

Ecological Modelling

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Ecological Modelling

An introduction

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Preface

Ecological Modelling: an Introduction is a textbook tailored for the last year of a bachelor study or the first year of a master study. Ecological Modelling is a very powerful tool in environmental management and ecological research and a course in ecological modelling ought, therefore, to be compulsory for all studies focusing on environmental management, environmental sciences and ecology. Ecological modelling requires both an introduction to the basic theory and practical computer exercises in the development of models. To facilitate the exercises, the book presents several illustrations, where an ecological modelling problem or task is presented and the solution is then given in detail. Several exercises are presented after each chapter, but the best exercises are of course that the students develop their own models focusing on problems that they have formulated and have particular interest to solve. The basic theory of ecological modelling is covered by the first seven chapters of the textbook, including ‘how to go modelling’ and an overview of the various model types applicable in ecological modelling. The following five chapters present details about the development and application of the five most applied model types in ecological modelling: bio-geo-chemical models, population dynamic models, ecotoxicological models, spatial models and structurally dynamic models. For all five types, detailed and illustrative examples are presented. The examples are chosen to give the readers sufficient information to facilitate the development of their own models of the same type.

Sven Erik Jørgensen
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