

Global Risk & Vulnerability Studies

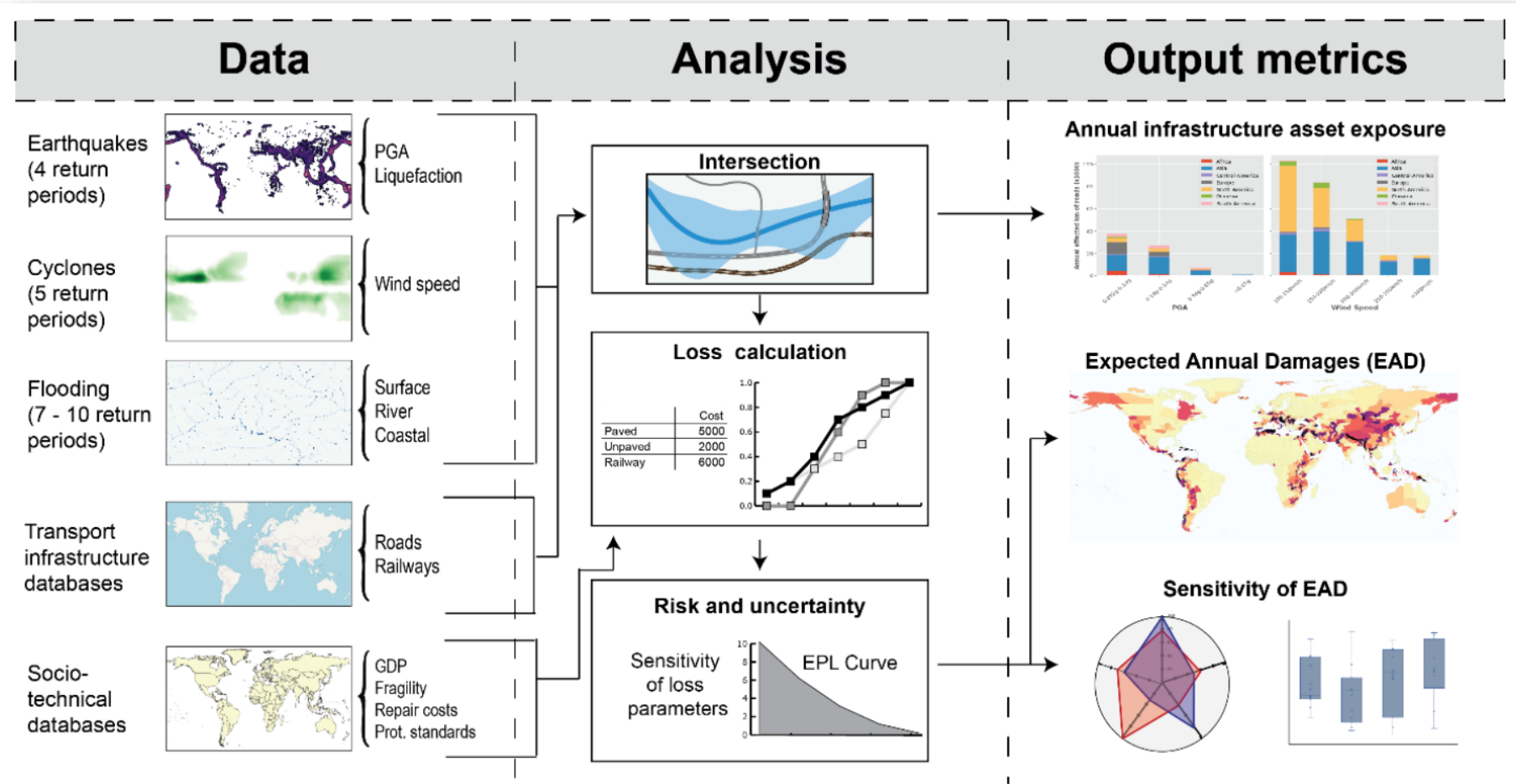
Conrad Zorn, conrad.zorn@auckland.ac.nz

- Multi-hazard risk to transportation networks
- Global electricity networks

- *Lifelines : The Resilient Infrastructure Opportunity*
- *Adapt Now: A Global Call for Leadership on Climate Resilience*



