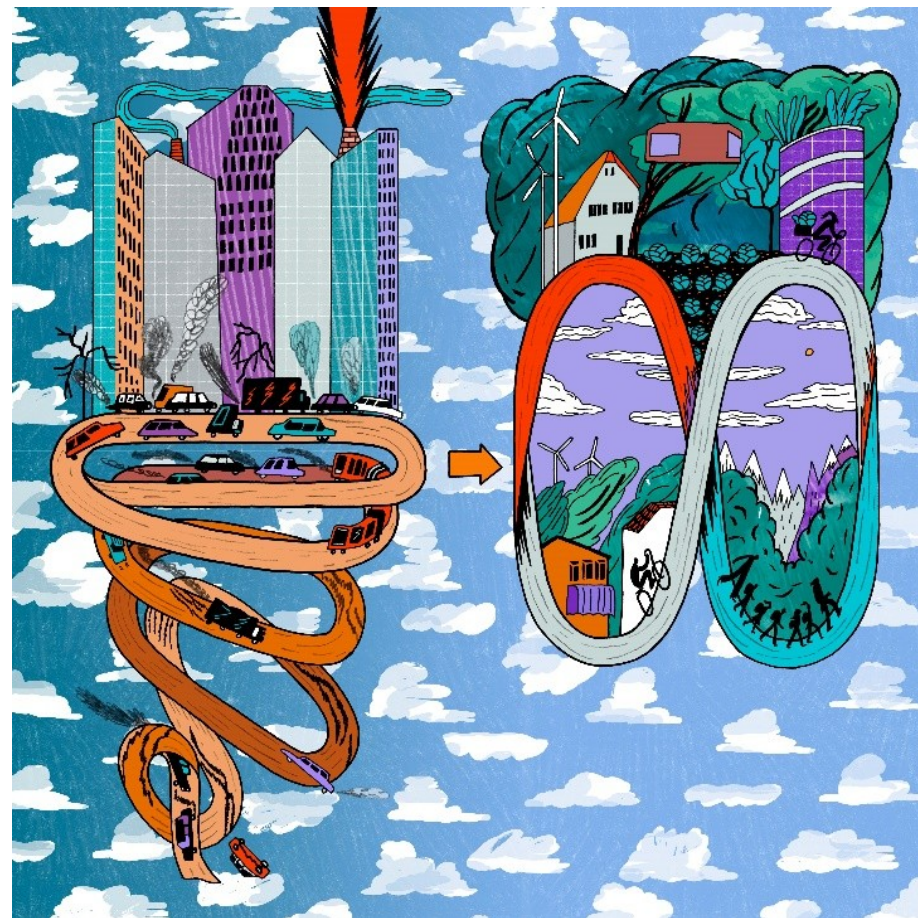




**Global Environmental Change as a
Social Issue**
Prof. Julia Leventon

Overview

- **Introductions**
 - To me
 - To you
 - To the course
- **Global Environmental Change**
- **Critical Social Topics**



Introductions

Julia/Prof./Doc... NEVER Mrs./Ma'am

When not working, you will find me outside:

- Running
- Gardening
- Exploring

When working, I am:

- Head of a research department
- Leader of international research projects
- Expert to science-policy platforms



The Course

Global Environmental Change

- Climate change
- Biodiversity loss
- Pollution

Critical Social Topics

- Drivers
- Impacts
- Interventions

The Course

20 Feb	Global Environmental Change as a social issue - Julia
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24 April	Sustainable cities and communities - Blanka
22 May	Exploring critical topics – essay development – Julia plus others

Assignment

The assessment is a written essay. The student will select a topic from the course that they have found interesting, and create an essay title for themselves. The teaching team will help in guiding on a suitable title and the content. Therefore, the assessment is in two parts, to allow a chance for the teachers to provide useful feedback for students to build on:

- Presentation of outline (20%)
 - 10 minutes maximum, using PowerPoint
 - Delivered in the final session of the course
- Completed essay (80%)
 - 2000 words
 - Referencing academic literature (reference list is not included in word count)

Lectures

- Interactive
- We give a critical introduction and starting readings
- We expect you to engage and follow further – read more!

