Developing International Hubs for Global Environmental and Occupational Health

GEOHealth

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LMIC EOH Challenges

- High exposure levels
- Lack of risk assessment activities
- Variation in laws, regulations and enforcement
- Limited interventions
GEOHealth
Background and Rationale

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Changing nature of health sciences
• Data-rich
• Team science
• Enhanced administrative and technological capabilities
• Sustainable hubs
GEOHealth
Background and Rationale
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Regional Research Institutions
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NGOs
GEOHealth
Background and Rationale

Regional Research Institutions
NGOs
Government Ministries
The initial phase of the GEOHealth program consists of paired planning awards (R24)

- Plan research, research training, data management, and curriculum development activities that address and inform priority national and regional environmental and occupational health policy issues.

- Foster planning for multidisciplinary GEOHealth Hubs, based in LMICs, that will lead collaborative research and training.

- Knowledge synthesis
Address priority needs and build on preexisting strengths

Core sciences
- Epidemiology
- Genetics
- Industrial Hygiene
- Systems science
- Implementation science
- Biostatistics
- Environmental Science
- Toxicology
- Behavioral science

Subject areas (up to three)
- Air quality (indoor and outdoor)
- Water quality
- Workplace safety
- Occupational health
- Climate change
- Agricultural health
GEOHealth
Phase I: Planning Grants

16 Paired 2-year Planning Grants

More information:
GEOHealth
Phase I: Planning Grants

16 Paired 2-year Planning Grants

GEOHealth Planning Grants with Significant Climate Change and Health Focus:
- Colombia
- Chile
- The Gambia
- Ethiopia
- Bangladesh
- China

More information:
Disciplines:
- Health: Environmental & Occupational Medicine, Epidemiology & Biostatistics, Toxicology
- Environmental Sciences: Civil & Environmental Engineering, Climatology & Atmospheric Sciences, Hydrology, Urban Planning
- Systems Science: GIS, Modeling

Institutional Partners: CDMB (Regional Environmental Authority), Ministry of Environment
Environmental Health Issues Related to Climate Change

- Water Scarcity
- Air pollution
- Urbanization
- Coastal zone issues/fisheries decline
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Chile GEOHealth Hub
Univ. of Chile – Emory Univ. & UGA

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(CR)$^2$
Center for Climate and Resilience Research

Earth system science for Chile: a sound basis for building resilience in a changing climate.
GEOHealth Hub for East Africa
Addis Ababa Univ. – USC

Climate Change and Health

Assessment areas in GEOHealth Planning Grant

- Green house gases emissions profile (carbon foot prints)
- Climate change and variability
- Country level efforts on mitigation/adaptation
- Health Impact (vector borne diseases, diarrhea, ARI)
- Food Security and malnutrition
- Extreme weather events (floodings, wild fire, heat stress)
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Key Governmental partners

- Ministry of Health
- Environmental Protection Authority (Ethiopia)
- Ministry of Water and Energy
- National Meteorological Agency
- Ministry of Agriculture
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Key non-governmental partners
- Pesticide Action Nexuses (PAN Ethiopia)
- Ethiopia Malaria Prediction Study (EMAPS)
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Research Centers
- Horn of Africa Research and Environmental Center/Network (HOAREC-N)
- Institute of Development Studies
Climate Change Related Health Issues

Flood and acute weather-calamities
Injury/trauma, GI/respiratory infection, mental health, nutritional illnesses, etc.

Temperature change
Heart/lung disease, emerging infections, metabolic disease, mental illnesses, etc.

Water salinity and arsenic contamination
Hypertension, adverse pregnancy outcomes, cancer, CVD, lung/neurological illness, etc.

Smog, precipitation, air pollution
Lung disease, heart disease, cancer, etc.
Bangladesh GEOHealth Hub
ICDDR,B - Univ. of Chicago

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GEOHealth Hub Aims
  In-depth analysis of the extent and impact of climate change on health
  Identify specific barriers and develop a work plan to overcome them
  Framework for research and training activities, evaluation and policy support
China GEOHealth Hub
Shanghai CDC – California Dept. of Public Health
China GEOHealth Hub
Shanghai CDC – California Dept. of Public Health

- Agricultural Impacts
- Air Quality Impacts
- Water Quality Impacts
- Worker Health Impacts

China Climate Change GEO HUB
Research/Conferences/Training
Climate, health, pollutant & GIS linkage
Leadership
GEOHealth

Phase II: Scaling up to full GEOHealth Hubs

- Regional Research Institutions
- NGOs
- Government Ministries
- U.S. Research Institutions

GEOHealth Hub
GEOHealth

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Thank you

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