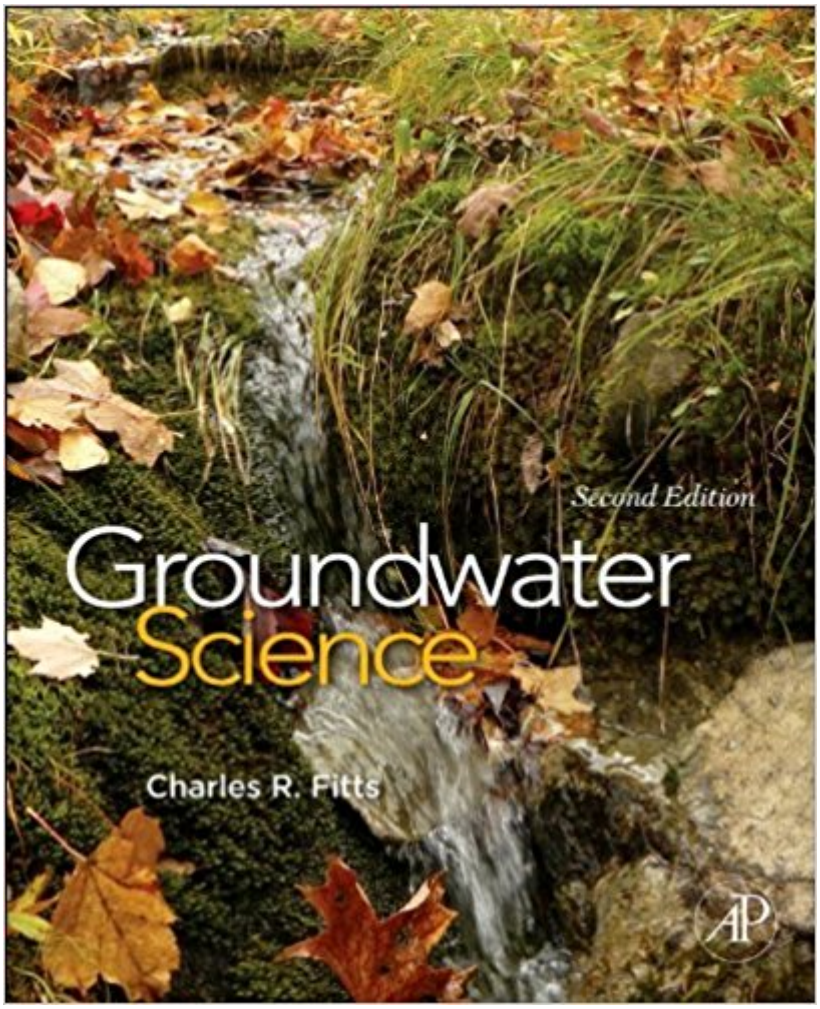
Groundwater Science



Synopsis

Groundwater Science, Second Editionâ ”winner of a 2014 Textbook Excellence Award (Texty) from The Text and Academic Authors Associationâ ”covers groundwater’s role in the hydrologic cycle and in water supply, contamination, and construction issues. It is a valuable resource for students and instructors in the geosciences (with focuses in hydrology, hydrogeology, and environmental science), and as a reference work for professional researchers. This interdisciplinary text weaves important methods and applications from the disciplines of physics, chemistry, mathematics, geology, biology, and environmental science, introducing you to the mathematical modeling and contaminant flow of groundwater. New to the Second Edition: New chapter on subsurface heat flow and geothermal systemsExpanded content on well construction and design, surface water hydrology, groundwater/ surface water interaction, slug tests, pumping tests, and mounding analysis.Updated discussions of groundwater modeling, calibration, parameter estimation, and uncertaintyFree software tools for slug test analysis, pumping test analysis, and aquifer modelingLists of key terms and chapter contents at the start of each chapterExpanded end-of-chapter problems, including more conceptual questionsWinner of a 2014 Texty Award from the Text and Academic Authors AssociationFeatures two-color figures Includes homework problems at the end of each chapter and worked examples throughoutProvides a companion website with videos of field exploration and contaminant migration experiments, PDF files of USGS reports, and data files for homework problemsOffers PowerPoint slides and solution manual for adopting faculty

Book Information

File Size: 9310 KB

Print Length: 692 pages

Page Numbers Source ISBN: 0123847052

Publisher: Academic Press; 2 edition (November 5, 2012)

Publication Date: November 5, 2012

Sold by:Â Digital Services LLC

Language: English

ASIN: B00AC1EGS4

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #1,146,798 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #54 inÂ Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Civil > Environmental > Hydrology #122 inÂ Books > Engineering & Transportation > Engineering > Civil & Environmental > Environmental > Groundwater & Flood Control #196 inÂ Books > Engineering & Transportation > Engineering > Energy Production & Extraction > Drilling Procedures

Customer Reviews

It’s difficult to rate this book. It’s not a bad book at all but it’s an unusual book to me. In the beginning, I thought this could be a new kind of introductory book into theoretical and applied hydrogeology. But it’s not. It can’t be an introduction into "hydrogeology" (in a broad sense, and the book title should have told me) because it goes too fast and jumps to conclusions that are not self-intuitive for a beginner. For instance, in chapter 2, page 25, the fact that at the bottom of a well the "pressure is equals the weight density of water times the water column H" is only stated in a practical example that shows how incompressible water is. There is no previous paragraph which explains this fact and why it is so and terminology-wise weight density is for me specif weight. A quick refresh in physic mechanic would be necessary. In Chapter 2.6 (Measuring Hydraulic Head with Wells and Piezometers) the initial and mid part are a bit overcomplicated to understand to me - why not mentioning the height of water column in the well which is something everybody can see? - and perhaps with the example Nr. 20 at the end of the chapter. On the other side, the rest of same chapter is excellent in informing the reader that the water level in a newly installed piezometer is not the same as in the surroundings because the system needs to adjust itself. In chapter 3, the Darcy Law is explained but quickly again. Concerning "Heterogeneity and Anysotropy of the Hydraulic Conductivity" (Ch. 3.5), anysotropy and heterogeneity are almost synonyms in the chapter ("In a heterogeneous material the value of K varies spatially" - "Anysotropy implies that the value of K at a given location depends on directions" page 59).

Systems: Fundamentals of Mass, Energy and Solute Transport in Poroelastic Rocks (Multiphysics Modeling) Geochemical Modeling of Groundwater, Vadose and Geothermal Systems (Multiphysics Modeling) Applied Groundwater Modeling, Second Edition: Simulation of Flow and Advective Transport Hydraulics of Groundwater (Dover Books on Engineering) The Science Fiction Hall of Fame, Volume Two B: The Greatest Science Fiction Novellas of All Time Chosen by the Members of the Science Fiction Writers of America (SF Hall of Fame) The Science Explorer: The Best Family Activities and Experiments from the World's Favorite Hands-On Science Museum (Exploratorium Science-At-Home Book) Exploring Science Through Science Fiction (Science and Fiction) 3D Printed Science Projects: Ideas for your classroom, science fair or home (Technology in Action) Foundations of Computer Science: C Edition (Principles of Computer Science Series) Methods of Soil Analysis. Part 2. Microbiological and Biochemical Properties (Soil Science Society of America Book, No 5) (Soil Science Society of America Book Series) Face Image Analysis by Unsupervised Learning (The Kluwer International Series in Engineering and Computer Science, Volume 612) (The Springer International Series in Engineering and Computer Science)