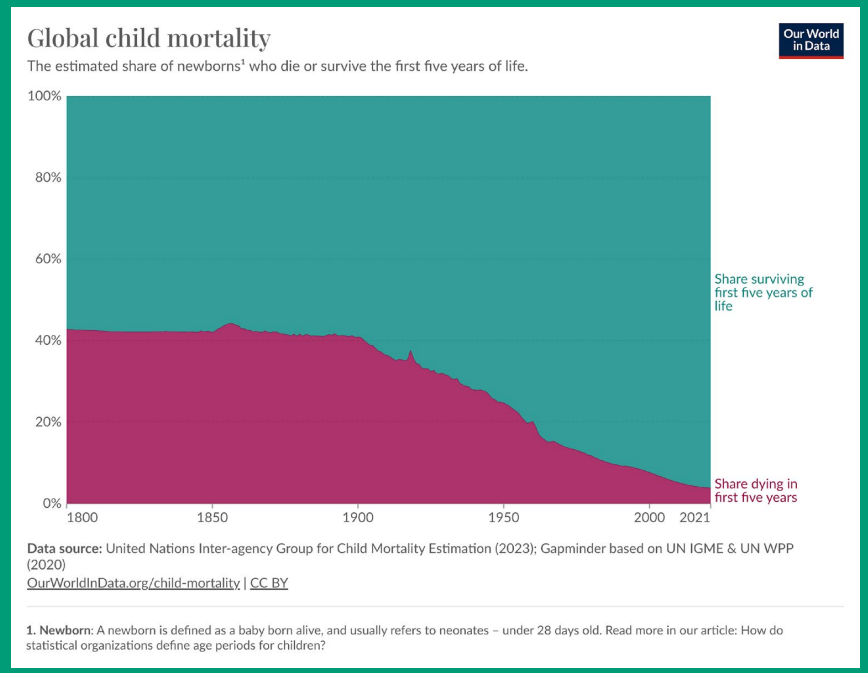
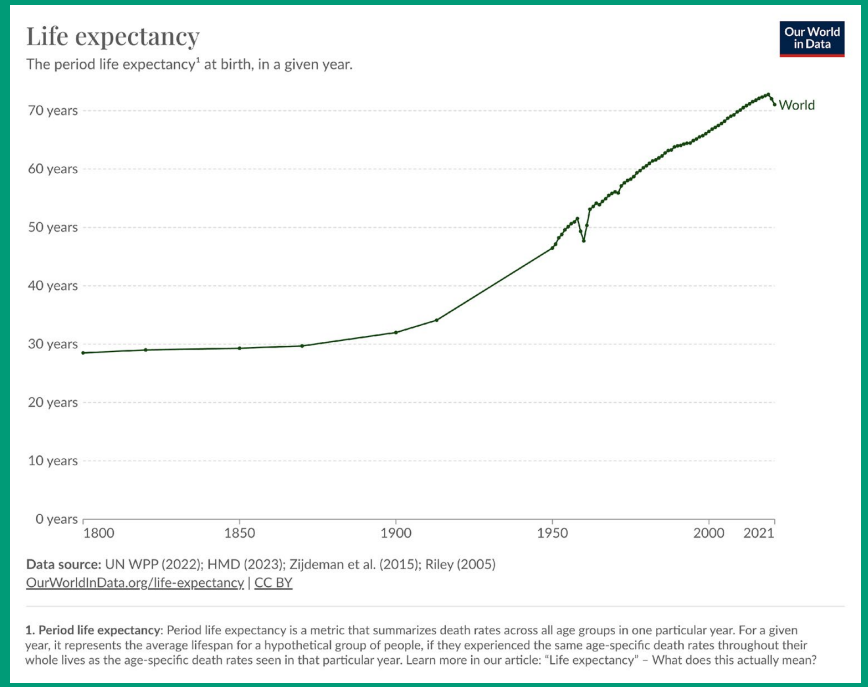
# PLANETARY HEALTH

