



Special Issue Reprint

Geographical Analysis and Modeling of Urban Heat Island Formation

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This Special Issue explores the fascinating topic of urban heat islands (UHIs), examining them from temporal and spatial perspectives. We embark on a journey that focuses on the essential impacts of UHI formations, including land use composition, city characteristics, and anthropogenic factors. Our objective is to raise awareness of the many facets of UHIs and their significant effects on urban environments and sustainability. This collective aim is to further strengthen urban sustainability through a deeper understanding of UHI dynamics. This volume includes a wide range of topics related to UHIs, including cutting-edge methods and datasets for capturing UHI phenomena. We investigate the spatial interactions between UHI intensity and land use/cover distribution within metropolitan areas, examine the geographic patterns and processes underlying UHIs in sprawling cities, and analyze the spatial differences in UHI intensity between developing and developed countries. Additionally, we focus on UHI catastrophe mitigation and adaptation measures, which are crucial for setting sail for a sustainable urban future. Finally, we engage in the critical work of prediction and scenario analysis, equipping policymakers and urban planners with the insights necessary for informed decision-making. We express our thanks to the researchers, academics, and contributors who have made this Special Issue possible as we begin this investigation into urban heat islands. We aim to foster a comprehensive understanding of UHIs and contribute to the broader discourse on urban sustainability.



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