



National Institute of Environmental Health Sciences  
*Your Environment. Your Health.*

# National Institute of Environmental Health Sciences

## Efforts in Community Engagement and Climate Change

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# About NIEHS

## (National Institute of Environmental Health Sciences)

- One of the 27 Institutes and Centers at the National Institutes of Health, part of the U.S. Department of Health and Human Services
- **Mission:** to discover how the **environment** affects people in order to promote healthier lives
- Division of Extramural Research & Training oversees federal research funding (grants, cooperative agreements, contracts) to universities and other research organizations
  - Research projects - Small business awards - Research Centers - Training and career development



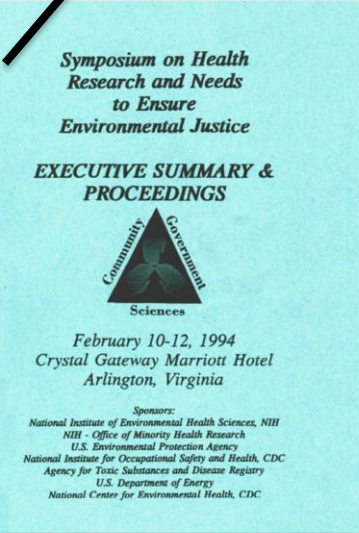
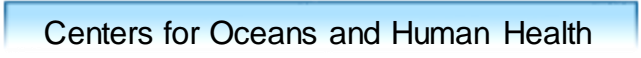
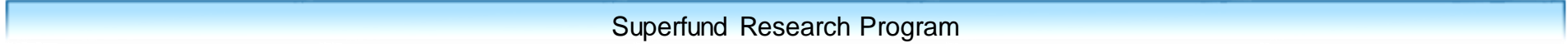
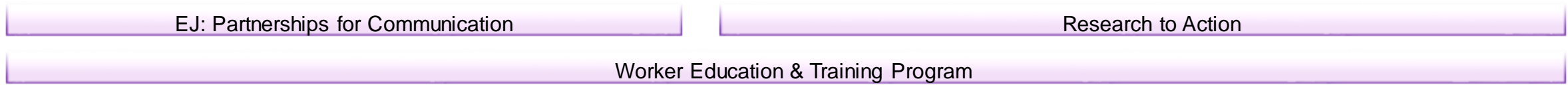


## NIEHS Strategic Plan Themes & Goals

- Theme 1: “Advancing Environmental Health Sciences”
- Theme 2: “Promoting Translation – Data to Knowledge to Action”
- Theme 3: “Enhancing EHS Through Stewardship and Support”
- Goals:
  - Outreach, communication, and engagement
  - Environmental health disparities and environmental justice
  - Promotion of Collaborative Science

<https://bit.ly/NIEHS24-28>

# NIEHS Response to Community Needs



## Program Highlights

### Community Engaged

- Research to Action
- EHS Core Centers

### Others of Interest

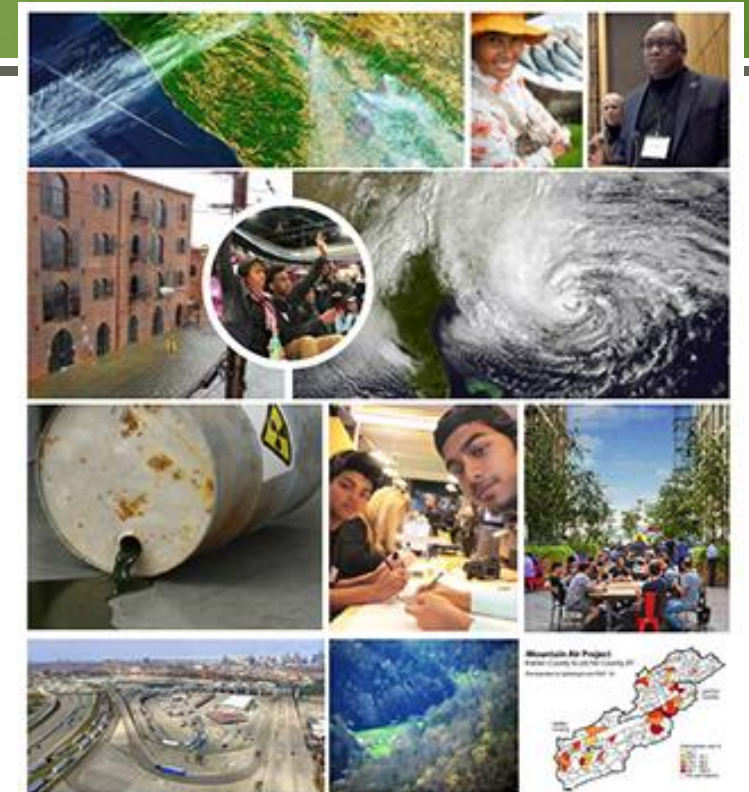
- Structural Racism & Discrimination
- Worker Training Program: ECWTP

