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Autore	van den Boogaart K. Gerald
Titolo	Analyzing compositional data with R [[electronic resource] /] / by K. Gerald van den Boogaart, Raimon Tolosana-Delgado
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ISBN	3-642-36809-3
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (269 p.)
Collana	Use R!, , 2197-5736
Disciplina	005.55
Soggetti	Statistics Geochemistry R (Computer program language) Statistical Theory and Methods Statistics and Computing/Statistics Programs Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Fundamental Concepts of Compositional Data Analysis -- Distributions for Random Compositions -- Descriptive Analysis of Compositional Data -- Linear Models for Compositions -- Multivariate Statistics -- Zeroes, Missings and Outliers -- References -- Index. .
Sommario/riassunto	This book presents the statistical analysis of compositional data sets, i. e., data in percentages, proportions, concentrations, etc. The subject is covered from its grounding principles to the practical use in descriptive exploratory analysis, robust linear models and advanced multivariate statistical methods, including zeros and missing values, and paying special attention to data visualization and model display issues. Many illustrated examples and code chunks guide the reader into their modeling and interpretation. And, though the book primarily serves as a reference guide for the R package "compositions," it is also a general introductory text on Compositional Data Analysis. Awareness of their special characteristics spread in the Geosciences in the early sixties, but a strategy for properly dealing with them was not available until the

works of Aitchison in the eighties. Since then, research has expanded our understanding of their theoretical principles and the potentials and limitations of their interpretation. This is the first comprehensive textbook addressing these issues, as well as their practical implications with regard to software. The book is intended for scientists interested in statistically analyzing their compositional data. The subject enjoys relatively broad awareness in the geosciences and environmental sciences, but the spectrum of recent applications also covers areas like medicine, official statistics, and economics. Readers should be familiar with basic univariate and multivariate statistics. Knowledge of R is recommended but not required, as the book is self-contained.
