Interoperable flood management in Newcastle: exploring needs, opportunities and challenges

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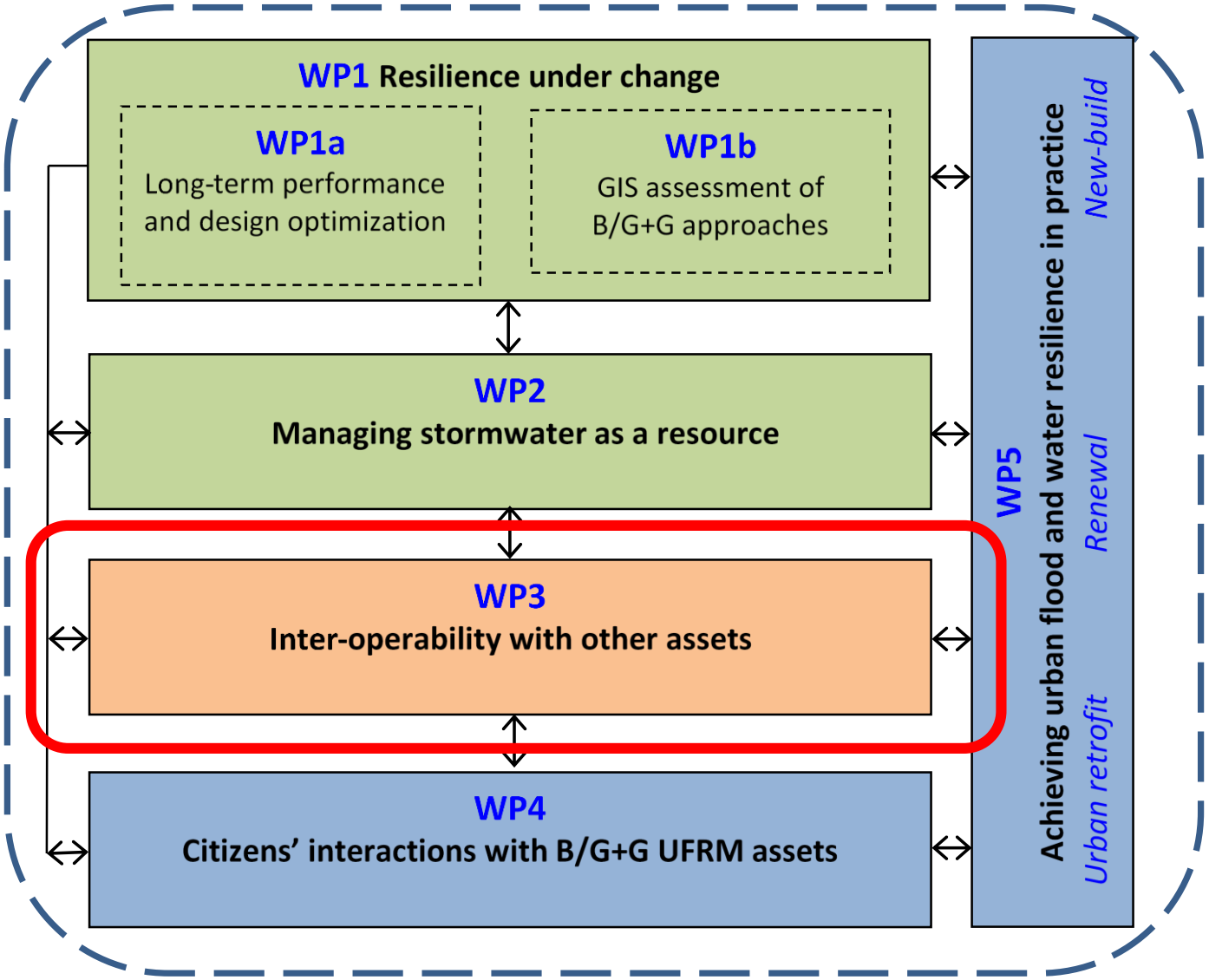

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Interoperable… what??