### Climate Change Focused

- NEW! Exploratory Grants for Climate Change and Health Research Center
- Climate Change and Health Initiative NOSI
- Time Sensitive
- Alliance for Community Engagement – Climate & Health

## Research to Action

- Support community-engaged research to prevent or reduce exposure to harmful environmental contaminants and improve the health of a community.
- Use multi-disciplinary, collaborative research approaches to investigate the potential health risks of environmental exposures of concern to the community
- Implement an environmental public health action plan based on research findings



### Project Elements

- (1) community engagement
- (2) research
- (3) public health action
- (4) Evaluation -- optional.



#### Open Funding Opportunity Announcement

[PAR-22-210](#)

*Standard due dates apply. NIMHD is signed on to this FOA.*



## R2A Examples

### Radon: Community Science

- Train 60 community residents in 4 rural counties
- Establish and evaluate a library loan program with 400 residents
- Examine environmental health literacy of community scientists
- University of Kentucky

### Community Air Monitoring Network

- Community identified network of low-cost sensors
- Data shared on IVAN webpage
- Informed school flag program
- Informed State Legislation AB 617
- Led to 2<sup>nd</sup> R2A project on child health
- Public Health Institute



**Read more about ongoing projects**

<https://bit.ly/R2AProjects>

*You can also check out past projects.*

# EHS Core Center Program Goals

Environmental Health Sciences Core Centers guide and support environmental health research at an Institution or region. Their goals are to:

- Provide intellectual leadership and foster innovation
- Stimulate new ideas and collaborations
- Provide career development for future leaders
- **Translate research into public health outcomes**
- **Engage communities in multi-directional communication**

All are required to have a Community Engagement Core



**Environmental Health Policy Factsheet** — May 2022

## Climate Change, Extreme Heat, and Health

The M-LEEd Center's Community Engagement Core (CEC) increases awareness and understanding of environmental health research.

**Stakeholder Advocacy Board members include:**

- Community Health and Social Services
- Detroit Department of Public Health
- Detroit Hispanic Development Corporation
- Detroiters Working for Environmental Justice
- Eastside Community Network
- Ecology Center
- Henry Ford Health System
- Michigan Environmental Justice Coalition
- We the People of Detroit

**Why is Climate Change Important to Public Health?**  
Climate change is altering weather and climate patterns. These changes could affect human health in direct and indirect ways, sometimes severely. <sup>1</sup> The American Public Health Association and World Health Organization call climate change one of the most serious public health threats facing us today. <sup>2</sup>

**How are Climate Change & Extreme Heat Impacting Michigan?**  
Temperatures are rising. Heat waves are becoming more frequent. Detroit could experience as many as 65 days per summer with high temperatures above 90° toward the end of the century, a substantial increase over our current average of 13 days per summer. <sup>3</sup> In southeast Michigan there are many 'urban heat islands' — areas with significantly warmer temperatures due to buildings and hard surfaces.

