

Flagship: Cooling Cities – the urban climate of tomorrow

With a changing climate we can expect more extreme weather: ranging from intense rain events to more frequent and longer lasting heat waves. The impact of heat episodes is even stronger in cities, where the asphalt and concrete that make up our towns absorb heat during the day and release it at night: the Urban Heat Island. The impacts of urban heat are manifold: increased morbidity and mortality; worsened air quality; altered water cycles; energy blackouts; and dysfunctional rail, road, quays and bridge infrastructures. High-resolution urban hydrometeorological models will be crucial to assess the impact of adaptation plans in the cities of the future. Additionally, we need to know which areas are in the most urgent need for adaptation measures, which we can only do through rigorous monitoring of urban areas. For this, the connection to the citizens is crucial: we need their input on actual climate-related issues, and they can assist in our measuring programs through citizen science observations.

Our goal is to develop and employ a fully-integrated observation-modelling program, with the objective of assessing the effectivity of urban planning and design strategies (e.g., green, blue, and sustainable solutions) in improving the urban living environment, both indoor as well as outdoor.

About Arjan Droste

Dr. Arjan Droste works as Assistant Professor in the department of Water Management at the faculty of Civil Engineering at TU Delft. His research focuses on understanding the urban climate, and the flows of wind, water and energy in the complex urban terrain. In particular he is interested in innovative techniques to obtain urban climate data: for instance the use of mobile phone data to calculate estimates of urban heat, or the potential of small weather stations that citizens have in their gardens to gain valuable knowledge of the urban climate at the smallest scales.



Contact details:

E: A.M.Droste@tudelft.nl

T: (+31) 06 103 96 4 96

A: Room 4.90, building 23 (Faculty CEG), Stevinweg 1, 2628 CN, Delft

<https://www.researchgate.net/profile/Arjan-Droste>