Journal of Marine Science: Research & Development

Commentary Article Open Access

Modelling Methods, Data Analysis and Numerical Techniques for Marine Science

Sujatha Kolanki*

Department of Oceanography, Chittinad College of Marine Biology, Chittinad, Andhrapradesh, India

Abstract

A fish aggregating (or aggregation) device (FAD) is a man-made object that are used to attract ocean-going pelagic the manipulation of mathematical and computational representations is now commonplace in interdisciplinary scientific areas. Numerous are unfamiliar with the mathematical and numerical approaches they will achieve in their careers. For researchers in marine science who are willing to learn how to develop and use computer techniques, the deficiency has been addressed by the Modelling techniques for Marine Science subject, written by the biogeochemists David Glover, William Jenkins, and Scott Doney.

Keywords: Marine Science; Oceanography; Geoscience; Modelling Marine; Sea Water

Discussion

The research areas of the highly accomplished knowledge and respected authors are afforded for all work at Woods Hole Oceanographic Institution places, those are reflected in the book's concentration with the tools needed for the biogeochemical and ecosystem modelling technique. The largely self-contained text includes the managing of a broad range of research areas and emphasizes a practical works, hands-on approach to modelling methods. Most of the chapters have a good selection of exercises, and many of the specimens in the text include Matlab numerical code base. Modelling Methods for the Marine Science is mainly divided into three parts. The first seven chapters provide a brief introduction to Matlab and broad coverage of data-analysis techniques. Those methods include the basic probability and an error analysis, regression, and the common geoscience multivariate techniques such as empirical orthogonal function of analysis, time series system, and objective mapping methods. The data-analysis coverage is a valuable and novel aspect of the book because the techniques considered are generally not found in modelling texts even though they are essential tools for relating models to data and observations.

The next five chapters of the presentations a whirlwind tour of the numerical techniques for solving an ordinary and partial differential equation, respectively. Most of the material is standard amount, but two chapters are stand out: One contains an excellent tutorial on how to build the computational models from the scratch, that may include many strategies levels that may modelers use daily, and another describes how to optimize the models and assessment of results.

Their examples, based on published models, could easily be adapted for classes in environmental physics or engineering. Two chapters give brief introductions to more advanced topics: 3D general circulation models, inverse models, and data-assimilation techniques. The final chapter, of the scientific visualization can offers some good advice on the presenting the results of models and simulations. In their goal to write a text that is accessible to students with a wide range of backgrounds. The impressive breadth sometimes comes at the expense of depth; an annotated list of further reading at the end of each chapter would have been a useful addition.

Conclusion

Consecutively run scripts are basically used to instead of functions. That style may be easier for novice programmers to come to grips with, but it is better that students learn good programming habits early. Finally, the book's informal language, conversational style may not be appeal to all the readers. Despite of this its minor weaknesses, Modelling Methods for the Marine Science is an accessible introduction to the modelling and thus fills a serious gap in the literature view. The detailed examples are an excellent resource for students and faculty management, and the book should justifiably become a standard text in the personal libraries of the aspiring goals and established researchers are interested in modelling marine and environmental systems.

***Corresponding author:** Sujatha Kolanki, Department of Oceanography, Chittinad College of Marine Biology, Chittinad, Andhrapradesh, India, Email: sujathakolanki@gmail.com

Received April 08, 2021; **Accepted** April 22, 2021; **Published** April 29, 2021

Citation: Kolanki S (2021) Modelling Methods, Data Analysis and Numerical Techniques for Marine Science. J Marine Sci Res Dev 11: 310.