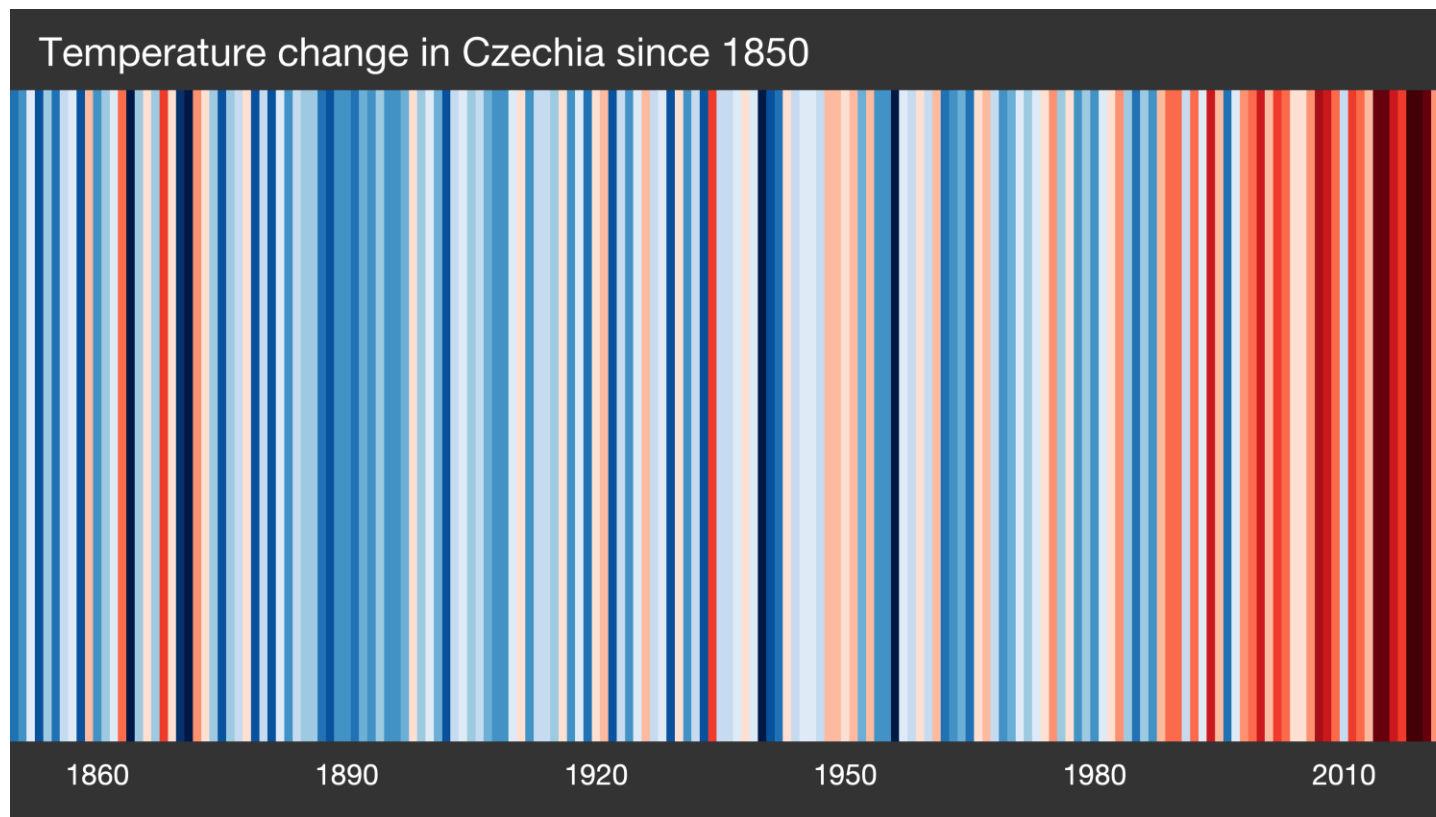
Global Environmental Change

The Polycrisis

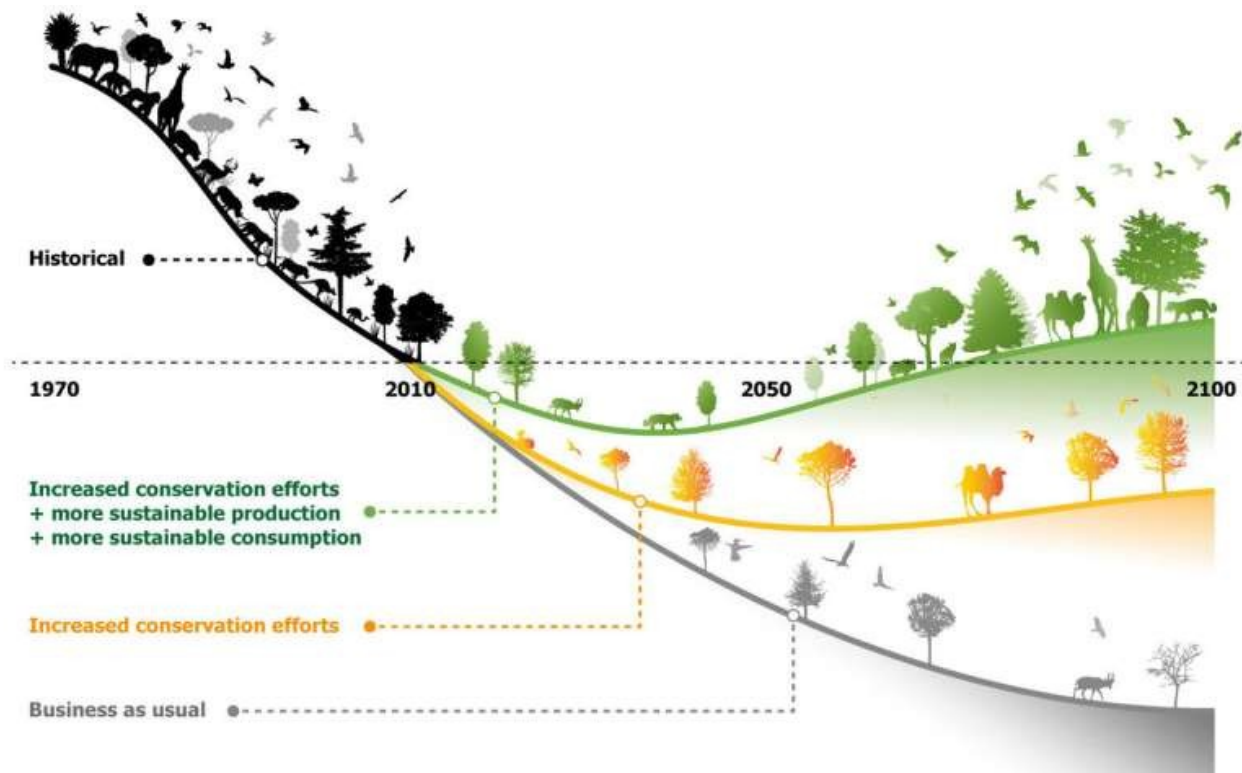
- Climate change
- Biodiversity loss
- Pollution
- (Inequity)
- (pandemics)
- (war)

