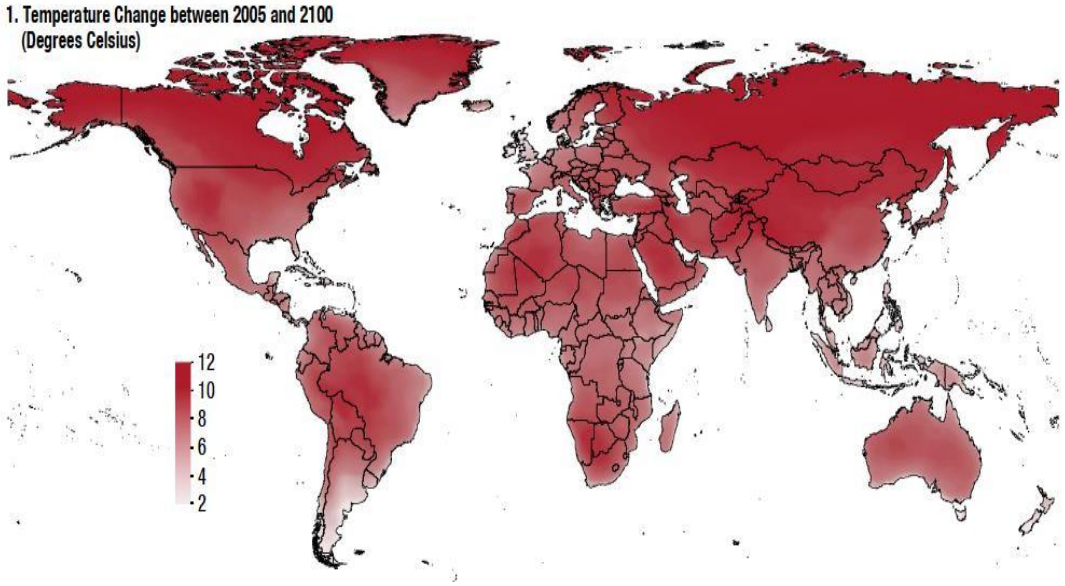
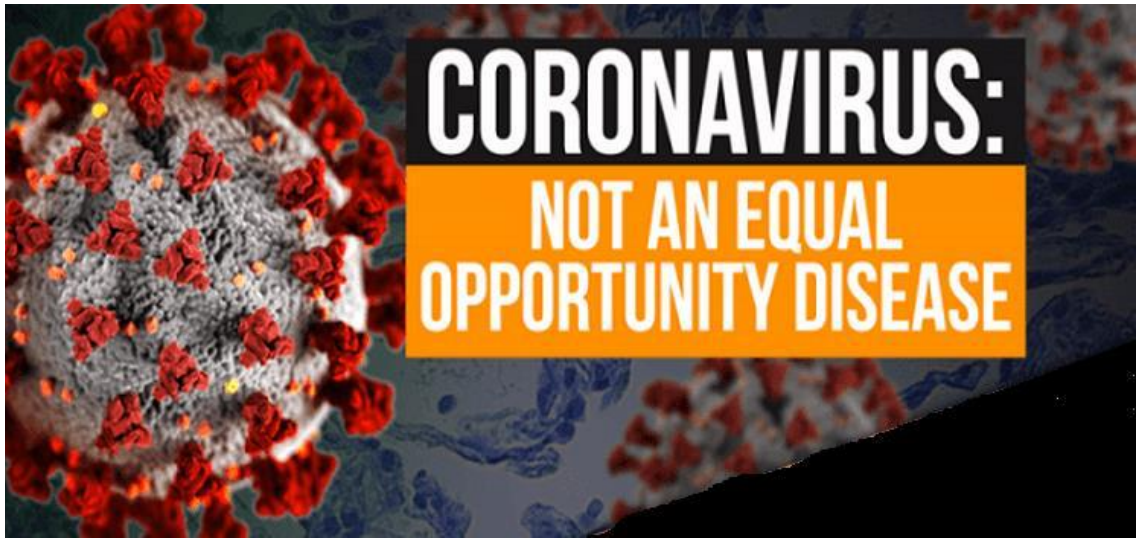
Risk and Vulnerability

Eleonora Nillesen & Valerie Graw

Why study risk and vulnerability?





