

One Health & Planetary health: What is the difference?

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UNITED NATIONS
UNIVERSITY



The
ROCKEFELLER
FOUNDATION

THE LANCET

Commission on Planetary Health



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

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Dr Sam Myers

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Dr Steve Osofsky

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Dr Agnes Soucat

Dr Jeanette Vega

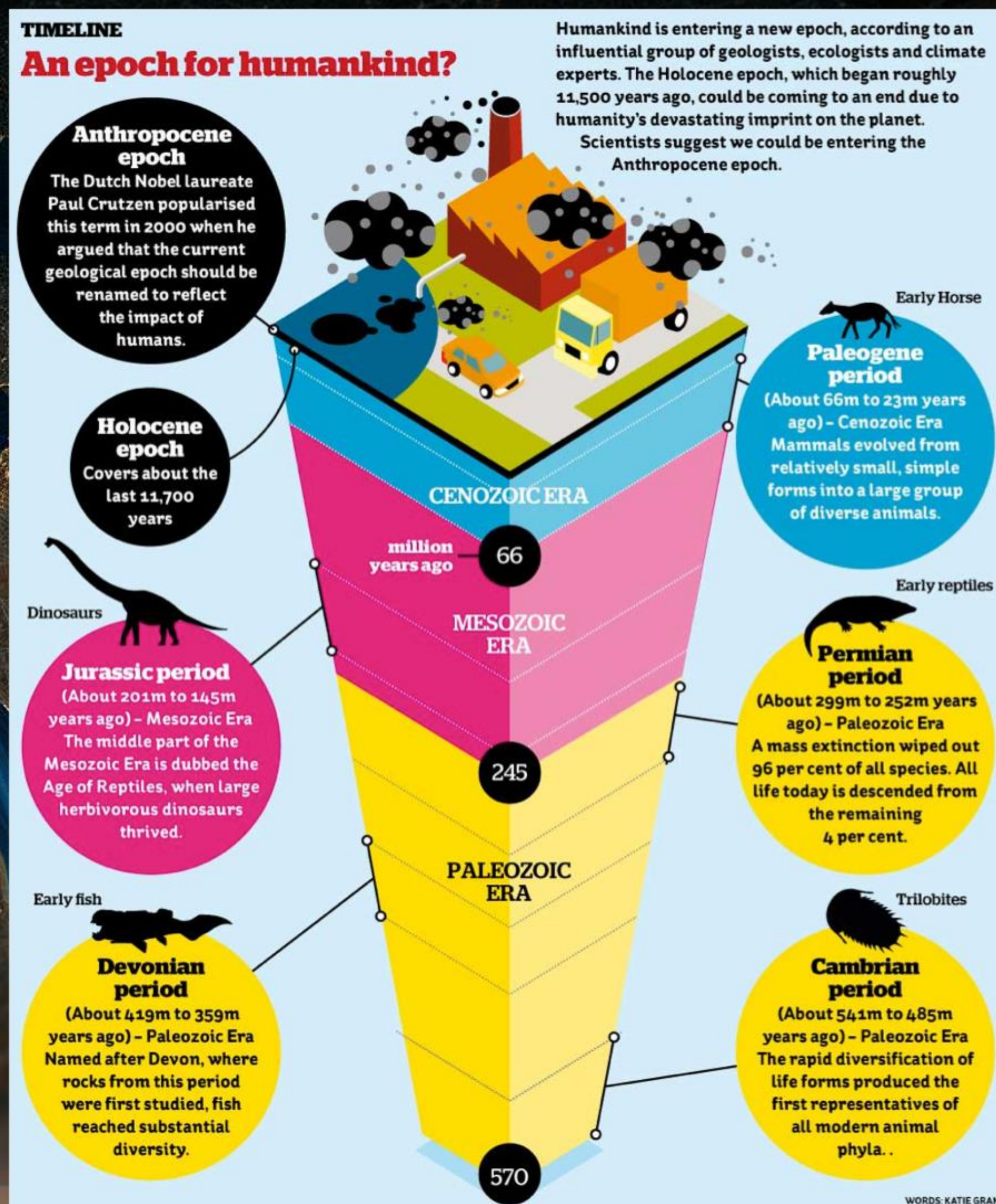
Dr Derek Yach

Dr Sarah Whitmee
(Commission Researcher)

Building on previous work e.g. Brundtland Commission, IPCC, MA, CBD/WHO, Tony McMichael



