Module Geomodelling for Natural Resource Evaluation
Exercise
Winter Semester 2024/2025

Assignment Exercise 3 (starting 4th of December 2024)

Variogram analysis

Do a variogram analysis for the **testData123.csv** data set and send me a short pdf document with your findings and plots and the R-code which you needed to answer the questions until 16 December. Please compare the variogram of both parts of the area with the one of the complet area. Do they have the same variogram or do they have different variograms?

You should try to do the following steps:

- look at the variogram cloud, does anything looks strange, up to which distances we have many pairs, are there outliers/ outlier bands, extrem points

- empirical variogram - try to guess up to which distance you can interpret it

- which variogrammodel would fit? Does a simple model fit or do we need a nested model? give a rough estimat of nugget, sill and range

- fit a varigram model

- check the fit

- do you have enough points (visual check / 30 - 50 pairs in the groups)?

- draw your variogram model

- if it doesn't fit, decide on directional range and sill

- check for directional dependency - draw a variogram map

- if it looks like directional dependency find main angles and draw directional variograms

- do you have enough points (30 - 50 pairs in the groups)?

- prepaire a directional variogram model, fit it, check it

Deadline: December 20, 2024