

NIH-Supported Research on Climate Change and Human Health

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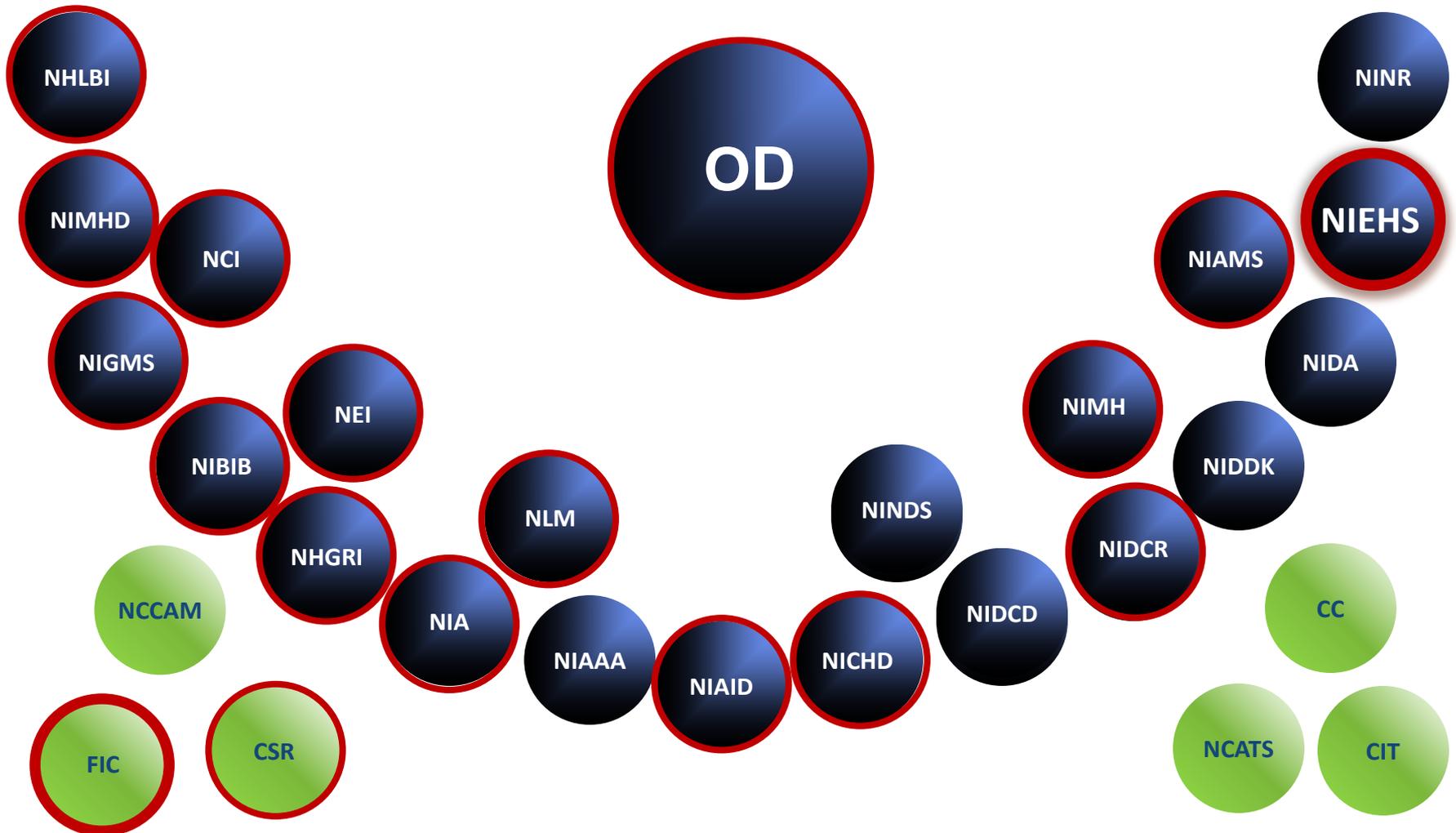
January 30, 2013



Overview

- Introduction to NIH structure
- Overview of Climate Change and Human Health program
- Introduction of current grantees
- Future directions

27 Institutes and Centers in NIH



The National Institute of Environmental Health Sciences

The mission of the NIEHS is to discover how the environment affects people in order to promote healthier lives

