

Rivers may aid climate control in cities

November 17 2011

Speaking at the URSULA (Urban River Corridors and Sustainable Living Agendas) Conference, in Sheffield, Dr Abigail Hathway, of the University of Sheffield, will demonstrate how rivers can cool their local environment. Urban areas suffer increased temperatures as a result of traffic, air-conditioning systems and modern building materials which can absorb and re-radiate heat from the sun.

Water produces a cooling microclimate, absorbing some of this excess heat, helping cities stay cool. As scientists learn more about these microclimates they can start to understand how they might be manipulated to reduce overheating.

Dr Abigail Hathway, a lecturer in Computational Mechanics and Design in the University's Department of Civil and [Structural Engineering](#), has been researching the microclimate effect of the river Don, which flows through Sheffield to investigate how these principles could be put to use in [urban planning](#).

She explains: "We monitored temperatures at a number of sites close to the river Don in Sheffield and discovered that, in [hot weather](#) and during the daytime, the river has a significant cooling effect. We used computer modelling techniques to redesign a built-up area close to the river to demonstrate how these results could be put to use in designing green [infrastructure projects](#)."

Dr Hathway's research has been undertaken as part of the four-year interdisciplinary URSULA project, run by the Universities of Sheffield,

Bradford and Durham. The Engineering and Physical Sciences Research Council (EPSRC) has given just over £2.5million to fund the project.

The programme examines how [rivers](#) in urban environments could be developed to bring a wealth of benefits, from landscape enhancement to opportunities for economic development.

The URSULA Project draws to a close at the end of March 2012. The national conference at which Dr Hathway will be presenting her research today is the project's final conference.

"This has been a huge project, involving engineers, social scientists, architects and others," explains Dr Hathway. "While my work has focused on the microclimates within cities, other researchers have been looking at how architects and urban planners can use rivers to improve the environment, by improving drainage to rivers, improving habitat for biodiversity, as well as by making better use of them as a recreational space."

Provided by University of Sheffield

Citation: Rivers may aid climate control in cities (2011, November 17) retrieved 24 April 2024 from <https://phys.org/news/2011-11-rivers-aid-climate-cities.html>

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