

CLAG 2020: ABSTRACTS

Christian Abizaid¹, Oliver T. Coomes² and Yoshito Takasaki,³ ¹ Department of Geography & Planning and School of the Environment, University of Toronto, Toronto, Canada, ² Department of Geography, McGill University, Montreal, QC, Canada, ³ Graduate School of Economics, University of Tokyo, Tokyo, Japan

A ONE-THOUSAND-KILOMETER BOAT JOURNEY THROUGH THE HEART OF THE PERUVIAN AMAZON: LIVELIHOODS AND THE RHYTHMS OF CHANGE ALONG THE UCAYALI RIVER

News reports from the Brazilian Amazon raise alarm about the fate of the Amazon and its peoples. Forests have been cut down or degraded at alarming rates from colonization schemes, cattle ranching, roads, and agribusiness development over the last 4 decades, and dams have begun to alter the Amazon river, threatening biodiversity, the livelihoods of indigenous and folk peoples, and the world's climate. Yet, one third of the Amazon is found in neighboring countries, mainly to the west, where several formative tributaries like the Ucayali, Marañón, and Napo rivers, descend down from the Andes into the Amazon lowlands, bringing the waters that regulate flooding, carry sediments, and enable complex fish migrations. Western Amazonia is not isolated from the general forces that shape what is happening in Brazil, but the local reality is distinct, and yet receives little media coverage. In this paper we report on insights from a recent 1000 km boat journey along the Ucayali River, conducted as part of the Peruvian Amazon rural Livelihoods and Poverty Project (PARLAP). Having worked in the region for 2-3 decades and following on the footsteps of 19th century explorers, we travelled from Pucallpa to Iquitos in 12 days, stopping at some 30 communities to gain perspective on how the region has changed over time. Specifically, we share our impressions on: 1) river transportation and mobility; 2) road development; 3) flooding and environmental change; and 4) the advent of small Chinese motors, cell phones, and mobile money and how they may be shaping riverine livelihoods. The implications for conservation, development and environmental change adaptation are considered. Keywords: western Amazon; rural livelihoods; environmental and socioeconomic change

Alejandra Acuña Balbuena, Department of Geography and Environmental Sustainability, University of Oklahoma
REPRODUCTIVE RIGHTS AND DEVELOPMENT IN PERU: INDIGENOUS PERSPECTIVES FROM THE QUIPU PROJECT

This paper examines how multimedia archives can facilitate the study of development geographies. With the theoretical tools of feminist geography, I analyze a selection of testimonies made available through [The Quipu Project](#). This online collection houses hundreds of testimonies from Indigenous women (as well as some men), mostly from the Andes region in Peru. These individuals have suffered obstetric violence during the National Population Program, considered a key element in President Alberto Fujimori's policies to stimulate the country's development. Obstetric violence is a term that identifies hospital-based obstetrics as violent and disrespectful of women's autonomy. With discourse analysis, I interpret four women's testimonies with development narratives promoted by the government. Comparing them to each other illustrates what mainstream discourses of development tend to ignore. My analysis connects the issues of family planning and the political economy of Peru through feminist geography theory. I emphasize the ways in which Indigenous women embody development. I conclude by suggesting how these testimonies provide critical counterpoints to the dominant narratives put in place by institutions. By erasing the experiences of oppressed and minoritized populations, development narratives represent the power imbalance that affects Indigenous communities all throughout the Americas. Rarely are their voices considered when designing policies for development. Projects like *The Quipu Project* amplify these voices, giving them more exposure, highlighting the violations of Indigenous peoples' reproductive rights, and bringing them closer to obtaining justice. Keywords: feminist geography, obstetric violence, Peru, reproductive rights, family planning

Jéssica Francini Acuña Piedra, Universidad Nacional de Costa Rica

LOS HUMEDALES COMO PATRIMONIO TERRITORIAL; CASO DE ESTUDIO DEL HUMEDAL NACIONAL TÉRRABA SIERPE COSTA RICA, DE 1948- 2013.

En Costa Rica posee una diversidad patrimonial entre ellos destacan los ecosistemas de humedales, los cuáles cubre alrededor de 307315.99 ha que representa el 6% del territorio nacional. Los humedales se caracterizan por tener un alto valor ecosistémico, porque frecen múltiples beneficios naturales, económicos y culturales. Sin embargo, a pesar de su importancia la mayoría se encuentran degradados por diferentes actividades antrópicas como son la expansión de los monocultivos y áreas urbanas, y la explotación descontrolada de los recursos naturales, lo que genera la pérdida de hábitat para las especies de flora y fauna, así como la afectación a los poblados aledaños. Para el caso del Humedal Nacional Térraba Sierpe (HNNTS), este es el ecosistema manglárico más grande de Centroamérica y Costa Rica, se encuentra en la zona sur del país y está rodeado por tres principales comunidades (Cortés, Palmar Norte y Sierpe) como patrimonio territorial de estas comunidades les permite, realizar diferentes actividades en este, como la extracción de piangua, pesca, jornaleo agrícola, crianza de animales, agricultura y turismo. Debido a diferentes procesos sociales y económicos en el país, en los últimos 60 años el HNNTS ha tenido fuertes cambios en sus coberturas naturales y una disminución de recursos naturales, por lo cual se realizó un estudio espacio-temporal de los usos y coberturas de la tierra para los años 1948, 1972, 1992 y 2013, para determinar las principales causas de cambios en el humedal. Por consiguiente, se obtuvo como resultado que los principales cambios en su cobertura se deben al crecimiento poblacional, históricamente motivado por las oportunidades económicas generadas durante la llegada a la región de las compañías bananeras; posteriormente con la partida de estas empresas se da un proceso de desempleo que se liga a una política gubernamental de donación de terrenos dentro de áreas de manglar y adjudicación de permisos ilegales para el desarrollo de agricultura y de estanques de maricultura dentro de dichos ecosistemas; además, en el último periodo analizado los procesos de cambios en el uso de la tierra disminuyen debido a que el humedal adquiere una denominación de Área Silvestre Protegida y Sitio Ramsar, por lo cual empiezan a aplicarse regulaciones en materia de legislación ambiental y las comunidades se ven presionadas a enfocarse en un manejo adecuado de los recursos naturales, a través de cambios de actividades económicas como el turismo, que permite la valorización de este ecosistema como patrimonio territorial. Palabras claves: Patrimonio territorial, Ecosistemas, humedal, Usos y coberturas de la tierra,

