

Spatial Analysis

A Guide for Ecologists

Second Edition

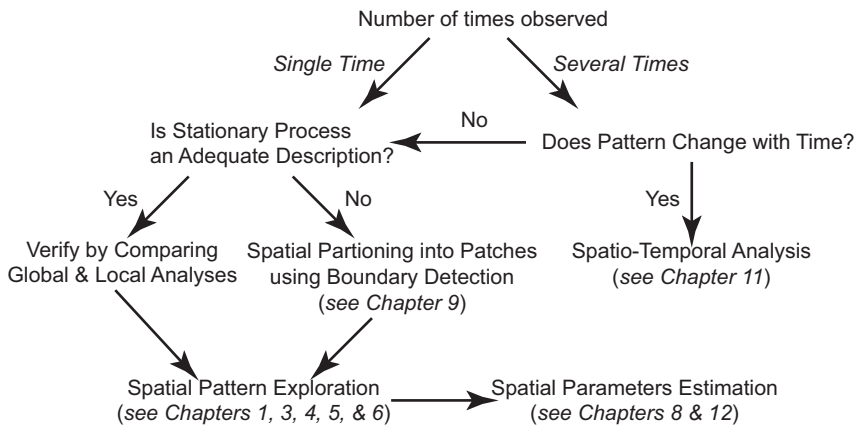
Nowadays, ecologists worldwide recognize the use of spatial analysis as essential. However, because of the fast-growing range of methods available, even an expert might occasionally find it challenging to choose the most appropriate one. Providing the ecological and statistical foundations needed to make the right decision, this second edition builds and expands upon the previous one by:

- encompassing the basic methods for spatial analysis, for both complete census and sample data;
- investigating updated treatments of spatial autocorrelation and spatio-temporal analysis;
- introducing detailed explanations of currently developing approaches, including spatial and spatio-temporal graph theory, scan statistics, fibre process analysis, and hierarchical Bayesian analysis;
- offering practical advice for specific circumstances, such as how to analyze forest Permanent Sample Plot data and how to proceed with transect data when portions of the data series are missing.

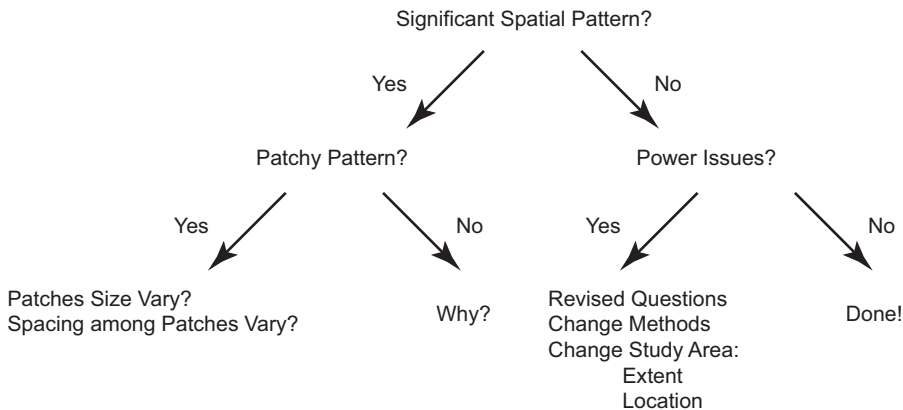
Written for graduate students, researchers, and professionals, this book will be a valuable source of reference for years to come.

Mark R. T. Dale is the Provost of the University of Northern British Columbia, and Professor in the Ecosystem Science and Management Program. His research concerns the effects of interactions between plants on the spatial relationships of plants of different species in a community and the effects of population processes on the development of spatial pattern in the vegetation, as during succession. One main focus of research in the past twenty years has been the analysis of spatial structure in plant communities.

Marie-Josée Fortin is Professor of Spatial Ecology in the Department of Ecology and Evolutionary Biology, University of Toronto. Her research focuses on the application of spatial ecology to fields of research such as conservation biology, ecotone detection, disturbance ecology, organismal dispersal, landscape genetics and functional connectivity of landscapes. She has been awarded the 2013 Distinguished Landscape Ecologist Award by the United States Chapter of the International Association for Landscape Ecology (US-IALE).



Decision-Tree of the Spatial Analyses Presented in the Book



Key Questions to Ask while Analysing Spatial Ecological Data

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