Dr. Batu has prepared a useful and well-organized text that presents basic and advanced methods used to model groundwater flow and solute transport. Groundwater hydrologists often search their library shelves for an analytical solution or a table of solute transport parameters and find multiple references need to be accessed. This text provides derivation of a wide range of analytical solute transport solutions, well-prepared graphics, and numerous examples illustrating their application. These equations are underpinned with a clear explanation of basic theory. Numerical methods to describe groundwater flow focus on finite difference techniques and the MODFLOW code.

In the last third of the text, Dr. Batu discusses flow and transport in heterogeneous aquifers and the determination of parameters such as dispersion and sorption. Again Dr. Batu presents excellent tables and graphics, making this section a quick and useful reference for those developing solute transport models.

The book presents analytical and numerical tools in sufficient detail to assist model users as well as scientists attempting to modify existing tools or develop new ones. The eight chapters include an initial introduction and a second chapter providing a clear discussion of fundamental solute transport principles. Chapter 3 presents one-, two-, and three-dimensional analytical solute transport equations for multiple conditions including continuous and slug sources. Numerical methods principally focusing on groundwater flow are clearly presented in Chapter 4, with analytical and numerical methods describing solute travel time determination and pathline analyses in Chapter 5. Chapter 6 initiates descriptions of how to derive dispersivity values with a focus on statistical techniques, and Chapter 7 addresses methods to estimate dispersivity based on field and laboratory data, and investigator experience. Methods to derive sorption parameters are discussed in Chapter 8. The text includes approximately 60 tables and 300 figures. More than 70 example problems are presented, and about 70 problems at the end of chapters allow for the book to be used as a course text.

This book includes a number of analytical solutions, and numerous tables and graphics that compile solute transport and hydraulic parameters not typically present in existing groundwater or solute transport texts. Dr. Batu’s *Applied Flow and Solute Transport Modeling in Aquifers: Fundamental Principles and Analytical and Numerical Methods* is certainly a reference text for working hydrogeologists and is an appropriate text for advanced undergraduates and graduate students studying and/or modeling the solute transport process.