

Planetary Health

Systems Thinking, NCDs, and the Climate Emergency

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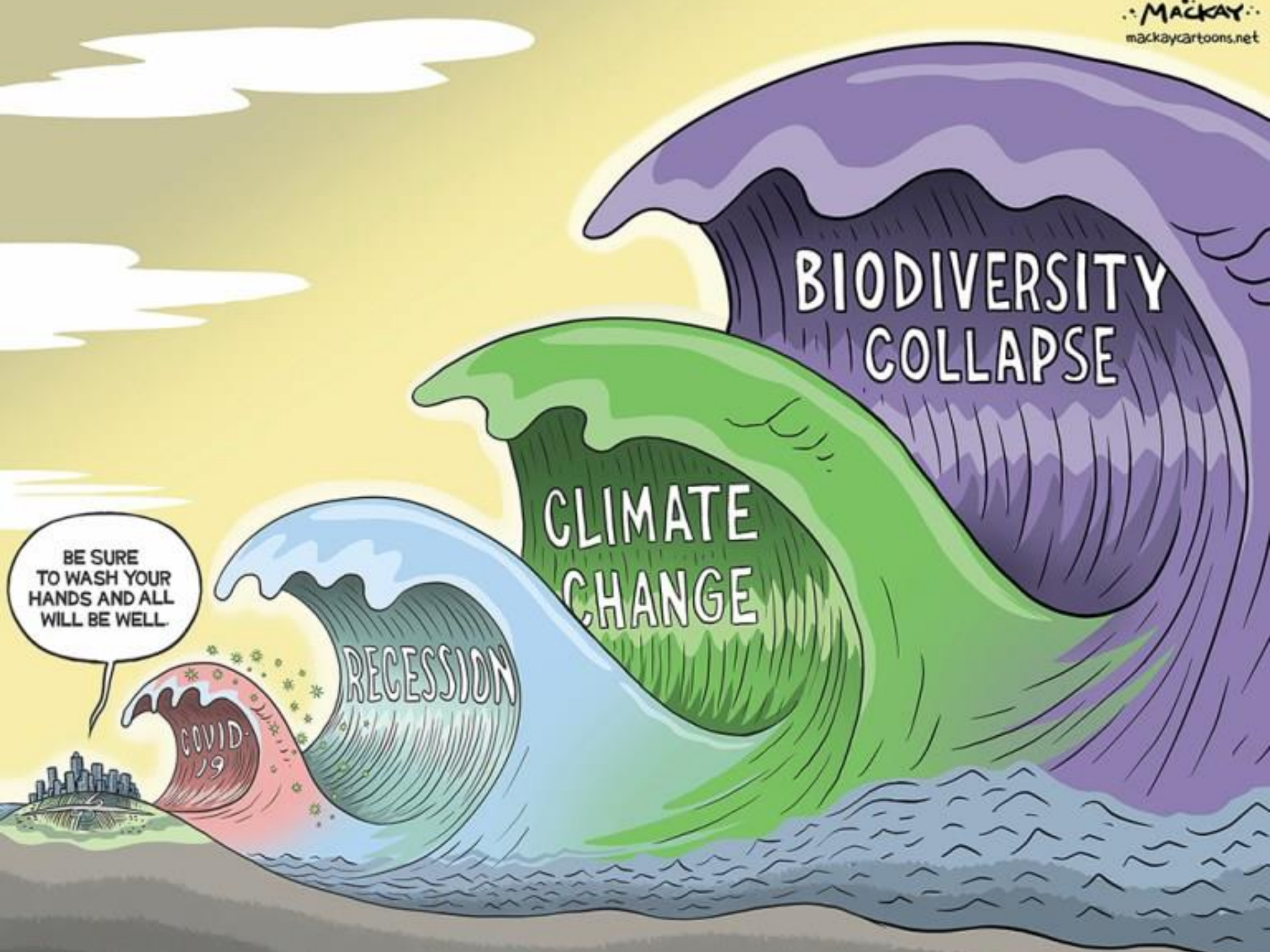
Member, National Panel of Technical Experts, Climate Change Commission

Convener, Planetary Health Philippines



St. Luke's
Medical Center
College of Medicine
William H. Quasha Memorial





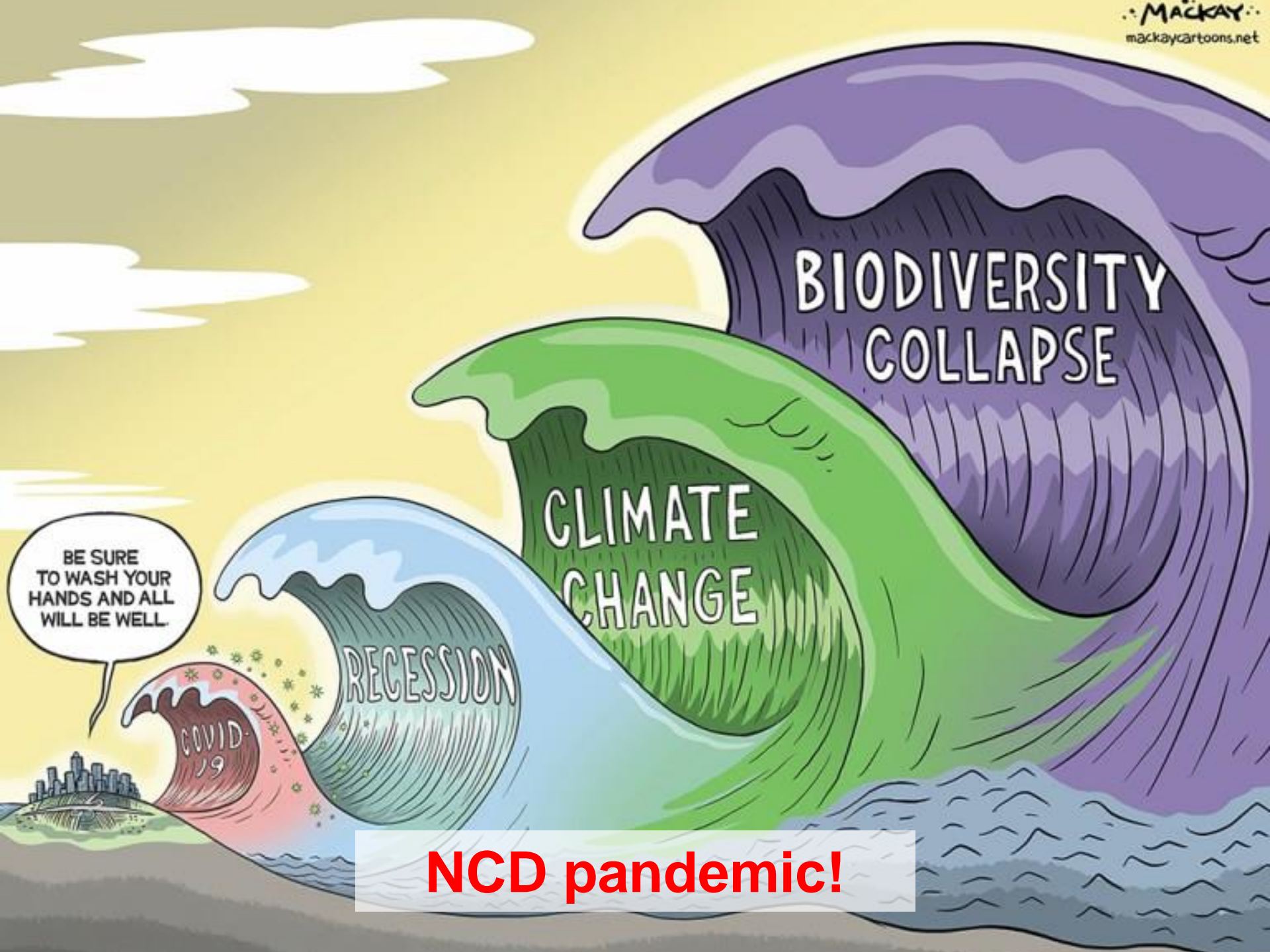
BE SURE
TO WASH YOUR
HANDS AND ALL
WILL BE WELL.