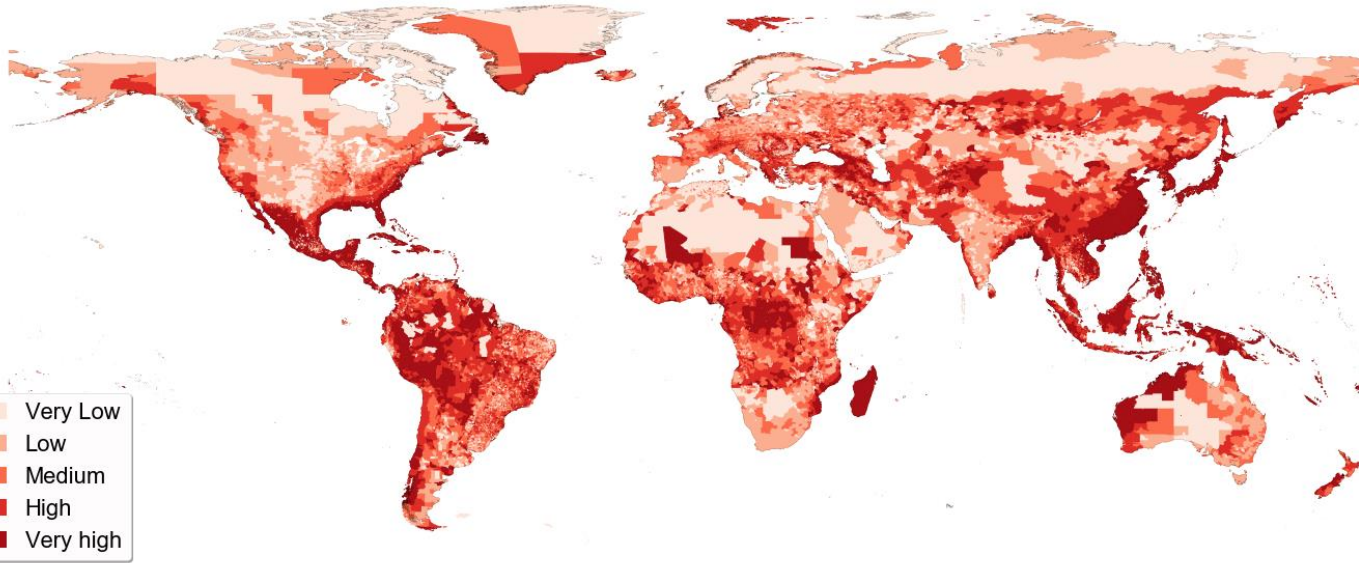
Multi-hazard risks to transportation networks



Koks et al. (2019) A global multi-hazard risk analysis of road and railway infrastructure assets. *Nature Comms*

