

## Special Issue

# Understanding the Spatio-Temporal Characteristics of Climatic Extremes: Insights from Regional Climate Modeling

### Message from the Guest Editors

Climatic extremes such as droughts, heavy precipitation events, and heat waves exhibit significant spatio-temporal variability and have a profound impact on humans and ecosystems across various regions of the world. A deeper understanding of these climatic extremes and their drivers is crucial for assessing and mitigating risks to economic and societal activities. Over the past two to three decades, regional climate models (RCMs) have emerged as a powerful tool for understanding and predicting climatic extremes at regional and local scales. Although RCMs have made significant advancements in representing the spatio-temporal characteristics of climatic extremes, understanding their underlying physical mechanisms has not received as much attention, an aspect specifically addressed by this Special Issue. This issue welcomes papers that address our understanding of regional climate processes and the challenges and opportunities associated with high-resolution climate simulations, as well as research on enhancing these modeling techniques. Special attention will be given to papers that understand the physical mechanisms leading to climatic extremes.

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### Guest Editors

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### Deadline for manuscript submissions

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## Atmosphere

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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!

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### Editor-in-Chief

Dr. Daniele Contini

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