errors and no misplaced figure captions. As in all SEPM publications the printing is excellent.

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Davis, R.A., Jr., 1994. **Geology of Holocene Barrier Island Systems,** New York: Springer-Verlag, 464p., ISBN 3-540-56964-2, $149(HC).

This book is a major contribution to the study of barrier island geology within the Holocene, and represents one of the most comprehensive reviews of the topic to date. The book covers all aspects of the Holocene barrier island system in addition to related environments, morphodynamics, sediments, structures and their interactions. Ten chapters comprise the text, each written by some of the world's leading experts on barrier island geology and dynamics. Ninety percent of the text is devoted to barriers in the United States, with a brief chapter at the end incorporating discussion of barriers around the world.

Chapter 1, Barrier Island Systems—a Geologic Overview, written by the editor R.A. Davis, provides a basic framework for the barrier system, emphasizing the predominant processes operative on barriers, in addition to sediments, morphology and stratigraphy. The chapter is well written and a moderate amount of the more pertinent literature is successfully woven together resulting in a most comprehensible review. Chapter 2, The Outer Banks of North Carolina, written by T.F. Moslow and D. Heron, Jr., provides a discussion of the morphology and depositional environments along this suite of barriers, in addition to details of sediment sources and sinks, sequences, stratigraphy and depositional history. Chapter 3, written by R.A. Morton and entitled Texas Barriers, provides an interesting contrast to barriers along the Atlantic. While the author conforms to the framework establish in Chapter 1, sections on progradational and aggradational barriers, which constitute over 50% of the Texas coast, are included making this overview somewhat unique. The author concludes that Texas barriers are entering a new phase of their evolutionary cycle due to an increase in the rate of relative sea-level rise and a diminution in sediment supply. In Chapter 4, Barrier Systems of California, Oregon and Washington, J.R. Dingler and H.E. Clifton make the point up front that the active continental margin has helped create a highly unique suite of barriers, all of which are technically spits and bay barriers. This chapter concentrates more on sediment sources and littoral transport, oceanography and climate, with short sections on depositional facies and stratigraphy. The bias towards oceanography historically evident along the west coast is clearly reflected in the lack of literature available on the geology of late Quaternary deposits. For that reason alone, the authors have provided an important chapter which reiterates that barrier systems exist further west of Texas. Chapter 5 takes the reader to the Gulf Coast and R.A. Davis provides a discussion on Barriers of the Florida Gulf Peninsula. This is a well balanced review of coastal morphodynamics, barrier stratigraphy and depositional history. Davis states that the barrier complex comprising the Gulf peninsula is the most morphologically diverse in the entire world because of the presence of the complete spectrum of barrier and inlet morphologies. The area is characteristically dynamic, although the combined wave and tide-generated processes are skewed to the lower end of the energy spectrum. Chapter 6, New Jersey and Delmarva Barrier Islands, written by G.F. Oertel and J.C. Kraft, is quite probably one of the weakest chapters in the text. This is particularly apparent if one considers the vast amount of literature published on the Holocene geology of this coastal stretch from New Jersey to Virgina. Discussion is largely based on a number of coastal compartments previously established in the literature and includes cuspate spits, eroding headlands, "wave-dominated" and "tide-dominated" spits and barrier islands. Special mention is made of the controlling effects of interfluve headlands on barrier evolution. Chapter 7, The Georgia Bight Barrier System, written by M.O. Hayes, is among the most comprehensive and well written contributions to the book. In some seventy pages, the author intricately reviews the existing literature paying homage to those that have made substantial contributions to our current understanding of this area, many of which were made by Hayes' students. Approximately 50% of this particular coast is characterized by wave-dominated, stratigraphically transgressive barrier islands, and the remainder predominantly short, mixed-energy, regressive barrier islands with downdrift offsets. The author presents the importance of increasing tidal range towards the head of the bight and the corresponding increase in tidal inlets. Chapter 8 is entitled the New England Barriers, written by D.M. FitzGerald, P.S. Rosen and S. van Heteren, and is a beautifully written, comprehensive piece that the authors have obviously spent a significant amount of time preparing. The review heightens the reader's awareness that New England is indeed highly unique when compared with the Eastern Seaboard south of Long Island and the Gulf of Mexico, because of glacial effects. The bedrock fabric is exposed along the rocky coastline, sediment sources tend to be isolated and post glacial adjustment has resulted in complex and highly variable sea-level histories in the region. Nevertheless, the authors suggest that while the geologic setting and longer-term evolution of this region is unique, it suffers similar problems to those readily apparent along the Eastern Seaboard and Gulf of Mexico, namely chronic erosion associated with a reduction in sediment supply and rising relative sea level. Chapter 9, Barriers of Pacific Alaska, written by M.O. Hayes and C.H. Ruby, is yet again, a remarkably comprehensive review of an area where published literature tends to be somewhat scant. The authors discuss three basic depositional models; wet alluvial fan system, prograding beach ridge system comprised of sand to gravel-size sediments, and mixed-energy barrier island system analogous to that of the Georgia Bight. Finally, Chapter 10 of the book, written by R.A. Davis and entitled, Other Barrier Systems of the World, investigates the distribution of barriers around the world, concluding that the distribution is

typically related to global tectonics. The author considers a wide variety of locations, variable ages and morphologies. Wave energy spans the spectrum, tidal range varies between 1 and 3 meters, and the influence of the inner shelf, sediment source proximity, all contribute to global diversity.

