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Special Issue Reprint

Advanced Studies on Climate Change in Urban Areas

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Urban areas around the world are increasingly vulnerable to climate change, particularly to heat waves, which have a significant impact on the well-being and health of urban populations due to increasing thermal discomfort. This Special Issue focuses on improving climate resilience in urban environments through cutting-edge research and innovative solutions characterized by interdisciplinary approaches that integrate climate science, urban planning, engineering, public health, and environmental sustainability. This collection of scientific articles aims to promote advanced technologies, emphasize strategies to mitigate the effects of heat waves, and improve thermal comfort. Its scope includes innovative technologies for monitoring and mitigating urban overheating, nature-based solutions, and green infrastructure to enhance urban cooling. It also covers urban design and planning strategies aimed at improving thermal comfort, climate-responsive building designs and materials, and the use of remote sensing and data analytics, including AI and big data analysis, for urban climate resilience.

This Special Issue further highlights the socio-economic and environmental impacts of heat waves on urban populations and presents adaptation and mitigation strategies for future urban climate scenarios. By disseminating knowledge on emerging research, technologies, and effective strategies, it aims to contribute to the development of more sustainable, livable, and resilient cities.



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