



Health and Extreme Weather (HEW) Next Steps

Presentation to NAEHS Council

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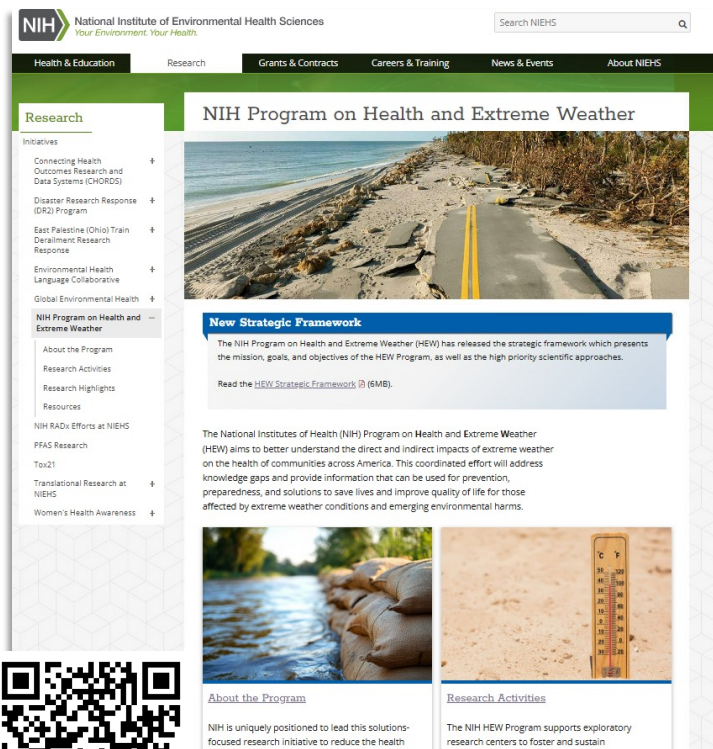


Brief Background of the HEW Extramural Program

(for more details, please see March 2026 Council recording)



The Health and Extreme Weather (HEW) Program Mission



NIH Program on Health and Extreme Weather

New Strategic Framework

The NIH Program on Health and Extreme Weather (HEW) has released the strategic framework which presents the mission, goals, and objectives of the HEW Program, as well as the high priority scientific approaches.

[Read the HEW Strategic Framework \(6MB\)](#)

The National Institutes of Health (NIH) Program on Health and Extreme Weather (HEW) aims to better understand the direct and indirect impacts of extreme weather on the health of communities across America. This coordinated effort will address knowledge gaps and provide information that can be used for prevention, preparedness, and solutions to save lives and improve quality of life for those affected by extreme weather conditions and emerging environmental harms.

About the Program

NIH is uniquely positioned to lead this solutions-focused research initiative to reduce the health

Research Activities

The NIH HEW Program supports exploratory research centers to foster and sustain



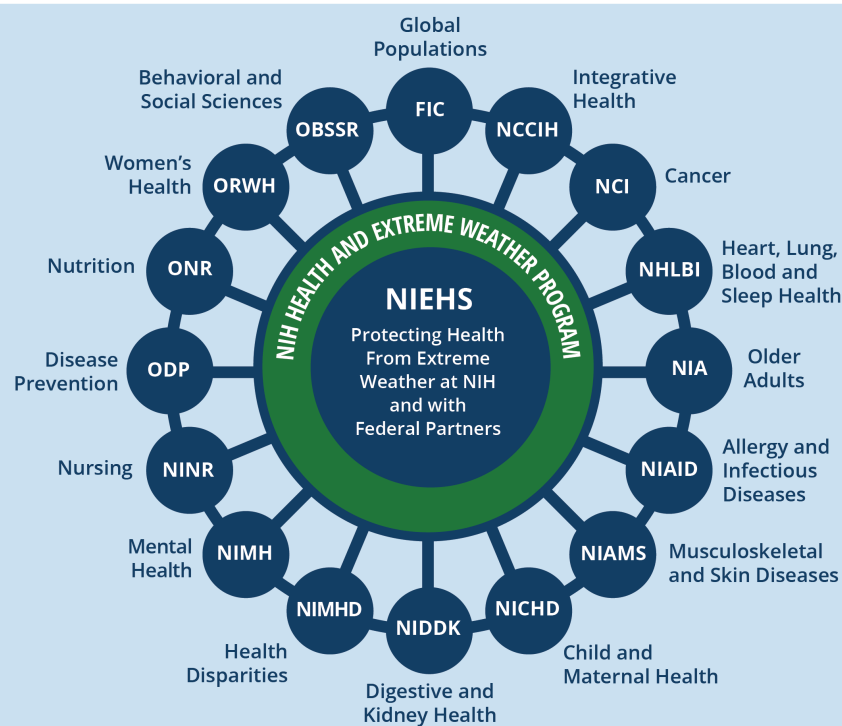
Visit the HEW Webpage

Mission Statement:

The HEW Program aims to understand and address the direct and indirect health impacts of extreme weather, including weather-related natural disasters and emerging weather-related harms.

The overall purpose of this effort is to support critical health research, disseminate findings to the public, and catalyze interventions that promote health in the wake of extreme weather occurrences.

The HEW Program is an NIH-wide Effort



The HEW Steering and Executive Committees have members from 17 NIH Institutes, Centers, and Offices (ICOs). The HEW Interest Group members span 30 ICOs.

