



CLIMATE AND HEALTH: A GEOHEALTH PERSPECTIVE

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FOUNDING MOTIVATION

To advance **transdisciplinary collaborations**
between Earth, space, and health sciences to better
safeguard humanity

GEOHEALTH IN CLIMATE & HEALTH

Examples of the GeoHealth approach

Initiatives in Climate-Health collaboration

Challenges

Opportunities

AIR QUALITY AND URBAN CLIMATE PLANNING

How can health impacts of air pollution
inform climate actions?

AIR QUALITY AND URBAN CLIMATE PLANNING

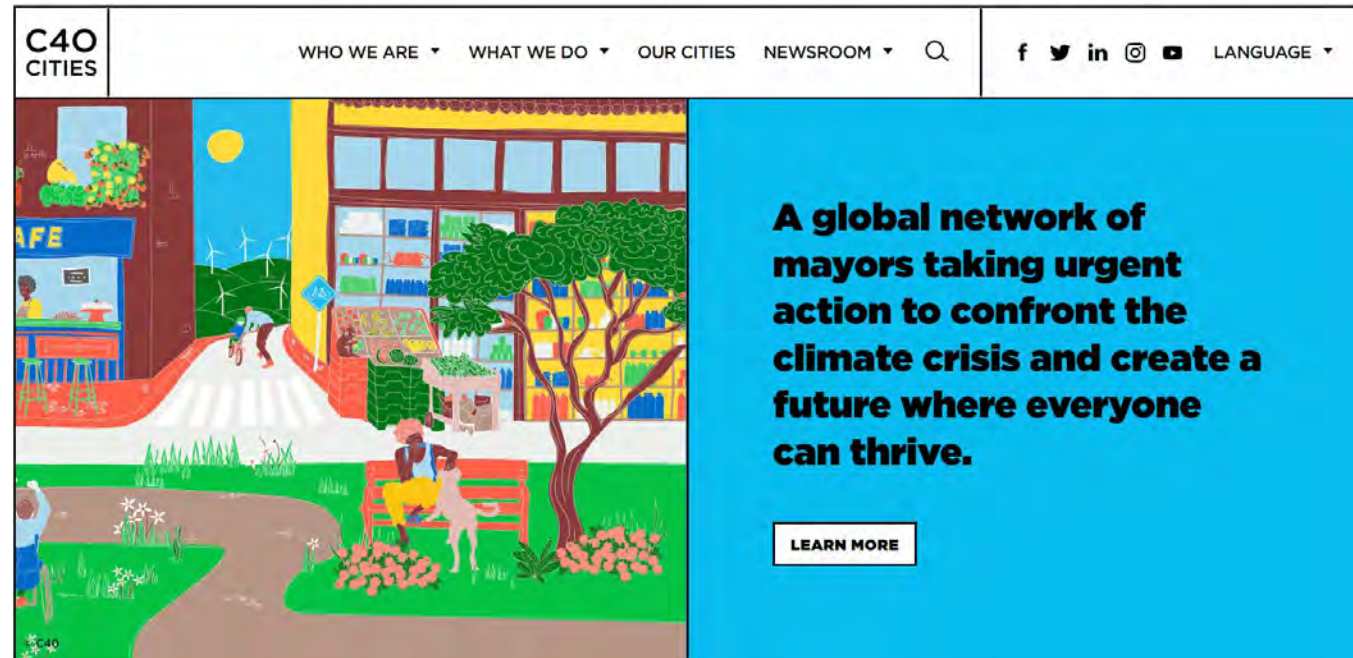
How can health impacts of air pollution inform climate actions?

Start with information needs: C40 Cities staff

Include local expertise

Engage atmospheric, remote sensing, epidemiology, and public health scientists

Collaborate to communicate outcomes



The image shows a screenshot of the C40 Cities website. The top navigation bar includes the C40 CITIES logo, a search icon, and menu items for WHO WE ARE, WHAT WE DO, OUR CITIES, and NEWSROOM. Social media icons for Facebook, Twitter, LinkedIn, Instagram, and YouTube are also present, along with a LANGUAGE dropdown menu. The main content area features a colorful illustration of a sustainable city with wind turbines, a market, a park with a dog, and a person walking. To the right of the illustration is a blue banner with the text: **A global network of mayors taking urgent action to confront the climate crisis and create a future where everyone can thrive.** Below this text is a white button with the text **LEARN MORE**.