A recent study found that a combined heatwave and major blackout could result in more than 1,400 deaths in Detroit. Climate change is increasing the risk for more frequent and prolonged heatwaves, which put more strain on an already aging electrical grid. Leaving Detroit residents without power for days during a heatwave could expose thousands of residents to an increased risk of heat exhaustion and heat stroke. <sup>4</sup>

**GLISA**  
Detroit's Urban Heat Island Study

**HEAT WAVES: CLIMATE RISK**

**HEAT WAVE CLASSES**

**EXPOSURE RISK**

POWER OFF | POWER ON

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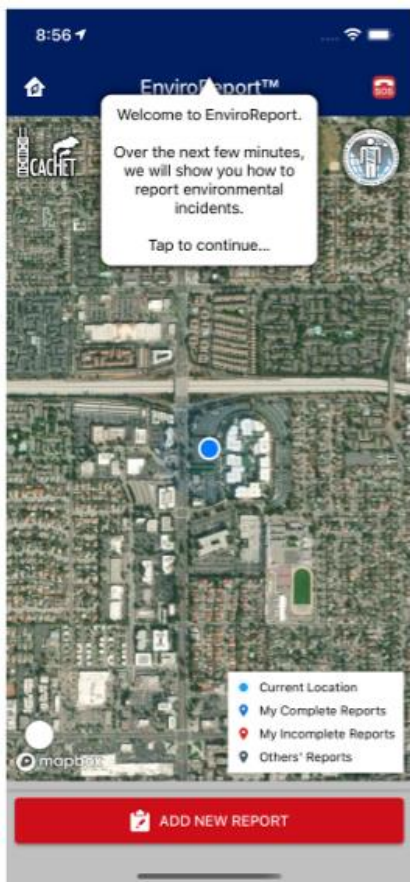
**SCHOOL OF PUBLIC HEALTH  
LIFESTAGE ENVIRONMENTAL EXPOSURES AND DISEASE CENTER  
UNIVERSITY OF MICHIGAN**



## Tools for Community Groups

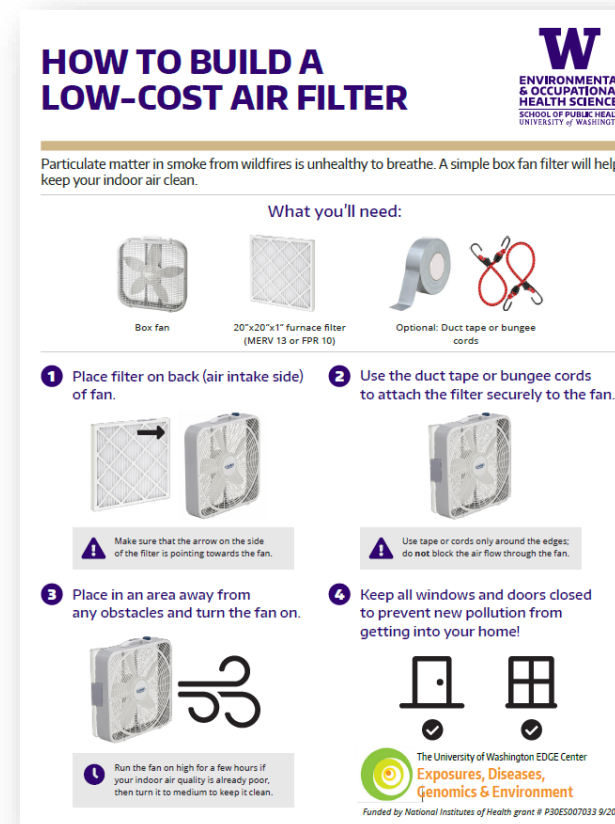
### EnviroReport Chicago & USC

- Handheld app
- Community members can enter observations
- Helps id exposures
- Developed at Center in Chicago. Used there and in Los Angeles



### Box Fans & Indoor Air Univ. Washington

- To address wildfire smoke in the area
- Inexpensive way to clean indoor air
- Being tested



# Raising Awareness: Decision Makers & Health Care

## Engaging Decision Makers Univ. of Michigan & Wayne State

Policy Brief April 2022

### Asthma and Air Pollution

The M-LEEd Center's Community Engagement Core (CEC) increases awareness and understanding of environmental health research.

