MUNI
SCI

ZA311 Environmental geography

Scope of environmental geography

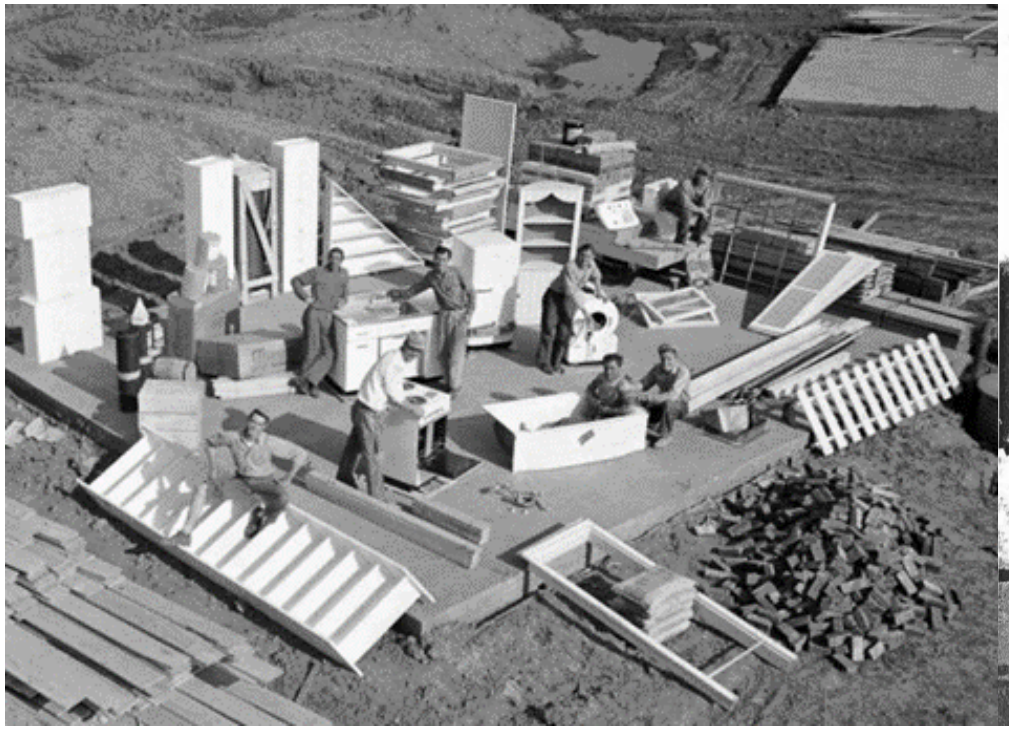
Zdeněk Máčka / Department of Geography

What is the environment?

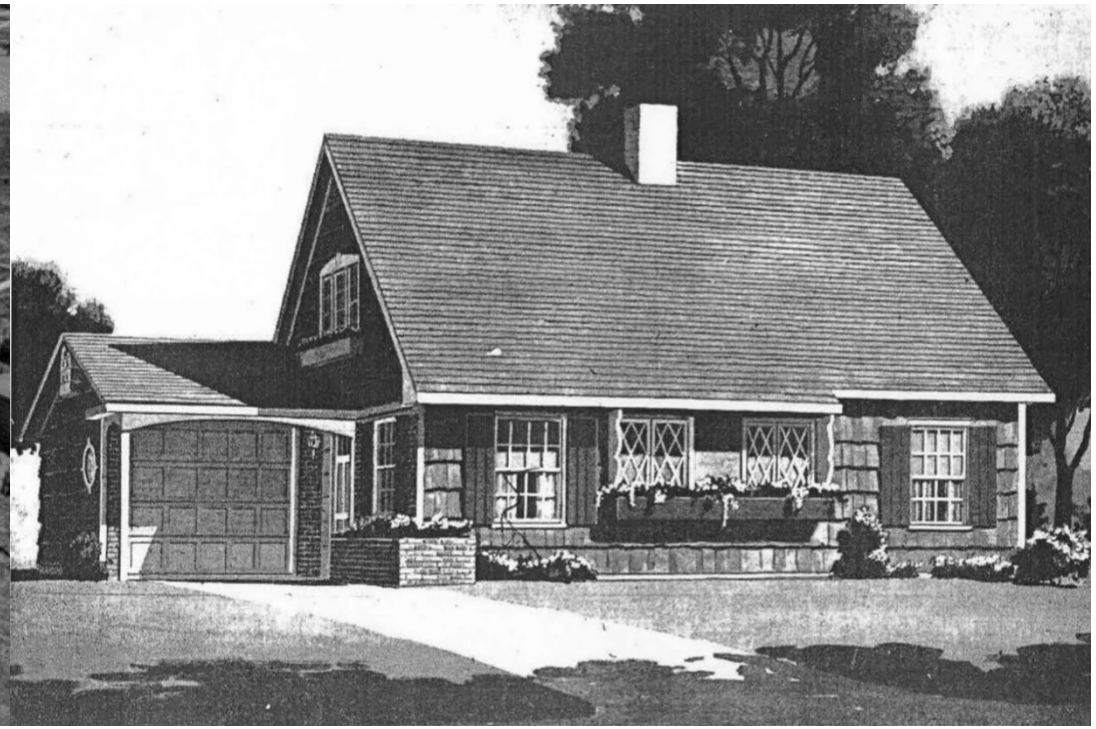
- The word comes from the French “environner”, i.e. to surround
- On a planetary scale, the environment is the multitude of living and nonliving things on Earth that sustain life, including our own
- On an individual scale, the environment is that part of the Earth with which a living organism constantly interacts, that is, which it uses, changes and has to adapt to
- The environment is a collection of systems