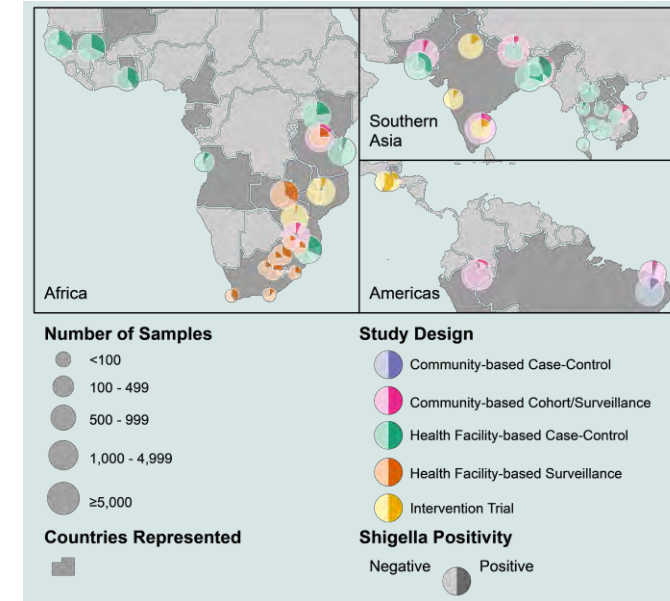
ENTERIC INFECTIOUS DISEASES

Can climate services inform interventions?

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Pathogen-specific EID studies have not included collection of environmental data, so health officials are unable to make climate-informed risk assessments



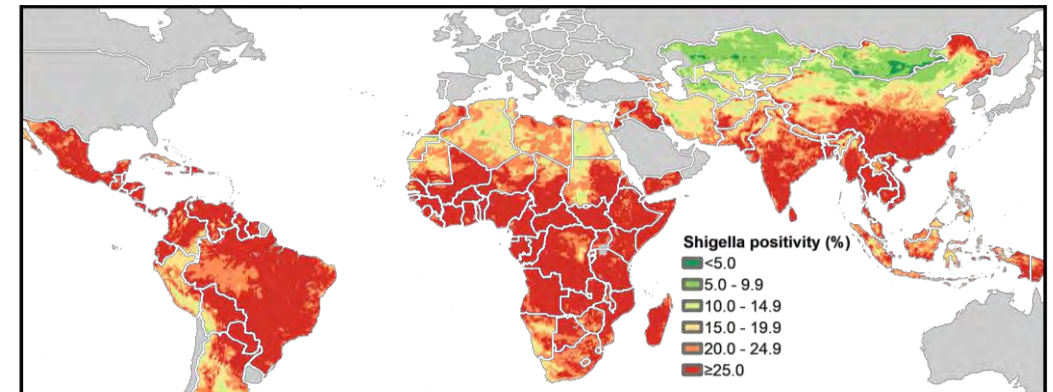
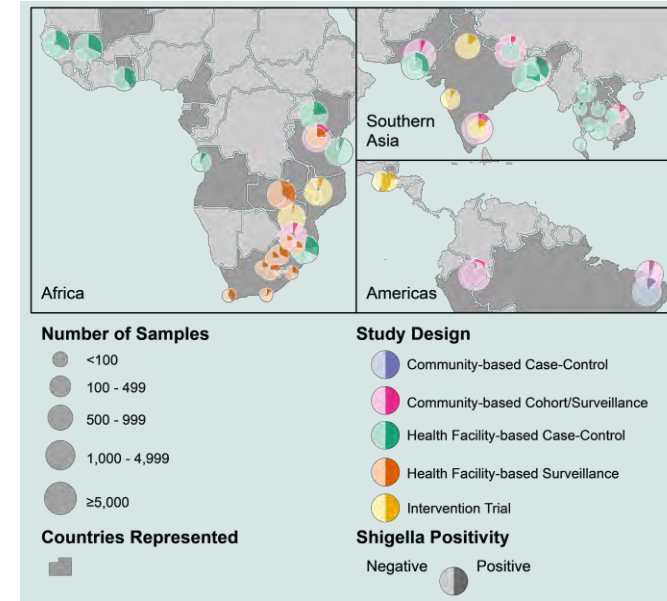
ENTERIC INFECTIOUS DISEASES

Can climate services inform interventions?

Pathogen-specific EID studies have not included collection of environmental data, so health officials are unable to make climate-informed risk assessments

Combine tools for environmental analysis and an understanding of climate variability with expertise in pathogen and host biology and public health

This allows us to understand and project risk, and to inform interventions



URBAN HEAT ISLAND MANAGEMENT

How can we maximize equity of benefits when mitigating the urban heat island?



URBAN HEAT ISLAND MANAGEMENT

How can we maximize equity of benefits when mitigating the urban heat island?

The UHI varies in space and time, and it responds nonlinearly to different mitigation efforts

High resolution heat mapping and simulation can be paired with health and social data to produce dynamic vulnerability analyses

Codeveloping these analyses with communities enhances their accuracy and value



INITIATIVES FOR COLLABORATION

INITIATIVES FOR COLLABORATION



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INITIATIVES FOR COLLABORATION



Tiger Teams

What is a Tiger Team?