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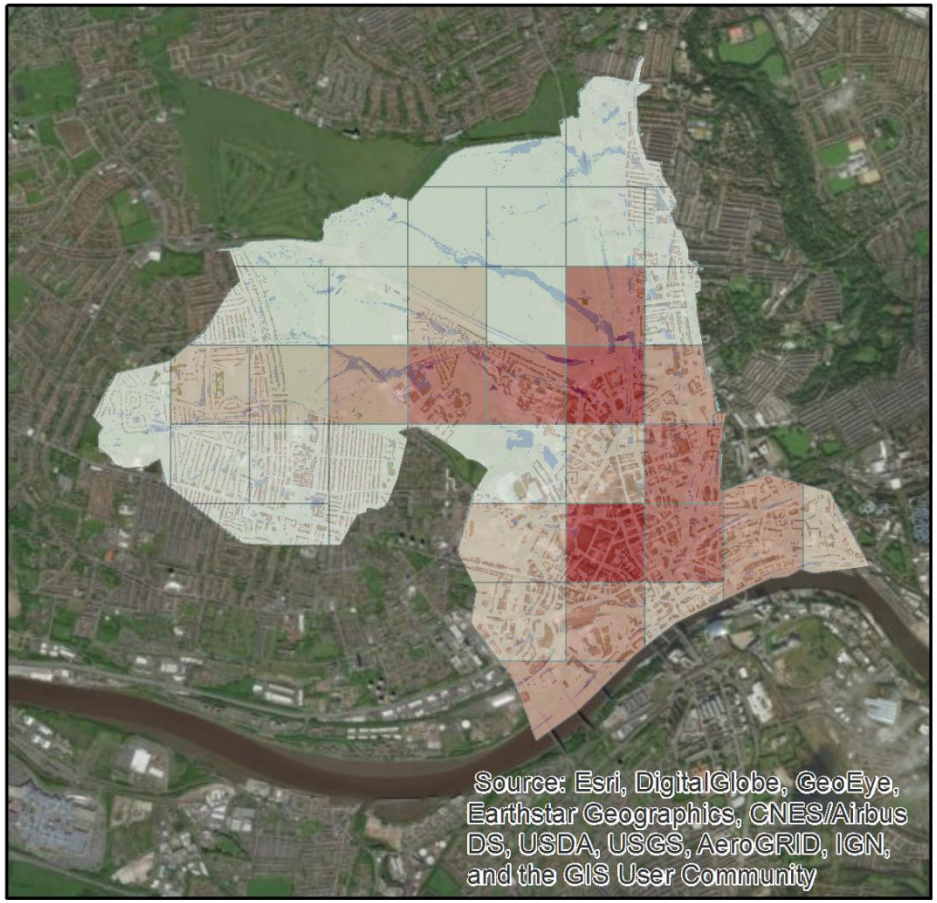
Flood impact areas



Potential flood hazard from a 1/50 year event mostly in middle to lower part of city centre

