Spatial Statistics for Applied Ecology
Spring, 2009
CRN 88055 (Group Study)

Instructor: Richard Plant
2 units
Mondays and Wednesdays 3:10-4:00 pm, 1137 PES

This course is intended to provide a brief survey of methods of spatial statistics. Class will be lecture based. Students will be given assigned readings and will be assigned homework. The class will focus on the use of the software packages R, GeoDa, and QGIS.

Students will be expected to have a knowledge of statistics at the level of PLS 205 or 206, i.e., a good working knowledge of least squares regression and/or ANOVA.

Topics will include

- Introduction to properties of time series
- Monte Carlo simulation
- Properties of spatial processes
- Hypothesis tests of spatial data
- Global measures of autocorrelation
- Local measures of autocorrelation
- Sampling spatial data
- Map comparison
- Introduction to linear mixed model theory
- Regression models for autocorrelated data
- Multivariate data analysis