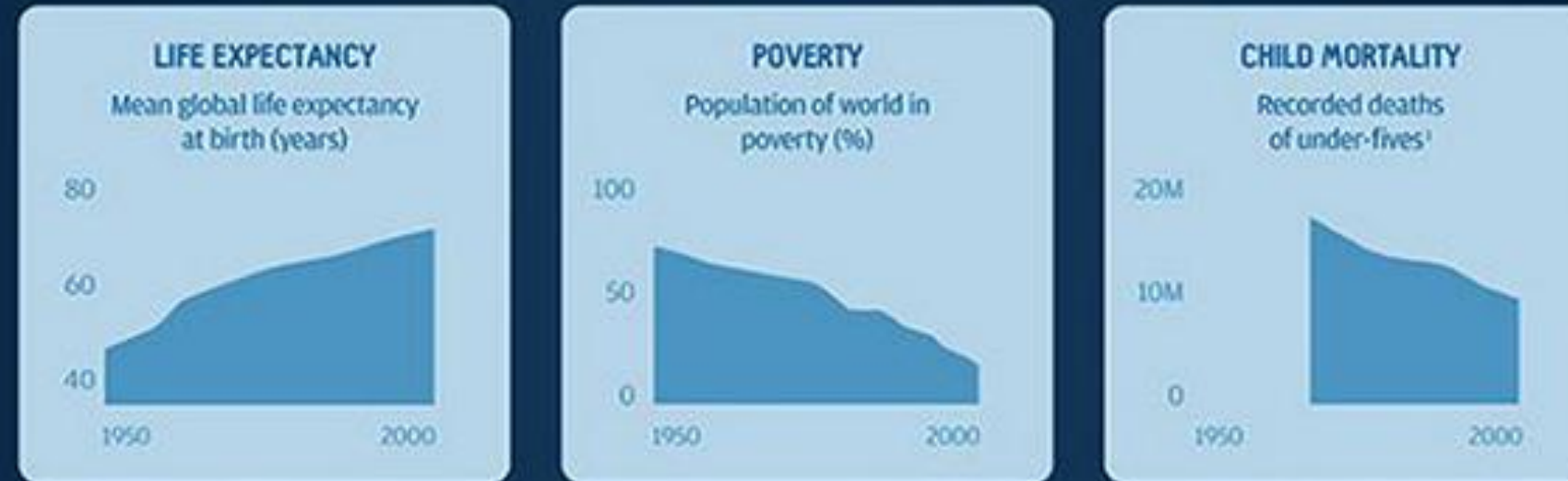
The Anthropocene epoch



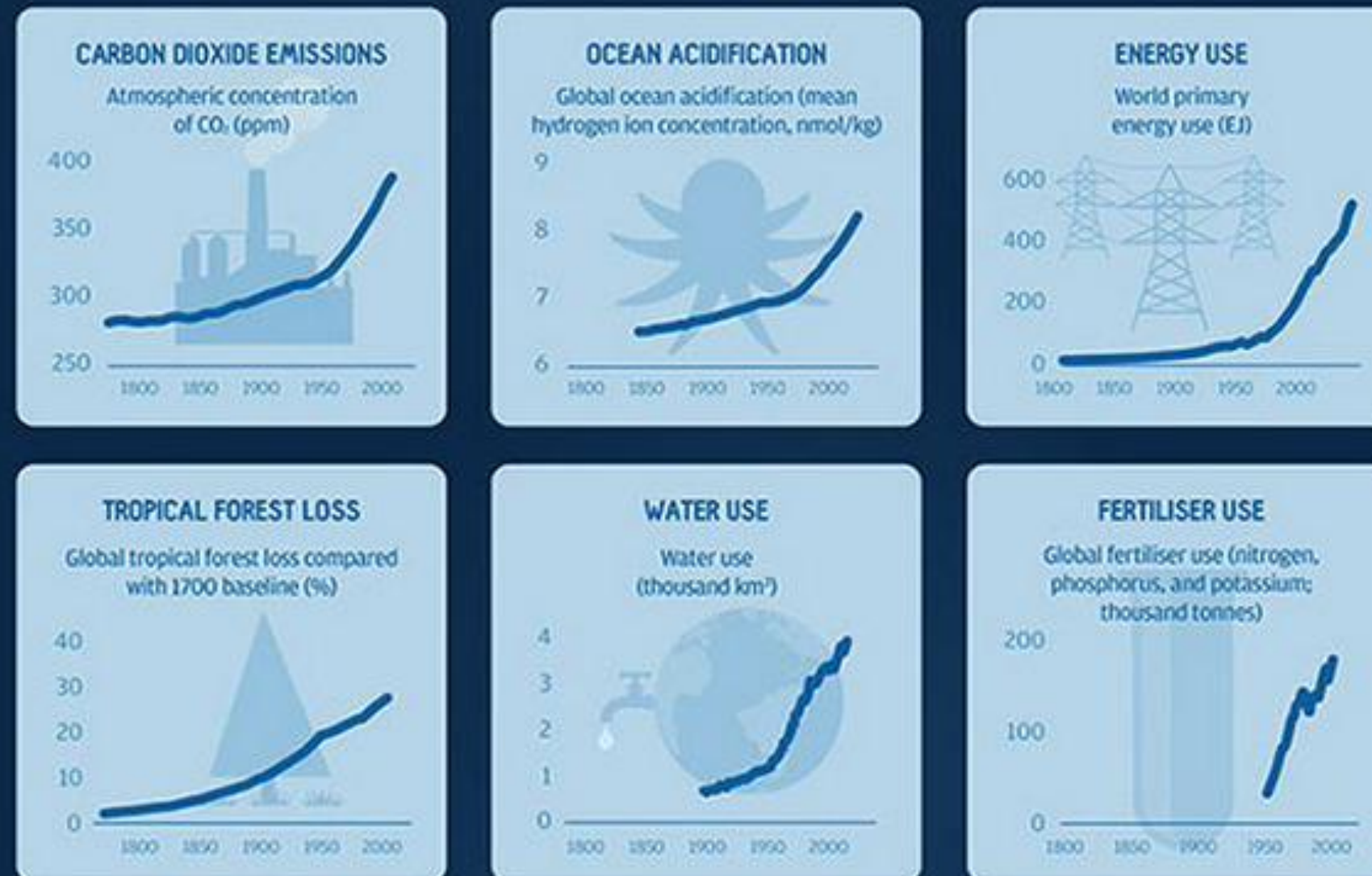
<https://vimeo.com/39048998>



THE HUMAN POPULATION IS HEALTHIER THAN EVER BEFORE