## AN INTRODUCTION

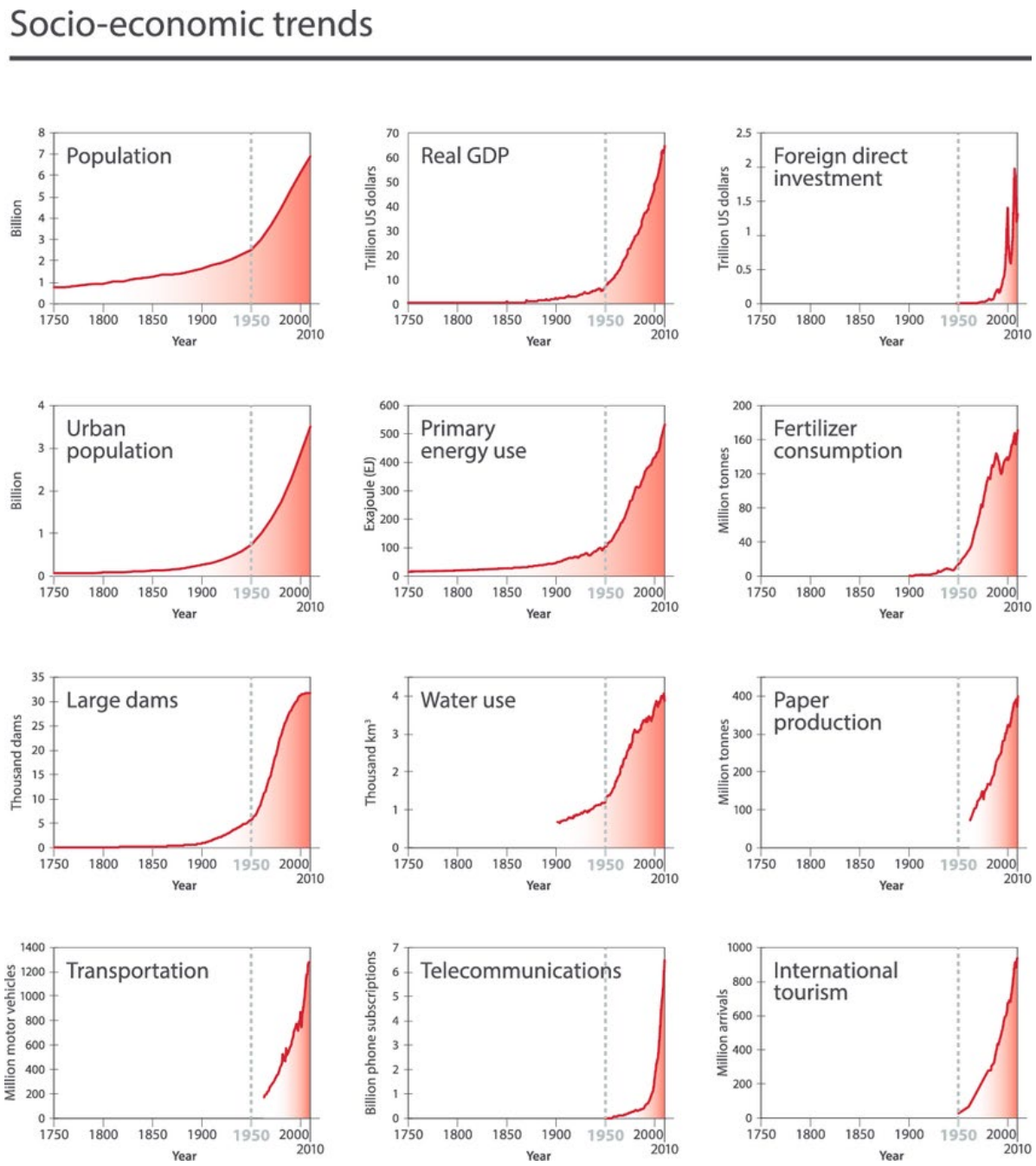

Heidi Honegger Rogers



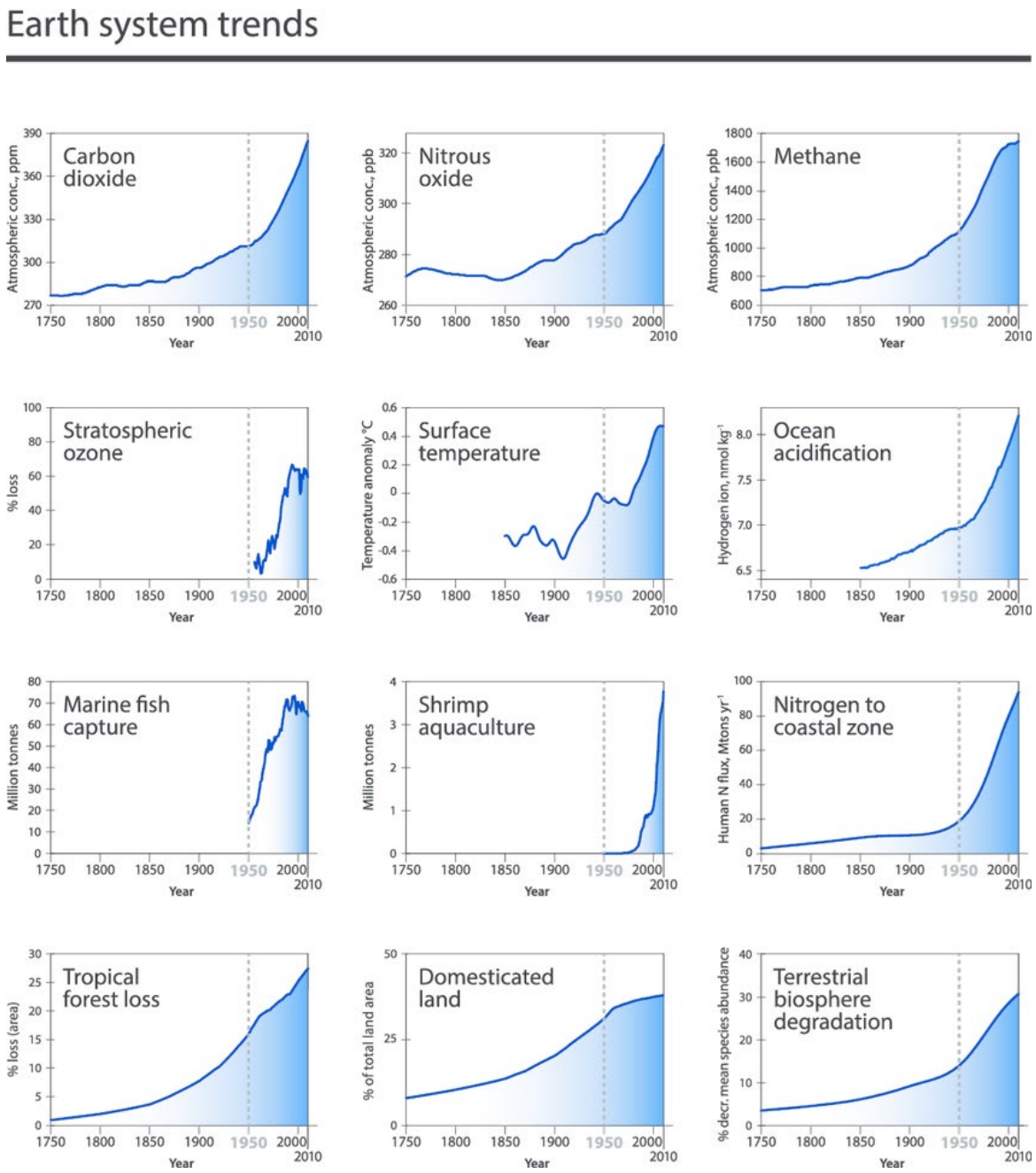

Humanity has made tremendous public health gains by traditional measures such as decreasing global child mortality and increasing life expectancy.

# The Great Acceleration: Consumption Patterns Skyrocket after 1950




Steffen, Will, et al. "The trajectory of the Anthropocene: the great acceleration." *The Anthropocene Review* 2.1 (2015): 81-98.

# The Great Acceleration: Accelerated Human Impacts on Natural Systems




Steffen, Will, et al. "The trajectory of the Anthropocene: the great acceleration." *The Anthropocene Review* 2.1 (2015): 81-98.

Yet at the same time, we have disrupted Earth's natural systems.

# Ecological Paradox

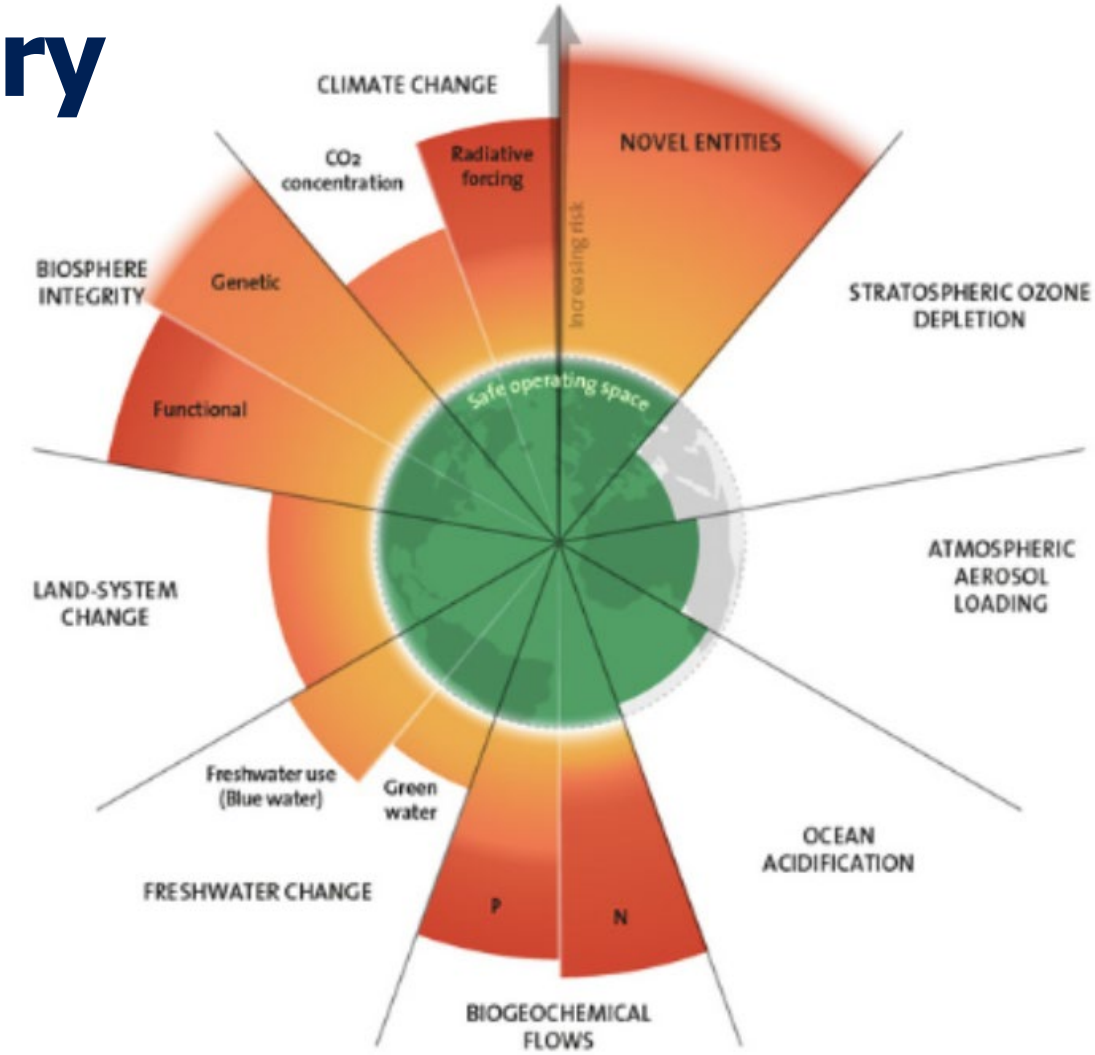

The state of human health and that of our planet's natural systems have been trending in opposite directions.