What is an (eco)system

– The environment is a collection of systems



This is not a system



This is a (functional) system

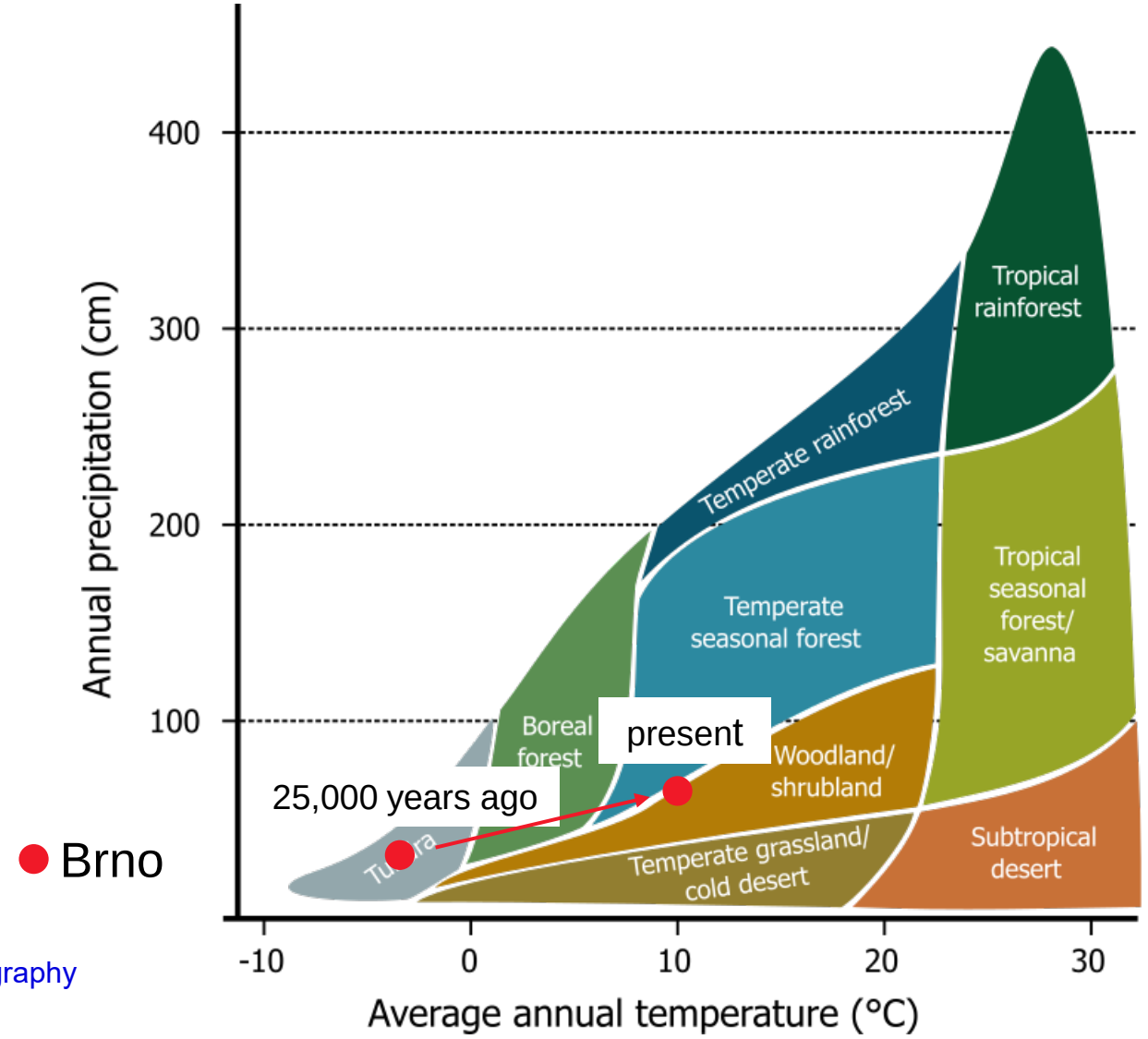
“The whole is greater than the sum of its parts”