- In addition to the extramural aspects of the HEW Program that will be described today, there are also many **complementary internal NIH efforts**:
 - Investments in HEW research among NIH **intramural** investigators
 - Many **data-related** efforts (e.g. focused on weather and health data linkage, pipelines for data processing, data access, data standards and policies)
- Please refer to March 2026 Council meeting recording for more details!



The HEW Extramural Program Supports 27 Active Centers Currently

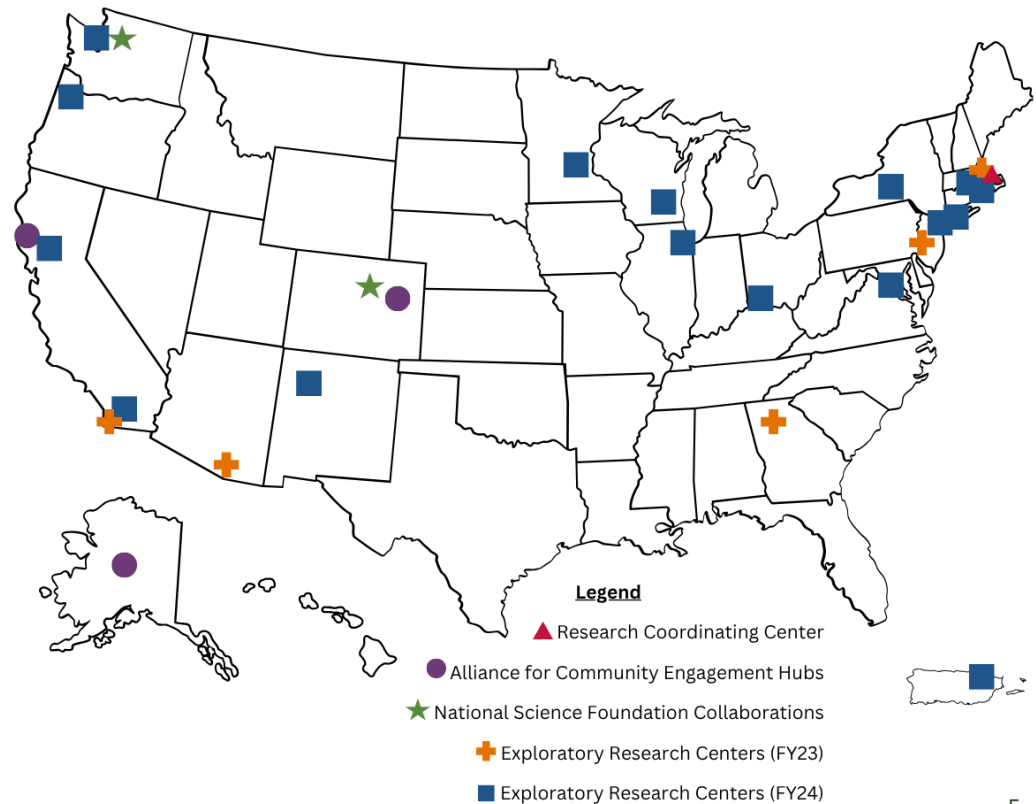
Map of 27 Currently Active Centers Funded Through the HEW Program

21 Exploratory Research Development Centers

A Research Coordinating Center

3 Hubs through the Alliance for Community Engagement (ACE) Program

Collaborations with 2 NSF-Funded Centers Working on Natural Disasters





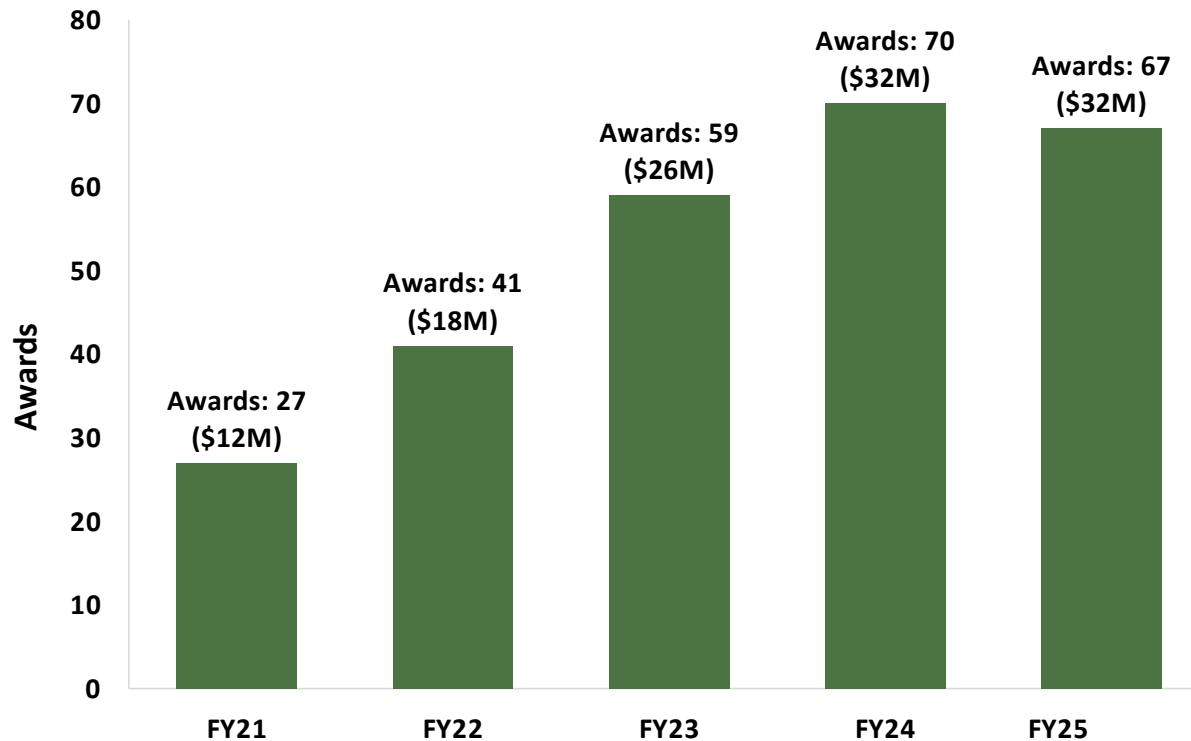
In-Person HEW Symposium in April 2026

- NIH worked with the HEW Program Research Coordinating Center, CAFE, to convene our HEW-funded centers for an in-person Symposium in April 2026.





