Special Issue

Advances in Severe Weather Forecast

Message from the Guest Editor

One of the most important challenges in atmospheric science is extreme weather event forecast. This issue is not the relation with climate change but the study of the phenomena from the very-short-range to the medium-range point of view, considering both deterministic and probabilistic approaches. High-resolution numerical weather prediction models or global models may be considered. Sensitivity studies on data assimilation and physical parametrizations are welcome, together with analysis of the performance of operational simulations in selected case studies. Moreover, a crucial point is the objective validation of the forecast which can be performed with various types of observations. Summarizing, this Special Issue aims to provide an overview of the most recent applications of NWP in the following (not exhaustive) list of topics: Extreme precipitation (both rain and snow); Heatwaves; Windstorms; Dust Storms; Thunderstorms; Mediterranean/tropical cyclones; Typhoons, Hurricanes, Tornadoes; Hailstorms.

Guest Editor

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Deadline for manuscript submissions

closed (22 January 2024)

Atmosphere

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Impact Factor 2.3
CiteScore 4.9

mdpi.com/si/155734

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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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