Special Issue

Urban Thermal Environment Evolution, Theoretical Analysis and Strategies for Mitigations and Adaption

Message from the Guest Editors

Across the world, the urban heat environment is getting increasingly intense under the joint effects of global climate change and anthropogenic activities. Although the urban heat environment has received great attention in the urban climate community, fine-scale spatiotemporal research is still lacking. This Special Issue aims to combine multi-technology to investigate: *(1) the evolution of SUHI (Surface Urban Heat Island), CUHI (Canopy Urban Heat Island), LST (Land Surface Temperature), Ta (Air temperature) due to urbanization; (2) theoretical analysis of urban thermal environment; (3) heat mitigation and adaption measures.* The main topics of this Special Issue include but are not limited to:

- *Impact of urban extension and vertical growth on SUHI/CUHI/LST/Ta;*
- *High-resolution spatiotemporal analysis of SUHI/LST and CUHI/Ta;*
- *Impact of 3D urban morphology (e.g., building and trees) on LST and Ta;*
- *Anthropogenic activities impact on SUHI, CUHI, LST and Ta;*
- *Heat mitigation measures, e.g., blue-green space, urban ventilation, building and street properties (e.g., shape, materials, reflective surfaces), and so forth;*
- *Outdoor thermal comfort simulation (UTCI, PET etc.).*

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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