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Patterns, Drivers, and Multiscale Impacts of Wildland Fires

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Message from the Guest Editors

Global warming combined with inter-annual climate phenomena such as El Niño Southern Oscillation (ENSO) cause increased risks of wildfires hazards worldwide. Recent fire seasons have shown a new scale of widespread wildfires around the globe with special examples in the tropics, wetlands such as the Pantanal, the Mediterranean region, and the boreal forests of Canada, Siberia, and also the Nordic Countries. Dealing with increasing fire frequencies and areas burned, land ecosystems require novel assessment approaches in anticipating fire risks at local and regional scales, as well as better understanding of fire impacts on the ecosystem and their services, including biodiversity. This special issue aims at featuring historical and current patterns of wildfire dynamics, methodologies to identify local and regional fire-related drivers of ignition and fire propagation, impact assessments of burned areas, GHG emissions, and hazard effects. This includes articles using mechanistic fire modeling, remote sensing and ground-truthing, statistical and data analysis, machine learning methods, emissions modeling/GHG assessments, as well as empirical work.



