

## **A Message from the Tatra: Geographical Information Systems and Remote Sensing in Mountain Environmental Research**

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## A Message from the Tatra: Geographical Information Systems and Remote Sensing in Mountain Environmental Research

Edited by Wojciech Widacki, Andrzej Bytnerowicz and Allen Riebau.  
Kraków, Poland: Jagiellonian University Press, 2004. 233 pp. €20.00.  
ISBN 83-233-1843-3.

This book presents an edited selection of papers from the Environment-Mountain conference, held in 2002—the year designated by the United Nations General Assembly as the International Year of Mountains in order to “elevate human understanding of mountains and their place, both cultural and ecological, in the life of nations.” The conference took place in Zakopane, a historic and picturesque village on the Polish side of the Tatra mountains, organized by the Jagiellonian University and other European and international organizations sharing an interest in geographic information systems (GIS), remote sensing, cartography, forestry and, above all, mountains.

As reflected in the contents of the book, the conference addressed various environmental topics—air quality, photogrammetry, geostatistics and ozone distribution, education, forestry and landscape management, modeling landslide hazards, land cover mapping and classification, and visualization—within the overall mountain theme, being based on research in various European ranges (with 5 papers on the Tatra), the Appalachians, Rocky Mountains, and the Himalaya. The 15 main papers are introduced in a short preface written by the editors that both informs and entertains. The book makes effective use of color throughout.

This said, I struggle for innovative and interesting ways to review the book's main contents. It is exactly what you would expect from a

selection of conference papers. They have a common theme—in this case mountains and GIS and remote sensing—but, aside from that, there is little else to hold them together. They are of a high enough quality to appear in a refereed journal, and if I were to single out a couple for direct praise I would venture those by Allen Riebau on managing alpine air quality and by Pece Gorsevski, Paul Gessler, and Piotr Jankowski on prediction of landslide hazard using fuzzy k-means and Bayes Theorem. The inclusion of 2 papers on geostatistics and ozone distribution seems a little odd, and I wonder to what extent they could have been merged.

I would not rush out and buy this book; rather it is one I would borrow from the reference library. There are better books on mountain GIS, such as Price and Heywood (1994), but this is now a little out of date. The current volume could serve as a useful appendix by adding more up-to-date research. So, in short, this is where I'll put my review copy: on the shelf next to Price and Heywood's book.

### REFERENCE

Price MF, Heywood DI. 1994. *Mountain Environments and Geographic Information Systems*. London, UK: Taylor and Francis.

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## Between Global and Local: Marginality and Marginal Regions in the Context of Globalization and Deregulation

By Walter Leimgruber. Aldershot, UK: Ashgate, 2004. xv + 321pp.  
US\$89.95, £45.00. ISBN 0-7546-3155-9.

Walter Leimgruber's book on marginality has grown out of the work of the International Geographical

Union's Commission on Evolving Issues in Geographical Marginality, as well as seminars at the Department of Geography at the University of Fribourg, Switzerland, where he has been working for many years. It is a bold and very personal attempt to grasp the nature of marginality at different scales and in various times and spaces, exploring how this ties in with the wider trends of globalization and deregulation. It is a call for marginality to be taken seriously both as a notion and as a theme for research, bearing in mind that its multi-faceted nature precludes one simple definition (p 37). Marginality is not, he writes, simply the result of these trends, but rather they “have simply reinforced what is as old as human history” (p 18). This state of affairs requires addressing the topic seriously, to avoid “the exploitation of a marginal situation by the powerful, and this on all levels” (p 282). In an academic world increasingly aware of the hegemonic position of Anglo-American scholarship, the publication in English of a book providing insight into an alternative regional geography is commendable and contributes to challenging another perverse form of marginality.

Leimgruber tackles his ambitious program as though painting a mural scene by scene, portrait by portrait, binding sections and chapters together to achieve his aim of providing a complete overview of current research, systematically and from all angles. This includes mentioning a number of different policy tools for reducing disparities between regions, as well as a clear review of regional policies for mountain areas in Switzerland and beyond (pp 46 and 244–250). Marginality as a notion therefore emerges mainly in its various effects on disparities between regions, countries, and continents, and, despite an attempt at nuance, some of these distinctions appear rather coarse, for instance within the global North–South divide figure (p 17) that reappears in several chapters.

Leimgruber quotes from a wide body of literature in at least 4 languages, including the works of such diverse authors as Ulrich Beck, Doreen Massey, Jean Piaget, Jean-Jacques Rousseau, Claude Raffestin and Ian Simmons, to quote but a few, as well as numerous reports and grey literature published by UNESCO, UNDP, WTO and nongovernmental organizations. Having laid out his conceptual framework, among others, distinguishing marginality from periphery, he addresses economic, social, cultural and environmental aspects of marginalization in a series of chapters. He concludes the book by tentatively exploring policy responses and tools for change, listening to the many voices of the marginalized themselves calling for increased participation mainly within nongovernmental organizations. He also stresses the state's role of managing regulation to decrease disparities at various scales.

This book is written from a very personal standpoint, driven by a sincere and laudable desire for social change. Leimgruber clearly states his position and personal background, including his ethical inspiration rooted in Christianity, and often uses illustrations and examples to make his point. "It is cynical," he writes, "to pretend that marginality has always been part of history and will have to continue like that into the future. To think in this way means to deprive people of all hope to step out of a hopeless situation. It is imperative to fight marginality even if we know that we cannot eradicate it" (p 18).

