

Book Reviews

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BOOK REVIEW



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The Coast of Australia. A.D. Short and C.D. Woodroffe, 2009. Cambridge University Press, 288 p. ISBN: 9780521696173, paperback (\$US 27.00) and hard cover.

For those coastal researchers wishing to know something about the Australian coastline, this is the book to have. The book is very handsomely prepared with color pictures or illustrations on nearly every page. The landscape page layout lends itself well to the numerous illustrations, most of which are specially prepared for this book. Most of the photographs were taken by the authors and are excellent examples of the topic at hand.

The book starts out in the usual manner by providing background information about the evolution of the Australian coast, descriptions and explanations of coastal processes, and introductions to coastal ecosystems. With that background well presented in the first three chapters, the authors then move into descriptions of Australian coastal types grouped and organized in Chapter 4 as “Estuaries and Deltas”, Chapter 5 as “Beaches”, Chapter 6 as “Coastal Dunes and Barriers”, Chapter 7 as “Rocky Coasts”, and Chapter 8 as “Reef Coasts”. Chapter 9 concludes with “Human Impact on the Coast” dealing with coastal management and planning in Australia and ends with considerations of prospects for the Australian coast. References are grouped together in a couple of pages at the end of the book in a “Further Reading” section and there is also a subject index.

Aside from its magnificent production, this is a “go to” book for information on Australian coasts. The authors have brought much new information into the book and so it is not just a rehash of existing information. To me, the book is insightful and thought provoking with the many new maps and diagrams, for example, of coastal sedimentary basins (p. 7), distribution of carbonate beach sands (although published elsewhere, here it is in color) (p. 16), spring tide locations (p. 43), major surface ocean currents (p. 48), distribution of mangroves, salt marshes, sea grasses, and coral reefs around Australia (p. 57), types of estuaries around Australia (p. 81), beach types around Australia (p. 111), many illustrations of dunes in Australia (pp. 143–175) including the famous pinnacles in Nambung National Park, spectacular photos of different types of rock coasts (pp. 177–207), and finally absolutely beautiful photographs of coral reefs around Australia (pp. 209–245).

This is a book that I will turn to many times over for descriptions, illustrations, and explanations of Australian coastal features. I am obviously enthralled with this book and thus recommend it to all who have interest in the Australian

coast. You will not be disappointed in this masterpiece of collaborative research by two of Australia’s top coastal researchers, Andy Short and Colin Woodroffe. They have done a marvelous job in putting together a really informative work that will no doubt become a classic with time, as it will be hard to outdo this effort. With something as well put together as this book is, I find it hard to find the correct superlatives to laud this effort. At the risk of being too effusive, let’s just say that you can’t go wrong by buying this book! I recommend it without the slightest reservation and can think of nothing to suggest in the way of improvement as the highest quality has already been achieved. My congratulations to both authors for a job well done!

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Living on the Shores of Hawai’i. Charles Fletcher, Robynne Boyd, William J. Neal, and Virginia Tice. University of Hawai’i Press, Honolulu, Hawai’i, 384pp. ISBN: 978-0-8248-3433-3. \$27.99

Hawai’i is a hazardous location in which to live. Added to the physical risks from earthquake, volcano, flood, landslide, hurricane, and tsunami are health risks from water pollution from runoff and sewage. Faced with these issues, plus the threats posed by global climate change and sea level rise, one could be excused for thinking that life on this small, mid-ocean archipelago would be filled with constant anxiety. Obviously, this isn’t the case for Hawai’i’s culturally diverse resident population or the millions of tourists who visit this destination each year. This eagerly anticipated volume in the *Living with the Shores* series has as its central theme, the challenges that life on the Hawai’i coast presents. However, it covers much more than just the coast; land-use changes, climate, watersheds, and volcanism get good coverage too, and when the authors mention that “almost half the land and almost every community lies within 5 miles of the shoreline,” the interrelatedness of all aspects of the Hawai’ian environment becomes clear. Indeed the theme of interrelatedness is strong throughout the book. The authors show how past and present human activities have shaped the landscape in planned and unplanned ways. They go on to discuss how humans attempt to coexist with the hazards associated with life on a volcanic island chain in the mid-Pacific and still preserve the values of the coast. Sadly, the answer is “not very well.”

