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Coastal Zones: Solutions for the 21st Century

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Source: Journal of Coastal Research, 32(6) : 1508-1509

Published By: Coastal Education and Research Foundation

URL: https://doi.org/10.2112/JCOASTRES-D-16A-00002.1

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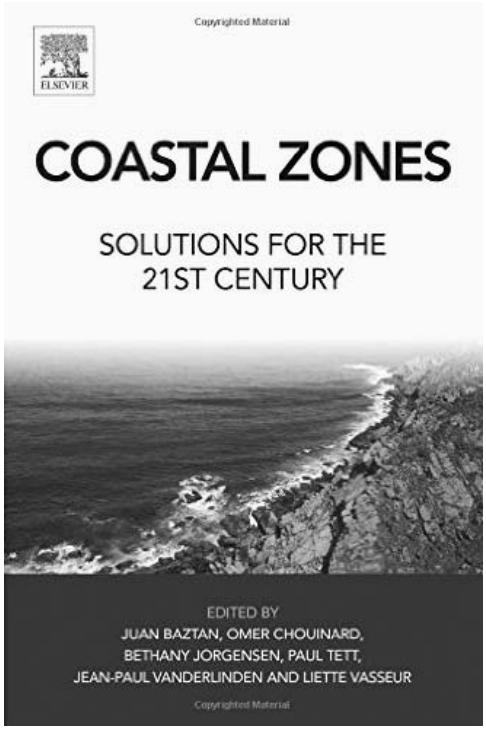
Journal of Coastal Research	32	6	1508–1509	Coconut Creek, Florida	November 2016

BOOK REVIEWS

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Baztan, J.; Chouinard, O.; Jorgensen, B.; Tett, P.; Vanderlinden, J.-P., and Vasseur, L. (eds.), 2015. *Coastal Zones: Solutions for the 21st Century*. Amsterdam, The Netherlands: Elsevier, 376p. Paperback with color illustrations, ISBN: 978-0-12-802748-6.

The coastal zone is a popular topic, with much focus on the



impacts of population increase and natural hazards. Coastal hazards have not increased, but risks of occupancy are now higher than ever with so many people crowding into sensitive environments that are not suited to human habitation. Coastal zones attract urban sprawl and industrial development in the first instance because these seem like nice places to live and play and in the second instance because of the ease of industrialization and commercialization near ports and harbors on level coastal plains. The problem, as appreciated by many researchers, is that there are too many people in the coastal zone. As noted in the Foreword, already more than 40% of the world's population lives within 100 km of the coast, and that percentage is projected to reach 75% in the next few decades. That is a real problem, and it is interesting to see what the editors and authors of this volume suggest as possibilities for a solution.

DOI: 10.2112/JCOASTRES-D-16A-00002.1
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This book zeroes in on the manifold problems of coastal development and tries to present upbeat or positive outlooks on the potential for conservation, adaptability, and sustainability. I, as a coastal researcher for more than 40 years, take a more realistic approach to these outcomes, but let's take a look and see what the various authors of the 19 chapters have to say about all this. Perspectives on the nature and impact of the overpopulation problem are presented as chapters as follows: Facing the Challenges (Chapter 1), Transfer of Knowledge and Mutual Learning on the Canadian Atlantic Coast (Chapter 2), Coastal Population and Land Use Changes in Europe: Challenges for a Sustainable Future (Chapter 3), Human Frontiers: An Act of Smuggling Across Social Borders (Chapter 4), Developing Solutions: Challenges for Communities in the Context of Global Change (Chapter 5), Coastal Governance Solutions Development in Latvia: Collaboration Communication and Indicator Systems (Chapter 6), Geoengineering Coastlines? From Accidental to Intentional (Chapter 7), Remote Sensing Solutions to Monitor Biotic and Abiotic Dynamics in Coastal Ecosystems (Chapter 8), Managing Adaptation to Changing Climate in Coastal Zones (Chapter 9), Sustainability of Artificial Coasts: The Barcelona Coast Case (Chapter 10), Protected Shores Contaminated with Plastic: From Knowledge to Action (Chapter 11), Local Management of Common-Pool Resources (Chapter 12), Solutions for Sustainable Coastal Lagoon Management: From Conflict to the Implementation of a Consensual Decision Tree for Artificial Opening (Chapter 13), Challenges to Evaluating Coastal Management in the Twenty-First Century: Lessons from the Lofoten Archipelago (Chapter 14), Motivation for the Viability of the Lobster Fishery: Case Study of the Acadian Coast of New Brunswick (Chapter 15), Lobster Fisheries in Atlantic Canada in the Face of Climate and Environmental Challenges: Can We Talk About Sustainability of These Coastal Communities? (Chapter 16), Universities as Solutions to Twenty-First Century Coastal Challenges: Lessons from Cheikh Anta Diop Dakar University (Chapter 17), Engaging Local Communities for Climate Change Adaptation: A Case Study in Quebec, Canada (Chapter 18), and Conclusion (Chapter 19).