- Focus is on environmental exposures rather than a particular disease, organ system, sub-population, etc.
- Support a broad spectrum of science



<http://www.niehs.nih.gov/about/strategicplan/>

2009 ARRA Challenge Grant Opportunity

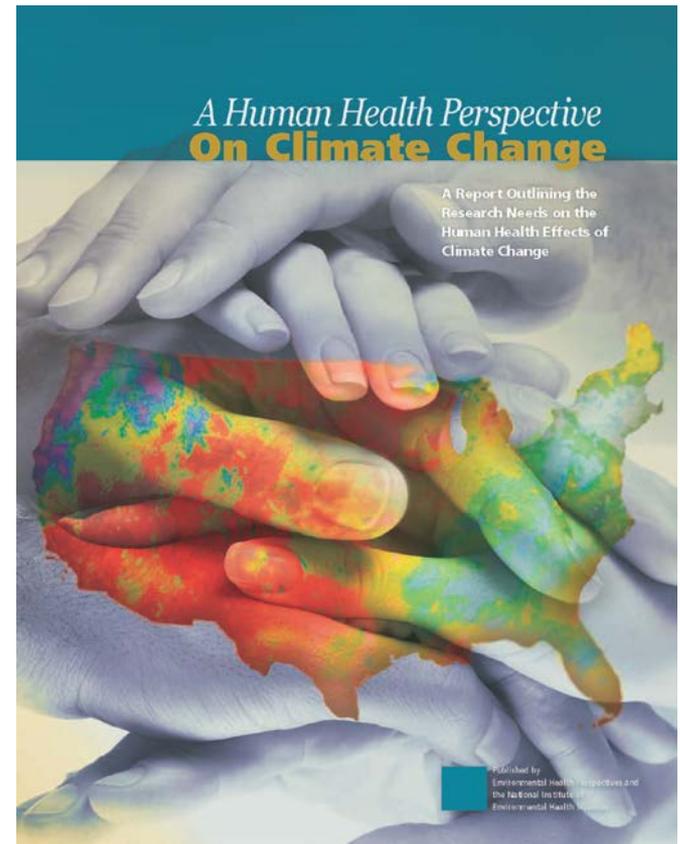
Models to Predict Health Effects of Climate Change

- Support development of models of effects of climate change on disease burden and health outcomes
- Quantify current impacts or project impacts of different climate scenarios on health
- Facilitate public health planning



Interagency Report: *A Human Health Perspective on Climate Change*

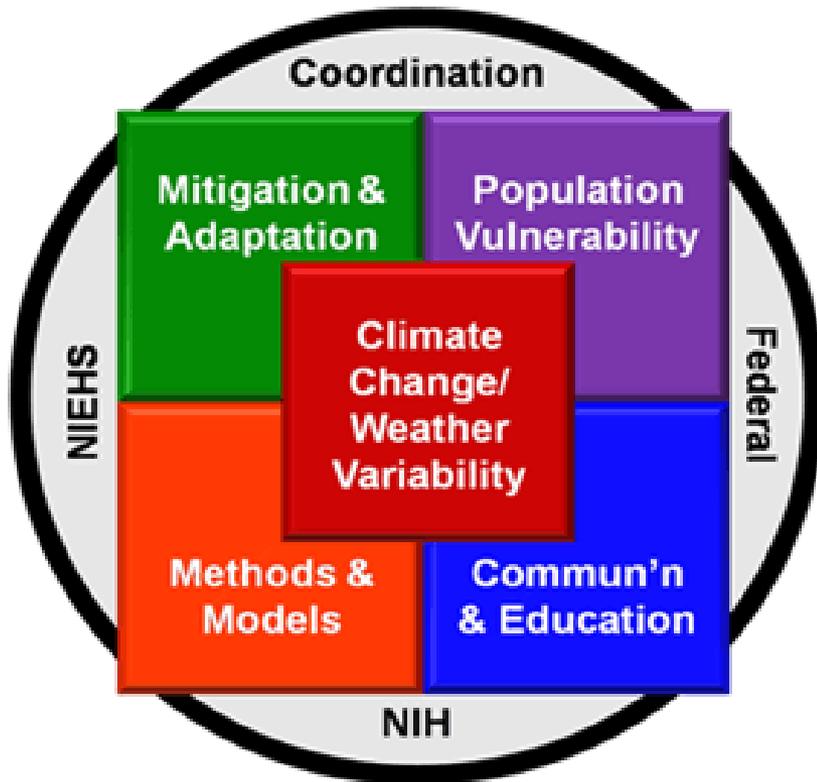
- Identifies research needed to better understand health effects
 - 11 health consequence categories
 - Crosscutting issues
- Informs agency research agendas and develops a coordinated federal climate change and health research agenda