Myers, 2017

# Six of the Nine Planetary Boundaries Exceeded

The planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come.

1. Climate change
2. Loss of biosphere integrity
3. Land-system change
4. Altered biogeochemical cycles
5. Freshwater change
6. Novel entities




Azote for Stockholm Resilience Centre, Stockholm University. Based on Richardson et al. 2023

It is

**climate change**

**AND**

It is

**everything change**

# Climate Change

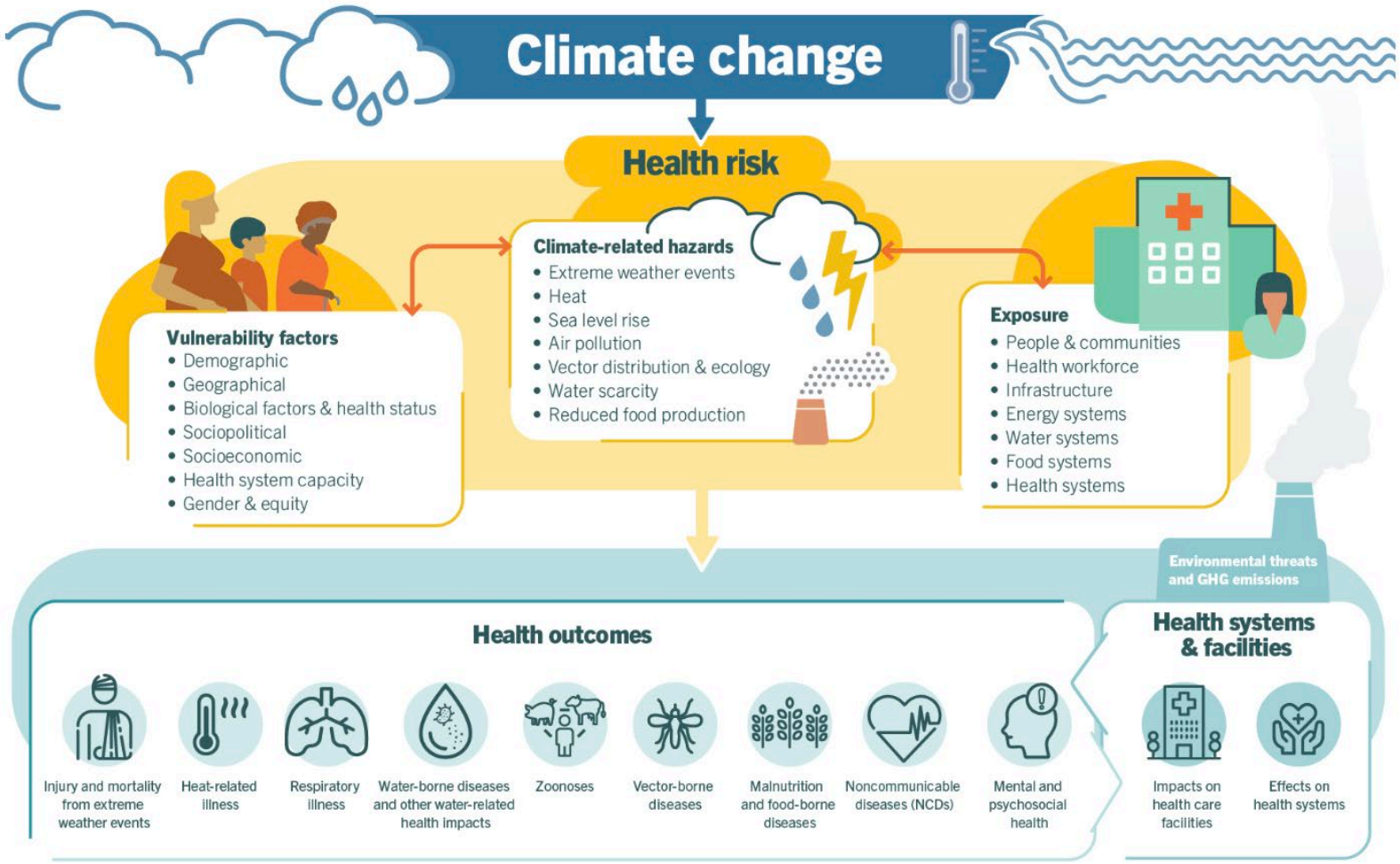


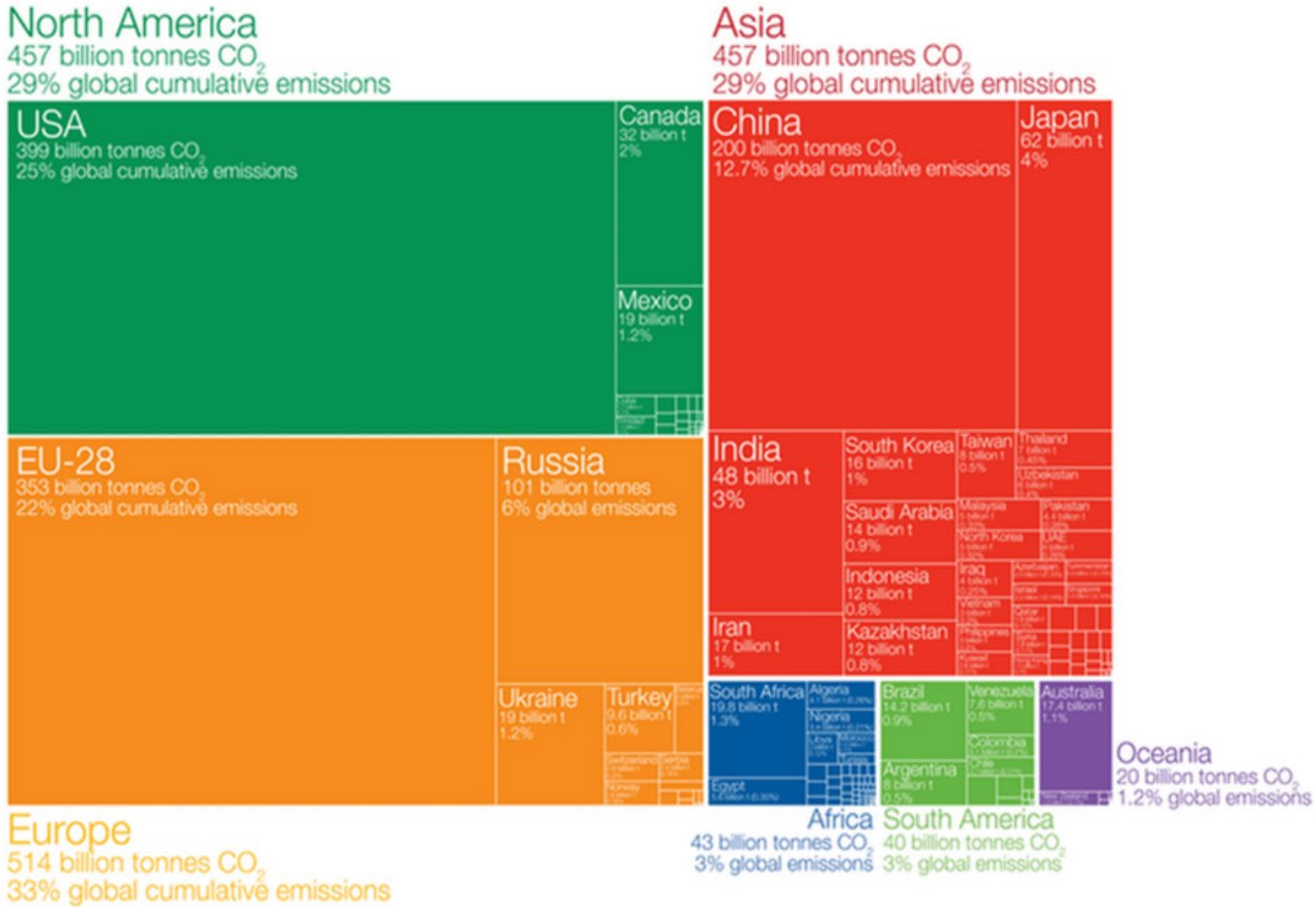

*Figure: An overview of climate-sensitive health risks, their exposure pathways and vulnerability factors. Climate change impacts health both directly and indirectly, and is strongly mediated by environmental, social and public health determinants.*

https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health

# Who has contributed most to global $CO_2$ emissions?

Our World in Data

Cumulative carbon dioxide ($CO_2$) emissions over the period from 1751 to 2017. Figures are based on production-based emissions which measure $CO_2$ produced domestically from fossil fuel combustion and cement, and do not correct for emissions embedded in trade (i.e. consumption-based). Emissions from international travel are not included.