Structure of the specialization

Identify risky & vulnerable situations

Prevent crises/disasters from happening

Manage crises/disaster

(Behavioral) insights for policy

Risk and Vulnerability Assessment

Part I:

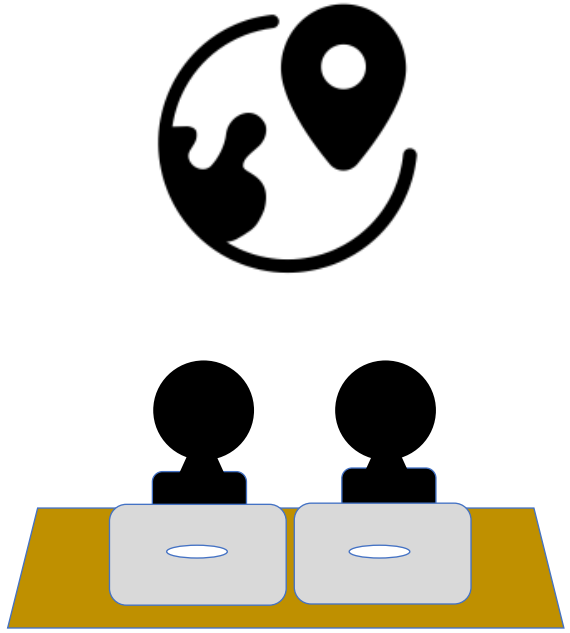
a) Concepts and theories of vulnerability and risk

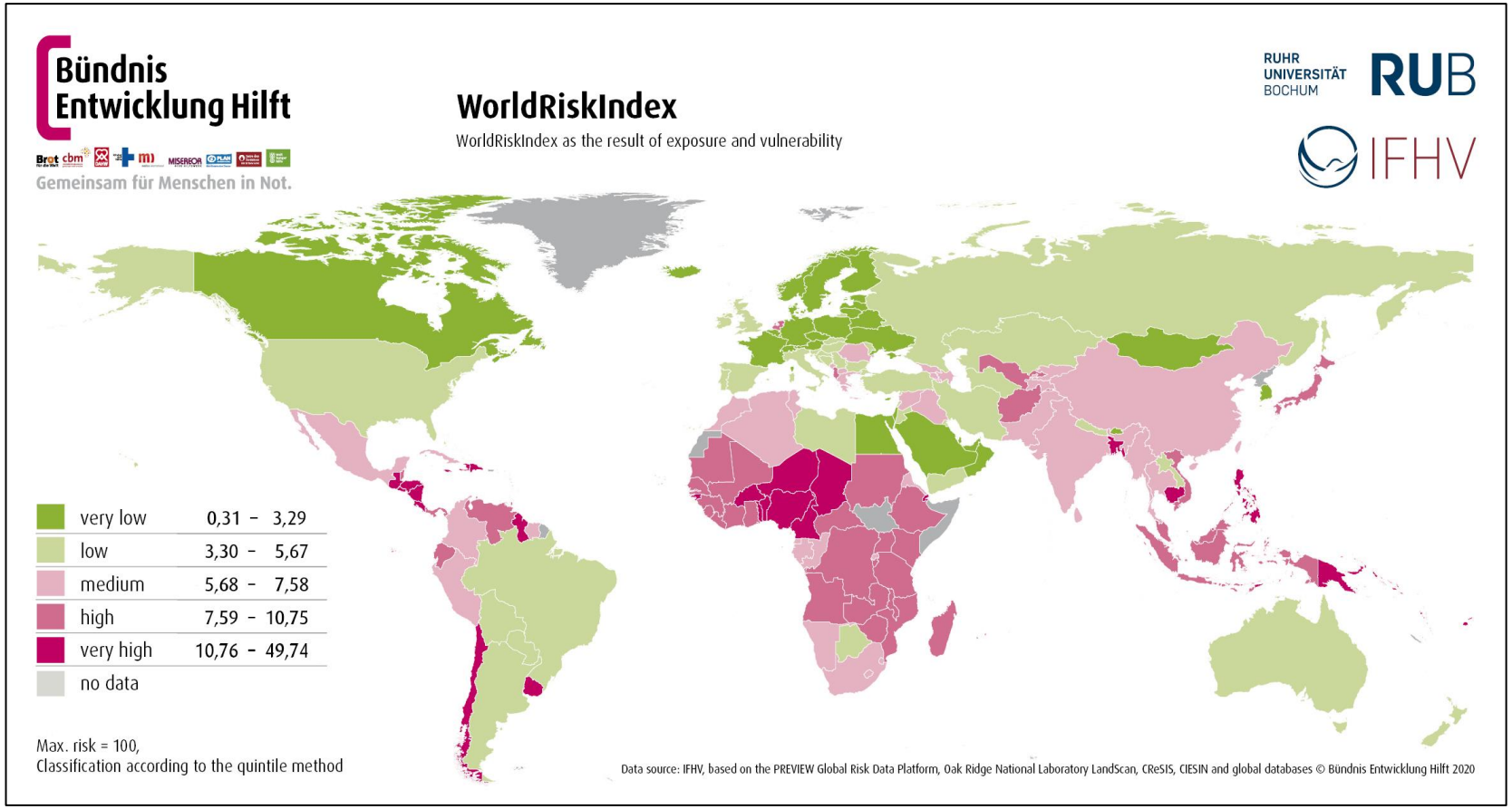
- The evolution of risk as a **scientific paradigm**
- Introduction and discussion of key **frameworks** for the understanding of vulnerability and risk in the context of climate change and natural hazards.