Multi-hazard Exposure

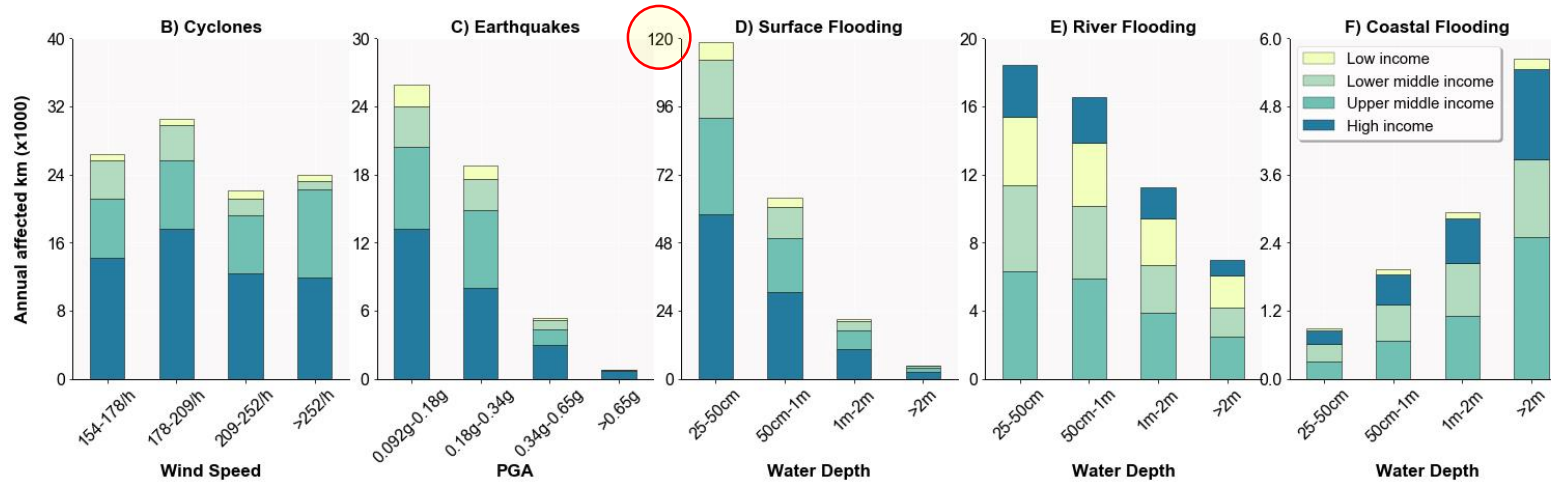
A)