COVID-19

RECESSION

CLIMATE
CHANGE

BIODIVERSITY
COLLAPSE



BE SURE
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COVID-19

RECESSION

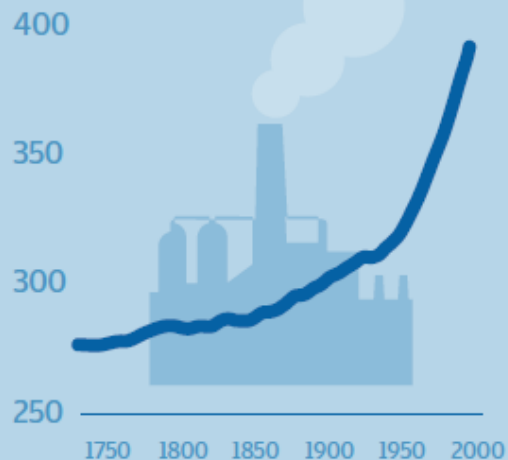
CLIMATE
CHANGE

BIODIVERSITY
COLLAPSE

NCD pandemic!

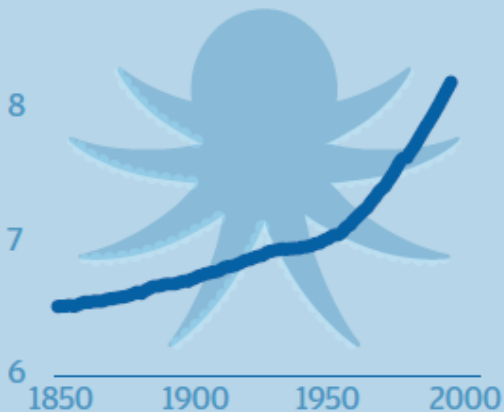
CO₂

Atmospheric concentration of CO₂ (ppm)



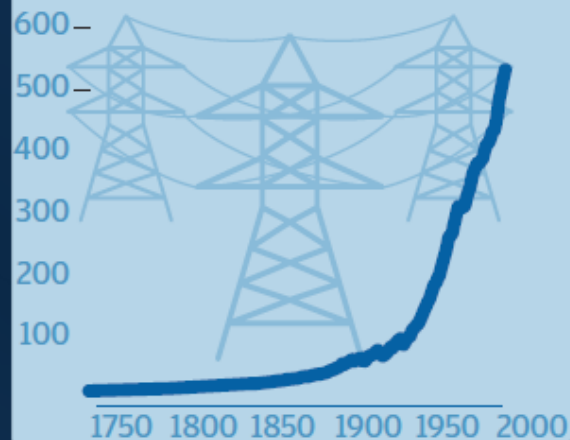
OCEAN ACIDIFICATION

Global ocean acidification (mean hydrogen ion concentration, nmol/kg)



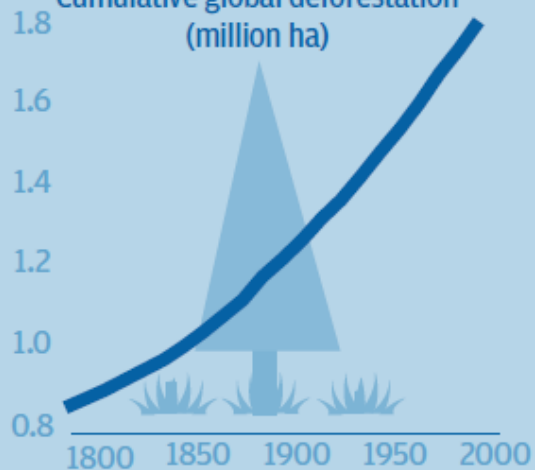
ENERGY USE

World primary energy use (EJ)



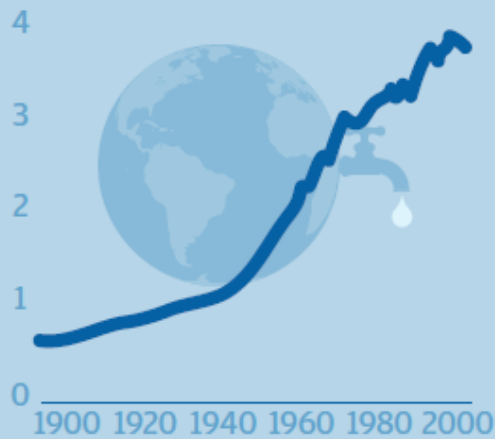
GLOBAL DEFORESTATION

Cumulative global deforestation (million ha)



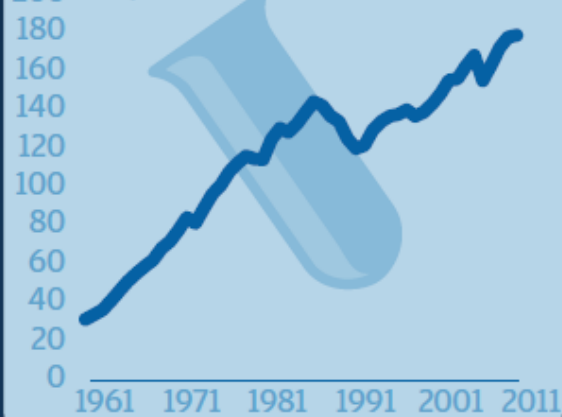
WATER USE

Water use (thousand km³)

