Beach Management Tools: Concepts, Methodologies and Case Studies

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BOOK REVIEWS

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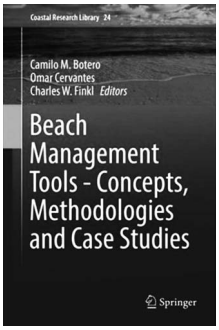
Botero, C.M.; Cervantes, O., and Finkl, C.W. (eds.), 2018. *Beach Management Tools: Concepts, Methodologies and Case Studies*. Coastal Research Library, Volume 24. Dordrecht, The Netherlands: Springer International Publishing, 960p., ISBN: 978-3-319-58304-4 (eBook), $US 219.00.



Beach management is a serious business relevant to several societal needs that support local and national economies, from protection against flooding and erosion to tourism. Degradation of environmental quality and habitat loss jeopardise the natural functioning of beach systems and their ability to provide these important benefits to society. True to its title, the book *Beach Management Tools: Concepts, Methodologies and Case Studies,* edited by Camilo Botero, Omar Cervantes, and Charlie Finkl, compiles a wealth of information and experiences useful to researchers involved with beach management. More than 100 researchers from five continents have contributed to this book.

The book has 48 chapters organised in seven parts, with each part named after the particular aspect discussed in the chapters: Part I Ecosystem Management Tools, Part II Geomorphology Tools, Part III Risk Assessment Tool, Part IV Innovative Tools, Part V Governance Tools, Part VI Environmental Quality Tools, and Part VII Users' Perception Tools. Most chapters describe concepts or methods applied to local case studies, some cover subnational and national levels; 17 studies focus on Latin America (9 from Mexico), and 10 studies focus on European countries (mainly Portugal and Spain), with research in the United States, India, Pacific Islands, and Africa (South Africa and Morocco) included. These chapters offer a range of methods drawn from natural and social sciences.

Examples of tools used at national and subnational levels include a vulnerability index, combined with existing management measures used to categorise 99 beaches in the Dominican Republic (Chapter 4); ArcGIS Python workflow to quantify coastal changes from LIDAR data along the U.S. East Coast (Chapter 14); and a critical analysis of quality in Blue Flag beaches in the Spanish islands (Chapter 26). To indicate just a few of the methods applied at the local level, agent-based modelling was used to understand the relationships among coastal occupation dynamics, patterns of storms, and soft engineering protection measures in Nags Head, United States (Chapter 19); *de factum* privatisation of beach areas was analysed in a coastal location in Quintana Roo, Mexico (Chapter 35); and the relationship between the density of users and the presence of solid waste and microorganisms in the beaches of Cartagena, Colombia was described (Chapter 43).

The book also provides useful overviews of relevant topics, such as beach nourishment for tourism (Chapter 15), beach safety management (Chapter 20), beach access influencing rip current safety (Chapter 24), and integrating social perception in beach management (Chapter 45). Other chapters focus on the description of methods, such as the analytical framework to prioritise decision making that considers the impact on ecosystem services presented in Chapter 2.

The editors had the impressive job of organising the large number of chapters covering such a diverse range of studies. Occasionally, the reader will find figures with fonts a little too small for comfortable reading and text that could be clearer in places. These minor issues do not compromise the relevance of this compendium, which illustrates the range of tools that can potentially contribute to improving beach management. However, it is evident that a gap still exists between academic knowledge and beach management practices. Only because few chapters provide evidence that the tools they describe have been used to guide or improve beach management. Bridging this gap is required for these tools to be tested and to ensure they are robust and yet easy enough to be used and understood by practitioners.

We researchers (mistakenly) believe that the knowledge or tools we produce can be used off the shelf by practitioners. I was in awe myself when an experienced practitioner with great knowledge of his local area said to me, "I don't know what to do with the information you are giving to me." I was certain that the information was clear and could be used as is to inform practice. Few beach managers have the academic knowledge or technical capacity to understand how and where these tools may be used or to analyse their results. The knowledge set out in this book is likely to reach a limited number of practitioners, partly because the technical jargon makes it inaccessible (or they are unable to read in English) and partly because they are unlikely to read academic publications. This book is an important resource for researchers, who can (and should) translate the knowledge and make it accessible to local practitioners, bridging the gap to practical applications across the world.

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