The NIH Climate Change and Health Initiative Strategic Framework presents the initial planning and development of an NIH-wide research initiative on the impacts of climate change on people’s health. The Framework reflects extensive input and coordination with community organizations and academic scientists to collect, analyze, and synthesize a diversity of views, needs, and opportunities.

The goal of this NIH-wide effort is to reduce health threats from climate change across the lifespan and build health resilience in individuals, communities, and nations around the world, especially among those at highest risk.

The need for NIH to lead this science-based initiative, in partnership with communities throughout the world, is vitally necessary to address the imminent threat that climate change poses to our health, humanity, and our planet.

Objectives:

- Identify risks and optimize benefits to the health of individuals, communities, and populations from actions to mitigate or adapt to climate change.
- Develop the necessary research infrastructure and workforce to enable the generation of timely and relevant knowledge, drawing from the full spectrum of biomedical disciplines.
- Leverage partnerships with other scientific and social disciplines and organizations to achieve the most impactful results.
- Innovate across the research translation continuum to ensure findings are credible, accessible, and actionable for achieving these goals.

A Call to Action

NIH leadership recognizes that this is the time for renewed energies to study the impacts of climate change on health and disease, and to couple that with the need for much-needed data and knowledge for communities to adapt and prevent further harm from unprecedented climate impacts.

Core Elements and Supporting Areas of Science

The Initiative will first aim to leverage existing grant programs, cohorts, and networks to ensure support of projects that can be effectively implemented in the near term, while leaving substantial flexibility in outyears to accommodate longer-term goals. Key areas of interest include:

- Health Effects Research
- Health Equity
- Intervention Research
- Training and Capacity Building

The process of developing the Strategic Framework identified key areas of supporting science for climate change and health research, which are depicted as cogs on the wheel. These areas represent highly relevant fields of inquiry, and include:

- Adaptation Research
- Basic and Mechanistic Studies
- Behavioral and Social Sciences Research
- Data Integration
- Disaster Research Response
- Dissemination and Implementation Science
- Epidemiology and Predictive Modeling
- Exposure and Risk Assessment
- Systems Science

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NIH Is Uniquely Poised to Address This Complex Challenge

NIH’s broad scientific expertise uniquely positions the agency to tackle the complex set of factors that coalesce in the problem of climate change impacts on health. This diagram illustrates some major climate changes and the resulting effects that influence health. It also lists corresponding research-based interventions that are needed to help communities understand, prepare for, and recover from climate-related health challenges around the world.

### Changes in Climate
- Increased global temperature
- Extreme weather and disasters
- Precipitation extremes
- Sea level rise
- Changes in land use and growing seasons

### Effects of Climate Change
- Extreme heat
- Air and water pollution
- Reduced food and water quality
- Changes in infectious diseases and vector transmissions
- Increasing allergens

### Health Impacts
- Heat related illness
- Cardiovascular disease, stroke, and other chronic conditions
- Injuries and death
- Mental and neurological disorders
- Zoonotic, vector- and water- borne diseases
- Respiratory diseases and asthma

### Interventions & Strategies
- Early warning and preparedness
- Prevention or reduction of disease, illness and injury
- Community engagement
- Education and awareness raising
- Adoption and integration

### Participating Institutes and Centers

- **National Institute of Environmental Health Sciences**
  Rick Woychik, Ph.D. (Chair)

- **Fogarty International Center (FIC)**
  Roger I. Glass, M.D., Ph.D.

- **National Institute on Minority Health and Health Disparities (NIMHD)**
  Eliseo J. Pérez-Stable, M.D.

- **National Institute of Mental Health (NIMH)**
  Joshua A. Gordon, M.D., Ph.D.

- **National Institute of Nursing Research (NINR)**
  Shannon N. Zenk, Ph.D.

- **Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)**
  Diana W. Bianchi, M.D.

- **National Heart, Lung, and Blood Institute (NHLBI)**
  Gary H. Gibbons, M.D.

- **NIH Climate Change and Health Working Group**
  Aubrey Miller, M.D., NIEHS, Co-Chair
  Joshua Rosenthal, Ph.D., FIC, Co-Chair
  Gwen Collman, Ph.D., NIEHS, Strategic Advisor

For more information on the NIH Climate Change and Health Initiative Strategic Framework, visit [https://nih.gov/climateandhealth](https://nih.gov/climateandhealth).