A Tiger Team is a short-term, high-impact collaborative effort between HAQAST members and public stakeholders to identify and solve an immediate problem using NASA data and products. Each Tiger Team draws on the expertise of multiple HAQAST PIs to find the best, multifaceted solutions to pressing health and air quality issues.

INITIATIVES FOR COLLABORATION

Providing Climate Services for Health with the WHO-WMO Joint Office

1 January 2020 | Highlights | Reading time: 1 min (311 words)

The **WHO/WMO Joint Office for Climate and Health** promotes the coordinated development and use of climate services to improve public health. It was established in 2014 under the auspices of the Global Framework for Climate Services ([GFCS](#)). The Joint Office between the two specialized UN agencies aims to increase awareness, build capacity, and connect meteorological services with experts in the health sector in an active partnership for climate adaptation and risk management.



INITIATIVES FOR COLLABORATION

Providing Health with Office

1 January 2020 | Highlights | Read

The **WHO/WMO Joint Office** services to improve public health Services (GFCS). The Joint Office capacity, and connect meteorology adaptation and risk management

Health | COVID-19 Research Task Team | Activities

ACTIVITY AREAS (1)

- Health

4-6 August 2020

Climatological, Meteorological and Environmental factors in the COVID-19 pandemic

An international virtual symposium on drivers, predictability and actionable information



[Symposium](#)

nature COMMUNICATIONS

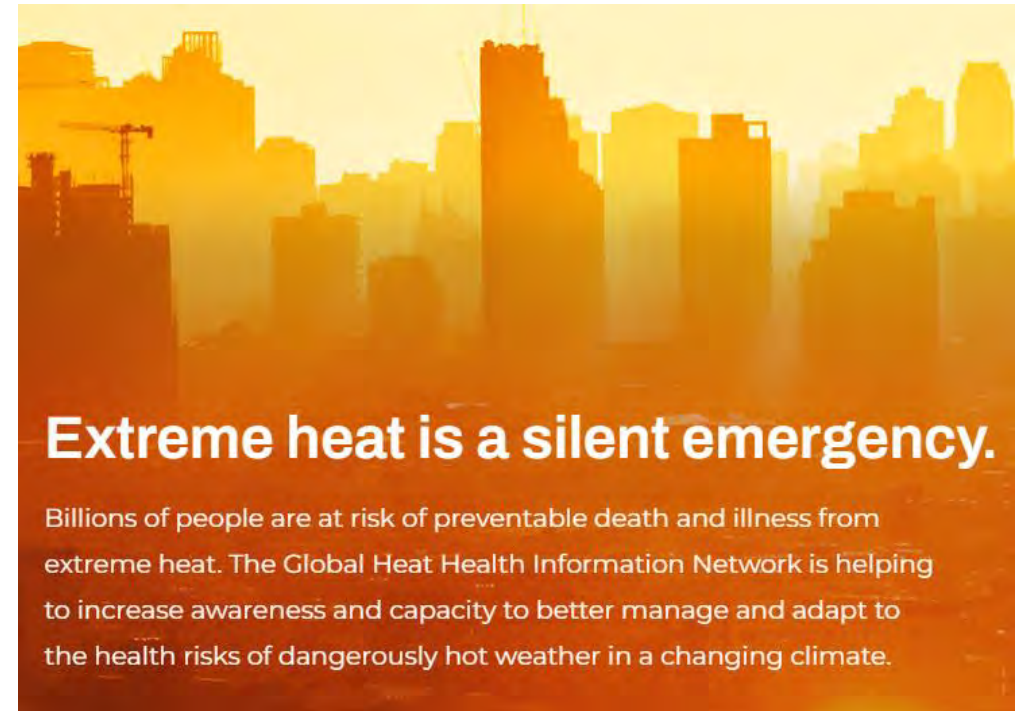
COMMENT

A framework for research linking weather, climate and COVID-19

Benjamin F. Zaitchik, Neville Smith, Guy Shepherd-Gollmer, Andy Moran, Chris Gordon, Aileen Mary, Jill Titus, Jürg Lorenzacher, Jan Barta, Saad Bin Behar, Yonglong Lu, Jane Olwoch, Ken Takahashi, Jennifer D. Stowell & Xavier Rodó

[Framework for Research](#)

INITIATIVES FOR COLLABORATION



CHALLENGES

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1. Data exchange and integration

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3. Mechanisms to incentivize transdisciplinary collaboration

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3. Mechanisms to incentivize transdisciplinary collaboration
4. Real and perceived difficulties in funding GeoHealth research

OPPORTUNITIES

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Center health in discussions of climate change adaptation
and mitigation




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Center health in discussions of climate change adaptation
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Annals of the American Thoracic Society

