METADATA

Title: Geographical Analysis using Geoinformatics

Other Titles: Applied Geographical Information Systems

Language: Greek

ISBN: 978-960-603-453-4

Subject: NATURAL SCIENCES AND AGRICULTURAL SCIENCES

Keywords: Geographic Information Science / Geographic Information Systems / Vector Data Analysis / Raster Data Analysis / Spatial Multicriteria Analysis (SMCA)

• • •

Abstract

The text demonstrates methods for analyzing vector and raster data and focuses on practical applications rather than just theoretical learning. It covers important topics such as spatial decision-making, multi-criteria analysis and error handling when processing geographic data. The author emphasizes understanding general problem-solving methods, not just mastery of specific software. Detailed case studies using commercial and open-source GIS software illustrate the application of these techniques in real-world scenarios. The book covers the following topics: a) Introduction to applied GIS b), Cartographic overlay (functions for vector data), c) Cartographic overlay (functions for raster data), d) Weighted cartographic overlay (spatial applications - zoning of space), e) The Analytic Hierarchical Process methodology in geographic analysis, f) Digital terrain models (structure, use, derived information) Aimed at advanced students and professionals interested in geographic analysis, the book offers both theoretical insights and practical exercises. While some basic knowledge of GIS is required, no advanced math or programming skills are necessary. To assist the reader, there is an appendix with specialized terminology and acronyms, as well as exercises and references at the end of each chapter for further study. Overall, the book serves as a comprehensive introduction to applied geospatial data analysis, combining both educational and practical approaches.