

itself. Nevertheless, the book will be a useful addition for those interested in oceanographic modeling and wishing to reach for an up to date statement of North Sea research in the fields covered.

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Late Quaternary Environments of the United States, edited by H.E. Wright, Jr., 1983, University of Minnesota Press, Minneapolis, Minnesota. V. 1 The Late Pleistocene (S.C. Porter, editor), 407p. V. 2 The Holocene (H.E. Wright, Jr., editor), 277p. ISBN 0-8166-1169-6 and 0-8166-1171-8.

These volumes contain a wealth of data that will be invaluable to Quaternary specialists. Each contains a chapter by Arthur L. Bloom on sea level and coastal morphology. There is little or no discussion on morphological dynamics and both articles are seriously flawed by Bloom's simplistic models of sea-level change that make no provision for known climatic fluctuations. They are useful, however, for bringing the different types of coasts in the United States into a convenient synthesis and reviewing their paleogeographic evolution.

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Coasts: Institutional Arrangement for Management of Coastal Resources, by Jens C. Sorensen, Scott M. McCreary, and Marc J. Hershman, 1984, Research Planning Institute, Columbia, South Carolina, 165p. \$US 21.00, ISBN 0-9315-310-4.

The extensive environmental legislation passed in the U.S. during the 1970s has often been exported to developed and developing countries, yet little has been written comparing coastal zone management efforts on the national levels. Sorensen, McCreary and Hershman's monograph *Coasts: Institutional Arrangements for Management of Coastal Resources* is one of the first such attempts. The volume addresses coastal management efforts and institutional arrangements which coastal nation-states and their sub-entities (colonies, commonwealths, possessions, etc.) have created to deal with coastal resources.

This monograph totalling no more than 165 pages is divided into nine chapters and three appendices. The reader who seeks specific answers to particular

management problems will find few concrete answers to help him with day-to-day problems. Instead, this volume will be invaluable to those who may be charged with developing a coastal resources program on the national and sub-national levels. In fact, it should be required reading for both present and aspiring consultants, bureau officials, and academicians involved with international marine resource program implementation.

The nine chapters move logically from defining the coastal zone geographically through several chapters discussing the evolution of coastal zone management, specific issues confronting coastal zone managers, to an analysis of the management and governance system responsible for coastal zone resources and processes.

The authors' objectives are, by any standard, ambitious yet it is surprising how well they have succeeded. The volume is well organized describing and categorizing the problems confronting the coastal zone manager and planner. This is especially difficult considering the often complex interacting systems characterizing this environment. By the authors' own account a monograph undoubtedly could have been written on each of the topics covered in the nine chapters. Their success in summarizing the lessons learned in national and international coastal zone management is no less an accomplishment, particularly since it is well written even by those with only limited experience in coastal zone management.

A brief introductory chapter describes "the institutional arrangement that has been used to both conserve and develop coastal resources and environments." This is followed by a discussion of the coastal zone as defined from a spatial point of view. The numerous definitions which have described the coastal zone outside the U.S. closely follow the developments in the U.S. (ARMSTRONG, *et al.*, 1974), and have been nicely summarized by several interesting graphs and tables. Brief descriptions of integrated versus topical planning concludes this chapter.

The significance of the coastal zone as an environment with substantial resources located within it (fishing, mining, mangroves, wetlands, etc.) and as an area of transit (commercial shipping, warehousing, and manufacturing) is discussed in Chapter 3. Two coastal evaluation models are also presented which are of potential use when assessing the socio-environmental value of the coastal zone. The absence of coastal demographic information is noted in *Coasts*, a phenomenon that prevails in