Opposing complacency with verve, Leimgruber takes his readers on a dizzying tour of examples ranging from angels and spirituality (p 66) to limits to growth (p 66), from legal instruments in the Alps (p 93) to the color of cows (p 115), from the Roma (p 162) to human development in Africa (p 167), or from the general design of biosphere reserves (p 213) to farming practices in Switzerland (p 221). His aim of

demonstrating how many themes can be connected to the concept of marginality is at times obscured by the sheer array of examples that are often presented in quick succession and with little transition, and inevitably, are reduced to little more than invocations. It is in the longer sections, for instance in the lengthier chapter on regional disparities within Switzerland (p 93–116) that Leimgruber demonstrates the full grasp of his subject, offering a regional description in the grand tradition of the genre. Exploring how it is not environmental factors that create marginality, but rather "the way human agents operate under certain circumstances" (p 95), he suggests that because "marginality is a normative phenomenon, defined from a particular perspective (...) it is perceived a negative attribute that has to be repaired" (p 116). This, he writes, leads to fixes where the only alternative offered is a highly material, secular and individualistic set of values linked to trade deregulation and the propagation of a single cultural standard. Leimgruber agrees with the increasing demand for better alternatives by what he dubs "the younger generation" (p 259), and calls for a more sensitive approach that takes into account local cultures and values: any solution must somehow make use of the power of the marginalized themselves.

The result of this tour-de-force, however, is at times problematic. Transforming regional description into an agenda for change is hardly straightforward, and is fraught with both theoretical and political difficulties, such as the risk of propagating a romanticism of difference rooted in reified categories, as he does in Chapter 6 when discussing ethnic difference, culture and society. He thus unwittingly further marginalizes the people he seeks to empower by considering them 'from the outside,' conjuring up an Us and Them framework, although he commendably does recognize the danger of this in his conclusion: "Do marginal

regions (more precisely: their inhabitants) have the same idea of marginal as the outsiders who define it?" (p 280). This question is indeed crucial and far from trivial. Furthermore, the choice to illustrate the book throughout with an array of empirical examples leads to a dilution of the main ideas. This is perhaps where the origin of the book does it disservice. While it might be an inspiring manifesto for further research aimed at students in a classroom struggling to construct their own research proposals on more focused topics, it somewhat fails to convince as a coherent theoretical book. Indeed it is not entirely clear who the expected audience is. The author's obvious ability to grasp the subtleties of marginality in individual cases—in the Swiss Alps, particularly—is his great strength. Nonetheless, the reader is left with a feeling of frustration that a book that promises so much and is so obviously and keenly sincere gets lost in a desire to say it all. That said, it does offer a stimulating contribution, if only by providing a proposal that will inevitably provoke debate.

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## Alpine Ecosystems in the Northwest Caucasus

Edited by Vladimir G. Onipchenko.  
Dordrecht, The Netherlands: Kluwer, 2004. xx + 407 pp. €175.00, US\$183.50. ISBN 1-4020-2382-0.

This volume contains the main results of 20 years of fieldwork in the northwest Caucasus. More than 250 people were involved in a research program based on scientific monitoring within the Teberda State Reserve in the Karachay-Cherkess Autonomous County. Political changes, long-term moni-

toring techniques, problems of funding extensive field research campaigns, the lack of appropriate publishing capacities in Russia—there are many reasons for the delay of this publication. Nonetheless it can serve as a solid basis for further research and monitoring in alpine environments; in some respects, it has an exemplary character.

The book combines a comprehensive overview with the results of in-depth research. It begins with a short introduction of the region's natural conditions before it goes into more detail, analyzing soil and nutrient turnover, the alpine plant communities and their structure and dynamics, and the population biology of alpine plants. Most investigations were made on small but representative plots. The program concentrated on four alpine communities that stand for a broad variety of the Caucasian vegetation and ecosystems: alpine lichen heath, *Festuca varia* grassland, *Geranium-Hedysarum* meadow, and snow bed community. Research comprised morphological analysis of the communities, vegetative propagation experiments, the calculation of biomass and production, and analysis of spatial structure within the vegetation communities, along with rela-

tionships between soil and plants. Moreover, it considered seasonal and long-term dynamics, including Holocene history. A broad spectrum of sophisticated measurement methods were applied, such as in-situ estimations of biomass production and approaches using similarity indices and pollen analysis. Special attention is given to the role of fungi, mycorrhiza, and microbiological processes. Thus, the volume can also serve as a methodological handbook for comparable studies in other mountain environments, and may provide valuable suggestions for international networking aiming to establish comparable standards for the monitoring of mountain ecosystems.

Unfortunately, the topics of wild fauna and human impacts on natural ecosystems are only marginally addressed. The final chapter, which discusses human activities and nature conservation problems, offers rather limited information about the historical development of the Teberda State Reserve since its designation in 1935 and the impacts of livestock grazing and conservation activities on the ecosystems. Far-reaching conflicts between different recent land users such as hikers, nature conservationists, winter sport managers, and tourism devel-

opers are neglected. The cable railway which provides access to Mussa Atchara Mountain, organized hiking tours throughout the reserve, and construction in Dombay—which did not end with the Soviet system—may exert negative influences on the ecosystems, but the publication does not explain the interrelationships between the natural and the societal system. In this respect, more interdisciplinary research is needed.

The list of references includes about 800 publications in Russian and in Western languages, providing a very valuable bibliography on mountain ecosystems in the Caucasus and in comparable regions. Regrettably, the Russian publications are only cited in English translation, not with the original Russian title. This may make access to some of them more difficult. Despite these minor critical remarks, the volume may be recommended for all interested in the Caucasus and in high mountain ecology in general, as it presents a rich diversity of scientific approaches to the study of relevant topics.

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