Project Handout

Deadlines.

Written Abstract (including data): March 14, 2008 before class
Written Project: April 18, 2008, in class.
Oral presentation: April 16 and 18, 2008 in class.

Guidelines.

① You can do the project by yourself or by a team of 2 students. (Team projects are encouraged, but have no impact on grading.)

② The scope of the project should proportional to the number of students involved.

③ It must address a real-world problem with real data relevant to the course materials.

④ The page limit of the final report is 15 (8 1/2 by 11), including figures and computer output, if any.

⑤ Things to avoid:

(a) misuse the methods or models,

(b) mis-interpret the results,

(c) overlook model inadequacy,

(d) messy or sloppy report.

Submission.

When you submit your project (if it is applied), give Dr. Serban a floppy with your data (so she can redo the analysis), in the floppy you should have only your RAW DATA, not the analysis. The project report should be less than 10 pages length, and typed. DO NOT SEND DATA BY E-MAIL. The project can be based on a theoretical topic, e.g. robust semivariograms or applied (based on an spatial analysis of real data). In selecting your topic choose something that interests you, and try to have a main, answerable question in mind.

Report.

Your project report will need to a thorough but concise report of your entire investigation and it should include:

① Summary (goals and major findings);

② Table of Contents;

③ Description of the Reason for Your Study;

④ Statement of How You A Priori Expected the Study to Turn Out;

⑤ Explain the Raw Data;

⑥ Appropriate Statistical Analyses of the Data (use graphs as well as numerical summaries): remove trend, exploratory analysis of sample semivariograms (lack of stationary??, anisotropy??), fit a theoretical semivariogram (WNLS, REML), maybe do kriging if prediction is the goal, etc.;

⑦ Statement of the Subject Matter Implications of Your Study;

⑧ Discussion of Further Questions Raised by Your Study (that might be investigated in the future).

Presentation.
Oral presentations of project results will take place in class on aApril 16 and April 18. These will involve simply presenting a clear and concise 10-minute summary of the project and its main results. All students must attend the presentations and be in class on time.
There will be no extensions or make-ups. Students who are unable to turn in their project, take the exam, or do their presentation must consult with the instructor in advance, if possible.
Students with learning disabilities must consult with the instructor by the 2nd week of class if special arrangements are required.
Data Examples.
How to get interesting data for your project:

➜ OZONE DATA (TOMS): http://jwocky.gsfc.nasa.gov/

➜ Air quality data: http://www.epa.gov/airprogm/airs/graphics/index.html

➜ Acid rain data: http://nadp.sws.uiuc.edu/nadpdata/

➜ Satellite data for NDVI, which measures plant characteristics. its a bit more complex, but should be interesting: http://edcwww.cr.usgs.gov/glis/hyper/guide/usavhr

➜ Weather data: http://www.ncdc.noaa.gov/