



Permafrost Peatlands under Rapid Climate Warming

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Message from the Guest Editor

Permafrost peatlands are the planet's most important organic carbon pool. The current thawing of these peatlands releases carbon that has accumulated in the permafrost for millennia. This release occurs mostly in the form of greenhouse gases (CO₂ and CH₄). Understanding of these processes is crucial for predicting catastrophic climate scenarios and their global consequences for humanity.

This Special Issue welcomes articles dedicated to all aspects of the behavior of carbon between soil, waters, and atmosphere. Of special interest are papers dealing with the fate of greenhouse gases due to the impact of climate change and human activities on aquatic ecosystems of high latitude and mountain peatlands, including both anthropogenically altered and pristine regions. Papers on field, experimental, and modeling studies related to gas emission and uptake fluxes, carbon, nutrient, and metals in permafrost peatlands may focus on climate warming, permafrost thaw, floods, fire, and vegetation regime change, though other contexts are also of interest.





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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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