b) Climate and disaster risk assessments at different spatial scales

- How to **assess** vulnerability and risk at different spatial scales
- An overview of emerging **trends** in risk assessment
- Theory into practice: **examples from research** on vulnerability and risk at UNU-EHS

Part II: Vulnerability and Risk Mapping



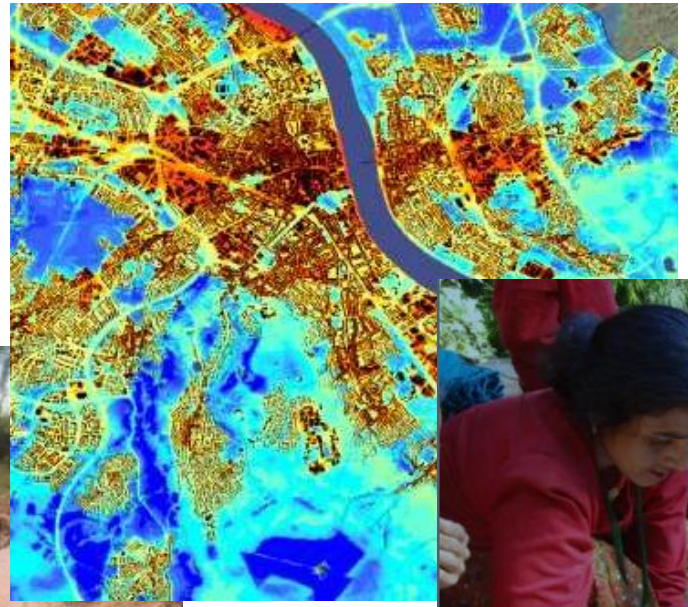


Building Resilience and Adaptive Governance

Part I: Resilience, Adaptive Governance and Risk Management

- **UNU-EHS insights:** experiences from past & ongoing projects

Urban heat map of Bonn, Germany



ASP workshop with government stakeholders, Indonesia

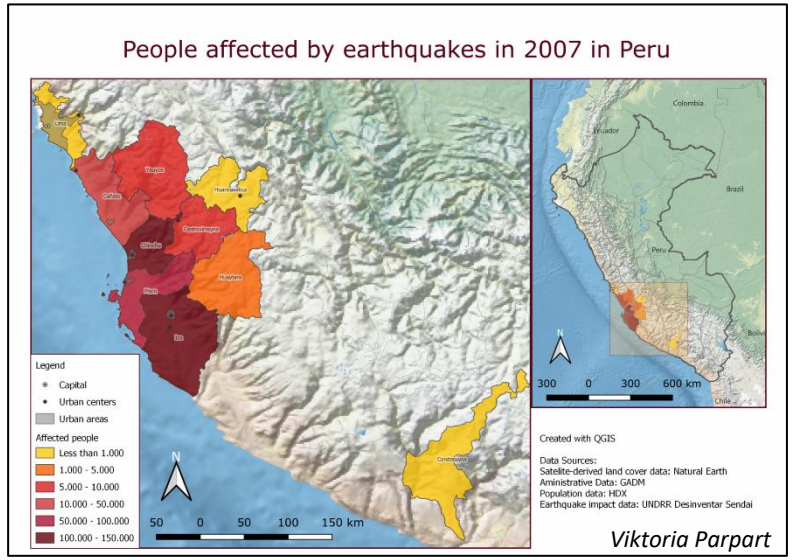
Vulnerability assessment struggles, Lao PDR

