Resumo de Solved Problems in Geostatistics

This unique book presents a learn-by-doing introduction to geostatistics. Geostatistics provides the essential numerical tools for addressing research problems that are encountered in fields of study such as geology, engineering, and the earth sciences. Illustrating key methods through both theoretical and practical exercises, "Solved Problems in Geostatistics" is a valuable and well-organized collection of worked-out problems that allow the reader to master the statistical techniques for modeling data in the geological sciences. The book's scope of coverage begins with the elements from statistics and probability that form the foundation of most geostatistical methodologies, such as declustering, debiasing methods, and Monte Carlo simulation. Next, the authors delve into three fundamental areas in conventional geostatistics: covariance and variogram functions; kriging; and Gaussian simulation. Finally, special topics are introduced through problems involving utility theory, loss functions, and multiple-point geostatistics. Each topic is treated in the same clearly organized format. First, an objective presents the main concepts that will be established in the section. Next, the background and assumptions are outlined, supplying the comprehensive foundation that is necessary to begin work on the problem. A solution plan demonstrates the steps and considerations that have to be taken when working with the exercise, and the solution allows the reader to check their work. Finally, a remarks section highlights the overarching principles and noteworthy aspects of the problem. Additional exercises are available via a related Web site, which also includes data related to the book problems and software programs that facilitate their resolution. Enforcing a truly hands-on approach to the topic, "Solved Problems in Geostatistics" is an indispensable supplement for courses on geostatistics and spatial statistics a the upper-undergraduate and graduate levels. It also serves as an applied reference for practicing professionals in the geosciences.

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