The alarming extent of coastal degradation from pollution, bad catchment management, ill-sited developments, and even more ill-chosen “solutions” is made clear, and the authors

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blame shortcomings in the coastal management system. The system's failings are well illustrated by several useful cameos that show how shorelines have been destroyed and how, despite an apparently mature regulatory system, a lack of integration and nonspecific regulations leave gaping holes that have been exploited by developers for short-term gain. The authors' collective insights into the roots of the problems do, however, provide some hope for addressing them. As usual, the poor management is a result of a combination of insufficient information, a lack of integration between management bodies, weak enforcement, and the relentless onslaught of development for short-term gain without regard for the long-term consequences. The authors note, for example, that visitors are blind to the loss of beaches and their replacement with seawalls, just as long as there is a beach somewhere else nearby. This situation enables the destruction of the coastal environment to continue for short-term economic gain. The scale of degradation pictured in this volume and the threats from episodic natural hazards and long-term sea level rise point to a looming crisis.

The authors hark back to a native Hawai'ian system of land management known as *ahupua'a* in which the relationship and interdependency between humans and the environment was understood, and overexploitation was avoided. The authors do, however, note that much of Hawai'i's indigenous habitat was altered by the first Polynesian settlers. Notwithstanding the possibility that we can view the past with rose-tinted glasses, the authors present a strong case for a new system of place-based management in which the various regulatory bodies, in collaboration with local communities, develop place-specific management, rather like that envisaged by *ahupua'a*. I am always concerned at calls for community involvement in coastal management, when the self-interest of a few individuals can exert undue influence and promote unsustainable and damaging practices. In the case of Hawai'i, the counterbalance to purely local interests might be provided by state and federal regulators. The authors, however, make clear the difficulties of the regulatory system to halt undesirable and damaging developments when regulators are faced with legions of consultants and lawyers arguing relentlessly on behalf of developers. The book includes several sad tales of coastal degradation and beach loss that could have been avoided.

The authors don't simply point out the failings; many suggestions are made in this book for better coastal management. They range from practical advice to residents on what to do during a hurricane or tsunami, through indications to management bodies on how land-use planning might be better integrated, to structural changes in the administration, including, for example, the establishment of a state geological survey. (Apparently Hawai'i is the only U.S. state that lacks such an institution.) A set of planning steps are outlined in some detail (pp. 241–245) that could improve coastal planning and help remove some of the structures that blight the shorelines. The authors are to be applauded for their stand, and it is hoped that this book will stimulate a broad societal debate in Hawai'i on coastal management and how sustainability can be enshrined as a management principle.

This book is, however, much more than a guide on living with the shore. It is, in essence, a primer on the entire Hawai'ian environment and will be a rich source of information for specialist, resident, and visitor alike. Written in an understandable and accessible style, it has a clear focus on environmental hazards and must certainly help the reader better understand the environment and people's relationship with it. The book is beautifully illustrated with many vivid color images. It presents difficult issues clearly and deals not only with local issues but also with the implications of global climate change. The book does seem to assume a previous knowledge of the geography of Hawai'i, and I did find it a little frustrating that a map with island names and place names did not appear until page 310. Aside from the situational cameos, the book lacks the detailed accounts of the shoreline that feature in most previous *Living with the Shore* volumes. This is, to some extent, mitigated by the attention to risks and issues as the book grapples with the general rather than the specific.

Given its breadth of coverage and practical insights into the natural hazards of island life, I am sure this book will appeal to coastal scientists, managers, and residents of coastal Hawai'i, but it will also be of practical use to those same categories of people in the many small island nations of the world with whom Hawai'i shares similar environmental problems.