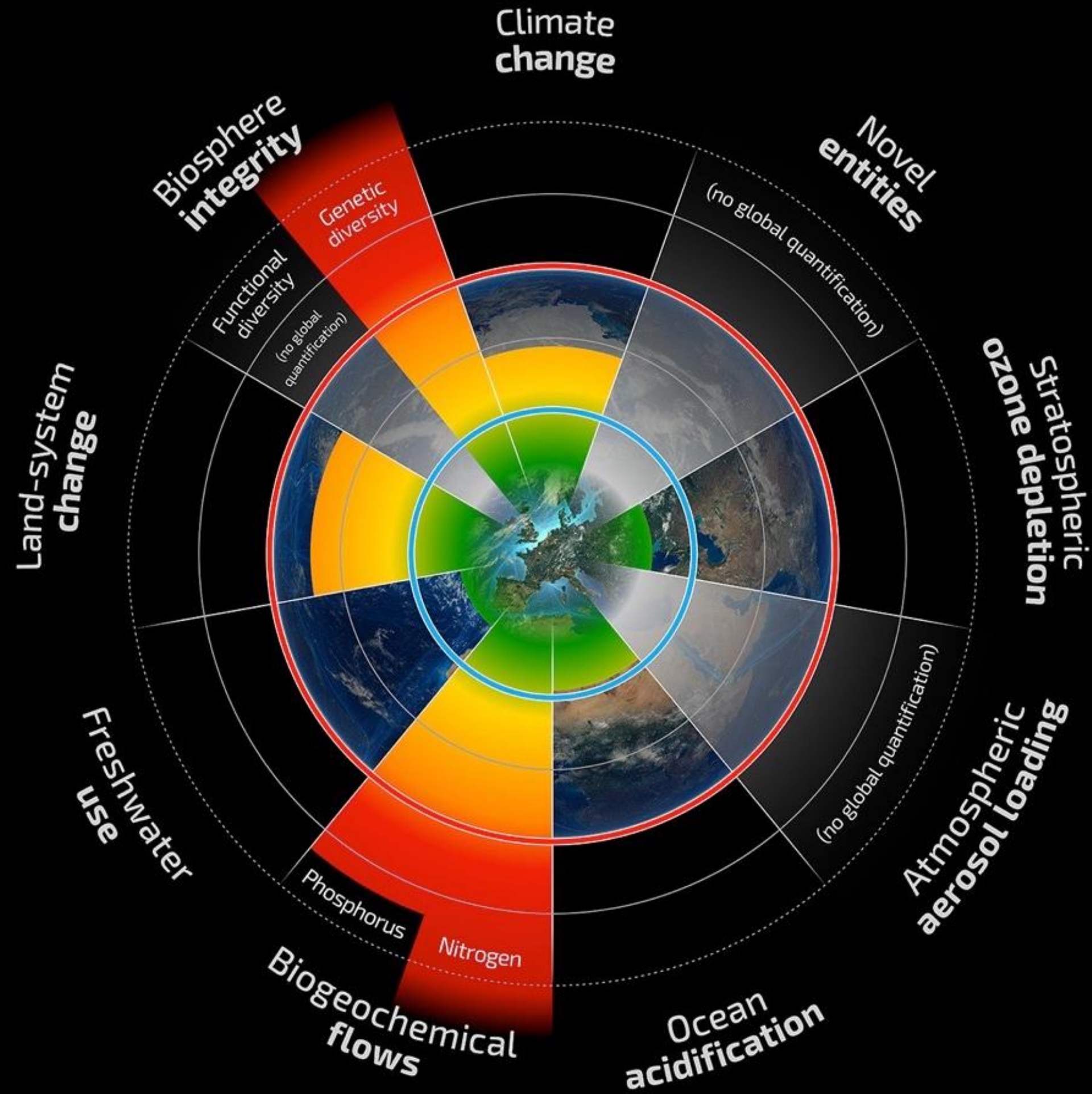
BUT TO ACHIEVE THIS WE'VE EXPLOITED THE PLANET AT AN UNPRECEDENTED RATE





Planetary boundaries

(Steffen et al Science 2015)



