke, which already result in more than 65,000 emergency room

visits each year and exacerbate respiratory and cardiovascular illnesses.

(4) Heat poses the greatest health risks for adults older than 65 years of age, pregnant people, young children, low-income communities, urban communities, communities with low air conditioning prevalence, socially isolated individuals, people with mental or physical disabilities, people with underlying medical conditions, agricultural or other outdoor workers, workers without sufficient access to cooling, athletes, incarcerated individuals, people experiencing homelessness, and military personnel.

(5) Increasingly common environmental exposures exacerbated by climate change, such as extreme heat, are significantly associated with serious adverse pregnancy outcomes across the United States. Those adverse pregnancy outcomes disproportionately impact Black mothers.

(6) Heat exposure is an issue of environmental justice, as people living in low-income communities, communities of color, and Tribal communities face a number of interacting factors that render them more vulnerable to extreme heat.

(7) The impacts of heat on human health are more severe in urban areas where land surface prop-

erties create an urban heat island, particularly in neighborhoods with limited availability of or access to green spaces, shade, and tree cover, higher density of building structures, and more vehicular traffic.

(8) Limited availability of tree cover and higher temperatures are correlated with low-income neighborhoods in urban areas. In Richmond, Virginia, Baltimore, Maryland, and Washington, D.C., researchers found that heat risk is disproportionately distributed to communities of color in patterns associated with segregation and redlining.

(9) Researchers have found that few communities in the United States have sufficient climate and health information, guidance, and resources for heat planning, preparedness, and response.

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

(11) Regions, communities, and populations that face the greatest health consequences of extreme heat often may experience the lowest heat risk perceptions, have limited incentives, or have access to the fewest resources for responding to extreme

heat, and as such, may be less likely to take precautions.

(12) Research on the impacts of extreme heat on human health and the effectiveness of solutions under varying climate, social, and other contexts is stymied by a lack of access to reliable, timely health observations and surveillance due to proprietary data rights, expense, privacy and security concerns, inconsistent reporting of health outcomes and contributory factors, poor data integration and interoperability, few incentives and little systematic coordination to address those problems, and a lack of adequate climate observation, modeling, and assessment in urban, indoor, and occupational settings.

(13) Integrated climate and health research and information, when developed in a collaborative, transdisciplinary manner, can inform long- and medium-range scenario-based planning and decision making to protect vulnerable communities and populations from extreme heat, reduce exposure to extreme heat, and address factors that increase vulnerability.

(14) Heat action plans and early warning systems can reduce heat-related morbidity and mortality by clearly identifying roles and responsibilities

as well as evidence-based actions and thresholds to enhance preparedness, and by promoting behavior changes and actions taken by local governments, communities, and individuals through awareness and increased risk perception among those most vulnerable to the health impacts of heat.

SEC. 4. NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM INTERAGENCY COMMITTEE.

(a) ESTABLISHMENT OF COMMITTEE.—There is established within the Office of Science and Technology Policy an interagency committee, to be known as the ''National Integrated Heat Health Information System Interagency Committee'' (in this section referred to as the ''Committee'').

(b) PURPOSE.—The Committee shall coordinate, plan, and direct agencies represented on the Committee to execute, as appropriate, activities across such agencies to ensure the National Integrated Heat Health Information System Program established by section 5 provides a united Federal approach to reducing health risks from heat across timescales (including days, weeks, months, years, and decades).

(c) MEMBERSHIP.—

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

(A) The Director of the National Integrated Heat Health Information System Program.

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

(i) From the Department of Commerce, the following:

(I) From the National Oceanic and Atmospheric Administration, the following:

(aa) The National Weather Service.

(bb) The Office of Oceanic and Atmospheric Research, including the Climate Program Office.

(II) The National Institute of Standards and Technology.

(III) The Bureau of the Census.

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

(I) The Centers for Disease Control and Prevention, including the National Institute for Occupational Safety and Health.

(II) The Office of the Assistant Secretary of Health and Human Services for Preparedness and Response.

(III) The Substance Abuse and Mental Health Services Administration.

(IV) The National Institutes of Health.

(iii) From the Department of the Interior, the following:

(I) The Bureau of Indian Affairs.

(II) The Bureau of Land Management.

(iv) From the Environmental Protection Agency, the following:

(I) The Office of Environmental Justice.

(II) The Office of Air and Radiation, if the Administrator of the Environmental Protection Agency determines appropriate.

(III) The Office of Research and Development, if the Administrator determines appropriate.

(v) The Federal Emergency Management Agency.

