There are plenty of small-scale location maps, but some more detailed plans would have helped explanations of, for example, the problems at Oregon Inlet and Currituck.

Overall this is an informative, well-written book at a reasonable price.

R.W.G. Carter
Coleraine, Northern Ireland


This volume, number thirty-seven in the Elsevier geotechnical engineering series, was produced under the general editorship of Per Bruun, assisted in design and construction by M. Losada (Spain), Sv. Kjelstrup (Norway), and J.H. van Oorshot (The Netherlands). The twenty-four contributors were from fourteen countries providing an international scope to this major reference volume. This book, a compilation and summary of development in recent years, provides a wealth of information relating to design parameters, construction, and maintenance of breakwaters.

Introductory material covers the history of breakwaters as well as their function, stability, and classification of damages by knockouts, liftouts, slides of armour, general breakdown and fatigue, undermining, overwash, lift-up and through-washes, toe erosion, failure of substrate, and so on. The second chapter deals with basic parameters for design, viz. hydrodynamics, waves versus structures analysis, structural unit stability, geotechnical aspects, placement of armour, and ice action against rock mound structure slopes. Design considerations in chapter three focus on practical aspects such as construction and design of breakwaters, including the choice of optimum design, risk analyses, and economic design. Chapter four deals with actual methods of construction for small, medium, and large mound breakwaters. This chapter is most informative as it attempts to explain the advantages and disadvantages of different kinds of construction, maintenance, and cost. In Chapter 5 various examples are given for mound breakwaters the world over. Graphic photographs highlight various types of breakwaters and suggest possible causes of failures and remedial action. Chapter seven considers the types and functions of coastal protective mounds and revetments. Also included in this chapter are discussions of methods of beach and dune nourishment and maintenance of beach fills by bargeing, bypassing, and scraping. The concluding eight chapters deal with alternative designs of mounds, particularly the application of bituminous mixtures and structures. The latter methods show ingenuity and possibilities for a wider range of mound structures that are durable under difficult conditions.

The volume contains an adequate subject index but an author citation index would have been helpful. The general quality of line drawings and halftones is good (some are not so good) but it was disappointing to find that the pages were just glossy reproductions of typewritten manuscript. Another minor irritation centers about the fact that it is generally not possible to determine which contributor should be charged with the responsibility for specific sections (There are a few exceptions where authors are indicated). In a multi-authored work such as this, many readers will probably want to know who wrote what.

No publication is perfect and the imperfections indicated here are minor compared to the overall value of this major contribution to understanding of mound breakwaters. Coastal engineers, coastal zone managers, academics, and politicians will find this book essential reading. Although not written for the layman, others besides coastal engineers will find that parts of this compendium will answer important if not critical questions that are relevant to many issues bordering on the socio-economic fringe. Those who are interested in geotechnical engineering will find this book indispensable and a worthwhile investment. My advice is to buy it, read it, and practice what it preaches!

Charles W. Finkl, Jnr.
Fort Lauderdale, Florida


Books which provide identification keys for animals or plants of specific geographical areas are valuable and often difficult to find. Consequently, the handy and reasonably priced Collins Guide to