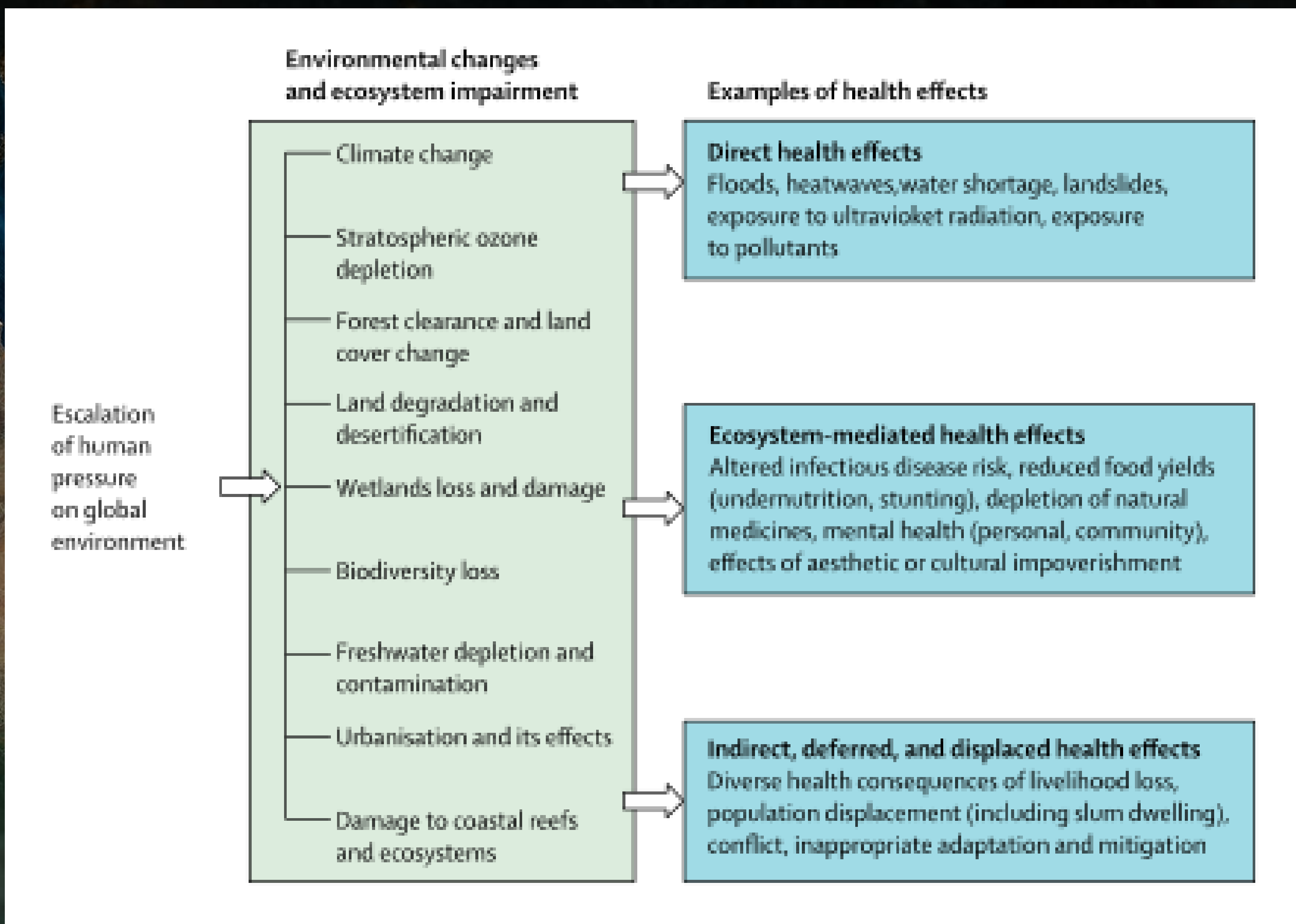


What is planetary health?

“ Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends. ”

