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Management and Sustainable Development of Coastal Zone Environments John Wiley & Sons

The demands of modeling and computation in engineering are rapidly growing as a multidisciplinary area with connections to engineering, mathematics and computer science. Modeling and Computation in Engineering III contains 45 technical papers from the 3rd International Conference on Modeling and Computation in Engineering (CMCE 2014, 28-29 June 2014, including 2014 Hydraulic Engineering and Environment Workshop, HEEW 2014). The conference serves as a major forum for researchers, engineers and manufacturers to share recent advances, discuss problems, and identify challenges associated with modeling technology, simulation technology and tools, computation methods and their engineering applications. The contributions showcase recent developments in the areas of civil engineering, hydraulic engineering, environmental engineering and systems engineering, and other related fields. The contributions in this book mainly focus on advanced theories and technology related to modeling and computation in civil engineering, hydraulic structures, hydropower and management, coastal reclamation and environmental assessment, flood control, irrigation and drainage, water resources and water treatment, environmental management and sustainability, waste management and environmental protection, pollution and

control, geology and geography, mechanics in engineering, numerical software and applications. Although these papers represent only modest advances toward modeling and computation problems in engineering, some of the technologies might be key factors in the success of future engineering advances. It is expected that this book will stimulate new ideas, methods and applications in ongoing engineering advances. Modeling and Computation in Engineering III will be invaluable to academics and professionals in civil engineering, hydraulic engineering and environmental engineering.

Scour and Erosion IX Springer Science & Business Media

This collection of research papers, presented at meetings organised by the Wessex Institute of Technology (WIT), concerns a variety of issues relating to the area of sustainable development. WIT has a long and very successful record of organising conferences on the topic of sustainability, which requires an interdisciplinary approach. Any sustainable solutions that are derived solely from the perspective of a single discipline may have unintended damaging consequences that create new problems. Thus effective sustainable solutions require the collaboration of scientists and engineers from various disciplines, as well as planners, architects, environmentalists, policy makers, social scientists, and economists.

The contents of this book reflect that interdisciplinary approach, and include topics under the main areas of: Sustainable development and planning; Disaster management; Air pollution; Urban transport; Ecosystems and Water resources management.

Marine Pollution - Emerging Issues and Challenges WIT Press

"Distribution and Transformation of Nutrients and Eutrophication in Large-scale Lakes and Reservoirs: The Three Gorges Reservoir" presents key findings on early eutrophication in large-scale lakes and reservoirs, providing readers with an overview of lake management problems and the tools that can be applied to solve them. The broad spectrum of available tools is presented in detail, including environmental technological methods, ecotechnological methods and the application of models to determine the best management strategy. The book is intended for environmental engineers and researchers in the fields of environmental science and ecological chemistry. Professor Zhenyao Shen, Professor Junfeng Niu and Associate Professor Ying Wang work at the School of Environment, Beijing Normal University, China. Dr. Hongyuan Wang works at Chinese Academy of Agricultural Sciences, China. Dr. Xin Zhao works at Changjiang River Scientific Research Institute, China.

Jacksonville Harbor Project in Duval County, Florida (April 2014) Springer

Over the last two decades environmental hydraulics as an academic discipline has expanded considerably, caused by growing concerns over

water environmental issues associated with pollution and water balance problems on regional and global scale. These issues require a thorough understanding of processes related to environmental flows and transport

Sustainable Development - Proceedings Of The 2015 International Conference (Icsd2015) Springer

The primary reference for the modeling of hydrodynamics and water quality in rivers, lake, estuaries, coastal waters, and wetlands This comprehensive text perfectly illustrates the principles, basic processes, mathematical descriptions, case studies, and practical applications associated with surface waters. It focuses on solving practical problems in rivers, lakes, estuaries, coastal waters, and wetlands. Most of the theories and technical approaches presented within have been implemented in mathematical models and applied to solve practical problems. Throughout the book, case studies are presented to demonstrate how the basic theories and technical approaches are implemented into models, and how these models are applied to solve practical environmental/water resources problems. This new edition of Hydrodynamics and Water Quality: Modeling Rivers, Lakes, and Estuaries has been updated with more than 40% new information. It features several new chapters, including one devoted to shallow water processes in wetlands as well as another focused on extreme value theory and environmental risk

analysis. It is also supplemented with a new website that provides files needed for sample applications, such as source codes, executable codes, input files, output files, model manuals, reports, technical notes, and utility programs. This new edition of the book: Includes more than 120 new/updated figures and 450 references Covers state-of-the-art hydrodynamics, sediment transport, toxics fate and transport, and water quality in surface waters Provides essential and updated information on mathematical models Focuses on how to solve practical problems in surface waters—presenting basic theories and technical approaches so that mathematical models can be understood and applied to simulate processes in surface waters Hailed as " a great addition to any university library " by the Journal of the American Water Resources Association (July 2009), Hydrodynamics and Water Quality, Second Edition is an essential reference for practicing engineers, scientists, and water resource managers worldwide.