(Eco)system

- System
  - A system consists of components that interact to produce patterns of behaviour over a period of time
  - The interactions among the components of a system produce results that each component could not achieve on its own
- Ecosystem = a community of life and the physical environment with which it interacts

Example

Biomes – ecosystems of continental scale

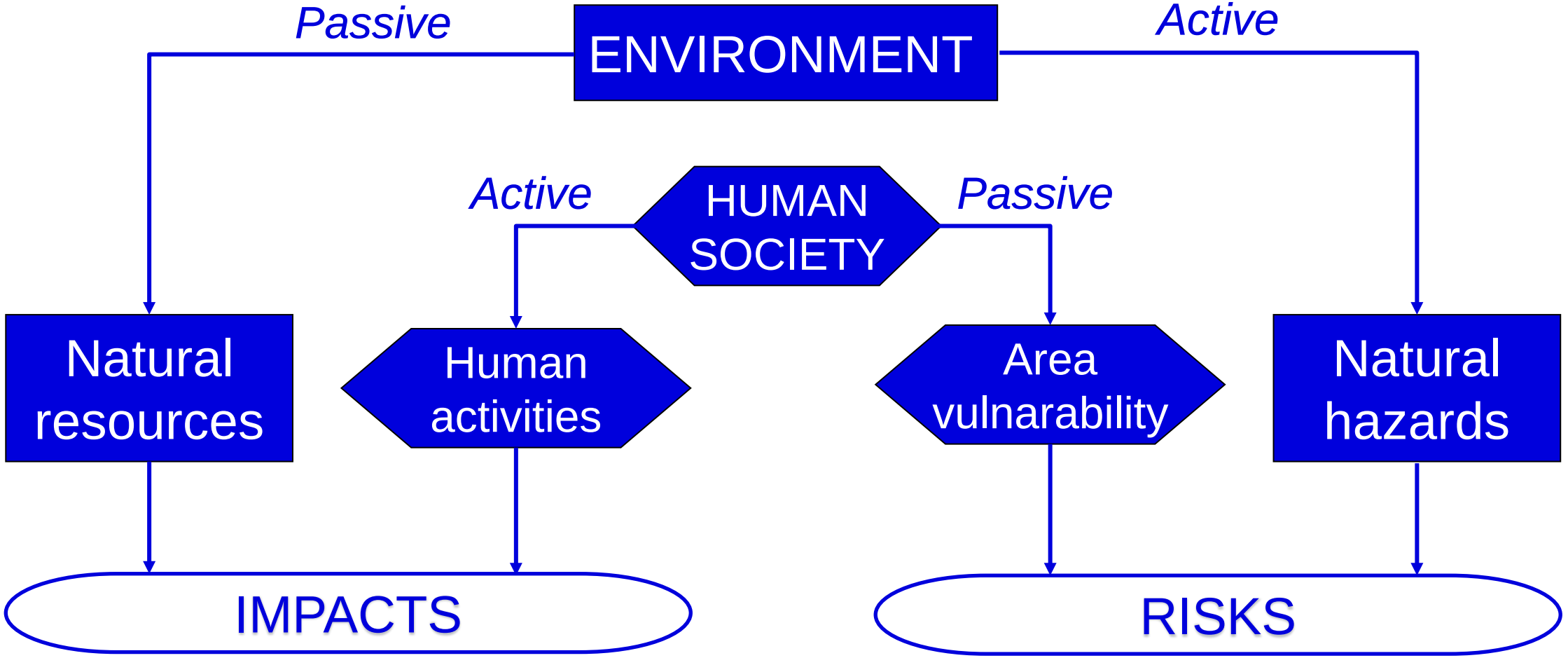


MUNI SCI

What is environmental geography?

