

EGU24 Media Tip Sheet: Urban challenges

Urban environments face problems as the world changes. The issues at hand aren't just about temperature increases, but also topics like green spaces, water management, and energy needs.

Green Riyadh, Ambitious Urban Environmental Forestation Project

Saudi Arabia seeks to elevate its capital city of Riyadh to among the world's top livable cities via four megaprojects, one of which is Green Riyadh—one of the most ambitious urban forestation projects in the world. The author will discuss project details, and the goal of increasing per capita share of green space.

Mon, 15 Apr, 10:45–12:30 CEST, Hall X4, X4.60

Session [ERE1.2](#)

Transforming river morphology over 60 years of urban development

Urban development modifies river channels in many ways, including form, function and relationship to the community. In Highland Creek, Toronto, Canada, a story of near 100% urban land use has unfolded over six decades. The authors tell the tale via historic documentation of this watershed, and consider urbanization as an ongoing “re-storying” of river channels.

Tues, 16 Apr, 11:05–11:15 CEST, Room -2.20

Session [GM11.2](#)

Fecal recontamination of infiltrated water in Dutch Managed Aquifer Research systems; 20 years of field research

The western Netherlands relies on drinking water sourced from the Meuse and Rhine rivers. The water goes through several cleansing steps, including a way to efficiently remove unwanted microorganisms to produce drinking water that's microbiologically safe. Though verified by past studies, fecal indicator organisms have been found. Scientists sleuth the source of contamination.

Tues, 16 Apr, 17:05–17:15 CEST, Room 2.44

Session [HS2.3.8](#)

Can your Smartwatch Measure Ambient Air Temperature?

How do humans experience heat as they navigate urban environments? This study develops a model for air temperature in changing outdoor settings via wearables—smartwatches equipped with sensors to measure air temperature, relative humidity, skin temperature and heart rate.

Wed, 17 Apr, 09:15–09:25 CEST, Room F1

Session [CL2.5](#)



Evaluating Urban Form Influence on Solar Exposure and Corresponding Building Energy Demands

Urban areas are growing in both size and number. Urban form—buildings' height, wall orientation, roof slope, construction material, and more—can impact solar radiation, which in turn impacts energy performance. Here, researchers consider the influence of shadow from surrounding buildings, using a Munich neighborhood as a case study.

Wed, 17 Apr, 09:45–09:55 CEST, Room 2.24

Session [ITS1.5/NP8.6](#)

Modelled outdoor temperature effects and heat-related mortality impact of cool roofs and rooftop photovoltaics in London

High-albedo roofs, or “cool roofs,” can lower air temperature in urban areas. Regional authorities in the UK have set targets for rooftop solar panel capacity, but some argue that this may increase temperature. Here, a team of researchers models the impact of cool roofs and rooftop photovoltaics on urban air temperature during the hot summer of 2018.

Wed, 17 Apr, 12:05–12:15 CEST, Room F1

Session [CL2.5](#)

Twin storms and the performance of storm surge barriers

In early 2022, four severe storms struck the Netherlands, with the latter three hitting the Dutch coast in only four days. This work considers how well the Dutch flood protection system dealt with such closely spaced storms, with a focus on the Maeslant barrier, which automatically closes when Rotterdam is threatened by floods.

Wed, 17 Apr, 16:15–18:00 CEST, Hall X4, X4.8

Session [OS2.4](#)

Transforming public spaces towards user-friendly, climate resilient and energy producing spaces - the BARTLETT

In urban areas, temperature and precipitation intensity are on the up, and may be exacerbated by building morphology and pervasive sealed surfaces. This study considers how to transform the highly frequented Viennese public space, the Volkerplatz, into a climate-resilient, user-friendly and energy-generating space.

Thurs, 18 Apr, 10:45–12:30 CEST, Hall X5, X5.215

Session [CL2.5](#)



[Assessing the vulnerability to climate change of tree species for urban afforestation](#)

Planting trees in urban areas adds ecosystems services while addressing challenges like heat-island effects. However, species selection for urban forests should be based in part on local future climate conditions. Scientists propose a method for selecting appropriate tree species that works for any place in Europe.

Thurs, 18 Apr, 15:05–15:15 CEST, Room 2.24

Session [ITS4.6/SSS0.1.5](#)