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	Titolo	Ecological Informatics : Data Management and Knowledge Discovery / / edited by Friedrich Recknagel, William K. Michener
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	ISBN	3-319-59928-3
	Edizione	[3rd ed. 2018.]
	Descrizione fisica	1 online resource (VII, 482 p. 173 illus., 119 illus. in color.)
	Disciplina	333.7
	Soggetti	Environmental management
		Ecology
		Environmental monitoring
		Data mining
		Database management
		Environmental Management
		Monitoring/Environmental Analysis
		Data Mining and Knowledge Discovery
		Database Management
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references at the end of each chapters.
	Nota di contenuto	Ecological Informatics: An Introduction -- Project Data Management Planning -- Scientific Databases for Environmental Research -- Quality Assurance and Quality Control (QA/QC) -- Creating and Managing Metadata -- Preserve: Protecting Data for Long-term Use -- Data Discovery -- Data Integration: Principles and Practice -- Inferential Modelling of Population Dynamics -- Process-based Modeling of Nutrient Cycles and Food-web Dynamics -- Uncertainty Analysis by Bayesian Inference -- Multivariate Data Analysis by means of Self-organizing Maps -- GIS-based Data Synthesis and Visualization -- Communicating and Disseminating Research Findings -- Operational Forecasting in Ecology by Inferential Models and Remote Sensing -- Strategic Forecasting in Ecology by Inferential and Process-based Models -- Biodiversity Informatics -- Understanding Bioinvasion of Lake Champlain, U.S.A. -- The Global Lake Ecological Observatory

Network -- Long-Term Ecological Research in the Nakdong River: Application of Ecological Informatics to Harmful Algal Blooms -- Long-term Ecological Research in the English Lake District : From Ecological Informatics to the Generation of Ecological Knowledge.   .

Sommario/riassunto	This book introduces readers to ecological informatics as an emerging discipline that takes into account the data-intensive nature of ecology, the valuable information to be found in ecological data, and the need to communicate results and inform decisions, including those related to research, conservation and resource management. At its core, ecological informatics combines developments in information technology and ecological theory with applications that facilitate ecological research and the dissemination of results to scientists and the public. Its conceptual framework links ecological entities (genomes, organisms, populations, communities, ecosystems, landscapes) with data management, analysis and synthesis, and communicates new findings to inform decisions by following the course of a loop. In comparison to the 2nd edition published in 2006, the 3rd edition of Ecological Informatics has been completely restructured on the basis of the generic conceptual f ramework provided in Figure 1. It reflects the significant advances in data management, analysis and synthesis that have been made over the past 10 years, including new remote and in situ sensing techniques, the emergence of ecological and environmental observatories, novel evolutionary computations for knowledge discovery and forecasting, and new approaches to communicating results and informing decisions. .