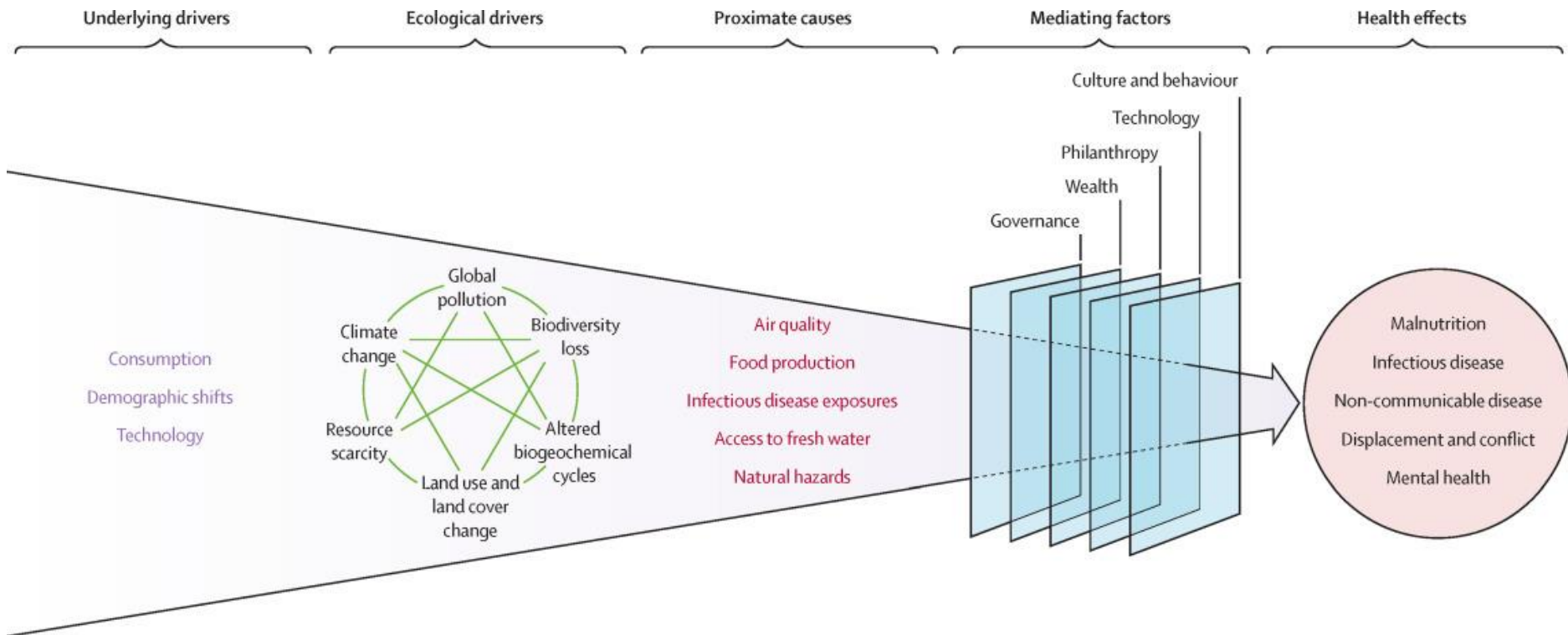


FERTILISER USE

Global fertiliser use (nitrogen, phosphorus, and potassium; thousand tonnes)



Health in the Anthropocene



(Myers, 2017)



Planetary Health



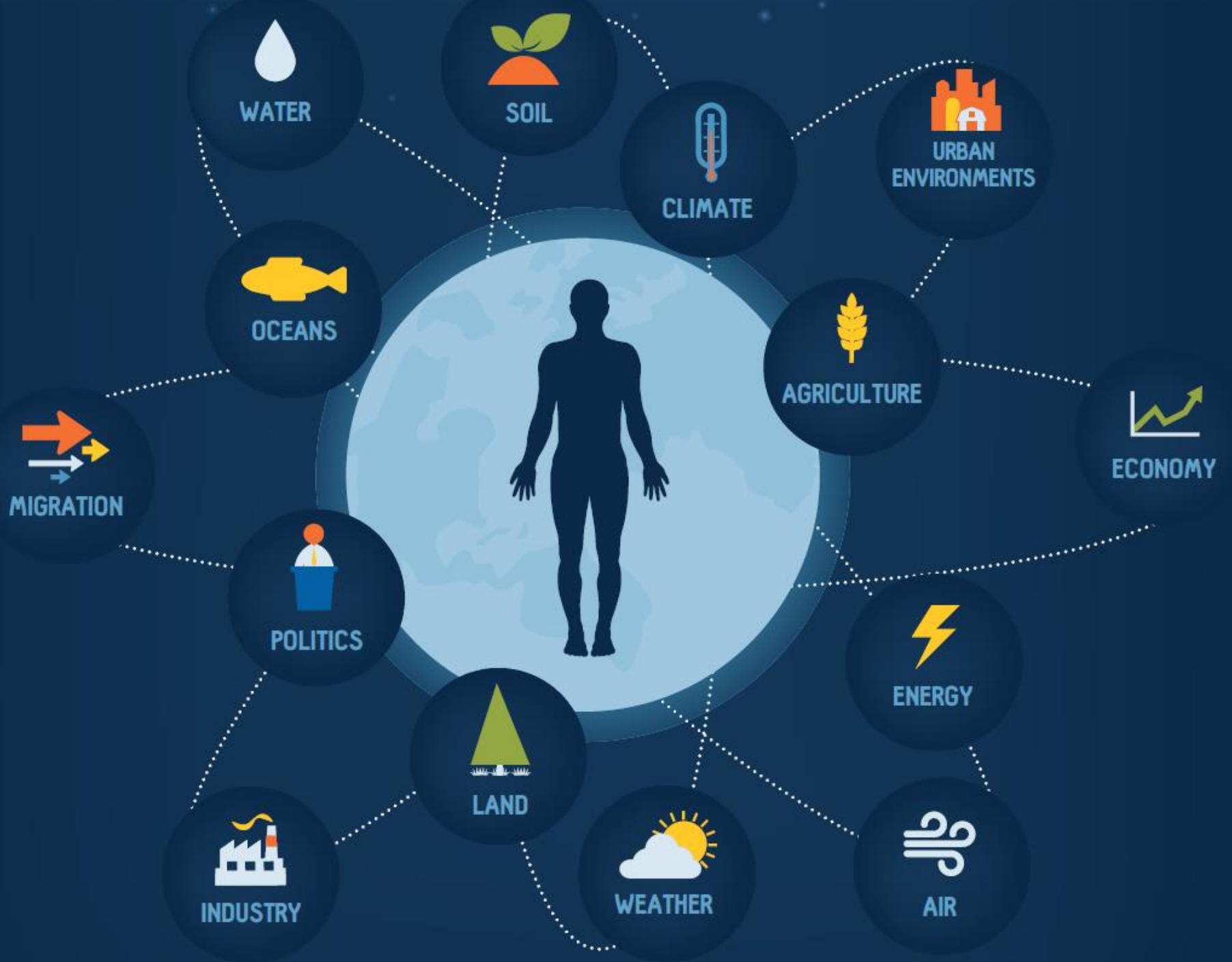
Our patients? PEOPLE and PLANET

Planetary Health: Voices from the Past



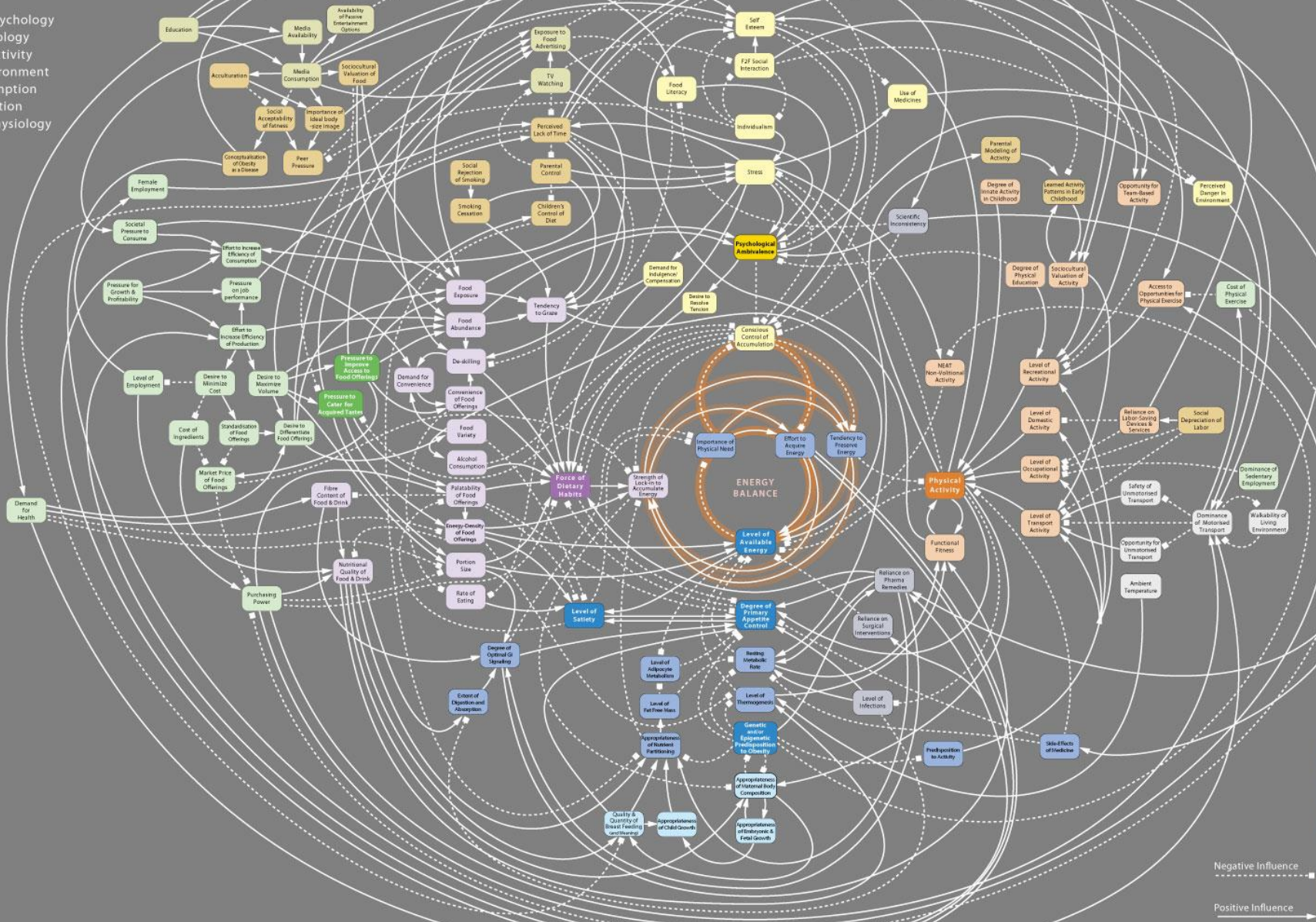
“The Earth does not belong to man; man belongs to Earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.”

