

Prototype sea level planning and scenario visualisation tool

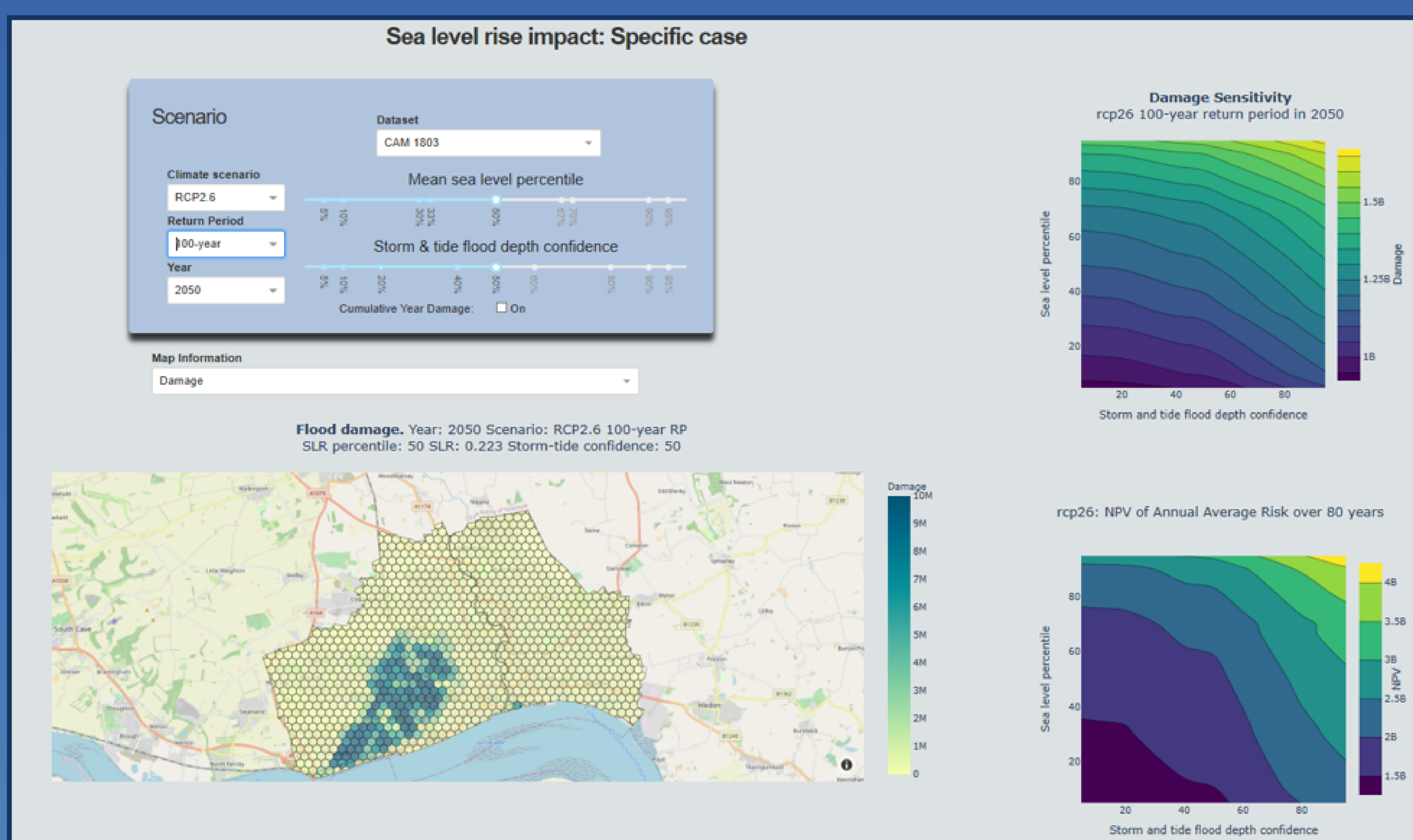
The prototype, developed for the case study site Hull on the UK's east coast, visualises economic damage resulting from a large set of sea level rise flood risk scenarios.

Modelling process:

HOW

- 1 Specifying nearshore hydrodynamic conditions (still water level, storm surge profile, wave conditions)
- 2 Calculating the pathway of water onto the land through overflow and wave overtopping of high ground or defences
- 3 Determining how the floodwater spreads on land

The parallel developed visualisation prototype receives, processes and visualises the modelling output, allowing users via a web-based interface to select and compare a wide range of different scenarios quickly. It helps them understand how decisions regarding the initial uncertainties influence flood patterns in the region, its distribution and the resulting economic repercussions.



This prototype provides a full picture of the scientific predictions and associated uncertainty within the economic decision-making framework by:

WHY

- **Visualising** the economic damage resulting from a large set of sea level rise flood risk scenarios, accounting for the flood mechanisms at the coastal boundary
- Aiming to **develop a new streamlined approach** to modelling the interactions between sea level hazards, economic activity and risk, including more science through the risk assessment process, resulting in better informed decision making and investment planning



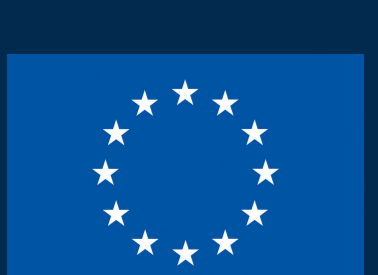
Website & Video

Contact: Steven Downie - steven.downie@arup.com

CAD/C
oaxiaconsulting

UNIVERSITY OF CAMBRIDGE

EuroSea



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862626



National Oceanography Centre

ARUP