

*) Title: Applied Spatial Data Analysis with R

*) Tutorial outline

This tutorial is aimed at researchers which have to deal with the analysis of spatial data. The tutorial will tackle the problem of analysing spatial data with the R programming language. Different types of spatial data will be covered, such as point patterns, lattice data and data coming from irregular measurements of continuous processes (geostatistics). In addition, different worked examples will be presented showing how to proceed with the analysis of a wide range of spatial data sets.

The topics of the course will contain an introduction to various R packages for the analysis of spatial data. This includes data import/export, data management and visualisation, and how to fit a broad range of models for spatial data. The worked examples will focus on particular real data sets from Epidemiology, Environmental Sciences, Ecology, Economics and others.

*) Instructor:

Dr. Virgilio Gómez-Rubio, Universidad de Castilla-La Mancha (Spain). He is co-author of the book 'Applied Spatial Data Analysis', published in the Springer useR! Series.

*) Course outline

- Why spatial data in R?
- Representing Spatial Data
- Vizualising Spatial Data
- Accessing spatial data
- Worked examples: Geostatistics
- Worked examples: Point Patterns
- Worked examples: Lattice Data

*) Background knowledge

Some prior knowledge on GIS and spatial statistics would be desirable.

*) Potential attendees

Researchers, students and professionals interested in spatial data analysis.

*) Justification of the tutorial

We believe that this tutorial will be of interested because of the great interest in the analysis of spatial data. Furthermore, this course has been proposed at other useR! meetings (and elsewhere) and it has always been very popular.