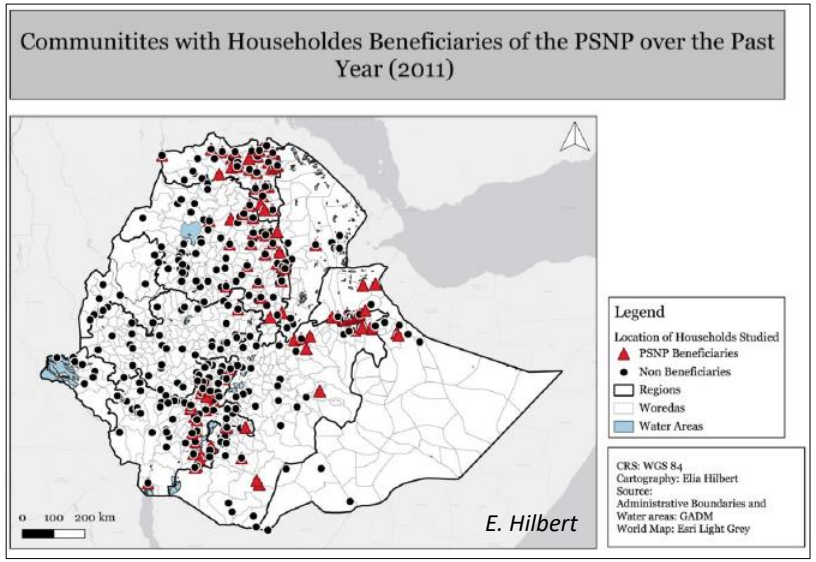
Community landslide vulnerability mapping, Nepal

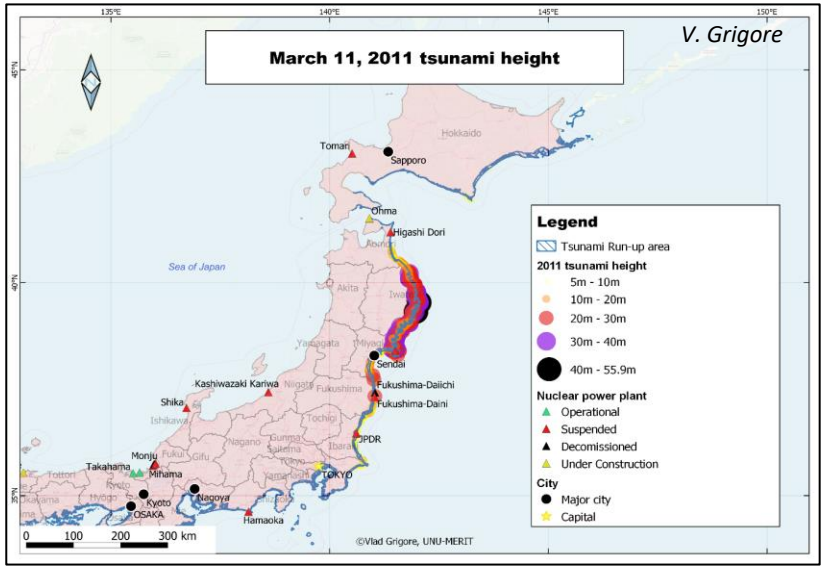
climate-sensitive flood adaptation, Togo & Benin

Part II: Vulnerability and Risk Mapping

- Work with **geospatial** data
- Understand how **maps** are used **for decision making**
- Develop **vulnerability and risk maps**