(vi) The Department of Defense.

(vii) The Occupational Safety and Health Administration.

(viii) The Department of Agriculture.

(ix) The Department of Housing and Urban Development.

(x) The Department of Transportation.

(xi) The Department of Energy.

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

(2) SELECTION OF REPRESENTATIVES.—The head of an agency specified in paragraph (1)(B) shall, in appointing representatives of the agency to the Committee, select representatives who have expertise in areas relevant to the responsibilities of the Committee, such as weather and climate prediction, health impacts, environmental justice, behavioral

science, public health hazard preparedness and response, or mental health services.

(3) CO-CHAIRS.—

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

(B) SELECTION.—

(i) INITIAL SELECTION.—Of the co-chairs first selected, one co-chair shall be from the National Oceanic and Atmospheric Administration and one co-chair shall be from the Centers for Disease Control and Prevention.

(ii) SUBSEQUENT SELECTION.—Subsequent co-chairs shall be selected from among the members of the Committee.

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

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

(i) determine the agenda of the Committee, in consultation with other members of the Committee;

(ii) direct the work of the Committee;

(iii) convene meetings of the Committee not less frequently than once each fiscal quarter; and

(iv) if necessary, establish a coordination office for the Committee within the National Oceanic and Atmospheric Administration.

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

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

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

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

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

(5) annually preparing a budget for the financial assistance program under section 7 specifying how funds will be awarded by the Director of the National Integrated Heat Health Information System Program in alignment with the strategic plan required by subsection (e)(1) and in coordination with the climate and health research grant program under section 5(d)(2).

(e) STRATEGIC PLAN.—

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

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

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

(C) oversee the program for providing financial assistance under section 7.

(2) UPDATES.—Not later than 5 years after the submission of the strategic plan required by paragraph (1), and every 5 years thereafter, the Committee shall submit to Congress an update of the

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

(3) PUBLIC AVAILABILITY.—The Committee shall make the strategic plan required by paragraph (1) and updates to the plan required by paragraph (2) available to the public on an internet website of the National Oceanic and Atmospheric Administration, with clear visuals indicating progress toward goals.

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

(g) CONSULTATION.—In carrying out the responsibilities of the Committee, the Committee shall consult with relevant regional, State, Tribal, and local government agencies, 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.

SEC. 5. NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM PROGRAM OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION.

(a) ESTABLISHMENT.—There is established within the Office of Oceanic and Atmospheric Research of the National Oceanic and Atmospheric Administration a program, to be known as the ''National Integrated Heat Health Information System Program''.

(b) PURPOSE.—The purpose of the program established by subsection (a) is to improve the capacity of the United States to plan, prepare for, adapt to, and mitigate health risks of extreme heat across multiple timescales.

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

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

(1) IMPLEMENTATION PLAN.—

(A) IN GENERAL.—The Director shall implement the strategic plan required by section 4(e)(1) by developing and implementing a multi-year implementation plan.

(B) ELEMENTS.—In developing and implementing the implementation plan under sub-

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

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

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

(II) to develop and deliver timely and accessible decision support services, tools, and information to inform planning, preparedness, and risk-reducing actions across timescales.

(ii) Coordinating and collaborating with the international community and global partners to conduct research and learn from, leverage, and contribute to global knowledge.

(iii) Enhancing observations, surveillance, and monitoring necessary for the activities described in clauses (i) and (ii).

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

(v) Implementing and executing the grant program under paragraph (2) and the financial assistance program under section (7).

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

(2) GRANT PROGRAM.—The Director shall develop and implement a climate and health research grant program, in coordination with the financial assistance program under section 7 and other Federal programs—

(A) to improve understanding of—

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

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

(iii) the impacts of extreme heat and 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).

(3) ELEMENTS.—The study required by paragraph (1) shall—

(A) identify policy and research gaps, which may include—

(i) regions of the United States with the largest gaps between awareness, preparedness, and capacity to address extreme heat; and

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

(I) the number of schools, prisons, and other public facilities that lack air conditioning; and

(II) the demographic breakdown of people affected by heat events, including by race, age, gender, occupation, and income;

(B) provide recommendations for addressing gaps with respect to policy, research, operations, communications, and data, including the gaps identified under subparagraph (A), affecting heat-health planning, preparedness, response, resilience, adaptation, and environmental justice and equity;

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

(i) communicating warnings to and promoting resilience of populations vulnerable to extreme heat;

(ii) effectively distributing extreme heat warnings, including to individuals with limited English proficiency and individuals who are socially isolated or have other established barriers to such information;