Additionally, NIH Funds Unsolicited Applications in This Area of Science (HEW)



“Unsolicited” applications are those made to NIH Parent Announcements instead of to specific RFAs, and include R01s, R21s, Ks, Fs, etc.

- Graph includes awards across all Institutes and Centers at NIH; new awards shown
- The proportion at NIEHS is typically about 50% of the total



NIH Highlighted Topic on Health and Extreme Weather!

NIH encourages investigator-initiated applications on the topic of:

13 NIH institutes, centers, and offices have signed onto this Highlighted Topic signaling their interest in funding applications studying the health effects of extreme weather.

[Home](#) > [Funding](#) > [Find a Fit for Your Research](#) > [Highlighted Topics](#)

Health and Extreme Weather: Advancing Critical Research to Address the Direct and Indirect Health Impacts of Weather-Related Natural Disasters and Emerging Weather-Related Harms.

When beginning your next investigator-initiated application, consider the following NIH highlighted topic. The area of science described below is of interest to the listed NIH Institutes, Centers, and Offices (ICOs). This is not a notice of funding opportunity (NOFO).

Apply through an appropriate [NIH Parent Funding Announcement](#) or another broad NIH opportunity available on [Grants.gov](#). Learn how to interpret and use [Highlighted Topics](#).

Topic Description

Post Date: May 1, 2026

Expiration Date: May 1, 2028

The NIH Health and Extreme Weather (HEW) Program aims to support research to increase understanding of how extreme weather, including weather-related natural disasters and emerging weather-related harms, impacts human health. In addition to understanding mechanistic processes, the program prioritizes research to develop, test, implement, and evaluate interventions and prevention strategies that protect the health of communities and those at heightened risk for mortality, chronic disease, and lifelong health risks. The program also prioritizes research connecting health and environmental data, training and capacity building, community engagement, research translation, and collaboration. Furthermore, the program aims to promote gold standard and collaborative science across relevant fields, including biological sciences, atmospheric science, health economics, implementation science, and other disciplines. More detail can be found in the NIH Health and Extreme Weather Strategic Framework, available online.

Highlighted Topic = Announcement to the extramural community of NIH interest in this area of science. Applications can be submitted to any open NIH parent funding opportunity.



Learn more here: <https://grants.nih.gov/funding/find-a-fit-for-your-research/highlighted-topics/69>

***This is not a notice of funding opportunity (NOFO).**



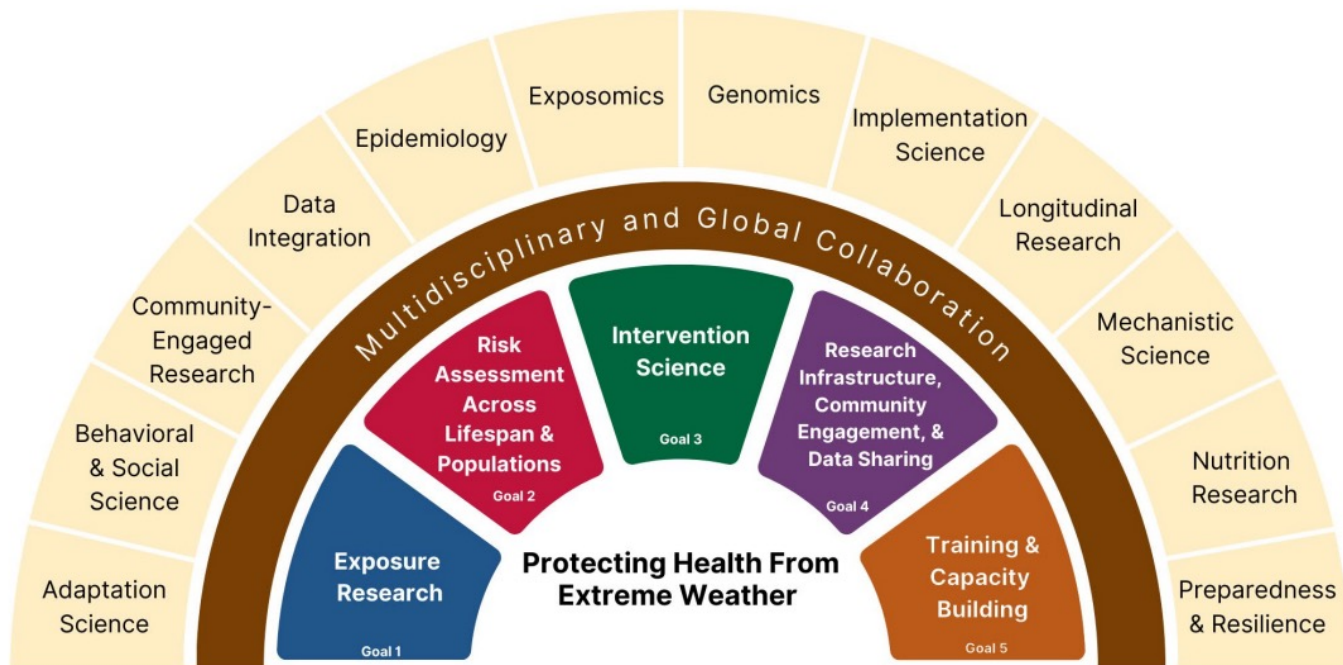
National Institutes of Health



Where are We, and Where Would We Like to Go?

