

***The Hydraulics of Open Channel Flow – An Introduction*, Hubert Chanson; Wiley, New York, 1999, 495 pages (index included), pbk, ISBN 0-470-36103-4 (35.00), <http://www.arnoldpublishers.com>**

This book, divided in four parts: (1) Basic principles of open channel flow, (2) Introduction to sediment transport in open channels, (3) Hydraulic modelling, and (4) Design of hydraulic structures, is primarily intended for senior undergraduate students in hydraulic and environmental engineering, but can be very useful to practicing engineers, as well.

After introducing the basic principles of open channel flow (laws of mass, energy and momentum conservation, flow resistance, flow regimes, and hydraulic jumps), the key topics of sediment transport, hydraulic modelling, and design of hydraulic structures are covered, introducing the latest up-to-date methods. The final part is written in a very original way, presenting three prehistoric water supply and flood control systems (the Marib dam in northern Yemen 115 BC–575 AD, the Nile river and Lake Moeris 2900–230 BC, and the River Moche irrigation system in Peru 200–1532 AD), as three separate case studies, through which the reader has the chance, not only to learn much about ancient civilizations, but also to test and exercise what he or she has learned in the previous chapters, in a most interesting way.

The relevance of this book for those involved in solving “urban water” problems is mostly in chapters

dealing with hydraulic modelling and hydraulic structures. The author has presented design procedures for “small structures” frequently used for flow control in urban areas, such as cascades and culverts. Recent research in nappe flows on stepped cascades is included, as well as a design technique of minimum energy loss culverts for economically optimal solutions (A culvert design computer shareware program, as well as solutions to exercises, is available from the Web: www.arnoldpublishers.com/support/chanson).

This book stands apart from similar previously published textbooks in two ways. Firstly, by concentrating on topics such as sediment transport phenomena, and design of hydraulic structures, its scope has significantly been extended toward applications. Secondly, by avoiding lengthy theoretical explanations, including many exercises, notes, discussions, relevant photographs, and appendices with additional information, it has an original, hand-book-like presentation, very convenient for quick referencing, and use in engineering practice. Being more than a simple introductory textbook in open channel hydraulics, this book can be strongly recommended to students and engineers.

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PII: S 1462-0758(00)00018-2

***Floodplains: Interdisciplinary Approaches*, Susan B. Marriott, Jan Alexander (Eds.); The Geological Society, London, 1999, 330 pages (index included), hbk (65.00/108.00), ISBN 1-86239-050-9, <http://bookshop.geolsoc.org.uk>**

This book contains Proceedings of the Floodplains '98 Conference, held at the University of East Anglia, with the purpose to convene all those who are involved in research of floodplains in the widest sense (geomorphological processes, sedimentology, ecology, environmental management, impacts of human activity, socio-economic aspects). Dealing with a very broad and complex subject in a truly interdisciplinary way (as its title suggests), this book is thematically divided in four parts: (1) Contemporary floodplain process, (2) Floodplain management, restoration and ecology, (3) Recent floodplain evolution and deposits, and (4) Ancient floodplain evolution and techniques for analysis.

This division reflects the complexity of floodplain analysis, as the variability of floodplains depends on many factors, from climate, catchment size and its characteristics (water budget, sediment yield, biological diversity), to the influence of human activities (urbanization, forest clearance, river channel management, use of water). However, there are three topics that seem to be particularly relevant for those involved in “urban water” management: (a) flooding, (b) floodplain water resources, and (c) floodplain deposits of sediments and contaminants.

(a) Let us point out first a few interesting aspects of flooding that are discussed in this book:

- Effects of changes in catchment induced by urbanization or by river management on flood characteristics, and natural responses to those changes (e.g., Burdekin river, Australia).
- Hydromechanics of floodplain recirculating flow, including field measuring techniques and numerical