

STAT 406, Spring 2008
Assignment 1 (turn in by February 12)

The Jura data set on the course web site contains measurements of several elements taken from soil samples (such as Pb, Cu, Cr, Co, Zn, Ni, Cd).

1. Using R, compute empirical variograms for two of the variables contained in this data set. Use at least three different numbers of bins in estimation of the empirical variogram. Comment on any differences you may see.
2. For your favorite choice of the number of bins above, plot both the classical and the robust estimator and comment on any major differences between them.
3. Suggest theoretical variogram models that you might try to fit to these empirical variograms.
4. Using WLS in R fit these models, plot the fitted models on top of the empirical variogram plots, and comment on their adequacy.