Stakeholder Advocacy Board members include:

- Community Health and Social Services
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UNIVERSITY OF MICHIGAN

Air pollution increases the risk of getting asthma, and worsens asthma among those who have it. Detroit residents experience high rates of asthma and exacerbations of asthma linked to poor air quality. These lead to increased healthcare and emergency department visits, school and work absenteeism, and higher health care costs. Policies that reduce environmental pollutants are critical to reduce asthma and its effects on the health of Detroit residents.<sup>1</sup>

The prevalence of current asthma among Detroit adults is 46% higher than in Michigan as a whole.<sup>2</sup> In 2017-2019, 16.2% of adults and 14.6% of children in Detroit had asthma.<sup>2</sup> People living in Detroit are exposed to elevated levels of outdoor air pollutants, including particulate matter, diesel exhaust, ozone, nitrogen oxides, and sulfur dioxide. These pollutants come from many different sources, including steel mills, power plants, coking plants, and other industrial emitters, as well as diesel trucks, and other vehicles. Exposure to air pollutants (particulate matter, ozone, sulfur dioxide and nitrogen oxides) from local and regional sources has substantial impacts on the health of residents of Detroit and neighboring cities. Within the Detroit urban area alone, this causes a monetized impact of \$6.5 billion.<sup>1, 3</sup>

Currently, Wayne County does not meet the National Air Ambient Quality Standards (NAAQS) for sulfur dioxide or for ozone.<sup>4</sup> Ozone exposure exacerbates asthma, and brief periods of exposure to sulfur dioxide can lead to asthma exacerbation and other serious health concerns.<sup>5</sup>

Asthma disproportionately impacts lower socioeconomic groups and minority communities. These communities are exposed to higher levels of air pollutants, in addition to other health stressors, while also having access to fewer resources with which to reduce the harmful health effects of air pollution. Such cumulative effects result in heavier health burdens on low-income communities and communities of color.<sup>6</sup>



## Advocating for a Healthy Environment

### Guidelines for Engaging Policy Makers



## Engaging Health Care Mount Sinai

### PRescriptions for Prevention: the 5 W's

What are they?  
The **Prescriptions for Prevention** (aka Rx for Prevention) is a tool used to present clear, evidence-based, actionable information to help families reduce environmental exposures.

Front of Rx: Evidence-based action plan

Back of Rx: Resources

Who created them?  
They were created and vetted by local, regional, and national experts in pediatric environmental health, and are consistent with American Academy of Pediatrics (AAP) policy.

Why were they created?  
The motivation for this project was the gap seen between the training health practitioners receive and the guidance they give families on environmental exposures. The Rx's address pediatric health disparities by integrating environmental health screenings, evidence-based messaging, and referrals to community resources into routine pediatric care.

New York State Children's Environmental Health Centers | NYS.CHECK.ORG

Facebook: NYS.CHECK | Twitter: @NYS.CHECK

## Active Climate Change and Health FOAs

- Exploratory Grants for Climate Change and Health Research Center Development (P20 Clinical Trial Optional) -- [RFA-ES-23-007](#)
  - The NIH will hold an informational webinar/Q&A session April 5, from 1:00pm-3:00pm EDT on Zoom. [Registration required](#)
- Notices of Special Interest (NOSIs):
  - [NOT-ES-22-006](#) -- Climate Change and Health
  - [NOT-ES-22-009](#) -- Innovative Technologies for Research on Climate Change and Human Health Small Business Technology Transfer (R41/R42 Clinical Trial Optional)
  - [NOT-ES-22-010](#) -- Innovative Technologies for Research on Climate Change and Human Health Small Business Innovation Research (R43/R44 Clinical Trial Optional)



## Climate Change and Health Research Centers

- Developmental Centers (P20)
- Transdisciplinary research environment: fundamental and applied
- Solutions-oriented: protect health individuals, communities and nations
- Develop new teams
- Collaborate with communities and other partners
- Focus on four core elements of NIH climate change initiative:
  - Health effects research
  - Health equity
  - Intervention research
  - Training and capacity building



### Open Funding Opportunity Announcement

[RFA-ES-23-007](#)

*Lead Institute: NIEHS.*

*NIEHS Point of Contact – Abee Boyles*

## CCHRC Expectations



### Learn More!

Informational webinar on April 5, 2023  
1:00pm-3:00pm EDT on Zoom.

