### An Electronic Book from the EnviroComp Institute

# **Environmental Sciences and Environmental Computing** Vol. I

### Edited by P. Zannetti and Y. Q. Zhang

This electronic book presents a peer-reviewed collection of chapters in



environmental sciences and environmental computing. This is the first volume of a series of electronic publications in this field.

Environmental sciences have sustained a very fast development in the last few decades. Moreover, the use of computer techniques in studying environmental problems is paramount. In fact, we call "environmental computing" all those environmental applications in which computer methods play a determinant role, e.g., simulation modeling, data bases, data analysis,

visualization, Geographic Information Systems, etc.

Simulation modeling is, historically, the main field in which computers have shown to be indispensable tools in environmental studies. Computers programs can, in fact, reproduce the dynamics of environmental flows and simulate the transport and fate of pollutants imbedded in these flows. But computers today are used in virtually every task of environmental studies.

In this book, we present a set of five technical chapters, plus three special chapters dealing with information available on the World Wide Web (WWW).

In the last few years, we have witnessed an incredible evolution in the amount of material available on the WWW. Most scientists, today, gather a large share of their technical news and information directly from the Web, instead of traditional books and publications. Therefore, we believe that the readers will find the special chapters very useful.

The five technical chapters deals with: air pollution issues in Madrid, Spain, and Mexico City; ecodynamics models for oceanic studies; soil and groundwater pollution in Australia; and global climate change. The three special chapters provide a comprehensive survey and available information on the WWW for the following environmental topics: technical disciplines, government institutions, professional societies, ecological modeling, atmospheric sciences, air pollution modeling.

This electronic book is distributed on CD-ROM and can be read, examined, searched, and printed with any computer system (PC/Mac/Unix) using the free software (Adobe Acrobat Reader) included as part of the CD-ROM. The book is fully hyper-texted and contains a large number of color pictures

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