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Sustainable Natural Hazard Management in Alpine Environments

Edited by Eric Veulliet, Johann Stötter, and Hannelore Weck-Hannemann. Berlin, Germany: Springer, 2009. xiii + 403 pp. € 129.95, US$ 169.00. ISBN 978-3-642-03228-8.

This edited book, which comprises 13 chapters, provides an overview of the projects conducted at alpS—Centre for Natural Hazard and Risk Management during the period 2002–2008. Based in Innsbruck, Austria, the research center was established in response to an increased frequency of natural disasters towards the end of the 1990s, with a vision of conducting "…unified natural hazard research" (p v). The latter has involved bringing together scientists, social scientists, and engineers from a range of organizations, both public and private, in a single research center.

The importance of the research center (and, by implication, the book) is outlined by the authors of the first chapter, who argue that the occurrence and impacts of natural hazards in mountain environments are likely to increase due to a combination of climate change and increasing population pressure. This prediction is not based on any detailed analysis of historical data. Rather, the emphasis is firmly on likely future trends, and, in terms of the role that climate change may play, the projections contained in the fourth assessment report of the Intergovernmental Panel on Climate Change are referred to extensively.

For society to be better prepared for the increasing frequency and impact of such disasters, the authors argue that it is necessary "…to proceed from the reaction to and protection against hazards to pro-active integrative risk management strategies as a contribution to a sustainable safety…" (p 30). This sounds like a good approach, but what exactly does it mean? Essentially, the authors consider the application of principles and techniques from economics and finance to be integral to any approach to natural hazard management. This seems like a reasonable proposition: natural hazard management is associated with costs and benefits, and a multidisciplinary approach is surely the best way of deploying scarce resources. However, what this means in practice is not entirely clear; the reader might assume that this integrative approach is exemplified in the remaining chapters of the book, although this does not turn out to be the case.

A quick glance through the contents pages reveals a remarkably diverse range of chapter topics, a product of the multidisciplinary nature of the research center. For example, there is a chapter on the risk perceptions of tourists, another chapter on laser scanning for topographic data acquisition, and one on the investigation and monitoring of deep-seated landslides. Some topics receive greater emphasis; there are 3 chapters on economics and finance and 4 on hydrological hazards. Because the chapter contents reflect what was funded, inevitably there are gaps in coverage; snow- and ice-related hazards do not obviously feature, and the treatment of slope failures in general is quite limited. Also, despite its prominent place in the title, the term "sustainable" does not appear in any of the chapter headings.

The diversity of topics means that it is not possible to provide a chapter-by-chapter review, although it is appropriate to make some general observations. The most important thing to mention is that there is plenty to appeal to those interested in natural hazard management, including the fact that the book provides an overview of some of the German-language literature published in this area. Many of the chapters are built around case studies, providing examples of applied research in Alpine environments (with a geographic emphasis on the Innsbruck region). However, much of the material is quite narrow and specialized and will not be readily accessible to those without an appropriate background; this is advanced reading and probably targeted at postgraduates and researchers. The integrative approach advocated by the authors of the first chapter is not much in evidence within individual chapters (Chapter 10, "Risk Management," being a possible exception), although it is arguably present in the book as a whole. This leaves the reader to reflect on what, if anything, this integrative approach might mean in practice to workers in the field. Finally, the reviewer assumes that the authors of the book use the term "sustainable" primarily in an economic sense; it does not appear to be explicitly addressed in any other way.

As for design and production, the book is generously illustrated, with extensive use of color throughout. Unfortunately, a small number of diagrams are barely legible due to being reproduced at such a small size. This is not a major issue, but it is annoying where it does occur, given the price of the book. Other annoyances include something of a hit-and-miss approach to proofreading; typographical, grammatical, and style errors are distracting in a couple of chapters (especially the first chapter, which is a real shame). And it is also a pity that there is no index.

So, who should buy this book? It would make a useful addition to any university library. The specialized and varied nature of its chapters, not to mention the price, means that it is less likely to find a home on the bookshelves of individual researchers, even though its title would suggest otherwise.

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