



BOOK REVIEWS

Port Engineering, Volume I: Harbor Planning, Breakwaters, and Marine Terminals, Per Bruun, (ed.), 1989. Houston, TX: Gulf Publishing Company, \$US230.00, 146p. ISBN 0-87201-843-1 (v. 1) [Cloth].

Port Engineering, Volume II: Harbor Transportation, Fishing Ports, Sediment Transport, Geomorphology, Inlets, and Dredging, Per Bruun, (ed.), 1990. Houston, TX: Gulf Publishing Company, \$US155, 928p. ISBN 0-8720-847-4 (v. 2) [Cloth].

Now in its fourth revision, *Port Engineering* incorporates new developments that have occurred in this diverse field. Thoroughly updated and revised, this edition spans two volumes of considerable bulk. *Port Engineering* has long been regarded as the most comprehensive reference available on port and coastal engineering. This classic 2-volume set covers such a wide range of topics that it is difficult for one reviewer to assess its value in every aspect. This review thus provides a general overview of the two volumes.

Volume 1 deals with recent progress in port economics and navigation; harbor hydraulics; breakwater design and engineering techniques; modeling techniques; marine structures and foundations; terminal construction; berthing, mooring and fendering principles; and cargo handling. This volume features modeling techniques that emphasize hydrodynamic, hydro-mechanic, and geomechanic aspects rather than wave statistics; structural changes in terminal designs and materials; soil mechanics and foundation improvements; and innovation associated with the "new" technology of 'unprotected terminals.'

This volume is divided into four chapters, *viz* (1) port planning, (2) port navigation and hydraulics, (3) breakwaters and jetties, and (4) wharves, quays, terminals, and mooring devices. It is interesting to note that Per Bruun is apparently responsible for most of the articles, a herculean research and writing task to say the very least. Other experts cover various and sundry topics as follows: H.F. Cornick (A Historical Perspective of Ports), O.G. Houmb (Basic Wave Statistics), G. Moe (Appendix A, Part I: Wave and Current Forces), S. Nagai (Appendix A, Part 2: Wave Forces on Vertical Wall Breakwaters), Y. Goda (Appendix A, Part 3: Vertical Breakwaters in Japan), P. Soros (State of the Art of Bulk Terminal Technology, J.A. Atkinson (Use of Tugs), J. Roll (Practical Considerations in Berthing, Mooring, and Fendering, J.K. Vrijling and J. Osting (Probabilistic Design of Flexible Dolphins), F. Vasco Costa (Fender Forces During Berthing), K.N. Derucher (Evaluating Pier Fendering Systems), P. Tryde (Appendix B: Ice Engineering), H. Soininen and J. Tuhkuri (Icebreakers and Icebreaking), and F.T. Christensen (Air Bubbles for Ice Suppression). This list not only identifies a panel of experts but indicates the wide array of topics that are covered in varying degrees of detail. The general layout of the volume is satisfactory. The photographs are usually clear but some line drawings have been reduced too much, so much so, in fact, that parts drop out leaving incomplete figures (*e.g.* Figures 4-228c, page 1066; 4-264, page 1127). But, this is a minor quibble for a work of this size as most of the figures are adequately depicted. The chapters contain sections of boxed text that is abstracted from other publications or is parenthetical to the main discussion. For short excur-

sions this is a useful technique but when the boxes go on for pages and pages, one has a tendency to get lost in the details. One such section, for example ("Studies of the Corrosion of Steel Materials in a Marine Environment, pp. 815-846) goes on for 30 pages. As a reader I can, however, appreciate the enormous problems the editor faced while attempting to organize so much information. Presenting such a wealth of data in a cogent manner, and in a limited number of pages, has inherent problems that are often difficult to overcome. Tables and figures are used effectively to quickly convey information or a perspective but the boxed text technique might be reconsidered in subsequent editions. The references for the entire volume are numbered and grouped together at the end, after the comprehensive index. The 426 references are generally complete for main line journals and books. Some researchers might wish for more information in bibliographic citations in the grey literature or for symposia and conference proceedings. Reference to the list of citations shows quite clearly that the volume is well documented and that it can adequately serve as a staging area for further reference and research.

The second volume in this two-volume set is divided into six chapters: (5) harbor transportation, (6) fishery and small craft harbors, (7) littoral drift and sedimentation problems, (8) coastal geomorphology vs. port engineering, (9) tidal inlets on alluvial shores, (10) dredging technology. About twenty-five additional experts supplement the entries authored by Per Bruun, as follows: G. Schrewelius (Appendix C, Part 1: Cargo Handling in the '90's at the Skandia Harboro), S. Erichsen (Appendix C, Part 2: Optimizing Containerships and their Terminals), Appendix C, Part 3: Ferry Terminals), W.J. Guckian (Fishery Harbors; Appendix D, Part 1: Further Details on Vessel Repair Facilities; Appendix D, Part 2: Water Needs for the Fishery Harbor; Appendix D, Part 3: Landing at Exposed Locations—Special Facilities for Difficult Shore Situations), U.S. Army Corps of Engineers (Appendix D, Part 4: Floating Breakwater Prototype Test Program: Seattle, Washington), L.C. Van Fijn (Sedimentation of Dredged Channels by Currents and Waves), Z. Carmel, D.L. Inman, and A. Golil (On Directional Energy Flux and Langshore Sediment Transport), H. Katsui and E.W. Bijker