Bernardo Aguilar-González, Jennifer A. Devine, David Wrathall, Yasmín Granados

IMPACTS OF NARCO-DEGRADATION ON PROTECTED AREAS IN CENTRAL AMERICA: AN ECOLOGICAL AND POLITICAL ECOLOGY APPROACH

This work assesses, from an ecological economics and political ecology approach, the environmental impacts of drug trafficking (DT) through Central America. It focuses on the impacts of DT routes on the mosaic of protected areas (PAs) in the region, which includes the phenomenon known as narco-deforestation. DT's environmental impacts are diverse and manifest in land dispossession, lost usufruct rights and land grabs. DT also exacerbates neo-extractivist activities and includes the development of transport infrastructure and the use of PAs as transportation routes. We document the monetary value of environmental degradation in five PA drug trafficking hot spots. Between 2001 and 2010, we estimate net losses reaching approximately \$88 million per year, equivalent to almost twice the national budgets that Central American nations dedicate to their PAs. We also document the social costs of DT in terms of "ecological distribution conflicts" (EDC). We identify sixteen EDCs occurring in the areas studied that may be related to the trade. The majority of EDCs show high intensity, implying violence against social and environmental systems. DT aggravates the environmental injustices already present in the region, linked to neo-extractivist activities. Results from participatory workshops demonstrate not only the understanding of local actors of the importance of the losses of ecosystem services, but also of the way in which real environmental governance networks operate and the role that DT organizations play. Our findings suggest that strengthening participatory environmental governance may help prevent these impacts of drug trafficking. Keywords: Narco-degradation; Narco-deforestation; Ecosystem Service Valuation; Ecological Distributive Conflicts; Governance Networks, Central America; Protected Area.

Christopher Albrigo, CMI Energy

LIDERAZGO ANCESTRAL QEQCHI

La figura de los "Yuwa Chooch" o Padres de la Tierra como figuras de liderazgo ancestral en la cultura indígena Qeqchi. Su existencia y funcionamiento se debe a la formación inicial de cada una de las comunidades del Municipio de San Pedro Carcha, Alta Verapaz, Guatemala. Al inicio de los tiempos (1), la organización comunitaria y esta figura de liderazgo se creó por un proceso interno que se fue vinculando posteriormente a la Autoridad Municipal quien en la actualidad los registra y legaliza. Legalmente se regula en el Acta Municipal 77-2010 de Fecha 13 de agosto del 2010, "Reglamento de Cabecillas de Tierras del Municipio de San Pedro Carcha" del Departamento de Alta Verapaz. La creación de esta forma de organización dio inicio con la intención de cuidar y proteger la tierra continuando así el legado cultural que ha caracterizado la Región Q'eqchi' de Alta Verapaz. Únicamente cuentan con cabecillas de tierra las comunidades que tienen registros y títulos de propiedad otorgados desde la antigüedad (1) y registrados ante el Registro Nacional de la Propiedad. Actualmente se realiza un proceso de formación a líderes ancestrales – denominados- Cabecillas de Tierras/Yuwa'Chóch', del área de influencia del Complejo Hidroeléctrico Renace en la marco del programa Escuela de Liderazgo y con la intención de fortalecer esta figura con el objetivo de pueda asumir con mayor efectividad este rol ancestral pero también ampliar su participación en otros temas de interés comunitario como en la realidad ha sucedido. Es un hecho que el cabecilla de tierras actualmente y en la practica ejerce un liderazgo más allá de su rol inicial como registrador y regulador de la tenencia de la tierra comunitaria ya sea colectiva o individual. Tradicionalmente en las culturas indígenas se hace esta referencia cuando el elemento en discusión no tiene un registro valido para indicar el inicio de su existencia, pero se conoce de su existencia en la práctica desde hace mucho tiempo, inclusive generaciones atrás.

Mackenzie Allan, Department of Geography, The George Washington University

OCCUPYING PORTEÑO PUBLIC SPACE THROUGH ART AND PROTEST: IDENTIFYING NARRATIVES OF GENDER IN BUENOS AIRES' STREET ART AND FEMINIST MOVEMENT

Buenos Aires' street art is intimately tied with economic volatility and political protest, developing largely with the 2001 crisis. The explosive growth of street art over the past two decades has expanded the diversity and quantity of artists and artwork across the city, yet representation and sponsorship of artists remains highly male dominated. While there is ample research of public space, protest, and street art in Buenos Aires, incorporation of the new gender equality movement has yet to be explored. Given the rise of organizations such as *Ni Una Menos* in Argentina which has spread across Latin America during the past five years, this study explores how the new feminist wave has influenced street artists, and identifies how, where, and why female and LGBTQ+ individuals are occupying public space through art and protest. Research conducted involved artists, art collectives, and organizers of the gender equality movement. Semi-structured interviews, participant observation, and landscape analysis of multiple barrios were used to identify narratives of gendered public space and public space occupation. Findings suggest that many female and queer artists' participation in collectives changes the manner in which artists collaborate and access public space, despite few connections between feminist organizations and street artists or collectives. Keywords: public space and protest, street art, feminism and gender equality, Buenos Aires, Argentina, Latin America

Meylin Alvarado Sánchez, Universidad Nacional de Costa Rica

PATRIMONIO TERRITORIAL BASE PARA LA VALORIZACIÓN TURÍSTICA DEL PAISAJE RURAL: PENÍNSULA DE NICOYA, COSTA RICA

En Costa Rica, el turismo es una actividad económica posicionada desde hace más de tres décadas, consolidando diversos destinos turísticos en diferentes zonas del país. La península de Nicoya es uno de estos, basando su producto específicamente en un patrimonio natural, dirigido al segmento de sol y playa y de ecoturismo. Situación que ha llamado la atención de diferentes actores locales, que aúnan esfuerzos para demostrar la diversidad patrimonio territorial de la península, a través de una puesta en valor del mismo, a través de su paisaje rural. Siguiendo las políticas nacionales que pretenden transformar el turismo tradicional a uno de experiencias, basados en la cultura local y los recursos naturales, a través de la Marca País denominada "Esencial Costra Rica". Dicha valorización, es la que convierte al patrimonio en recurso, fomentado la recuperación de los mismos, por el "comercio de paisajes", condición necesaria para la actividad turística. La presente investigación muestra aspectos relevantes del patrimonio territorial de la península de Nicoya y los productos turísticos derivados de la puesta en valor que le han asignados los diferentes actores locales, específicamente en los cantones de Nicoya, Hojanca y Nandayure, de la provincia de Guanacaste, Costa Rica. Palabras Claves: Patrimonio Territorial, Paisaje Rural, Valorización Turística, Península de Nicoya

