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Titolo   Geomatic Approaches for Modeling Land Change Scenarios / / edited by María Teresa Camacho Olmedo, Martin Paegelow, Jean-François Mas, Francisco Escobar

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Descrizione fisica   1 online resource (XXIV, 525 p. 158 illus., 66 illus. in color.)

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Nota di contenuto   Geomatic Approaches for Modeling Land Change Scenarios -- Part I: LUCC Modeling Approaches to Calibration -- The Simulation Stage in LUCC Modeling -- Techniques for the Validation of LUCC Modeling Outputs -- LUCC Scenarios -- Part II: Obtaining and Comparing Factors in Land Change Models Using One or Two Time Points Based Calibration -- Impact and Integration of Multiple Training Dates for Markov Based Land Change Modeling -- Land Use Change Modeling with SLEUTH: Improving alibration with a Genetic Algorithm -- Part III: Urban Land Use Change Analysis and Modeling: A Case Study of the Gaza Strip -- Constraint Cellular Automata for Urban Development Simulation: An Application to the Strasbourg-Kehl Cross-Border Area -- Part IV : Cellular Automaton -- Cellular Automata in CA_MARKOV -- Fuzzy Coincidence -- Part V : A Short Presentation of the Actor, Policy, and Land Use Simulator (APoLUS) -- A Short Presentation of CA_MARKOV.

Sommario/riassunto   This book provides a detailed overview of the concepts, techniques,

applications, and methodological approaches involved in land use and cover change (LUCC) modeling, also known simply as land change modeling. More than 40 international experts in this field have participated in this book, which illustrates recent advances in LUCC modeling with examples from North and South America, the Middle East, and Europe. Given the broad range of geomatic approaches available, it helps readers select the approach that best meets their needs. The book is structured into five parts preceded by a foreword written by Roger White and a general introduction. Part I consists of four chapters, each of which focuses on a specific stage in the modeling process: calibration, simulation, validation, and scenarios. It presents and explains the fundamental ideas and concepts underlying LUCC modeling. This is complemented by a comparative analysis of the selected software packages, practically applied in various case studies in Part II and Part III. Part II discusses recently proposed methodological developments that have enhanced modeling procedures and results while Part III offers case studies as well as interesting, innovative methodological proposals. Part IV revises different fundamental techniques used in LUCC modeling and finally Part V describes the best-known software packages used in the applications presented in Parts II and III.