Portfolio and Gap Analysis

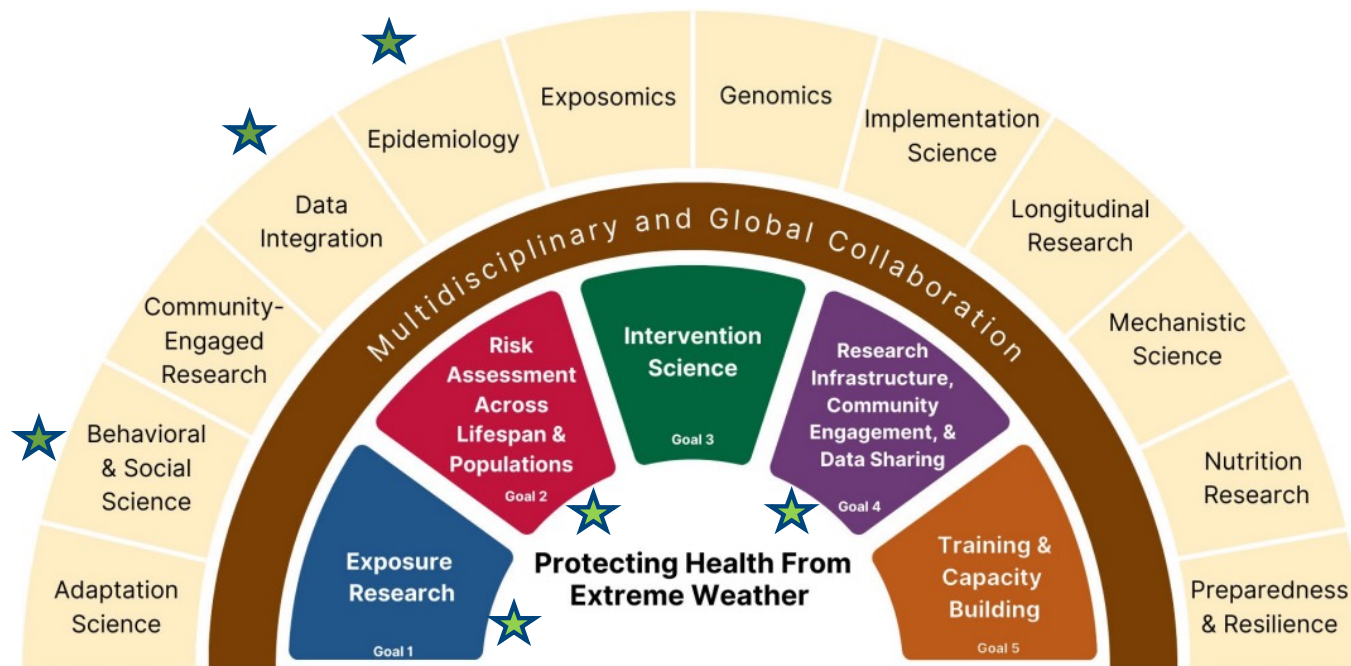
The “Sunrise” Diagram in the HEW Strategic Framework Demonstrates Desired Areas of Science



