



**"Physics in Canada"  
Book Review**

**"La Physique au Canada"  
Critique de livre**

**An Introduction to the Environmental Physics of Soil, Water and Watersheds**, Calvin W. Rose, Cambridge University Press, 2004, pp: 454, ISBN: 0-521-53679-0 (paperback), Price: US\$60.00.

Dr. Calvin W. Rose is Professor Emeritus of the Faculty of Environmental Sciences, Griffith University in Queensland, Australia. He received his Ph.D. in agricultural physics from London University and through his career served in various positions in industry, research and teaching.

The combined study of soil, water and watersheds can help in maintaining good-quality surface and subsurface/ground waters. (The World Bank defines the term watershed as, "the specific land area that drains water into a river system or other body of water.") Although there have been many publications discussing soil, water and watersheds individually, Dr. Rose succeeds in combining all three topics in one book, describing their physical processes from an environmental point of view.

The book has twelve chapters in all. The initial chapters provide an introduction to environmental systems, and to soil and fluid mechanics. Discussions of soil, water, and watersheds come next, followed by descriptions of energy-exchange mechanisms, infiltration, and overland flow models. The latter part deals with soil erosion and sediment deposition, river health, groundwater movement, and salinity. At the end of each chapter is a list of the symbols used in that chapter, and list of references.

*An Introduction to the Environmental Physics of Soil, Water and Watersheds* is basic in nature and assumes that the reader has no prior knowledge of physics or calculus. Every concept is explained with helpful illustrations and simple mathematics. There are problem sets at the end of each chapter with answers at the end of the book (full solutions are available for instructors on the Internet.)

This is essentially a textbook, suitable for undergraduate courses in the environmental sciences. Researchers who are new to this field will also find it useful as an introductory text.

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