

Special Issue

The Effects of Stresses and Disturbances on Forest Trees: Ecosystem and Physiological Responses

Message from the Guest Editors

Forest trees and ecosystems exhibit complex physiological and ecological responses to environmental changes. Understanding how individual and combined environmental drivers impact forests is vital for predicting their resilience and health. Research is needed on various stress factors and disturbances affecting tree physiology and forest health, particularly in complex interactions like combined heat and drought stress, storms, windbreaks, atmospheric deposition, climate change, forest fires, and erosion. Tree and forest responses vary across environmental gradients. For example, water availability and temperature influence water transport, chemical defenses, and non-structural carbohydrate dynamics, ultimately affecting tree vitality. Interactions with pests and pathogens add further complexity to forest ecosystems. We invite studies on forest tree responses and physiological mechanisms, using data from controlled environments, field research, monitoring, and innovative experimental and modeling approaches.

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, and conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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