INSeaPTION

INtegrating Sea-level Projections in climate services for coastal adaptaTION

Global coastal climate services: a typology of decisions relying on global sea-level information

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Introduction

- Coastal climate services (CCS) aim to support decision-makers to factor in coastal risk and SLR into their decisions
- Local CCS are widely developed –> little attention to CCS beyond the local context
- Many potential users of *global* CCS:
    - International organisations dealing with climate policy
    - global financial system and global supply chains are increasingly interconnected

→ Companies, financial institutions, and governments can be exposed to coastal risk in multiple different regions or countries, and to indirect coastal impacts

Research question:

- What decisions exist that rely on global SLR information?
- How can they be characterized, and differentiated?

Methods and materials

- **Climate service:** any effort to deliver information and tools that support addressing the specific decisions users face

- **Global users:** users that make decisions that rely on information on SLR and its impacts at *global scales* (e.g., coherent information for many locations, regions or countries around the globe).

- Following Hinkel et al. (2019):
  - characterise decisions in order to select appropriate decision-making approaches and identify SLR information needs
  - Relevant characteristics of decisions: time scale, objective, uncertainty tolerance, etc.

- Decisions identified though:
  - Stakeholder workshops
  - Literature review

Global decisions requiring SLR information

Type	Multilateral climate policy decisions •total exposure of people, assets, etc. in many countries is relevant •Mostly public decisions				Portfolio decisions involving multiple countries •Selected physical financial assets across countries are relevant •Mostly private decisions		
Sub-type	Choice of mitigation target	Choice of multilateral adaptation measures			Choice of physical assets locations or design such that ...		Choice of financial assets such that …
		Scoping: Assessment of multilateral climate impacts	Choice of multilateral flood risk pools	Choice of multilateral coastal protection measures	… supply-chain risks are reduced	… direct SLR risk is reduced	… SLR-induced financial network risk is reduced
Examples (time horizon)	UNFCCC negotiations on global mitigation targets (100+ years)	* WB assessing global cost of infrastructure upgrade (80 years) * Assessing large-scale migration risks * Reinsurance strategic assessment	* Caribbean Cat. Risk Pool (1-5 years) * European Solidarity Fund (1-5 years)	* Countries choosing a North European Enclosure Dam (100+ years); Baltic Sea only; * Countries choosing a Mediterranean enclosure dam * Geoengineering Antarctica	* Automakers choosing assembly plant and part suppliers (10 years) * Investor choosing a financial asset backed by physical assets (up to 30 years) * Green bond certifier assessing benefits of multiple adaptation projects (10-50 years*) * Ratings agencies assessing credit risk (up to 50 years*) * Multilateral development banks choosing infrastructure projects	* Real estate company choosing rental properties (10-15 years)	* Investor choosing a financial asset (e.g. stock, bond, etc) whereby the counterparty is exposed to SLR (up to 50 years*)

Discussion

What is missing?
- Additional types of decision relying on global information
- Additional real-world examples: in particular, beyond 'scoping' type

What are the most salient decisions to develop further?

How to overcome constraints on (private) data availability?

Thanks!

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