Special Issue

Climate Modeling and Dynamics

Message from the Guest Editors

Great challenges remain within areas such as global rainfall simulation, the double-ITCZ, and regional-to-global-scale climate variability (ENSO, NAO, AMV, etc.) due primarily to limited observations, deficient theories, and imperfect representations in climate models. To further our understanding of our climate system and climate modeling, we are calling for original research papers related to climate modeling and dynamics in this Special Issue. For example, studies could focus on a quantitative understanding of the characteristics, variability, and underlying mechanisms of a wide range of climate variability ENSO, NAO, AMV, PDO, etc.) through climate modeling; studies could also address their regional and global influences and adaptions, or could evaluate climate model performances on, for example, global monsoon rainfall and circulation or extreme weather events. Additionally, studies using machine learning to improve climate models would be of great interest. Paleoclimate modeling and direct data–model comparison are also encouraged, in particular with explicated geophysical and geochemical tracers.

Guest Editors

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Dr. Jun Cheng

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Deadline for manuscript submissions

closed (31 October 2022)

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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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