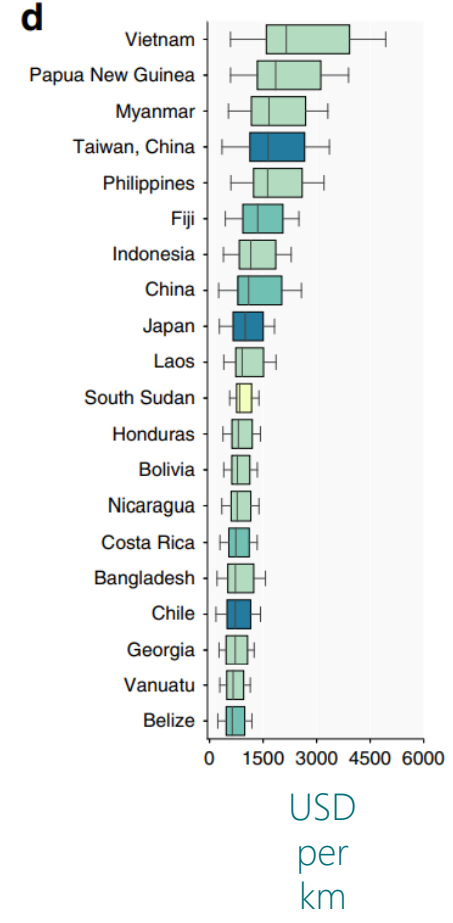
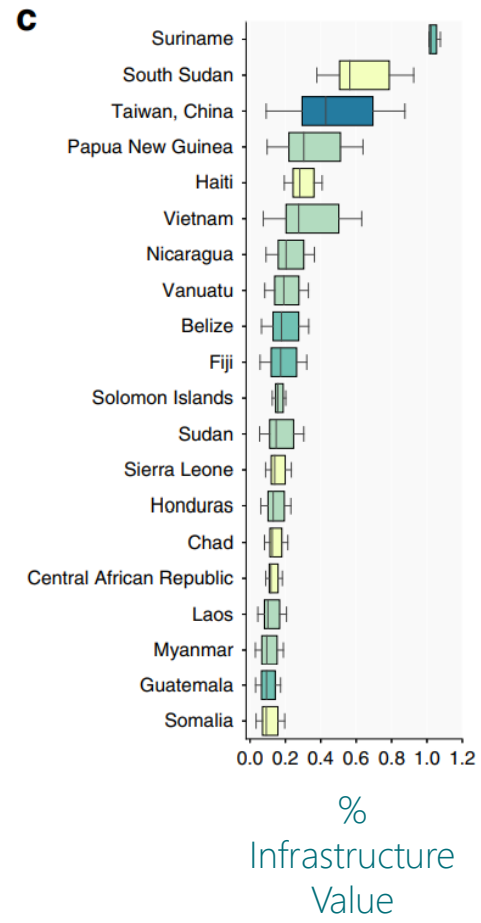
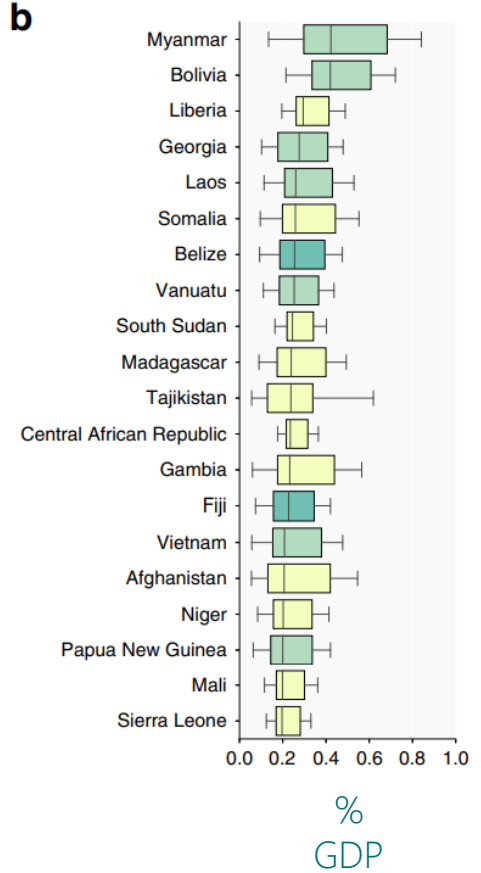
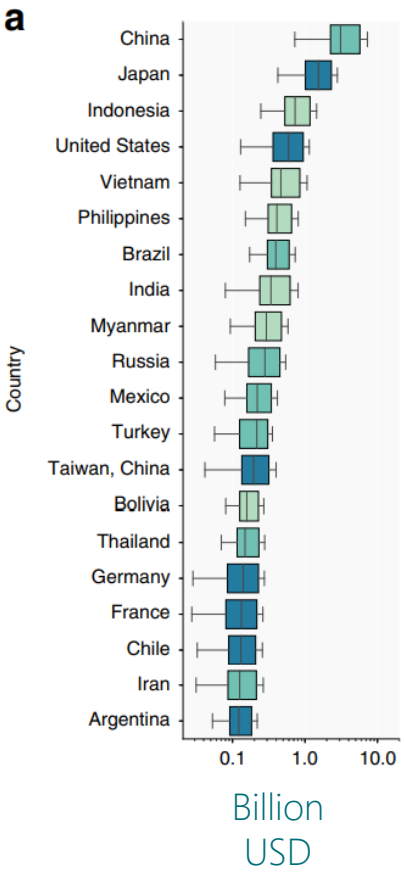
27% exposed ≥ 1 hazard (250yr)

7.5% exposed to 100-yr flood

0.5% of global assets exposed p.a. (3.1-22 billion USD)