Read the HEW Strategic Framework

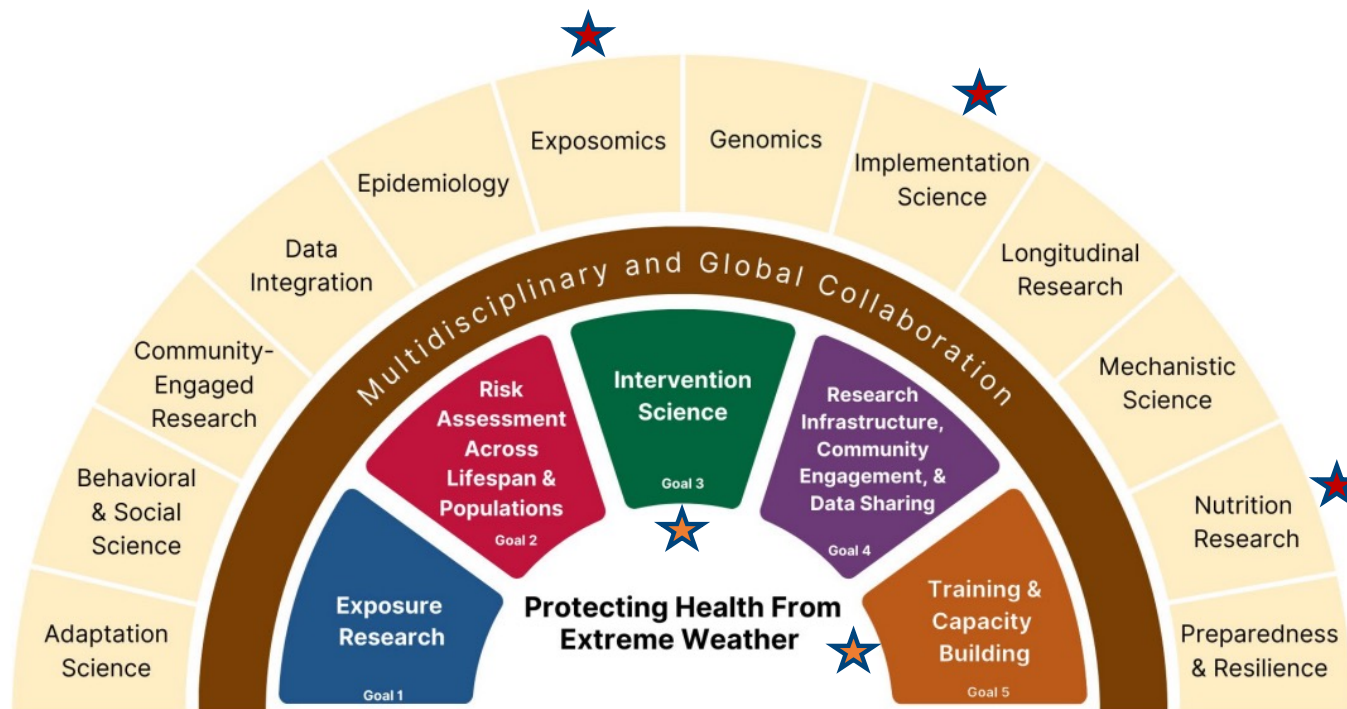


Portfolio Analysis Indicates That Some Desired Areas Are Well Represented





While Other Areas Take Up a Much Smaller Proportion of the Award Portfolio



NIH Office of Disease Prevention “Prevention Research and HEW Portfolio Analysis

- In parallel, the NIH Office of Disease Prevention conducted a deep dive into the “Prevention Research” aspects of the HEW portfolio from FY 2015-2024.*

Prevention research seeks to understand how to promote health and well-being and prevent health conditions from starting or getting worse.

Credit:

Liberty Walton, MPH

Office of Disease Prevention, NIH

Jacqueline Lloyd, PhD

Office of Disease Prevention, NIH

Jaime Madrigano, ScD, MPH

Johns Hopkins Bloomberg School of Public Health

The Office of Disease Prevention Analysis Found:

The prevention focus is well represented in the HEW portfolio (~78% of awards, fairly consistent over time)

Among prevention-focused awards, the focus is on primary prevention, (promoting health in the general population, identifying risk factors for a new health condition, and preventing a health condition) for the vast majority (94%)

Projects focused on secondary prevention (screening for early disease, identifying risk factors for progression or recurrence/ preventing progression and recurrence in those with a known health condition) were much less common (13%)

The Office of Disease Prevention Analysis Found:

Most prevention-focused awards are observational (79%)

Interventions are a focus of 12%

Certain populations at heightened risk of exposure and health effects were not well represented (e.g., American Indian/Alaska Native, incarcerated or institutionalized individuals, people experiencing homeless, etc.)



Regarding Weather Hazards Studied Across NIH Awards



- **Heat** is the **most researched** extreme weather exposure.



- **Hurricanes, floods, and wildfire** are also **well represented**.



- Much **less research** on the health impacts of other weather events: e.g. **drought, cold**.

Summary/Key Points from the HEW Portfolio Analysis:

- In this growing field of science, observational epidemiology studies, primary prevention research, and work on integration and exposure assessment are well represented
- Looking forward, there are opportunities to expand our research base with additional work on:
 - **Interventions** to reduce the health impacts associated with extreme weather
 - **Implementation Science** to understand how best to move effective interventions into practice
 - **Secondary prevention** research
 - The nexus of **nutrition** and extreme weather
 - **Weather-related hazards** outside of heat, flooding, and wildfires
- There is room for more work on **training and capacity building** in this multidisciplinary field.



Concept:

Health and Extreme Weather Program Next Steps

- 1. Solutions-Focused Research Hubs**
- 2. Research Coordination and Data Resource Center**

One concept with two components, will be voted on together in the Electronic Council Book.

Next Steps for the HEW Program

- The HEW Program intends to release two announcements to solicit applications for:
 - (1) A Network of Research Hubs
 - (2) A Research Coordination and Data Resource Center to support these hubs and the broader HEW Community of Practice (CoP)
- These two initiatives would solicit applications that are **transdisciplinary, collaborative science driven** to address knowledge gaps and provide information that can be used for **prevention, preparedness, and solutions to save lives and improve quality of life** for those affected by **extreme weather conditions and emerging environmental harms**.
- They would focus on ***solutions-oriented research, training and capacity building***, and on efforts to ***coordinate and harmonize expertise and resources*** to accelerate research that would protect human health.



National Institutes of Health



1. Solutions-Focused Research Hubs



Purpose—Solutions-Focused Research Hubs

- Translational, solutions-focused HEW Research Hubs consisting of multiple highly integrated components focused on research, capacity building, and community/public health translation.

Solutions-focused research: research that generates actionable knowledge, tools, or interventions that can be applied to prevent, mitigate, or respond to health risks.

In the context of extreme weather, this includes studies that translate mechanistic, epidemiologic, or environmental findings into practical strategies—such as predictive tools, evidence-based interventions, or implementation approaches—that can be adopted by communities, health systems, and public health practitioners to improve health outcomes and resilience.

- These hubs will focus on **regionally relevant exposures** and **populations at heightened risk** for adverse health outcomes as a result of exposure to extreme weather events.

