

## Special Issue

# Exploring the Urban Heat Island and Its Mechanisms Based on Satellite and AI

### Message from the Guest Editors

Urban Heat Island (UHI) effects, i.e., where urban areas experience significantly higher temperatures than their rural surroundings, pose serious challenges to public health, energy consumption, and urban sustainability. With rapid urbanization and climate change intensifying these effects, understanding the spatial and temporal dynamics of UHI has become a critical research priority. Remote sensing technologies, particularly satellite-based observations, offer powerful tools for monitoring land surface temperatures, vegetation cover, and urban morphology. Meanwhile, artificial intelligence (AI) and machine learning techniques are revolutionizing the analysis of complex geospatial data, enabling the more accurate modeling and prediction of UHI phenomena. This Special Issue aims to collate cutting-edge research that leverages satellite remote sensing and AI to explore the mechanisms, impacts, and mitigation strategies of Urban Heat Islands. It aligns closely with the scope of *Remote Sensing*, emphasizing the integration of advanced Earth observation technologies with intelligent data analytics to address pressing environmental and urban challenges.

---

### Guest Editors

Prof. Dr. Charles Man Sing Wong  
Dr. Majid Nazeer  
Dr. Xin-Yu Yu

---

### Deadline for manuscript submissions

31 October 2026



## Climate

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 5.7



[mdpi.com/si/260315](https://mdpi.com/si/260315)

*Climate*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[climate@mdpi.com](mailto:climate@mdpi.com)

[mdpi.com/journal/  
climate](https://mdpi.com/journal/climate)





# Climate

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 5.7



[mdpi.com/journal/  
climate](https://mdpi.com/journal/climate)



## About the Journal

### Message from the Editor-in-Chief

*Climate* (ISSN 2225-1154) was established in 2013 to provide an open-access outlet for innovative research, review articles, new direction papers, and short communications relevant to all disciplines related to climate at all scales. The journal encourages papers ranging from climate change detection and attribution and Earth system modeling to ecosystem, hydrologic, and socioeconomic impacts and climate mitigation and adaptation measures. The influence of *Climate* is strong and growing (IF 3.2 in 2024, CiteScore 5.7 in 2024).

---

### Editor-in-Chief

Dr. Timothy G. F. Kittel  
Institute of Arctic and Alpine Research, University of Colorado Boulder,  
Boulder, CO 80309-0450, USA

---

### Author Benefits

#### High Visibility:

indexed within Scopus, ESCI (Web of Science), GEOBASE, GeoRef, AGRIS, and other databases.

#### Journal Rank:

JCR - Q2 (Meteorology and Atmospheric Sciences) /  
CiteScore - Q2 (Atmospheric Science)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 20.8 days after submission; acceptance to publication is undertaken in 3.8 days (median values for papers published in this journal in the second half of 2025).