Environmental geography is a branch of geography that describes the interactions between people and nature from a spatial perspective

Scope of environmental geography



Panizza (1996)

MUNI SCI

Scope of environmental geography – impact and risk

IMPACT

Natural bridge = resource

Heavy car traffic = human activity (use)

Bridge collapse = impact

RISK

Diablo bridge, Santander, Spain

Natural bridge = hazard

A person in a car = vulnerability

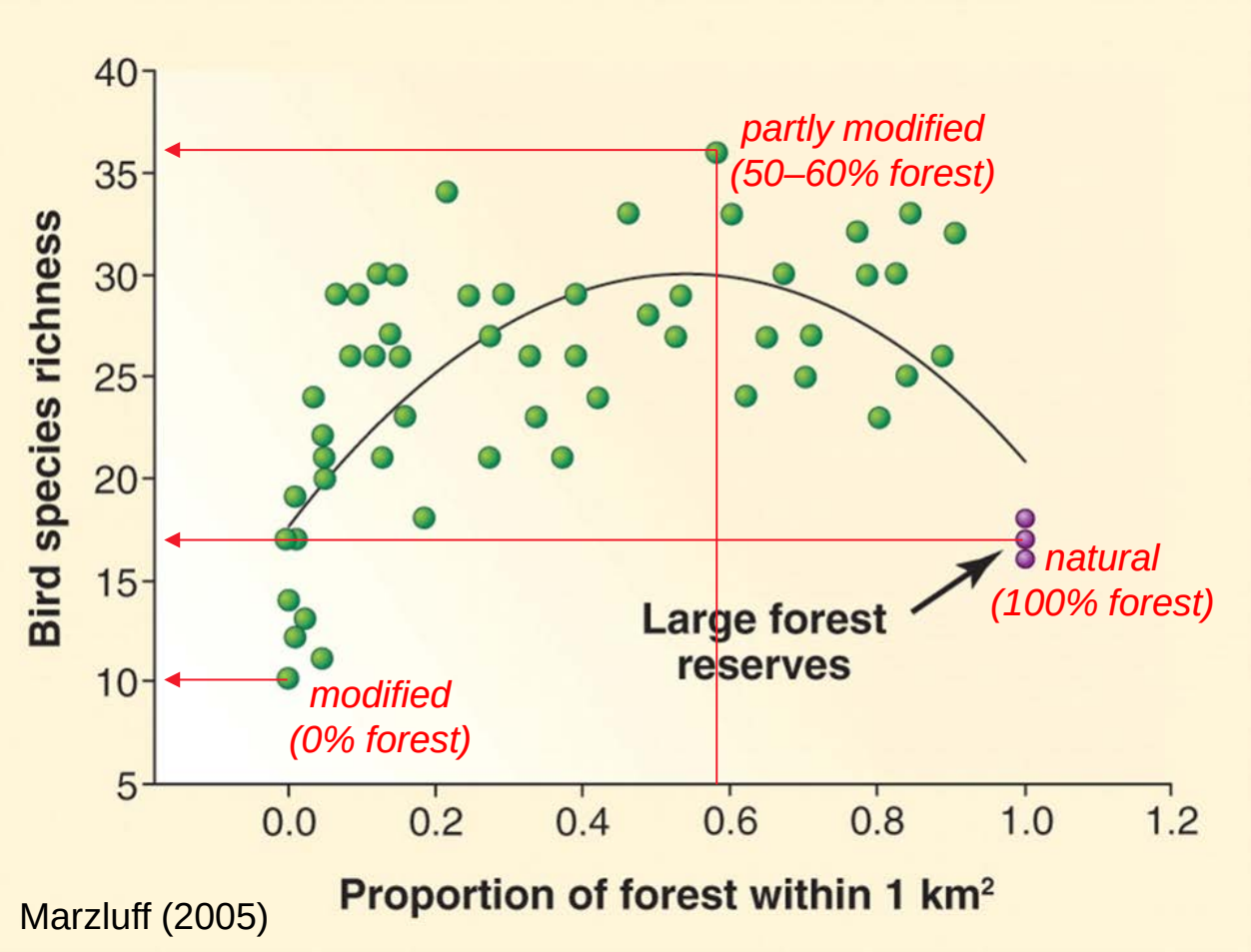
Bridge collapse = risk

Risk = Hazard (H) x Vulnerability (V) / Capacity (C)

MUNI SCI

Example

Impact



Marzluff (2005)

Changes in the richness of bird species in the human-influenced landscape of the Puget Sound region (Washington, USA) with progressively more forest (i.e., less human settlement)

