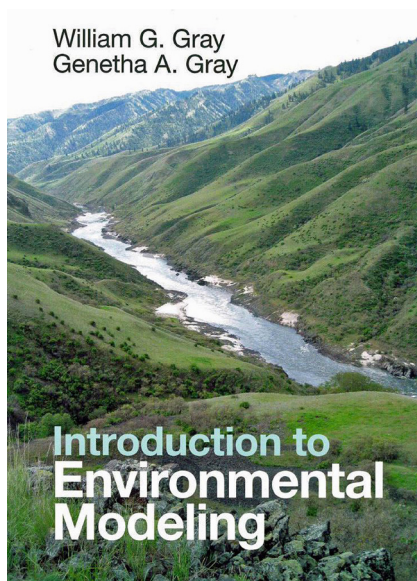


**Introduction to environmental modelling**, by W.G. Gray and G.A. Gray, 2017. Cambridge University Press, Cambridge, UK. 625 pages. Paperback: price €42, Kindle: price €34, ISBN 9781107571693.



Environmental modelling has been attracting the attention of scientists all over the world. Despite the huge interest among the scientific community, not many students' book that present this topic in general are currently available on the academic market. Most of the modern texts focus on detailed studies and particular codes dedicated to specific natural phenomena. However, many of these are written in a very professional language of mathematics and equations, which make them difficult to those who have just begun their adventure with environmental modelling. The present tome by Gray and Gray is different.

The book presents an innovative and interesting approach in providing an introduction to environmental modelling. Unlike other students books, this one focuses on the thought process of modelling, instead of giving the computer codes ready for implementation of a specific problem. Although some numerical solutions are presented in this work, the reader has the opportunity to learn about physics beyond equations. This book is not intended for stu-

dents who just wish to grab the right equation and obtain some numbers or specific results. However, it will prove very useful to those who wish to start thinking as a modeller and understand the world within the framework of numerical models. What is also worth noting is that the present tome explains complicated physics in a very reader-friendly way, but it does require some mathematical background. The authors follow the idea that all data must be placed within context in an aim to understand and interpret the numbers; this is another very valuable insight of this volume. Gray & Gray teach the readers how to construct and solve environmental modelling issues, and provide not only a great branch of knowledge, but also useful examples, solutions and questions.

The book consists of seventeen chapters, which together cover the thought process for environmental modelling from a mechanical perspective, inclusive of 40 black and white figures and a substantial list of references. The authors also provide useful physical principles that are needed to understand most of the existing models. Chapters 1 to 7 consist of general rules and directions for every modeller. From this, the reader learns how important it is to grasp the context of data, or why we should always know and control the errors. The next chapters describe the basic physics behind the environmental models and introduce mathematical solutions for them. Here is found an exact description of porous media and groundwater system modelling, as well as the solution of advection– dispersion equation. All chapters are organised in a logical sequence, which definitely makes this book very reader friendly.

Summing up, the present tome is a very well-written and excellently logically ordered book. The aim of authors to introduce students with a mathematic background to environmental modelling has certainly been achieved. I truly recommend this book to students, but also to all those who wish

to understand what environmental modelling is all about. Scientists who already work with numerical models may also find some interesting insights. All those, and many others, smaller advantages of this work by Gray and Gray, make it not only a universal, but also a very pleasant and useful reading.

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