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World Water Resources at the Beginning of the 21st Century

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the solid Earth and the solar system in incredibly short order, and provides neat and efficient appendices on equation derivations, geochemical data, analytical methods, and further reading. Also unique to this book are the brief individual exposés on the behaviour of some common elements. The breadth and depth in a book only 248 pages long is amazing. The true beauty of this book, however, is in its incessant use of examples that link the same geochemical principles in different parts of the Earth system. One shows that rivers or lakes are not really so unlike the Earth's mantle or a volcano, when viewed in terms of residence times and reservoirs. The reader learns much from this unifying approach, which should bode well with a research and education community that is evolving toward erasure of the artificial boundaries between traditional disciplines in Earth science. At $50 USD, this book is an excellent and long-lasting value for both students and practitioners of geochemistry.

World Water Resources at the Beginning of the 21st Century

Edited by I.A. Shiklomanov and John C. Rodda

Cambridge University Press
40 West 20th St., New York, NY 10011-4211, ISBN 0 521 82085 5; hardback US$150; 435 p.

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This monograph is the result of an UNESCO project aimed at providing an up to date assessment of global water resources, undertaken by the State Hydrological Institute of the Russian Federation. While considering the role of groundwater the monograph examines mainly surface water resources, with a separate groundwater monograph planned for publication by UNESCO. Since it is focused on water resources, the manuscript does not deal with contamination issues in a significant way.

As might be expected, a review of this magnitude cannot be done in a short space. The 435 pages of this book are structured in 12 chapters grouped as 1) three chapters providing a general overview and methods; 2) six chapters that provide an overview for each continent, including descriptions of natural conditions, use of water, economic development, hydrology, and an analyses of water resources; and 3) three chapters that provide a global analysis of world water resources and use, including an analysis of potential climate change impacts. Amalgamating information on global water resources and water use is a monumental task. Trying to compile data from multiple sources, with various standards of water monitoring networks, and dealing with the global trend of decreasing monitoring stations, makes this particularly difficult. The well-defined methodology used in this monograph provides an internally consistent global review making it a powerful resource. Numerous tables throughout the text also provide excellent data summaries that can be extracted, although it would have been helpful to have electronic access to this information. The reviews provided for each continent are by necessity of broad scope. I found them useful though, as they tend not to be bound by national issues or viewpoints, but rather present common issues and problems faced by a broad range of nations that share water resources and river basins. Projections for growing demand of water resources also helps focus attention on what regions of the world will be facing water shortages within the next 25 years. In summary, I found the text well written and the data tables extremely useful, but now on to the illustrations.

As the famous saying goes, a picture is worth a thousand words. In this case, the pictures are worth only a handful of words that cannot be used in polite company. The illustrations can be divided into three classes: 1) Plots cut and pasted from spreadsheet programs, which are typically acceptable, except for cases where grey scales are too close to distinguish or to compare with the legend; 2) computer-drafted diagrams and maps that use grey scales that tend to blend into one another – in this case it is often impossible to distinguish the grey scales shown in the legend yet alone on the maps (i.e. you cannot tell what part of the map relates to what part of the legend as the three or four shades of grey used all look the same; 3) badly scanned images of badly hand drawn and shaded figures. For many of these the text in the figures is illegible and much of the diagram is difficult to decipher. This is by far the worst collection of illustrations I have ever seen published, with many diagrams being completely useless.

At the end of the day the reader has to balance the value of information found in the text and numerous tables, against the shockingly poor quality of illustrations and the price tag of $150US. I would suggest that if you have a strong interest in water resource issues then this would be a worthwhile reference. Otherwise it would still be useful to have on the shelf of you local library as it does have the most up-to-date and consistent review of global water resource data. For the more casual reader your money would be better spent elsewhere.