Chief Seattle

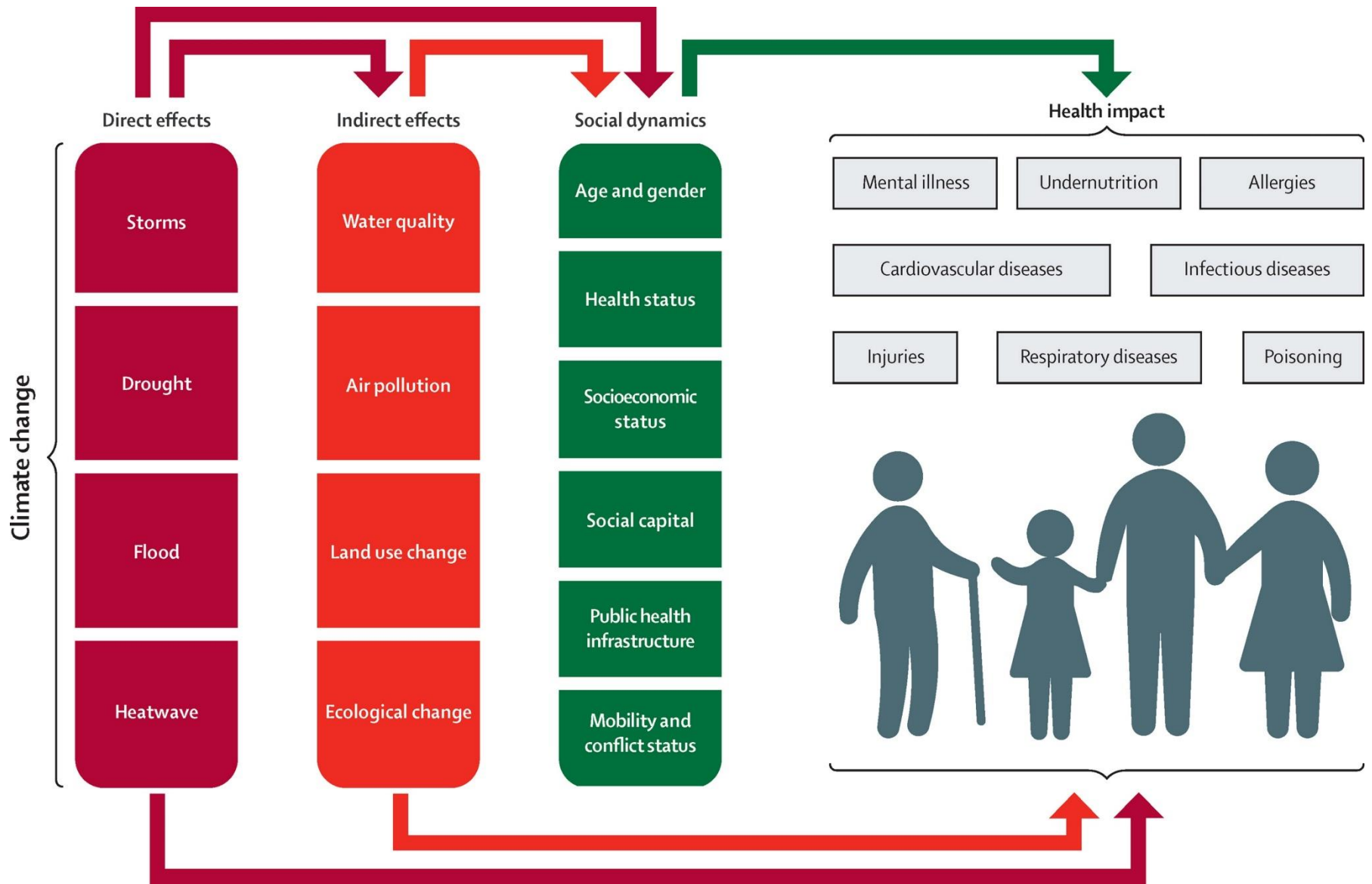


shift^o Obesity System Influence Diagram

- Full Map**
Clusters
 Core Loop
 Individual Psychology
 Social Psychology
 Individual Activity
 Activity Environment
 Food Consumption
 Food Production
 Individual Physiology
 Physiology



- Media
 - Social
 - Psychological
 - Economic
 - Food
 - Activity
 - Infrastructure
 - Developmental
 - Biological
 - Medical
- Negative Influence (dashed line)
 Positive Influence (solid line)



(Watts, et al., 2015)

The planet's health is essential to prevent infectious disease

The new field of planetary health examines the link between human health and the environment to prevent viral pandemics such as Zika and Ebola





**OUR CLIMATE,
OUR HEALTH.**

**NCDs & CLIMATE CHANGE
SHARED OPPORTUNITIES
FOR ACTION**



UN News



Global perspective
Human stories

Philippines typhoon recovery, complicated by coronavirus concerns



SCIENTIFIC METHOD —

Ocean levels in the Philippines rising at 5 times the global average

Globally, sea levels are going up, but there are big regional differences.

SHALINI SAXENA - 2/19/2016, 9:00 PM



Salinity and Health

**Drinking Water Salinity and Maternal Health in Coastal Bangladesh:
Implications of Climate Change**

**Drinking Water Salinity and Raised Blood Pressure: Evidence from a Cohort Study
in Coastal Bangladesh**

**Salinity in Drinking Water and the Risk of (Pre)Eclampsia
and Gestational Hypertension in Coastal Bangladesh: A
Case-Control Study**

Association between salinity and hospital admission for
hypertension: an ecological case–control study in the Mekong
Delta Region in Vietnam

**Salinity and Miscarriage: Is There a Link? Impact of Climate
Change in Coastal Areas of Bangladesh - A Systematic Review**

**Modeling the Relationship of Groundwater Salinity to
Neonatal and Infant Mortality From the Bangladesh
Demographic Health Survey 2000 to 2014**

**Impact of Salinity on Infant
and Neonatal Mortality in Bangladesh**

**Drinking Water Salinity, Urinary Macro-Mineral Excretions, and Blood
Pressure in the Southwest Coastal Population of Bangladesh**

AIR POLLUTION – THE SILENT KILLER



Every year, around **7 MILLION DEATHS** are due to exposure from both outdoor and household air pollution.

