

Fractal Analysis for Natural Hazards

Edited by

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In the Earth sciences, the concept of fractals and scale invariance is well recognized in many natural objects. However, the use of fractals for spatial and temporal analyses of natural hazards has been less used (and accepted) in the Earth sciences. This book brings together 12 contributions that emphasize the role of fractal analyses in natural hazard research, including landslides, wildfires, floods, catastrophic rock fractures and earthquakes. A wide variety of spatial and temporal fractal-related approaches and techniques are applied to 'natural' data, experimental data and computer simulations. These approaches include probabilistic hazard analysis, cellular-automata models, spatial analyses, temporal variability, prediction and self-organizing behaviour. The main aims of this volume are (a) to present current research on fractal analyses as applied to natural hazards and (b) to stimulate the curiosity of advanced Earth science students and researchers in the use of fractal analyses for the better understanding of natural hazards.



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Rocks off Point Lobos, California. Approximate width of the picture's foreground is 10 m.

Photograph by Bruce D. Malamud