

Special Issue

Advances in Forest Carbon, Water Use and Growth Under Climate Change

Message from the Guest Editors

Forests play a key role in coupled land–atmosphere exchange processes, which determine a range of ecosystem services. But how will forest functions of the future change in the face of climate change? Answering this question is critical if we are to understand feedback in the carbon and climate systems at multiple spatiotemporal scales, as forests are essential in regulating global carbon and water cycles and are critical in terms of mitigating climate change. When forecasting responses to climate change for trees, such changes may influence plant growth via several pathways and these effects can be integrated with the metrics of water use processes such as runoff, infiltration, evapotranspiration and water retention. Meanwhile, the climate sensitivity of plant growth, such as seasonal life cycles, phenology or growth strategies also impart significant carbon cycle feedbacks that in turn influence climatic change. Therefore, a better understanding of changes to forest carbon, water use and growth, and their potential feedback relationships is essential for improved predictions of forest dynamics under climate change.

Guest Editors

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Deadline for manuscript submissions

closed (27 June 2025)



Forests

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CiteScore 4.6



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