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The Macrobenthos Atlas of the Belgian Part of the North Sea¹ (with CD-rom). By Steven Degraer, Jan Wittoeck, Ward Appeltans, Kris Cooreman, Tim Deprez, Hans Hillewaert, Kris Hostens, Jan Mees, Edward Vanden Berghe and Magda Vincx, Illustrated (color), hard cover, 2006. Universiteit Gent (sponsored by Belgian Science Policy D/2005/1191/6), Ghent, Belgium, 164 p. ISBN: 90-810081-6-1, No price shown.

Several decades ago, the European Commission published two volumes under the aegis of the European Cooperation in Science and Technology (COST)-48 program, one dealing with algae, the second centred on macrobenthos.² Seabed animals are little known to the nonspecialized public, and yet benthic species play an important role in the food web and the ecosystem. They contribute to the biodiversity and productivity of the sea and act as key indicators of the health of marine systems.

The Marine Biology Section of Ghent University, initiator of this atlas, is known throughout the world for its expertise

¹ Also available in Dutch/Flemish (*De macrobenthos atlas van het Belgisch gedeelte van de Noordzee*) and French (*Atlas du macrobenthos de la partie belge de la Mer du Nord*).

² Guiry, M.D. and Blunden, G., eds., 1991. Seaweed resources in Europe: Uses and potential. Chichester, UK, John Wiley & Sons, 432p.; Schramm, W. and Nienhuis, P.H., eds., 1996. Marine benthic vegetation. Berlin, Springer Verlag, 470p.

in research on marine benthic species. Benthic animals live an almost invisible life. Most people are surprised by the quantity and diversity of animals found between the sand grains of beach or sea bottom. Benthic animals are food for various fish species that humans consume, such as sole, plaice (flounder), and turbot. Their presence is to a large extent determined by the quality of the sea water and environmental condition of the sea bottom, leading to their use as bioindicators of the quality of the sea.

These current texts can be considered a remarkable supplement to the COST books, or complement, put together mostly by researchers of the marine biology department of the University of Ghent. After a brief preface and introduction, the objectives and target audience are set forth, and the Belgian part of the North Sea is defined. A condensed description of the natural environment follows, geographical, geological, and *in partim* oceanographic. Situation, geomorphology, hydrodynamics, and sedimentology are succinctly reviewed. The physical environment has been deeply influenced and modified due to anthropic intervention; hence human impacts such as fisheries, sand extraction, and eutrophication are discussed. One may wonder why tourism, even long-lasting wars (World Wars I and II) have not warranted some of the authors' attention.

That is where the contributors enter into the heart of the subject, dividing the benthic ecosystem in hyperbenthic, epibenthic, microbenthic, and meiobenthic habitats, and appurtenance to the macrobenthic components. In the section titled "Atlas," species selection and species discussion are examined in detail, facilitating the task of nonspecialists by including common names and indicating species' habitat preference. Species are grouped as bivalves, bristle worms, crustaceans, and lancelets. In an appendix, the authors provide a "systematic overview" of the macrobenthos of the Belgian part of the North Sea.

The volume is superbly illustrated, reads easily, and tends at comprehensiveness. Since it is shown how the publishers would like it to be referenced, this reviewer is surprised that under the end-of-book heading "Reference" not a single book or article is cited. Is this an oversight? Or are we to conclude that nobody ever published anything on the topic?³ Granted, a few citations can be gleaned in footnotes.⁴ Furthermore an index, albeit a modest one, would help out reader and researcher.

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³ Chaineux, M.-C. and Charlier, R.H., 2011. Fishermen cavalry. *Journal of Coastal Research* (in press) could not have been cited, since it is still in press, but there must be more papers of that type, for instance, on *Crangon crangon*.

⁴ See p.38.