



METADATA

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Abstract

The book is an introduction to Geographic Information Science (GIScience) which deals with the systematization of the understanding and representation of geographical space, and with the collection, processing, analysis, interpretation, presentation and management of geospatial data. It does not follow the usual book syllabus covering the basic functions of commercial GIS software, but provides a theoretical and practical foundation for a geospatial representation approach. It introduces the basic principles of perception, conceptualization and representation of geospatial phenomena, basic spatial properties/relationships, their description in an information environment, the main domain/entity models, basic data structures, data collection and processing sources and technologies, their organization in databases, and the possibilities of spatial analysis and geo-visualization. In order to highlight the different requirements of fields using geospatially

referenced information, the book concludes with a presentation of representative such applications. At the end of each chapter, the relevant literature and key terms are mentioned. The book is intended for university undergraduate level readers. Geographic Information Science, with its technological dimension (Geoinformatics and GIS), can be approached from 3 perspectives: (a) the needs of the user/application (user perspective), (b) the understanding of the specificity of geographic information and the methodological design of system and applications (modelling perspective), and (c) the implementation of systems-applications at the physical level (computing perspective). Since applications and computing technology capabilities are constantly changing, a clear priority is given by intention to the less volatile methodological approach. This ensures the timeless character of the book and the value of the knowledge provided to the reader.