Home > Annals of the American Thoracic Society > List of Issues > Just Accepted

Global Health Impacts for Economic Models of Climate Change: A Systematic Review and Meta-Analysis

 Kevin R Cromar ; Susan C. Anenberg ,  John R. Balmes ; Allen A. Fawcett , Marya Ghazipura , Julia M. Gohlke , Masahiro Hashizume , Peter Howard , Eric Lavigne , Karen Levy , Jaime Madrigano , Jeremy A. Martinich , Erin A. Mordecai ,  Mary B Rice , Shubhayu Saha , Noah C. Scovronick , Fatih Sekercioglu , Erik R. Svendsen , Benjamin F. Zaitchik , and Gary Ewart ... [Show less](#)

OPPORTUNITIES

Organize transdisciplinary networks . . . and **support them with resources.**

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OPPORTUNITIES

Broaden the definition of a **recognized research product**

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Leading Practices, Resources, And Information Around Community Science

Community Science Exchange is a new platform, led by a coalition of societies and partners, aimed at developing and promulgating leading practices, resources, and information around community science.

Community Science (*noun*):

\ kə 'myʊənədeɪ 'sɪ-ən(t)s \

The equitable collaboration of science with communities aimed at outcomes for the benefit of communities. Work can be collaboratively or community-led.



OPPORTUNITIES

Build new science teams **across traditional funding structures**

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NIH CLIMATE CHANGE AND HEALTH INITIATIVE



The NIH Climate Change and Health Initiative is an urgent, cross-cutting NIH effort 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.

OPPORTUNITIES

Build new science teams **across traditional funding structures**

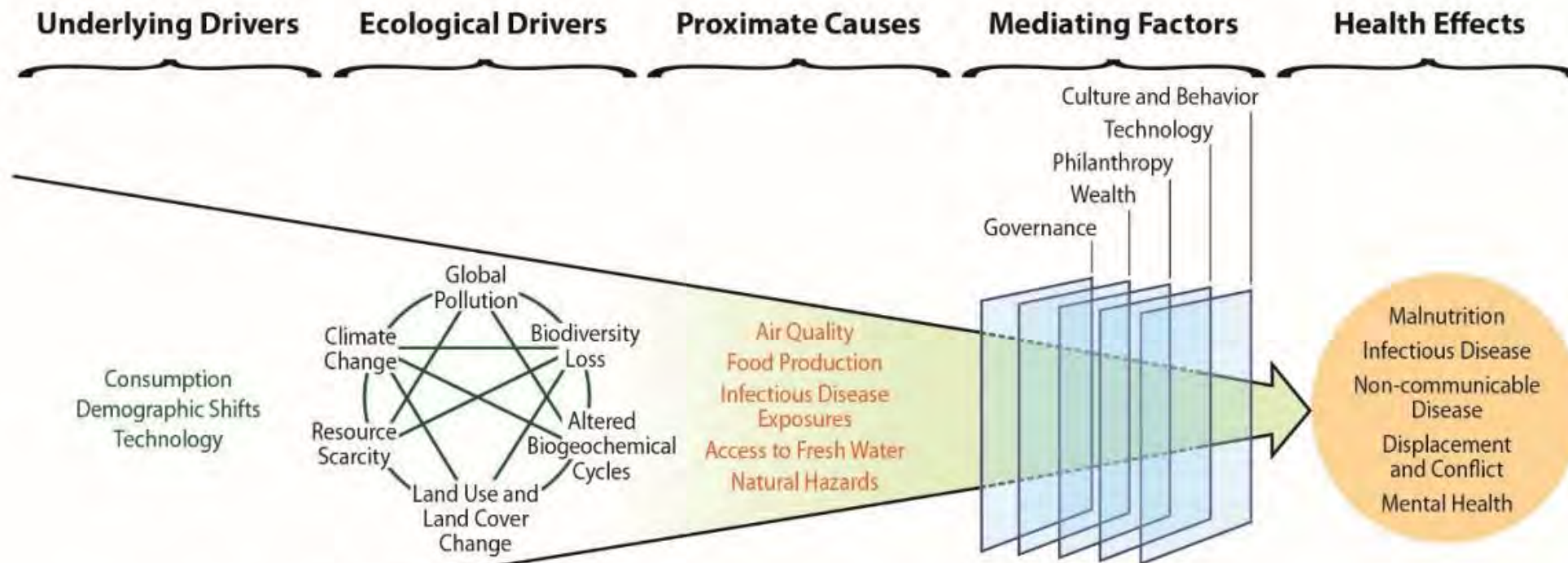


Figure from NSF's 2021 report "Environmental and Human Health: Research Priorities," adopted from Myers, S.S. (2017) *The Lancet*

THANK YOU

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