1. Record Nr. UNINA9910768163003321 Autore Oliver Margaret A Titolo Basic Steps in Geostatistics: The Variogram and Kriging / / by Margaret A. Oliver, Richard Webster Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2015 **ISBN** 3-319-15865-1 Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (106 p.) Collana SpringerBriefs in Agriculture, , 2211-808X Disciplina 550.72 Soggetti Agriculture Geotechnical engineering Geophysics **Ecology Statistics** Geotechnical Engineering & Applied Earth Sciences Geophysics/Geodesy **Ecology** Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto 1. Introduction -- 1.1. Background to Geostatistics -- 1.2. Applications of geostatistics -- 1.3. Sampling -- 1.4. The Essence of Geostatistics -- 2. Regionalized Variable Theory -- 2.1. Random Variables and Regionalized Variable Theory -- 3. The Variogram and Modelling --3.1. The Experimental Variogram -- 3.2. Factors Affecting the Reliability of Experimental Variograms -- 3.3. Modelling the Variogram -- 3.4. Factors Affecting the Reliability of Variogram Models -- 4. Geostatistical Prediction: Kriging -- 4.1. Introduction -- 4.2. Theory --4.3. Cross-validation -- 4.4. Summary -- 5. Sampling -- 5.1. Sampling for the Variogram -- 5.2. Sampling Plans for Mapping -- 5.3. Summary -- 6. Dealing with Trend -- 6.1. Trend -- 6.2. Example -- 6.3. Illustration from a Case Study -- 6.4. Summary.

This brief will provide a bridge in succinct form between the

Sommario/riassunto

geostatistics textbooks and the computer manuals for `push-button' practice. It is becoming increasingly important for practitioners, especially neophytes, to understand what underlies modern geostatistics and the currently available software so that they can choose sensibly and draw correct conclusions from their analysis and mapping. The brief will contain some theory, but only that needed for practitioners to understand the essential steps in analyses. It will guide readers sequentially through the stages of properly designed sampling, exploratory data analysis, variography (computing the variogram and modelling it), followed by ordinary kriging and finally mapping kriged estimates and their errors. There will be short section on trend and universal kriging. Other types of kriging will be mentioned so that readers can delve further in the substantive literature to tackle more complex tasks.