CLIMATE AND HEALTH: A GEOHEALTH PERSPECTIVE

Ben Zaitchik
President, AGU GeoHealth Section
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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

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AIR QUALITY AND URBAN CLIMATE PLANNING

How can health impacts of air pollution inform climate actions?

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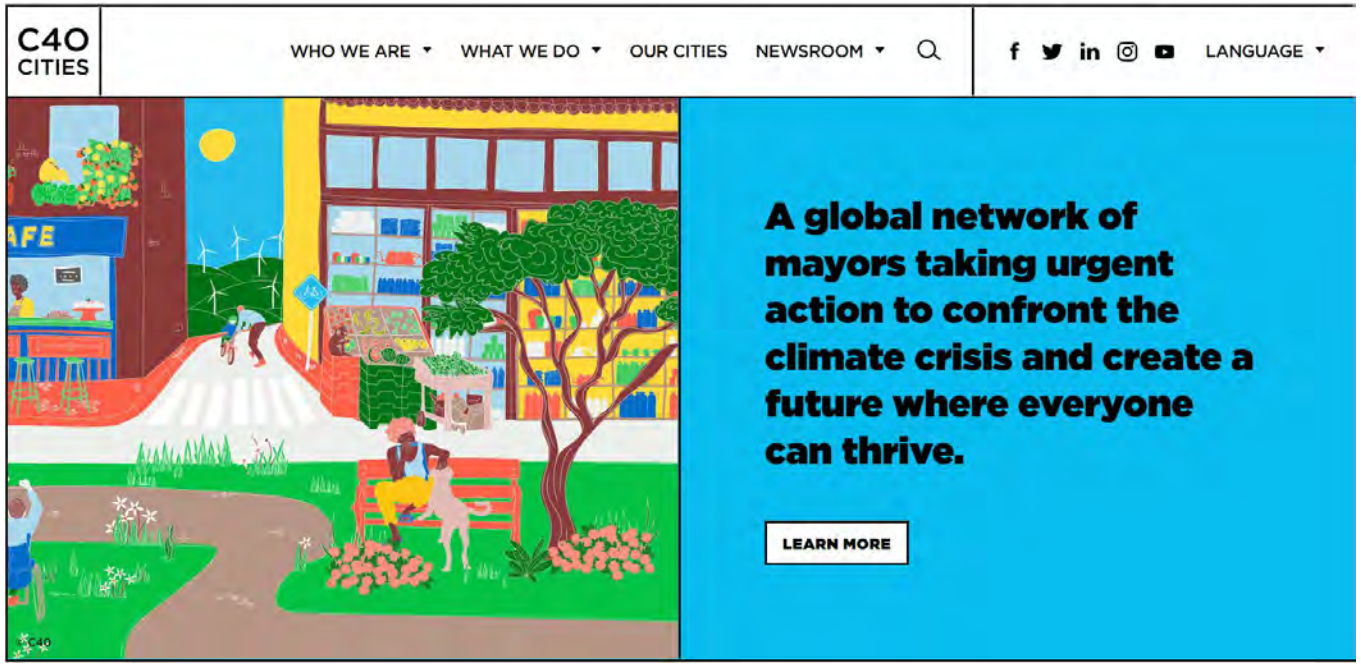
How can health impacts of air pollution inform climate actions?

Start with information needs: C40 Cities staff

Include local expertise

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

Collaborate to communicate outcomes



ENTERIC INFECTIOUS DISEASES

Can climate services inform interventions?

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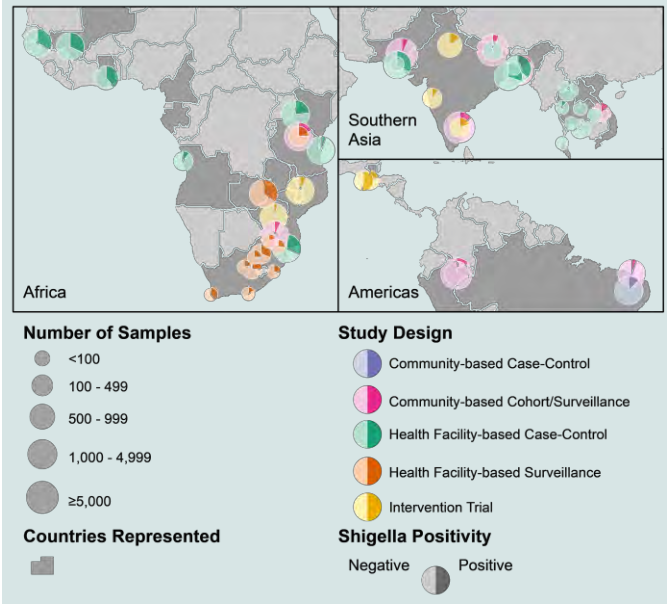


