

matter presented is well integrated from chapter to chapter. At first, the book deals with the problems related to the short- and long-term changes in relative marine level, their causes and their consequences. In the second chapter, the book discusses all the forms of coastal erosion. The following four chapters address specific problems related to artificial protection structures: (chapter 3), erosion of coastal dunes (chapter 4), erosion of coastal marshes including mangroves (chapter 5), and coral reefs (chapter 6).

Chapter 7 seems at first glance somewhat anecdotal with its title "Côtes disparues: le mythe de l'Atlantide" (Lost coasts: the myth of Atlantis). However, a brief analysis of the potential causes of certain historical catastrophes permits to better introduce the last two chapters in terms of implementing preventative measures. The first of these two chapters deals with conservation initiatives that should be implemented along the coasts, based mainly on the case of France. Reference is made to the incoherence of the vocabulary used in protection laws, vocabulary which would have been better served by the intervention of geographers and which leads to confusion and imprecision. The same problem is encountered in Canada and in Québec. Also discussed is the problem of impact assessment studies which are superficial and "oriented" towards decision-makers and at least cost, and not in the sense of minimal impact on Nature. The last chapter, which is defined as a reflection on a philosophy of coasts, resembles more of a conclusion. However, it leaves the reader with a sense of frustration and gives the impression that the author's inspiration diminished towards the end of his work. It would have taken a much better articulated reflection than the two examples presented concerning littoral protection policies (The Netherlands and Camargue). The author should have presented a true synthesis of the elements involved in setting up an "ideal" littoral protection policy. This never appears in this type of work and, regretfully, the author had the qualifications and knowledge required to do so.

Dr. Jean-Marie M. Dubois  
Département de Géographie et  
Télédétection  
Université de Sherbrooke  
Sherbrooke, Québec, Canada

**Impacts of Sea-level Rise on European Coastal Lowlands**, edited by Michael J. Tooley and Saskia Jelgersma, 1992. Blackwell, Oxford, xv + 267p., 8 color plates, 83 fig., 5 tables, 17 × 24.5 cm, 74.95 \$US, ISBN 0-631-18183-0.

"Impacts of Sea-level Rise on European Coastal Lowlands", the 27th of a series of special publications of The Institute of British Geographers, is a collective work which follows the "Workshop on Interrelated Bioclimatic and Land-Use Change" held in Noodwijkerhout, in The Netherlands, in 1987. It is a contribution to the work of the Commission on Quaternary Shorelines of the INQUA and also presents a few conclusions to "Climate Change: The Intergovernmental Panel on Climatic Change Scientific Assessment" (Houghton *et al.*, 1990). The objective of the book is to evaluate the impacts of a future increase in relative marine level on European coasts with examples from the coastal plains around the North Sea, the English Channel and the Mediterranean. The authors also mention that their "discoveries" and "predictions" are of overwhelming interest for the future of European coasts and for the pursuit of their development.

Overall, the subject itself is of global strategic importance, since more than half of the world's population lives along low coastlines subject to being inundated following an increase in sea level of only a few meters. These coasts also run the risk of sustaining accelerated erosion, increasingly devastating storms, saline intrusions in water wells destined for human consumption, and important modifications at the mouth of rivers and for coastal structures.

The two authors, Michael J. Tooley and Saskia Jelgersma, are recognized by the scientific community. During the period of 1987 to 1991, they were, respectively, secretary and president of the Commission on Quaternary Shorelines. The two scientists originate, respectively, from Great Britain and The Netherlands, while the 13 other collaborators come from Belgium, The Netherlands, France, Great Britain, Spain and Italy.

At first glance, the book is well presented, with an attractive cover and a solid binding. The impression is of good quality, although a certain number of typographical errors can be found either within the different texts or in the figures. Beautiful color plates illustrating urbanized coastal landscapes are inserted in the middle of the book and are thus easily accessible during

reading. The different authors all refer to the metric system, although not always integrally. Unfortunately, in the preliminary pages, there is no list of figures and tables.

The book is divided into 11 chapters, the first and last being the introduction and the conclusion. Each chapter has been written by an author or authors originating from the region under study. The chapters are related to one another by the continuous numeration of the different sections and sub-sections and by the fact that many authors refer, within their own section, to other chapters in the volume. A list of complete references, mostly dating from 1970 onwards, can be found at the end of each chapter. The references focus on the literature pertaining to the region under study and reflect well the regional studies carried out by European scientists. And finally, at the end of the book, the complete addresses of the authors, a cited author index, as well as a thematic and toponymic index can be found.

The introduction (chapter 1) and the conclusion (chapter 11) are written by the two main authors, M.J. Tooley and S. Jelgersma, who try to draw a picture of the current state of European coasts and their future evolution. They focus on the relationships between global temperature changes, brought about by an increase in greenhouse gases, and changes in climate and marine level. An increase in global temperatures and an increase in marine level are considered as the likely scenario. In the introduction, the authors divide the coastal countries into three distinct geographical zones: 1) the Atlantic, North Sea and Irish Sea coasts, 2) the Baltic Sea coasts and 3) the Mediterranean coasts. Emphasis is given to the necessity of implementing national strategies for the planning of future developments and the protection of actual infrastructures in anticipation of a future increase in marine level.

Of the various examples presented in the book, none deals with the regions of the Baltic Sea, the Irish Sea or the Atlantic coast of France and Portugal. Moreover, too much emphasis is given to examples from Great Britain and The Netherlands, either in the introduction or in the proportion and number of different chapters. For example, chapters 2 and 5 both deal with The Netherlands, and chapter 5 has double the number of pages of the regular chapters.

