

Book Review

Orlove, B., E. Wiegandt and B. H. Luckman (eds.) 2008. *Darkening Peaks. Glacier Retreat, Science, and Society*. Berkeley and Los Angeles: University of California Press.

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Here is a valuable synthesis of the contemporary knowledge about the state of world glaciers, taking into account the global importance of the phenomenon of recent glacial retreat, its recent evolution especially in the context of global warming, and the social, cultural, and political aspects of their presence and retreat. This book follows an important symposium held in Wengen (CH), where many specialists of various disciplines and from various regions of the world gathered in October 2004. This event was one of the very few international meetings willing to adopt an encompassing analysis of glaciers, addressing both natural and social dimensions.

The book remains very close to this objective. First, it delivers factual information on glaciers at the world (about 680 000 km² or 5% of the glacierized areas) and regional scales (Watson et al. for the Cascades, Zemp et al. for the Alps, Andreassan et al. for Norway, Mölg et al. for the Kilimandjaro, Hay and Elliott for New Zealand). Besides Haeberli recalls the history of scientific knowledge on the topic and, symmetrically, at the end of the book, a contemporary panorama of scientific research and monitoring instruments is given by Knubel, Greenwood and Wiegandt.

Second, it gives a good overview of the various manifestations and consequences of glacier retreat. It usefully recalls the pace of the retreat, its various modes and causes (global warming, changes in precipitation, ice melting, rock avalanches and other glacial disasters, etc.) and the threat of seeing many glaciers disappear during the present century.

Third, it gathers a very valuable, because even less common, set of observations on social and cultural relations to glaciers. Some chapters focus on the mythical or emblematic role of glaciers (Rhoades et al. for Mama Cotacachi in Ecuador,

Wolf and Orlove for Mt Shasta in the Cascades range); others on the long-term or short-term changes of these social and economic relations to glaciers (Wiegandt and Lugon for the Swiss Valais), etc. Altogether several chapters provide an overview of the main social impacts of the glacier retreat: changes in water resources and uses (Corripio et al. for the Aconcagua-Loma Larga region), in tourism attractivity and activities (Smiraglia et al. for the Vedretta Piana and Miage glaciers in Italy); increase in number of natural hazards and disasters; the challenge on local identities, cultural traditions, and international relations (Luterbacher et al. for Central Asia); the various, and sometimes competing, forms of collective and institutional adaptation (Agrawala for Nepal, Carey for Central Peru).

A major characteristic of this book is the combination of various scales of observation and analysis. Though many observations remain grounded at a local or regional scale, it is nowadays possible to build a global view of the state of glaciers and the natural risks related to their retreat. The improvement of normalized instruments and comparative methodologies (see for example Huggel et al. on glacial hazards) has played a decisive role in this multi-scalar (local, regional and national, global) approach. The issue of scale is also well underlined when Orlove, Wiegandt and Luckman recall that the people most affected by the glacier retreat are not those most responsible for global warming. However, since natural and social phenomenon greatly differ, it is still very difficult to build a global understanding of the socio-economic, cultural, and political consequences of the actual changes observed in glacier retreat in terms of social risks, collective adaptation and economic issues.

What can be learned from this book for those who are especially involved in research on commons and common goods? Though the book is not mainly devoted to this issue, it delivers interesting information on various topics: some chapters deal with the question of the rights of local people used to taking advantage of water resource when this resource happens to be exploited by foreign companies, or when a Canadian mining company plans to remove huge sections of a Chilean glacier for reaching copper ore (Brenning); other chapters show the progress of a global concern about this natural feature, and of a common will to build a global knowledge of it. However, a specific analysis on the commonality of glaciers in terms of property, rights and collective feelings, at various scales, is still lacking.