[Registration required](#)

- (1) Plan and develop sustainable research capacity  
-- establish centralized resources and research infrastructure;
- (2) Develop a thematic science area  
-- use transdisciplinary research activities;
- (3) Enable research that will develop into new programs of science and research applications supporting independent investigators;
- (4) Establish or build upon and maintain authentic partnerships  
-- engage communities most likely to be impacted by climate change in all phases of the research process; and
- (5) Participate actively in the NIH Research Coordinating Center to Support Climate Change and Health Community of Practice efforts

# Climate Change and Health Initiative NOSI

## NIEHS-specific Language

- research that examines the interplay between environmental exposures and individual and structural-level (e.g., structural racism) social determinants of health.
- Community-engaged, solutions-focused climate justice research in communities experiencing a disproportionate burden of impact
- Natural disaster research (e.g., air pollution from wildfires, toxic chemicals in flood waters, changes in fungicide, pesticide or fertilizer use due to associated drought conditions or flooding events, or exposure to harmful conditions during post-disaster clean up).
- Exposures of emerging concern (e.g., changes in the toxicity of micro/nanoplastics or harmful algal blooms in fresh and salt water in response to climate change conditions)



### Open Funding Opportunity Announcement

[NOT-ES-22-006](#)

*Lead Institute: NIEHS.*

*NIEHS Point of Contact – Claudia Thompson*



## Time Sensitive Grants

- Started in 2010
- **Goal:** Receive, review, and fund a research application within 90-120 days
- **Rationale:** To understand the consequences of natural and human-made disasters, emerging environmental public health threats, and policy changes
- Collect critical information to understand exposure-health outcome relationships, facilitate timely action to protect human health, and better understand the short- and long-term health consequences following disasters



### Open Funding Opportunity Announcement

[RFA-ES-23-004](#)

*Lead Institute: NIEHS.*

*NIEHS Point of Contact – Toccara Chamberlain*

## Alliance for Community Engagement – Climate and Health Awards

- University of Alaska Fairbanks | Alaska Alliance for Community Engagement – Climate and Health (AK ACE-CH)  
Principal Investigator: [Stacy Rasmus\(link is external\)](#)
- University of Colorado School of Public Health | Mountain West ACE-CH Hub: Climate Change Engagement Platform to Support Resilient Rural and Urban Communities  
Principal Investigator: [Katherine Dickinson\(link is external\)](#)
- University of Southern California | Community-driven Approaches to Environmental Justice and Health in the Face of the Climate Crisis in Southern California  
Principal Investigator: [Jill Johnston\(link is external\)](#)
- Public Health Institute | Climate Health Adaptation and Resilience Mobilizing (CHARM) Lake County Project  
Principal Investigator: [Paul English\(link is external\)](#)



### Closed Funding Opportunity Announcement

OTA

*Lead Institute: NHLBI.*

*NIEHS signed onto this FOA. NHLBI Contact – Nishadi Rajapakse*

## Worker Training Program

- Started in 1995
- 13,500 people have been trained
- Selected to be a pilot program as part of the Justice 40 Initiative because of its strong record of helping unemployed, underemployed, homeless, & formerly incarcerated people find good jobs and become productive members of society

### Worker Training Program

NIH National Institute of Environmental Health Sciences

[Climate Resilience](#)

See our Climate Resilience page that includes the Climate Vulnerability report assessing how climate change impacts worker health and how to prepare for these impacts.

CLIMATE CHANGE VULNERABILITY ASSESSMENT

The graphic features a colorful diamond-shaped pattern of squares in shades of blue, green, orange, and purple. On the left, a lightning bolt strikes a body of water. On the right, a white, textured surface, possibly snow or a desert landscape, is shown. Navigation arrows are visible on the left and right sides.

**Environmental Career Worker Training Program**

Impacts of pre-employment and health and safety training for underserved communities

**COMPONENTS**

- JOB TRAINING/TECHNICAL SKILLS**  
Construction and Remediation
- LIFE SKILLS**  
Communication and Time Management
- KNOWLEDGE/AWARENESS**  
Environmental Justice and Worker Safety and Health

**IMPACTS**

- INDIVIDUAL/INTERPERSONAL GROWTH
- SAFER WORKPLACE
- POLICY IMPACTS
- SUSTAINABLE COMMUNITIES

**WE'RE Hiring!**

**POLICY IMPACTS**  
POLICY  
PRACTICES  
STANDARDS  
RULES  
REGULATIONS  
COMPLIANCE

NIH National Institute of Environmental Health Sciences  
Worker Training Program

**ECWTP SELECTED AS PARTICIPANT IN THE JUSTICE40 INITIATIVE**

Learn about Justice40 and the NIEHS Environmental Career Worker Training Program.

