The problem of statistical spatial analysis covers an escalating range of methods that address different spatial problems, from pattern recognition to spatial interpolation and economic trend modeling. Despite each particular aspect, they share a common factor: spatial statistics - geographically correlated raw data analyzed by statistical methods.

Major software statistical applications are aspatial since they ignore the special characteristics of spatial data such as spatial dependence (autocorrelation) and spatial heterogeneity (association). It is analysis of spatial data, not spatial analysis of data.

The need to update Geography and GIS curriculum regarding stochastic issues has been crucial since major universities do not cover, at least, part of these issues. To fill this hole is a major aim. To introduce to common people these Earth science subjects are, quite certainly, the foremost goal of this tutorial using myGeoffice free Internet platform.

This tutorial tries to review a set of methods and techniques that are truly spatial (and special) such as Kriging and deterministic interpolators, autocorrelation indexes, stochastic simulation for spatial processes. Quite common, these fields hold a common process for any space study: (A) Collection of data (point and lattice data); (B) Modeling of spatial variability (description of spatial patterns); (C) Spatial prediction (what is the concentration of copper at unsampled location?); (D) Modeling of uncertainty (what is the probability to exceed a critical concentration at an unsampled location?); (E) Decision-making (which sub-areas should be considered for cleaning?).

At last, some spatial functions such as the Dijkstra shortest path or Kruskal Minimum Spanning Tree will also be covered.