septica (L.) Wiggers and some other slime molds (Myxomycetes).


BOOK REVIEWS

New Books Received


Additional questions are included with answers available only in a separate instructor’s manual.

The topics follow along the lines one might expect from a text in soil physics (i.e., primary particles, soil water, solute, heat, and gas transport) with the addition of chapters titled “Remediation of Contaminated Soils” and “Spatial Variability, Scaling and Fractals.” The level of coverage is higher than that of typical texts on soil physics and the reader is expected to be familiar with differential equations and thermodynamics.

Unsaturated Zone Hydrology is roughly at the same level as Soil Hydrology by Kutilek and Nielsen (Catena 1999). However, this book has a number of advantages and disadvantages compared with Soil Hydrology. The biggest advantage is a cleaner production quality. Unsaturated Zone Hydrology provides detail on a greater variety of topics. However, some of the peripheral topics are sketchy and the reader sometimes gets the impression that the authors are running at breakneck speed to present information. A greater number of problems are included with Unsaturated Zone Hydrology. A disadvantage is the limited space devoted to derivation of equations. And, in some cases, superficial explanations are given. For example, on page 107, the authors state: “Hence, osmotic and hydraulic pressure gradients have equivalent effects on water movement. This can be proven by analogy of Darcy’s law…. ” Modifying Darcy’s law does not prove the correctness of the modification nor does it prove that the effects are equivalent. The danger of such pronouncements is that they encourage “conventional wisdom” without any real understanding of its limitations.

Notwithstanding my concerns, this book is still a valuable textbook, provided the instructor takes care to elaborate on specific points. The biggest challenge for the instructor will be to determine how to direct students to the most important information. The student, after studying the material, will have a reference book that will be a starting point for further inquiries long after completing the class.