Climate Change and Human Health Program Model

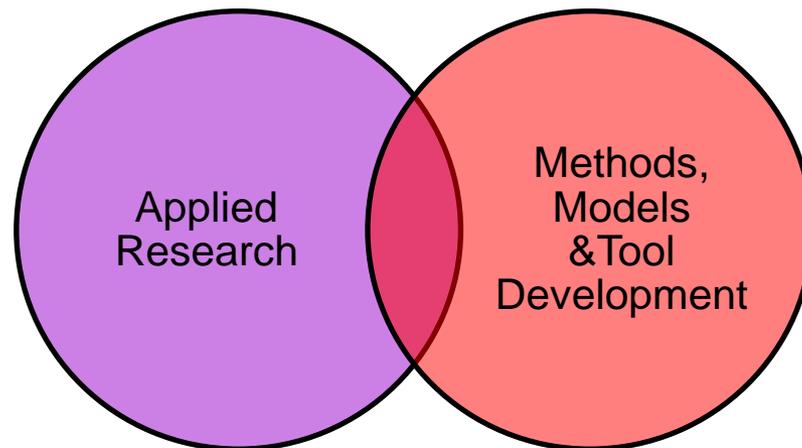
Overall Goals:

- Provide structure to coordinate and support NIEHS research and activities
- Coordinate research within NIEHS, across NIH, and with other federal agencies



Climate Change and Health: Assessing and Modeling Population Vulnerability to Climate Change

- Support research to examine differential risk factors of populations that lead to, or are associated with, increased vulnerability to health impacts of climate change
- Identify specific characteristics of populations associated with vulnerability that can be used to more effectively target and implement climate change health interventions

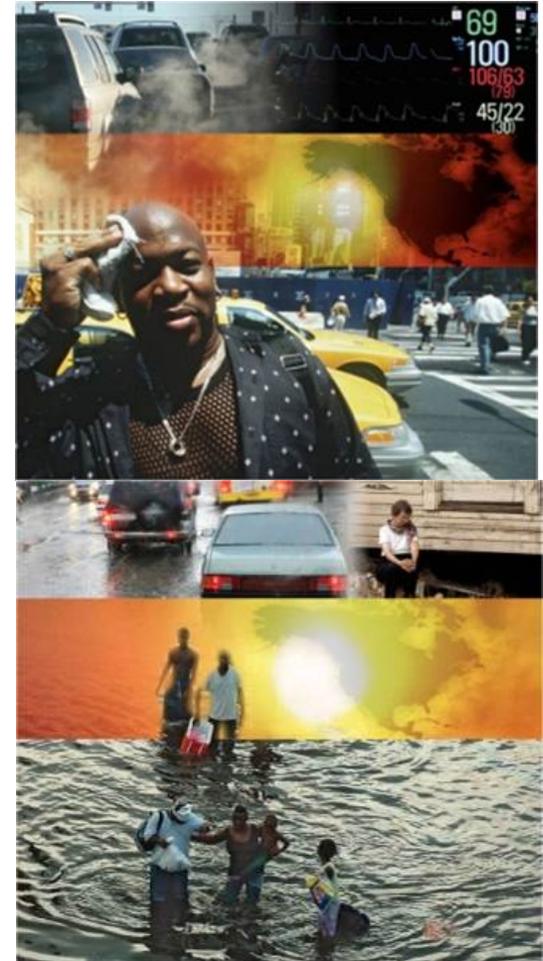


Participating NIH Institutes and Centers

- Fogarty International Center (FIC)
- National Cancer Institute (NCI)
- National Center for Minority Health and Health Disparities (NCMHD)
- National Heart, Lung and Blood Institute (NHLBI)
- National Institute of Aging (NIA)
- National Institute of Biomedical Imaging and Bioengineering (NIBIB)
- *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)
- National Institute of General Medical Sciences (NIGMS)
- National Library of Medicine (NLM)
- Office of Behavioral and Social Science Research (OBSSR)