Scope—Solutions-Focused Research Hubs

- Areas of research interest would cover the scientific topics and prioritized approaches outlined in the NIH Health and Extreme Weather Strategic Framework.
- Briefly, **the scope of the program covers** the following exposures in relation to their impact on human health:
 - **Extreme Weather**
 - **Weather-Related Natural Disasters**
 - **Emerging Weather-Related Harms**



Objectives—Solutions-Focused Research Hubs

1. Generate actionable evidence linking extreme weather exposures to health outcomes
 2. Develop and evaluate interventions and strategies to reduce risk and improve resilience
 3. Strengthen transdisciplinary research capacity
 4. Foster sustained, balanced partnerships with affected communities
 5. Advance translation of research into public health practice, policy and systems-level change
- Move beyond problem identification to clearly defined pathways for implementation, scalability, and measurable public health impact.
 - NIH would seek to support HEW Research Hubs in different regions of the United States, focused on the weather-related risks relevant to each region or geographic area.

Solutions-Focused Research Hubs: Proposed Components

• Administrative and Data Management Core

- Overall organization, scientific leadership, and strategic direction
- Establish, coordinate, and monitor processes for data management and analysis
- Ensure interaction between cores, with RCC-DRC, and with HEW Network
- External Advisory Committee

• Training and Development Core

- Train early and mid-career investigators
- Build research capacity at institutions working directly with communities
- Pilot project program supporting small-scale, innovative research projects

• Community Engagement Core

- Establish and sustain meaningful and collaborative partnerships with communities; bidirectional communication
- Community Advisory Board

• Research Projects (2 required)

- Two research projects must be proposed, and both should address research questions relevant to the Hub's theme.
- At least one of the projects must be focused on human populations and should center on the development, testing, or evaluation of one or more solutions
- The second project can be located at the same or a different node on the translational science spectrum
- Encouraged to include early career researchers
- Collaborate with and contribute to HEW data efforts

• Additional Cores (optional, up to 2)

- - E.g., techniques, services, or instrumentation that will enhance the ability of the Hub's Research Projects and Cores to meet the Hub's objectives.



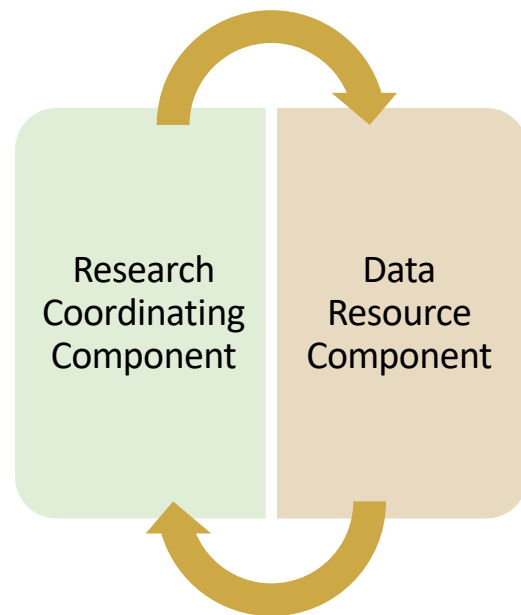
National Institutes of Health



2. Health and Extreme Weather Program Research Coordination and Data Resource Center

Purpose—Research Coordination & Data Resource Center

- Solicit applications for a center that will provide infrastructure support for the HEW Program including its Research Hubs, other NIH-funded research projects that fall within HEW's scope, and the broader CoP that is conducting HEW related-research.



Objectives—Research Coordination & Data Resource Center

- **The Research Coordinating Component will** facilitate engagement across the network of HEW grantees and the larger CoP by sharing best practices, creating training and educational resources, organizing working groups and larger meetings, and otherwise disseminating information.
- **The Data Resource Component will** identify data-related needs in the CoP, provide training to address these needs, support sharing and linking of health and environmental data, and collaborate with other NIH data initiatives to reduce duplication, advance data science, and promote the use of data standards and harmonization.



Scope—Research Coordinating Component

- The Research Coordinating Component would **provide the organizational framework for the management, direction, and overall coordination of all common HEW Network activities.**

Administration Functions:

- HEW Network Working Groups and interactions between the Network and larger HEW CoP
 - Plan and manage HEW Network annual meetings
 - Implement in-person and online short courses/trainings/etc. in collaboration with DRC and Research Hubs

Dissemination Functions:

- Develop a web presence for the Network
- Collect and disseminate information with the Network and the CoP

Partnership Functions:

- Coordinate Research Hub Pilot Project efforts
- Develop cross-Network collaboration opportunities

Scope—Data Resource Component

- The Data Resource Component would provide data infrastructure support for the HEW Network, and as resources permit, NIH-funded and other researchers.