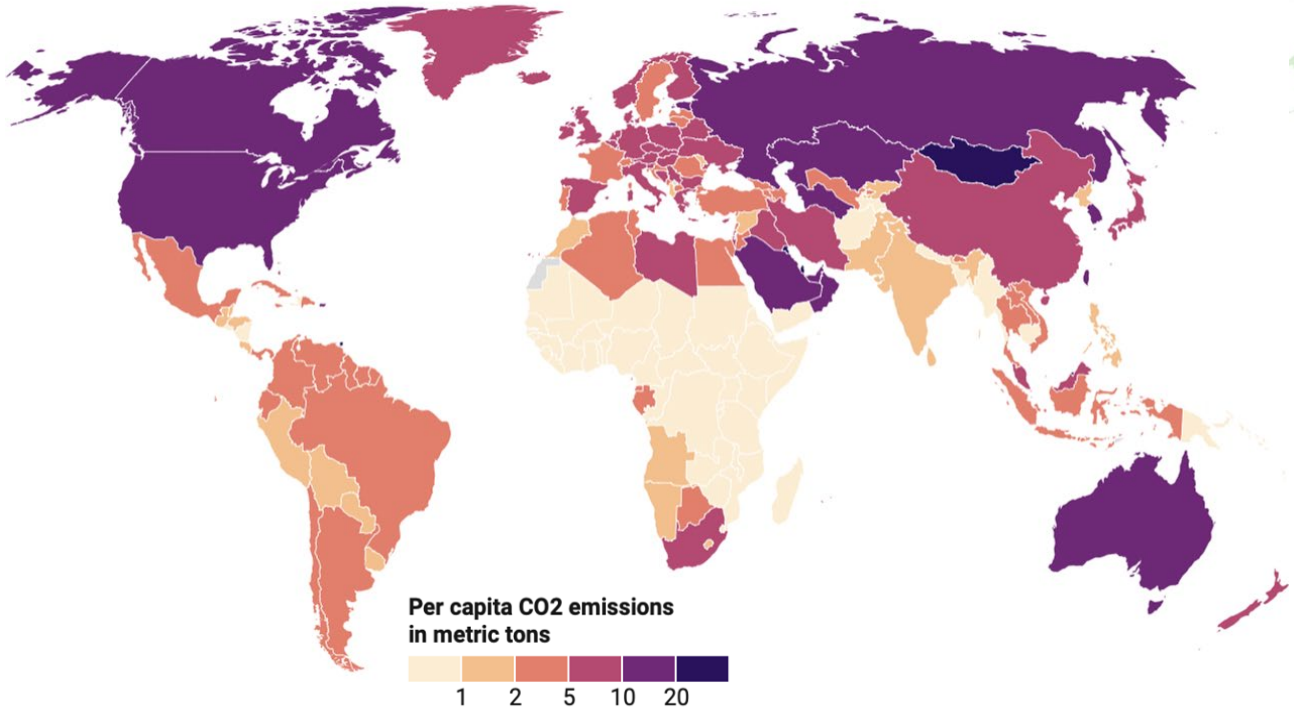



Figures for the 28 countries in the European Union have been grouped as the "EU-28" since international targets and negotiations are typically set as a collaborative target between EU countries. Values may not sum to 100% due to rounding.

Data source: Calculated by Our World in Data based on data from the Global Carbon Project (GCP) and Carbon Dioxide Analysis Center (CDIAC).
This is a visualization from OurWorldinData.org, where you find data and research on how the world is changing.

## Annual carbon dioxide emissions produced per capita

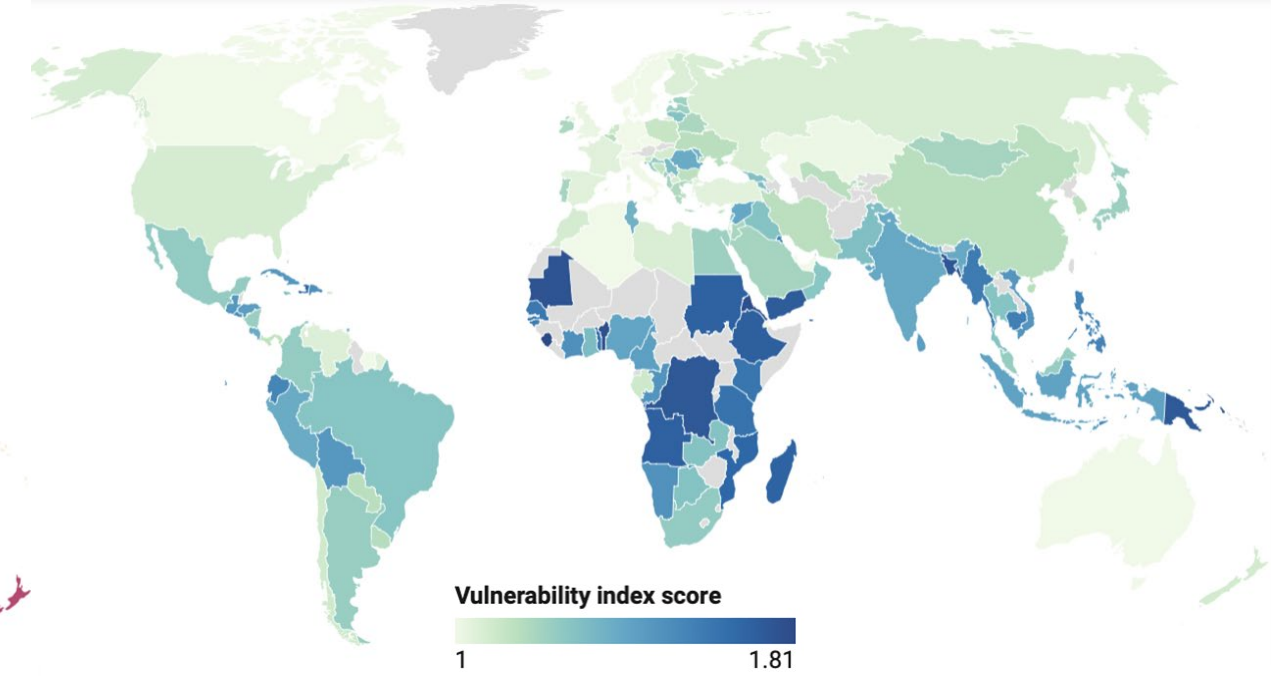
Africa produced about 1.1 metric tons of carbon dioxide emissions per person in 2019, well below the global average of 4.7. The US produced 16.1 metric tons per capita.




Data from 2019, production-based CO2 only, does not account for emissions embedded in traded goods. Map: The Conversation/CC-BY-ND Source: Our World In Data, Global Carbon Project

## The countries most vulnerable amid climate change

Scientists assessed countries' vulnerability based on food security, water availability, human health and living conditions, ecosystem services and infrastructure, including energy. The most vulnerable are in sub-Saharan Africa.