Lawrence, M., Homer-Dixon, T., Janzwood, S., Rockstöm, J., Renn, O., & Donges, J. F. (2024). Global polycrisis: the causal mechanisms of crisis entanglement. *Global Sustainability*, 7, e6. doi:10.1017/sus.2024.1

Global Environmental Change



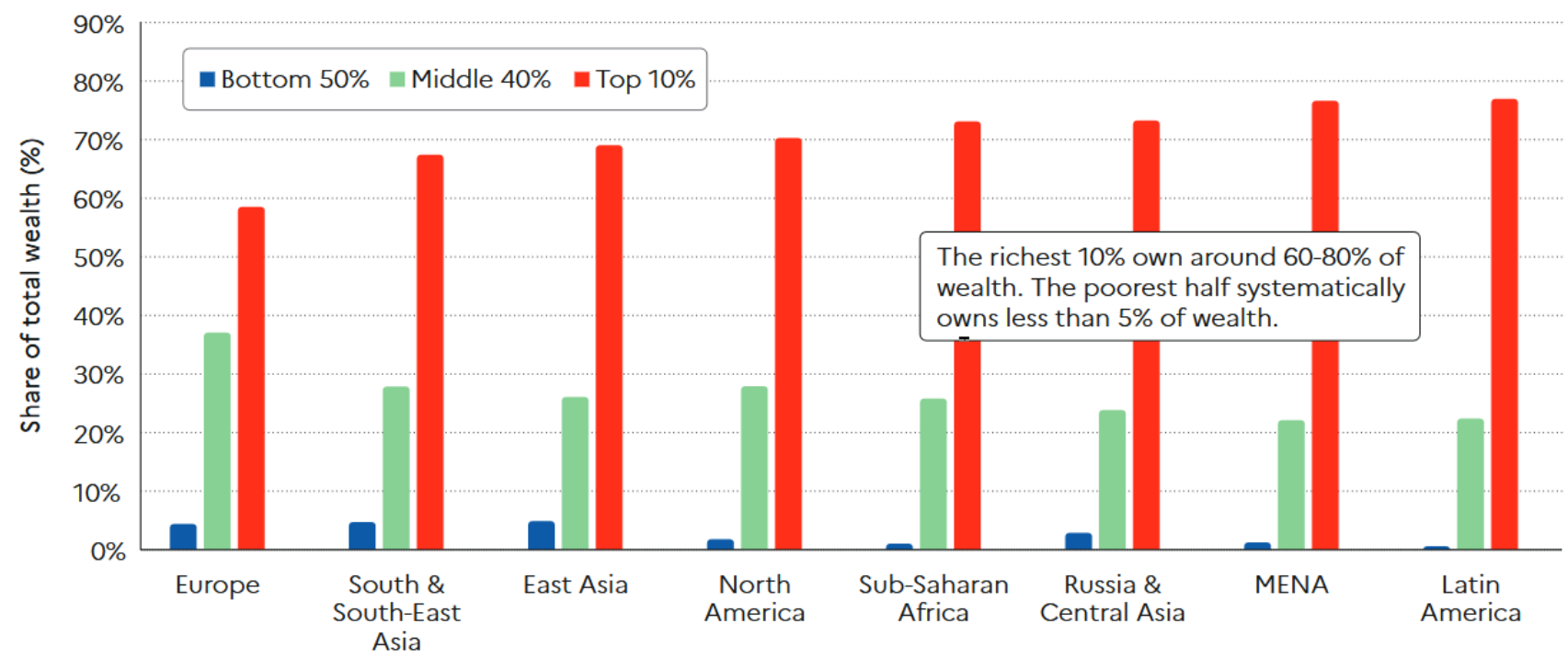
Global Environmental Change



This artwork illustrates the main findings of the article, but does not intend to accurately represent its results (<https://doi.org/10.1038/s41586-020-2705-y>)

Wealth inequality is extreme everywhere: no region with a bottom 50% owning more than 5% of wealth. Top 10% = 60-80%.