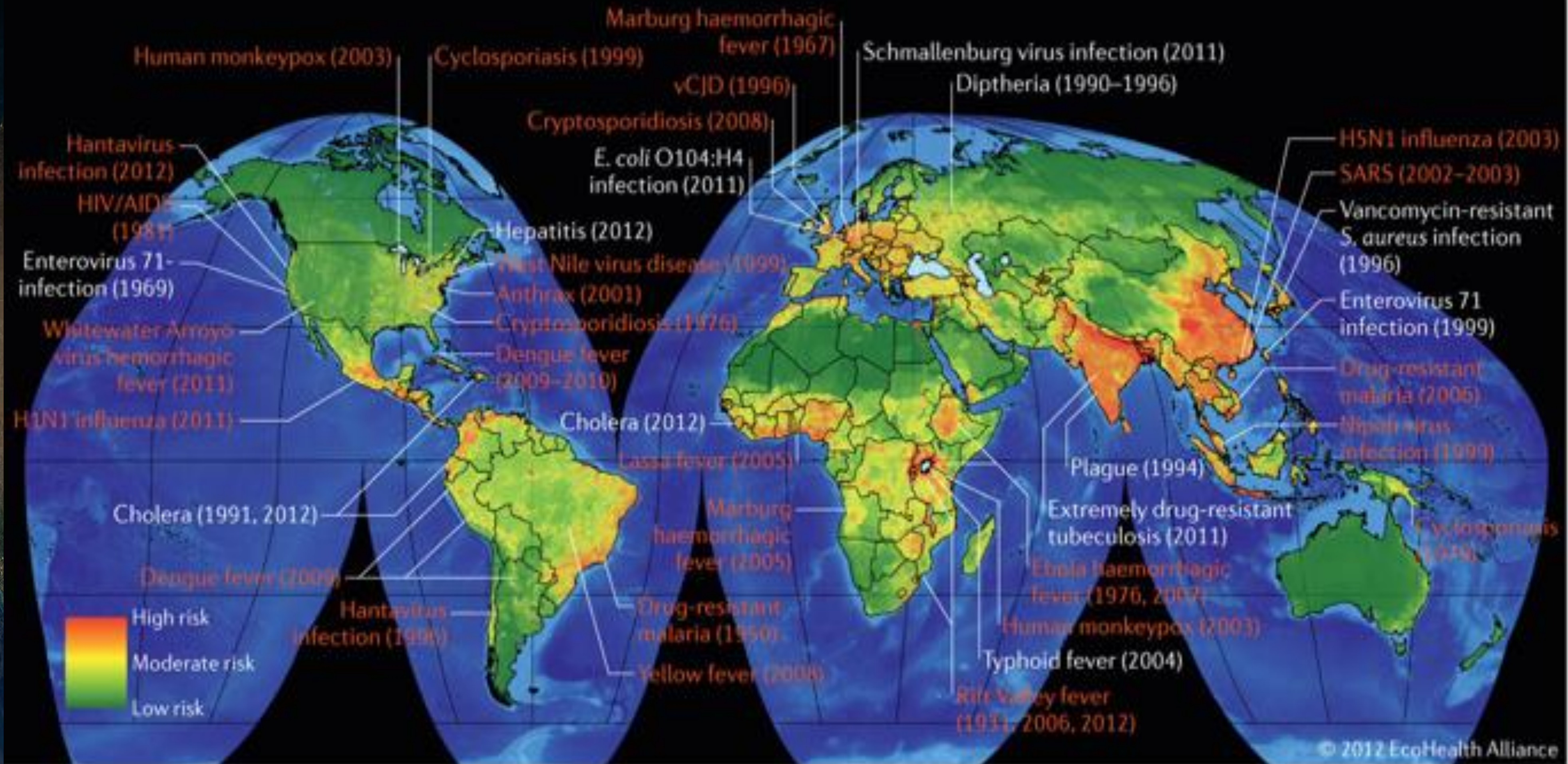


Links with health



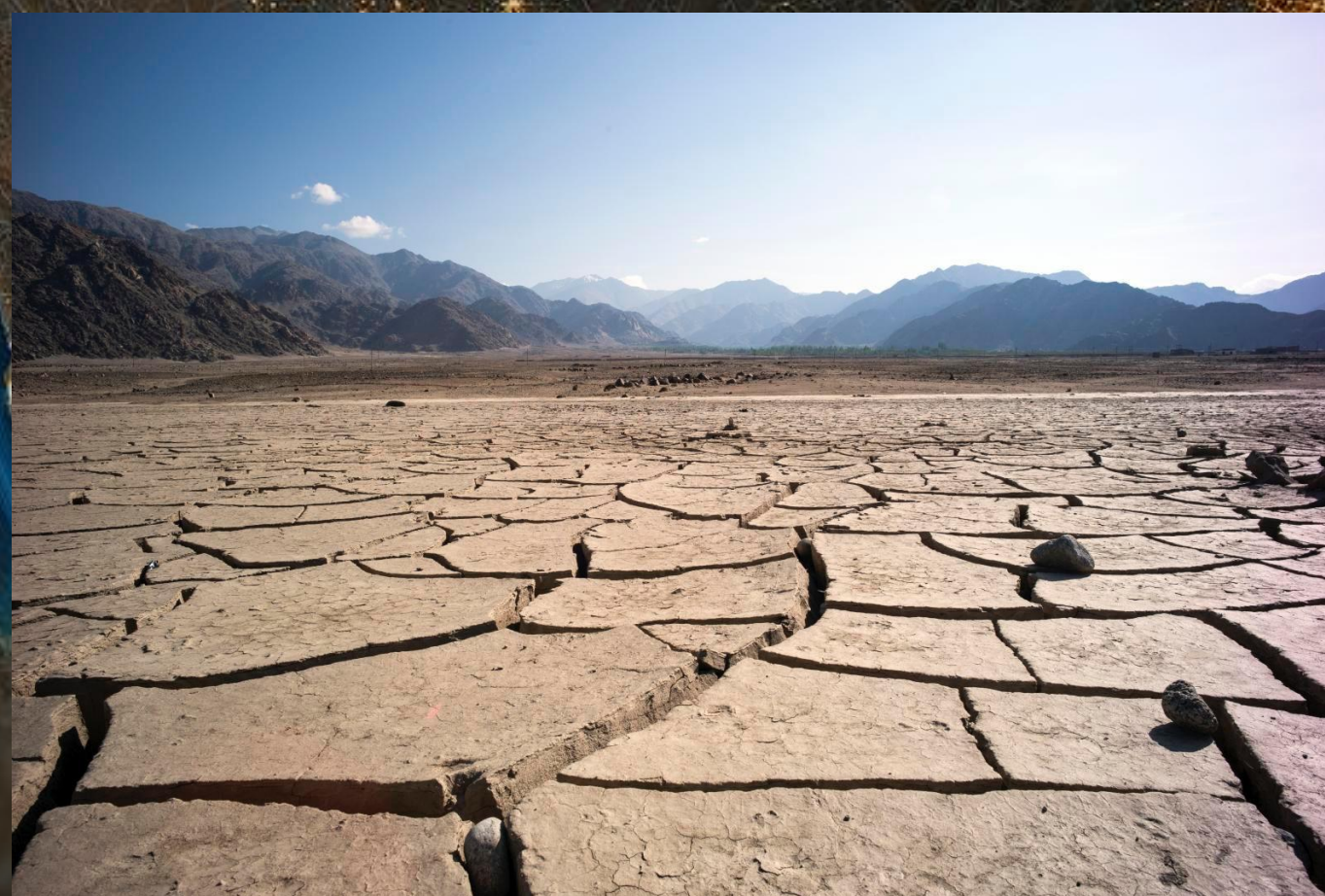


Emerging diseases





Effects of multiple environmental changes on food availability and quality



- Land degradation and soil erosion
- Water scarcity (from overconsumption, diversion to non-food crops, climate change and changes to ecosystem function)
- Loss of pollinators
- Overfishing/Ocean acidification
- Climate change
 - Temperature/extreme events
 - CO₂ fertilization
 - Ozone
 - Pests, mold and fungi



Estimates of air pollution deaths

(WHO 2014, Lim et al Lancet 2012: 380)