The infographic uses a circular flow diagram to connect components to impacts. It includes illustrations of workers in hard hats, a person at a computer, a person with a lightbulb idea, a forklift operator, and a person holding a house. A stack of books represents policy impacts.



## Structural Racism & Discrimination

- This initiative will support intervention research to address the impact of SRD on minority health and health disparities.
- Research projects must address SRD in one or more NIH-designated populations with health disparities in the US and should address documented disparities in health outcomes.
- Applications are also expected to provide a conceptual model identifying hypothesized pathways between the SRD and health outcomes.
- Projects are expected to involve collaborations with relevant organizations or groups or stakeholders



### Open Funding Opportunity Announcement

[PAR-23-112](#)

*Lead Institute: NIMHD.*

*NIEHS has signed onto this FOA. Point of Contact – Lindsey Martin*

# Partnerships for Environmental Public Health: Amplifying Grantee Work

## Podcast: Environmental Health Chat Podcast Series



### PEPH Resources

#### Healthy Families

##### [A Story of Health - A Multi-Media eBook](#)

eBook grounds the science of health in stories of fictional people, their families, and communities to enable readers to explore the risk factors for disease as well as how to prevent disease and promote health and resilience.

##### [Asthma & Allergies Fact Sheet](#)

Answers to our most frequently asked questions about asthma and allergies.

##### [Childhood Leukemia and the Environment](#)

The Western States PEHSU has an ongoing collaboration with the Center for Integrative Research on Childhood Leukemia and the Environment (CIRCLE) Community Outreach and Translation Core, working to educate clinicians and the public about environmental toxicants that increase the risk of childhood leukemia and other childhood diseases.

#### Healthy Spaces

##### [Cleaning Up Take-home Lead Dust in Your Home and Car](#)

The most effective method for removing lead dust combines vacuuming and wet wiping.

##### [Environmental Health Infographics](#)

Popular graphics, thematic graphics and graphics related to research studies and projects available from the Environmental Health Centers based at USC.

##### [Protect Your Family From Carbon Monoxide Exposure \(University of North Carolina, Chapel Hill\)](#)

(303KB)  
Carbon monoxide (CO) is a gas with no odor, taste or smell. It can harm the health of anyone, even healthy people, by traveling through the bloodstream to the heart, lungs, and brain.

[See All Health Resources](#)

#### Healthy Communities

##### [PFAS Exchange](#)

An online resource of PFAS contaminants in drinking water helping communities understand exposures and take steps to protect their health.

##### [Best Practices: Sharing Environmental Health](#)

This document synthesizes science communication insight from decision makers to offer guidelines for sharing environmental health information.

##### [Extreme Heat and Health \(University of North Carolina\)](#)

(1MB)  
Temperatures are rising globally. As a result, extreme heat events are more common and increase over the next few decades. Heat is a period of high heat and humidity with temperatures above 90°F for at least two days.

## Grantee Highlights



Hamm studies institute Center's CEC. (Photo credit: [unreadable])

### Partnerships for Environmental Public Health

## PEPH Newsletter

Volume 14, Issue 2: February 2023

[All Issues](#) [Subscribe](#)



[Articles](#) | [Podcasts](#) | [Grantee Highlights](#) | [Funding Opportunities](#) | [Related News](#) | [Related Events](#)

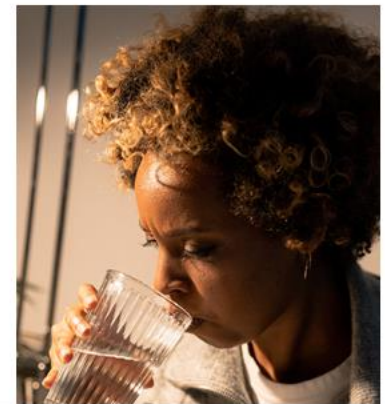
## New Environmental Justice Index Characterizes Toxic Metals in North Carolina Wells

