A GUI for exploring financial solutions to flood-induced losses

Alistair Milne\textsuperscript{1}  Giovanni Calice\textsuperscript{1}  Laurent Courty\textsuperscript{2}  John Hillier\textsuperscript{2}  Russell Lock\textsuperscript{3}  Seyoung Park\textsuperscript{1}

\textsuperscript{1} School of Business and Economic, Loughborough University
\textsuperscript{2} Department of Geography and Environment, Loughborough University
\textsuperscript{3} Department of Computer Science, Loughborough University

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Current management of flood risk finance

- More industrialized countries: insurance & other financial instruments
- Less developed countries: low penetration of insurance; financial burden is \textit{at best} on the government.

⚠️ Need to plan ahead (i.e disaster risk finance)
Need of user-friendly tools

- Modelling is necessary for insurance
- Catastrophe models are complex and expensive
- Local stakeholders need to simulate and visualize their exposure to flood risk and the potential cost of insurance
InaSAFE (inasafe.org)

- Free software extension to QGIS
- Estimate the number of buildings affected by a given event
- Integrates nicely with OpenStreetMap as source of exposure data
Challenges

- InaSAFE works on an event basis; economic simulation requires multiple events.
- Exposure mapping (OpenStreetMap might be incomplete).
- Building value estimate.
- Relation between water depth and damage (depth-damage curves).
Current state of the tool

- Batch process of flood events
- Estimate financial losses
- Estimate insurance premium
- Display results in GIS
Current state of the tool
Way forward

Allow user to:

- Change insurance parameters
- Do a hypothetical building analysis
Thank you

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laurent@courty.me