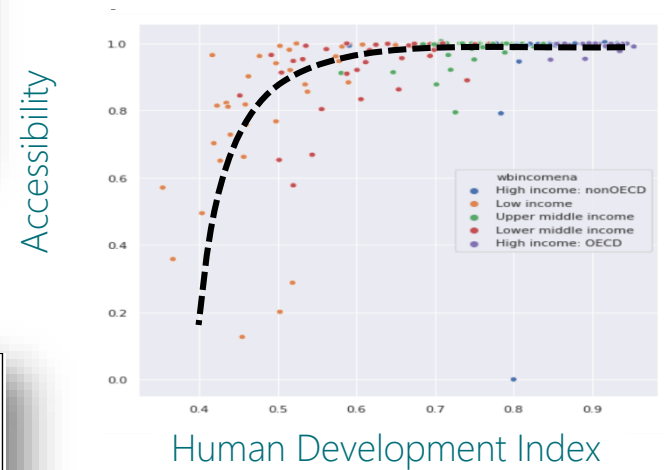
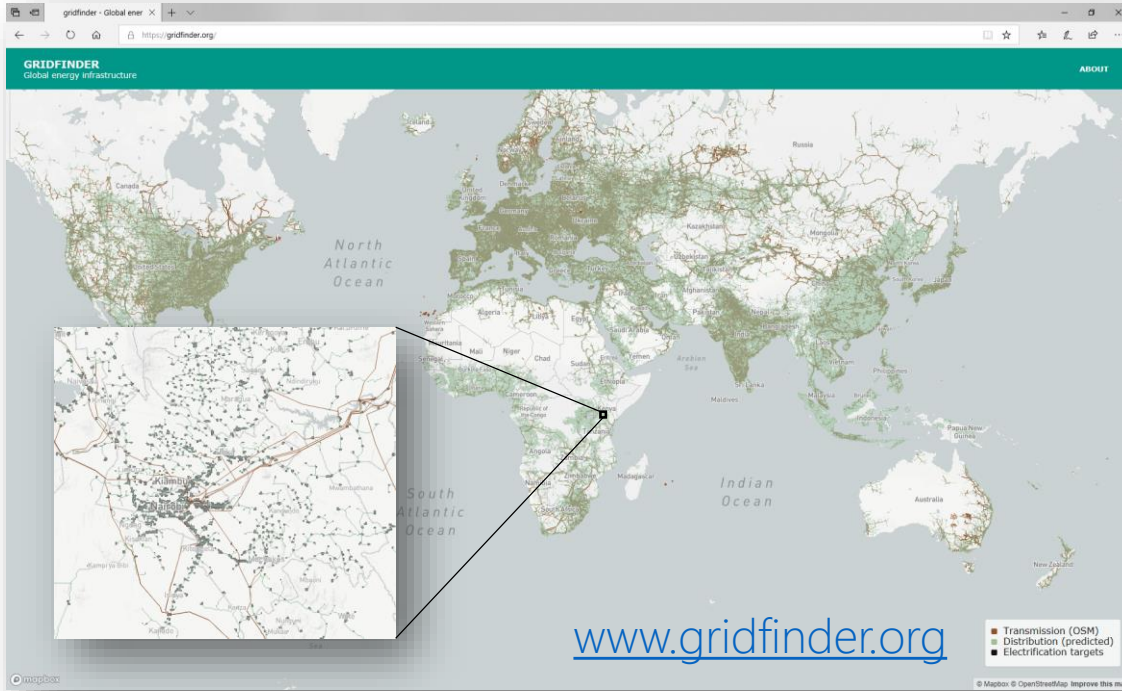


Expected Annual Damage

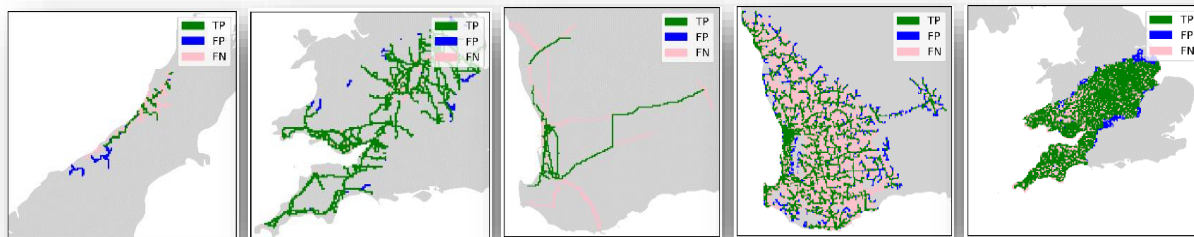


High Income
 Upper Middle
 Lower Middle
 Low Income

Global Electricity Network Prediction and Vulnerabilities



Validation to 16 countries (Africa, South America, Europe, Australasia)



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→ *Lifelines : The Resilient Infrastructure Opportunity*

- World Bank
- Background chapters across all sectors

→ *Adapt Now: A Global Call for Leadership on Climate Resilience*

- Global Commission on Adaptation
- Background chapters on aspects of adaptation

