Environ Earth Sci (2014) 72:623
DOI 10.1007/s12665-014-3268-8

REVIEWS ON BOOKS AND MEDIA

Kresic N, Mikszewski A | Hydrogeological conceptual site models: data analysis and visualization

2013 | CRC Press, Boca Raton FLA | 584 pp | Hardback ISBN 978-1-4398-5222-4 USD 159.95 | e-book 978-1-4398-5228-6 USD 104.00

Bashir A. Memon

Published online: 22 April 2014

This book, *Hydrogeological Conceptual Site Models: Data Analysis and Visualization*, provides the explanation and information related to key concepts in professional hydrogeology for students, practicing groundwater professionals, regulators, communities affected by contaminated sites and/or water supply projects, industrial clients and the public that may be faced with real world hydrogeological issues. These concepts include quantitative spatial data analysis, data visualization and mapping. This book is unique in that it combines new computer techniques and classical exploration methods.

Focusing on the main concepts of practical data analysis and visualization strategies, this book by Neven Kresic and Alex Mikszewski fills the gap in hydrogeological literature by identifying and explaining essential techniques. Real life examples are given in each chapter.

Following the introductory chapter, there are eight chapters in the book—each containing self-explanatory figures. This visually powerful text covers a significant amount of material and contains hundreds of colored figures and illustrations. The chapters cover various applications in professional hydrogeology as follows: Conceptual Site Model (Chap. 2), Data Management, GIS and GIS Modules and Geographic Information Systems (Chap. 3), Contouring (Chap. 4), Groundwater Modeling (Chap. 5), Three-Dimensional Visualization (Chap. 6), Site Investigation (Chap. 7), Groundwater Remediation (Chap. 8) and Groundwater Supply (Chap. 9).

A conceptual site model (CSM) described in this book helps professional hydrogeologists to develop defensible characterization strategies and conclusions. Concepts related to CSM and investigations are presented in Chapters 2 and 7. Data management and contouring being key elements of investigations are discussed well in Chapters 3 and 4, respectively. Chapters 5 and 6 cover at length, the concepts and visualization related to groundwater models and three-dimensional visualization. The integrated water resources (surface water and groundwater) are described in Chapter 9.

Both the visualization examples presented throughout the book and the companion DVD help in developing graphs, maps, illustrations and animated examples of modeling results. This serves to provide a clear understanding of the problem through technically viable solutions and conclusions, and in this way to better communicate results and recommendations to both technical and nontechnical professionals. It also assists clients in making informed decisions.

B. A. Memon (✉)
PELA GeoEnvironmental, Inc, Tuscaloosa, AL 35401, USA
e-mail: ggoodin@pela.com