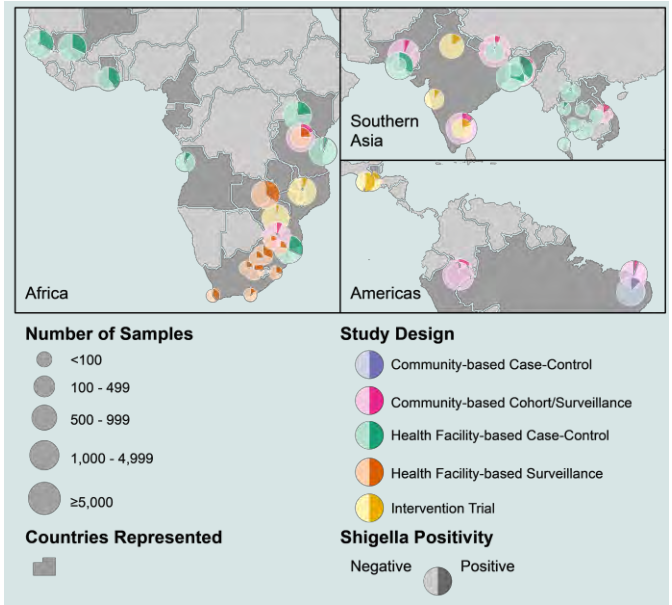
ENTERIC INFECTIOUS DISEASES

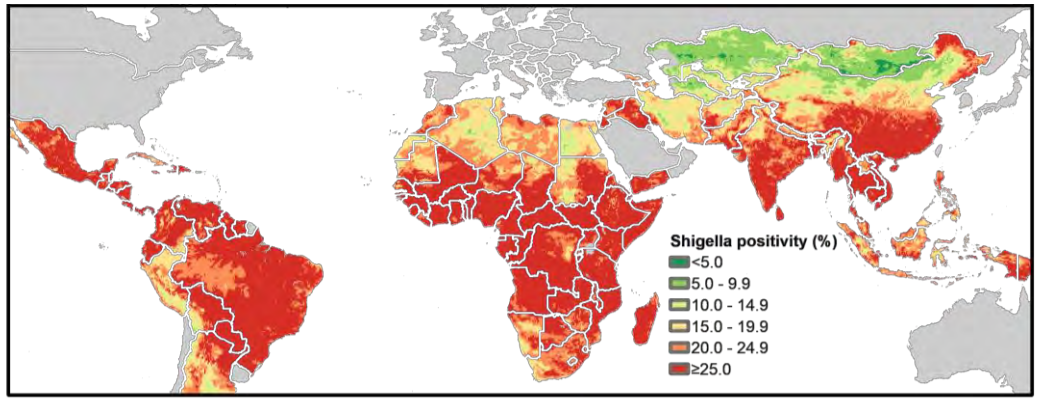
Can climate services inform interventions?

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?

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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

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INITIATIVES FOR COLLABORATION

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GEO HEALTH
COMMUNITY OF PRACTICE

HOME ABOUT UPCOMING EVENTS PROJECTS COVID-19 NEWS RESOURCES JOIN OUR COMMUNITY

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.

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INITIATIVES FOR COLLABORATION

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

World Health Organization

WORLD METEOROLOGICAL ORGANIZATION

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 Climate Services for Health wi Office

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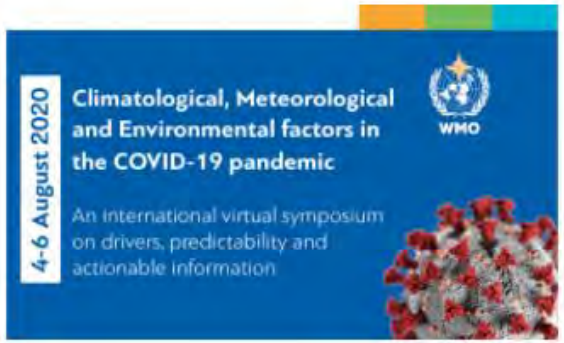
Health | COVID-19 Research Task Team | Activities

ACTIVITY AREAS (1)

Health



Symposium

Framework for Research

INITIATIVES FOR COLLABORATION

NIHHIS National Integrated Heat Health Information System

GLOBAL HEAT HEALTH INFORMATION NETWORK

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CHALLENGES

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1. Data exchange and integration

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3. Mechanisms to incentivize transdisciplinary collaboration

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1. Data exchange and integration
2. Interdisciplinary training programs and team building
3. Mechanisms to incentivize transdisciplinary collaboration
4. Real and perceived difficulties in funding GeoHealth research