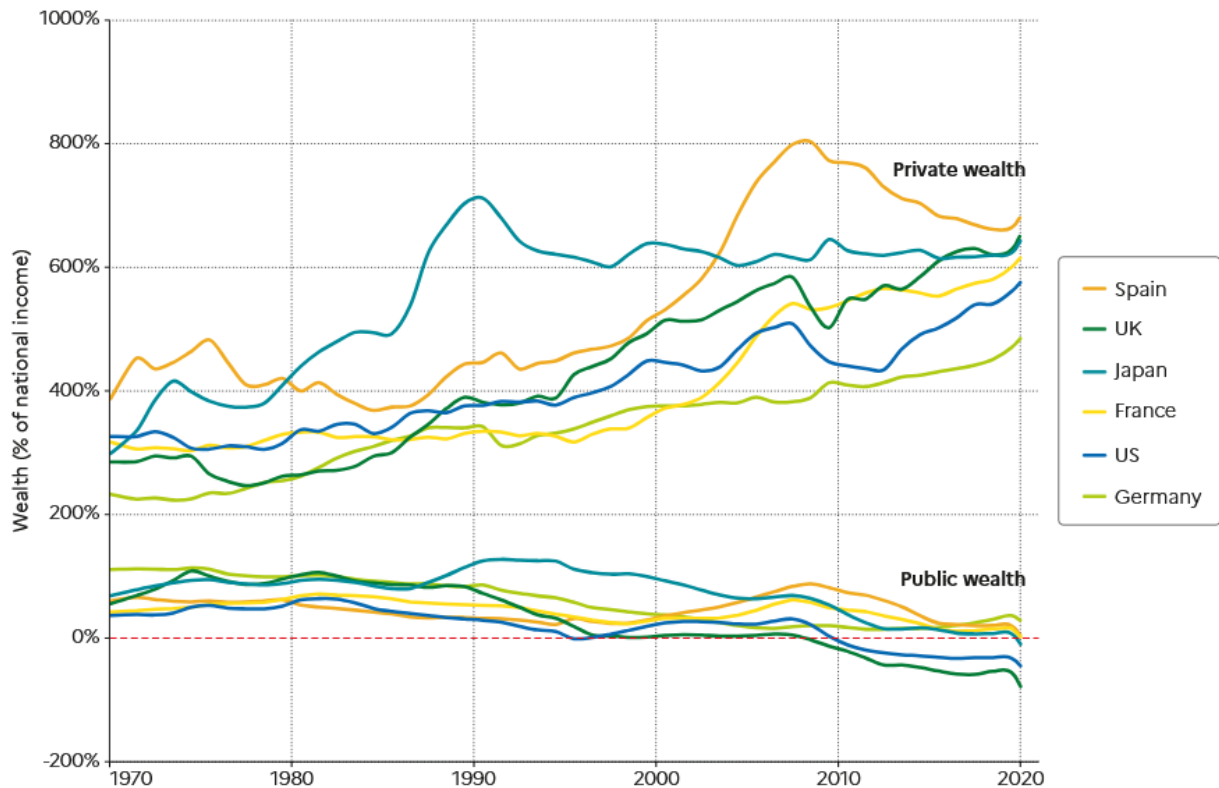
Figure 4 The extreme concentration of capital: wealth inequality across the world, 2021



Interpretation: The Top 10% in Latin America captures 77% of total household wealth, versus 22% for the Middle 40% and 1% for the Bottom 50%. In Europe, the Top 10% owns 58% of total wealth, versus 38% for the Middle 40% and 4% for the Bottom 50%. **Sources and series:** wir2022.wid.world/methodology.

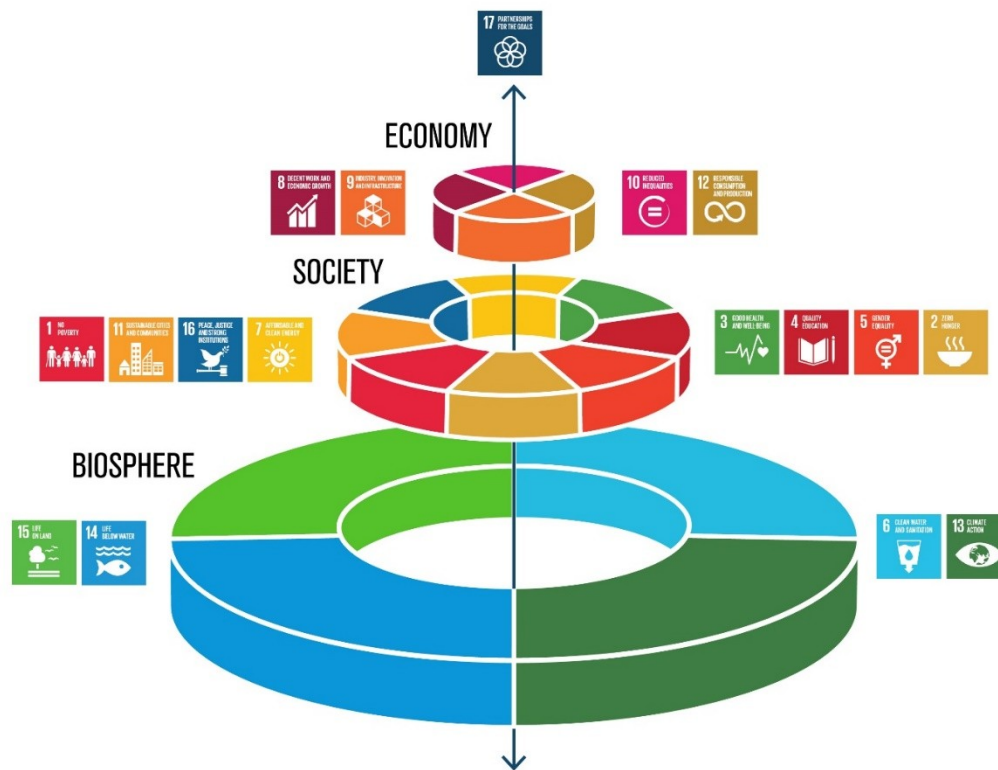
Nations have become richer, governments have become poor

Figure 3.2 The rise of private wealth and the decline of public wealth in rich countries, 1970-2020



Interpretation: In UK, public wealth dropped from 60% of national income in 1970 to -106% in 2020. Public wealth is the sum of all financial and non-financial assets, net of debts, held by governments. **Sources and series:** wir2022.wid.world/methodology, Bauluz et al. (2021) and updates.

Global Environmental Change



Graphics by Jerker Lovqvist/Alto

Critical Social Topics


Impacts

Drivers

Interventions

BY GERALD IMRAY

Updated 7:41 AM GMT+2, March 25, 2024

Share 

CAPE TOWN, South Africa (AP) — The southern African nation of Malawi has declared a state of disaster over drought in 23 of its 28 districts and the president says it urgently needs more than \$200 million in humanitarian assistance, less than a month after [neighboring Zambia also appealed for help](#).

