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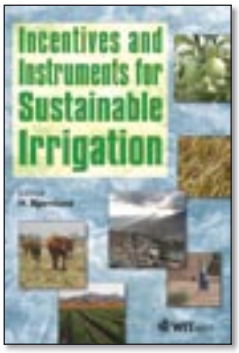
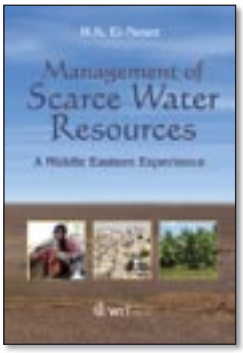
Water Resources Titles





NEW TITLE

Incentives and Instruments for Sustainable Irrigation

Edited by: ***H. BJORNLUND,*** *University of Lethbridge, Canada and University of South Australia, Australia*

Deals with the complex issue of promoting development towards sustainable irrigation. It sees sustainable irrigation as a locally defined and constantly changing objective rather than as a fixed defined endpoint. It provides a comprehensive discussion of the importance of institutions and governance to guide this process and then provides examples from around the world of how incentives and instruments have been introduced to support this development, how successful they have been and what factors have promoted or impeded the successful outcomes.

Also highlights the need to see sustainable irrigation in the context of other objectives such as food and water security, reallocating existing scarce resources between competing uses such as urban and industrial users as well as the environment, and how emerging issues such as bio-fuel production and increasing energy prices influence the process.

ISBN: 978-1-84564-406-2
eISBN: 978-1-84564-407-9
Published 2010 / £85.00 / 240pp

NEW TITLE

Sustainable Irrigation Management, Technologies and Policies III

Edited by: ***C.A. BREBBIA****, Wessex Institute of Technology, UK,* ***A.M. MARINOV,*** *University Politehnica of Bucharest, Romania and* ***H. BJORNLUND,*** *University of South Australia, Australia & University of Lethbridge, Canada*

Fresh water is becoming an increasingly precious commodity. In the near future, control of it could lead to the type of political instability that is now associated with energy shortages. This book addresses the different aspects of irrigation, including not only the management of water resources and scientific and technical aspects, but also matters related to policy and economics.

Even in those countries where fresh water is currently easily available, over-exploitation is leading to damaging long-lasting environmental effects, such as lowering of water tables or depletion of river flows. Adding to these effects, the problem of contamination effectively reduces the availability of sufficient clean water. Water is also essential for irrigation purposes, but its indiscriminate use can lead not only to shortages, but also to the deterioration of crop yields and soils. Hence it is vital to ensure that irrigation is applied as effectively as possible in order to achieve sustainability.

WIT Transactions on Ecology and the Environment, Vol 134

ISBN: 978-1-84564-446-8
eISBN: 978-1-84564-447-5
Published 2010 / £103.00 / 272pp

NEW TITLE

Groundwater Characterization, Management and Monitoring

M.C. CUNHA, University of Coimbra, Portugal and L.M. NUNES, University of Algarve, Portugal

Addresses the theoretical background necessary to accomplish planning and management of groundwater systems, and presents up to date applications of the decision-aid techniques in this field. Groundwater systems play an essential role in meeting the ever-increasing use of water for different purposes. Proper design and management of such systems should therefore be a very important matter of concern, not only to ensure that water will be available in adequate quantity and quality to satisfy demands but also to guarantee that this would be done in an optimal manner from a IWRM perspective.

There are many different decisions to be taken: where to locate wells, how much water is to be pumped, remedial strategies, to be adopted, water supply structures (especially pumping equipment and pipe networks) to be installed, monitoring networks to be defined, etc. These decisions must take many constraints into account, including drawdown limitations, flow gradients, quality standards. Given the uncertainty characterizing the groundwater flow and transport, risk issues have to be considered.

Decision-aid techniques are methodological tools capable of handling simultaneously the various facets characterizing such problems (economic, social, technical, environmental, etc.) Therefore detailed simulation models have to be incorporated into the decision models. The application of simulation-optimization methods to planning and managing groundwater systems has become an area of active research.

ISBN: 978-1-84564-134-4
eISBN: 978-1-84564-351-5
Published 2010 / £115.00 / 304pp

Management of Scarce Water Resources

A Middle Eastern Experience

H. EL-NASER*, Overseas for Sustainable Development (OSD), Jordan*

Arid and semi-arid countries have historically suffered from a plethora of complex water concerns due to climatic limitations. Research in these regions has long supported the necessity of delivering life-sustaining access to water while being inherently linked to several inter-related factors, including technical and economic issues, human resources, health and private sector participation. Regional conflicts and controversial political agendas have also exercised a profound impact on the viability of co-operative water resource management perspectives.

Dr Hazim El-Naser has applied his experiences as a water expert and government minister in Jordan by exploring a wide variety of water-related problems that the MENA countries face with respect to water resource management. This book focuses on his experiences, highlighting the complexity of these problems and advocating practical solutions, and uses recent case studies to provide a framework to assist the practitioner in resolving these problems.

Progress in Water Resources, Vol 14

ISBN: 978-1-84564-414-7
eISBN: 978-1-84564-415-4
Published 2009 / £89.00 / 224pp

NEW TITLE

Water Pollution X

Edited by: ***C.A. BREBBIA****, Wessex Institute of Technology, UK and* ***A.M. MARINOV,*** *University Politehnica of Bucharest, Romania*

Water pollution is essentially an interdisciplinary field involving scientists and professionals with a wide range of expertise. It also transcends national borders as the contamination of water resources is a problem of global concern.