Nikolai Alvarado, Department of Geography and the Environment, University of Denver

EVERYDAY POLITICS AND INFRASTRUCTURES OF CITIZENSHIP! SELF-INSTALLED WATER PIPES, ELECTRICITY, ROADS AND THE INCREMENTAL ACQUISITION OF URBAN RIGHTS BY NICARAGUAN MIGRANTS IN COSTA RICA

In this presentation I highlight the political work of Nicaraguan migrants in San José, Costa Rica as part of their efforts to secure basic services for their community. I focus on the case of Nicaraguans living in La Carpio, a settlement stigmatized historically in Costa Rica as a Nicaraguan “tugurio” despite being in fact a bi-national community where Costa Ricans live as well. In looking at the ways in which Nicaraguan migrants engage politically in their community, I find that different parts of the settlement provide different opportunities for claiming urban rights. Political organization at the community level brings people together on the basis of shared socioeconomic needs, effacing divisions based on nationality or citizenship status. At the street level, Nicaraguans install infrastructures that force encounters with state representatives and institutions. In these encounters, migrants have the opportunity to make moral claims over urban rights and undermine the legal reasons for state representatives and institutions to deny them. Thus, in this gradual acquisition of urban rights, the infrastructures that migrants install become a sort of permanent resident card: those connected to them gain a right to remain regardless of their nationality or citizenship status.

Kevin Anchukaitis, **Talia Anderson & Kiyomi Morino**, School of Geography and Development, Laboratory of Tree-Ring Research, University of Arizona, **Diego Pons**, International Research Institute for Climate and Society, Columbia University, **Dan Griffin**, Department of Geography, Environment & Society, University of Minnesota, **Caroline Leland**, Lamont-Doherty Earth Observatory, Columbia University, **Edwin Castellanos**, Universidad del Valle, Guatemala, **Matthew Taylor**, Department of Geography and the Environment, University of Denver
PROGRESS IN CENTRAL AMERICAN DENDROCHRONOLOGY

Central America is one of the most vulnerable regions in the world to the changes in precipitation anticipated as a result of anthropogenic climate change. Sparse and often conflicting observational data, complex topography, decadal-scale natural variability, and a lack of high-resolution paleoclimate proxies limit our knowledge of past climate extremes and confound attempts to detect and attribute recent trends in the region. Here we describe the results and lessons learned from a decade of dendrochronology in Guatemala and Honduras. We demonstrate annual ring formation in two high elevation conifer species and show that ring width variability corresponds to previous year and current winter rainfall. Regional-scale signals of precipitation variability provide spatial and temporal insights into interannual to decadal-scale variability from southern Mexico to western Honduras, while local responses incorporate elevation-mediated effects as well as disturbance factors including volcanic eruptions. We highlight extant challenges and new opportunities for novel environmental analyses using tree-ring archives in Central America. Keywords: climate, drought, paleoclimate, paleoecology, forests, volcano, tree rings, Guatemala, Honduras, Central America

Talia Anderson, **Kevin Anchukaitis**, School of Geography and Development, Laboratory of Tree-Ring Research, University of Arizona, **Diego Pons**, International Research Institute for Climate and Society, Columbia University, **Matthew Taylor**, Department of Geography and the Environment, University of Denver

MULTISCALE TRENDS IN THE CENTRAL AMERICAN MIDSUMMER DROUGHT AND REGIONAL PRECIPITATION EXTREMES

Anecdotal evidence suggests that the timing and intensity of the Central American Midsummer Drought (MSD) may be changing, while observations from limited meteorological station data and paleoclimate reconstructions show neither significant nor consistent trends in seasonal rainfall. Here we use a high resolution gridded precipitation dataset to investigate these apparent discrepancies and to quantify the spatiotemporal complexities of the MSD. We characterize the MSD using three distinct indices that represent the duration, depth, and amount of rainfall that occurs during the drought period. In characterizing features of the MSD and relevant extreme event measures, we reveal important differences at the local and regional scales. We detect spatially variable trends in the MSD timing, amount of rainy season precipitation, number of consecutive and total dry days, and extreme wet events at the local scale. At the regional scale, we find a positive trend in the duration, but not the magnitude of the MSD, which is dominated by spatially heterogeneous trends and interannual variability linked to large-scale modes of ocean-atmosphere circulation. Although the current climate still reflects predominantly internal variability, some Central American communities are already experiencing significant changes in local characteristics of the MSD, which has a considerable influence on farmers’ agricultural decisions. A detailed spatiotemporal understanding of MSD trends and variability can contribute to evidence-based adaptation planning and help reduce the vulnerability of Central American communities to both natural rainfall variability and anthropogenic change.

Glenda Arias, **Gina Gamboa**, Universidad Nacional de Costa Rica.

QUE ENSEÑANZAS NOS DEJÓ EL HURACÁN OTTO

El paso del Huracán Otto en Costa Rica dejó una serie de impactos que deja al descubierto lo mal que está el ordenamiento territorial en nuestro país. El cantón de Upala fue el que fue el que se vio más afectado en cuanto a pérdidas humanas y económicas que hasta el día de hoy se ven reflejadas. La ubicación geográfica que presenta el cantón hace que este tenga una gran exposición ante amenazas naturales como inundaciones y deslizamientos, por lo tanto, la gestión del riesgo debe ser un tema primordial de tratar en la agenda país, dado que otros cantones también se encuentran vulnerables a la ocurrencia de un desastre. Esto más allá de significar pérdidas humanas y económicas para el país hace que el desarrollo económico quede rezagado. Palabras clave: Huracán Otto, ordenamiento territorial, Upala, gestión del riesgo, amenazas naturales, desarrollo económico.

Eugenio Arima, Department of Geography and the Environment, University of Texas at Austin

IS ENVIRONMENTAL LAW ENFORCEMENT LOSING ITS EFFICACY IN AMAZONIA?

