H.M. Mader, S.G. Coles, C.B. Connor, and L.J. Connor (eds): *Statistics in Volcanology*

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The book edited by Mader et al. basically results from a workshop on “Statistics in Volcanology,” held at Bristol University in 2004. The aim of this book is to demonstrate that volcanology is now ready to move from description, observation, and process-oriented research into data mining and evaluation using statistical methods. In the preface, the proposition is made: “that we can legitimately claim that physical volcanologists today have achieved an understanding and quantitative description of the principal, underlying mechanisms that drive volcanic eruptions.” The first chapter by Mader is intended to illuminate this rather strong premise. The state of the art (in the view of the author) is condensed on 14 pages. In the following, statistical methods and applications on case histories are compiled. The methodology bandwidth, filling about two thirds of the volume, ranges from analysis of expert judgement in a chapter by Aspinall, over repose time studies by Connor et al. to application of wavelet-based hidden Markov models by Alasonati et al. and insightful contributions of the seismologist Neuberg. The interdisciplinary character of this part makes it an interesting read. The remaining third of the book is more on the application side of the story and focuses on case histories and the potential output of well-established numerical simulations, e.g., in articles by Melnik and Sparks, Diez, and Bonadonna. The book is completed by a well-organized glossary,

which is really helpful for the reader, as the terminology of volcanologists can be quite confusing. The editors wisely decided against a complete literature index; instead, the cited literature and very valuable hints for “further readings” are placed at the end of each chapter.

The book is certainly a valuable contribution for specialists in volcanology. My main concern is that the premise to be in possession of an adequate understanding of volcanic processes is questionable. The big picture drawn on volcanic eruptions is certainly not backed up completely by the international community of volcanologists. The recent eruption of the Icelandic volcano Eyjafjöll, as an example, demonstrates the gaps in our knowledge (and in the philosophy of the book). External forcing of volcanic eruptions by water, ice, wet sediments, and (not the least) by tectonics and erosion are not adequately discussed. All articles themselves are well written and illustrated and provide very useful insight into strengths and weaknesses of statistical methods. They do, however, not integrate in such way that a basic volume for students of geosciences emerges.

In summary, the book is recommended as a reader for specialists and advanced students, as it provides valuable information on the statistical treatment of observational and model-based data aiming at more precise evaluation and forecasting of volcanic eruptions. I would buy this book with my personal money.

Editorial responsibility: G. Heiken

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