Buoyancy Effects on Coastal and Estuarine Dynamics CRC Press "Advances in Water Resources and Hydraulic Engineering - Proceedings of 16th IAHR-APD Congress and 3rd Symposium of IAHR-ISHS" discusses some serious problems of sustainable development of human society related to water resources, disaster caused by flooding or draught, environment and

ecology, and introduces latest research in river engineering and fluvial processes, estuarine and coastal hydraulics, hydraulic structures and hydropower hydraulics, etc. The proceedings covers new research achievements in the Asian-Pacific region in water resources, environmental ecology, river and coastal engineering, which are especially important for developing countries all over the world. This proceedings serves as a reference for researchers in the field of water resources, water quality, water pollution and water ecology. Changkuan Zhang and Hongwu Tang both are professors at Hohai University, China.

Điều kiện tự nhiên, tài nguyên thiên nhiên và môi trường trong định hướng phát triển không gian thủ đô Hà nội Springer Science & Business Media

This book describes the huge efforts by the Chinese Government concerning the restoration and future sustainable management of Chinese water systems. It presents the results of a Sino-European joint project concerning the Songhuajiang-Liaohe River Basin (SLRB) in Northeast China conducted by the Chinese Research Academy of Environmental Sciences (CRAES), the Helmholtz Centre for Environmental Research - UFZ, Germany, and the Natural Environment Research Council as represented by the Centre for Ecology and Hydrology (CEH), UK. The book explains in great detail the development of risk assessment and corresponding management methods for

(i) controlling water pollution, (ii) assessing river health and ecological restoration options, (iii) characterizing persistent organic pollutants (POPs), and (iv) protecting fragile groundwater resources. It also describes the implemented demonstration sites of SLRB during the project course as well as lessons learnt on efficient project management and the dissemination of knowledge and technologies.

Assessment of California's Natural Gas Pipeline Vulnerability to Climate Change Frontiers Media SA

This book addresses the fundamental requirement for aninterdisciplinary catchment based approach to managing andprotecting water resources that crucially includes anunderstanding of land use and its management. In thisapproach the hydrological cycle links mountains to the sea, andecosystems in rivers, groundwaters, lakes, wetlands, estuaries andcoasts forming an essential continuum directly influenced by humanactivity. The book provides a synthesis of current and future thinking incatchment management, and shows how the specific problems thatarise in water use policy can be addressed within the context of anintegrated approach to management. The book is written for advancedstudents, researchers, fellow academics and water sectorprofessionals such as planners and regulators. The intention is tohighlight examples and case studies that have resonance not onlywithin natural sciences and engineering but with academicsin other fields such as socio-economics, law and policy.

Water Encyclopedia, Water Quality and Resource Development Hydrodynamics

and Water Quality
Hydrodynamics and Water QualityJohn Wiley & Sons
Introduction to Plasma Dynamics CRC Press
As the twenty-first century progresses, plasma technology will play an increasing role in our lives, providing new sources of energy, ion – plasma processing of materials, wave electromagnetic radiation sources, space plasma thrusters, and more. Studies of the plasma state of matter not only accelerate technological developments but also improve the understanding of natural phenomena. Beginning with an introduction to the characteristics and types of plasmas, Introduction to Plasma Dynamics covers the basic models of classical diffuse plasmas used to describe such phenomena as linear and shock waves, stationary flows, elements of plasma chemistry, and principles of plasma lasers. The author presents specific examples to demonstrate how to use the models and to familiarize readers with modern plasma technologies. The book describes structures of magnetic fields—one- and zero-dimensional plasma models. It considers single-, two-, and multi-component simulation models, kinetics and ionization processes, radiation transport, and plasma interaction with solid surfaces. The text also examines self-organization and general problems

associated with instabilities in plasma systems. In addition, it discusses cosmic plasma dynamic systems, such as Earth ' s magnetosphere, spiral nebulas, and plasma associated with the Sun. This text provides wide-range coverage of issues related to plasma dynamics, with a final chapter addressing advanced plasma technologies, including plasma generators, plasma in the home, space propulsion engines, and controlled thermonuclear fusion. It demonstrates how to approach the analysis of complex plasma systems, taking into account the diversity of plasma environments. Presenting a well-rounded introduction to plasma dynamics, the book takes into consideration the models of plasma phenomena and their relationships to one another as well as their applications.