Malawi is the latest country in the region to have its food supply crippled by a severe dry spell that's been linked to [the El Niño weather phenomenon](#).

A third country, Zimbabwe, has also seen much of its [crops decimated](#) and is considering following suit and declaring a drought disaster, underlining concerns raised by the U.N. World Food Programme late last year that numerous nations in southern Africa were on the brink of a hunger crisis because of the [impact of El Niño](#).

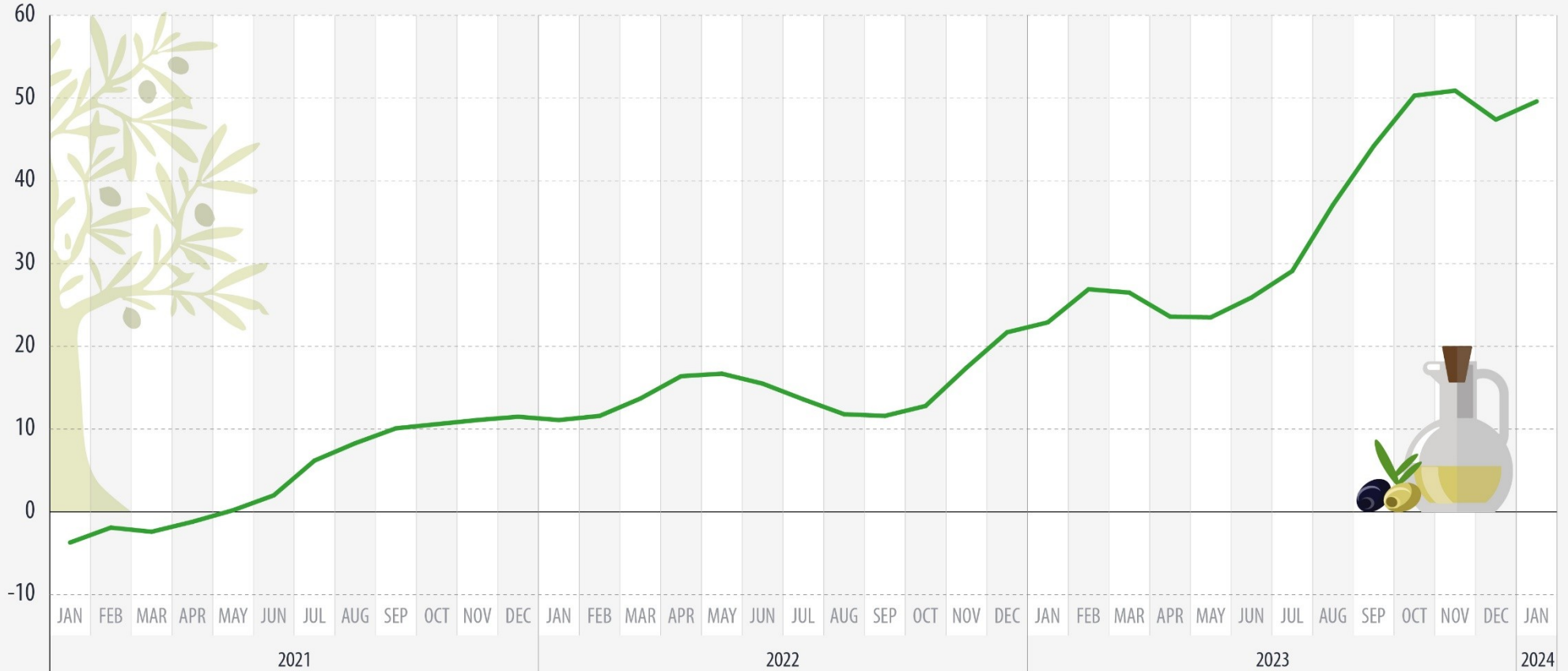
The WFP said there were already nearly 50 million people in southern and parts of central Africa facing food insecurity even before one of the driest spells in decades hit.

Associated Press



Inflation rate for olive oil in the EU, January 2021 - January 2024

(%, annual rate of change)

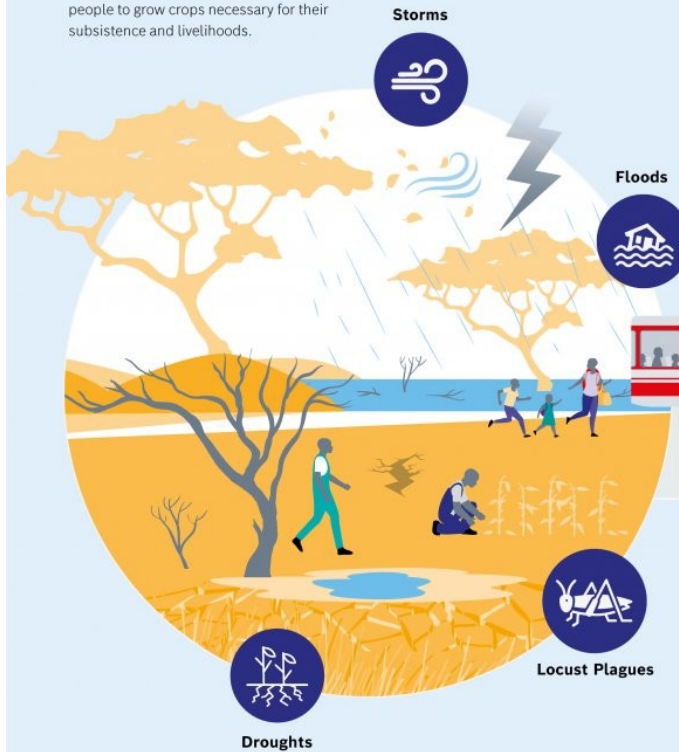


Concurrent crop failures in major crop-producing regions constitute a systemic risk as associated spikes in food prices can lead to conflict and undernutrition in countries that rely on imports^{1,3}. Thus, understanding the likelihood of concurrent crop failures and the degree to which models are able to reproduce observed relationships is important for increasing the resilience of the global food system¹⁵ and mitigating climate risks.

