



*forests*

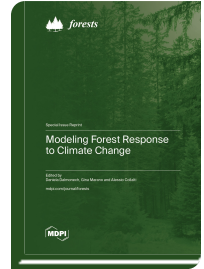


*Special Issue Reprint*

## **Modeling Forest Response to Climate Change**

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ISBN 978-3-7258-1757-3 (Hardback)  
ISBN 978-3-7258-1758-0 (PDF)

The uncertainties surrounding climate change raise crucial questions about the ability of forest ecosystems to buffer against current and future climate-induced global changes while continuing to provide essential ecosystem services, as demanded by society and advocated by future policies such as the European Green Deal. Climate-induced extremes could profoundly affect medium- to long-term forest dynamics—including growth, competition, and mortality—along with forest structure and biodiversity. In this era of unprecedented climate shifts, understanding the intricate responses of forest ecosystems to these changes is paramount. In this Special Issue, we collected 13 studies that introduce new methods, novel applications, and innovative designs to: i) model the impacts of climate change on medium- to long-term forest dynamics; ii) assess the impacts of climate change on the delivery of crucial ecosystem services across all forest ecosystems; and iii) analyze, assess, and quantify the impact of climate-induced disturbances on the forest carbon cycle, water dynamics, and overall forest productivity, utilizing data-driven, modelling, and dynamic approaches.



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