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## **Mountains: Geology, Topography and Environmental Concerns**

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## Mountains: Geology, Topography and Environmental Concerns

Edited by António José, Bento Gonçalves, and António Avelino Batista Viera. New York, NY: Nova Science Publishers, 2014. ix + 371 pp. US\$ 175.00. ISBN 978-1-63117-288-5.

This book is one of a series on geology and mineralogy research developments. However, it includes only one chapter that partially addresses geology. Similarly, with regard to the title, topography is a major theme of only a few of the papers. Overall, it is best described as a book with 13 chapters, all of which consider issues related to mountains.

Chapter 1 is a general introduction to the importance and conceptualization of mountains at various spatial scales: global, Europe, and Portugal. It covers much ground included in recent books and reports but does not include some key topics (eg European Environment Agency 2010). Chapter 2 describes the use of satellite remote sensing data with regard to topography and environmental change in the West Tatras of Slovakia. Chapter 3 considers paleoecology and current biodiversity in the Sierra Nevada of Spain. Chapter 4 reports on extensive fieldwork focused on glacier variations on 42 high summits across High Asia. Chapter 5 presents detailed modeling of changes in the ecosystems of the Greater Caucasus, with specific applications in the Mount Elbrus region. Chapter 6 reports on processes and

consequences of the abandonment of farmland in the central mountains of Portugal, particularly with regard to the increased incidence of fires, floods, and landslides and erosion of terraces. Chapter 7 focuses mainly on the harvesting of wild thyme in the Agoundis valley in the High Atlas of Morocco. Chapter 8 analyses the diversity of aquatic invertebrates in two rivers in the mountains of northern Chile. Chapter 9 reports on an inventory of lianas in Kahuzi-Biega National Park in the Democratic Republic of the Congo. Chapter 10 is a study of persistent organic pollutants in high-altitude grassland on the Qinghai-Tibetan Plateau. Chapters 11 and 12 are literature reviews on physiological processes during acclimatization to low levels of oxygen and on the effects of anemia and hypoxia on oxygen delivery, respectively. Chapter 13 considers the use of an alpine planning regulatory framework for the Australian Alps.

As can be seen from the previous paragraph, these chapters are diverse in terms of geographical focus and theme. They range from small to very large field studies conducted by both natural and social scientists, and they include papers on modeling and the use of remote sensing data, as well as two literature reviews on medical topics of relevance to people who live in and visit mountains. They are also of varying length: from 12 to 82 pages. It is unclear why they have been presented together in this volume; many could have been published in peer-reviewed journals. In contrast, the paper by Matthias Kuhle on his fieldwork across the high mountains of Asia—from the Tien Shan through the Karakoram and across Tibet and the Himalaya—is

a valuable analysis of research over many field seasons, with important findings on changes in the glaciers of high mountains with diverse climates and the crucial role of interactions between the topography and the height of the snowline. Such a paper, with many valuable photographs, is far too long (82 pages) to be published in most academic journals today.

Overall, while this book contains interesting material, it is difficult to identify its intended audience; the preface does not explain this. On the positive side, unlike many compilations, each chapter has an abstract, there is an index, and the quality of the illustrations is generally good. However, the titles of some papers promise more than the rather limited studies that are presented, and it is not clear what level of peer review was applied. As research is increasingly published online, the value of such expensive books, which are simply collections of papers, must be questioned.

### REFERENCE

**European Environment Agency.** 2010. *Europe's Ecological Backbone: Recognising the True Value of Our Mountains*. Copenhagen, Denmark: European Environment Agency.

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