Data from 2019, vulnerability rises with higher scores. Data not available for regions in grey. Map: The Conversation/CC-BY-ND Source: Edmonds, Lovell and Lovell, 2020

It is
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**AND**
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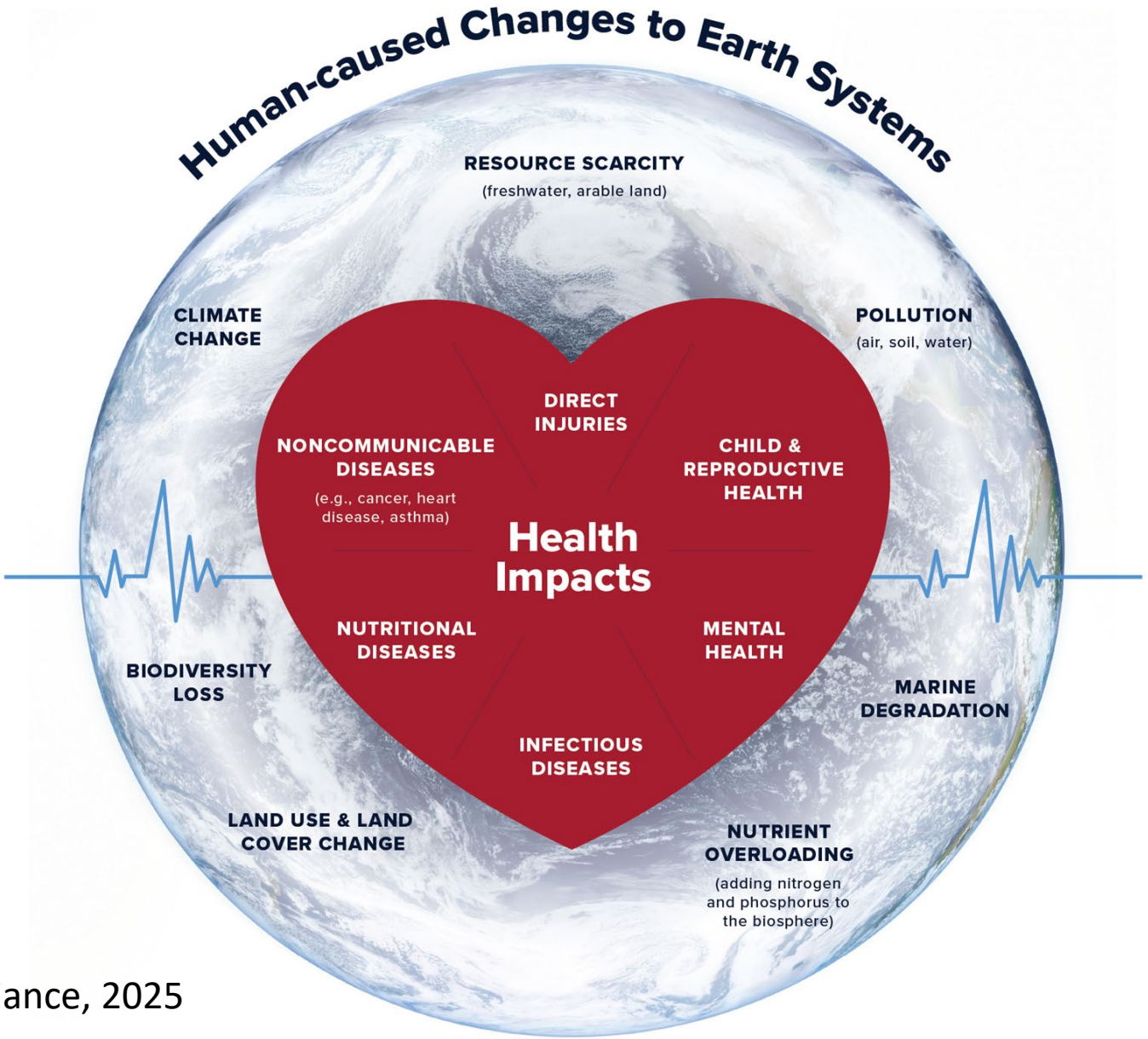
# These changes in our environment **severely affect our health** and jeopardize decades of public health gains.

**Human health impacts include, but are not limited to:**

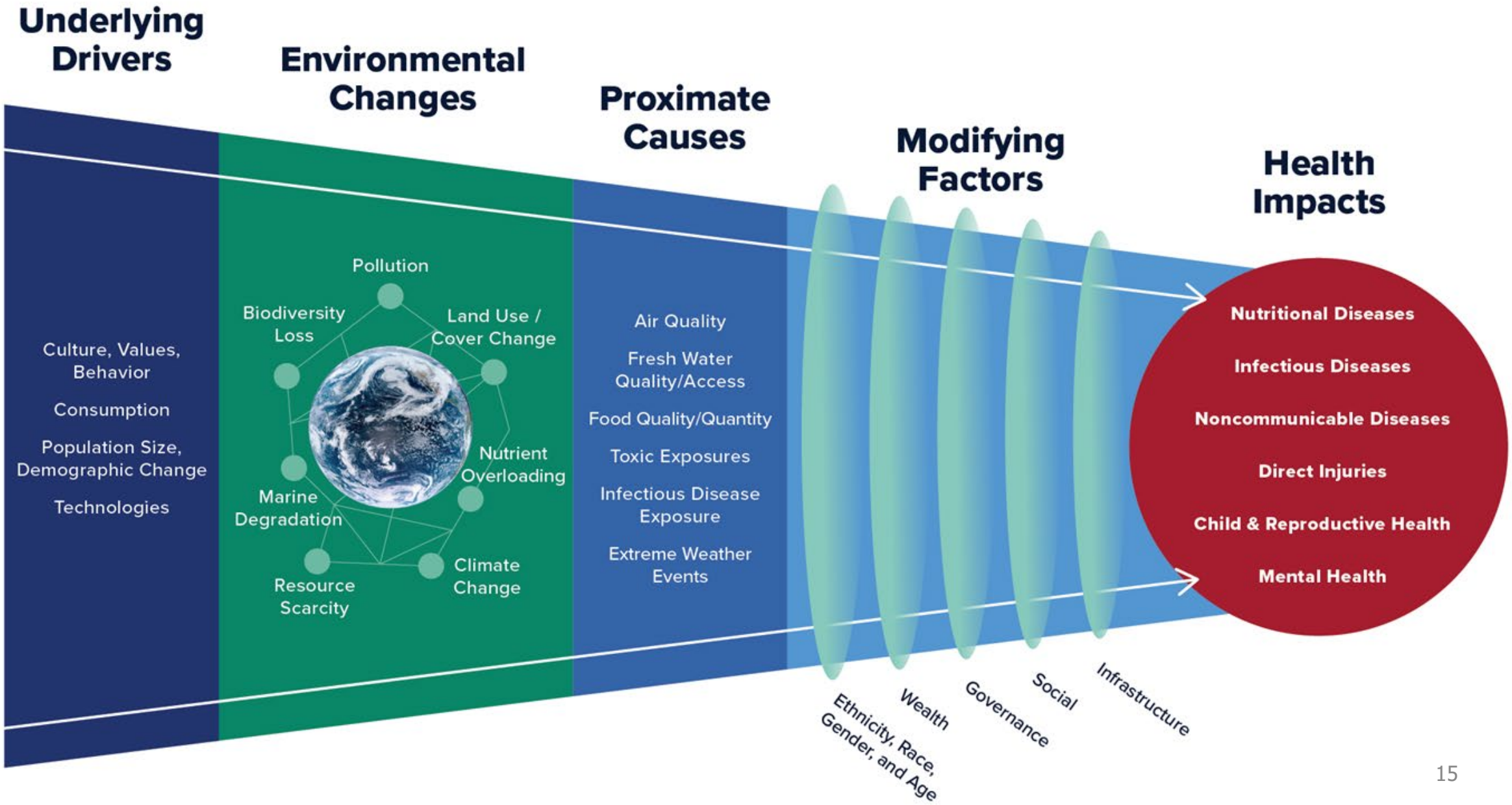
- Antimicrobial resistance
- Toxin and dioxin exposures
- Malnutrition
- Respiratory diseases, like asthma and COPD
- Heat stroke
- Cardiovascular disease
- Changing patterns of infectious disease transmission
- Civil strife and trauma
- Forced displacement and migration
- Mental health impacts

# Ecological Determinants of Health




Credit: Planetary Health Alliance, 2025

# Impacts of Anthropogenic Change on Human Health



# Ecological Paradox REVISITED


We have been borrowing against the health of future generations to realize economic and development gains in the present.