Recent Advances in Fluid Dynamics with Environmental Applications

Springer

Sediment Dynamics of Chinese Muddy Coasts and Estuaries: Physics, Biology and Their Interactions provides a forum for the latest research addressing the physics, sedimentary processes, biology, chemistry and ecological processes associated with these rapidly changing estuarine and coastal environments. The book explores the challenges and

opportunities for future research in China ' s estuaries and coastal waters around the world, and uses China as a case study to provide answers to the causes of, and possible solutions to, these problems, presenting methodologies on working with observation and modelling analysis. China ' s coastal zone is facing many urgent issues in the environmental degradation and sustainable use of its marine resources. This book reviews and synthesizes papers from international research communities, including those from China, to exemplify and document their scientific approaches to manage and recover coastal ecological functions. Presents spatio-temporal processes and multivariate dynamic modelling Includes physical and biological feedback, along with marine ecosystem observation and modeling Features multidisciplinary methodological approaches Includes important information on the effects of climate change to the coasts and estuaries of China

Thematic Cartography for the Society Springer

Coastal areas face increasing pressures from land use change, developmental activities, shoreline erosion, biodiversity losses and natural calamities. This volume

addresses these issues facilitating the integrated analysis of the sustainability of coastal zones. The contributors have tried to focus their respective works on the problems that need urgent attention relevant to present day issues. Coastal Zone Management and its sustainability strategy should safeguard ecological security of the coastal areas, avoid pollution as well as exploitation of living and non living aquatic resources, protecting also the agrarian community and avian population and other floral and faunal breeding grounds. Articles have been selected on the basis of sound scientific findings hoping that it will help in developing meaningful regulations for future sustainable coastal management zone.

Protocol for Developing Nutrient TMDLs Springer

Global warming and population growth have resulted in an increase in the intensity of natural and anthropogenic stressors. Investigating the complex nature of environmental problems requires the integration of different environmental processes across major components of the environment, including water, climate, ecology, air, and land. Cumulative effects assessment (CEA) not only includes analyzing

and modeling environmental changes, but also supports planning alternatives that promote environmental monitoring and management. Disjointed and narrowly focused environmental management approaches have proved dissatisfactory. The adoption of integrated modelling approaches has sparked interests in the development of frameworks which may be used to investigate the processes of individual environmental component and the ways they interact with each other. Integrated modelling systems and frameworks are often the only way to take into account the important environmental processes and interactions, relevant spatial and temporal scales, and feedback mechanisms of complex systems for CEA. This book examines the ways in which interactions and relationships between environmental components are understood, paying special attention to climate, land, water quantity and quality, and both anthropogenic and natural stressors. It reviews modelling approaches for each component and reviews existing integrated modelling systems for CEA. Finally, it proposes an integrated modelling framework and provides perspectives on future research

avenues for cumulative effects assessment.

Sediment Dynamics of Chinese Muddy Coasts and Estuaries CRC Press

This volume deals with the big picture of regional water supplies, how they become contaminated, how they can be protected and how they can best serve the surrounding populations and industries. Significant focus is placed upon the natural chemistry of available water supplies and its biological impacts. Case studies from regions around the world offer an excellent picture of the world's water resources.

Parallel Problem Solving from Nature - PPSN XII Academic Press

This book gathers selected contributions presented at the Enzo Levi and XX Annual Meeting of the Fluid Dynamic Division of the Mexican Physical Society in 2014. The individual papers explore recent advances in experimental and theoretical fluid dynamics and are suitable for use in both teaching and research. The fluid dynamics applications covered include multiphase flows, convection, diffusion, heat transfer, rheology, granular materials, viscous flows, porous media flows, geophysics and astrophysics. The contributions, some of which are introductory and

avoid the use of complicated mathematics, are suitable for fourth-year undergraduate and graduate students. Accordingly, the book is of immense benefit to these students, as well as to scientists in the fields of physics, chemistry and engineering with an interest in fluid dynamics from experimental and theoretical points of view.

