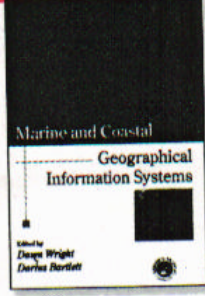


GIS Goes to Sea

Marine and Coastal Geographical Information Systems. Dawn Wright and Darius Bartlett, Eds. *Research Monographs in GIS* series, Taylor



& Francis, London and Philadelphia, 1999. 320 pp., \$54.95.

The marine and coastal GIS community has waited a long time for a text like *Marine and Coastal Geographical Information Systems*. Editors Dawn Wright and Darius Bartlett have assembled papers from prominent scientists and leading geographic information researchers that cover a wide range of GIS-related research. Many of us who work with oceanographic and coastal data have been dealing with the issues that these papers address and welcome the discussion and research they introduce.

GIS is most commonly used in terrestrial applications — natural resources, transportation, utilities, and so forth. Wright, a specialist in marine applications, and Bartlett, a coastal specialist, are two of the leading scholars in the field of marine and coastal GIS applications. They state that the book is not intended to be an introductory text, but rather an advanced text for geographic information scientists who work with marine-related data and for marine scientists who work in some capacity with GIS.

The book's 19 papers are organized into three sections: conceptual/technical issues, applications, and institutional issues. Part I includes key theoretical concepts for marine GIS not usually covered in other advanced GIS texts, emphasizing the fundamental importance of the underlying data model in marine GIS. Papers in this section describe data models for marine and coastal GIS, spatial reasoning for marine geology and geophysics, 2.5- and 3-D GIS for coastal

geomorphology and geophysics, and representation of variability in marine environmental data.

Part II presents mainly chemical, biological, and physical oceanography applications, covering a full range of spatial and temporal scales. Contributors discuss using real-time GIS for controlling remotely operated vehicles, planning and analyzing geophysical surveys, remote sensing of sea surface temperature, fisheries management, multidimensional oceanographic visualization, and tectonic analysis.

Part III deals with institutional issues. Papers here address GIS applications in maritime boundary delineation, the significance of marine GIS in the United States National Spatial

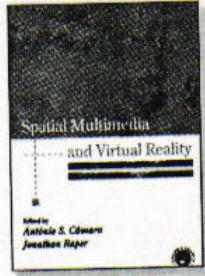
Data Infrastructure, sources of error in marine data, and management of marine and coastal data sources in the Irish Marine Data Center.

One of the best contributions of this text is the extensive reference section in each article — an excellent resource for readers desiring further information about a particular topic. The papers are well written and flow from one to the next. This landmark text should be an integral part of any academic curriculum encompassing marine and coastal sciences and should be on the bookshelf of any geographic information or marine scientist.

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The Virtual Future

Spatial Multimedia and Virtual Reality. António S. Câmara and Jonathan Raper, Eds. *Research Monographs in GIS* series, Taylor & Francis, London and Philadelphia, 1999. 159 pages,



\$87.95 hardcover, \$39.95 paperback.

Spatial Multimedia and Virtual Reality, edited by Ant

ónio S. Câmara and Jonathan Raper, is a collection of papers focused on recent research in the integration of GIS, multimedia, and virtual reality. If you are looking to gain a solid understanding of any of these three technologies, this is not the book for you. If, however, you are interested in the latest developments and likely directions for future research, this text should whet your appetite.

The book is divided into two sections: chapters 1 through 10 address multimedia, and chapters 11 through 13 address virtual reality (VR). All of the book's papers have a technical focus, but substantial background information about the field of each application (for example, urban planning and traffic monitoring)

is included. The articles stand alone, but as a collection, many of the chapters complement each other.

In its early stages. Chapter 9, "Spatial Simulation by Sketching," is fairly representative of the collection. It is short (six pages) and its authors, Edmundo M.N. Nobre and António S. Câmara, discuss some fairly elementary progress on the development of a tool called Live Sketch. The most compelling part of the piece is in the "Future Developments" section, which discusses "a network-based dynamic sketching tool" that could enable experts around the world to communicate in the real-time simulation of catastrophes.

Like Chapter 9, most of the articles in the book include expansive and ambitious research agendas, most of which are in only the early stages and still face many development hurdles.

Several of the articles introduce geospatial applications that I had not considered or read about before. For example, Chapter 2, "Magic Tour: Integrating Multimedia and Spatial Data in an Authoring System for Tourism," discusses the application of spatial multimedia to tourism. Chapter 5, "Digital Video Applied to Air Pollution Monitoring and Modeling," and Chapter 8, "Evoking the Visualization Experience in Computer-