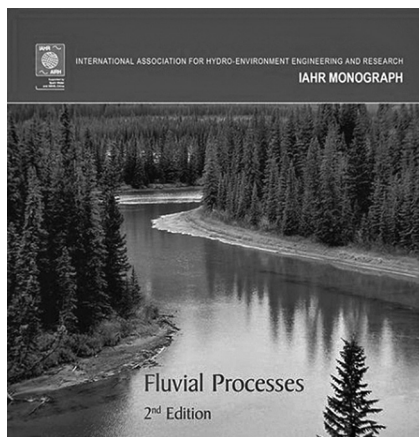


Fluvial processes: 2nd edition, by Ana Maria Ferreira da Silva and M. Selim Yalin, 2017. CRC Press, Boca Raton. 266 pages. Hardback: price £115,00, ISBN 9781138001381.



Ana Maria Ferreira da Silva
M. Selim Yalin



This volume is published as a monograph of the IAHR and presents a comprehensive review of key issues related to the morphodynamics and fluvial processes of river beds and mountain streams, describing river bed forms, such as dunes or ripples. Readers can also find here methods for calculating sediment transport (river sediment bed load transport) and the work also contains the latest discoveries and trends in the fields of fluvial processes and fluvial geomorphology for engineers. Each chapter is complemented by a set of problems and questions to solve, which means that the book is not merely a set of hydromorphodynamic theories, but also takes the form of an academic textbook. A lot of attention is given to the translation of research results into equations and methods of application in river engineering practice. The book reviews the hydraulics associated with flow and river sediment (river gravel) in relation to engineering equations, which allow to understand fluvial processes. This monograph contains the most recent laboratory tests and theoretical discoveries in open-pipe hydraulics, flow theory and river bed forms. Subjects are presented in an accessible way, with mathematical relations and excellent illustrations that help to understand the various topics covered. In addition, it presents extensive experimental research results obtained by the authors, and each chapter contains

their personal notes, which include both practical applications of computational principles and theoretic foundations.

The layout of the work is as follows: following an initial chapter on the basics of turbulent flow and sediment transport, the origin, geometric features of water courses and river bed forms, from small- to large-scale (ripples, dunes etc.) are covered. Subsequently, problems of the onset of river bed sediment movement, geometry and mechanics of meandering and braided rivers and discharge calculations are discussed. The book also includes the concept of flow regime; it has been written primarily for scientists and graduates of hydraulic engineering, water management and related branches of earth sciences, but it will also prove useful for engineers concerned with river maintenance. A detailed table of contents of the present volume can be found on the CRC website, Francis and Taylor, at <https://www.crcpress.com/Fluvial-Processes-2nd-Edition/Silvaalin/p/book/9781138001381>.

The first author, Ana Maria da Silva is the editor-in-chief of the Canadian Journal of Civil Engineering and a member of the editorial board of the Journal of Environmental Fluid Mechanics. Personally, the author of the review had the pleasure to participate in the lectures of Prof. De Silva and was greatly impressed by them. The second author, Prof. Selim Yalin is the author and co-author of nearly a hundred scientific publications and several books on river hydraulics and sediment transport.

To sum up: the present monograph is a very good practical tool for graduates, lecturers and scientists in the fields of fluid mechanics, hydraulic engineering, river engineering and sedimentation and fluvial geomorphology, which describes both experimental and fieldwork-based research. It contains pertinent references to both world literature and many other practical sources of topics of fluvial research. In addition, each chapter contains thought-provoking sets of scientific and practical problems. It certainly is a book that should be on the shelf of everyone who works with river fluvial systems.

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