Brazil made great strides in reducing deforestation in Amazonia between 2005 and 2014, attributed in part to heightened environmental law enforcement initiatives. According to official data from Brazil’s space agency INPE, deforestation dropped from 27.8 thousand km² in 2004 to around 5 thousand km² in 2014. However, deforestation rates have been on the rise since the political turmoil that culminated with the

impeachment of president Rousseff. During the short presidency of Temer and now with Bolsonaro, the impact of environmental enforcement seems to have diminished. In this paper, we analyze the temporal effect of one important environmental enforcement action, namely properties that deforested illegally and were embargoed by Brazil's environmental agency IBAMA. Embargoed properties are prohibited from selling their agricultural production, which presumably should halt additional illegal deforestation. Using georeferenced data, we analyze if the embargo had an *in situ* effect and/or spillover effects around neighboring properties. We found that despite an increase in embargoes, deforestation increased regionally since 2017. We conclude the paper by highlighting changes in the political economical context and in the procedure of embargo notification that likely explain such reduced efficacy. Keywords: land change, deforestation, policy, Latin America, Brazil.

Anthony Bebbington, Graduate School of Geography, Clark University

EXTRACTIVISM AND TERRITORIAL GOVERNANCE

One contemporary manifestation of extractivism is the increasing emphasis on regional integration grounded in large scale infrastructure, mining, hydrocarbons and agroindustry. These Infrastructure-Extractive Industry complexes change the geographical distribution of potential natural resource rents. These potential rents induce the arrival and/or emergence of actors seeking to capture such rents. These actors include large and small scale private enterprise, extra-legal actors combining economic activity and the use of force, national and subnational government bodies, and political elites, among others. In some sense, these complexes also create the possibility of new rents for civil society actors contesting such processes. In turn, individuals and sub-groups within each of these organized actors jostle to capture their private portion of these new rents. Infrastructure-Extractive Industry complexes thus create new territorial disequilibria that involve disputes over resource rents and the socio-political projects they sustain, disputes which can involve different forms of violence. Territorial governance should be understood as the arrangements that emerge to govern these disputes. This paper develops this conceptual argument and illustrates it with examples from South and Central America. Keywords: territory; governance; extractivism; infrastructure; natural resources; political settlements; conflict.

Martha Bell^a, Karl Zimmerer^b, Ana Sabogal^a, Katarzyna Goluchowska^c, Tomas Carlo^d, Medora Ebersole^e, Richard Caneba^f, ^a Geography and Environment Section, Department of Humanities, Pontificia Universidad Católica del Perú, ^b Department of Geography, The Pennsylvania State University, ^c Department of Architecture, Urbanism and Arts, National University of Engineering, Peru, ^d Department of Biology, The Pennsylvania State University, ^e Education and Community Programs, Center for the Performing Arts, The Pennsylvania State University, ^f College of Information Sciences and Technology, The Pennsylvania State University

URBAN AGRICULTURE IN THE CONTEXT OF EL NIÑO, CLIMATE CHANGE, AND RAPID URBANIZATION: SURVEY RESULTS FROM URBAN CULTIVATORS IN PIURA, PERU.

As El Niño-related flooding events in 2017 have shown, Peru's coastal populations are highly vulnerable to risks posed by climate change and rapid urbanization—two of the most significant drivers of global change generally. Peru is widely regarded as one of the world's countries most vulnerable to climate change, and the events of early 2017 have highlighted the interactions of these global changes with other social-environmental challenges such as biodiversity loss and food (in)security. Our long-term interdisciplinary research program is designed to address this broad problem in the context of Piura, Peru, a city especially impacted by El Niño floods, but also by intense heat and droughts. We consider urban agriculture to be at the center of these multi-dimensional challenges and use home gardens (*huertos*) as our starting point for understanding food security, water access, and biodiversity management. Here, we present results from a survey of urban cultivators from diverse sectors of the city of Piura, to demonstrate the kinds of urban and periurban agriculture practiced as well as who participates in these activities. We also depict-- at a general scale-- how water management (including flood control) is incorporated into *huerto* spaces, what kind of biodiversity is associated with these spaces, and how this cultivation contributes to food security (especially in times of crisis, like the 2017 floods).

James J. Biles, City College of New York and CUNY Graduate Center

IDENTIFYING HOUSING VULNERABILITY AND POSSIBLE INTERVENTIONS TO PROMOTE RESILIENCE IN COASTAL AREAS OF YUCATÁN, MEXICO

Nearly 40 percent of the Earth's population lives in close proximity to the coast and, as the aftermath of Hurricane Maria in 2017 confirms, coastal populations are increasingly vulnerable to the effects of natural hazards and global climate change. A number of potential strategies exist to mitigate the impacts of climate change and natural disasters in coastal regions, ranging from small and large-scale efforts to modify the physical geography of the shoreline to policy decisions to move people from particularly vulnerable locations. Focusing specifically on housing vulnerability in seven coastal communities along the crown of Mexico's Yucatán Peninsula, the principal objective of this study is to understand living conditions among households along the coast; perceptions, experiences and strategies in dealing with natural disasters and climate change; and the possibilities of promoting resilience and modifying housing so that it is more resistant to the effects of climate change and extreme weather events. Keywords: housing vulnerability, resilience, coastal areas, Yucatán

Emily Billo, Goucher College

PATRIARCHY AND PROGRESSIVE POLITICS: GENDERED RESISTANCE TO MINING THROUGH EVERYDAY SOCIAL RELATIONS OF STATE FORMATION IN INTAG, ECUADOR

Over the last decade, the Ecuadorian government, following regional trends, called for social and environmental progress through state-controlled resource extraction. Scholars have demonstrated that this neo-extractive model warranted further investigation regarding its progressive aims. Specifically, this paper examines gendered critiques of state-led extractivism linked to expanding governmental and social programs. It highlights how women's social movements, including women's anti-mining organizations, demonstrated limitations of neo-extractivism. However, even as women asserted their political recognition and rights, they still confronted patriarchal relations in their everyday lives. This paper advances scholarship focused on gendered forms of resistance to state-led extractivism through an analysis of everyday social relations of state formation in Intag, Ecuador. Drawing on six months of ethnographic research over five years in *campesino* communities of Junín and Chalguyacu Alto, I argue

that women in Intag confronted and challenged patriarchal state relations of extractive capitalism. They did so by highlighting how state officials relied on paternalistic discourses associated with women's roles as caregivers in home spaces. Women held the state accountable for its promises of social welfare and infrastructural development through which it generated public support for controversial mineral projects. In other words, women in Intag produced new sites of progressive politics. Keywords: Neo-extraction, gender, everyday state formation, progressive politics, resistance, Ecuador