Climate Change Grant Themes

- Impacts of heat and air pollution on:
 - Elderly adults
 - Pregnancy and children
- Other climate-driven exposures
- New methods
- Informing adaptation and public health planning



Climate Change Research: Impacts in Elderly Adults and Individuals with Underlying Disease

| PI Name(s) | Project Title |
|--|--|
| Roger Peng, Ph.D. | Extreme Heat and Human Health: Characterizing Vulnerability in a Changing Climate |
| Joel Schwartz, Ph.D. | Individual and Community Factors Conveying Vulnerability to Weather Extremes Physiologic Response to Weather Changes and Extremes in Elderly Cohort |
| Antonella Zanobetti, Ph.D., and Diane Gold, M.D. | Climate Change and Cardiac Vulnerability in Humans |

Climate Change Research: Impacts on Pregnancy and Children

| PI Name(s) | Project Title |
|--|--|
| Lyndsay Avalos, Ph.D., and Rupa Basu, Ph.D. | Climate Change and Health: Assessing the Risk of Preterm Delivery |
| Ralph Delfino, M.D., Ph.D. | Pediatric Asthma, Photochemical Oxidant Air Pollutants, and Climate Change Vulnerability |
| Shao Lin, M.D., Ph.D. | Climate Change and Adverse Birth Outcomes: Assessing the Vulnerability of Pregnant Women to Extreme Weather Conditions |
| Perry Sheffield, M.D., and Jane Clougherty, M.Sc., Sc. | Children's Health and Vulnerability to Heat and Ozone in New York City |

Climate Change Research: Other Climate-driven Exposures

| PI Name(s) | Project Title |
|----------------------------|---|
| Michelle Bell, M.D., M.P.H | Vulnerability to Health Effects of Wildfires under a Changing Climate in Western U.S. |
| Karen Levy, Ph.D. | Social Vulnerability and Climatic Drivers of Enteric Disease in Rural Ecuador |

New Methods

| PI Name(s) | Project Title |
|----------------|--|
| Yang Liu, Ph.D | Uncertainties in Modeling Spatially-Resolved Climate Change Health Impacts |

Climate Change Research: Informing Adaptation and Public Health Planning

| PI Name(s) | Project Title |
|-----------------------------|---|
| Julia Gohlke, Ph.D. | Extreme Heat Events- Evolving Risk Patterns in Urban and Rural Communities |
| Marie O'Neill, Ph.D. | Climate change and health: residential energy-efficiency for comfort and equity |
| Jonathan Patz, M.D., M.P.H. | Climate Change Impacts on Power Plant Emissions, Air Quality and Health in the U.S. |

Other NIH Programs with Emphasis on Climate, Extreme Weather, and Health

- NIH-NSF Oceans and Human Health Program
- FIC-NIEHS-NIOSH Global Environmental and Occupational Health (GEOHealth) Program
- NIEHS Time-Sensitive Research Opportunities in Environmental Health Sciences (R21) for Superstorm Sandy Research
 - NIH Guide Notice NOT-ES_13-003
 - Applications accepted until **February 20, 2013**

<http://grants.nih.gov/grants/guide/pa-files/PAR-10-084.html>

Goals for the Future

- Increased number of NIH-supported extramural scientist working in area of climate change and human health
- Increased number of successful investigator-initiated proposals on climate change and human health
- Increased breadth of populations and exposures covered by NIH-funded researchers
- Greater translation of NIH-supported research findings to scientists in other fields, decision makers, and the general public

Thank you!

- Planning committee members for this event:
 - John Balbus, NIEHS
 - Jacques Colon, NACCHO
 - Caroline Dilworth , NIEHS
 - Angela Dyjack, APHA
 - Christine Jessup, FIC
 - Tracy Kolian, APHA
 - Abraham Kulungara, ASTHO
 - George Lubber, CDC
 - Stephen Marcus, NIGMS
 - Gino Marinucci, CDC
 - Joshua Rosenthal, FIC
 - Kimberly Thigpen Tart, NIEHS.