Air pollution is a major environmental risk to health. By reducing air pollution levels, countries can reduce:



Stroke



Heart disease



Lung cancer, and both chronic and acute respiratory diseases, including asthma

REGIONAL ESTIMATES ACCORDING TO WHO REGIONAL GROUPINGS:



- Over 2 million** in South-East Asia Region
- Over 2 million** in Western Pacific Region
- Nearly 1 million** in Africa Region
- About 500 000** deaths in Eastern Mediterranean Region
- About 500 000** deaths in European Region
- More than 300 000** in the Region of the Americas

CLEAN AIR FOR HEALTH

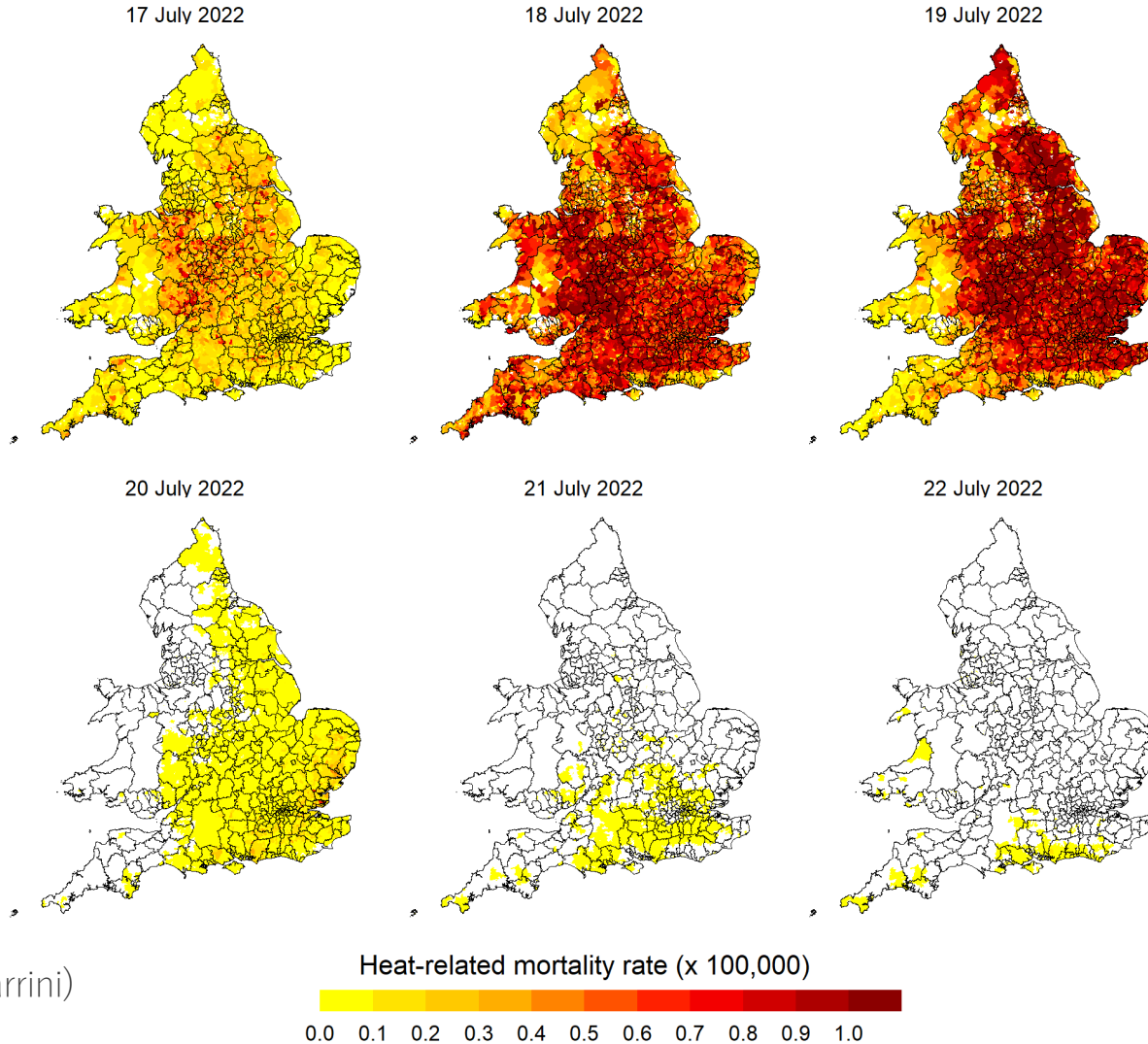
#AirPollution



WEATHER

Why 100-degree heat is so dangerous in the United Kingdom

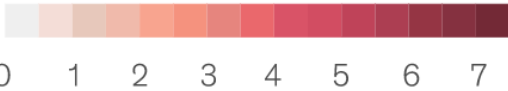
July 19, 2022 · 4:53 PM ET



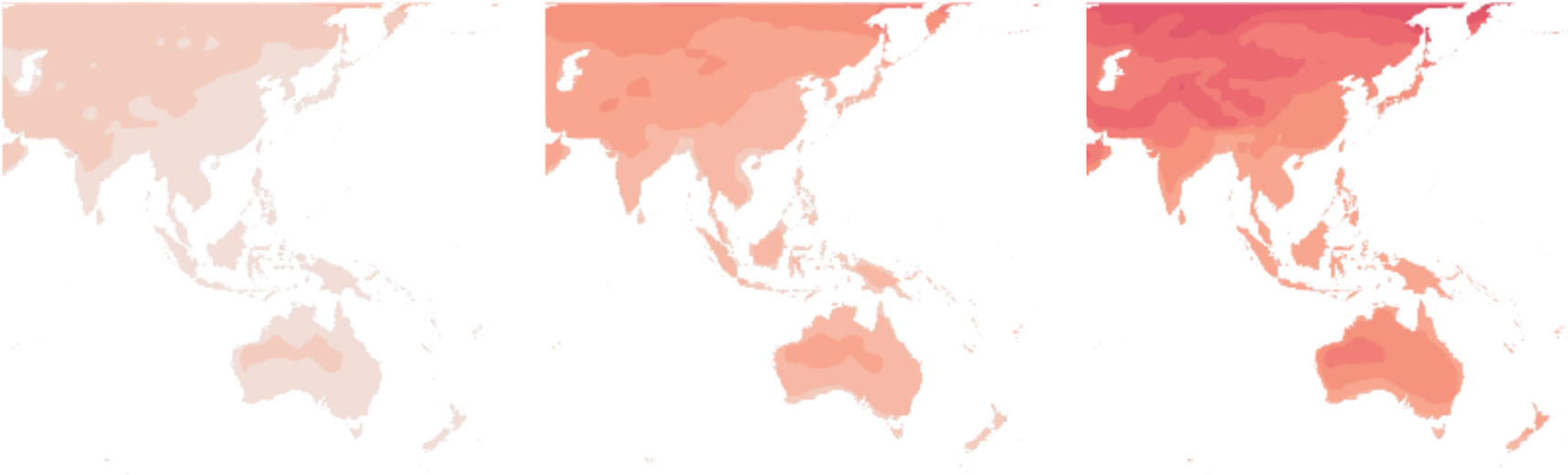
(Antonio Gasparri)

Average temperatures are projected to increase in many parts of Asia.

Increase in average annual temperature,¹
°C shift compared with preindustrial climate (based on RCP 8.5)



Today → 2030 → 2050



Note: See Technical appendix, *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, for why we chose RCP 8.5. Projections based on RCP 8.5 CMIP 5 multimodel ensemble. Heat-data bias corrected. Following standard practice, we typically define current and future (2030, 2050) states as average climatic behavior over multidecade periods. Climate state today is defined as average conditions between 1998 and 2017, in 2030 as average between 2021 and 2040, and in 2050 as average between 2041 and 2060.

