



Climate Modeling for Renewable Energy Resource Assessment

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Message from the Guest Editors

This Special Issue of Atmosphere aims to notes on how climate modeling serves and helps to perform renewable energy assessments (abundance, variability, predictability, vulnerability, feasibility, and the optimization of development projects), as well as on how currently available climate modeling tools and techniques could, or would need to, be improved for such a purpose.

A good understanding and characterization of the behavior of variable renewable energy resources, such as wind, water, and solar radiation, is key to making advances in the design and implementation of smart climate change mitigation strategies. Renewable energies are also needed to achieve clean atmospheres, to favor the development of poor regions worldwide, and to ensure energy supply and security beyond political conflicts. The meteorological and climatic dependence of these resources implies intermittence in their availability, which poses a major flaw compromising the societal and economical commitment to them, and a grade of vulnerability to changes in climate. What can we learn about renewables using climate models? What are their main constraints for such a purpose?





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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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