Rockefeller Foundation – Lancet Commission on Planetary Health, 2015

# Planetary Health

A solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth.

The Rockefeller Foundation THE LANCET

The Rockefeller Foundation–*Lancet* Commission on planetary health

## Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–*Lancet* Commission on planetary health

*Sarah Whitmee, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G Capon, Braulio Ferreira de Souza Dias, Alex Ezeh, Howard Frumkin, Peng Gong, Peter Head, Richard Horton, Georgina M Mace, Robert Marten, Samuel S Myers, Sania Nishtar, Steven A Osofsky, Subhrendu K Pattanayak, Montira J Pongsiri, Cristina Romanelli, Agnes Soucat, Jeanette Vega, Derek Yach*

**Executive summary**

Far-reaching changes to the structure and function of the Earth's natural systems represent a growing threat to human health. And yet, global health has mainly improved as these changes have gathered pace. What is the explanation? As a Commission, we are deeply concerned that the explanation is straightforward and sobering: we have been mortgaging the health of future generations to realise economic and development gains in the present. By unsustainably exploiting nature's resources, human civilisation has flourished but now risks substantial health effects from the degradation of nature's life support systems in the future. Health effects from changes to the environment including climatic change, ocean acidification, land degradation, water scarcity, over-exploitation of fisheries, and biodiversity loss pose serious challenges to the global health gains of the past several decades and are likely to become increasingly dominant during the second half of this century and beyond. These striking trends are driven by highly inequitable, inefficient, and unsustainable patterns of resource consumption and technological development, together with population growth.

We identify three categories of challenges that have to be addressed to maintain and enhance human health in the face of increasingly harmful environmental trends. Firstly, conceptual and empathy failures (imagination challenges), such as an over-reliance on gross domestic product as a measure of human progress, the failure to account for research and funding, together with an unwillingness or inability to deal with uncertainty within decision making frameworks. Thirdly, implementation failures (governance challenges), such as how governments and institutions delay recognition and responses to threats, especially when faced with uncertainties, pooled common resources, and time lags between action and effect.

Although better evidence is needed to underpin appropriate policies than is available at present, this should not be used as an excuse for inaction. Substantial potential exists to link action to reduce environmental damage with improved health outcomes for nations at all levels of economic development. This Commission identifies opportunities for action by six key constituencies: health professionals, research funders and the academic community, the UN and Bretton Woods bodies, governments, investors and corporate reporting bodies, and civil society organisations.

Depreciation of natural capital and nature's subsidy should be accounted for so that economy and nature are not falsely separated. Policies should balance social progress, environmental sustainability, and the economy. To support a world population of 9–10 billion people or more, resilient food and agricultural systems are needed to address both undernutrition and overnutrition, reduce waste, diversify diets, and minimise environmental damage. Meeting the need for modern family planning can improve health in the short term—eg, from reduced maternal mortality and reduced pressures on the

*Lancet* 2015; 386: 1973–2028

Published Online July 16, 2015 http://dx.doi.org/10.1016/S0140-6736(15)60901-1

**This online publication has been corrected. The corrected version first appeared at thelancet.com on August 17, 2015**

See Comment pages 1921, e36, e37, and e39

For **infographic** see http://www.thelancet.com/infographics/planetary-health

**Centre for Biodiversity and Environment Research, University College London, London, UK** (S Whitmee PhD, Prof G M Mace DPhil); **London School of Hygiene & Tropical Medicine, London, UK** (Prof A Haines FMedSci, R Marten MPH); **Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA** (Prof C Beyrer MD); **The Rockefeller Foundation, New York, NY, USA** (F Boltz PhD, R Marten); **International Institute for Global Health, United Nations University, Federal Territory of Kuala Lumpur, Malaysia** (Prof A G Capon PhD);

# The Great Transition

How we manage our natural landscapes and resources

How we construct and live in our cities


Creation of Planetary Health movements and policy shifts

How we produce and consume food, manufactured products, and energy

And the stories we tell ourselves about our place in the world, our relationship to Nature, and what it means to live a good life

# The Great Transition:
# A Rich Landscape of Solutions

- Innovation and Technology (energy, food, built environment, manufacturing, chemistry, etc)
- Policy, Law, International Agreements
- Private Sector (subsidies, incentives, regulations)
- Movement Building/Organizing
- New narratives and Social Justice




- Hope and Urgency in Collective Action
- Building a Positive Vision
- Reconnecting with Nature
- Shared Values and Ethics
- Today


# Planetary Health Framework

- Planetary Health is a theoretical framework to understand the interconnectedness of humans and our environment and to strengthen our resolve to improve human health through activities that restore environmental health.

The ROCKEFELLER FOUNDATION

# São Paulo Declaration on Planetary Health

October 2021

- Published in *The Lancet*, the Declaration includes concrete actions for 19 stakeholder groups that support a more just and regenerative post-pandemic world.
  - Groups include: Cities and Urban Planners, Governments, Funders, Media, Researchers, Youth Representatives
- Developed by the global Planetary Health community, including over 300 people from 70+ countries via a United Nations Development Programme (UNDP) global consultation.

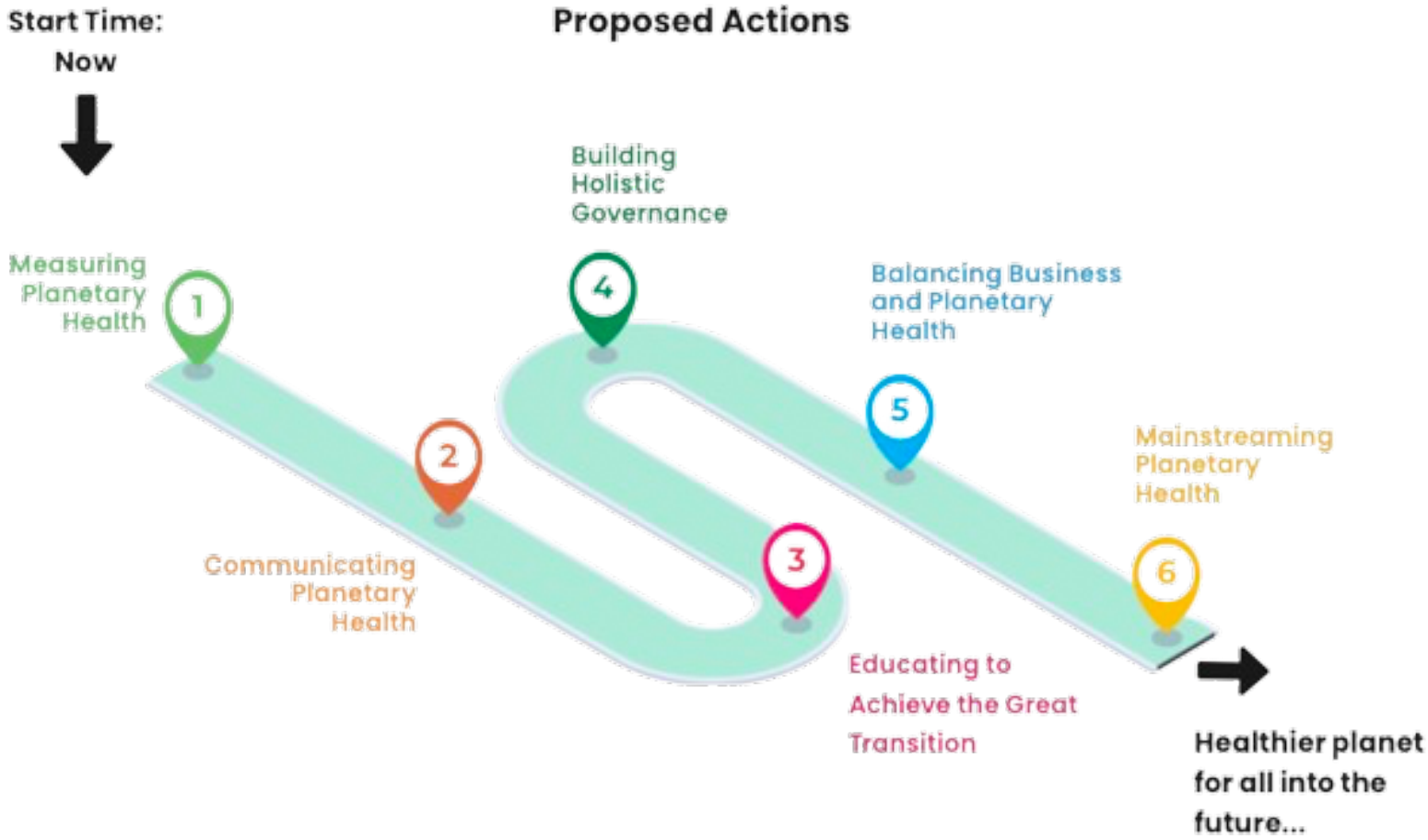
São Paulo Declaration on Planetary Health

