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April 18, 2013

Outline

Spatial tools in R

R tools for handling spatial data, gridded and vector

- traditionally a loose set of tools for spatial data
- prior to 2005 no serious organization outside of individual packages
- new classes (sp, raster, others) and tools for transforming between the variety of classes
- much more powerful but in some ways more complicated, since it all relies on extension packages

Traditional R

- packages base, graphics, fields, spatial
- Data stored as point coordinates with attributes, data.frame, matrix, list
- vectors
- "atomic" vectors, character, complex, numeric, integer, logical, numeric, complex, raw, NULL
- "recursive" vectors, lists, expressions
- matrices and arrays, atomic vectors with dimension
- indexing with [and [[
- Plotting engines base, grid, lattice
- plot, points, lines, polygon
- image, levelplot, persp, wireframe

Current day tools

- all the above still
- more advanced tools in spatstat, sp, raster; uneasy marriage includes rgdal, maptools, rgeos, RNetCDF, ncdf/ncd4, maps/mapdata

Detailed and entertaining overview of Spatial in R:
`http://www.maths.lancs.ac.uk/~rowlings/Teaching/UseR2012/`

Finding help with R

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- there's an **R for Dummies** book
- The R Inferno, gotchas for R users `http://www.burns-stat.com/documents/books/the-r-inferno/`
- R on `http://stackoverflow.com`
- do read and use the mailings lists `http://www.r-project.org/mail.html`
- Task Views on CRAN, for domain-specific materials `http://cran.csiro.au/web/views/`
- Contributed docs `http://cran.csiro.au/other-docs.html`
- re-read the FAQs `http://cran.csiro.au/faqs.html`
- **sos** package