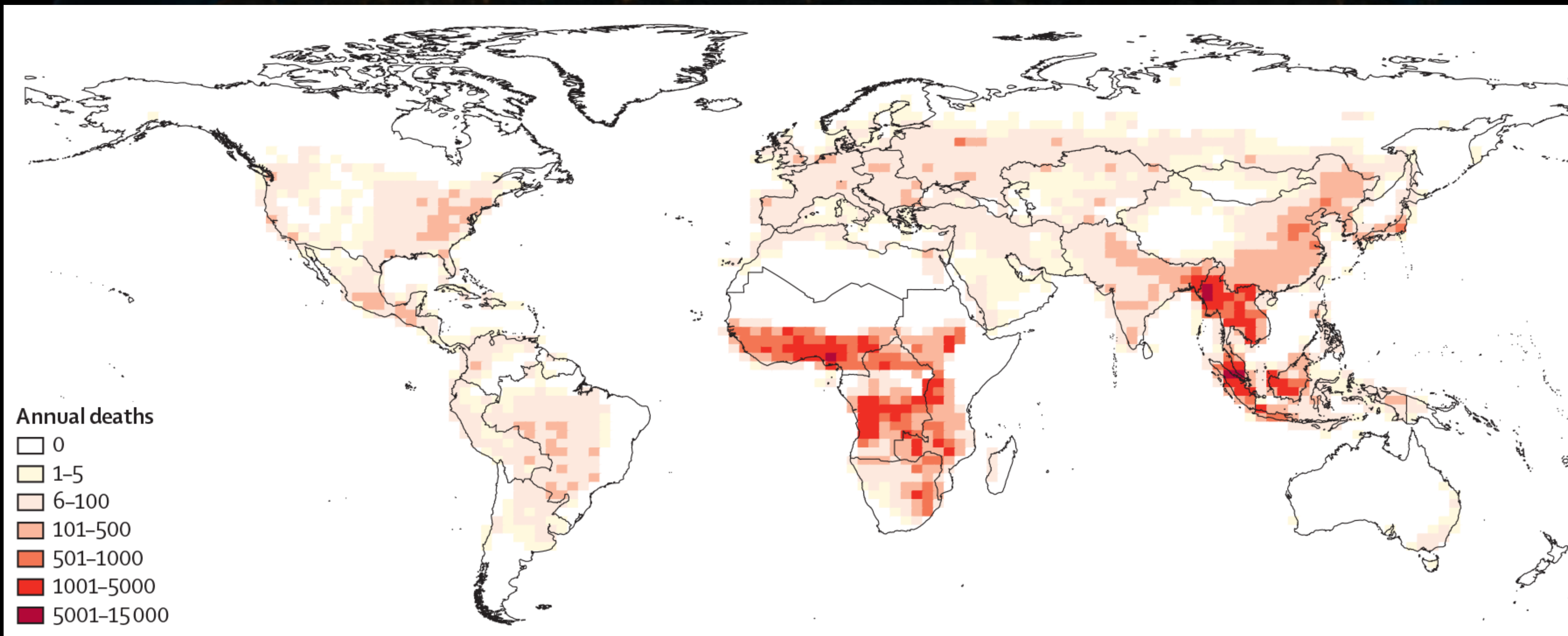


- Ambient particulates >3 m deaths p.a.
- Household from solid fuels >4 m deaths p.a.
- More than 7 million in total





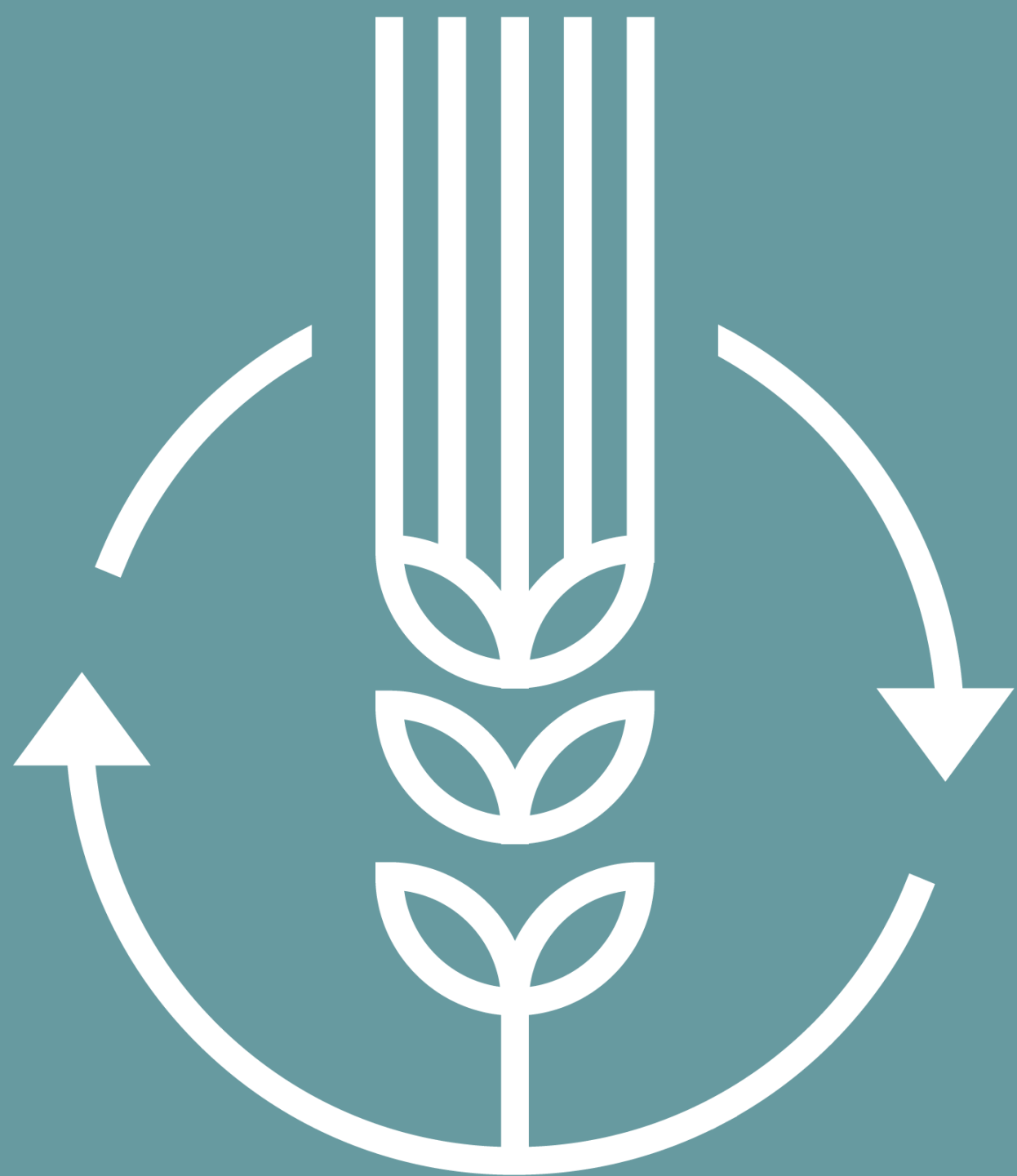
Annual average global mortality (1997–2006) due to Landscape fire smoke