Data source: CityCAT

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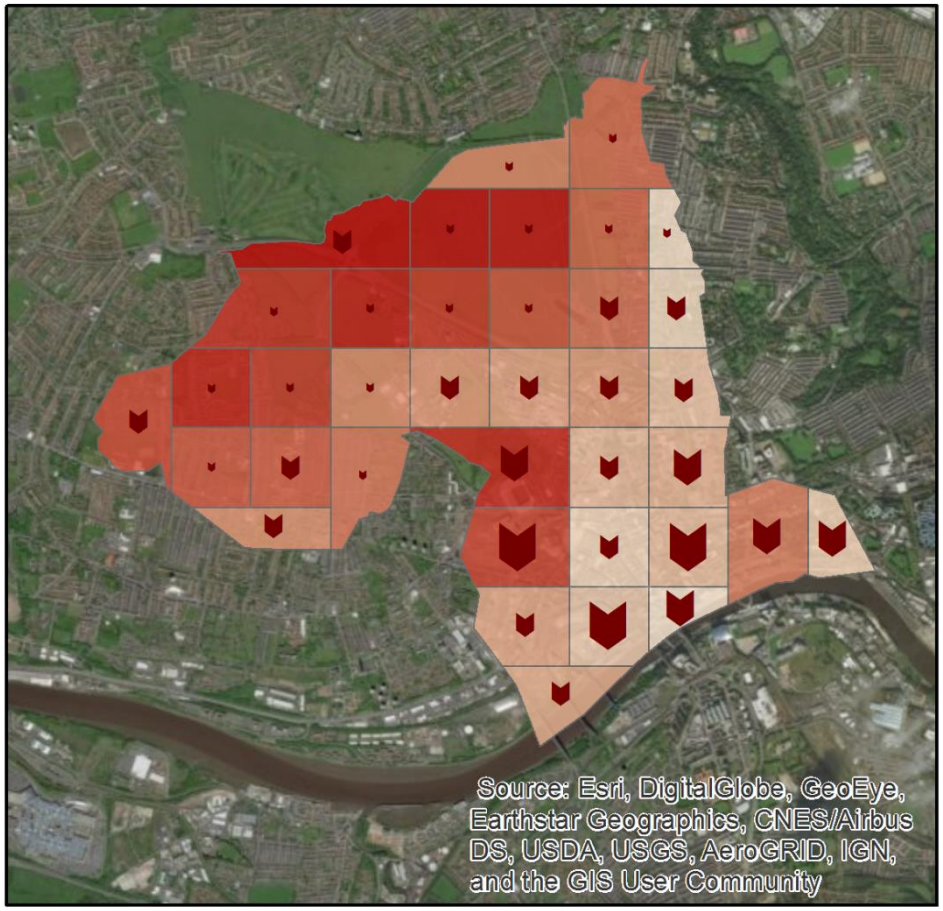
Flood source areas



Extent of surface flooding caused by upper catchment (dark red squares)

Depth of surface flooding caused by lower catchment (larger arrows)

Data source: CityCAT sensitivity testing

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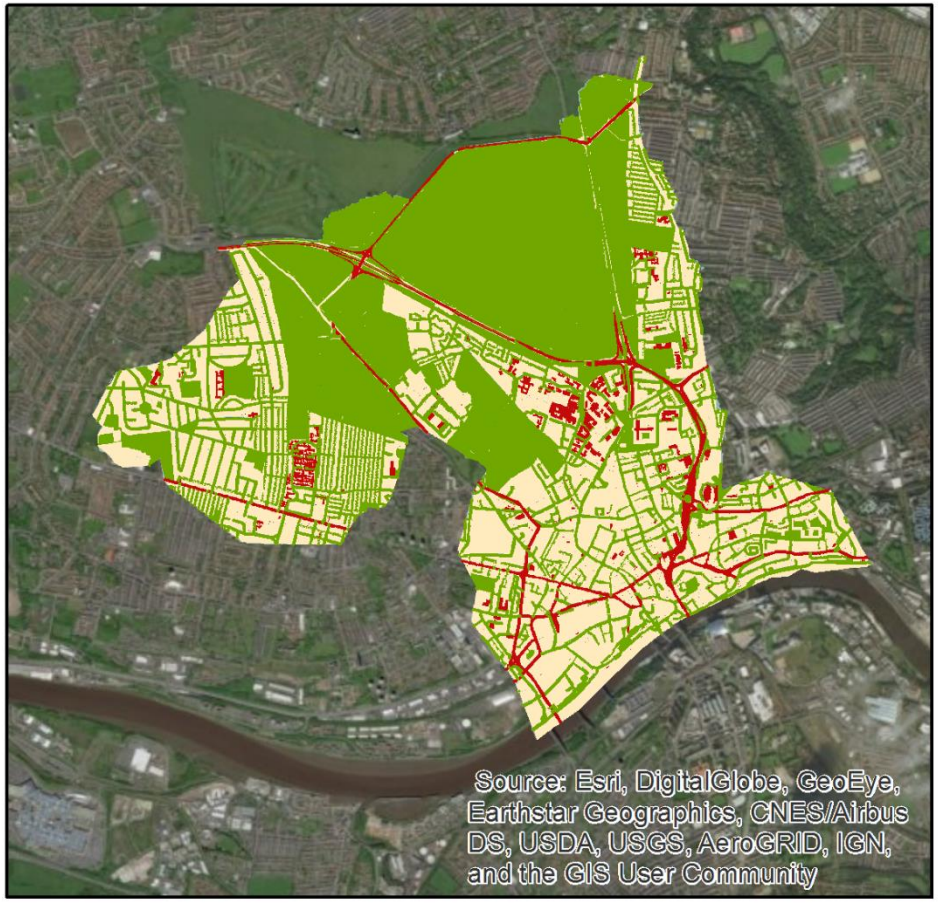
Infrastructure systems



