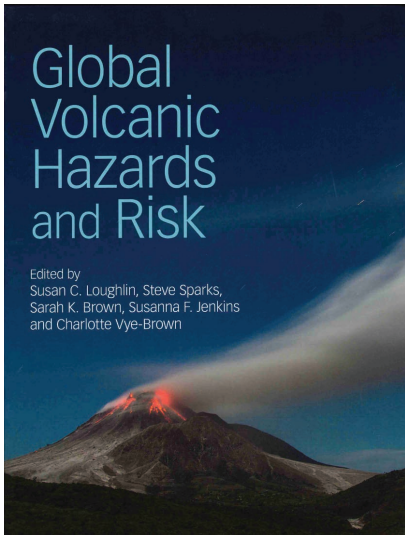
Book Review

Book Review: Global Volcanic Hazards and Risk. (2015) Edited by Susan C. Loughlin, Steve Sparks, Sarah K. Brown, Susanna F. Jenkins, Charlotte Vye-Brown et al. Cambridge University Press. ISBN 9781107111752, 403 pages. $124 Hardback (open access online).

It has been estimated that as many as 600 to 800 million people worldwide live on or near active volcanoes. This volume provides a comprehensive introduction to volcanic eruptive processes, local and widespread impacts during volcanic emergencies, and monitoring and forecasting techniques, with a focus on hazard mapping and risk reduction. It is available for purchase as a hardback paper copy, but is also provided free of charge to readers by the publisher as an open access online text.

With some exceptions, this largely descriptive text appears to be aimed at a non-technical audience, and thus provides a thorough grounding on the essential topics related to estimating volcanic risk. While the first few chapters deal with establishing and explaining the most common volcanic hazards (ashfall, pyroclastic flows, lahars, etc.) and their associated risks, the later chapters of the book introduce the various monitoring techniques used by volcano observatories and government bodies around the world, and lay out the typical decision-making processes that occur during emergency scenarios. Though each of the 26 chapters in this book were written by several different contributors, the writing style manages to be approximately consistent throughout, with each point clear and well-articulated. The chapters are also arranged in such a way as to provide a roughly coherent structure. However, the unconventional origin of the book (it represents a synthesis of several reports, background papers, and case studies produced for a disaster risk reduction assessment by the United Nations Office for Disaster Risk Reduction, UNISDR) means that each chapter may also be read entirely independently from the others. Thus, there is some repetition of subject matter across chapters, most noticeably between the first two chapters; most figures in chapter one are replicated in chapter two, with slightly different captions. The first chapter is essentially an abridged summary of the second, intended for an entirely layman audience, and this fact is addressed in the book's preface.

Nonetheless, overall the content is well presented and detailed and takes a precise and pragmatic approach to risk assessment. The most salient point of the book is the numerous case studies of volcanic hazards and risk management strategies, which present an invaluable framework for policy makers and those wishing to understand the decision-making process. Each study highlights a different point of scientific interest or humanitarian concern, combining to provide a clear picture of typical procedures for scientific teams during a crisis situation. Each study is also a useful reference in its own right; for example, chapter seven is an incredibly comprehensive study of the causes, effects, and impacts of lahars, specifically those occurring around Mount Pinatubo between 1991 and 2000. However, the techniques and observations are equally applicable to many other sites worldwide. Likewise, chapter eight is an excellent case study of interactions between scientists and policy makers in improving the time taken to make and communicate risk reduction decisions in a disaster zone. In addition to providing a detailed analytical framework for volcanic hazards, this book also contains many useful tables and figures of data, which are clearly presented and well organized. Tables 3.2, 3.3, and 3.4 will be of particular interest to those wishing to understand the potential consequences of ash fallout, a major concern for most populations living in the vicinity of an active volcano.



While *Global Volcanic Hazards and Risk* is highly recommended for postgraduate students and volcanologists seeking to gain a more in-depth understanding of the humanitarian applications of their research, I would primarily recommend this book to a non-expert audience, if they are looking for somewhere to begin learning about volcanic activity and the role of scientists in influencing policy decisions. The wealth of figures and diagrams, and the general lack of confusing technical jargon make this a highly accessible text to those without a geological background, while also providing helpful and practical insights to those who already understand the basics.

Claire L. Cooper
School of Earth and Environment
University of Leeds
Leeds LS2 9JT
U.K.

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