Reproduced from Johnston and colleagues 2012; by permission of Environmental Health Perspectives.



Meeting the challenges





How Forest Conservation Reduces Disease risks— examples from the Brazilian Amazon



Malaria transmission

- (-) fewer vector breeding sites.
- (-) larger vector predator populations and greater diversity of mammalian species (promoting dilution effects)
- (-) microclimate inhibits anopheline mosquitoes.

Acute Respiratory Infections (ARI)

- (-) forests may filter air particulates .
- (-) fewer fires and lower smoke emission
- (-) reduced collection and burning of biomass fuels

Diarrhea

- (-) forest may reduce flooding and filter pathogens from surface water.

Bauch, Birkenbach, Pattanayak and Sills PNAS 2014



Developing sustainable and healthy cities

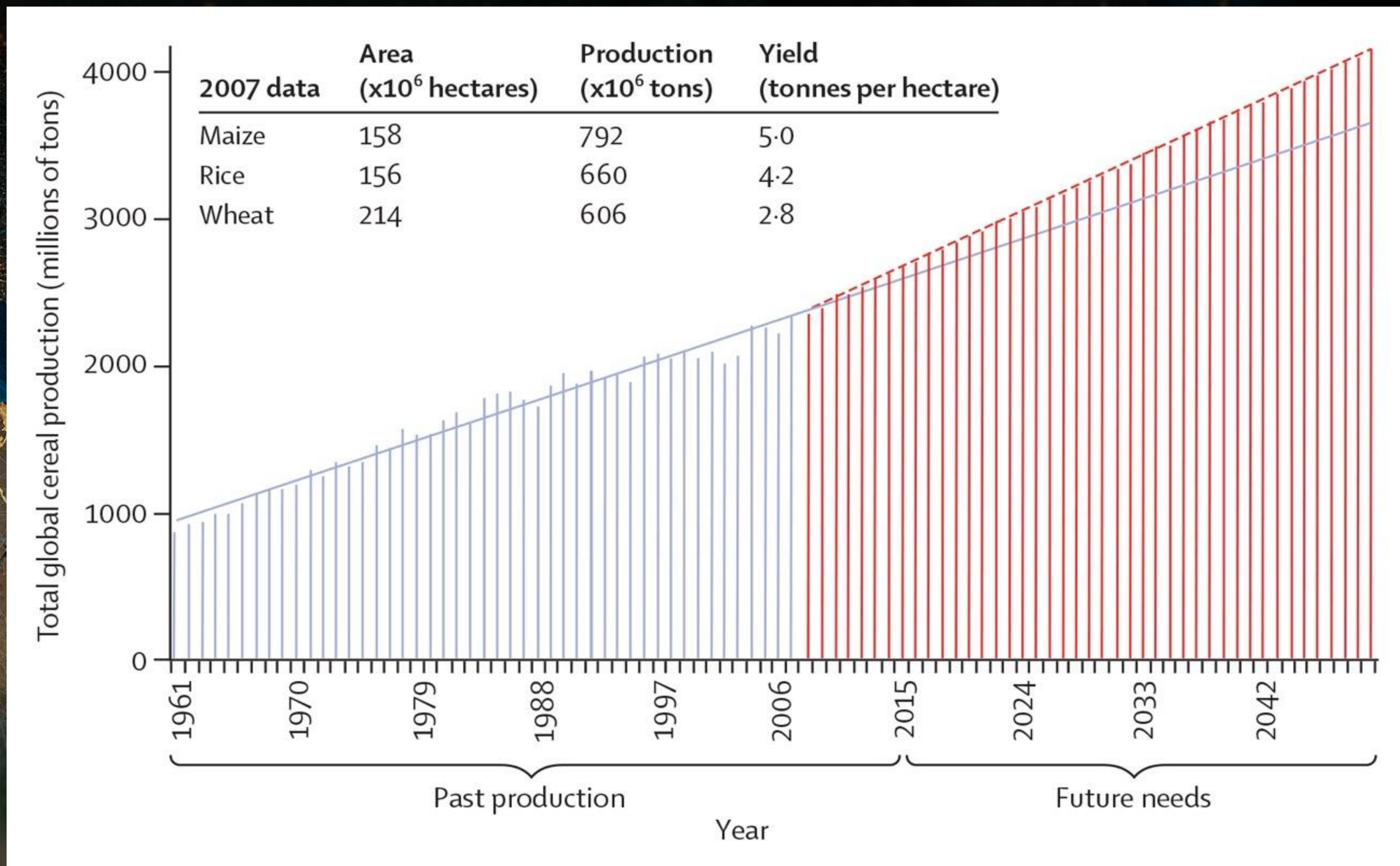


- Active travel/public transport
- Reduced fine particulate air pollution
- Green spaces –biodiversity, reduced heat island and mental health benefits
- Watershed conservation
- Access to healthy food
- Increased resilience to floods, storms and droughts