¹Taken from KNMI Climate Explorer, 2019, using mean of full CMIP5 ensemble of models. Preindustrial levels defined as period between 1880–1910.

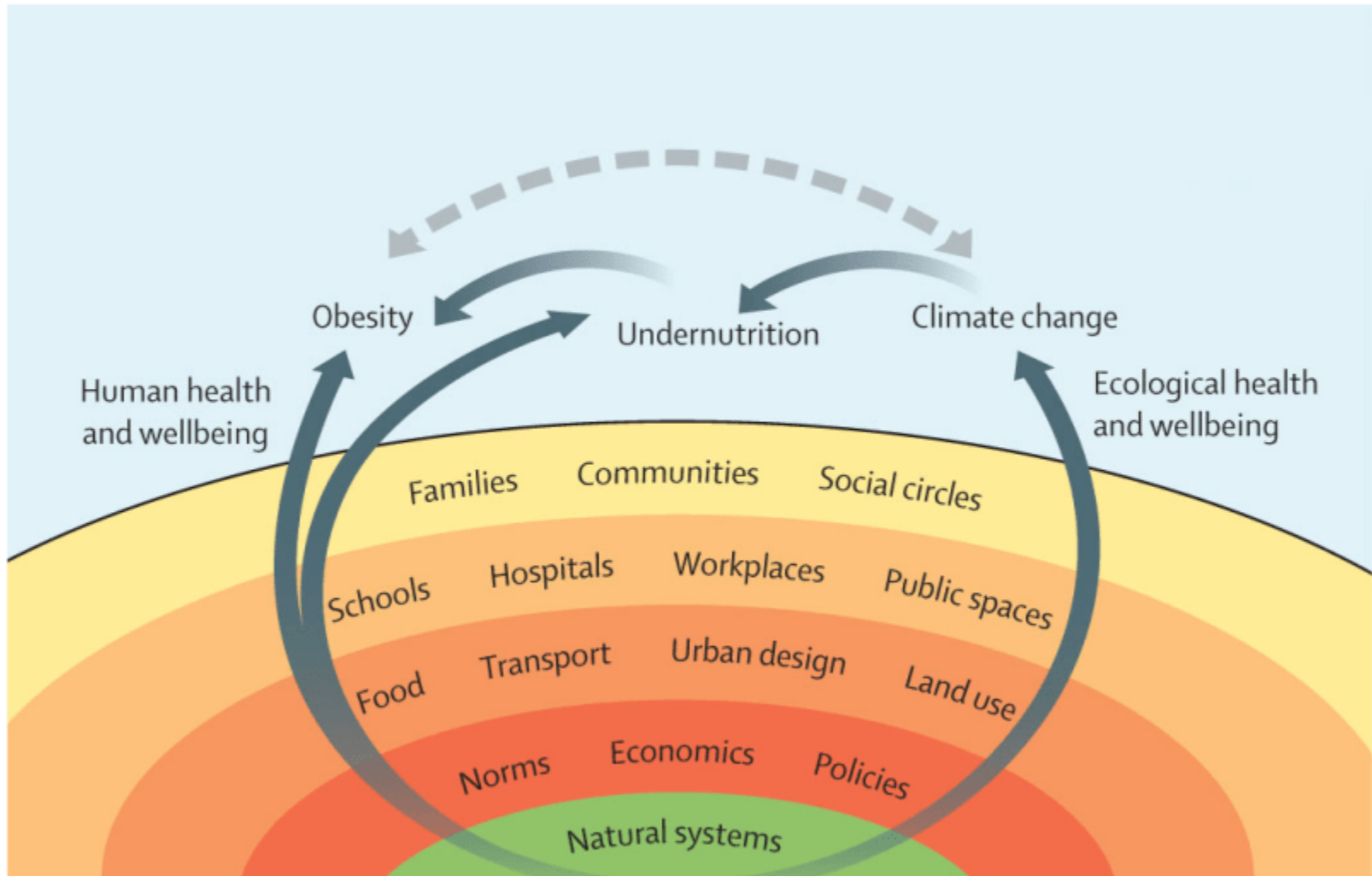
Source: KNMI Climate Explorer, 2019; Woodwell Climate Research Center; McKinsey/United Nations (disputed boundaries); McKinsey Global Institute analysis

‘An invisible hazard’: Warming cities hire chief heat officers to tackle growing threat

Los Angeles joins Phoenix and Miami-Dade County in Florida in creating roles to center the risks of extreme heat.



The Global Syndemic of Obesity, Undernutrition, and Climate Change



(Swinburn, et al., 2019)

Climate Change and Mental Health

CLIMATE CHANGE IMPACTS



Gradual changes in average climatic conditions (e.g. temperature, sea level)



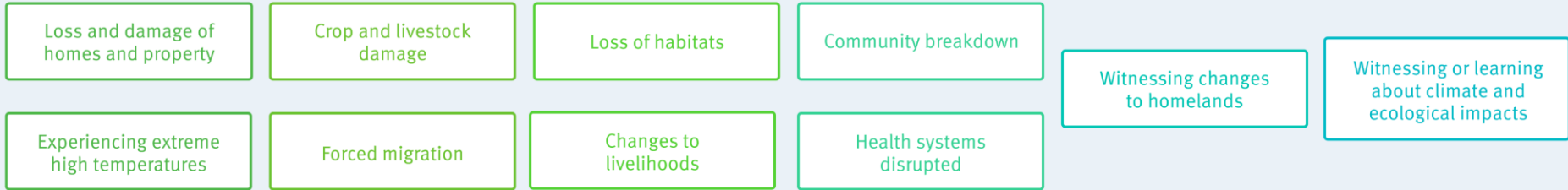
Acute extreme weather events (e.g. floods, fires)



Chronic extreme climate events (e.g. droughts)

Communities **directly** affected by climate impacts

Communities **indirectly** affected by climate impacts



MENTAL HEALTH IMPACTS



New cases of mental illness



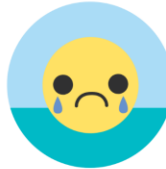
Increased symptoms of diagnosable mental illness



Increased susceptibility to physical ill-health or death for those with diagnosable mental illness