(iii) designing warnings described in clause (ii) to convey the urgency and severity of heat events and achieve behavior changes that reduce the mortality and morbidity of extreme heat effects, without creating warning fatigue or confusion with other types of weather disaster warnings;

(iv) understanding compound and cascading risks, and implementing alternative heat-health risk reduction interventions to manage those risks collectively, such as reducing risk of the transmission of infectious diseases during heat waves by cre-

ating outdoor cooling locations or increasing ventilation and filtration in indoor cooling centers;

(v) promoting community resilience to heat events and incorporating principles of environmental justice in community response to heat waves;

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

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

(D) consider such other subjects as the Committee considers appropriate, which may include—

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

(ii) mechanisms for financing heat preparedness; and

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

tion tools, preparedness plans, or mitigation.

(4) DEVELOPMENT OF DEFINITIONS.—In conducting the study required by paragraph (1), the Director shall work with heat and health experts to identify consistent and agreed upon definitions for heat events, heat waves, and other relevant terms.

(b) REPORT.—Not later than 90 days after completing the study required by subsection (a)(1), the Committee shall—

(1) make available to the public on an internet website of the National Oceanic and Atmospheric Administration a report on the findings and conclusions of the study; and

(2) submit the report to—

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

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

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

(D) the Committee on Energy and Commerce of the House of Representatives; and

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

SEC. 7. FINANCIAL ASSISTANCE FOR RESILIENCE IN ADDRESSING EXTREME HEAT AND HEALTH RISKS.

(a) IN GENERAL.—

(1) ESTABLISHMENT.—Not later than 1 year after the date of the enactment of this Act, the Director of the National Integrated Heat Health Information System Program may, in coordination with the National Integrated Heat Health Information System Interagency Committee, establish and administer a community heat resilience program to provide financial assistance to eligible entities to carry out projects described in subsection (e) to ameliorate human health impacts of extreme heat events.

(2) REVISION.—Upon completion of the strategic plan required by section 4(e)(1), the Committee may revise the community heat resilience program to ensure the program aligns with the strategic plan and is administered in accordance with the plan.

(b) PURPOSE.—The purpose of the financial assistance provided under this section is to improve community resilience to heat and heat-health impacts and further scientific research to address adaptation gaps and priorities.

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

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

(1) nonprofit entities;

(2) States;

(3) Tribes;

(4) local governments; and

(5) such other entities as the Director determines to be eligible.

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

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

(2) Training programs to support the development and integration of education and training programs for identifying and addressing risks associated with climate change for vulnerable individuals.

(3) Projects—

(A) to expand public awareness of heat risks;

(B) to communicate risks and warnings to geographically, socially, and linguistically isolated communities;

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

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

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

(f) PRIORITIES.—In selecting eligible entities to receive financial assistance under this section, the Director shall prioritize entities that will carry out projects that provide benefits for historically disadvantaged communities and communities with significant heat disparities associated with race, ethnicity, or income.

(g) DISTRIBUTION OF ASSISTANCE.—

(1) ENVIRONMENTAL JUSTICE AND LOW-INCOME COMMUNITIES.—Not less than 40 percent of the amount of financial assistance provided under this section in any fiscal year shall be provided to eligible entities to implement projects described in

subsection (e) in environmental justice communities or low-income communities.

(2) EQUITABLE DISTRIBUTION.—The Director shall seek to equitably distribute financial assistance provided under this section based on geographic location or such other factors as the Director determines appropriate.

(h) MATCHING REQUIREMENT.—

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

(2) WAIVER.—The Director may waive the requirement under paragraph (1) for an entity if the Director determines that the entity does not have adequate resources to meet the requirement.

(i) REPORTS.—The Committee shall require the Director to submit to the Committee, on an annual basis, a report on actions, outcomes, research needs, and data gaps under this section.

SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

(a) NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM INTERAGENCY COMMITTEE; NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM PRO-

GRAM; STUDY ON EXTREME HEAT INFORMATION AND RESPONSE.—There are authorized to be appropriated to the National Oceanic and Atmospheric Administration to carry out sections 4, 5, and 6, including for any administrative costs for the National Integrated Heat Health Information System Interagency Committee and the National Integrated Heat Health Information System Program, the following:

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

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

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

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

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

(b) FINANCIAL ASSISTANCE FOR RESILIENCE IN ADDRESSING EXTREME HEAT AND HEALTH RISKS.—There are authorized to be appropriated to the National Oceanic and Atmospheric Administration to carry out section 7 the following:

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

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

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

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

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

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