The International Conference on Modelling, Monitoring and Prevention of Water Pollution provides a forum for the presentation and discussion of the latest developments in the field. The papers in this volume present some of the latest results in this important field; work which is essential to understanding the nature of the problem and for proposing appropriate solutions, which may eventually provide the guidelines required to take steps towards the remediation or recovery of water resources.

WIT Transactions on Ecology and the Environment, Vol 135

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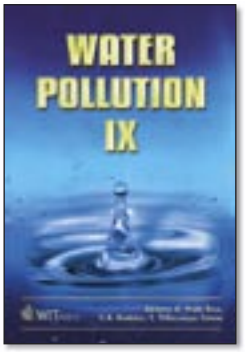
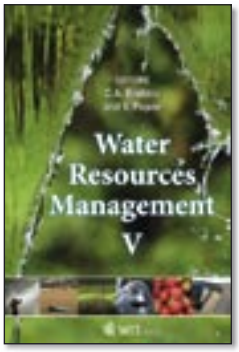
Published 2010 / £146.00 / 384pp





Water Pollution IX

Edited by: ***D. PRATS RICO****, Universidad de Alicante, Spain,* ***C.A. BREBBIA****, Wessex Institute of Technology, UK and* ***Y. VILLACAMPA****, Universidad de Alicante, Spain*

Water pollution is a subject of growing public concern. The environmental problems caused by the increase of pollutant loads discharged into natural water bodies require the setting out of frameworks for regulation and control. The scientific community has responded to the need for studies capable of relating pollutant discharge with changes in water quality. The results of these studies are permitting industries to employ more efficient methods of controlling and treating waste loads, and water authorities to enforce stricter regulations regarding this matter.

Environmental problems are essentially interdisciplinary. Engineers and scientists working in this field must be familiar with a wide range of issues, including the physical processes of mixing and dilution, chemical and biological processes, mathematical modelling, data axquisition and measurement, to name but a few.

This book contains papers presented at the Ninth International Conference on Modelling, Monitoring and Management of Water Pollution.

WIT Transactions on Ecology and the Environment, Vol 111

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E-ISBN: 978-1-84564-318-8
Published 2008 / £221.00 / 672pp

NEW TITLE

Water Resources Management V

Edited by: ***C.A. BREBBIA*** *and* ***V. POPOV****, Wessex Institute of Technology, UK*

Several water-related conferences organised by the Wessex Institute of Technology have been successfully held in many locations throughout the world. The Water Resources Management conference series is one of the most important. The importance of this meeting cannot be overemphasised as water increasingly becomes a precious resource on which the well-being of future generations depends. Issues of water quality, quantity, management and planning, as well as other related topics, are essential to the future of the world population.

Water resources are under extreme pressure today all over the world. The resulting problems have given rise to many activities that reflect the growing concern about them and the importance accorded to their sustainable management.

The the papers from the Fifth International Conference on Water Resources Management present the more recent technological and scientific developments associated with the management of surface and sub-surface water resources. The papers are under the following topics: Water Management and Planning; Waste Water Treatment and Re-use; Water Quality; Pollution Control; Management and Economics; Decision Support Systems; Hydraulic Systems; Flood Risk; Hydraulic Modelling; Irrigation Problems; Governance and Monitoring.

WIT Transactions on Ecology and the Environment, Vol 125

ISBN: 978-1-84564-199-3
eISBN: 978-1-84564-376-8
Published 2009 / £237.00 / 624pp

Water Resources Management IV

Edited by: ***C.A. BREBBIA****, Wessex Institute of Technology, UK and* ***A.G. KUNGOLOS****, University of Thessaly, Greece*

Water is one of the most important natural resources found in the world. Therefore, population growth and higher living standards will cause ever increasing demands for good water quality in the future, exerting an extreme pressure in water resources. Water is essential for supplying domestic, municipal, industrial, and agriculture needs. Furthermore, while growing populations and increasing water requirements are a certainty, it is not known how climates will change and at what extent they will be affected by man's activities.

WIT Transactions on Ecology and the Environment, Vol 103

ISBN: 978-1-84564-074-3
eISBN: 978-1-84564-275-4
Published 2007 / £235.00 / 720pp

NEW TITLE

River Basin Management V

Edited by: ***C.A. BREBBIA****, Wessex Institute of Technology, UK*

In recent years, significant advances have been made in the development and application of software tools for predicting flow, water quality, sediment transport and ecological processes in riverine systems. The conference is thus the ideal forum for practitioners and academia to highlight the latest developments in this field and to discuss the experience of applying such tools to practical riverine problems.

The papers presented at the Conference, published in this book, include all aspects of Hydrology, Ecology, Environmental Management, Flood Plains and Wetlands. Topics are as follows: Watershed and Water Resources Management; Flood Studies and Debris Flow; Ecological and Environmental Impact; Erosion and Sediment Transport; River Restoration and Rehabilitation; Case Studies; Policy and Governance.

WIT Transactions on Ecology and the Environment, Vol 124

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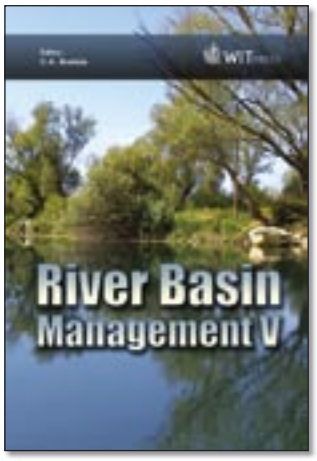
Published 2009 / £164.00 / 432pp



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