(Expected Transport Rate of Material on Seabed), E.J. Hayter, A.M. Teeter, and A.J. Mehta (Sedimentation Analysis of Estuaries), J.A. Layton (Basin Geometry), A.J. Mehta (Presiding Basin Sedimentation—A Rational Approach), A.N. Biswas (Improving the Ship Channel Depth Within the Hugli River Estuary), A.J. Mehta, R. Ariathurai, P-Y Maa, and E.J. Hayter (Sedimentation—Preventive and Removal Measures), P. Neilsen (Appendix E, Part 1: Coastal Bottom Boundary Layers and Sediment Transport), R. Deigaard, J. Fredsoe (Appendix E, Part 3: Mathematical Model for Littoral Drift), T. Aagaard (Bar Formation and Migration), M.L. Schwartz (A Coastal Geomorphologist's Views on Recent Developments in Coastal Geomorphology), Ir.M. Meulblok and R.N. van Weezenbeek (Silt Dredging: Water Injection Technique Shows Energy Consumption Advantage), P. van Leeuwen (Maintenance Dredging in Rotterdam), M. Nauke (Disposal at Sea of Dredged Material Under the London Dumping Convention), J.H. Sargent (Recent PIANC Contribution to the London Convention), and W.R. Morrison (Drilling and Blasting Systems and Principles).

Issued in 1990, a year after publication of Volume I, this volume completes the set of two and is produced similarly. There are some minor differences, however. The references are, for example, grouped at the end of appropriate sections instead of being grouped at the end of the volume. Again, they are numbered and in alphabetical order, more or less. The numbering system continues with "References Added to the 4th Edition," a somewhat cumbersome arrangement. Nevertheless, all the important references are there providing avenues for further reading and research.

In summary, this two-volume set constitutes a very important contribution to the literature of coastal engineering. Revision of this updated edition was a mammoth task that could only be achieved by a very competent and energetic editor-author. Per Bruun is to be congratulated for preparing a first class international reference work that will undoubtedly stand the test of time. In a work of this size (over 2,600 pages) there will always be minor points to quibble about but these detractions are indeed minor compared to the overall high quality of presentation and production. The moderately high price of the set may be offensive to some

researchers and librarians but when you consider the alternative of compiling such vast information between four covers, the price really isn't outrageous. The set is in line with today's prices, which are high everywhere. As a complete reference, this revised edition will be hard to beat. Occupying almost 13 cm of shelf space, you may have to remove some other out-of-date editions to accommodate this latest round of encyclopedic information in port engineering. It seems quite clear from my perusal of the set (I did not read each each volume cover to cover) that it will remain an essential reference for not only engineers but all those who have ancillary interests in ports. *Port Engineering* is thus recommended without reservation as an important reference source that should be acquired for the first time or to replace earlier editions.

Charles W. Finkl, Jr.
Coastal Education & Research Foundation
Fort Lauderdale, Florida

Ocean Change in Global Change: Introductory Geographical Analysis, Adalberto Vallega, 1990. Universit Degli Studi di Genova, Istituto di Scienze Geografiche, Pubblicazione 44 (IGU Commission on Marine Geography), 136pp. No price given. No ISBN.

This book is a contribution to the IGU Commission on Marine Geography, Regional Conference on Asian Pacific Countries held in August 13-20 (1990), Beijing, China. The topics covered in this book are far ranging and deal with a variety of interesting issues that center around the changing themes of ocean management. There is a useful review of jurisdictional belts and ocean management, particularly as they pertain to spatial patterns and use/environment interactions. Perhaps of most interest to coastal researchers is the discussion that focuses on issues and actions in the coastal zone: management, legal framework, urbanization, industrialization, and offshore activities. Each of these major categories is broken down into salient issues that are followed by recommendations for future research. The book should be of interest to those interested in various aspects of coastal ocean policy/management.

Charles W. Finkl
Coastal Education & Research Foundation
Fort Lauderdale, Florida

Recreational Uses of Coastal Areas, P. Fabbri (ed.). Kluwer Academic Publishers Group, Dordrecht, The Netherlands, 1990, 285p., Dfl., 190.00 (US\$ 99.00). ISBN 0-7923-0279-6 (US).

The growth in leisure time during the past century is perhaps nowhere better illustrated than in the development of resorts, harbors for pleasure boats and sport fishermen, and vacation spots along coastal areas. The population explosion around the world has seen increased development of coastal regions for industrial and urban purposes. This "drang" to the coast with inevitable clashes over use of environmental and human resources has posed a number of problems for planners, environmentalists, demographers, and others. This book, comprised by illustrative case studies from a number of cultural and environmental situations, is an outgrowth of studies by the commission on the coastal Environment of the International Geographical Union. The editor, Paolo Fabbri, has ably assembled aspects of the investigation of the interaction between the coastal dweller and the coastal recreational visitor. The 23 contributions are grouped into four main sections. The introducing section includes eight regionally-based studies that discuss recreation in such coastal areas such as Florida, South-Wales, Port Phillip Bay (Australia), Singapore, the Azov Sea coast, Guyana, central Chile, and Québec. Contributions grouped in the second section show that man's recreational impact in the coastal zone is not necessarily conditioned by mild climate, sunny conditions, or the presence of beaches. Seven case studies make up section III, which is based on coastal planning in general. The last section contains two essays. The first provides an overview of marine recreation in North America while the second deals with morphological and functional models of beach resorts.

References are included with each chapter or essay but there is no author or subject index. Indices would have been useful in a work of this sort. Alas! Living in a time when there is great pressure on the use (or misuse) of coastal resources, it is painfully obvious that coastal