Kornhuber et al., 2023

Area of origin

Large parts of the rural population of Sub-Saharan Africa rely on agriculture for their livelihood. Agricultural shocks and weather events reduce the ability of people to grow crops necessary for their subsistence and livelihoods.



On the move

Many people try to adapt by moving to cities. Sub-Saharan Africa is one of the world's fastest urbanizing subregions.



Informal housing with limited access to

- Job opportunities
- Education
- Sanitation
- Healthcare
- Electricity



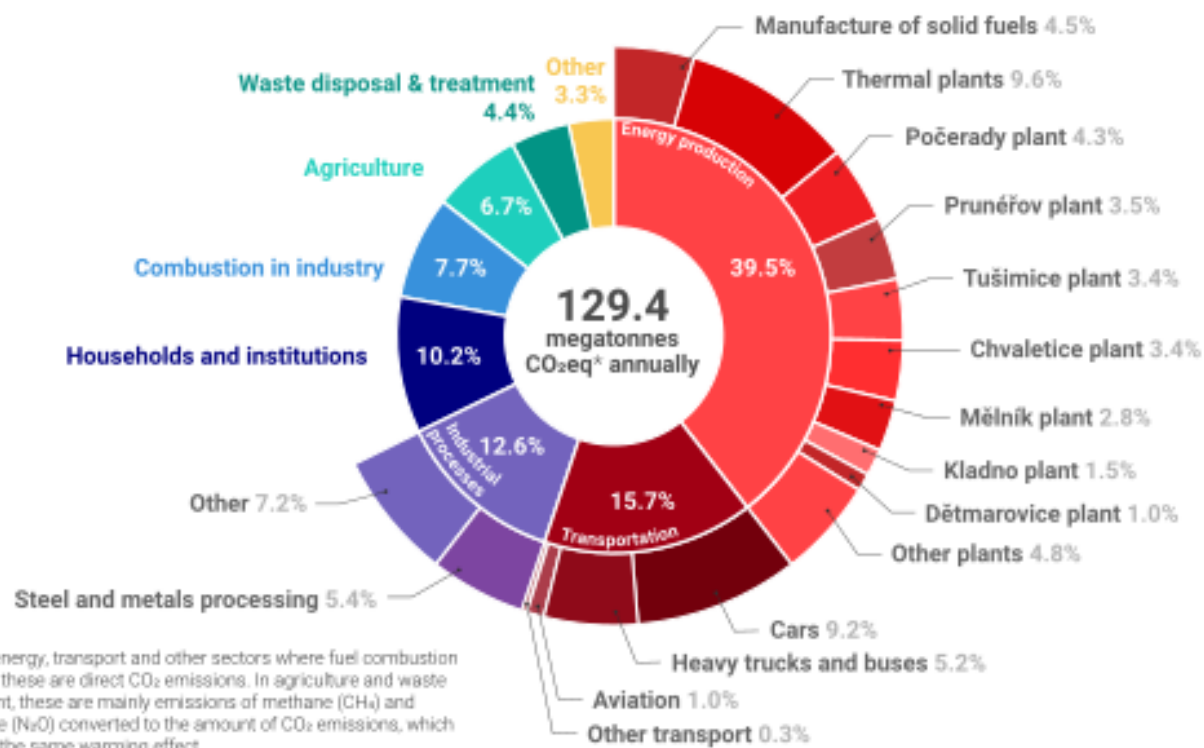
In the city

Seven in ten displaced people worldwide live in urban areas – the majority in informal settlements lacking adequate housing and services. Plus: Many of these neighborhoods are facing environmental risks.

GREENHOUSE GAS EMISSIONS IN CZECHIA BY SECTORS



Czechia's total emissions in 2018



*CO₂eq: In energy, transport and other sectors where fuel combustion is essential, these are direct CO₂ emissions. In agriculture and waste management, these are mainly emissions of methane (CH₄) and nitrous oxide (N₂O) converted to the amount of CO₂ emissions, which would have the same warming effect.

