



Fig. 5.19. Mapping uncertainty for zinc visualized using whitening: ordinary kriging (left) and universal kriging (right). Predicted values in log-scale.

A Practical Guide to Geostatistical Mapping

Tomislav Hengl

A Practical Guide to Geostatistical Mapping

Geostatistical mapping can be defined as analytical production of maps by using field observations, auxiliary information and a computer program that calculates values at locations of interest. The purpose of this guide is to assist you in producing quality maps by using fully-operational open source software packages. It will first introduce you to the basic principles of geostatistical mapping and regression-kriging, as the key prediction technique, then it will guide you through software tools – R+gstat/geoR, SAGA GIS and Google Earth – which will be used to prepare the data, run analysis and make final layouts. Geostatistical mapping is further illustrated using seven diverse case studies: interpolation of soil parameters, heavy metal concentrations, global soil organic carbon, species density distribution, distribution of landforms, density of DEM-derived streams, and spatio-temporal interpolation of land surface temperatures. Unlike other books from the “use R” series, or purely GIS user manuals, this book specifically aims at bridging the gaps between statistical and geographical computing.

Materials presented in this book have been used for the five-day advanced training course “GEOSTAT: spatio-temporal data analysis with R+SAGA+Google Earth”, that is periodically organized by the author and collaborators.

Visit the book's homepage to obtain a copy of the data sets and scripts used in the exercises:

<http://spatial-analyst.net/book/>

Get involved: join the R-sig-geo mailing list!



Printed copies of this book can be ordered via
www.lulu.com



Hengl, T.

