Modeling Forest Physiology under Climate Change

Guest Editor:

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Message from the Guest Editor

Plant physiology regulates forest functioning and modulates carbon, water, and energy fluxes. Climate change drivers such as rising CO_2 concentrations, higher temperatures, and changing rainfall patterns are expected to affect plant physiological behavior. In addition, more frequent or intense extreme events such as droughts and heatwaves may have widespread and long-lasting impacts on future forest dynamics. Consequently, there is a strong need to understand how vegetation will respond to a changing climate and how these responses affect water, carbon, and energy fluxes as well as forest functioning and resilience in future environments. Models are useful tools for understanding and attributing observations to underlying processes, for investigating the effects of different drivers and the interactions among them, as well as for predicting the future state of forest ecosystems.

For this Special Issue, I invite contributions investigating a wide range of plant physiological responses to climate change in forests from the leaf to the global scale. All contributions that include theoretical, process-based, or data-based modeling approaches are welcome.

Special Issue

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