All the chapters have a more or less detailed introduction and conclusion and a general description of the geography, geomorphology, wind,

tide and storm conditions of the region under study. They all have a section on the effects of an increase in marine level and on potential intervention strategies, which are quite different from one region to another. In chapter 6, the reader is reminded that regions in the Mediterranean have a tradition of coastal management that is less entrenched than is the case in northern Europe.

The North Sea area (chapters 2 to 5) encompasses The Netherlands, Belgium and Great Britain. Of the two chapters on The Netherlands (chapters 2 and 5), the first deals essentially with the mean tide levels and the history of their acquisition, while the second is more concerned with the causes of the present and past increases in marine level. These chapters could well have been placed one after the other, thus providing an overall view of the area. Chapter 4 deals with the region known as "The Walsh" and chapter 3 with the important impact on living conditions and tourism in the case of the Belgian coasts.

Chapters 6 and 8 concern the western regions of the Mediterranean, *e.g.*, Spain (6), and two chapters on France (7 and 8). Chapter 6 gives an indication as to the more sensitive regions of the western Mediterranean and deals in particular with the region of the Gulf of Lions. A more detailed look at the Rhone delta is provided in chapter 7 and in a more general way in chapter 8, by encompassing all the area of the Gulf of Lions and past and present coastal activities.

The Eastern Mediterranean is discussed in chapter 9, without distinction as to the exact location in either Europe or North Africa. A description is also given of the different major units: deltas and lagoons, and more precisely the Nile delta (North Africa) and the northwest coast of the Adriatic (Europe) are discussed. Chapter 10 deals with the Atlantic coast, more specifically the southwest of Spain, where three specific areas are presented while other examples are given although in lesser detail.

The style of writing varies considerably all along, according to the nationality of the author or authors, but overall reading is easy. A certain redundancy can be observed on the subjects of global temperature changes due to greenhouse gases. Many chapters refer to the phenomenon in their introduction, and this becomes annoying. However, the table of contents is well delivered and, after reading the book, the reader has gained general knowledge of a good portion of European coasts in spite of the important areas that are

missing. However, reservation is well advised as to the authors' pretension that the book contains "predictions". At most, the only predictions are restricted to the future increase in marine level and its impact on European coasts. Considering its rather high price, we limit our recommendation for purchasing the book to teachers or specialists desiring to extend their overall knowledge of Europe.

#### LITERATURE CITED

HOUGHTON, J.T.; JENKINS, G.J., and EFHRAUMS, J.J. (eds.), 1990. *Climate Change: The IPCC Scientific Assessment*. Cambridge University Press.

Dr. Jean-Marie M. Dubois  
Département de Géographie et  
Télé-détection  
Université de Sherbrooke  
Sherbrooke, Québec, Canada

**Remote Sensing for Hazard Monitoring and Disaster Assessment: Marine and Coastal Applications in the Mediterranean Region**, edited by Eric C. Barrett, Krystyna A. Brown, and Anton Micallef, 1991. Gordon and Breach Science Publishers, Philadelphia, xii + 240p., 68 fig., 34 tables, 15.5 × 23.5 cm, 45 \$US. ISBN 2-88124-809-8.

"Remote Sensing for Hazard Monitoring and Disaster Assessment" is a collective work derived from presentations given at the International Training Course held in Malta, in 1989. The course was organized jointly by the Euro-Mediterranean Centre on Marine Contamination Hazards of Malta and the Remote Sensing Unit of the University of Bristol. The three co-editors belong to either of these two organizations. It is the second course to be published in this collection, the first, given in 1988, having focused on the same region but covering different aspects, *e.g.*, hydrology and water-related management.

The book is intended as an introduction to the principles and practices in the field of remote sensing and as related to environmental problems. It highlights the role of remote sensing in the evaluation and monitoring of natural hazards and natural or induced catastrophies in coastal and marine areas in the Mediterranean region. It is designed for students enrolled in graduate studies

as well as scientists and technicians working in this particular field, and I believe that the book reaches its goal quite well in this area.

The book is solidly bound with an attractive hard cover and is composed of a preface, a thematic index including a glossary of acronyms, and 11 chapters. The chapters are well balanced, with an average of 22 pages and 6 illustrations each. Although certain images often lack localized information and interpretation, the editors have found a clever way of combining low-cost color image reproduction and the functional aspect of these images in their respective texts. The 17 pages of the color insert, placed in the center of the book, are also reproduced in black and white in their rightful place in each of the chapters. In addition, each chapter is well written and respects the norms with an introduction, theme development and a conclusion, which is oddly not always the case in many of the books already reviewed. However, the book does not have an introductory chapter for defining the context, unless the preface serves this purpose; neither does it have a concluding chapter for opening other avenues of research, unless chapter 11 is intended for this purpose. Of the 17 authors, all are British except for a Maltese, a Greek, an Italian and two Spaniards. In spite of the relative ethnic diversity, only five references can be found involving publications in Spanish, German or French. I might even add that I find quite suspicious the fact that there is only one reference in French in a book dealing with an area which is to a large extent of French culture.

The first two chapters are quite general in scope in the sense that they present the subject and the tool. Chapter 1 outlines the notions of hazard and catastrophe. These are classified more or less into five groups, *i.e.*, geological, hydrological, oceanographic, meteorological and those related to vegetation. Chapter 2 presents the fundamental principles of airborne and satellite remote sensing and the types of platform, sensors and data. Chapter 3 describes the overall use and importance of remote sensing in the study of hazards and catastrophies in the Mediterranean area.

Each of the following seven chapters deals with an aspect of the subject matter: hazards related to humans (chapter 4), earthquakes and volcanism (chapter 5), soil erosion and desertification (chapter 6), vegetation and crops (chapter 7), meteorology (chapter 8), oceanography (chapter 9) and pollution (oil spills, water quality, algae blooms) (chapter 10). In chapters 4 and 5, com-