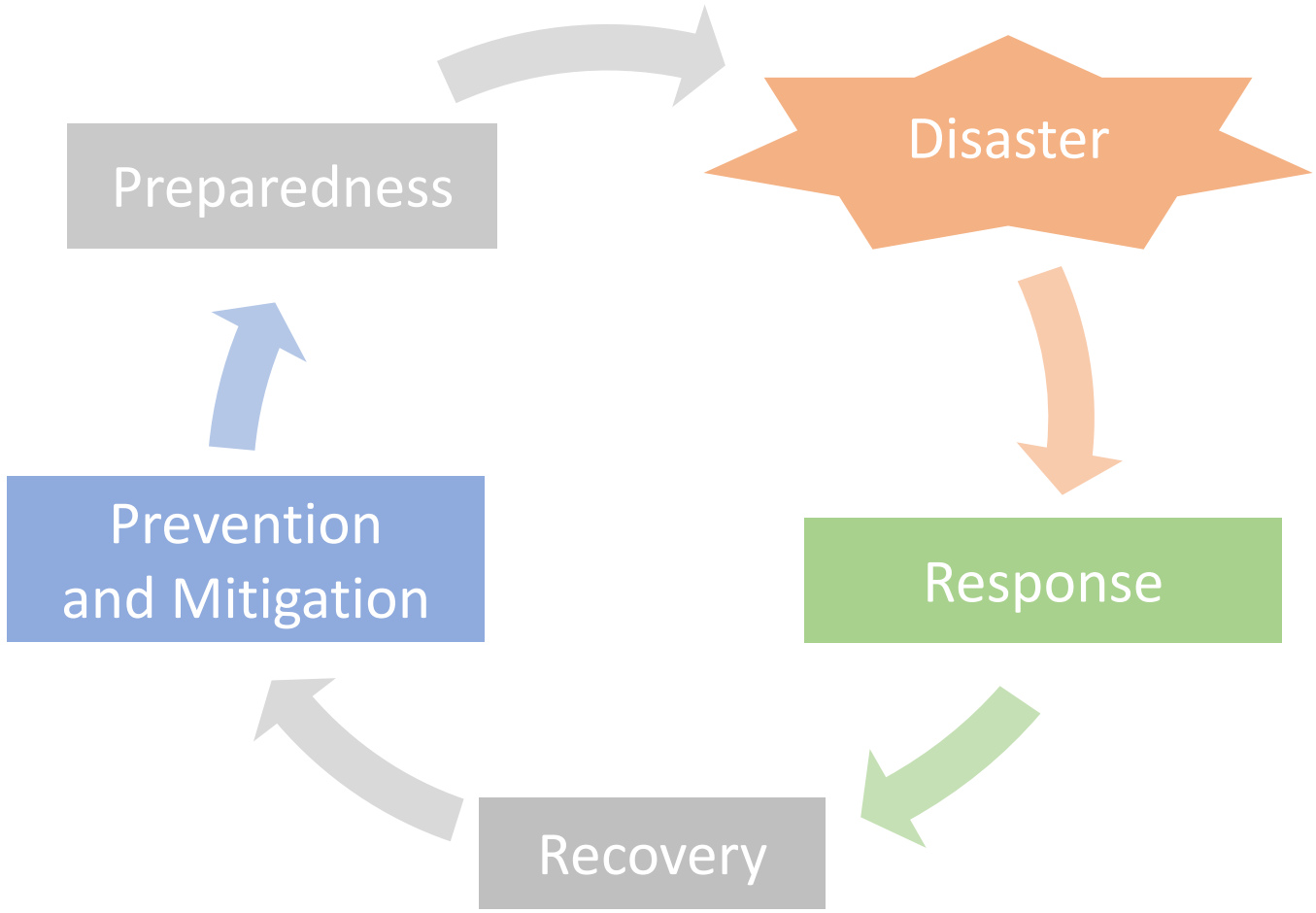






Part II: Earth Observation (EO) for Disaster Risk Management

- use satellite imagery and geospatial data to support emergency response and disaster preparedness



Risk Management in Crisis Situations

- Discuss drivers of risk perception (individual, institutional)
- Review crises in the 20th/21st century: lessons learnt
- Risk Governance and Crisis management – tradeoffs to be made
- Risk recovery – building back better?
- Maintaining trust and communicating about risk

Behavioral insights for policy design

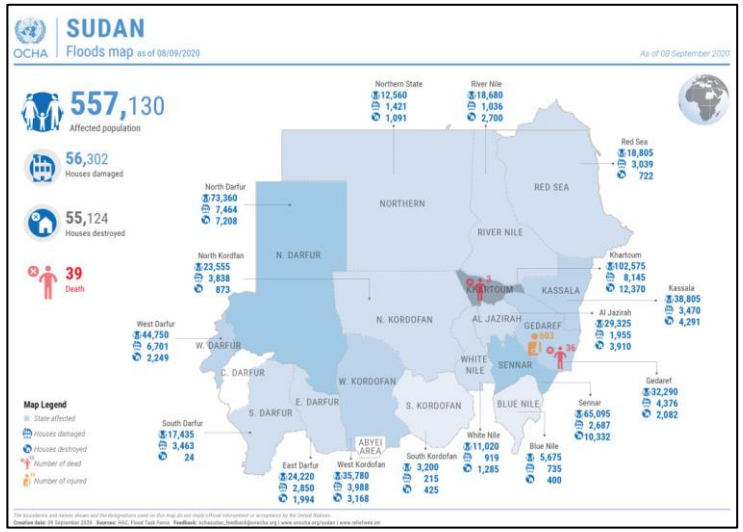
- The history, sociology and psychology of risk; the rise of anthropogenic hazards and manufactured risks
- Behavioural policy for risk and vulnerability
- Bridging theory and application: experimental social science, behavioural contagion models, GIS and behavioural dynamics
- Bridging research and policy: the research policy brief

Places where R&V graduates work

- UNU-MERIT (!)
- GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit)
- UNU-EHS
- UNFCCC
- And various others including consultancy companies, private sector, academia

In sum R&V will teach you:

- Analyze phenomena threatening communities today and tomorrow
- Contribute to SMART policy solutions to overcome these challenges
- Work with qualitative and quantitative data



Mapping of exposure to flood, Sudan

Community landslide vulnerability mapping, Nepal

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