Sarah A. Blue, Texas State University

LANDSCAPES OF EXCLUSION: ASYLUM SEEKERS AT THE US-MEXICO BORDER AND BEYOND

This paper explores the expanded and diversified spaces of migration as the US government increasingly implements exclusionary policies that outsource immigrant policing and processing to countries of transit and departure. The focus of immigration at the US-Mexico border has shifted in recent years from mostly single male migrants attempting to cross undetected to women, children, and families seeking asylum by presenting themselves directly to border patrol officers at ports of entry. The nationality of asylum seekers at the US-Mexico border has also undergone a profound diversification: the numbers of migrants presenting themselves at the border who are not from Mexico and Central America has increased dramatically in recent years. This change in the type of migration and origin of asylum seekers is contemporaneous with a major shift in immigration policy under the Trump administration that seeks to reduce the number of migrants admitted to the United States. This paper examines how geographic perspectives of border spatiality (Johnson et al. 2001), transnational policing (Hiemstra 2019), and narratives of crisis and criminality (Hiemstra and Mountz 2014, Williams 2017) can help us understand the new dynamics found at the US-Mexico border as a result of new migration populations and US policy changes. It analyzes how changing immigration discourses and dynamics have resulted in 'landscapes of exclusion' in Mexico and across Latin America along the migrant route.

Laura Blume, Department of Political Science, Boston University

NARCO ROBIN HOODS: COMMUNITY SUPPORT FOR ILLICIT ECONOMIES AND VIOLENCE IN RURAL SPACES

Indigenous and Afro-descendent territories in Central America are often prime locations for drug traffickers to operate. The marginalization and seclusion of these rural areas can facilitate criminal organizations gaining legitimacy within certain communities and result in narcos assuming roles traditionally associated with the state. This relationship between criminals and communities is typically symbiotic: traffickers provide a form of economic development or investment in zones where the state has failed to do so and, in turn, communities can help shield criminals from authorities and provide support networks and/or cheap labor pools. Traffickers can also impose alternative forms of order, striving to reduce crimes unrelated to their business (e.g. theft) which could draw attention from state actors and/or result in community frustration. However, I argue that the local-level legitimacy of illicit economies is usually contingent on criminal organizations limiting their use of violence. Moreover, community support for narcos has implications not only for the overall level of criminal violence, but also on the visibility, targets, and geographic location of violence. To support this argument, this paper draws on nearly two years of ethnographic fieldwork in drug trafficking hubs along the Caribbean coast of Costa Rica, Nicaragua, and Honduras. Keywords: marginalization, ethnography, fieldwork, Central America, illicit economies, drug trafficking

Ricardo Enrique Bohl Pazos, Pontificia Universidad Católica del Perú

EVOLUTION OF A RELIGIOUS FESTIVITY IN THE RURAL ANDES FROM A TOURISTIC AND SYSTEMIC PERSPECTIVE: THE HOLY CROSS FESTIVITY IN LURICOGCHA, AYACUCHO, PERU.

Tourism in rural areas have been studied from different perspectives including the economic, religious and cultural, but mostly considering rural communities as providers rather than tourists themselves. This study tries to understand the complex dynamics of tourism in a traditional religious festivity in one of the poorest regions of Peru, its problems, its role for local development, and the perceptions of the local community. The study has a systemic perspective in which each one of its components of the supply and the demand sides are analyzed. This interdisciplinary research is part of a bigger project held by two universities along four years. Different techniques were applied in order to register and analyze information such as workshops, observation, questionnaires and interviews to the different actors. Keywords: Tourism, Ayacucho, Peru, rural tourism, development, Andes.

Samuel T. Brandt, Department of Geography, UCLA

"CATTLE MINES", LAND HUNGER AND THE CLOSING OF A TERRITORIAL FRONTIER IN COLONIAL URUGUAY (1611-1830)

Examining ranching in Colonial Uruguay, this paper seeks to expand understandings of extractivism beyond minerals and plants by arguing that due to the particular confluence of ecological conditions and social relations, the first settlers of present-day Uruguay treated cattle as a natural resource to extract. This attitude is exemplified by the term *mina de ganado*, or "cattle mine", where groups of men on horseback would settle for three to four months at a time and round up a particularly appealing group of beasts in a convenient location and methodically slaughter the animals. With cattle as the only notable form of production, everyday practices revolved around the animal from whose body just about everything necessary for survival could be extracted; blankets, shelter, light, fuel, and food. In the latter half of the 18th century, due to the growing monetary opportunities presented by cattle, land went from being wildly abundant and lacking ascribed value to scarce, legally bound and linked with increasing social hierarchy and a breach between Montevideo and a sparsely populated interior. This paper traces this transformation and the closing of a territorial frontier through a series of catalytic events: the release of cattle (1611), the founding of Montevideo (1724), the royal decree that made possible the purchase of land (1754), the expulsion of Jesuits from Spanish American lands (1767), the opening of free trade between ports within the colonies (1778), the opening of the first salt-beef plants (1788), and the land reform proposals of José Artigas (1815). Keywords: Uruguay, ranching, colonial, rural, poverty, natural resource extraction, José Artigas

Peter Braun and David S. Salisbury, Department of Geography and the Environment, University of Richmond

TRANSBOUNDARY ANALYSIS OF INDIGENOUS TERRITORIES AND PROTECTED NATURAL AREAS AS BARRIERS TO DEFORESTATION IN THE SOUTHWESTERN AMAZON

Lack of sufficient protection from the threats of logging, mining, agriculture, and road and settlement building is contributing to the loss of biocultural diversity and ecosystem services in the Southwestern Amazon. The primary methods for protecting this important and fragile region is the creation and administration of indigenous territories (ITs) and protected natural areas (PNAs). While extensive research has been placed on the effectiveness of each type of conservation unit and a broad overview of the Amazon, less focus has been placed on regional and transboundary studies of indigenous territories and protected natural area as barriers to deforestation. This study calculated and compared the percent deforestation within each indigenous territory and protected natural area within the Southwestern Amazon borderlands shared by Acre, Brazil, and Ucayali and Madre de Dios, Peru, showing differences between states and conservation unit type. While there was no significant difference between percent deforestation between ITs and PNAs, we found that the rate of deforestation within both ITs and PNAs was less than unprotected areas in the study area. The identified differences between types of indigenous territories, and states, and countries and their respective deforestation can be used by policy makers and forest and territory managers to make nuanced decisions appropriate for their region and locality. Key Words: Amazonia; Deforestation; Indigenous territories; conservation; development