Facilitating access to HEW data:

- Locate & identify environmental exposure datasets and health data; consult on methods to link them
- Conduct landscape analysis of data needs and resources

Supporting hypothesis generation and interpretation of the data:

- Support health researchers with use and interpretation of environmental exposure data;
- Support environmental/other researchers with use and interpretation of health data

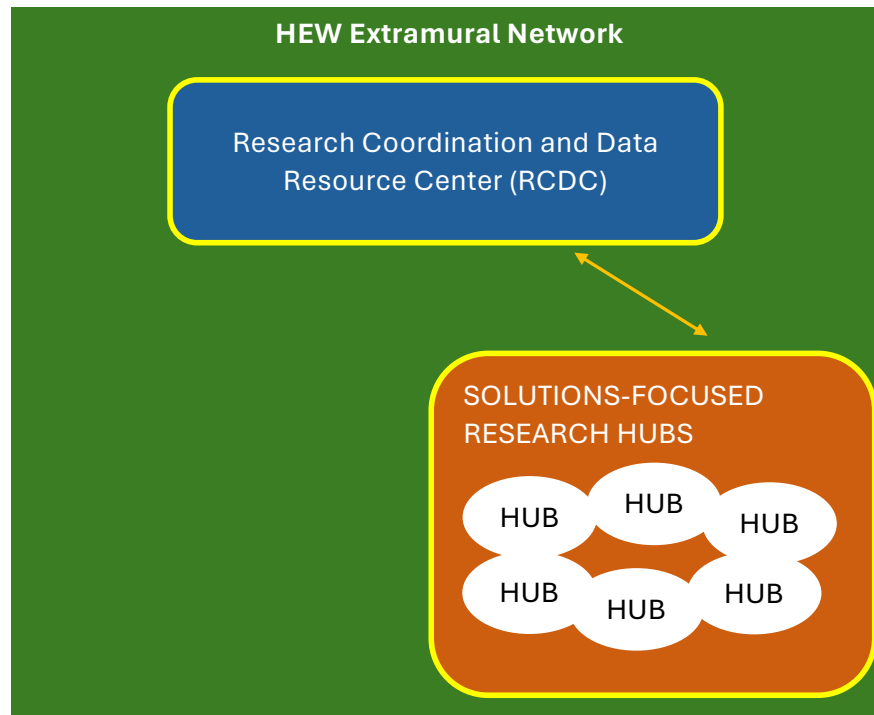
Assisting NIH and researchers in developing data interoperability, standards, and governance:

- Work with ongoing NIH data-related efforts to pursue harmonization, standardization, and interoperability (i.e., linking) of HEW data from multiple sources
- Conduct outreach about data standards and best practices across the HEW Network

Providing training and user support for data manipulation and analysis:

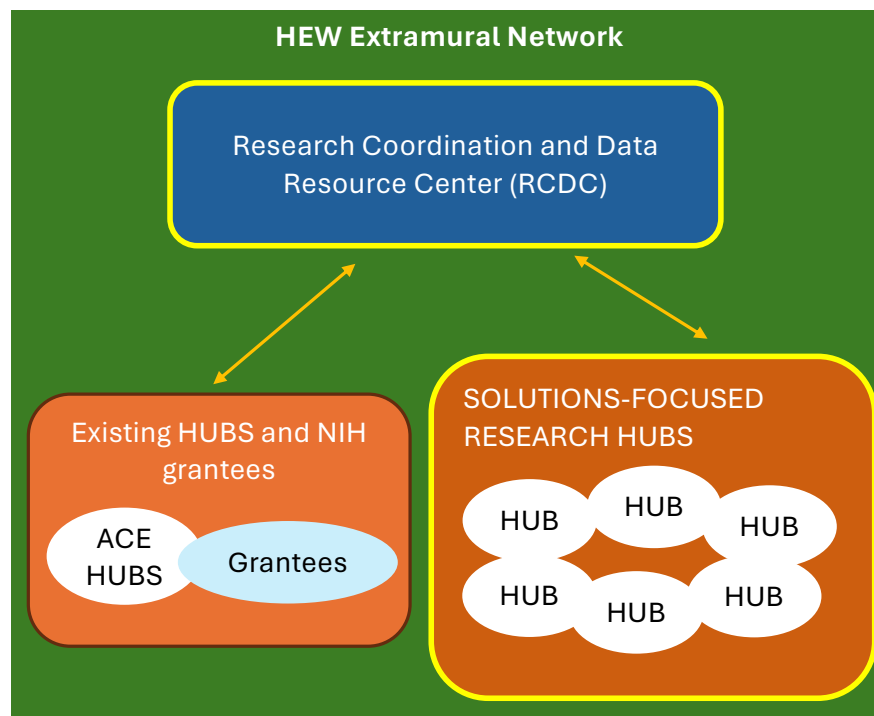
- E.g. providing tutorials, training, metadata, and software coding

