Practical Spatial Statistics & Econometrics with R

Session 5: Computing Experimental Variograms - Part II

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How to excel at spatial stats (or anything else)?

Understanding

Clear conceptual understanding

Listening, Reading, Thinking, Writing

Skill

Apply understanding to real world problems.

Doing, Trying, Failing, Coding

~~Watching to a lot of lectures (like this one)~~

~~Reading many programming books~~

Pause and Play frequently!

What should we know/will we learn in this session?

Understanding

What we should know:

- Anisotropy
- Binning

Skill

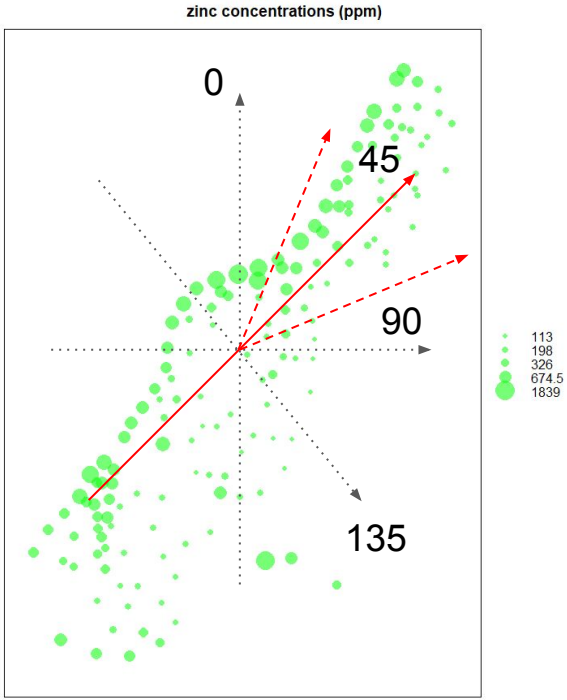
What we should have already done:

- Estimated omnidirectional variograms using the `meuse` data set

What we will do now:

- **Estimate anisotropic (directional) variogram**
- **Estimate a variogram using a new data set**
- **Play with the cutoff and width parameters**

Direction of Maximum Continuity



In which direction is there most continuity (or the least variation)?

The first plot gives the variogram in the zero direction, which is North; 90 degrees is East. By default, point pairs are assigned to the directional variorgram panel with their nearest direction, so North contains everything between -22.5 and 22.5 degrees (North-West to North-East).

- `gstat` tutorial, page 13

Demo 4: Live Coding Session with R

Summary

- **Estimated anisotropic variograms**
- **Considered the effect of cutoff and width parameters**

There are many more advanced operations provided by the package. Please refer to the latest manual.

https://cran.r-project.org/web/packages/gstat/gstat.pdf