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	Autore	Altieri Linda
	Titolo	Entropy Measures for Environmental Data : Description, Sampling and Inference for Data with Dependence Structures / / by Linda Altieri, Daniela Cocchi
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	Sommario/riassunto	This book shows how to successfully adapt entropy measures to the complexity of environmental data. It also provides a unified framework that covers all main entropy and spatial entropy measures in the literature, with suggestions for their potential use in the analysis of environmental data such as biodiversity, land use and other phenomena occurring over space or time, or both. First, recent literature reviews about including spatial information in traditional entropy measures are presented, highlighting the advantages and disadvantages of past approaches and the difference in interpretation of their proposals. A consistent notation applicable to all approaches is introduced, and the authors' own proposal is presented. Second, the use of entropy in spatial sampling is focused on, and a method with an outstanding performance when data show a negative or complex spatial correlation is proposed. The last part of the book covers

estimating entropy and proposes a model-based approachthat differs from all existing estimators, working with data presenting any departure from independence: presence of covariates, temporal or spatial correlation, or both. The theoretical parts are supported by environmental examples covering point data about biodiversity and lattice data about land use. Moreover, a practical section is provided for all parts of the book; in particular, the R package SpatEntropy covers not only the authors' novel proposals, but also all the main entropy and spatial entropy indices available in the literature. R codes are supplemented to reproduce all the examples. This book is a valuable resource for students and researchers in applied sciences where the use of entropy measures is of interest and where data present dependence on space, time or covariates, such as geography, ecology, biology and landscape analysis.