storm occurrences and includes a number of personal anecdotes from individuals who suffered through various storms over the years. While these accounts may have little or no "value" for the technical user, they do provide an entertaining insight into the hurricane experience from the viewpoint of eye-witnesses. Chapters 3 and 4, which appear almost as after-thoughts, are brief sections devoted to Hurricane Andrew, the costliest natural disaster in United States history.

The Reference section from *Florida Hurricanes* ... provides a practical listing of relevant publications and textbooks on the subject and serves as a useful summary of important works describing these tropical storms. A glossary of selected terms and a section on "hurricane preparedness" close out the book. The glossary is far too brief even for the purposes of this text; more could have been added to improve the value and readability of the text. As an example, twice the authors refer to "Cape Verde type" storms, yet they fail to explain the meaning or importance of this descriptive phrase to the uninitiated reader.

Unquestionably, the greatest value of *Florida Hurricanes* ... is its collection of Tables 1 through 4, which include storm-impact information for each event and Track Plates 1 through 13, which illustrate the storm tracks on a decadal basis. Indeed, *Florida Hurricanes* ... would likely be just as valuable if only composed of this information. Of course, no book is free from error, but Table 1 does include a typographical error that requires correction: Category 3 storms are classified as having an upper pressure of 28.47 inches rather than the 29.47 inches indicated.

The publisher lists *Florida Hurricanes* ... for a very modest and affordable $5.00. Regardless of the few very minor problems, *Florida Hurricanes and Tropical Storms* would not only prove to be a valuable resource to any weather-and-climate collection, but also should be considered a required addition to every public and school library within the state of Florida.

John M. Grymes III
Southern Regional Climate Center,
Louisiana State University
Baton Rouge, Louisiana

REFERENCES

DUNN, G.E. 1967. *Florida Hurricanes.* Coral Gables, Florida: Technical Memorandum WBTM SR-38. Environmental Sciences Services Administration/National Hurricane Center.

Seasonal and Interannual Variability of the Western Mediterranean Sea, edited by P.E. La Violette, 1994. Washington, D.C.: American Geographical Union, 373p. ISBN 0-87590-260-X, $57.00.

This book is published by the American Geophysical Union as part of the Coastal and Estuarine Studies Series. It provides a comprehensive synthesis of current knowledge on circulation within the Western Mediterranean Sea. Much of this volume synthesizes the wealth of oceanographic information collected during the 1980's by several large-scale, long-term international experiments such as Donde Va?, the Western Mediterranean Circulation Experiment (WMCE), Physical Oceanography of the Eastern Mediterranean (POEM), and the Gibraltar Experiment. It is an invaluable reference for researchers and teachers concerned with physical oceanographic processes and ocean–atmosphere interactions in this semi-enclosed sea. Although the main focus is on physical oceanography, it provides important background information for oceanographers and coastal scientists in a broad range of sister disciplines. It will also be of interest to oceanographers concerned with circulation of semi-enclosed seas in other parts of the world.

The book unfolds with an "Introduction" by the Editor which gives a succinct overview of the major water masses and forcings for circulation in the Western Mediterranean Sea. He summarizes the dominant forcing mechanisms for circulation as thermohaline, atmospheric pressure, wind stress, and hydraulic changes. These forcings exhibit strong seasonal variability which result primarily from seasonal variability in local continental climates. The Introduction is followed by fifteen chapters, separated into four main parts.

