exception of somewhat of a European bias in the references cited and models examined, a thorough treatment is presented. Much of the material is based on the significant contributions of the authors which lends a distinctive flavor. Missing is an exhaustive evaluation of present capabilities to represent coastal sediment transport at engineering length and time scales, and structural complexities of interest. Perhaps this lack is a testimony of the nascent stage of development and understanding at the applications level and of the need for more thorough field documentation to provide a basis for such an evaluation. Indeed, at a later more appropriate stage, a treatise on this subject would be welcome.

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Dynamics and Exchanges in Estuaries and the Coastal Zone, edited by David Prandle, 1992. Coastal and Estuary Studies, American Geophysical Union, Washington, D.C., 647p., ISBN 0-87590-254-5.

This book contains the results of the fifth in a series of conferences convened to encourage collaboration between coastal engineers and coastal oceanographers. In addition to the introductory chapter (Part I) by the editor, this book contains thirty chapters, each written by one or more authors describing individual research programs. These thirty chapters are grouped into five subareas: Part II. Baroclinic Dynamics, Part III. Circulation, Part IV. Sedimentation, Part V. Modelling (Sedimentation), and Part VI. Applied Studies. Rather than attempting to provide comprehensive coverage of one or more research areas, the chapters represent individual advanced research contributions on a wide range of research topics. Because of its relatively short nature, this review will be conducted by subarea rather than by the individual chapters.

Four of the five papers on Baroclinic Dynamics (Part II) investigate particular problems in which field measurements are compared with the results of theory or numerical modelling. The problems encompass the range of bay excitation by external subinertial forcing, to mixing processes in lochs and estuaries, and to internal waves in deepened areas in rivers. The fifth paper addresses the use of numerical models to represent the process of stratification with and without the effect of the earth's rotation.

The seven papers on Circulation (Part III) likewise cover wide ranges of geographic and research areas. The commonality among these are efforts to interpret and understand field measurements of different response characteristics of interior water bodies connected to tidally active waters. Phenomena of interest range from subtidal oscillations to salinity variations to flushing characteristics of water bodies.

Five of the six papers on Sedimentation (Part IV) address field situations in which measurements were conducted on cohesive or non-cohesive sediment behavior. The sixth paper compares, for laboratory and field data, calculated coefficients of wave reflection due to bathymetric features. Three of the sediment-related chapters present theories or hypotheses of sediment transport under the action of tidal flows and then compare these with field data sets. Topics include: near bottom sediment concentration maximum sediment due to tidal flows, the effects of tidal basin characteristics on tidal asymmetry and effects of sea level rise on muddy coasts. One paper utilizes acoustic techniques to measure suspended granular sediment concentration over sand waves. The final chapter deals with wave motions in mud layers under the action of relatively short wind generated waves.

The six papers on Modelling (Part V) utilize theoretical and/or numerical modelling approaches to investigate transport processes of cohesive and sand-sized sediments. Data are presented for comparison purposes in only two of the chapters. Subjects include development of dispersion coefficients through numerical modelling, the effects of channel bends on dilution rates, three dimensional modelling of suspended sediment transport, effects of wave-current interaction and sediment transport models, both within estuaries and on the outer coast.

The final group of chapters is titled Applied Studies (Part VI) and addresses long term monitoring results and, in one case, a summary of studies that have been carried out to evaluate the effects and effectiveness of constructing a large tidal-generating facility on the Severn estuary. Two studies deal with the density and suspended sediment distribution off the Netherlands coast where a concentration minimum is found some

distance from the shoreline. Other chapters bear generally similar structures to others in this book with field measurements providing the impetus for interpretation.

In summary, rather than attempting to provide a cohesive treatment of particular subject areas, this book contains a description of a potpourri of interesting and quality individual research studies with a primary emphasis on shallow water oceanography. Twenty five of the thirty papers are centered around field measurements with most of the data sets collected as part of the particular study. Three of the chapters focus on the mechanics and/or transport of fine sediments, whereas non-cohesive sediments are the subject of only two chapters. This book will fill a valuable niche as a reference on state of the art methodology in shallow water oceanography and would provide an appropriate basis for a graduate reading course in this subject. Moreover, the individual papers present a valuable bibliography in their respective subject areas.

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Climate and Sea Level Change: Observations, Projections and Implications, edited by R.A. Warrick, E.M. Barrow and T.M.L. Wigley, 1993. Cambridge University Press, London, 424p., ISBN 0521 39516X

Although the last decade has seen numerous volumes on sea-level change, this one is rather different, in that, besides the perennial topic of the global trend, it deals largely with projections and case studies. These regional investigations are really what are needed at the present time, because it is gradually becoming clearer that most of the heavily populated regions coincide with regions of tectonic subsidence, augmented by unusually high compaction rates.

Part I (Chapter 1) by Warrick is an overview and synthesis. If you were a busy statesman and not scientifically illiterate (almost a self-contradiction, alas), you should read this chapter carefully because it systematically summarizes the whole book. There are three more parts containing factual information: The natural versus man-made energy inputs (Part II, Data), global predictions (Part III), and the case studies (Part IV). The latter include Bangladesh, Egypt, Hong Kong, Mississippi delta, Netherlands, South America (East Coast), and the U.K. And so, as with Mark Twain's comment on the weather ("nobody does anything about it"), we come to Part V, Summaries and Recommendations. There is a modest subject and geographic index, but no author index; this would have been desirable, because, with the proliferation of literature, it is convenient to look up names of specialists. This is especially true because the references are thrown in at the end of each chapter, and one has therefore no alphabetic access to the rather voluminous citations.

The book is a rather tardy byproduct of a UNEP/CEC Workshop held at the University of East Anglia in 1987 on Climate Change, Sea Level, Severe Tropical Storms and Associated Impacts. One of the outcomes is a committee product presented by P.L. Woodworth (with a panel of 13, S. Jelgersma, chairperson).

In the politically-charged atmosphere of present-day problems that include CO_2 and global warming, glacier ice melting, sea-water expansion (steric volume change) and so on, the most frequently asked questions relate to a site-specific response: how will it affect me? Gornitz attributes about 50% of the eustatic change to steric expansion, but the critical factor may well be the local tectonic component. And what is the natural trend, *i.e.* pre-anthropogenic modifications? Tooley treats this on all time scales, from the Vail curve (mainly orders of $> 10^7$ yr) to the Holocene scale of a few centuries or even decades. He clearly assumes a climatic link with sea level fluctuation, and with past CO_2 fluctuations. I think he is in error when he states that "eustasy" is an absolute term. It has long been recognized as a physical descriptor of global sea level, as embracing all sorts of genetic concepts (glacio-, tectono-, sedimento-) and is subject to modulation by a legion of physical conditions (steric change, ocean dynamics, geotectonics and so on. If one eliminates a useful term, how else do we distinguish water-level changes from the effects of hydroisostasy, geoidal change, steric change and so on?

What about present sea level rise? When all the corrections and adjustments are included, Gornitz sets it at 1.3 mm/yr, which is not very significantly different from a value (1.2 mm/yr) published by this reviewer 32 years ago, though with far less data. In his 1985 book on coastline changes, Bird concluded that 70% of the world's sandy