Tuesday, 7 January / Martes 7 de enero

16:00-17:30:

POSTER SESSION

POSTER 1

Research and Academic Opportunities through an Altitudinal Gradient in Tropical Environments

Eugenio González and Chris Houser
Texas A&M University
E-mail: egonzalez.soltis.center@tamu.edu

The Soltis Center for Research and Education in Costa Rica, managed and operated by Texas A&M University, was established in January 2009 and is recognized as offering a unique setting for multidisciplinary research and education activities and community service as well. The Center is connected on its southwestern side to the Children's Eternal Rainforest and Monteverde Conservation Area. The two reserves encompass more than 50,000 hectares (120,000 acres) of forested land. The Zona Protectora Arenal-Monteverde extends down to the Center through a forest corridor that descends in elevation from 1,800 meters at Monteverde to 450 meters above sea level at the Center. This complex reserve has four major tropical life zones and includes more than 3,000 species of vascular plants. The fauna is similarly diverse. More than 400 species of resident and migratory birds have been sighted in the reserve, representing almost half of Costa Rica's bird species.
Keywords: Hydrology, tropical and pre-montane cloud forest

POSTER 2

Human Vulnerability to Climate Change in Calakmul, Mexico

Lisa Green
Department of Environment and Society
Utah State University
E-mail**:** lisa.green@aggiemail.usu.edu

Although a global issue, human vulnerability to climate change in rural areas of developing countries elicits special attention. With this poster, I review several questions in vulnerability studies, including the lack of demonstrative case studies exploring intra-household vulnerability and the emergence of the concept of telecouplings. To explore how climate change vulnerability may be differentiated between communities, households, and individuals within households, I report key sources of perceived and experienced vulnerability, as determined through qualitative fieldwork in Calakmul,

Mexico. Semi-structured interviews, informed by a livelihoods perspective, were conducted with male and female heads of households, as well as local experts, in three Calakmul *ejidos*. In conclusion, this poster begins to discuss how sources of climate change vulnerability are perceived differently across and within households, and how the sources may be connected to extra-local processes, or telecoupled.

Keywords: Calakmul, climate change, differentiation, livelihoods, telecoupling, vulnerability

POSTER 3

An assessment of* paladares*: a case study of Vedado in Havana, Cuba

Leah Gibson and Sarah A. Blue
Texas State University
E-mail: Leahgibson7@gmail.com

Privately owned restaurants in Cuba (*paladares*) have been in existence since the early 1990's, but have seen a popular resurgence after Raul Castro's economic reforms of 2011. Known as tiny pockets of capitalism in a communist economy, these eateries are usually small, and exist in Cubans homes and on balconies across the country. *Paladares* have quickly surpassed state-owned restaurants as favorites for both Cubans and tourists alike. In the context of the 2011 economic opening in Cuba, these private restaurants have expanded and flourished, and little research exists about the characteristics of their operations. This poster presents findings from an exploratory case study on the state of private restaurants in the Vedado neighborhood of Havana, Cuba. Results from a survey conducted in July 2013, in addition to observational findings, are summarized in this poster to provide a better understanding of this new food landscape.

Keywords: Cuba, economic reform, *paladares*

POSTER 4

The Unreported Voices from Tourist Destinations

Gines Sánchez and Jennyfer Grigsby
Louisiana State University
E-mail: gsanch4@lsu.edu

In the framework of tourism development, as it is carried out by many poor nations today, countries and people enter an ever more interdependent world economy. This translates into a more complex system of economically incentivized alliances that necessitates of all nations to structure themselves accordingly. We set out to discover if tourism has an important homogenizing factor that would obfuscate cultural diversity in the future. We asked people about their personal experiences with tourism in four different localities: Little Corn Island and San Juan del Sur in Nicaragua, Tamarindo

and Herradura-Jacó in Costa Rica. The results are in documentary format and divided into four episodes.
Keywords: Tourism development, Costa Rica, Nicaragua, culture, capitalism

