

Book Reviews

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BOOK REVIEWS



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Coastal Karst Landforms (Coastal Research Library, Volume 5). By M. K. Lace and J. E. Mylroie. Dordrecht, The Netherlands: Springer, 429 p. \$129.00 hard cover. ISBN 978-94-007-5016-6.

This book, Volume 5 in the Coastal Research Library (CRL), addresses concepts and examples of coastal karst and pseudokarst development. The book is thus conveniently divided into two parts: (I) Principles of Coastal Karst Development and (II) Selected Case Studies in Coastal Cave and Karst Development, the first part with six chapters and the second carrying 12 chapters. There are several overarching themes that run simultaneously throughout the book with aspects of geomorphic processes, interpretation of climatic change, fluctuating sea levels, (paleo)geography, archaeology, paleontology, and biology. The many subthemes occurring in the various chapters make for interesting and comprehensive reading. This wide range of subject matter is used to advantage, making for a truly integrative scientific approach to a wide-ranging subject that in broad aspect and detail can be quite complicated and convoluted. The organization of the book into these two parts is thus very much appreciated by the reader who is initially introduced to concepts and principles of karst (and pseudokarst) evolution that are subsequently illustrated by succinct case studies from around the world in the Bahamas, Puerto Rican Islands, Barbados, Spain, Rodrigues (Indian Ocean island), Mariana Islands, western U.S. coast, Florida, Mexico, Mediterranean region, and Australia and New Zealand. This global tour de force offers keen insight into myriad karst forms and processes. Conceptual and geographic subject areas are handled by researchers of renown, their (former) students, and associates that together provide a truly authoritative view of the science as it now stands. The karst literature has a rich vocabulary, and the various authors do a good job of providing synonyms and related terminologies when appropriate.

The first chapter sets the stage of inquisition by defining, describing, and illustrating pseudokarst caves, that is, what karst caves are not. This introduction or overview of cave types found in rocky coastlines considers all manner of morphological features, processes, and materials. Constructional caves, hybrid caves, tafoni, talus caves, fissure (tectonic) caves, and sea caves are featured here with ample examples illustrated from around the world.

The second chapter addresses erosional and depositional structures in coastal karst landscapes. Featured here is consideration of lapiez, karren, phytokarst, biokarst, halokarst, pinnacles, beachrock, and a brief enumeration of the process responsible for these kinds of features. Eogenetic (polygenesis) karren development is examined and explained via different points of view related to these complicated and intertwined processes that are influenced by initial conditions (eogenetic lithology) and susceptibility to bioerosional activities by concurrent (and competing) or successive (and overprinting) taxa. This is all very interesting stuff that is not to go unnoticed. Also included in this comprehensive chapter are discussions of pits, pans, potholes, smooth and fractured surfaces, bioerosional textures, loose sediment, cemented features, littoral tufa, and bioconstructional features. Notches

and platforms as well as landscape zonation are explained in understandable terms.

Coastal karst development and the biological and archaeological significance of coastal caves and karst features are respectively considered in Chapters 4 and 5. Principles and concepts of coastal cave and karst resource management are reviewed in Chapter 6. These chapters are especially interesting to those involved with management tasks as much of this information is known to specialists but is not widely appreciated by the uninformed. There are many critical issues that need careful attention by managers and the public, especially in the case of conservation, protection, and touristic visitations. For example, the protection and preservation of cave rock art in the form of petroglyphs, pictographs, mud glyphs, and geoglyphs is an important management strategy that is needed to help scientists unravel archaeologically significant coastal cave sites that occur in a remarkably wide range of environments.

The dozen chapters in Part II address a wide range of topics that should appeal to readers interested in technical descriptions of cave occurrence and development, tafoni morphological development, exogenetic coastal karst caves and cave systems, calcar-enite, karst hydrogeology, littoral cave development, climatic influences on coastal cave and karst development, telogenetic limestones, and island karst, *etc.* The integration of a plethora of topics covered here brings greater insight to the general subject of coastal karst landforms.

This book will be of interest to specialists in coastal karst as well as to those who want to know more about karstified coastscapes, the boundary between landscapes and seascapes. Flooded with color illustrations and line drawings, the reader is carefully led through myriad examples of discussions at hand. Each chapter starts out with an abstract and is followed by references that are cited in the text. Grouping the reference literature at the end of each chapter is convenient for researchers who will not have to mill through an extensive list at the end of the book. A glossary provides definitions of terms that are relevant to coastal karst geomorphology and related karst features and processes mentioned in the book. This list of terms will be especially useful for those who are not fully enmeshed in the jargon of coastal karst. The abbreviated geographic-subject index takes up the last few pages of the book. Although not comprehensive or all-inclusive, it will adequately direct interested readers to appropriate sections.

Having been involved with the coastal sciences for many decades and even though I was broadly familiar with many coastal karst topics, I found the book to be refreshing and informative. Information was clearly presented in a format that was easy to navigate and understand. The writing styles were consistent among the various chapters, presenting coherent and interlinked discussions. The editors and authors have, in my opinion, provided a collectable work that will stand the test of time in the research community. The book is reasonably priced considering the numerous color illustrations and diagrams. I recommend this book without hesitation to all those interested in coastal karst landforms and that accolade includes the lay reader as well as the professional scientist and specialist researcher.

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