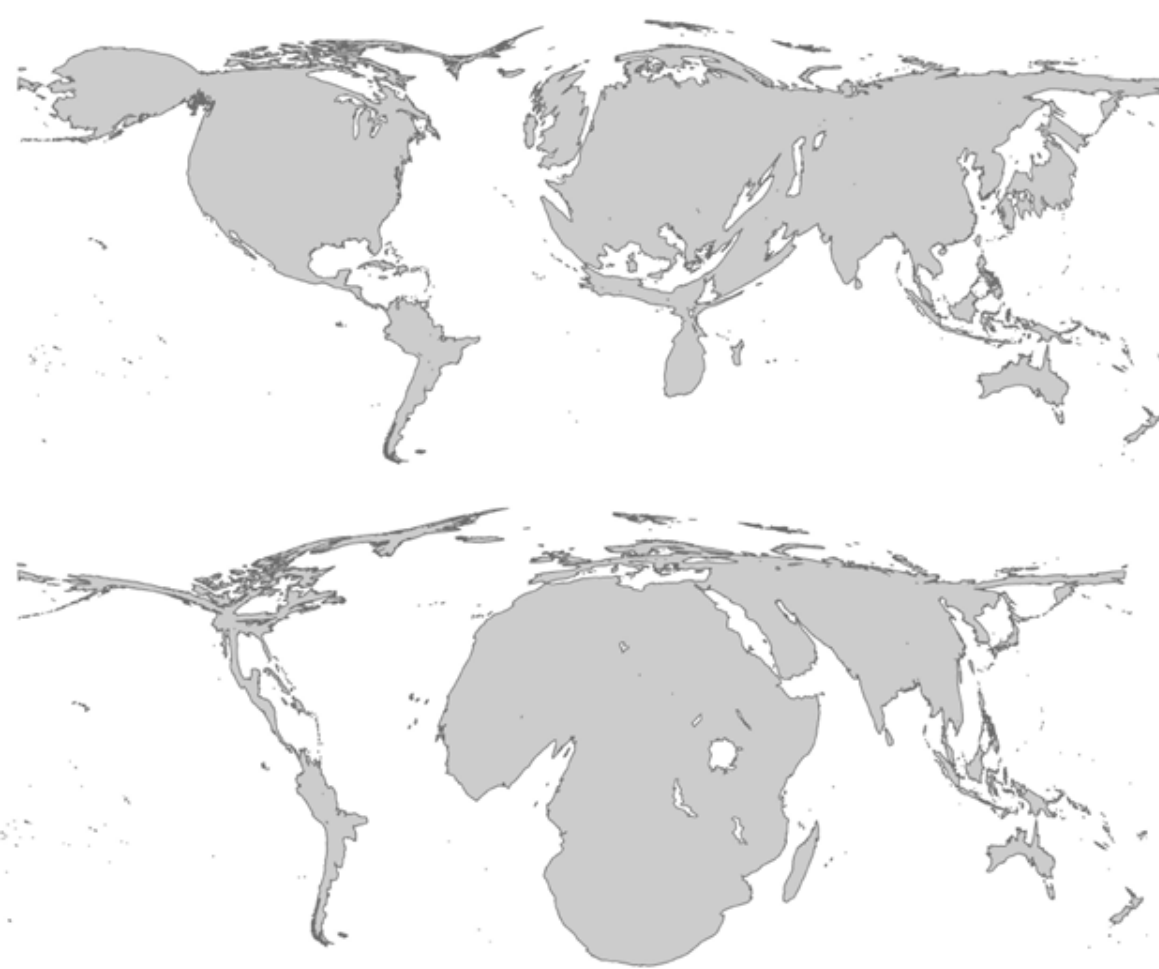
Worsened population mental health



Mental and emotional distress

(Laurence, et al., 2021)

Health impacts are unfairly distributed



Cumulative emissions of greenhouse gases, to 2002

WHO estimates of *per capita* mortality from climate change, 2000

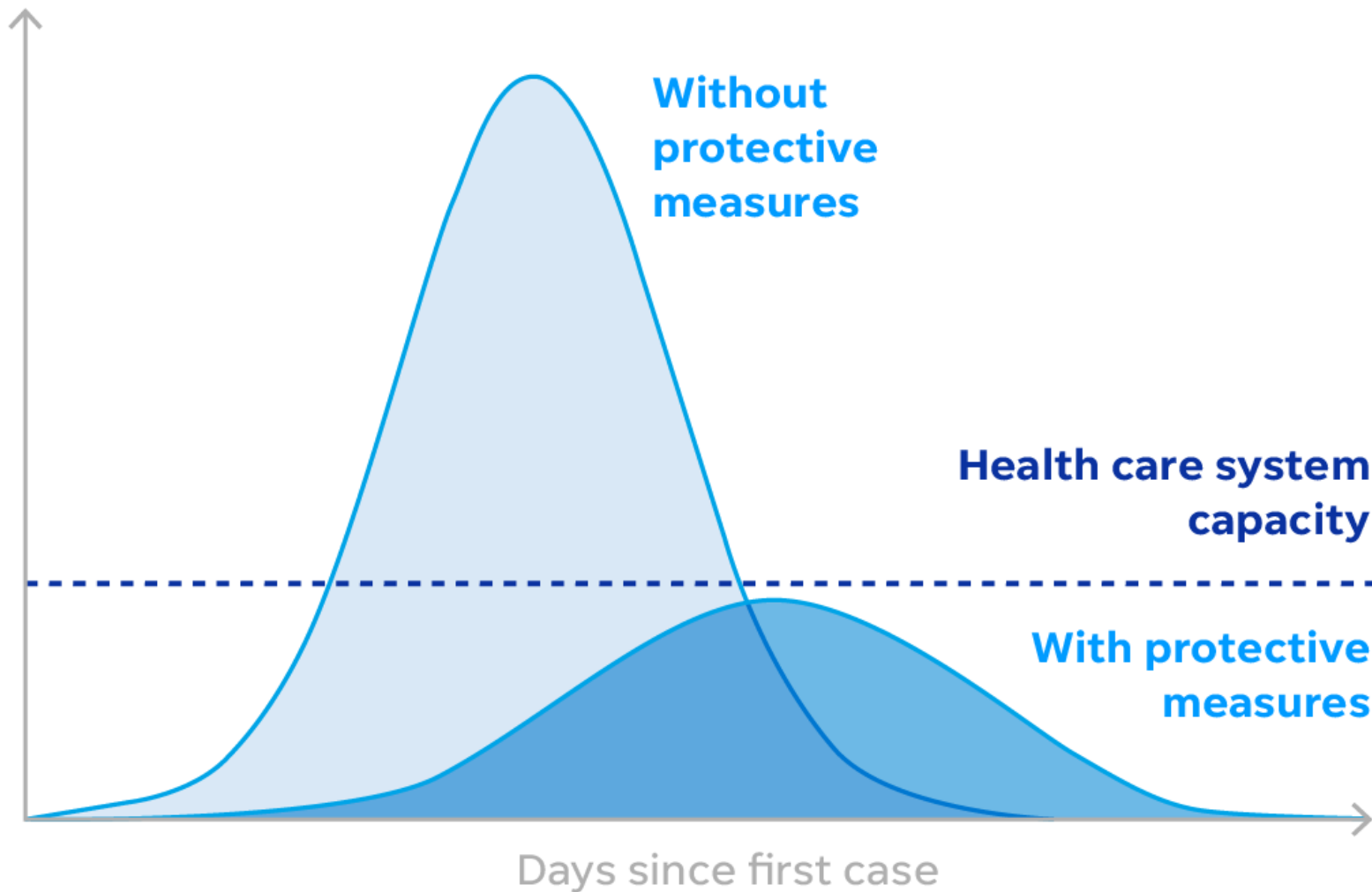
Map projections from Patz et al, 2007; WHO, 2009.

