Representing Uncertain Geographical Information with Algorithmic Map Caricatures

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A great deal of geographical information - including the results of data analysis - is imprecise in some way. For example, the results of geostatistical interpolation should consist not only of point estimates of the value of some quantity at points in space, but also of confidence intervals or standard errors of these estimators. Similarly, mappings of contour lines derived from interpolations will also be characterised by uncertainty. However, most computerized cartography tools are designed to provide ‘crisp’ representations of geographical information, such as sharply drawn lines, or clearly delineated areas. In this talk, the use of ‘fuzzy’ or ‘sketchy’ cartographic tools will be demonstrated – where maps have a hand-drawn appearance and the degree of ‘roughness’ and other related characteristics can be used to convey the degree of uncertainty associated with estimated quantities being mapped. The tools used to do this are available as an R package, which will be described in the talk.