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Advances in Understanding, Simulating and Predicting Extreme Climates in Northern Hemisphere

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Deadline for manuscript submissions:
closed (30 June 2021)

Message from the Guest Editors

For the simulation of extreme climates, we expect to know how well numerical models can simulate extreme climates in different areas such as Asia and Europe, the multi-time scale variability of extreme climates, and the driving factors in numerical simulations. In particular, we expect to better understand the links/teleconnections between tropical air–sea interaction, Arctic sea ice, snow cover, and the extreme climates in numerical simulations. For the prediction of extreme climates, we expect to know the predictability of extreme climates based on dynamic models, physical–empirical models, statistical models, dynamic–statistical models, and deep learning approaches. Particularly, it is essential to unveil the sources of the predictability of extreme climates and the key factors that affect the prediction of extreme climates.

In this context, for this Special Issue of *Atmosphere*, we are calling for submissions related but not limited to the above questions. Articles that may make a contribution to a better understanding of the simulation and prediction of extreme climates are invited.

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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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