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MATHEMATICAL, PHYSICAL AND ENGINEERING SCIENCES

Urban flood resilience

Theme issue compiled and edited by Richard Fenner

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About this issue

Providing flood resistant urban infrastructure which is resilient to both future climate uncertainties and increasing urbanisation is a pressing challenge globally. This issue brings together current UK and international developments in: understanding the changing drivers of flooding; advances in flood modelling; pathways to multifunctional infrastructure that can provide multiple benefits; social, community and economic interaction with flood management interventions, and the effectiveness of flood recovery responses. An international perspective is also captured on how countries are reacting to the need for achieving urban flood resilience. A paradigm shift is needed which moves from the risks of draining water “away” to creating the opportunities from capturing stormwater locally and utilising it as a component of urban regeneration and urban greening.

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Cover image:

The cover image shows a “green street” incorporating a number of Sustainable Drainage Systems (SuDS) including swales, bio retention ponds, rain gardens, permeable paving and rainwater harvesting in water butts. These manage stormwater at source whilst providing a range of other benefits to the local community and are a central to achieving urban flood resilience. Acknowledgment: The cover image has been used with permission from Thames 21- the voice of London’s waterways, working with communities to improve rivers and canals for people and wildlife (see www.thames21.org.uk).

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