

## Special Issue

# Machine Learning for Extreme Events

### Message from the Guest Editors

Extreme events, such as heat waves, droughts, wildfires, floods, landslides, tornadoes, and hurricanes, are of interest worldwide due to their social, ecological, and technical impacts. Novel scientific machine learning approaches have been introduced and integrated with success and have the potential to enable transformational advances in the efficiency and effectiveness of predicting and managing earth system extremes by automatically learning multiphysics and multiscale processes based on observational or simulation data and extracting meaningful metrics for making decisions. We seek contributions in ML-based extreme event analyses which include but are not limited to: data engineering to make extreme events information findable, accessible, interoperable, and reusable (FAIR) for ML; exploratory data analysis, pattern recognition, and signature discovery for extreme event understanding; system complexity reduction or identification of influential drivers of extremes; and physics-informed ML and ML-guided numerical modeling, experimental design, and decision-making.

### Guest Editors

Dr. Zhangshuan Hou

Earth System Data Science, Pacific Northwest National Laboratory, Richland, Washington, DC 99352, USA

Dr. David Judi

Earth System Prediction and Resiliency, Pacific Northwest National Laboratory, Richland, WA 9935, USA

### Deadline for manuscript submissions

closed (15 July 2021)



## Atmosphere

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*Atmosphere*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[atmosphere@mdpi.com](mailto:atmosphere@mdpi.com)

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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

Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

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