As I stated at the outset, this book is a major contribution to the literature on the geology of Holocene barrier systems. In some regions it provides more detail than the special issue of *Marine Geology* (edited by G.F. Oertel and S.P. Leatherman) published in 1985 on this particular theme. However, it is clearly apparent that some of the contributors spent a substantial amount of time preparing their chapters, whereas, some were not so diligent. If there is a major weakness in this book it is the omission of the wealth of knowledge obtained from numerous studies performed on the deltaic coast of Louisiana. Only a few paragraphs are offered in Chapter 10 dealing with the Chandeleur Islands in eastern Louisiana. In addition, a large portion of the barrier and beach ridge systems comprising the Northeast Gulf were omitted, although the depositional history and morphodynamics have been worked out to some degree. I think the ordering of the text was not seriously considered and it would have made more sense to group the chapters by region. Nevertheless, this is a fine contribution and one that students, faculty and other professionals with coastal interests will find exceptionally useful.

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Carter, R.W.G. and Woodroffe, C.D., (eds.), 1994. **Coastal Evolution: Late Quaternary Shoreline Morphodynamics,** Cambridge: Cambridge University Press, 517p., ISBN 0 521 41976 X (HC).

This book is a contribution to the International Geological Correlation Program Project 274, "Coastal Evolution in the Quaternary". The book introduces a variety of the latest concepts in coastal morphodynamicss in a number of environments including deltas, reefs, estuaries, lagoons, polar, wave-dominated, and tectonic coastlines in addition to developed coasts. The book is geared towards undergraduates (I suspect graduate students will find it very useful also) studying coastal geomorphology, geologists working on coastal sedimentary sequences in addition to environmental scientists, engineers, planners and coastal resource managers attempting to understand the processes of change in coastal systems.

Chapter 1 of *Coastal Evolution,* written by the editors, provides a launch point for the remainder of the book by reviewing such things as current paradigms governing coastal studies, the history of coastal evolution, time-space considerations in coastal research and human impacts. Chapter 2, Morphodynamics of Coastal Evolution (P.J. Cowell and B.G. Thom) is a comprehensive and indeed, thought provoking treatise of how the science has progressed since the seminal exposition of Wright and Thom's 1977 paper on the realization of coastal morphodynamics. The general conclusion is that numerical modelling has added a new dimension to morphodynamic research, although uncertainties remain particularly with large-scale coastal behavior and *Markovian inheritance*—the antecedent control problem. Chapter 3, Deltaic Coasts written by John Suter, is an comprehensive, although probably familiar to most, overview of deltaic systems. Much of the data and literature presented originate from the Mississippi River delta and Louisiana State University. Chapter 4, Wave-Dominated Coasts written by P.S. Roy, P.J. Cowell, M.A. Ferland and B.G. Thom, provides a comprehensive overview of the large-scale behavior of wave dominated coasts, drawing from two central themes: first geological inheritance, or the significance of various land-forming processes that have operated over a long period of geological time to create regional landscapes; and second, the evolution of wave-dominated coasts over shorter time periods (centuries to millennia) emphasizing the large-scale morphodynamics of the deposits themselves. Chapter 5, Macrotidal Estuaries, written by J. Chappell and C.D. Woodroffe, concentrates on estuaries in tectonically stable parts of northern Australia. Although the chapter covers the high points of estuarine morphodynamics, discussion of topics such as anabranches, cheniers, beach ridges, and a gradual fall in sea level during the late Holocene, enforces the uniqueness of the north Australian environment. A short summary of the potential impacts of future sea-level rise is provided at the end of the chapter. Chapter 6, Lagoons and Microtidal Coasts written by I.A.G. Cooper provides a most interesting and well-written account of the evolution of lagoonal coasts in lower (micro) tidal regimes. The chapter defines a number of lagoonal types, several documented examples of lagoonal evolution including examples from southeast Africa, Bermuda, Australia, Brazil and the U.S.A. The author synthesizes and presents perhaps the more salient processes of lagoon formation, evolutionary models under transgressive and regressive settings and finally, a short section in which the gaps and cutting edge questions are identified. In Chapter 7, Coral Atolls written by R.F. McLean and C.D. Woodroffe, provides a shift in emphasis to the Pacific Ocean and the Cocos (Keeling) Islands. Discussion on atoll structure, late Quaternary sea-level fluctuations, and Holocene reef development is provided in addition to a three-stage model for development of the Cocos Islands. A very useful synthesis of the pertinent literature is provided along with a clear discussion of atoll reef adjustment to post-glacial rises in sea level and the subsequent development of reef islands. Chapter 8, Continental Shelf Reef Systems, written by D. Hopley, provides a discussion of the distinctive features of shelf reefs, paying particular attention to the Great Barrier Reef. Arguments are presented which suggest the importance of geological inheritance on reef evolution and the sensitivity of these features to ocean changes. The chapter is brought to a close with comparisons made between the Great Barrier Reef and those of the Caribbean and a model for tropical carbonate accumulations during a transgression-stillstand cycle in sea level. Chapter 9, Arctic Coastal Plain Shorelines, written by P.R. Hill, P.W. Barnes, A. Hequette anad M-H Ruz, is a "refreshing" review of polar coastlines and the complexities associated with permafrost, sea ice, and the evolution of the Arctic coastal plain shorelines. Several important points are raised pertain-