Scott S. Brown, Department of Political Science and Geography, Francis Marion University

JACALES, BAJAREQUE Y ADOBE – LAS CASAS TRADICIONALES DE TIERRA EN MÉXICO Y AMÉRICA LATINA

En América Latina la vivienda tradicional sigue como un símbolo común en el paisaje cultural de la persistencia de los valores culturales y la adaptación del ser humano al entorno físico. La preservación del patrimonio cultural junto con la abundancia de las moradas tradicionales son impresionantes especialmente cuando se toma en cuenta la globalización y la uniformidad consecuente en los paisajes culturales. A pesar de la popularidad y disponibilidad de materiales y estilos modernos, el uso de tierra sigue siendo un medio común para construcción de viviendas tradicionales en varias zonas ambientales alrededor de América Latina. Ha aumentado la popularidad del uso de tierra, incluyendo bajareque, adobe y otros medios, como medio de construcción en cuanto a la sostenibilidad. Mi investigación sobre casas tradicionales abarca México, América Central y Suramérica. Las casas tradicionales de tierra, conocidas en México como jacales y en el resto de América Latina como casas, o chozas, de bajareque, manifiestan una mezcla, o bien un “mestizaje”, de varias influencias culturales, entre ellas la española, la indígena y la africana. Esas formas tradicionales no solo manifiestan la historia cultural, sino también manifiestan la adaptación al medio ambiente, especialmente en cuanto al clima y la vegetación, tales como son el clima tropical seco y el desierto. Cada uno de esos estilos de vivienda está amoldado por influencias culturales tanto como ambientales. El propósito general de mi investigación es señalar como el paisaje cultural tradicional, o folclórico, sirve como un símbolo de la sostenibilidad que todavía existe entre el ser humano y la tierra. Palabras claves: casas de tierra, casas tradicionales, *adobe*, *bajareque*, *jacales*, América Latina

Stanley D. Brunn & Oscar Geraldo

MAPPING THE REGIONAL AND EXTRAREGIONAL HYPERLINKS OF CENTRAL AND SOUTH AMERICAN CAPITAL CITIES IN THREE LANGUAGES: A MOSAIC OF CORES AND PERIPHERIES, RESEARCH CHALLENGES AND OPPORTUNITIES

In a globalized, urbanized and knowledge/information world the production, exchange and mapping of information is critical for a city's local, regional and international standing. We investigate these features by exploring the regional networks of 8 Central and 13 South American capital cities plus Sao Paulo and Rio de Janeiro. We analyze and map the Google Scholar hyperlink volumes as parameters of these cities' linkages and networks with each other and with other major international cities including New York, London and Paris. Our research adds a new dimension to the urban information production and linkage literature by exploring variations in the hyperlink volumes and networks in English as well as Spanish and Portuguese. Significant language differences were evident in hyperlink volumes and paired hyperlinks. These results, presented in tables and maps, illustrate some significant regional variations in the knowledge production and networking databases and suggest fruitful avenues for future research of individual cities or those in a Central or South American context or other major international information centers. Key words: knowledge economics, urban linkages, cores and peripheries, language variations

Megan Butler, University of Minnesota

COMMUNITY FOREST ENTERPRISES IN THE MAYA BIOSPHERE RESERVE

This presentation will focus upon the organizational governance of community forest enterprises (CFEs) in the Maya Biosphere Reserve (MBR) of Northern Guatemala. The MBR's community-forest concession system has become an international model for community-based forest management and community forest enterprise (CFE) development due to the socio-economic and ecological benefits that it has achieved. Many CFEs managing forest concessions within the reserve have been able to curb deforestation rates and improve local forest quality (Porter-Bolland et al., 2012; Blackman, 2015; Hodgdon, 2015) while enjoying jobs and income gained from selling timber and non-timber forest products (Gomez and Mendez, 2007; Reyes Rodas et al., 2014). Income generated by CFEs supports sustainable livelihoods and incentivizes forest protection. However, while the forest-management practices in the reserve have been well documented, less is known about the internal governance of these community forest enterprises and how these systems have developed over time. This presentation will focus upon research conducted on CFE organizational governance. This presentation will provide a brief background of the context of community forestry in Guatemala, review the qualitative methodology undertaken to understand CFE governance in the reserve, and provide a description of how and why organizational governance structures of CFEs in the MBR have evolved over time.

Natali Caceres-Arteaga, Universidad Central del Ecuador, **K. Maria D. Lane**, University of New Mexico

POVERTY AND CLIMATE CHANGE: THE IMPORTANCE OF AN INTERSECTIONAL PERSPECTIVE OF INEQUITIES IN AGRICULTURE

This paper explores how intersectional understandings of identity, such as ethnicity and gender, are relevant when it comes to the study of economic vulnerability on farming families on rural and urban limits. Research was conducted in Pedro Moncayo, a canton located in the Andean region of Ecuador, where agriculture is the principal economic activity; and the use, access and distribution of water is threatened by a historical colonial management and climate change. It presents the findings of the qualitative analysis of interviews as well as the findings of the quantitative analysis of administrative data from 2010 Census and 2018 National Survey of Employment and Unemployment of Ecuador. Findings suggest that approaching vulnerability to climate change through intersectionality lens can help improve adaptation capacities and public policies design.

Keywords: poverty, agriculture, climate change, intersectionality, Ecuador, Latin America.

Fernando Carreto Bernal, Facultad de Geografía, UAEM, **Dr. Raúl González Pérez**, Plantel Nezahualcóyotl de la Escuela Preparatoria, UAEM

EL OBSERVATORIO GEOGRÁFICO DE AMÉRICA LATINA, REPOSITORIO TEMÁTICO DE LA PRODUCCIÓN CIENTÍFICA DE LOS EGAL EN ACCESO ABIERTO, 1985 - 2019.