Health Co-Benefits of Climate Action in Other Sectors

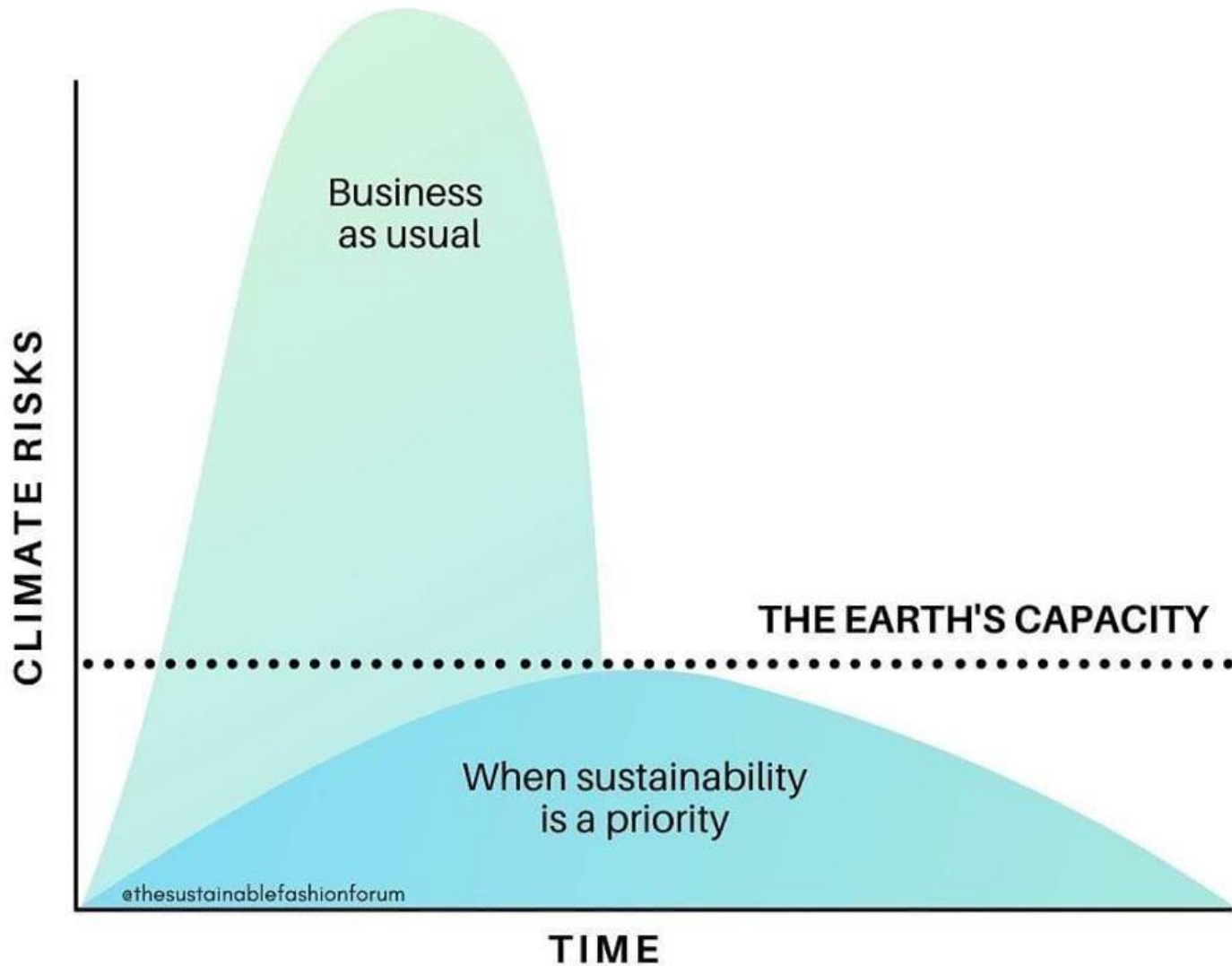


(Lancet Countdown on Health and Climate Change)

Number of daily cases



LET'S FLATTEN THIS CURVE TOO



“The pandemic is a portal, a gateway between one world and the next.”

Arundhati Roy



and we need a new compass!

Green, Healthy, and Just Post-COVID Recovery

POLICY | 5 May 2020 6:54

Leading economists: Green coronavirus recovery also better for economy



The Solution to the Coronavirus Recession Is a Global Green New Deal

WHO Manifesto for a healthy recovery from COVID-19

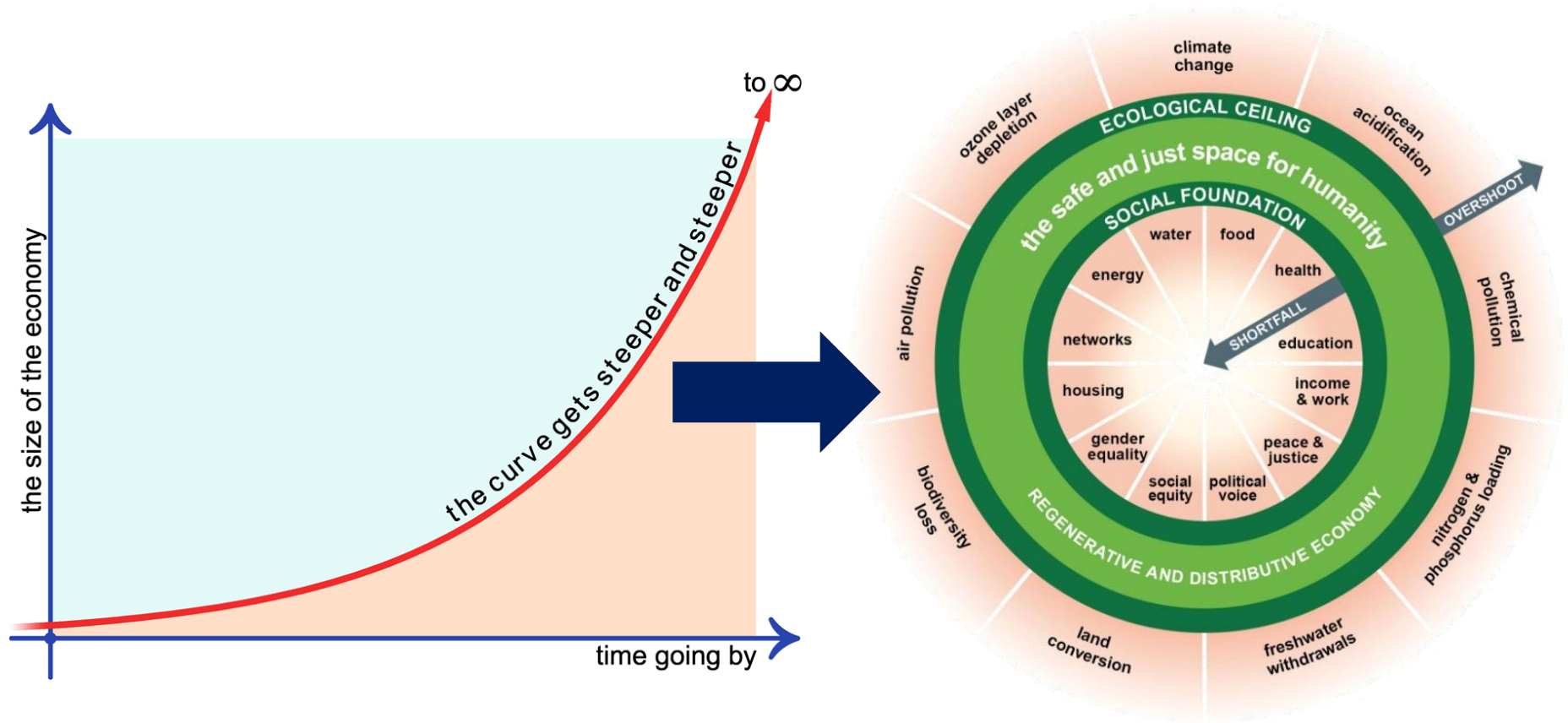
Prescriptions for a healthy and green recovery from COVID-19

Coronavirus: how economic rescue plans can set the global economy on a path to decarbonisation

April 21, 2020 2:04am AEST

New Normal? There's no "Old Normal"!

Renovating the Political Economy of Planetary Health



Planetary Health is Planetary Humility

Ego-Logical



Authoritarian ~ Dualistic ~ Unsustainable
Delusional ~ Mechanistic ~ Self-destructive
Unwise ~ Imbalanced ~ Power Seeking

Eco-Logical



Democratic ~ Holistic ~ Sustainable
Compassionate ~ Natural ~ Regenerative
Wise ~ Balanced ~ Interdependent

The Good Ancestor

HOW TO THINK LONG TERM
IN A SHORT-TERM WORLD

Roman Krznaric



'This is the book our children's
children will thank us for reading'

THE EDGE, U2





KASAN
NT
WANT
THEN
ACT.

BREAK
FREE FROM
FOSSIL
FUELS

WE'RE IN
A CLIMATE
EMERGENCY

JobEx Inter-tabac

LIS
DYAN!

tabac

NO DEAL

with the
tobacco industry



Philippines

Advancing the health of people and planet

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