In this reviewer's opinion, that is a very longwinded list of titles that sound more like journal papers than chapters in a book. But, there was a reason for reiterating the contents because even a cursory view gives an immediate impression of what is in the book, *i.e.* what the book is all about. Perusal of the chapter titles immediately suggests that the contributing authors, and there are a lot of them in this book, are perhaps more aware of the problems and challenges than potential (real) solutions. This perception, to the authors' credit, is the crux of the matter because, at least to this reviewer, the problems are growing faster than solutions can be implemented. This is not meant as an unfair or derisive comment about the book but a reflection on the nature of the problem the authors have tackled. As a physical scientist, for example, I

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tend to look with a steely glaze at the issues raised in the book and, for example, find the polluting of coasts and oceans with plastic to be unacceptable human behavior. To me, this kind of human action is immoral and requires an immediate and stern course correction if the natural integrity of coasts and oceans is to be preserved at all.

Here lies the problem, as the variously proposed solutions take time to formulate into real-life action items of practical and lasting value. One is perhaps reminded of the formulation $D = rt$, where D is distance, r is rate or speed, and t is time. Although normally applied as a calculation of how long it might take to travel a certain distance, the concept can be used as an analogy for estimating the practicalities of implementing some of the proposed solutions mentioned in the book. If we let r represent the rate of population increase as some indefinite gross value and t represents time (in terms of years) for action or implementation of solutions, we arrive at the realization that D, the goal or distance, we want to achieve is unachievable. This inevitable determination becomes obvious because there is limited time to implement new policies as coastal populations increase, and arrival at the goal (desired destination) becomes more and more elusive. Although not stated explicitly, it is clear from the various chapters that the authors are aware of the fact that time is of the essence. Time is not on our side, as remediation is temporally imperative. The authors thus correctly emphasize that we need to "...maximize complex, integrative, and complimentary approaches to proactively apply diverse and wide communication instruments that contain information, education, participation, and pro-environmental behavior." This is presented as a kind of collaboration communication model for coastal development (see Chapter 6, for example). Alternatively, from where this reviewer sits, this kind of model probably should be used oppositely as a means to initiate depopulation of the coastal zone. Knowing that this point of view will be anathema to many, not only those in favor of increasing development of coastal zones but also those already living there, it is a realistic common sense approach to a trend that must be reversed if the coastal zone is to survive. Although to some, veils of some of the horrors of the United Nations' Agenda 21 (*e.g.,* population control) might come to mind under the guise of sustainability, such draconian approaches are not envisaged in the previous admonition.

To me, the real value of the book lies in the perceptions and enumerations of the scope of the problems in the coastal zone. The problems are legion, but the solutions are minions. If one considers the rate of population increase in the coastal zone *vs*. the rate of problem solving (actual implementation of sustainable practices) while at the same time conducting remedial and ameliorative practices, the rubber quickly hits the pavement with a giant skid mark. Most of the solutions that are suggested are based in governance (politics) and socioeconomics, both of which are slow to manifest. As we all know, government is unbelievably inefficient (except when it comes to collecting money from rate payers) and quite usually misguided not so much by intent but by implementation. Allowing for personal and corporate greed, general lack of funding, ability to properly inform an ignorant public of the extent of perils of overcrowding and pollution, corruption of a finite coastal resource base, *etc*., and the potential for satisfactory resolution of exceeded carrying capacities appears rather elusive at best and impossible at worst.

It seems that the editors and authors tacitly recognize all this and that they have made a valiant attempt to reconcile many disparate concepts, policies, and perceptions by "making the link" between human behavior and the consequences of that behavior on the coastal zone. Although not explicit in the book, it seems to this reviewer that most of what are suggested as solutions to coastal zone crises cannot be achieved in an atmosphere of political correctness that is largely devoid of common sense. Models may be good to conceptualize possibilities of potential outcomes, but at some point common sense has to prevail; this is the rub, as humans are notorious for treating symptoms without attempting to discover causes, as is the case of medical and governmental systems. The standards of the day are to apply a bandage or plaster, pop a pill as a silver bullet, throw money at the perceived problem, or apply political rhetoric. These approaches do not work, as the editors and authors are well aware.

Even though the book is advertised as providing solutions to problems and crises in the coastal zone for the 21st century, I fear its thrust is to academicians. Not that it is a bad tactic to use, but the leap from academia to government to the population at large is enormous. The gap is humongous, and it is hard to see how the various proposed schema can or will be applied to critical high-density coastal population zones. Visualizing the process is almost phantasmagorical. Nevertheless, I whole-heartedly recommend the book because it has the courage and insight to delve into the nitty gritty of coastal problems and to expose the present situation as dire, the challenges of which will only become more so in future. Read it, absorb it, and implement it. Those are the action items of the day. Workers interested in coastal research need to buy the book to familiarize themselves not so much with the problems, as these are well known, but with the proposed solutions.

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