



## Modeling and Measuring Snow Processes across Scales

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### Message from the Guest Editor

Snowfall and snow cover play a very important role in the climate system, modifying the global energy budget because of its high albedo. Snowmelt is also an important component of the hydrologic process in many mountainous environments as well as in polar regions. The increase in surface temperatures has relevant cryospheric consequences for polar and high-elevation regions, where snow is a dominant climatic feature. Higher temperatures may result in shifting from solid to liquid precipitation, earlier snowmelt, reducing snow cover extent, and shortening of the snow cover duration. Although much progress has been made in understanding and predicting snow precipitation and snow cover changes and their multiple consequences, many aspects, such as snow monitoring and modeling and the impact of snow changes on ecosystems and society, remain open research topics that require further understanding.





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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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