Water can go to many places for retention, detention or transfer (technically…)

Data source: OS MasterMap® Topography Layer, © Crown copyright and database rights 2019 Ordnance Survey

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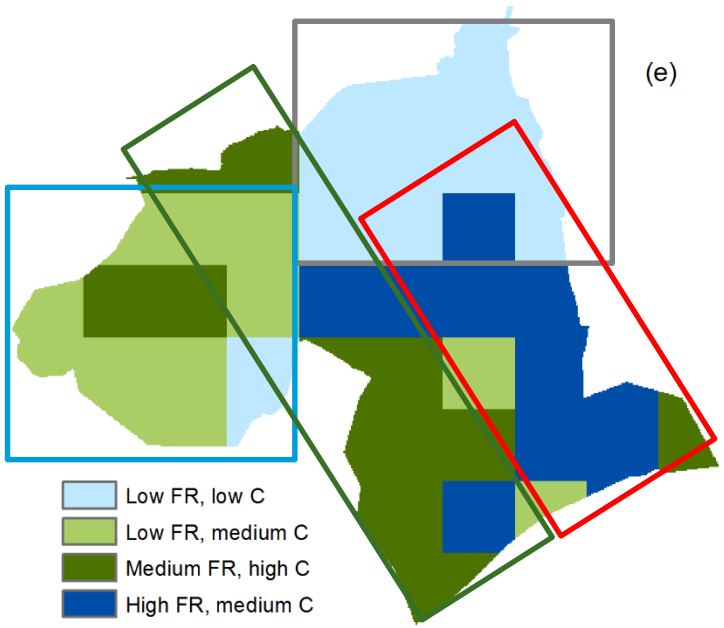
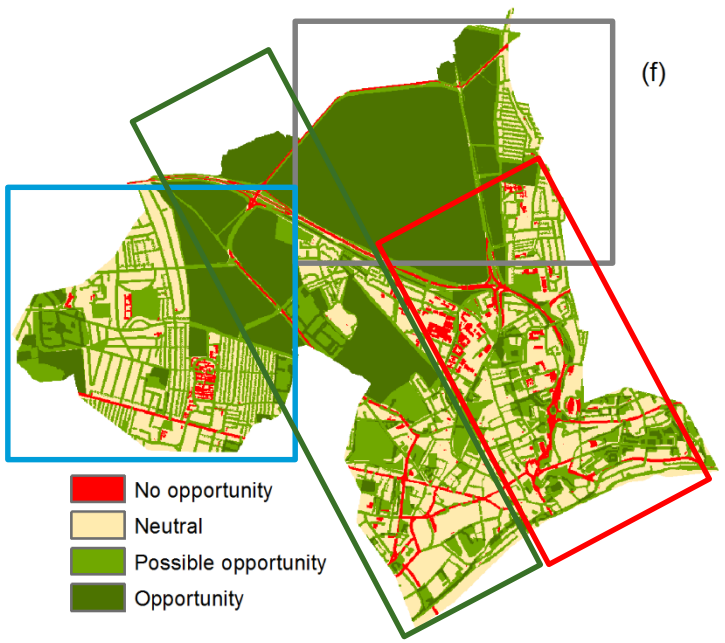
Source to impact flood dynamics