Fundamentals of Estuarine Physical Oceanography Springer Nature

The primary reference for the modeling of hydrodynamics and water quality in rivers, lake, estuaries, coastal waters, and wetlands This comprehensive text perfectly illustrates the principles, basic processes, mathematical descriptions, case studies, and practical applications associated with surface waters. It focuses on solving practical problems in rivers, lakes, estuaries, coastal waters, and wetlands. Most of the theories and technical approaches presented within have been implemented in mathematical models and applied to solve practical problems. Throughout the book, case studies are presented to demonstrate how the basic theories and technical approaches are implemented into models, and how these models are applied to solve practical environmental/water resources

problems. This new edition of Hydrodynamics and Water Quality: Modeling Rivers, Lakes, and Estuaries has been updated with more than 40% new information. It features several new chapters, including one devoted to shallow water processes in wetlands as well as another focused on extreme value theory and environmental risk analysis. It is also supplemented with a new website that provides files needed for sample applications, such as source codes, executable codes, input files, output files, model manuals, reports, technical notes, and utility programs. This new edition of the book: Includes more than 120 new/updated figures and 450 references Covers state-of-the-art hydrodynamics, sediment transport, toxics fate and transport, and water quality in surface waters Provides essential and updated information on mathematical models Focuses on how to solve practical problems in surface waters—presenting basic theories and technical approaches so that mathematical models can be understood and applied to simulate processes in surface waters Hailed as “a great addition to any university library” by the Journal of the American Water Resources Association (July 2009),

Hydrodynamics and Water Quality, Second Edition is an essential reference for practicing engineers, scientists, and water resource managers worldwide.

Surface Water Modeling World Scientific " Thematic Cartography for the Society " is prepared on the basis of the best 30 papers presented at the 5th International Conference on Cartography and GIS held in Albena, Bulgaria in 2014. The aim of the conference is to register new knowledge and shape experiences about the latest achievements in cartography and GIS worldwide. At the same time, the focus is on the important European region - the Balkan Peninsula. The following topics are covered: User-friendly Internet and Web Cartography; User-oriented Map Design and Production; Context-oriented Cartographic Visualization; Map Interfaces for Volunteered Geographic Information; Sensing Technologies and their Integration with Maps; Cartography in Education. Focus on user-oriented cartographic approaches.

Sediment Transport and Metals Modeling in an Urban Stream - The Don River, Toronto DIANE Publishing This book provides an introduction to the complex system functions, variability and human interference in ecosystem between the continent and the ocean. It focuses on circulation, transport and mixing of estuarine and coastal water masses, which is ultimately related to an understanding of the hydrographic and hydrodynamic characteristics (salinity, temperature, density and circulation), mixing

processes (advection and diffusion), transport timescales such as the residence time and the exposure time. In the area of physical oceanography, experiments using these water bodies as a natural laboratory and interpreting their circulation and mixing processes using theoretical and semi-theoretical knowledge are of fundamental importance. Small-scale physical models may also be used together with analytical and numerical models. The book highlights the fact that research and theory are interactive, and the results provide the fundamentals for the development of the estuarine research.

Chinese Water Systems Kim Dong/Tsai Fong Books

The six-volume set LNCS 8579-8584 constitutes the refereed proceedings of the 14th International Conference on Computational Science and Its Applications, ICCSA 2014, held in Guimar ã es, Portugal, in June/July 2014. The 347 revised papers presented in 30 workshops and a special track were carefully reviewed and selected from 1167. The 289 papers presented in the workshops cover various areas in computational science ranging from computational science technologies to specific areas of computational science such as computational geometry and security.

U.S. Geological Survey Professional Paper Springer Science & Business Media

Tidal deposits have been a specific research topic for about 40 years, and

whilst this has resulted in a proliferation of papers in scientific journals, there have only been a few book-length syntheses. Over the years, tidal sedimentology has been reinforced by fluid mechanics and numerical modelling but has remained rooted in facies and stratigraphic studies. Recent developments in tidal sedimentology lean toward a more quantitative assessment of the imprint of tides in the facies record of intertidal and shallow subtidal areas. They highlight the increasing relevance of tidal deposits studies, from high resolution subsurface reservoir geology to climate change and sea-level rise. This volume gathers 17 contributions to the Tidalites 2012 congress held in Caen, France. It reflects current advances in the sedimentology and stratigraphy of tidal deposits, in both ancient and modern environments. It shows the current diversity of this field of research, through a wide spectrum of methods including remote sensing, in-situ hydrodynamical measurements, and ichnology, in addition to classic field studies and petrography.