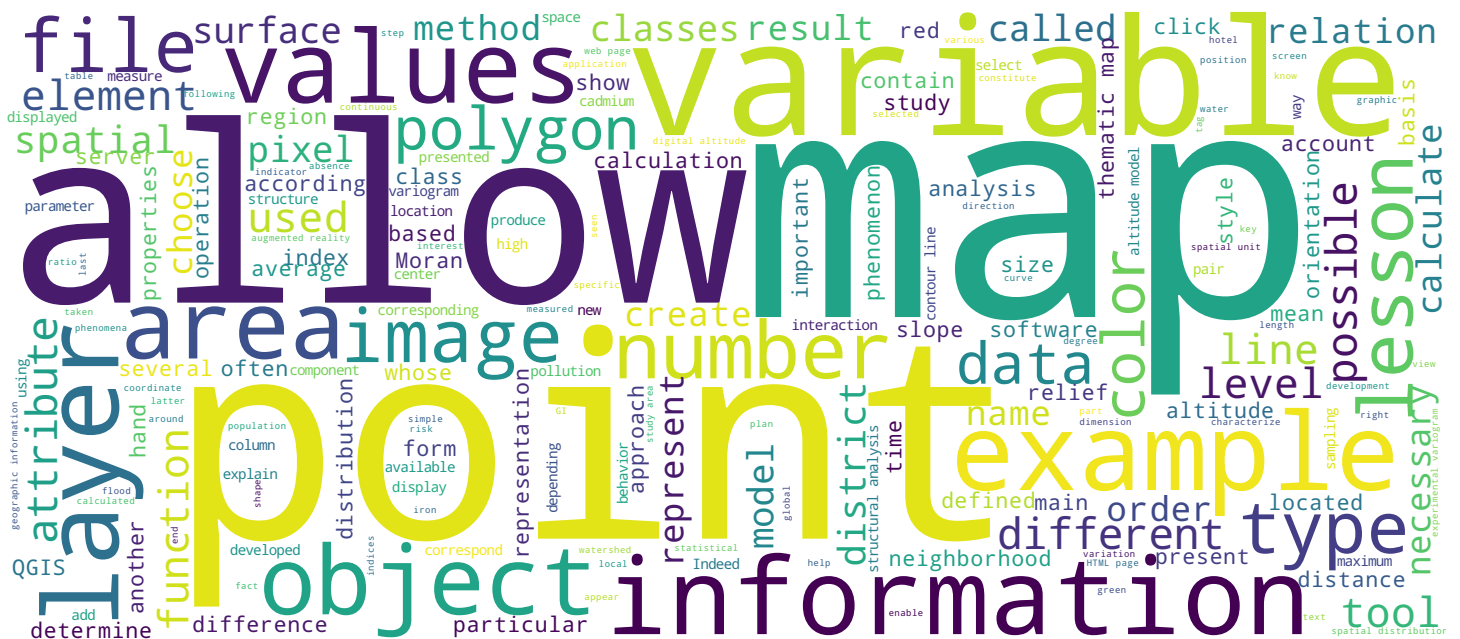


Summary

Continuous Spatial Phenomena – Interpolation 2

Geographic Information Systems

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Video



Summary

- Kriging requires prior analysis of the spatial structure through geostatistics
- The variogram cloud must first be created to serve as the basis for the semivariogram
- A theoretical variogram is then fitted to the semivariogram in order to interpolate unknown values



The structural analysis, of which the main component is the variogram is a prerequisite to any interpolation procedure. The latter is arbitrary in the absence of a structure, that is to say in the absence of the existence of a predictable behavior of the variable between two measurement sites. This structural analysis consists in developing an experimental variogram on the basis of the difference of the measured contents between all the pairs of sampling sites and distributed in distance classes. It is then the adjustment of a theoretical model to these empirical values which will provide useful parameters to kriging interpolation calculations. The chosen approach in this lesson as an introduction to the variography is of a strictly empirical nature. This approach is well-founded because it involves simple but established knowledge. Nevertheless, you will undoubtedly have noticed that it is based on assumptions which have not been mentioned and which do not fit into any complete and rigorous mathematical theory likely to explain in particular how to model the dependence between measurement sites highlighted by the experimental variogram. The theoretical foundations of the structural analysis have been developed by Matheron and we refer you to references indicated on the web pages of this MOOC for more information.

Notes

Summary



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