Tutorial: Geospatial Data in R and Beyond

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Keywords: geospatial, gis, maps

Overview

Spatial data is, quite literally, everwhere. In the past it was the private property of the GIS lab, but now everyone seems to be making tracks with the GPS device in their pocket. Map data now extends from the personal to the political, as agencies and governments make more global information available to the public. In recent years *R* has become well equipped to deal with this spatial data deluge, with a number of packages dedicated to spatial data and spatial analyses.

Previous tutorials at UseR! meetings have concentrated on statistical analysis of spatial and spatial-temporal data. This tutorial will get back to basics in a way, and examine the issues involved in dealing with data on the map.

Goals

By the end of the session the participants will know about: the different types of spatial data; reading and writing data in various formats; manipulating and transforming spatial data; making maps with *R* **base** graphics functions; exporting to standard data formats; working with OGC standards; point, line, and polygon data frames with **sp**; raster data with **raster**; advanced geometric operations with **rgeos**. There will also be introductions to other GIS software and how they can work with *R* in synergy.

With its data-centric focus, this tutorial cuts across disciplines to be useful to anyone working with statistics in the real world.