Beyond ‘flood hotspots’: co-production of knowledge between academia and stakeholders for improved resilience of emergency response to flood disasters [abstract]

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### Beyond ‘flood hotspots’: co-production of knowledge between academia and stakeholders for improved resilience of emergency response to flood disasters

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**Abstract Text:**

Emergency responders such as the Fire & Rescue and Ambulance Services often face the challenging task of having to respond to or operate in dynamic weather conditions, including floods. In the UK, in order to meet government legislation and improve resilience of their operation, emergency responders, coordinated by Local Resilience Forums actively seek to identify areas which are most vulnerable to flooding, as well as the potential impacts of flood events on the critical infrastructure nodes and networks upon which their operations rely. This has been facilitated by the recent advances in flood modelling which provides country-wide publicly accessible flood risk mapping. Whilst in the possession of a wealth of data and abundant local knowledge, emergency responders often find it challenging to apply existing flood ‘hotspot’ data to assist strategic planning and operational response.

This abstract describes a recently completed project funded by the UK Natural Environment Research Council, which combined an interdisciplinary team of researchers based at Loughborough University with a group of project partners working in the field of flood resilience within the City of Leicester, UK, to evaluate the resilience of emergency response during extreme flood events. One key piece of work which stakeholders found useful and effective was the accessibility of the city to emergency responders during extreme flooding. The figure below maps the areas of the City accessible within 8 minutes, the response time required for serious, high-priority incidents by legislation, for the Fire & Rescue Service stations under a 1 in 20 year pluvial flood event. This goes beyond what the stakeholders are already aware of in terms of direct impacts of flooding, i.e. the ‘hotspot’ areas which would directly become inundated, and highlights the indirect, cascading impacts of flood events of different magnitudes on emergency response times at the city-scale. This also provides stakeholders with useful information to implement strategic adaptation measures for mitigating the potential impacts of flooding. In addition to the key findings, the abstract will also present the process of engagement and lessons learned for successful academia-stakeholder engagement.
**Topic Selection:** Science for Disaster Risk Reduction: From Integrated Research and Assessment of Risks to Communication and Engagements

**Title:** Beyond ‘flood hotspots’: co-production of knowledge between academia and stakeholders for improved resilience of emergency response to flood disasters

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