



Alpine and Polar Treelines in a Changing Environment

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Message from the Guest Editor

Concerns have been raised concerning high-altitude and high-latitude treelines, as they may undergo significant ecological alterations caused by climate change. Given that treelines in high-altitude and high-latitude regions are temperature-limited vegetation boundaries, they are considered to be sensitive to climate warming. Consequently, in a future, warmer environment, a shift of treelines further upwards is expected. Despite the ubiquity of climate warming, treeline advancement is not a worldwide phenomenon: Evidence shows treelines have remained stable regardless of the reported increase in temperature. This is because a continuum of site-related factors may interact and establish locally-conditioned temperature patterns. Furthermore, competition amongst species and below-ground resources has been suggested to explain the variability in the responses observed. Finally, the importance of land-use changes for treeline dynamics is increasingly acknowledged.

In this Special Issue we explore the current knowledge about climate and land-use changes at treelines. Experimental and field studies on the effects of climate change on tree species in these ecotones are also welcome.





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