El propósito de la presente comunicación, es difundir el Observatorio Geográfico de América (OGAL) como repositorio temático en acceso abierto de las ponencias presentadas en los Encuentros de Geógrafos de América Latina (EGAL) <http://observatoriageograficoamericalatina.org.mx/>, sumando cerca de nueve mil trabajos en extenso clasificados en cinco ejes temáticos, acumulados en 32 años presentados como ponencias en los ya 17 eventos celebrados cada dos años, en sedes itinerantes de 1987 al 2019. Las evidencias de su consulta, con cerca de 30 mil accesos, a una década de existencia (2008-2019), reflejan que el OGAL se está significando como un visor que contribuye a la divulgación y apropiación social de la ciencia geográfica en los países latinoamericanos. Asimismo, esta iniciativa se suma al fortalecimiento del gremio geográfico en América Latina, la cual se promueve desde el Cuerpo Académico en Investigación Educativa de la Facultad de Geografía de la Universidad Autónoma del Estado de México (UAEM), ubicado en la ciudad de Toluca México. Palabras clave: observatorio geográfico, repositorio temático, acceso abierto, ciencia geográfica, América Latina.

Eric D. Carter, Geography Department, Macalester College

LEARNING FROM LATIN AMERICAN SOCIAL MEDICINE: INSIGHTS FOR GEOGRAPHY

This talk draws on a multi-year research project on the history of Latin American social medicine (LASM) from the early 1900s to the present. The influence of social medicine helps explain the early development of fairly robust yet far-from-perfect welfare state institutions in countries like Argentina, Chile, and Costa Rica; more recently, social medicine has sought to counter the dismantling of health systems under neoliberal reforms. As this book project is drawing to a close, I share my reflections about its relevance for three areas of geography: health/medical geography, development geography, and Latin Americanist geography. Social medicine in Latin America has continually decentered the epistemological foundations of mainstream approaches in international health and medicine by offering deep, theoretically informed analysis of socio-structural determinants of health, framed within a critique of capitalist development. It takes a rights-based approach while also insisting on the ontological primacy of the social collective as opposed to the methodological individualism of positivist health sciences. As a social movement, LASM has been effective in merging theory and practice (i.e. praxis), and demonstrates the political possibilities of health professionals working with other social movements, particularly pro-democracy, human rights, feminist, indigenous rights, and environmental movements. Keywords: public health, social medicine, health geography, development, Argentina, Chile, Latin America

Jennifer J. Casolo, NITLAPÁN – Universidad de Centroamérica, Nicaragua and El Instituto de Conocimiento Ch'orti', Guatemala.

THE DIALECTICS OF "D"/DEVELOPMENT: RETHINKING CLIMATE VULNERABILITIES AND INDIGENOUS ECOLOGICAL KNOWLEDGE IN THE CH'ORTI' BORDERLANDS

This paper examines the efforts of indigenous authorities to rework and build upon a recent multilateral project designed to promote Ch'orti' traditional ecological knowledge (TEK) as an input for climate change adaptation policies. Unpacking the dialectical relationship between the development of racial capitalism and settler colonialism with post World War II Development interventions in the Ch'orti' Maya borderlands, I reveal the historical-geographical processes and everyday practices through which racialized and gendered climate vulnerabilities and indigenous ecological knowledges are produced, reproduced, contested and changed. Drawing on geographer Gillian Hart's concept of big "D"/little "d" development, I critically examine the limits and possibilities of projects and policies that link climate change adaptation with the recovery of traditional ecological knowledge. Ultimately, I argue that present day and historic indigenous struggles against ongoing dispossession and for the defense of bodies and territory shape the conditions of possibility for the protection and innovation of ecological knowledge, the reduction of climate vulnerabilities, and the achievement of climate justice. Keywords: development, traditional ecological knowledge, climate change, Ch'orti-Maya, Central America

José Ricardo Castellón Osegueda, Academia Salvadoreña de la Historia

DINÁMICA FAMILIAR Y MOVILIDAD CENTROAMERICANA: EL SALVADOR, SIGLO XVIII.

La sociedad centroamericana del Pacífico estuvo suscrita a una intensa movilidad social y geográfica debida a la forma de instauración y proceder del modelo colonial español. La movilidad se manifestó, e intensificó, particularmente, en regiones como las provincias de San Salvador y Sonsonate, en el siglo XVIII. La ponencia expone cómo esa dinámica alteró los mecanismos de reproducción biológica, pero a la vez, se hizo clave para la satisfacción de necesidades y la supervivencia, así como para la configuración de la sociedad. En segundo lugar, partiendo de que el espacio es el articulador del mundo social, cognoscible a través de los agentes sociales, se expone cómo los individuos fueron modificados pero también modificadores del territorio. Tanto en términos de movilidad social como geográfica, el análisis pone al centro a la familia. La investigación de que se extrae esta ponencia, es el resultado de un considerable trabajo de archivo, y tiene por propósito exponer cómo, desde el pasado, la movilidad ha estado presente en la dinámica social de la región centroamericana. Palabras clave: familia, movilidad, Centroamérica, siglo XVIII

James Chaney, Department of Global Studies and Human Geography, Middle Tennessee State University
REACTIVE ETHNICITY AMONG LATINX IN TENNESSEE

Emerging Latinx communities in the U.S. South provide rich case studies for examining the identity formation and group consciousness of children of Latin American immigrants. This paper explores the identities and sense of place of 1.5 and second-generation Latinxs who have come of age in Nashville, Tennessee, a metropolitan area with a surging population of residents of Latin American descent. Interviews and focus groups reveal how Latinxs who have grown up in Nashville contemplate their identities in relation to questions of belonging to U.S. society. A shift towards developing a reactive ethnicity is evident as Latinxs discuss how perceived interpersonal discrimination coupled with recent national (and local) divisive, anti-immigrant policies affect ethnic group solidarity. These factors influence individual life choices and encourage participation in social activism. Such reactions potentially have long-term sociopolitical ramifications for local host societies. Keywords: immigration, 1.5 and second generation, integration, identity, sense of place

Jordan R. Cissell & Michael K. Steinberg, Department of Geography, University of Alabama
HUMAN LANDSCAPE MODIFICATION IN BELIZE: POSSIBLE IMPLICATIONS FOR CROCODILE HYBRIDIZATION