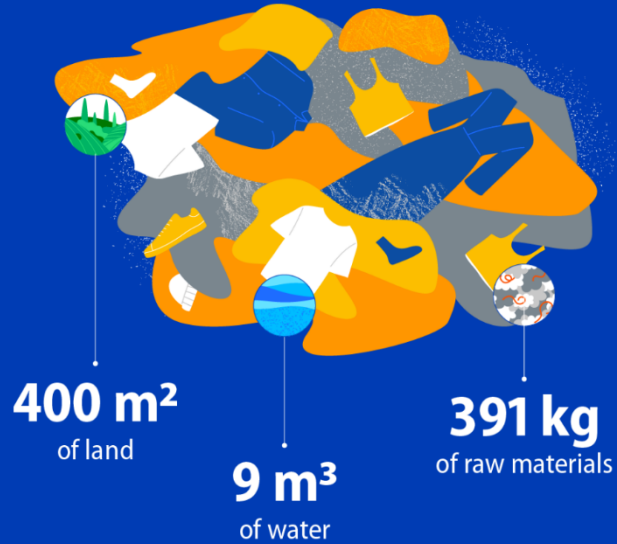
VERSION 2023-05-12 | LICENSE CC BY 4.0

Read more at factsonclimate.org/emissions-czechia

Data source: European Environment Agency

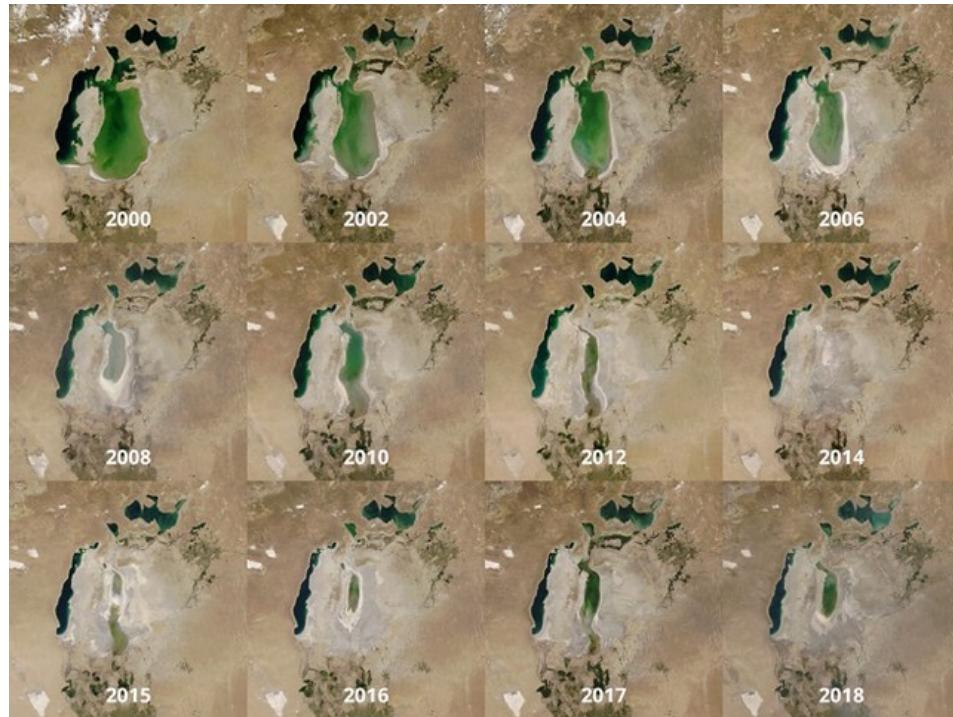
THE ENVIRONMENTAL IMPACT OF TEXTILES

In 2020 textile consumption
per person in the EU required on average:



And caused a carbon
footprint of about **270 kg**

Source: European Environment Agency (2023)



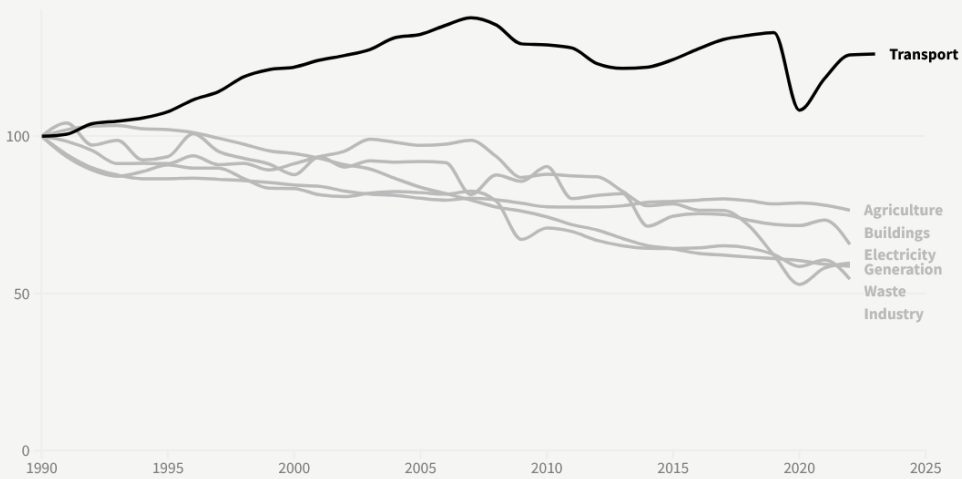
[This Photo](#) by Unknown Author is licensed under [CC BY](#)

See also:

<https://ejatlas.org/print/the-aral-sea-dried-due-to>

European Union

Change in greenhouse gas emissions by sector, MtCO₂e (1990 = 100)

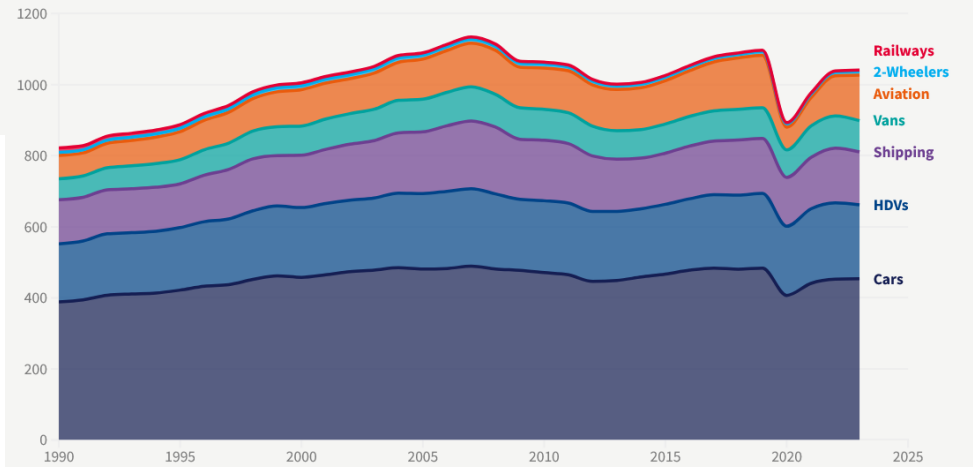


Source: UNFCCC GHG inventories, EEA, Stratas Advisors • Transport includes international aviation and maritime emissions. Public electricity includes heat generation



