ASSESSING SOCIAL IMPACTS: CAN MODELLING HELP?

Rapidly assessing the impacts of disasters is challenging. To prioritise and appropriately resource relief efforts, it is necessary to determine the needs of affected people. Quantification of impacts and needs is difficult and time-consuming using traditional methods (e.g. field surveys). Social media may assist to rapidly acquire information post-event. However, modelling techniques using existing data (e.g. buildings, populations, demographics) and real-time event data are currently under-utilised for assessing social impacts. This PhD project will explore the potential of modelling for assessing habitability, human displacement and the needs of populations, and aims to answer some of the key research questions that will underpin the modelling.

TO ASSIST IN ANSWERING:

Who is affected, and where?
How long will communities need to care for themselves?
What is needed for relief?
Where should efforts be prioritised?

PROPOSED MODEL INPUTS

- HAZARD
  e.g. earthquake, tsunami, volcano

- PHYSICAL IMPACTS
  e.g. building damage, utility outage, loss of access

- COMMUNITY ATTRIBUTES
  e.g. industry, services, resources

- DEMOGRAPHIC ATTRIBUTES
  e.g. gender, age, income

MODEL OUTPUTS

QUANTIFICATION OF:

- Community resources available
- Relief needed
- Habitability of buildings
- Number of people requiring shelter
- Timeframes for response/recovery