



## AAG Annual Meeting

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### Panel Session:

#### 3639 Evaluating Payments for Ecosystem Services: Evidence from a Chinese nature reserve --III

is scheduled on Thursday, 4/10/2014, from 4:40 PM - 6:20 PM in Room 39, TCC, Fourth Floor

#### Sponsorship(s):

Spatial Analysis and Modeling Specialty Group  
Geographic Information Science and Systems Specialty Group  
Human Dimensions of Global Change Specialty Group

#### Organizer(s):

[Li An](#) - San Diego State University  
[Weihua Xu](#) - Chinese Academy of Sciences

#### Chair(s):

[Li An](#) - San Diego State University

#### Introduction:

[Li An](#) - San Diego State University

#### Panelist(s):

[Anne Chin](#) - University of Colorado Denver  
[Weihua Xu](#) - Chinese Academy of Sciences  
[Stephen Crook](#)  
[Steven Allison](#) - SDSU

#### Discussant(s):

[Michael F. Goodchild](#) - University of California - Santa Barbara

**Session Description:** Payments for ecosystem services (PES) are direct incentives paid to resource users to take actions (or to refrain from previous actions) to secure ecosystem services such as clean air and water, food, soil fertility, forest resources, and eco-tourism. Yet the PES-generated benefits for conservation and for local populations may not be sustained in the long run, especially when payments end. This challenge has beset PES researchers and practitioners, leading to a variety of studies on PES sustainability. These sessions, based on an NSF funded project entitled "CNH: Impacts of Payments for Ecosystem Services in Coupled Natural and Human Systems" (2012-2016), present overview of this project: its conceptual framework, progress of the first two years, challenges and opportunities we have met, and future direction. Presenters of these sessions aim to answer three questions: 1) What specific, measurable environmental changes have occurred due to payment programs? 2) What changes in human livelihoods, demographic behavior, and their interrelationships have occurred since payment program implementation? How have such changes in turn affected the programs? 3) How are the integrated systems of human behavior and demographics, the environment, and policy expected to evolve? We present our study based on Fanjingshan National Nature Reserve in China (for the endangered Guizhou golden monkey) to address these questions of both local and global importance. We cover the following topics: forest cover and its change measured by remote sensing and GIS, habitat occupancy of the golden monkey captured by camera trapping, existing census data, extensive household surveys, participatory mapping, and the related statistical and geospatial analyses for relevant hypothesis testing. We finally aim to use an agent-based model for systems integration and simulation. Our project aims to generate a broader understanding of human behavior, environmental change, and the dynamics of coupled human and natural systems.

