Special Issue

Multi-Physics and Chemistry of Urban Climate Modelling

Message from the Guest Editors

We invite research articles that advance our understanding of multi-physics and chemistry of urban climate modelling. Topics of interest include, but are not limited to, the following: 1) Interaction of dynamic force and thermal buoyancy effect on urban airflow and ventilation, urban thermal stress/comfort, and pollutant dispersion/air quality.
2) Integrated effects of building morphologies and other urban parameters on urban airflow, pollutant dispersion, and urban heat island/energy consumptions.
3) Influence of urban tree planting/water bodies, etc., on urban thermal/humidity environment as well as outdoor thermal comfort, urban evaporation, latent heat fluxes, etc.
4) Modelling of urban energy balance and urban canopy parameterization.
5) Integrated impacts of turbulent pollutant dispersion and photo-chemical reactions.
6) Interaction of building physics (indoor) and urban physics (outdoor).
7) Interaction of micro-scale urban physics and meso-scale atmospheric physics.
8) Interaction between urban micro-climate and building energy consumption.
9) Interactions of chemical reactions and urban turbulent dispersion.
10) Influence of multi-scale urban climate on human health.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 21.6 days after submission; acceptance to publication is undertaken in 3.9 days (median values for papers published in this journal in the first half of 2025).