



Adaptable urban drainage – addressing change in intensity, occurrence and uncertainty of stormwater (AUDACIOUS)

Science Summary SC030219/SS

A new report has been published that investigates the effects of climate change and urbanisation on drainage systems in urban areas.

The report presents the results of AUDACIOUS, one of the projects in the EPSRC/UKCIP 'Building Knowledge for a Changing Climate' portfolio and funded in part by the Environment Agency. It focuses on local urban drainage at a small scale and is mainly concerned with existing drainage systems.

The aims of the project were to:

- Highlight likely problems and interactions in the performance of existing drainage systems caused by climate change and urbanisation.
- Provide new procedures, computer models and appropriate guidance to help assess the impact of climate change and urbanisation, and develop adaptive responses for building and local drainage systems.
- Enable and demonstrate the integrated application of these models and procedures within the wider context of drainage and urban systems.
- Establish and disseminate baseline procedures for evaluation and adaptation to the effects of climate change on existing urban drainage.

The report specifically addresses the needs of those involved in flood risk and water management at a local scale, including 'non-water industry' professionals such as planners, facilities managers and property owners. The aim is to provide a simple approach to local area flood risk management, and an introduction to new approaches and tools to improve local-scale flood risk management for stakeholders.

The study generated output that broadly falls into three categories - tools, guidance and procedures – and illustrates how drainage systems can be adapted so that they continue to function even though climate change and urbanisation may increase the flows that travel through them.

The authors also make more general observations about the effect of climate change and urbanisation on drainage systems in the future. These include:

- The fact that all stakeholders (property owners, property managers, Government and Agents) will need to become more engaged in the process of flood risk management for climate change effects to be dealt with in an affordable, equitable and sustainable way.
- The transfer of communal private sewers to the English and Welsh Undertakers could be a difficult transition and will further distance some stakeholders from the need to take an active interest in their drainage systems.
- A review of the way in which regulations and standards for buildings and associated drainage is defined is needed, and will require novel approaches in the revision of building regulations in England and Wales.

This summary relates to information from Science Project SC030219, reported in detail in the following output(s):

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