



Arctic Climate Change: Past, Present and Future

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Message from the Guest Editors

The Arctic is changing rapidly: Temperatures are rising twice as fast as the global average, the Greenland Ice Sheet is losing mass, and permafrost is degrading in many regions. Synergistic studies of past and present changes have the potential to provide an increased understanding of the mechanisms driving Arctic climate change.

This Special Issue focuses on soliciting papers that document Arctic change and contribute to an improved understanding of these changes, both past, present and future. Examples of particularly interesting topics include, but are not restricted to

- Evolution of atmospheric and surface processes as well as their mutual coupling under a rapidly changing Arctic climate
- Prediction of changes in Arctic climate
- Budgets of heat and moisture and their changes in the Arctic
- Sea ice retreat and feedback processes
- Paleo studies of Arctic climate change
- Identification of risks for changes and tipping points in both future and past climates
- Coupling between the Arctic and lower latitudes
- Implications of Arctic climate changes on regional and global scale.
- Studies that use the paleo climate understanding to describe future changes





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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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