

Lichen responses to environmental change in high mountain environments

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High mountain environments are undergoing rapid climate changes, with accelerated warming and changes in precipitation resulting in decreased snow lie, glacial retreat, and increased competition from vascular plants. In addition, land use changes as a result of depopulation and decrease of traditional forms of land use and (re-) forestation in some mountain ranges occur in some areas, while at the same time, increases of intensive use with large scale deforestation, overgrazing and industrial developments (e.g. hydroelectric schemes) affect others. Even remote areas in many high mountain environments accumulate transported nitrogen due to orographic effects, and cloud and fog interception, changing nutrient budgets and resulting in losses of sensitive species and eutrophication. These effects result in changes across scales, from vegetation distribution and community composition at an ecosystem scale, down to holobiont composition and photobiont associations at a species scale, and ecophysiological and transcriptomic studies at the scale of individual thalli. This symposium brings together high mountain lichen research addressing lichen responses to environmental change.