

Understanding the Social-Ecological Landscape: A Short-Course in Spatial Analysis Techniques

(Oct 4-16th 2010)

Stockholm Resilience Centre, Stockholm University

The course will be run by Sarah Gergel, University of British Columbia, and Garry Peterson, Stockholm Resilience Centre.

Course outline

Rationale

Spatial patterns and processes are an essential part of the dynamics of social-ecological systems. In particular, the landscapes in which human act and live are strongly shaped by and shape human action, understanding these interactions is at the forefront of research in both landscape ecology and crucial for the student of social ecological systems.

Research in this area requires familiarity with the rapidly expanding toolbox of spatial analysis. This course will introduce PhD students to a suite of quantitative tools in landscape ecology and then link these tools to the dynamics of the social-ecological systems.

Course Overview & Objectives

The two-week course is designed to accomplish several innovative objectives. First, the course will provide early exposure to cutting-edge techniques and themes in landscape ecology. The course will utilize new labs and themes from the 2nd edition of Turner and Gergel's book *Learning Landscape Ecology* (for previous edition see: <http://www.springer.com/life+sciences/ecology/book/978-0-387-95254-3>) that are not yet publicly available. The labs forge tight linkages among the quantitative tools and social-ecological perspectives and several exercises based on collaborations between UBC and SRC scientists.

Stockholm Resilience Centre

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A centre with:



Topics will likely include:

Week 1: GIS & Remote Sensing, Aerial Photography, Intro to Markov Models, Spatial Statistics;

Week 2: Mapping Alternate States & Spatial Resilience, Social-Ecological Models of Landscape Change: Carbon Accounting in Tropical Forests, Graph Theory, Social Network Theory at the Landscape Scale

Peer-to-Peer Mentoring

The workshop will explicitly foster international collaborations between students at SU and UBC. Our workshop involves the pairing of three visiting PhD students from UBC with three students at SRC, based on mutual research interests. Their interests span the terrestrial (forest/urban) - marine interface, and as such will help foster creative cross-system thinking about quantitative spatial dynamics in a diversity of social-ecological systems.

This course will be part of the Resilience Research School at the Stockholm Resilience Centre at SU, and will include a peer-to-peer mentoring exchange between PhD students at Stockholm University (SU) and University of British Columbia (UBC).

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