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OPPORTUNITIES

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Center health in discussions of climate change adaptation **and mitigation**

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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

https://doi.org/10.1513/AnnalsATS.202110-1193OC

OPPORTUNITIES

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

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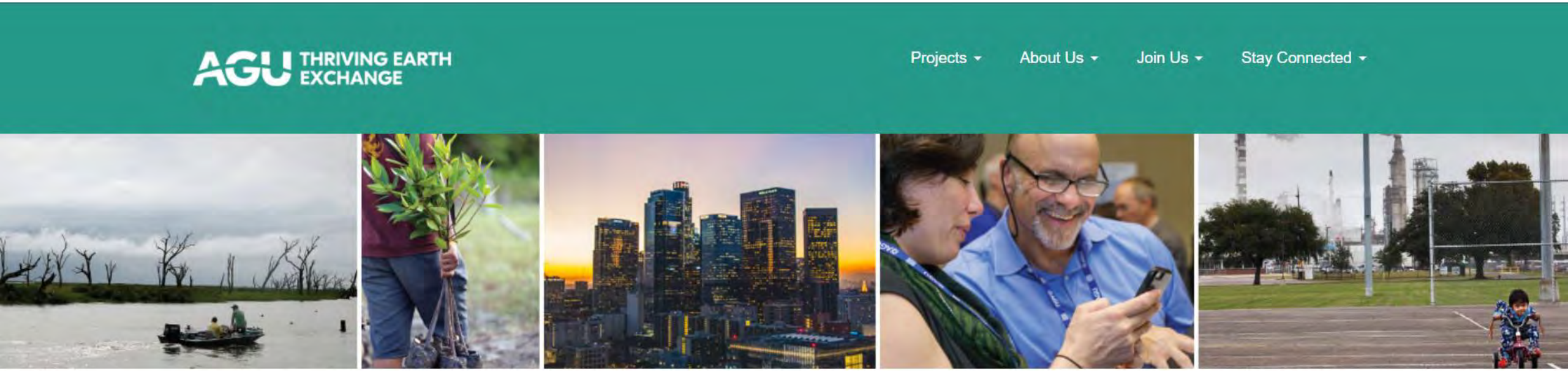

OPPORTUNITIES

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

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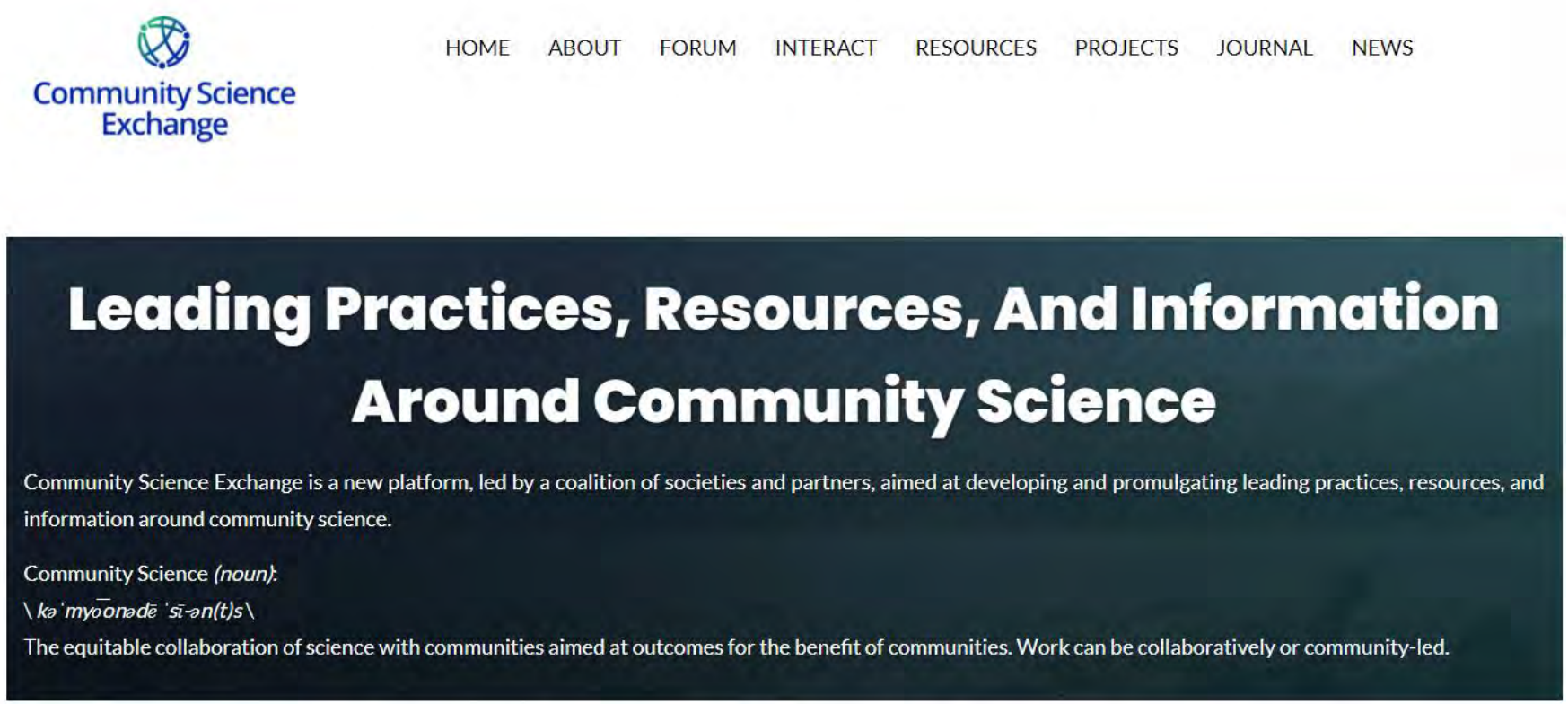

