Tidal Tank

Mangrove ecosystems are typical formations found in coastal deposits of mud and silt throughout the tropics and some distance into the subtropical latitudes. The total wordwide mangrove area, which is estimated at about 170,000 km2 with some sixty species of trees and shrubs exclusive to the habitat, dominates approximately 75% of the world's coastline between latitudes 25°N and 25°S. Such unique intertidal ecosystems support genetically diverse communities of terrestrial and aquatic organisms that are of direct or indirect socioeconomic values. Mangrove forests play important roles as coastal stabilization and protection against winds and storms; producers of nutrients, forest resources and animal species of economic importance. Recently, the issues on the conservation, proper utilization and management of mangrove forests have been widely discussed. Unfortunately, overexploitation and destruction of mangroves seriously threatens the sustainability of such a unique ecosystem. This volume includes papers on three main areas: recent advances in mangrove ecology; application and utilization of mangrove resources; and conservation and management of the ecosystems.

MICROBIAL BIOFILMS: PROTECTIVE NICHES IN ANCIENT AND MODERN GEOMICROBIOLOGY J. W. Costerton and Paul Stoodley Center for Biofilm Engineering Montana State University As this book is published based on discussions of a conference that was held in 2001, it may be useful to provide an update on the most recent revelations about biofilms, so that this excellent exposition of the contribution of microbial biofilms to geological processes may be placed in a modem context. The importance of the contribution of microbial biofilms to global processes is only now being appreciated as it is revealed that all terrestrial surfaces are teeming with microbial life in the form of biofilm communities. These communities live on soil particles, in rock fissures, marine and river sediments and at the very extremes of terrestrial habitats from inside Antarctic ice to the walls of deep sea hydrothermal vents. The contribution of these biofilm communities generally went unrecognized because it was the water that was where microbiologists looked for life, not the surfaces, although, evidence of the early association of microbes with surfaces was in fact present in the fossil record (Rasmussen, 2000; Reysenbach, and Cady, 2001). It is also revealing that biofilm formation is found in prokaryotes from the most deeply rooted branches of the phylogenetic tree in both the Archaea and Bacteria kingdoms, the Korarchaeota and Aquificales respectively (Jahnke et al. 2001; Reysenbach et al. 2000).

Published in 1992, this book concentrates on recent developments, applications and aspects relating to numerical hydraulic models for predicting flow and water quality parameters in coastal, estuarine and river waters and river systems. The various chapters cover a range of different types of models and discuss the role of such numerical models for environmental impact assessment studies. The book is based on papers presented by leading experts in the field at a symposium held on 13 November 1991, organized by the Tyne and Humber Branch of the Institution of Water and Environmental Management. It covers the latest developments in modelling techniques and approaches and also the concepts of water quality modelling as required and seen from the viewpoints of regulatory agencies such as the NRA, consulting engineers and specialist modelling laboratories such as

HR Wallingford and WRc. As well as an up-to-date review, it provides an understanding of the problems relating to water quality modelling, and the scope and requirements for using water quality models in the water industry. Readership includes practising engineers and scientists in the water industry, including consulting engineers, water companies and the NRA and other government departments, university and polytechnic libraries, staff and students and all other members of the water engineering profession.

Vols. 39-214 (1874/75-1921/22) have a section 2 containing "Other selected papers"; issued separately, 1923-35, as the institution's Selected engineering papers.

Report of the State Sewage [sic] Commission to the Legislature, Session of ...Report of the State Sewage [sic] Commission to the Legislature, Session of ...Research ReportResearch ReportVan Nostrand's Engineering MagazineVan Nostrand's Eclectic Engineering MagazineThe BuilderPublic Works and Journal of Civil EngineeringAnnual ReportAnnual ReportDocuments of the Legislature of the State of New JerseyAnnual report of the Department of Health of the State of New Jersey. 1913Concrete Under Severe ConditionsEnvironmental and LoadingTaylor & Francis USNumerical Modelling of Tidal Flow Using Nested and Patched Grid Schemes

DK Eyewitness Travel Guide: California will lead you straight to the best attractions this state has to offer. Discover all the major cities and sights, from Los Angeles, Southern California, and the national parks to San Francisco and the Bay Area to wine country, the north, and more. Experience the culture, history, architecture, wildlife, beaches, and scenic walks and drives. Whether you're exploring historic towns and museums or making the most of the nightlife, this in-depth guidebook provides the insider travel tips you need. Discover DK Eyewitness Travel Guide: California. + Detailed itineraries and "don't-miss" destination highlights at a glance. + Illustrated cutaway 3-D drawings of important sights. + Floor plans and guided visitor information for major museums. + Guided walking tours, local drink and dining specialties to try, things to do, and places to eat, drink, and shop by area. + Area maps marked with sights and restaurants. + Insights into history and culture to help you understand the stories behind the sights. + Suggested day trips and itineraries to explore beyond the cities and towns. + Hotel and restaurant listings highlight DK Choice special recommendations. With hundreds of full-color photographs, hand-drawn illustrations, and custom maps that illuminate every page, DK Eyewitness Travel Guide: California truly shows you this state as no one else can.