POSTER 5

Eco-Hydrology of a Tropical Montane Forest: A REU Site Hosted By Texas A&M University in Costa Rica

Chris Houser and Eugenio González
Texas A&M University and Soltis Center for Research and Education
San Isidro de Penas Blancas, Costa Rica

This National Science Foundation REU site hosted by Texas A&M University allows undergraduate students to conduct original research on various aspects of the eco-hydrology of a tropical pre-montane forest at the Texas A&M Soltis Center for Research and Education in Central Costa Rica. Tropical pre-montane forests are biologically diverse ecosystems that depend on a combination of cloud and mist immersion (horizontal precipitation) in addition to orographic precipitation and the capture of this moisture by vegetation. There is a paucity of field studies to quantify the eco-hydrology of tropical pre-montane forests at the (local) watershed scale, and a particular lack of studies to examine the eco-hydrology of transitional and secondary forests at lower elevations. Working as part of interdisciplinary research clusters the students spend six weeks at the research station completing original research on spatial and temporal patterns of evapotranspiration, vegetation structure and biomass estimates, atmospheric boundary layer structure, soil trace gas flux, local and regional climate change, and aerosol effects on fog and rain formation. Preliminary results reveal a strong diurnal cycle in evapotranspiration, gas flux and boundary layer development superimposed across an elevation gradient and change in forest structure. This paper provides an overview of the preliminary results of the eco-hydrology research, the logistical challenges of running an REU program abroad, and identifies how development activities, focus on research clusters and the opportunity to live and interact with a foreign culture greatly improved the research experience.
Keywords: eco-hydrology, evapotranspiration, biomass estimates, REU site, Costa Rica

POSTER 6

Biogeografía de siete especies de plantas vasculares sobre corrientes de lava de formación reciente, en la República Mexicana.

Nair Leana Morales y Patricia Silva Sáenz
Universidad Michoacana de San Nicolás de Hidalgo (UMSNH)
Morelia, México
Correo electrónico: nair_ita@hotmail.com

Durante la realización de un inventario florístico sobre un flujo de lava reciente (llamadas comúnmente "malpaíses" o "pedregales"), del Estado de Michoacán, y al comparar los resultados con otras cuatro áreas similares, se encontró que, de cientos de especies, siete especies de plantas vasculares están distribuidas en todas ellas (dos helechos y cinco angiospermas: *Asplenium praemorsum* (Aspleniaceae), *Pellaea ternifolia* (Adiantaceae), *Tillandsia recurvata (Bromeliaceae), Cyperus seslerioides* (Cyperaceae), *Dahlia coccínea* (Asteraceae), *Piqueria trinervia* (Asteraceae), *Phytolacca icosandra* (Phytolaccaceae). Se analizan los posibles factores que influyen en la preferencia de ese hábitat para tales especies, así como las causas de su presencia en dicho ambiente, así como su distribución geográfica en México. Las áreas de distribución son: Pedregales del municipio de Huaniqueo(altitud 2000-2230, clima Cb (w1)(w)(i')g y edad cercana a 2,000 años), el Pedregal de Chichinautzin, en el estado de Puebla (altitud 2,000-2,650m, clima Cwbg, sin edad definida), Pedregal de San Ángel en el Estado de México D.F. (altitud 2250-3100m, clima Cwbg, edad Ca.2422+_250 años), Pedregal de Arocutín, en la cuenca de Pátzcuaro del estado de Michoacán (2,060-2,360m, clima C(w2)(w)b(i') y edad de +_ 544 años) y el Pedregal del Cofre del Perote, en el estado de Veracruz (altitud entre 2,000-2,350, climas Aw_o"(w)(i'), Aw_1"(w)(i'), (A)C(fm)a(i')g, (A)C(m)a(I')g, C(m)b(I')g y C(fm)b(e)g, y edad de máximo 2,400 años) .
Palabras clave: Malpaís, distribución, ambiente, planta vascular, comparación.