chapters may be useful for teaching. Considering that the book places significant emphasis on issues in developing countries, its price may be prohibitive to those that desperately require access.

The global perspective, however, is incomplete and may limit the contribution of the book. The criticism that Fernando (1998) levelled at a recent North American publication (Miranda and DeVries 1996) could also be directed conversely towards this publication. One could argue that the virtual omission of North American contributions is indeed limiting. Considering the abundance of reservoirs in North America and the extensive monitoring and assessment programmes conducted by state and federal governments, there surely would have been room for at least a synthetic paper outlining some of the major issues in North America. Examples of timely topics not covered adequately in this book include user group conflicts, the biological and social consequences of competitive angling events and other human-dimension issues. Also troubling is that few of the papers in this book framed their assessment and management within broader ecological theory (e.g. trophic dynamics, community ecology). Notwithstanding its limitations, this book will undoubtedly become regarded as a valuable collection of lake and reservoir fisheries information with a refreshing global perspective.

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Geographic Information Systems in Oceanography and Fisheries

By Vasilis D. Valavanis

Taylor & Francis, London and New York, 2002. ISBN 0-41528-463-5, £45.00. Hard cover, pp. xvii + 209, 9 tables, 37 figures (4 pages in colour).

This book is organised into three main sections, each exploring a particular theme, followed by a shorter, concluding chapter and two appendices. The first chapter, 'Marine Geographic Information Systems', opens with a general overview of the subject, and flags key conceptual, methodological and institutional issues in applying GIS to marine environments, particularly as seen from the fisheries perspective. Valavanis then presents what he sees as the essential goals of marine GIS, namely "generating information-based management proposals" for sustainable use of the world's oceans. The remainder of the chapter reviews specific aspects of marine GIS, namely spatial thinking and analysis, conceptual modelling and construction of spatially referenced marine databases and the use of scientific visualisation systems to enhance the communication value of GIS output. Usefully, this treatment extends beyond the traditional core of GIS technologies to include consideration of GPS, remote sensing, image processing, spatial statistics, spatial cognition and reasoning, and the existing and potential use of the Internet for handling and disseminating marine spatial information.

In the second chapter, 'GIS and Oceanography', Valavanis presents the state-of-the-art in oceanographic GIS (the chapter bibliography provides more than 200 literature citations). In a few places, however, the discussion strays to more coastal issues such as flood assessment, shoreline management and even wetlands and watersheds. The relevance of these sections to the more substantive discussion is never fully explained.

The third chapter, 'GIS and Fisheries', is likely to be that of greatest interest to the readers of this journal. As with the earlier chapters, the text is supported by copious illustrations, reference to the scientific literature, examples and case studies. Specific topics covered include worldwide fisheries tools and initatives, GIS applications in marine and inland fisheries and in aquaculture, fisheries data-sampling methods, fisheries data sources and GIS databases and techniques for mapping fish populations and distributions. Largely because the original idea of producing this book arose out of a meeting of the Cephalopod International Advisory Committee, many examples are drawn from applications of GIS to cephalopod fisheries, rather than fisheries in general, although most techniques and issues introduced in this chapter are relevant to all sectors of the industry. The chapter concludes with a useful summary of the contributions GIS can make to sound fisheries management.

Although the intended geographical focus of the book is global and case studies from the Falklands/Malvinas to the North Sea and beyond are employed to support the text, the discussion regularly strays back to the Mediterranean and to the Aegean region in particular. When compared with most other parts of the world ocean, however, the Mediterranean has important distinguishing characteristics, both physical (especially, it is enclosed and microtidal) and political (its restricted geographical extent means, for example, it contains more than its fair share of disputed maritime borders). Some clearer and more explicit acknowledgements of these differences, and a discussion of their possible implications for the design and development of GIS for ocean/fisheries management would have been helpful.

Vasilis Valavanis brings to his research at the Institute of Marine Biology in Crete a wealth of knowledge and expertise gained principally in Greece and the USA. The sheer volume of material he has sifted in researching the text is impressive and, as Geoff Meaden writes in the foreword, "simply finding all of this source material was a notable achievement". Both the quality and the quantity of scholarship that have gone into the book are beyond question. Seen as a collection of three excellent, substantive, stand-alone essay chapters, each focused on a separate core area of interest, *Geographic Information Systems in Oceanography and Fisheries* is a timely and welcome addition to the corpus of literature on marine GIS. The author and publishers are to be congratulated.

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Island in the Stream: Oceanography and Fisheries of the Charleston Bump
(American Fisheries Society Symposium 25)

Edited by G. R. Sedberry
American Fisheries Society, Bethesda, MD, USA, 2001. ISBN 1-888569-23-9 (ISSN 0892–2284), $65.00 (AFS members $45.00). Soft cover, pp. xii + 240, 25 tables, 153 figures (23 in colour).

The interdisciplinary nature of this book, covering all aspects of marine science for a limited geographical region, makes *Island in the Stream* a rare find. Most of it suits a wide academic readership from undergraduate level upwards, but certain parts also provide an informative read for others interested in the Charleston Bump – a region of the US east coast where a shoaling island of 'high relief' bottom topography deflects the Gulf Stream, resulting in oceanographic features such as eddies and fronts. This complex dynamics attracts a wealth of fauna, especially fish species at all stages of their life cycles.

Island in the Stream is based on presentations at the American Fisheries Society Symposium, the Charleston Bump Colloquium, in October 1999. The book is a collection of papers, each well referenced; some are excellent review articles, some add new data and others present new data highly focused on one specific aspect. These are collated into four logical and well-defined sections that flow well into each other. The first section, 'Geological and Oceanographic Setting', describes the geology and makes clear links between sections, using case histories of several fish to explain how their life cycles and distributions relate to the physical oceanography of the region. The Charleston Bump forces a gyre system that brings nutrient-rich deep water into the surface layers, attracting the phytoplankton and higher trophic levels, thus providing a rich source of food for fisheries. The first paper explains the importance of the Charleston Gyre as a habitat for fish. The geology paper covers the geological evolution of this region, bringing in geophysics, palaeoceanography, physical oceanography and biology, relating it all to the wreckfish. Certainly the first section makes interesting reading for anyone interested in marine science, its history and how all the different disciplines link together.

The short second section, 'Fisheries Associated with the Charleston Bump', assesses the wreckfish fishery and looks at longline fisheries, especially the discard rate of swordfish.

The section, 'Life History Considerations', discusses the Charleston Gyre as a spawning and larval nursery ground for fisheries and provides good links to the oceanography of the region. The study of trophic levels is an excellent general article, with details about what the fish actually eat, especially for deep-water species. Another excellent paper on the benthic habitats and associated fauna presents a pictorial comparison of bottom types (with details of the geology) and the species found.

The final section, 'Experiences from Island Habitats and Management Considerations for Fisheries and Critical Fish Habitats', tries to draw on experiences elsewhere and with species not associated with the Charleston Bump. Unfortunately, the links to the Charleston Bump are not made clear and the focus