

## **Coasts in Crisis: A Global Challenge**

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Source: Journal of Coastal Research, 33(6) : 1498

Published By: Coastal Education and Research Foundation

URL: <https://doi.org/10.2112/JCOASTRES-D-17A-00007.1>

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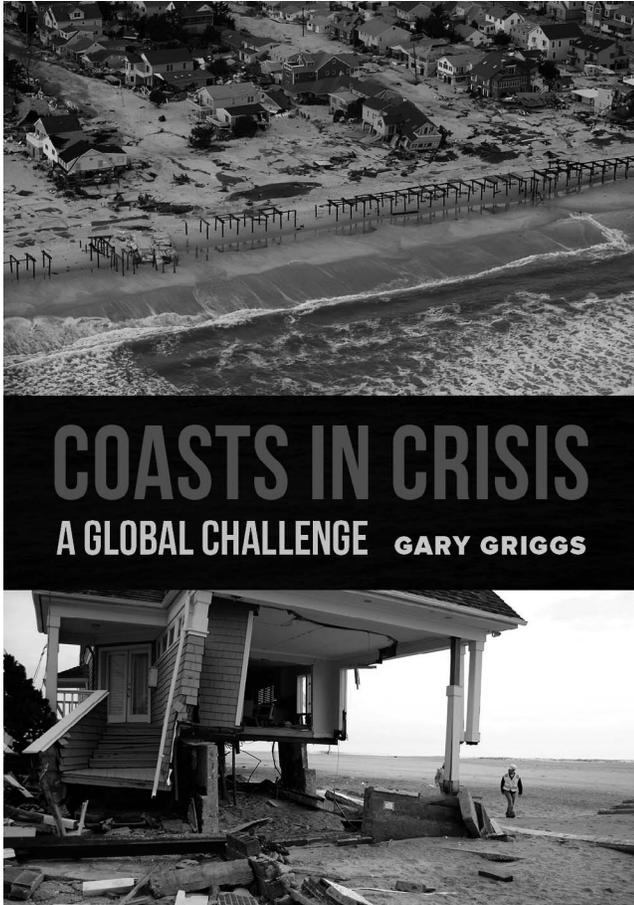
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**Coasts in Crisis: A Global Challenge.** Griggs, G., 2017. Oakland, California: University of California Press, 360p., 174 color images. ISBN: 9780520293618, \$USD 85.00 (Hardcover); ISBN: 9780520293625, \$USD 29.95 (Paperback); ISBN: 9780520966857, \$USD 29.95 (eBook).



It is a rare occurrence these days to sit down with a book and find everything you need within just those pages. Usually, I find myself reaching for another volume to reference an area of study that was not covered in the text I initially sat down with. Not so with the recently published *Coasts in Crisis: A Global Challenge*. Gary Griggs has written a wonderful account of how coastal regions are formed and subsequently affected by the constant barrage of natural and human interactions. The

book first brings you on a historical journey of early human settlement of the coastal zone. This then leads into more modern themes, such as urban expansion, coastal megacities, population increases, coastal hazard vulnerability, and human impacts. But that is only the first part of the message, which is an introduction to humans and coasts.

For the second part of the book, Dr. Griggs covers the natural processes and hazards affecting coastal regions. He talks about coastal tectonic hazards, including subduction zones and transform plate earthquakes, tsunamis, and volcanoes. Storms, waves, coastal erosion, and shoreline retreat are also discussed, which then leads the reader into an intriguing description of climate change and sea-level change as we know it today *versus* future projections. One of the moments that really struck me while reading this part of the book was when Dr. Griggs offered his list of the top five U.S. cities most vulnerable to a hurricane landfall. In the chapter on Tropical Cyclones, Hurricanes, and Typhoons, Dr. Griggs predicts that the fifth most vulnerable location is in fact the Houston–Galveston, Texas area. That listing was recently given validity only a few weeks before this review was written, when Hurricane Harvey devastated the Houston–Galveston area in August of 2017.

The third (and final) part of the book centers around the impacts of human activities on coasts. These key topics include marine pollution (*e.g.*, wastewater, organic wastes, nitrification, algal blooms, and pathogens), plastics/marine debris, petroleum (*i.e.* impacts of exploration, development, production, and transport), coastal power plants (*e.g.*, thermoelectric, nuclear), renewable energy from the coastal zone (*e.g.*, wind, hydrokinetic, ocean thermal energy conversion), groundwater (*i.e.* subsidence and seawater intrusion), desalination, carbon dioxide, climate change, ocean acidification, coral reef health and survival, overfishing, aquaculture, and aquatic invasive species.

It is easy to recommend this book to all coastal researchers and managers as an essential part of their home library collection. With many color photographs and illustrations, Dr. Griggs offers us a volume that is not only intellectually stimulating, but also visually stunning. He promotes further discussion by always asking the same question at the end of every chapter: *Where do we go from here?* And that is the central question that should be addressed when delving into the myriad of topics covered in this book: Where exactly do humans and the stability of the coastal region go from here?

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DOI: 10.2112/JCOASTRES-D-17A-00007.1

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