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BOOK REVIEWS

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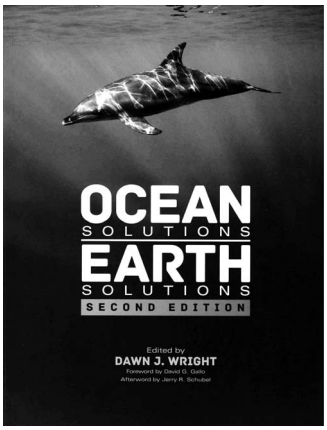
Ocean Solutions, Earth Solutions, 2nd Edition. Wright, D.J. (ed.), 2016. Redlands, California: Esri Press, 507p. ISBN: 9781589484603, Softcover; ISBN: 9781589484658, eBook. $USD 39.99.



This large-format (21.5 × 28 cm; 8.5 × 11 inch) softcover book contains a wealth of information that is not only of interest to those with some expertise in GIS, but also to students and researchers who have an interest in the coastal marine environment. The result of two Esri forums in 2013 and 2014, the book includes the most innovative science presented at those meetings. The goal of the book is to make this information available to government decision makers, coastal ocean science researchers, and GIS practitioners or specialists. To this end, the volume contains four main themes: (1) server/cloud GIS, (2) coastal and marine spatial planning, (3) analytical and mapping tools, and (4) visualization. Distributed among these four main sections are 23 chapters by more than 90 authors. The various chapters provide data and supplemental resources that include, but are not limited to, diagrams, map packages, Python scripts, ArcGIS tools, photography, videos, links to Esri Story Map apps, and more.

The scope and breadth of coverage thus presents a wealth of useful information that is so broad, it might be helpful to indicate the titles of the various chapters. I do this at the risk of being somewhat boring, but perusal of the chapter list probably gives a better impression of the contents than a brief summary. Chapter 1: Cloudy with a Chance of Fish: ArcGIS for Server and Cloud-Based Fisheries Oceanography Applications; Chapter 2: What GIS Experts and Policy Professionals Need to Know about Using Marxan in Multiobjective Planning Processes; Chapter 3: Artificial Reefs, Beach Restoration, and Sea Turtle Nesting in Martin County, Florida; Chapter 4: Tools for Implementing the Coastal and Marine Ecological Classification Standard; Chapter 5: How Does Climate Change Affect Our Oceans? Chapter 6: A GIS Tool to Compute a Pollutant Exposure Index for the Southern California Bight; Chapter 7: Development of a Map Viewer for Archipelago de Cabrera National Park, Balearic Islands, Spain; Chapter 8: Whale mAPP: Engaging Citizen Scientists to Contribute and Map Marine Mammal Sightings; Chapter 9: Extending Esri Geoportal Server to Meet the Needs of the West Coast Ocean Data Network and Inform Regional Ocean Management; Chapter 10: Linking Landscape Condition Impacts to Coral Reef Ecosystem Composition for the East End of Saint Croix; Chapter 11: Using GIS Tools to Develop a Collaborative Essential Fish Habitat Proposal; Chapter 12: More than Maps: Connecting Aquarium Guests to Global Stories; Chapter 13: Uncovering the Oceans through Marinescape Geovisualization; Chapter 14: Approaches to Visualizing Complex Ocean Data Using Worldwide Telescope; Chapter 15: Managing the Visual Landscape of Oregon's Territorial Sea; Chapter 16: Near Real-Time Oceanic Glider Mission Viewers; Chapter 17: Multivariate Classification of Seamount Morphology: Assessing Seamount Morphotypes in Relation to Marine Jurisdictions and Bioregions; Chapter 18: Satellite Services for Coastal Applications; Chapter 19: The Coastal Defense App: Evaluating Nature's Role in Coastal Protection; Chapter 20: Modeling and Mapping Coastal Ecosystem Services to Support Climate Adaptation Planning; Chapter 21: The Tetiaroa Atoll Research Project: Documenting Changes in Island Morphology and Biodiversity through GIS-Based Field Research; Chapter 22: Sediment Drainage Streams Important in Benthic Seafloor Classification; and Chapter 23: The Navy Shore Geospatial Energy Module.

As can be seen from a cursory gleaning of chapter titles, there is something for everyone in this tome. Topics run the gamut in the realm of coastal marine GIS applications and thus stand in contrast to single-purpose literary experiences. Exposure to this wide range of subject areas definitely broadens myopic points of view and brings to the forefront advantages of multipronged investigations of myriad environmental conditions associated with the global ocean and its shores. Although perhaps to some readers this book might seem like a haphazard collage, it instead carries the GIS thread throughout and highlights applications that can be used to study some of the planet's most important natural resources under most types of coastal marine environmental conditions. This perspective is the real value of these collected works that constitute a coherent appreciation of advances in the realm of the GIS world.

Production of a volume such as this is important because coastal management is of topical interest in general and because the coastal zone needs to be better managed specifically, with more than 30% of the world's seven billion people living there. Additionally, 15 of the world's most populated

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cities are built on the shore or in estuaries. Because population pressures in the coastal zone often result in despoliation of the coastal marine environment, the application of best management practices that protect and conserve the resource base is needed. Excessive exploitation of coastal marine fisheries is a good example of poor management that needs to be rectified to avoid further collapse of many world fisheries. No matter where one lives on earth, the oceans affect global climates and other human activities. Good stewardship of the coastal marine environment is thus not only prudent but essential to the well-being of many socioeconomic systems the world over. This book puts such considerations in perspective and shows how GIS applications can and do provide positive incentive for monitoring and better understanding environmental processes and interrelationships.

The softcover book is handsomely produced on good-quality coated paper and is sturdily bound with saddle stitching. The book is profusely illustrated with color drawings, diagrams, and various types of imagery (*e.g.*, satellite images and photography) and contains color headings that make for easy reference and access. The foreword and afterword are useful and informative, an after-section contains brief bios of contributors, and the index is extensive. The book is also available in electronic format as an e-book.

This book has many merits, not the least of which is the unique GIS content that focuses on solutions to conundrums in the coastal zone. I found that the book provided an interesting and rewarding experience as I was exposed to subjects that I would not normally run across. To that end, I am now more informed than before, and I suggest readers partake of the same experience, whether perusing an electronic version or with the physical volume in hand.

This book is thus unhesitatingly recommended to researchers, students, and libraries. Its broad content makes it an attractive purchase at a very reasonable price. The editor (Dawn J. Wright) is congratulated for overseeing the curation of a fine group of papers that are assembled in this important work.

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