



## LTER Intranet

Serving the LTER Community

### SOCIAL SCIENCE WORKING GROUP REPORT

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#### 1. Describing Social Science in the LTER Network and Social Science Core Areas.

Over the past few years, the social science working group has met to discuss key issues and opportunities for social science in the LTER Network. These discussions have included discussions about social science core areas for the LTER Network. The results of some of these discussions appear in the following publication:

Redman, Charles L, J. Morgan Grove, and Lauren H. Kuby. 2004. "Integrating Social Science into the Long-Term Ecological Research Network: Social Dimensions of Ecological Changes and Ecological Dimensions of Social Change." *Ecosystems*.

Online: [www.springerlink.com.library.lib.asu.edu/media/n1drvwmwql3dhul3hjf3/contributions/X/R/E/6/XRE6R5Q9F0BNF50P\\_html/fulltext.html](http://www.springerlink.com/library.lib.asu.edu/media/n1drvwmwql3dhul3hjf3/contributions/X/R/E/6/XRE6R5Q9F0BNF50P_html/fulltext.html).

Published version slated for spring 2004.

We are also in the process of revising a set of interdisciplinary research manuscripts for a special issue of *Society & Natural Resources*, focusing on four LTER sites: Baltimore, Coweeta, Phoenix, and North Temperate Lakes. The special issue will include an Overview, describing the development and current status of social science involvement in the LTER Network

#### 2. Results from Redman and Grove Biocomplexity Incubation Grant

Redman and Grove received a Biocomplexity Incubation grant in 2000 to develop interdisciplinary efforts associated with the LTER Network. Progress associated with three of these efforts are listed:

A. Integrating Census, GIS, and Historical Methods into Long-Term Ecological Research (September 2001 in Tempe, AZ). This workshop was organized to identify data and data-collecting approaches that will enable sites to: 1) combine natural and social and natural science approaches and 2) establish cross-site comparisons over the long term; and 3) design potential projects that have high explanatory value, can be rigorously tested, and will hold the interest of scientists from both life and social sciences.

#### Products

1. From this workshop, six sites successfully submitted a proposal to the Biocomplexity program (NSF-BCS-BE, Dynamics of Coupled Natural NS Human Systems). The resulting project, entitled: *Agrarian Landscapes in Transition: A Cross Scale Approach* (\$1,792,440) is an interdisciplinary effort tracing the effects of the introduction, spread, and abandonment of agriculture at six LTER sites, with cross-comparisons in Mexico and France. CAP LTER leads this collaborative investigation of ecologists, anthropologists, sociologists, and geographers, a collaboration that is expected to serve as a model for future integrative projects. The PIs are Redman and Kinzig (ASU), David Foster (Harvard U/Hubbard Brook LTER), Myron Gutmann (UMich/Shortgrass Steppe LTER), and Peter Kareiva (Nature Conservancy). This proposed study aims to understand what happens when humans impose spatial and temporal signatures on ecological regimes and must then respond to the systems they helped to create, further altering the dynamics of the coupled system and affecting ecological and social resilience or vulnerability. Six LTERs representing differing biogeographic regions and contrasting agrarian transformations will identify and quantify the ways in which agrarian transformations differ across regions and time and how these variations explain cross-scale patterns. More information on the Ag Trans project is found at <http://ces.asu.edu/agtrans>.

2. The six sites collaborating on the AG Trans proposal ran a session at the 2003 LTER All Scientist Meeting

(September 18-21 in Seattle).

B. Ecosystem Services and Valuation (November 2001 in Baltimore, MD). A dozen LTER scientists gathered to discuss ecosystem services at their particular LTER site or in their particular region. Discussion topics included the challenges faced, key ecosystem services that are being/need to be studied, and data and research capability gaps.

#### Products

- a. Two proposals, submitted in 2001 and 2002 (Assessing the Link between Forest and Non-Forest Ecosystem Function, Ecosystem Services, and Human Well-Being: A LTER Cross-Site Proposal), resulted from this workshop.
- b. Workshop participants participated in a session at the 2003 LTER All Scientist Meeting (September 18-21 in Seattle).
- c. Following the LTER All Scientist Meeting, two original workshop participants, Dr. M.A. Wilson and Dr. D. Childers were awarded a cross-site, synthesis research grant by the LTER network: Performing Network-level Synthesis by Quantifying Ecosystem Goods and Services at LTER Sites Representing a Range of Engineered and Designed Ecosystems. National Science Foundation, Long Term Ecological Network. 01/04-01/05. Total: \$9,980.
- d. A week-long NCEAS workshop will examine variations in ecosystem services at a number of LTER projects (June 23 - July 3rd).

C. Initiating an Open Source\Content Landcover Modeling Effort (August 21-22, 2003 in Boston, MA): The Open Source (OS) movement in computer software has led to the development of several high profile software, including: the Linux operating system, Apache Web Server, Php, and OpenOffice. More recently, experiments in the sharing of Open Content (OC), based on OS principles have emerged. These emerging experiments are opening up new opportunities for Internet-based collaborative endeavors, which move beyond traditional confines of organizational lines and have the potential for greatly increasing the speed in which new innovations are created. There are several examples of open-source landcover change models that have been produced thus far, but the availability of these models has not been leveraged by the modeling community. This workshop brought actors from several important research groups together to discuss whether an OS/OC landcover modeling effort can be initiated and whether it is possible to engage a broad community in the development of such an effort.

Specifically, the goals of the Workshop were to:

- initiate an open content LULC Change modeling initiative that invites participation from anywhere but is initiated by actors in the LTER, HERO, and Human Dimensions of Global Change programs;
- determine strategies for initiating such an effort, these include:
  - i. address incentive issues behind landcover change modeling research
  - ii. define infrastructure needs necessary for a successful OS model
  - iii. build community interest in this research approach
- discuss a grant proposal strategy; and
- develop task plans, timetables.

This effort could be very important, both in terms of the accelerating the development and use of landcover change models and in understanding how new forms of research collaboration can be developed following OS/OC principles.

Workshop Organizers were Morgan Grove (USDA Forest Service and BES LTER), Tom Evans (Indiana University), and Charlie Schweik (University of Massachusetts, Amherst). A website has been initiated to facilitate this collaboration: <http://www.lulc.org/>.

#### Products

Schweik, C.M., Evans, T.P. and Grove, J. M. "Open Source Programming as a Framework for Scientific Collaboration: An Example in the Context of Land-use Change Modeling." Paper presented at the (invited only) Workshop on Scholarly Communication as an Information Commons. Workshop in Political Theory and Policy Analysis, Indiana University. March 31-April 2.

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