

Submitted Abstract

ID IMC22-FSAbstr- 253

First Author First Name Last Name	Erwin (1) Rottler
Submitting Author First Name Last Name	Erwin Rottler
Correspondence	rottler@uni-potsdam.de
Co-Authors >> E-Mails will be not listed	Strasser, Ulrich (2); Bronstert, Axel (1)
Organisations	1: University of Potsdam, Germany 2: University of Innsbruck, Austria
Country	Germany
Region	Western Europe
Title	The Reinforcement Of Positive Temperature Trends By Snow Albedo Feedback Mechanisms: Spatio-Temporal Analysis Based On High-Resolution Gridded Climate Data.
Keywords	Climate Change, Temperature, Snow Albedo Feedback, Spatio-Temporal Analysis
Type	List Of Focus Session
Focus Session ID	83

Abstract

Diminishing seasonal snow covers are among the most apparent impacts of rising temperatures in mountainous areas. Changes in seasonal snowpacks have the potential to fundamentally alter the viability of mountain ecosystems all over the world. In return, diminishing snowpacks can reinforce positive temperature trends by snow albedo feedback mechanisms (SAF). A profound understanding of SAF is key to assess future changes of temperature characteristics along the elevation range. In this study, we aim to track the impact of SAF on temperature in space and time using high resolution gridded observational datasets for the area of Trentino-South Tyrol (north-eastern Italian Alps). Particular focus is on the quantification and visualization of potential and actual reinforcement of rising temperatures by SAF depending on elevation. First results confirm the potential of selected datasets to resolve historic changes in snow cover and temperatures in high temporal and spatial resolution.