Interactions Across All HEW Components



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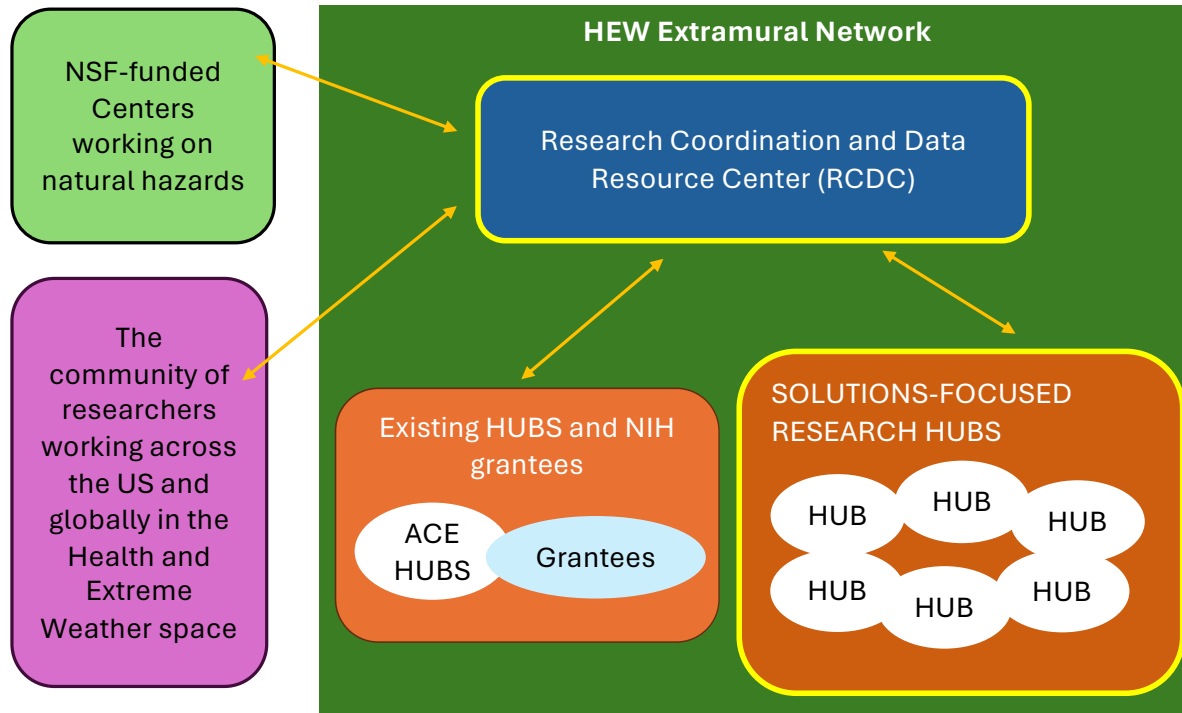
Interactions Across All HEW Components



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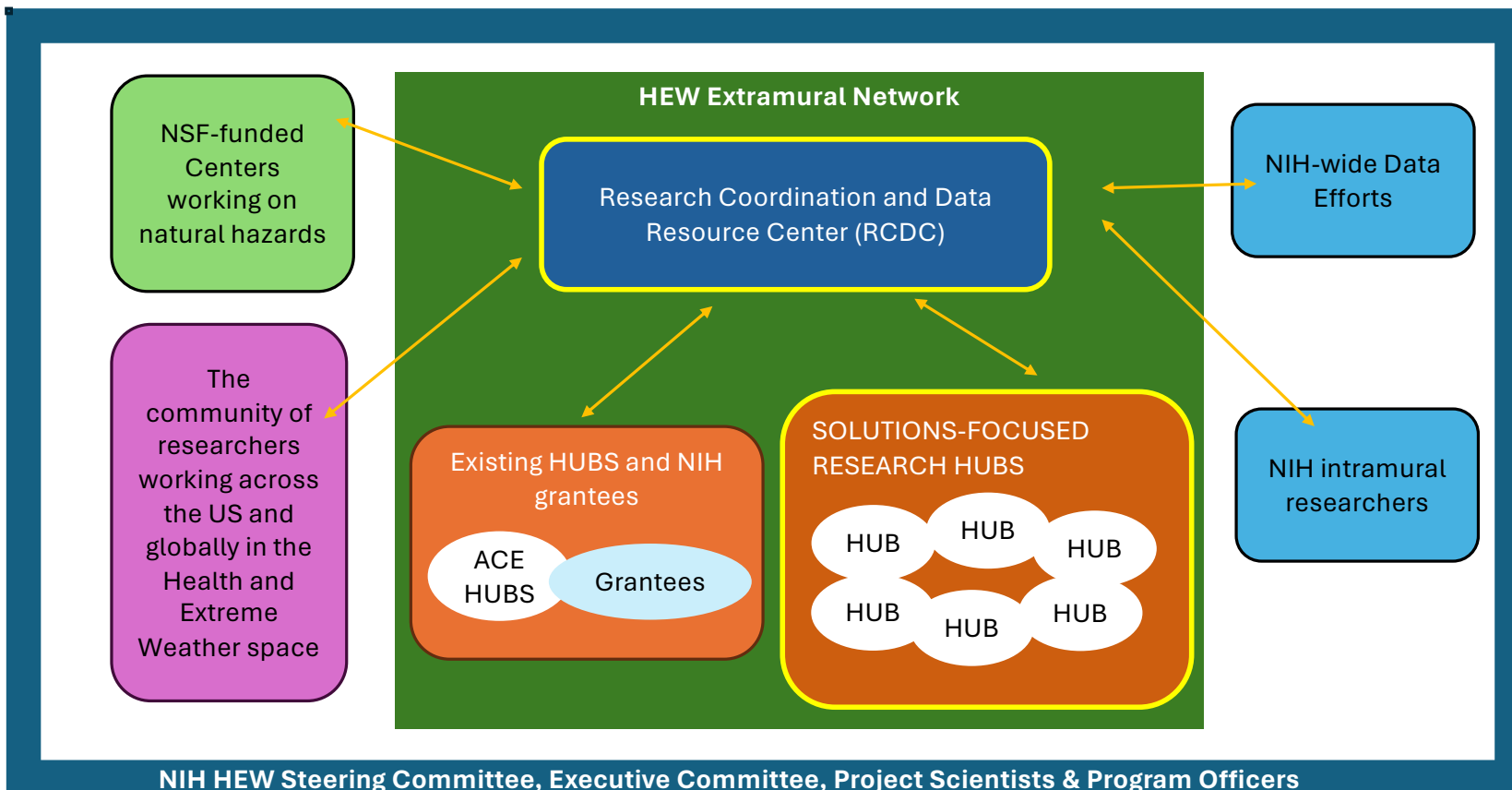
Interactions Across All HEW Components



Yellow outline = Proposed by this Concept



Interactions Across All HEW Components





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