# Planetary Health Roadmap and Action Plan

PHAM2024

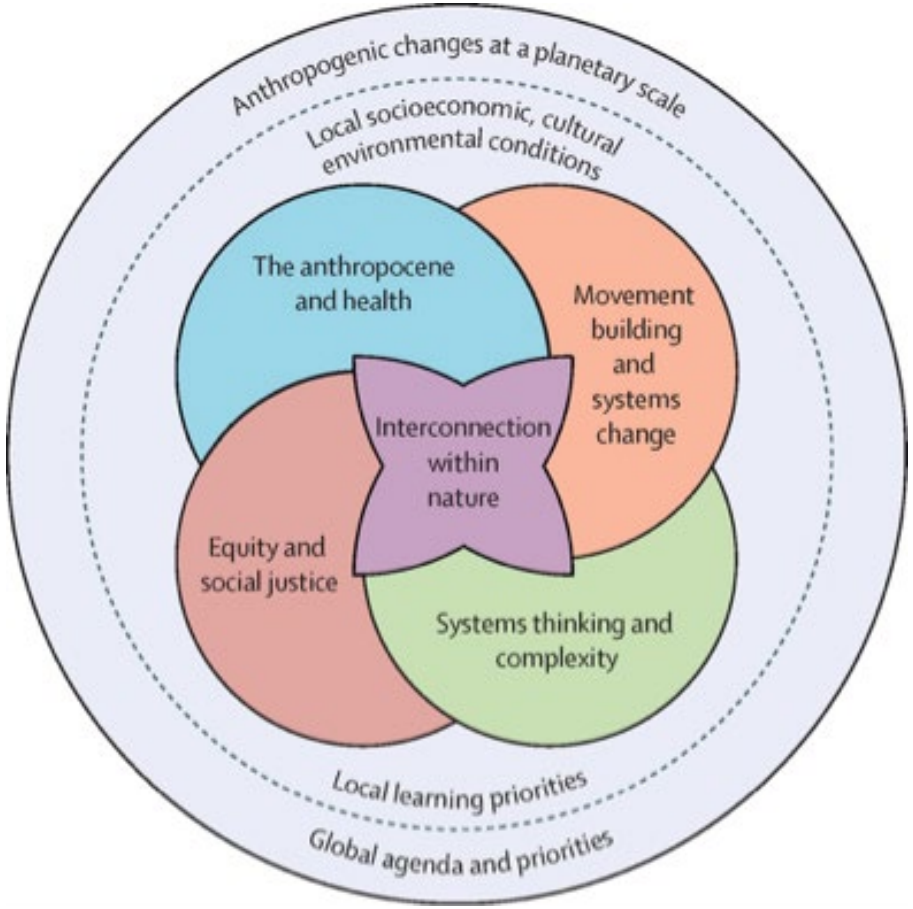
## PLANETARY HEALTH

Roadmap and Action Plan



# Planetary Health Education

A Framework to Guide Planetary Health Education

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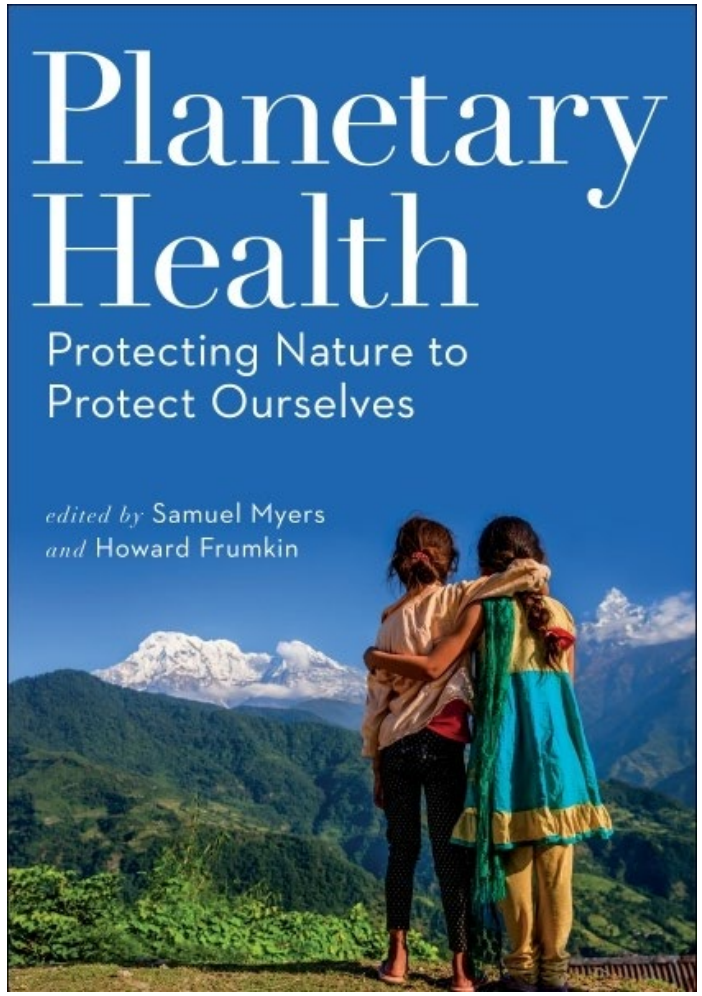
Volume 5 Issue 5 Pages e253-e255 (May 2021)
DOI: 10.1016/S2542-5196(21)00110-8

