

Bridging: Reflections on History, Scales, and Knowledge Systems in Human-Environment Research

A Lecture Series by Eduardo S. Brondizio, Indiana University Bloomington, Invited Scholar RIHN

Doing field research for over 27 years in the Amazon, during a period of accelerated large-scale changes, has required me to continuously consider the strengthens and limitations of conceptual frameworks and methodologies to examine regional problems and change. In this lecture series, I will reflect on the challenge of integrating disciplinary perspectives, scales, and knowledge systems to understand the transformation of the Amazon, and in turn reflect, more broadly, on the evolution of human-environment interaction and global change research. In three parts, I will present the history of human-environment interaction research and thinking, the challenges of linking field/local and regional level analysis, and, recent efforts to bring together frameworks to analyze complex social-ecological systems.

Seminar 131-1: A Cultural Ecology of the Anthropocene: An anthropological perspective to the history of Human-Environment Interaction research

This presentation provides an overview of the evolution of research and thinking about human-environment interaction, from the early days of Cultural Ecology in the 1950s to today's Social-Ecological Systems frameworks. I will explore some of the parallels between the analytical challenges we face today to that of scholars studying human-environment interaction at the onset of the so-called 'great global acceleration' following WWII. Taking an [western] anthropological perspective, I will examine the evolution of materialist, political, cognitive and symbolic thinking, and the elusive challenges of theoretical synthesis, then and now, to the holistic understanding of human-environment interaction.

Seminar 131-2: A microcosm of global change: Reflections on Scale and Complexity in the Amazon

The Amazon, past and present, has been a laboratory for theories and approaches to human-environment interactions. Today, the Amazon is an emblematic example of the regional manifestations of the twin forces of globalization and global climate change. Building from empirical research carried out in the region during the last 3 decades, I propose an interpretation of the transformation of the region from a complex system perspective. I will approach the transformation of the region from two angles. First, I discuss the evolution of regional infrastructure, environmental change, governance arrangements, and urban networks. Then, I will interpret the region from the ground-up by examining how households and communities have been transforming and contributing to shape the direction of change and the future of the region. I will then reflect on the challenges of governance and sustainability faced by the region in coming decades.

Seminar 131-3: Bridging knowledge systems: A problem-oriented conceptual framework to social-ecological system analysis

Taking deltas systems as an analytical challenge, and the Amazon delta as an example, in this presentation I will discuss the development of a problem-oriented conceptual framework to analyze complex social-ecological systems, such as deltas. At the nexus of watersheds, coasts, oceans, changing climate, and expanding human settlements and resource use, river deltas encapsulate the challenges of analyzing complex, multi-scale social-ecological systems, their governance and sustainability. The framework integrates existing frameworks for institutional, social-ecological system, and telecoupling analysis with field-based and geospatial data systems to facilitate problem-oriented collaborative research between social, ecological and physical sciences, and stakeholders. The framework aims at helping to foster new approaches to understand and evaluate the impacts, implications, and solutions to problems emerging social and environmental changes, including climate change. Two illustrative examples are presented, one examining interactions between urban pollution and fishing, and the other examining the vulnerability of urban populations to environmental hazards such as flooding and storm surges associated with climate change.

Suggested Readings:

Brondizio, E. S., F. Berkhout, K. O'Brien, F. Biermann, C. Cudennec, X. Bai, M. C. Lemos, J. Palma-Oliveira, W. Steffen, A. Wolfe, C-T. Arthur Chen. 2016. Re-conceptualizing the Anthropocene: A Call for Collaboration. *Global Environmental Change* Vol. 39: <http://dx.doi.org/10.1016/j.gloenvcha.2016.02.006>

Brondizio, E. S., S. Fiorini, and R. Adams. 2016. History and Scope of Environmental Anthropology. In Helen Kopninaand Eleanor Shoreman-Ouimet *the International Handbook in Environmental Anthropology*. New York: Routledge Publishers. Pp. 10-30.

Brondizio, E. S., S. Hetrick, N. Vogt, S. Costa, E. Anthony. 2016. A Conceptual Framework for Analyzing Deltas as Coupled Social Ecological Systems: An example from the Amazon River Delta and Estuary. *Sustainability Sciences*.

Brondizio, E. S. and F. M Le Tourneau. 2016. A call for inclusive governance. *Science* xxx-xxx [May 2016]

Brondizio, E. S. 2016. The elephant in the room: Amazonian cities deserve more attention in climate change and sustainability discussions. Collective Blog: '*The Nature of Cities*'.
<http://www.thenatureofcities.com/2016/02/02/the-elephant-in-the-room-amazonian-cities-deserve-more-attention-in-climate-change-and-sustainability-discussions/>

Brondizio, E. S. 2013. A microcosm of the Anthropocene: Socioecological complexity in the Amazon. *Perspectives: Journal de la Reseaux Francaise d'Institut d'études avancées (RFIEA)*. N. 10: 10-13 [Autumn 2013]