Multiple approaches for meeting increased food requirements

- Sustainable intensification
- Efficient use of water and fertilizer
- Sustainable aquaculture
- Support for subsistence farmers
- New sources of nutrition + diversification
- Biofortification
- Change of diets and redirect landuse back to food.
- Reduced food waste





Reducing food waste



Nearly 30% of the world's total agricultural land is used to produce food that is never eaten. Various strategies needed e.g. ---



Reducing aflatoxin through aflasafe

[http://www.iita.org/2009-press-releases/-/asset_publisher/hB8z/content/maize-farmers-enjoy-better-grains-with-aflasafe;](http://www.iita.org/2009-press-releases/-/asset_publisher/hB8z/content/maize-farmers-enjoy-better-grains-with-aflasafe)

UN World Food Programme's 'Training Manual for Improving Grain Postharvest Handling and Storage'



The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.

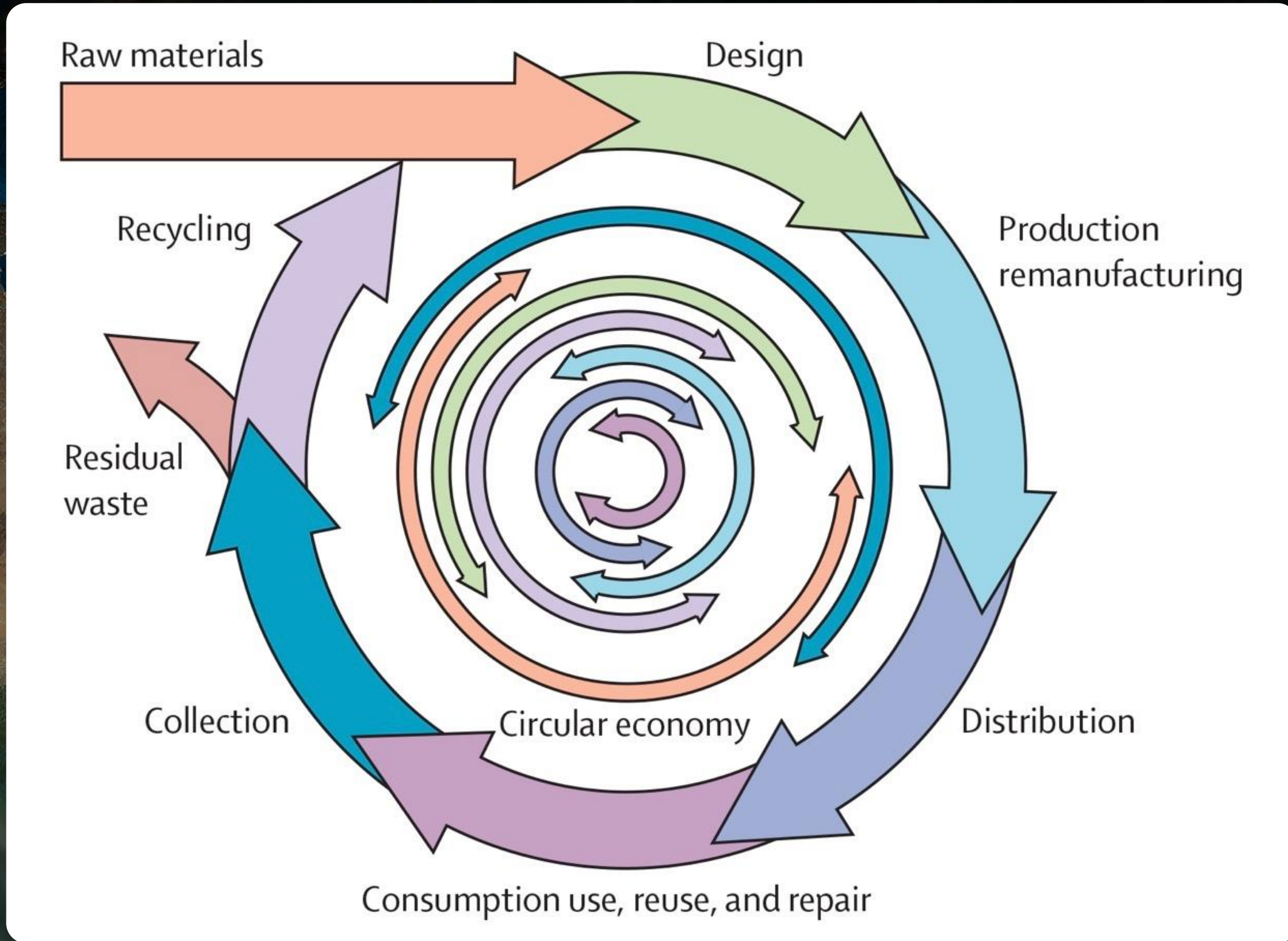


Public Health England in association with the Welsh Government, the Scottish Government and the Food Standards Agency in Northern Ireland





Circular economy





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<http://www.thelancet.com/commissions/planetary-health>

Implications for public health and medical education and research

- Embrace eco–social understandings of health
- Systems thinking to complement classical epidemiology
- Planetary health is relevant to all sub-specialties
- Who has sovereignty of health?
- Health and wellbeing of future generations



Beyond the Planetary Health Commission

- Wellcome Trust: *Our Planet, Our Health* funding
- *Lancet Planetary Health* next year
- Future Earth: Health Knowledge Action Network
- Planetary Health Alliance

