



## Summary

The fourth edition of this highly regarded and successful text continues to provide a clear and accessible introduction to the world of GIS for students and professionals. With an increased focus on the practical applications of GIS, the new edition features a wealth of new multi-disciplinary case studies and examples of GIS in practice, demonstrating how it is used worldwide and within a variety of different industries. Furthermore, the new edition has been substantially revised and updated to include coverage of the latest advances in GIS such as web and mobile applications. An Introduction to Geographical Information Systems is suitable for students of Geographical Information studies at all levels, from undergraduate to professionals

retraining in GIS. Features: A striking full-colour design enriches the photographs, maps, diagrams, and screenshots to provide a highly visual illustration of GIS output and applications; A selection of new international case studies written by both specialists and practitioners provides a detailed picture of how GIS is used across a variety of different disciplines and industries; Practice boxes demonstrate how GIS tools and techniques are applied in the real world across a range of sectors including business, environmental management, tourism and planning; Theory boxes provide consolidation of important issues and concepts; Reflection boxes – included at the end of each main section - enable you to check progress and further explore the key issues; A range of useful revision material at the end of each chapter including questions, text and web-based activities and a guide to further reading, to encourage class discussion and A dedicated website including:

- o Self-test multiple-choice questions and extension activities
- o Weblinks for further investigation.
- o Datasets offering practice and extension opportunities.

## **Table of Contents**

### Part 1 Fundamentals of GIS

- 1 What is GIS?
- 2 Spatial data
- 3 Spatial data modelling
- 4 Database management
- 5 Data input and editing
- 6 Data analysis
- 7 Analytical modelling in GIS
- 8 Output: from new maps to enhanced decisions

### Part 2 Issues in GIS

- 9 The development of computer methods for handling spatial data
- 10 Data quality issues
- 11 Human and organizational issues
- 12 GIS project design and management

### 13. The Future of GIS