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	Nota di contenuto	Preface -- Chapter 1. Birgir Hrafnkelsson and Haakon Bakka: Bayesian latent Gaussian models -- Chapter 2. Giri Gopalan, Andrew Zammit-Mangion, and Felicity McCormack: A review of Bayesian modelling in glaciology -- Chapter 3. Birgir Hrafnkelsson, Rafael Daniel Vias, Solvi Rognvaldsson, Axel Orn Jansson, and Sigurdur M. Gardarsson: Bayesian discharge rating curves based on the generalized power law -- Chapter 4. Sahar Rahpeyma, Milad Kowsari, Tim Sonnemann, Benedikt Halldorsson, and Birgir Hrafnkelsson: Bayesian modeling in engineering seismology: Ground-motion models -- Chapter 5. Atefe Darzi, Birgir Hrafnkelsson, and Benedikt Halldorsson: Bayesian modelling in engineering seismology: Spatial earthquake magnitude model --

Chapter 6. Joshua Lovegrove and Stefan Siegert: Improving numerical weather forecasts by Bayesian hierarchical modelling -- Chapter 7. Arnab Hazra, Raphael Huser, and Arni V. Johannesson: Bayesian latent Gaussian models for high-dimensional spatial extremes.

Sommario/riassunto	This book focuses on the statistical modeling of geophysical and environmental data using Bayesian latent Gaussian models. The structure of these models is described in a thorough introductory chapter, which explains how to construct prior densities for the model parameters, how to infer the parameters using Bayesian computation, and how to use the models to make predictions. The remaining six chapters focus on the application of Bayesian latent Gaussian models to real examples in glaciology, hydrology, engineering seismology, seismology, meteorology and climatology. These examples include: spatial predictions of surface mass balance; the estimation of Antarctica's contribution to sea-level rise; the estimation of rating curves for the projection of water level to discharge; ground motion models for strong motion; spatial modeling of earthquake magnitudes; weather forecasting based on numerical model forecasts; and extreme value analysis of precipitation on a high-dimensional grid.The book is aimed at graduate students and experts in statistics, geophysics, environmental sciences, engineering, and related fields.