

## **Zwei Alpentäler im Klimawandel**

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Source: Mountain Research and Development, 32(2) : 256

Published By: International Mountain Society

URL: <https://doi.org/10.1659/mrd.mm100>

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## Zwei Alpentäler im Klimawandel

Edited by Ingeborg Auer, Franz Pretenthaler, Reinhard Böhm, and Herwig Proske. *Alpine Space—Man & Environment*, Vol. 11. Innsbruck, Austria: Innsbruck University Press, 2010. 199 pp. € 18.90. ISBN 978-3-902719-44-7.

This book tells a story of change: the “Tale of Two Valleys” in the Austrian Alps. The story begins a long time before man had started to influence the climate and landscapes, and it ends in the future. The research project “Tale of Two Valleys” was initiated to understand interactions between climate, landscape, and economics, and to recognize local and regional challenges for the Mölltal and Rauris valleys in Upper Tauern, Austria. Scientists from many disciplines collaborated with local people, including schoolchildren, to develop scenarios about how to respond locally to the challenges of climate change. The essence of that research project has now been assembled in *Zwei Alpentäler im Klimawandel*.

The book is structured into 4 different sections: (A) climate change in Upper Tauern, (B) the landscape of the two valleys, (C) economics, and (D) regional perspectives for the future of the communities of Rauris and Flattach. The authors describe

“how climate functions and the climate have changed over the past 800,000 years. Without an understanding of past climate changes, it is difficult to judge ongoing climate change. For recent climate change, illustrations show impressively how temperatures have increased by c. 2°C since the end of the Little Ice Age in c. 1850. This temperature increase has been about two times higher than the global average, which demonstrates how much faster these mountain regions have warmed than the rest of the world.

The one climate element that is of particular concern, according to the authors, is snow cover. Be it that snow occurs in large amounts in extreme years or that it is almost absent in dry or mild winters, both situations pose large challenges and problems for the local people. The change in precipitation as snow at different elevations is interesting as well. Although winter precipitation as snow has clearly decreased in the past 30 years at elevations below 1000 masl, the change is much less visible at higher elevations and almost unnoticeable at 3100 masl. Glaciers, which are excellent indicators of temperature and precipitation changes, have retreated considerably in the entire area during the past 30 years. Another interesting change is the increase in forest cover. In the community of Rauris, the forest cover has increased from 17% in 1871 to 35% today, which is

probably more an indication of land-use changes than of climate change.

The economy of the communities also has changed considerably in recent decades, partly because of the development of winter tourism: in Flattach, the number of overnight stays by tourists is 5 times higher today than in 1973. Finally, the book explores regional perspectives for the future of the communities of Rauris and Flattach. Three different future scenarios were investigated: the age of sustainability (promotion of renewable energy), the triumph of global markets (liberalization of markets at the cost of sustainability), and the cultural heritage of Europe (conservation of the social welfare state). The authors emphasize that the 3 scenarios merely reflect 3 possible developments. Which path the socioeconomy of the region takes will largely depend on regional and local decision-makers.

The “Tale of Two Valleys” shows how science and nonscientific practice can stimulate each other to find solutions for societal problems.

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