Part A, entitled, "Seasonal and Interannual Variability in the Straits," contains two chapters. The first chapter describes heat transport estimates through the Strait of Gibraltar and the second presents what is known of the seasonal variability of the water masses and transport through the Strait of Sicily. In Part B, "Seasonal and Interannual Variability in the Regional Basins," each chapter describes aspects of circulation in a different region of the Western Medi-

terranean Sea including the Alboran Sea, the Balearic Sea, the Ligurian-Provencal Basin, and the Tyrrhenian Sea. Part C, "Seasonal and Interannual Variability in the Surface and Deep Waters," contains four diverse chapters. The first chapter presents an analysis of historical satellite thermal data which reveals a general warming trend of 1.5 °C between 1982 and 1990. Within this warming trend, relatively short-lived cool events are identified which correspond with major El Niño events. This chapter is followed by a review of the variability in core properties of two main water masses, the Modified Atlantic Water (MAW) and the Levantine Intermediate Water (LIW). Data obtained over forty years show a definite increase in the LIW core temperature and salinity, which the authors suggest may be due to regional or global climatic changes or decreases in river runoff in the eastern Mediterranean. The third chapter focuses on the analysis of Coastal Zone Color Scanner satellite data through which the spatial and temporal scales of chlorophyll variability are examined, particularly in the Alboran Sea. The fourth chapter reviews the state of knowledge of deep water convection processes in the Northwestern Mediterranean which result primarily from winter-time heat loss from the cold, dry, continental winds, termed "Mistral." This chapter should be of considerable interest to any oceanographer concerned with deep water formation processes as no other area worldwide has been as intensively studied as the Gulf of Lions.

The final part of the book, entitled "Western Mediterranean Basin Dynamics," presents the results of modeling studies in four separate chapters. The first chapter presents results of the NRL n-layer primitive equation ocean circulation model which is used to systematically study the effects of various forcing mechanisms on circulation dynamics of the western Mediterranean. The second chapter discusses results of the Gher Three-Dimensional primitive equation model. The third chapter discusses the barotropic response of the Western Mediterranean Sea to observed atmospheric pressure using a space spectral representation of the shallow water equations for the entire Mediterranean Sea, including exchange through the Strait of Gibraltar. In the final chapter, the GFDL Modular Ocean Model is used to explore eddy–topography interaction.

In summary, this book provides an affordable comprehensive overview of circulation processes and recent physical oceanographic research in the Western Mediterranean Sea. Each chapter includes extensive literature lists. The quality of illustrations varies considerable from chapter to chapter but on the whole is above average.

Nan D. Walker
Coastal Studies Institute
Louisiana State University
Baton Rouge, Louisiana

Coastal Lagoon Processes, B. Kjerfve (ed.), 1994. New York: Elsevier, Oceanography Series No. 60, 577p. $US 200. ISBN 0-444-88258-8.

"Coastal Lagoon Processes" is a collective work whose editor, Björn Kjerfve, is professor at the University of South Carolina. Most of the 25 authors come from the United States, Australia, Brazil or Mexico, and only 5 are from the United Kingdom, France, the Philippines and The Netherlands. These authors have different backgrounds: biologists, ecologists, geographers, geologists, oceanographers and engineers.

The book is very well edited and printed, and bound in a solid hard cover. It is composed of 19 chapters. The book is supplemented with an excellent thematic index and each chapter contains an abstract and up-to-date reference section. The chapters have an average of 29 pages and 10 illustrations.

After an introduction by B. Kjerfve in which coastal lagoons are defined, E.C.F. Bird describes their physical setting and geomorphology, in relation to geological, hydrological, climatological and ecological factors. L. Martin and J.M. Landim Dominguez focus on the geological history and evolution of lagoons and of the barrier island enclosing the lagoons in relation to sea-level rise or fall, tidal range, and shoreface dynamics. N.P. Smith presents a balance of water, salt and heat in comparison with estuaries. M.L. Spaulding reviews various strategies to model the circulation and pollutant transport for inlet-lagoon systems to assess management strategies. S.V. Smith and M.J. Atkinson present models for net mass balance approach to the analysis of coastal systems, including coastal lagoons, especially for site selection. M.M. Nichols and J.D. Boon III review sediment transport processes with historical development, general concepts, sources of sediments, sediments dynamics and distribution, and influence of climate and of sea-level change. L.