European Union

Greenhouse gas emissions by transport mode (MtCO₂e)

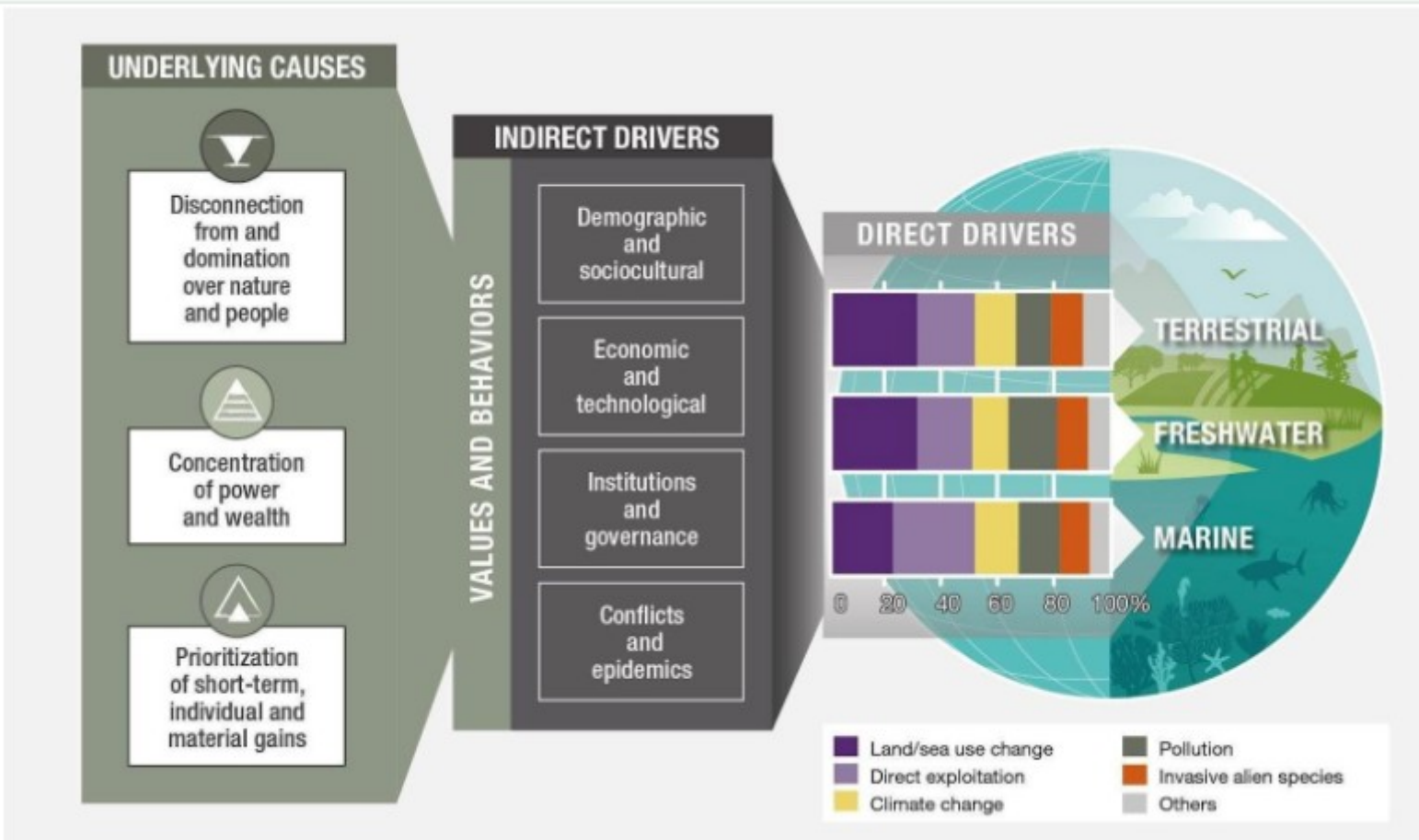


Source: UNFCCC GHG inventories, EEA, Stratas Advisors



“Yes, perhaps, but these caves have highly efficient facilities for cooking, storing food and washing clothes; low energy lighting throughout; 50L of clean water supplied per day per person, with 15L heated to a comfortable bathing temperature; they maintain an air temperature of around 20°C throughout the year, irrespective of geography; have a computer with access to global ICT networks; are linked to extensive transport networks providing 5000-15000km of mobility per person each year via various modes; and are also served by substantially larger caves where universal healthcare is available and others that provide education for everyone between 5 and 19 years old.”

Milward-Hopkins et al., 2020



IPBES (2024). O'Brien, K., Garibaldi, L., Agrawal, A., Bennett, E., Biggs, O., Calderón Contreras, R., Carr, E., Frantzeskaki, N., Gosnell, H., Gurung, J., Lambertucci, S., Leventon, J., Liao, C., Reyes García, V., Shannon, L., Villasante, S., Wickson, F., Zinngrebe, Y., and Perianin, L. DOI: <https://doi.org/10.5281/zenodo.11382230>

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Thank You!

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- <https://sustainablecz.org/>