Record Nr. UNINA9910800166603321 Autore Acevedo Miguel F. Titolo Simulation of ecological and environmental models / / by Miguel F. Acevedo Boca Raton, FL:,: CRC Press, an imprint of Taylor and Francis,, 2012 Pubbl/distr/stampa **ISBN** 0-429-10125-2 1-4665-5389-8 1-4665-7568-9 Edizione [First edition.] Descrizione fisica 1 online resource (481 p.) Disciplina 577 Soggetti Ecology - Mathematical models Environmental sciences - Mathematical models Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references. Nota di contenuto Front Cover; Contents; Preface; Acknowledgments; Author; Chapter 1 -Introduction; Chapter 2 - Review of Basic Mathematical Concepts and Introduction to R; Chapter 3 - Exponential Model; Chapter 4 - Model Simulation; Chapter 5 - Model Evaluation; Chapter 6 - Nonlinear Models; Chapter 7 - Stability and Disturbances; Chapter 8 - Sensitivity Analysis, Response Surfaces, and Scenarios: Linear Dynamical Systems: Chapter 10 - Structured Population Models; Chapter 11 -Ecotoxicological Modeling; Chapter 12 - Community Dynamics; Chapter 13 - Ecosystems: Nutrients and Energy Chapter 14 - Aquatic EcosystemsChapter 15 - Terrestrial Ecosystems: Soils, Plants, and Water; Chapter 16 - Terrestrial Ecosystems: Vegetation Dynamics; Bibliography; Back Cover Sommario/riassunto Given the importance of interdisciplinary work in sustainability. Simulation of Ecological and Environmental Models introduces the theory and practice of modeling and simulation as applied in a variety of disciplines that deal with earth systems, the environment, ecology, and human-nature interactions. Based on the author's many years of teaching graduate and undergraduate students in the United States, Spain, and Latin America, the textbook shows how to implement

simulations and analyze the results using an open-source software