# About the Planetary Health Alliance

A diverse, inclusive community

Community building, research, education, mainstreaming, and action

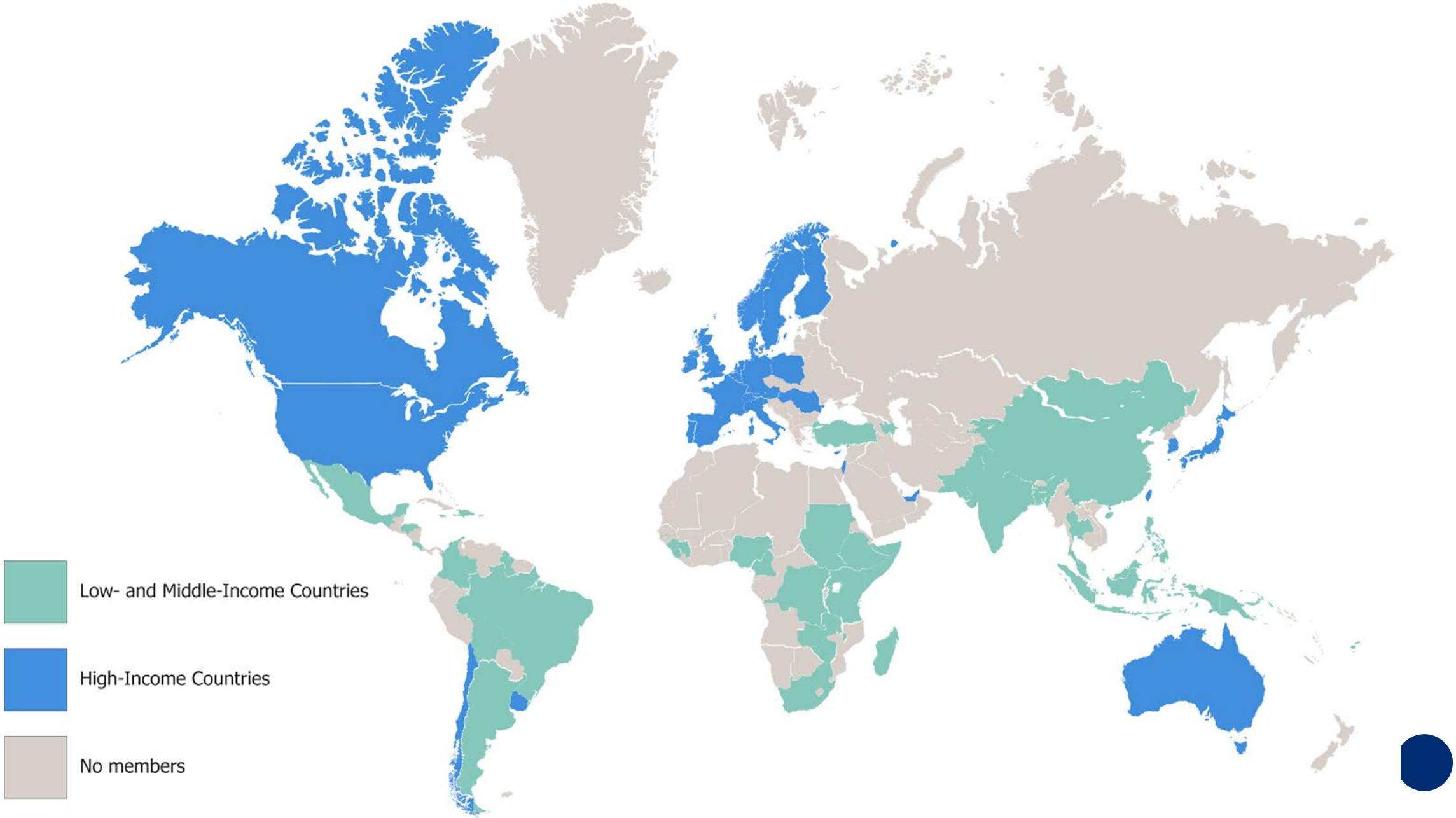
Committed to understanding and addressing the health impacts of global environmental change

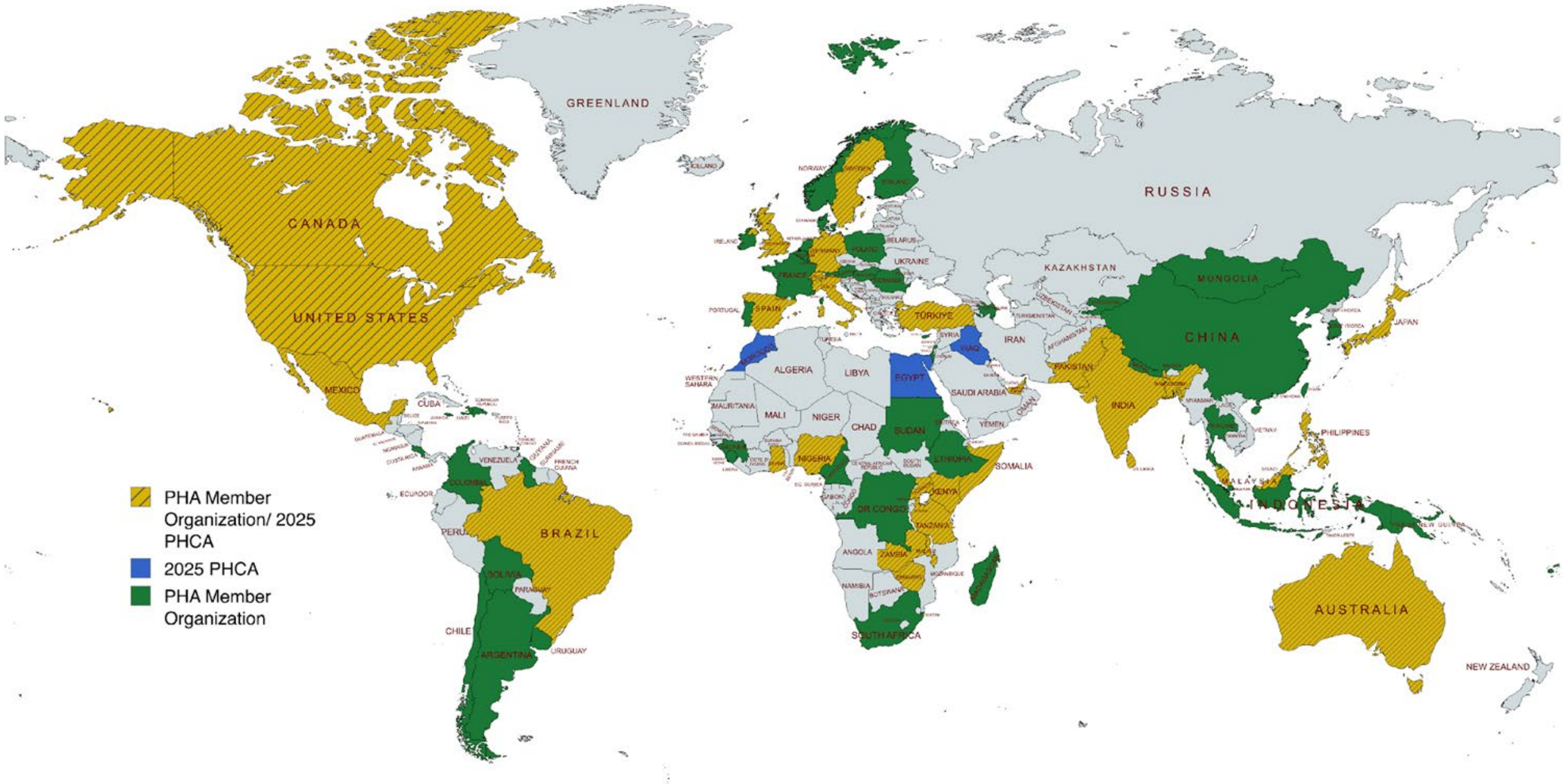
**4,000+** Individual Members

**480+** Member Organizations

**80** Countries

# PHA Organizational Members Across the Globe




PHA Member Organization/ 2025 PHCA
2025 PHCA
PHA Member Organization
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PLANETARY HEALTH ALLIANCE

# Join the Planetary Health Alliance!

Collaborate with over 480 organizations from 80 countries committed to understanding and addressing Planetary Health: the human health impacts of global environmental change.

## WWW.PLANETARYHEALTHALLIANCE.ORG

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- → **Youth**: Join our Next Gen Network or PHCA program
- → **Join** as an individual or organization
- → **Attend** the Planetary Health Annual Meeting: October 7-10, 2025

Community-building • Education • Outreach • Action