Interoperability opportunity areas



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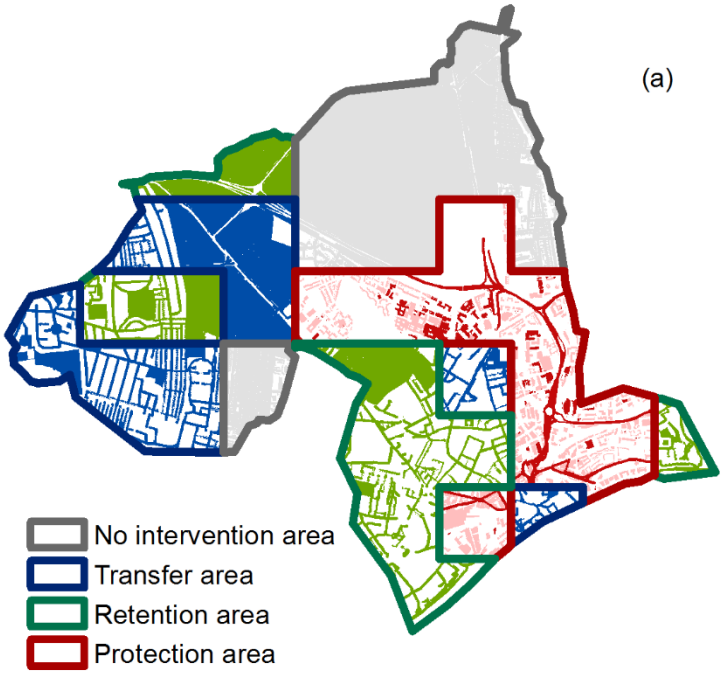
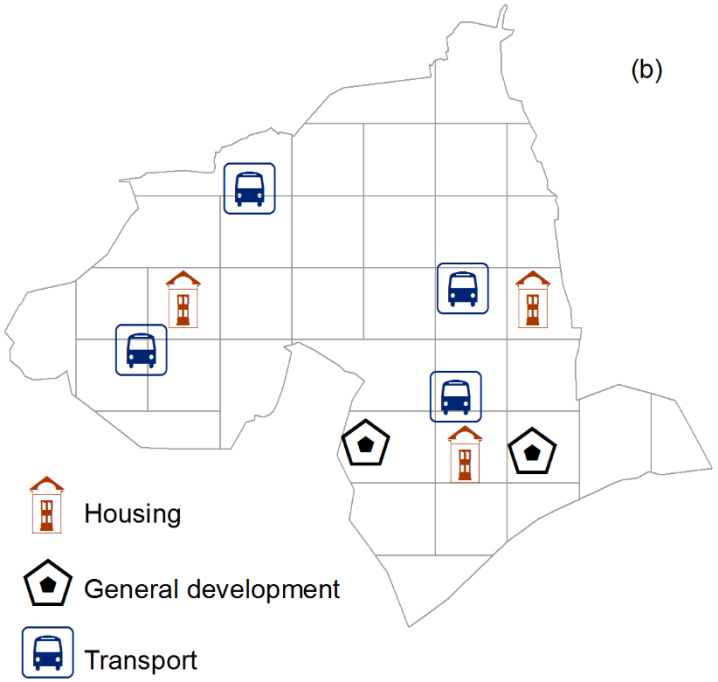
Evidence-based flood management zones



Investment schemes



IOP design investigations; IOP specific simulations ; targeted co-operatives across schemes

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WP3 current capability:

1. Identify **type** of flood management intervention

2. Prioritize **locations** for flood management

3. Identify **proximity** to infrastructure systems to help combine investments in transport, housing, land-use and water management

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Further information

Vercruysse, K., Dawson, D. and Wright, N. (accepted) 'Interoperability: a conceptual framework to bridge the gap between multi-functional and multi-system urban flood management', *Journal of Flood Risk Management*.

Vercruysse, K. *et al.* (in preparation) 'Source-to-impact sensitivity analysis in flood modelling to guide integrated urban flood management'.

Vercruysse, K., Dawson, D. and Wright, N. (2019) 'Developing a spatial analysis framework to guide interoperable urban flood management', *ICONHIC 2019,* June 2019, Chania, Greece.

For more information contact **Kim Vercruysse** or **David Dawson** at **University of Leeds.**

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Department for Infrastructure An Roinn Bonneagair
Public Health England
water industry forum
sniffer knowledge brokers for a resilient Scotland
RTPI mediation of space · making of place
HR Wallingford Working with water
ARUP
ATKINS
NWG living water
Royal HaskoningDHV Enhancing Society Together
Stantec
Ricardo Energy & Environment
SWECO
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