Researchers at the University of North Carolina at Chapel Hill (UNC) adapted an existing environmental justice index to characterize toxic metals from North Carolina drinking water wells. Their adaptation allowed inclusion of factors related to social disadvantage. A [July 2022 paper](#) describes their process. The authors state their new indices identified areas of potential environmental injustice from private well water contamination in North Carolina. In turn, results may be used to advance the provision of equal protection of communities against environmental hazards.

### Drinking Water Supply as an Environmental Justice Issue in North Carolina

Households may rely on wells in areas not reached by public water supplies. These homes are often in rural areas; however, in North Carolina, historical practices excluded areas with a large racial minority population from the public water supply. Earlier in 2022, UNC researchers [documented](#) that thousands of wells throughout the state are contaminated with toxic metals.

Toxic metals of concern in North Carolina wells include arsenic, cadmium, manganese, and lead.



# Helpful Resources

## Evaluation Metrics

### Partnerships for Environmental Public Health (PEPH)

The PEPH Evaluation Metrics Manual provides examples of tangible metrics that PEPH grantees and program staff can use for both planning and evaluation. Example logic models are used as a means to develop evaluation metrics for cross-cutting PEPH themes such as Partnerships, Leveraging, Products and Dissemination, Education and Training and Capacity Building. PEPH grantees (including all project partners) are the primary target audience for this document.

If you would like to schedule a webinar to learn more about the PEPH Evaluation Metrics Manual, please contact us at [peph@niehs.nih.gov](mailto:peph@niehs.nih.gov).

#### Metrics Manual

- [Complete PEPH Evaluation Metrics Manual](#) (7MB)
- [Chapter 1 – Introduction](#) (752KB)
- [Chapter 2 – Partnerships](#) (1MB)
- [Chapter 3 – Leveraging](#) (1MB)
- [Chapter 4 – Products and Dissemination](#) (1MB)
- [Chapter 5 – Education and Training](#) (941KB)
- [Chapter 6 – Capacity Building](#) (1MB)
- [Chapter 7 – Principles of Evaluation](#) (1MB)
- [Chapter 8 – Appendices](#) (314KB)



Please check out our PEPH Logic Model and Metrics videos:

## Request Technical Assistance Services

The NIEHS Division of Extramural Research and Training (DERT) is committed to providing the support and resources needed to encourage the growth and success of our grantee community. DERT recognizes that providing technical assistance and training to our grantees, potential grantees, and community partners provides us with an opportunity to foster new relationships, provide technical knowledge and feedback, and significant benefits, including:

- Encouraging grantees to anticipate research needs and gaps;
- Increasing the diversity and inclusion of staff and community partners involved;
- Ensuring that community partners in the full spectrum of the research process.

The Division offers technical assistance and training in the following areas:

- Grantwriting
- Peer review
- Logic Models and Evaluation
- Translational research
- Team science

If you would like to request technical assistance or training from DERT, please complete this request form. We will review your request and contact you to discuss your specific needs and training options.

Before you submit a request, we invite you to explore the many training options already available from NIH and NIEHS:

- NIEHS Partnerships for Environmental Public Health [Evaluation Metrics](#)
- [NIH Grant Application Instructions and Resources](#)
- [NIH Grants and Funding Resources](#)

## Request Form



## Helpful Program Administrators



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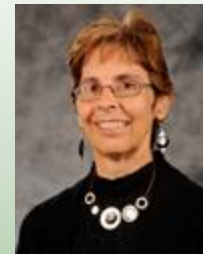
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**We're here to help!**

*Feel free to reach out to us with Program Questions.*





# Thank you & Questions

[ofallon@niehs.nih.gov](mailto:ofallon@niehs.nih.gov)



## Learn More about PEPH

PEPH Webpage: <http://1.usa.gov/1dj2XUP>

PEPH Podcasts: <http://1.usa.gov/13UdyjH>

PEPH Metrics: <http://1.usa.gov/16g7V1E>