

Special Issue

The Applications of Artificial Intelligence (AI) in Climate Sciences

Message from the Guest Editors

Given the exciting opportunities, new approaches, and innovative methodologies that AI brings to climate sciences, there is a compelling need to consolidate these advancements. This Special Issue of *Atmosphere*, titled "The Applications of AI in Climate Sciences," aims to do just that. The focus of this Special Issue includes, but is not limited to, the following topics:

- **Machine Learning Techniques and Applications in climate modeling, weather forecasting, data analysis, and more**
- **Artificial Neural Networks (ANNs) in Climate Science**
- **Large Language Models (LLMs) in Climate Research**
- **Enhancing Data Quality and Consistency**
- **Homogenizing Historical Climate Data**
- **Downscaling Global Climate Models to Regional Scales**
- **AI in Climate Adaptation and Mitigation Strategies...**

Guest Editors

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Deadline for manuscript submissions

closed (31 January 2025)



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Impact Factor 2.3
CiteScore 4.9



mdpi.com/si/212972

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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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