How has Irish nature been studied? How has it been expressed in literature and popular culture? How has it influenced, and been influenced by, political, economic, and social change? These long-neglected questions are pursued in Nature in Ireland, a pioneering collection of original essays by leading naturalists, science writers, and cultural historians who bring us from the geological prehistory of Ireland to the environmental threats of the late twentieth century.

Refinements have been made to an existing computational model for the prediction of flows and water levels in coastal and estuarine waters via the numerical solution of the depth-averaged Reynolds equations on a system of nested grids. In particular, higher order accurate finite difference representations of the advective acceleration terms have been introduced into the discrete equations of motion, and a "partial-slip" condition has been used in the evaluation of the eddy viscosity terms adjacent to solid boundaries. These refinements have been tested on a computational model bearing an exact correspondence to a tidal tank constructed in the Hydraulics Laboratory at the University of Bradford. Extensive measurements were taken of the velocity values across the central axes of a rectangular harbour set within the laboratory tidal tank and the velocity profiles so obtained were compared with the equivalent numerical results. It was found that the agreement between physical and computational model predictions improved in accordance with the theoretical accuracy of the finite difference scheme. Problems were encountered in the computational flow field of the coarse grid of the nested model in the region outside the harbour in which a strong jet away from the harbour entrance was predicted at maximum flood tide in conflict with laboratory observations. These problems were shown to be independent of the mathematical model and its discrete approximation. A patched model was developed in which the coarse and fine grid cells were dynamically linked, thereby obviating the need for a "near field" model at the coarse grid scale. With this patched model, the anomalies that had occurred in the flow field of the nested model were removed without a loss in accuracy in the predictions within the harbour.

Dynamic Aquaria is the outgrowth of years of research aimed at studying how to accurately model and construct living ecosystems in mesocosms, microcosms, and aquaria. It is a unique book, presenting scientifically sound information for a growing new area of science--synthetic ecology, or the construction of living ecosystems. At the same time, the authors present thoughtful perspectives on how knowledge gained by creating these smaller ecosystems helps us to understand our wild ecosystems and biosphere as a whole. For the scientist: n This book presents an array of new approaches, some revolutionary, to the development and operation of experimental ecosystems For the professional aquarist: n This book demonstrates the ever-expanding possibilities for creating functioning ecosystems for educational display For the hobbyist: n The book demonstrates the practical potential for building and operating true, "natural" ecosystems, rather than artificial habitats that house a few selected organisms

The future of the Common Fisheries Policy depends on progress in the relevant areas of research. This applies to the whole range of management decisions, where precise, reliable and complete data are essential to inform those who must decide on the pursuit of existing activities, especially in the area of maritime fisheries, and the development of promising new activities such as aquaculture. Every day the Director-General of DG XIV requires more and more information to prepare decisions which will affect the future of all those in the Community

who are dependent on fishing and aquaculture. There is thus a high level of direct demand from DG XIV. Over and above this immediate and specific requirement for short- and medium-term applications, research affects the competitivity of the Community. This is one area which favours the collaboration across frontiers of all those who seek to advance knowledge. But although DG XIV is uniquely placed to appreciate the importance of research into fisheries and aquaculture, there is no question of succumbing to the temptation to directly control the scope of research or its conduct. The notion of subsidiarity can best be understood by examining the existing structures in the Member States. The Commission must act first and foremost as a catalyst, by promoting the circulation of information and the coordination of research programmes.

DK Eyewitness Travel Guide: California leads you straight to the best attractions California has to offer and provides the insider travel tips you need, whether you're making the most of the nightlife or exploring historic towns and museums. Fully illustrated, it covers all the major cities and sights, from Los Angeles, southern California, and the national parks to San Francisco and the bay area to California wine country, the north, and more. DK Eyewitness Travel Guide: California explores the culture, history, architecture, wildlife, beaches, and scenic walks and drives. You'll find 3-D illustrated cutaways and floor plans of all the must-see sights, as well as street maps and reliable information for getting around. Plus, this guidebook is packed with comprehensive listings of the best hotels, restaurants, shops, and nightlife in each area for all budgets. With hundreds of full-color photographs, hand-drawn illustrations, and custom maps that brighten every page, DK Eyewitness Travel Guide: California truly shows you this state as no one else can.

Rediscover the simple pleasures of a day trip with Day Trips Hudson Valley. This guide is packed with hundreds of exciting things for locals and vacationers to do, see, and discover within a two-hour drive to and from many top New York destinations. With full trip-planning information, Day Trips Hudson Valley helps makes the most of a brief getaway.