OPPORTUNITIES

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

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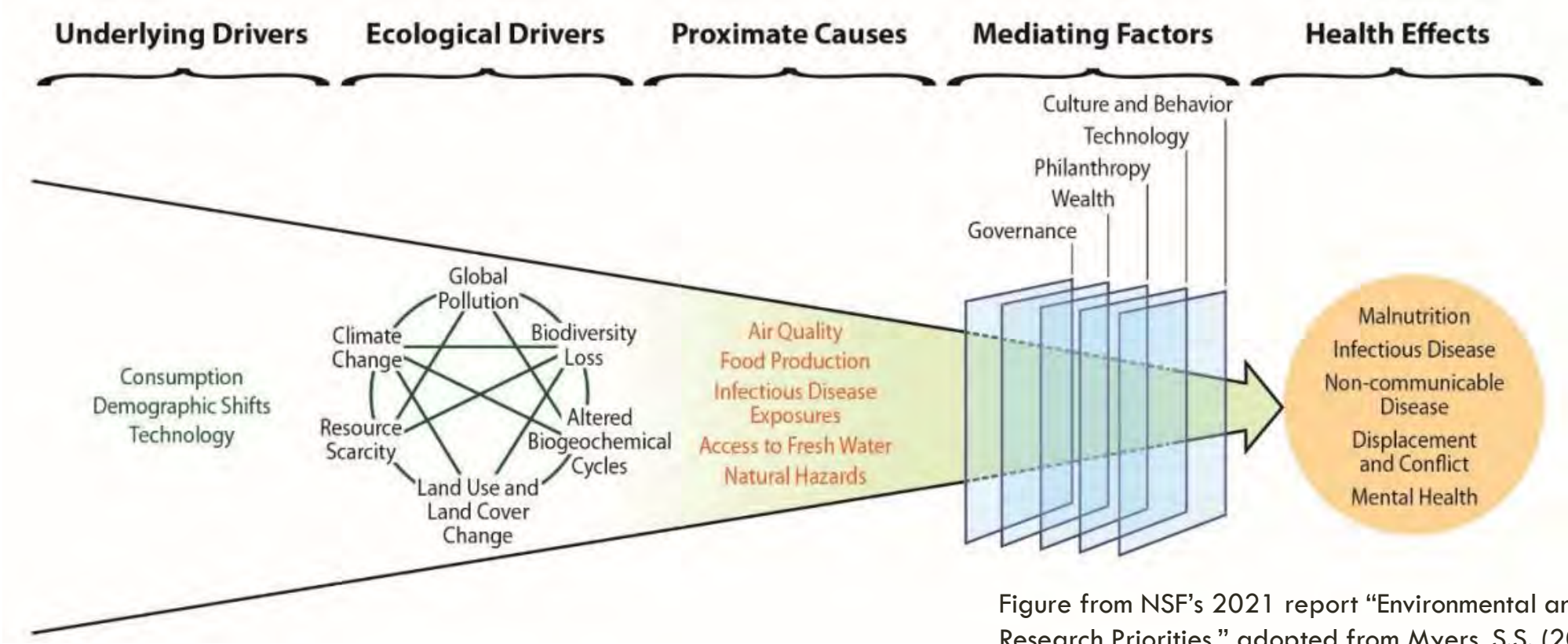

Figure from NSF's 2021 report "Environmental and Human Health: Research Priorities," adopted from Myers, S.S. (2017) *The Lancet*

THANK YOU

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