

Nearshore Dynamics and Coastal Processes: Theory, Measurement, and Predictive Models, Kiyoshi Horikawa (ed.), 1988, University of Tokyo Press, Tokyo, 522p. (15000 Yen; approx. \$115 US), ISBN 4-13-068138-9, ISBN 0-86008-418-3.

Recent advances in coastal research have been both numerous and rapid, and the scientific community has awaited anxiously the publication of an updated replacement (alternative) for the standard reference text by Komar (1976). While Horikawa's text is a welcome addition to the literature, it is not likely to supplant Komar's book as the premier source in the field; rather, it will function best as a supplement, primarily because of its unbalanced presentation.

The book was written as an advanced reference for coastal scientists and engineers interested in prediction of beach evolution. There are five major sections: (I) Waves and Nearshore Currents; (II) Beach Change and Coastal Sediment Transport; (III) Numerical Model of Beach Topography Change; (IV) Prediction Models of Shoreline Change; and (V) Field Observations. The format was well conceived, and there are numerous subheadings that make the table of contents most useful as both a summary and a quick guide to locate specific information. In contrast, the index is remarkably short and of little use. There are numerous illustrations, yet the majority tend to be graphical in nature and saturated with information. The production of the book is of good quality (the pages are still in place and the spine is intact, despite my abuse), and the editing superb (the prose is not contorted, and no misprints were found, which is remarkable since the book is translated from Japanese).

How good is the book? Two criteria were used to address this question: does the book meet its principal aims; will the book be of use (and to whom)? The principal aim, as stated in the General Introduction, is "to introduce the present state of the art of beach evolution prediction." Further, the book was to be self-contained and comprehensive. However, Horikawa also states that, "One of the important goals of the NERC (Nearshore Environment Research Center) Program was to publish a comprehensive reference book dedicated to the practical methods in predicting beach evolution, *as developed by the NERC Program*." The book is successful in accomplishing the latter goal, but not the former, because it is little more than an extended

summary of the findings of the NERC program. In this respect, the title of the original Japanese text (1985), "Coastal Environment Engineering—Theory, Field Observations, and Prediction of Beach Evolution," is much less misleading than the title of the present (translated) version.

The utility of the book depends very much on the user's purpose. There is a strong bias toward the engineering literature since most of the contributors are, or have been, affiliated with engineering departments, and since much of the applied work derives from NERC studies along heavily-structured coasts. Thus, from an engineering standpoint, the book is probably of great utility. From my standpoint, as a coastal geomorphologist, it is of peripheral interest: it is neither comprehensive nor insightful into the nature of nearshore dynamics and coastal process. Although it enumerates the myriad studies that exist on specific topics, it never discusses them. For example, in the section on synthetic wave spectra (p. 39), the entire discussion of type 6 reads as follows: "Ochi and Hubble (1976) proposed a six-parameter spectrum which can reproduce a bimodal spectrum." In the section on wave theories, the reader encounters a complete set of 34 equations for the third-order solution to Cnoidal wave theory, and is informed that higher-order solutions have been calculated on a computer. However, the validity of this theory to wave modeling on beaches, or how the added precision contrasts with the crude character of other system parameters are not addressed. The book's unbalanced nature is exemplified further by the 100-page presentation on wave theories (377 equations), followed by a 2-page discussion on longshore currents (4 equations). The sections on beach evolution modelling are presented similarly: an extensive presentation of model construction is generally followed by a comparison of calculated and measured results, with little discussion of the source of errors or the model's broader applicability.

One significant contribution of this book will be a heightened awareness of the important and extensive research being conducted in Japan, of which many workers in this sub-field are largely ignorant. Unfortunately, except for the classics, much of the non-Japanese literature is not described, which detracts from the book's comprehensiveness. As a consequence, the reader often finds the Japanese equivalent of a model, to which he(she) might ordinarily attach other people's names. For example, in the sec-

tion on beach morphologies and change (p. 145), there is a beach-change model by Sunamura (1985) that looks much like the conceptual model proposed by Wright, Short, and others from the Australian school (with only indirect mention of the latter work). Fortunately, the bibliography is extensive; however, a significant number of the citations are available in Japanese only. Hence, as a primary reference source for English-speaking countries, the text is deficient. As a supplement, the text fares well.

Horikawa has accomplished an immense task by compiling the results of field and numerical investigations undertaken under the auspices of NERC and related Japanese studies, and he has served English-speaking coastal researchers well by making this information easily accessible. However, because of the book's strong engineering orientation, fraught with theoretical and empirical relationships but lacking analysis and insight, my inclination will be to pull Horikawa off the shelf only after Komar is already on my desk.

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Cities on the Beach: Management Issues of Developed Coastal Barriers edited by Rutherford H. Platt, Sheila G. Pelczarski & Barbara K. R. Burbank, The University of Chicago, Department of Geography, Research Paper No. 224, 1987, 324 p., US\$10, ISBN 0-89065-128-0 (paperback).

(Available from the publisher at 5828 S. University Avenue, Chicago, Illinois 60637-1583, U.S.A.)

In January 1985 at Virginia Beach, Virginia, a conference with the same title as this volume was attended by researchers, government officials, citizen activists and students. From some 75 papers, the editors have refined and edited 27 papers for this volume. They regretted that space did not permit the inclusion of several more good ones. In a way, this volume would therefore represent the very best or essential from that conference.

The obvious target for this volume would be those involved in the management of coastal barriers in the United States. The term 'coastal barrier' is used broadly in this volume to include the series of islands, spits and tombolos

fringing the lowlying coastal plains along 2,700 miles of the Atlantic and Gulf coasts from southern Maine to Texas. The barriers totalled 1.6 million acres and more than 63 million Americans live within 50 miles of them.

An introductory overview of the developed barriers is given by the senior editor. This is followed immediately by a paper on the 1982 Coastal Barrier Resources Act (CBRA) explaining the new federal policy stance in not subsidizing future development on hazardous, undeveloped coastal barriers, which still account for 18 percent of the total barriers. This paper provides an essential background to understanding CBRA-related issues in the other papers.

The rest of the volume is organized around seven themes or sections, of which the first three sections account for more than half of the volume or 15 of the 27 papers.

Of the four papers under the theme of geographical characteristics of coastal barriers, three have a wide geographic coverage dealing with the classification of coastal barriers for management, the effects of political fragmentation on local management of developed coastal barriers, and the population changes from 1960-80. The fourth paper is on shoreline changes with reference to the New Jersey barrier coast.

In the section on planning and growth management, there is a key paper on growth management on developed barriers. This is followed by papers on barrier management at the local level (Collier County, Florida), a preliminary management model based on 'regional multiple use, local single use' and suggested as an alternative to the CBRA, the management experience of the National Parks Service, the 'campground towns' of South Carolina Grand Strand, and the issues in estimating the economic aspects of beach recreation.

Three of the five papers in the section on shoreline management deal with dunes: the Dune Management District concept (example from Fire Island, New York), a successful dune restoration program (example from Mantoloking, New Jersey) and dune management recommendations (New Jersey). The other two papers are on approaches to hazard analysis (example from Ocean City, Maryland), and attitudes towards coastal erosion (example from Carolina Beach, North Carolina).

The four papers in a shorter section on hazard management are exclusively on hurricanes, reducing the impact before and after their occurrence. The papers are on evacuation dur-