

Special Issue

Physiological and Ecological Responses of Arctic and Alpine Plants to Climate Change

Message from the Guest Editors

Arctic and alpine ecosystems are among the most climate-sensitive regions on Earth. Under accelerating global warming, shifting precipitation patterns and intensified ultraviolet radiation, plants in cold-climate environments face unprecedented challenges to their survival strategies, community structure, and ecological functions. However, critical knowledge gaps remain in our understanding of the physiological adaptation mechanisms, interspecific interaction, and long-term impacts of community dynamics on ecosystem functioning. Unraveling how vulnerable cold-climate plants respond to intensifying climate changes is a pivotal scientific question with far-reaching global implications. This Special Issue aims to synthesize recent multidisciplinary advances and original research on the responses of cold-climate plants, deciphering the physiological and ecological mechanisms underlying arctic and alpine plant responses to changing climate, providing scientific foundations for biodiversity conservation and management strategies.

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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, 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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