- Bird richness peaks when 50 to 60% of the land is forested
- The mosaic of forest and non-forest patches supports higher habitat (and species) diversity than forest alone

MUNI SCI

Example

Risk

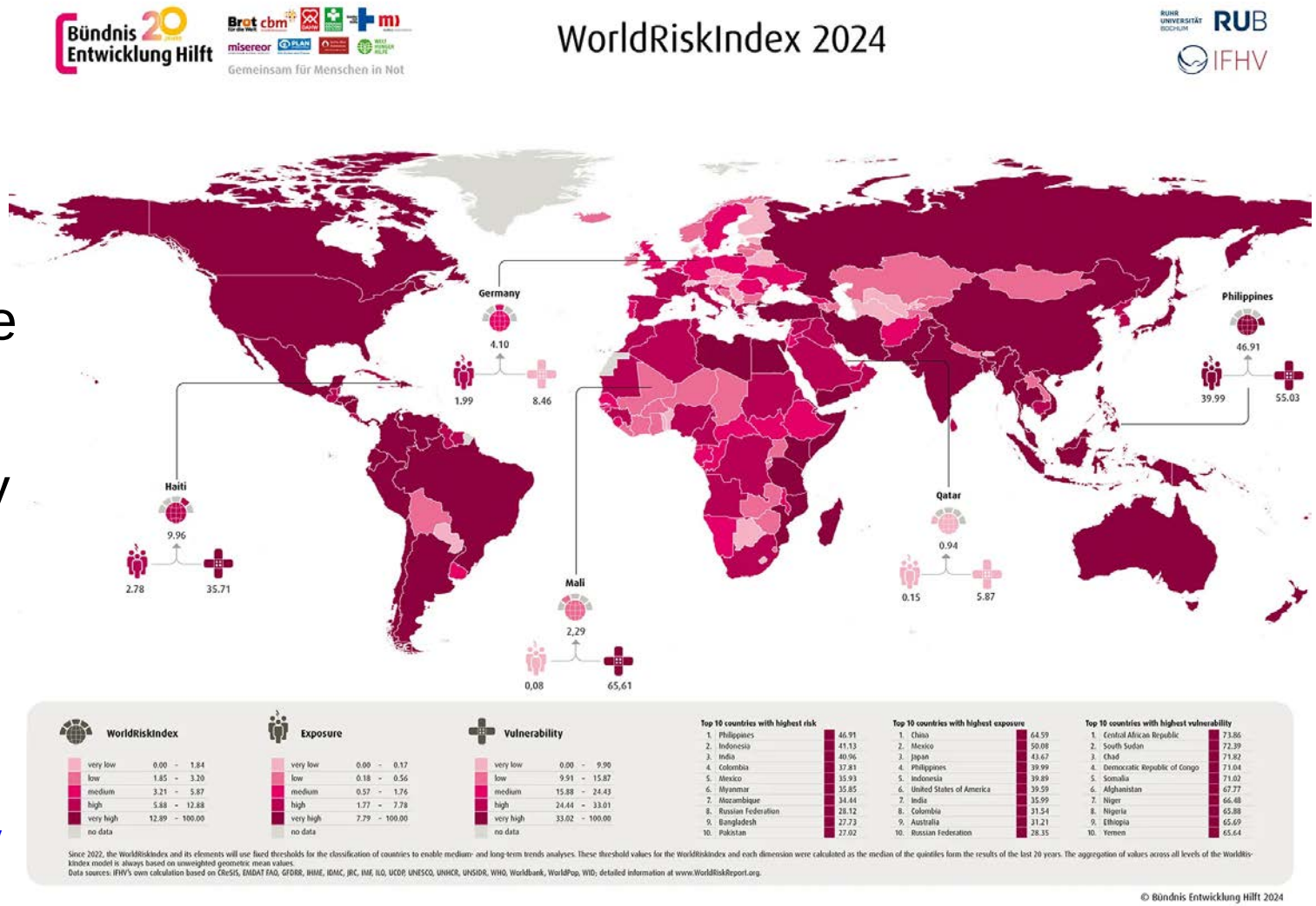
The WorldRiskIndex (WRI) indicates the disaster risk from extreme natural events and negative climate change impacts for 193 countries in the world

The Americas:

high risk and exposure

Africa:

hotspot of vulnarability



Zdeněk Máčka / Department of Geography

MUNI SCI

Example

Risk

How is the WorldRiskIndex calculated?

MUNI SCI