Habitat destruction and degradation represent the most significant contemporary threats to populations of American (*Crocodylus acutus*) and Morelet's (*Crocodylus moreletii*) crocodiles throughout their respective ranges. In addition to destroying nesting sites, escalating inter- and intra-specific competition, and increasing instances of human-crocodile conflict, it has been suggested that habitat decline may also be contributing to recent hybridization that could threaten each species' genetic integrity. In this paper, we use the Placencia Peninsula in southern Belize as a case study, synthesizing remote-sensing based quantification of historical land use / land cover (LULC) change in the study area with insights from literature to demonstrate the potential role of LULC change as a driver of crocodile hybridization in the area. Using visual interpretation and supervised classification of satellite imagery, we found that between 1976 and 2017 built-up land, agriculture, and aquaculture expanded dramatically in the study area at the expense of mangrove and littoral forests, evergreen broadleaf forests, and savanna. The widespread conversion of traditional crocodile habitat to anthropogenic land uses likely increased the concentration of suitable American and Morelet's crocodile habitat within a diminished sympatric zone, making Placencia's increasingly human-modified landscape more conducive to crocodile hybridization in 2017 than it was four decades prior. With similar landscape conversions taking place throughout the crocodiles' overlapping zones in Latin America, hybridization may soon represent an increasingly substantial threat to both species' conservation statuses. Keywords: crocodile, conservation, hybridization, remote sensing

Rebecca Clouser, International and Area Studies, Washington University in St. Louis
POWER GEOMETRIES OF MOBILITY: HUMANITARIAN AND DEVELOPMENT NARRATIVES IN GUATEMALA

This paper analyzes unequal mobility rights through the lens of development and humanitarian projects in Guatemala. Drawing from critical development and mobilities literature, it highlights how development and humanitarian projects foreground the mobility of development and humanitarian actors, while requiring that those who are positioned as development and humanitarian 'subjects' remain in place. This is particularly notable in the contemporary migration moment in Central America, in which several development and fundraising campaigns have explicit premises to address the migration 'crisis' through improving local livelihoods and opportunities in order to forestall migration at the source. By drawing attention to the power geometries which structure (im)mobility, this paper demonstrates how humanitarian and development narratives both reflect and reinforce the binary geographic imaginary of the Global North/Global South and ultimately normalize the unjust status quo of contemporary (im)mobilities. Keywords: Mobility, Humanitarianism, Development, Guatemala

Dena Coffman, Department of Geography & Planning, University of Toronto
URBAN LIVELIHOODS, FLOOD VULNERABILITY AND PREVENTIVE RESETTLEMENT IN IQUITOS, PERU

Preventive resettlement projects are increasingly being implemented to move people out of environmentally risky areas before disaster strikes; in some areas, resettlement may be the only feasible option to cope with the effects of climate change. However, many resettlement projects have failed to deliver on promises, leaving vulnerable populations isolated and impoverished. Further discussion is needed to guide future projects, grounded in the perspectives of those directly affected. In the city of Iquitos, the Peruvian national government is working to relocate 16,000 residents from a flood-prone area called Bajo Belen, a low-income, largely informal neighborhood on the Amazon floodplain. Relocated families receive a small prefabricated house in "Nuevo Belen," located 13 km outside of Iquitos. Since 2015, 400 households have relocated; further construction is anticipated in the coming year. This research investigates how resettlement has affected residents' livelihood activities and incomes, using 60 household surveys conducted in Bajo Belen and Nuevo Belen. Findings suggest that while relocation has reduced exposure to floods, it has also left many households economically isolated. This points to the important role that livelihood security plays in a successful resettlement. Keywords: Peru, Iquitos, Amazonia, urban livelihoods, preventive resettlement, flooding

Kristen Conway-Gómez, Department of Geography and Anthropology, California State Polytechnic University, Pomona
SOCIAL AND RESOURCE GEOGRAPHY OF FARMING IN THE CHILEAN ARAUCANÍA

I will present preliminary analysis of results from talking with smallholder farmers in southern Chile about their responses to environmental challenges (wildfires, water scarcity, possibly earthquakes) linked to climate change and/or natural disasters and review their responses to each and how this is moderated by social capital - most commonly as farmer networks/groups, community/village group, links with local authorities and access to market. In particular I am interested in an examination of the role of social capital as a constraining or enabling adaptation - Under what conditions do strong social networks make smallholders less vulnerable to climate change? A better understanding of interactions of social assets to reduce human vulnerability has clear policy benefits and may help determine methods for insuring resiliency in a region likely to face increased impacts due to climate change-related events.

Brian W. Conz, Department of Geography, Planning, and Sustainability, Westfield State University

CONSTRUCTING GREEN FUTURES?: POSSIBILITIES AND PECULIARITIES OF NATURAL BUILDING WORKSHOPS IN GUATEMALA

As the global buildings sector continues to grow at unprecedented rates, there has been greater attention given to efforts to create less carbon intensive buildings, through selection of construction materials and energy efficient building design and function. Natural Building (NB) emphasizes locally sourced wood, stone, clay and other earthen materials, and often draws on traditional strategies, styles and techniques. Guatemala, which has many living NB traditions, has become a destination for Northern tourists seeking to study NB techniques, alongside other skills taught under the umbrellas of agroecology, permaculture or regenerative design. Responding to this interest, private farms and businesses, often owned and operated by expatriates, offer NB workshops that provide visitors with hands-on experience in idyllic settings, like the Mayan villages of Lake Atitlan. There is often a service-learning component to these workshops, as many cater to college groups and students doing study abroad programs. In this paper I critically explore some of the potentialities and peculiarities of these workshops. I juxtapose them to regional trends that suggest a decline in local NB traditions. I further contrast them with some of the decidedly less 'green' and less culturally affirming service-learning-through-building projects that Northern students might engage in. Keywords: Guatemala, natural building, critical service-learning, development.

Oliver T. Coomes, Department of Geography, McGill University, **Margaret Kalascka**, Department of Geography, McGill University, **Yoshito Takasaki**, Graduate School of Economics, University of Tokyo, **Christian Abizaid**, Department of Geography & Planning and School of the Environment, University of Toronto, **Tristan Grupp**, Department of Geography, McGill University

OLD-GROWTH FOREST DISTURBANCE AND SECONDARY FOREST DYNAMICS AROUND RIVERINE COMMUNITIES IN WESTERN AMAZONIA

In much of rural Amazonia where roads have yet to penetrate, old-growth forest disturbance is limited to a narrow band of land along the basin's major rivers and tributaries where indigenous and ribereño peoples live in riverine communities and practice shifting cultivation and forest extraction. Comprised primarily of secondary forest fallows and agricultural fields, this zone is clearly evident on satellite imagery in Google Earth and provides local people with food, game, timber, building material, and medicinal plants as well as an array of important ecosystem services. In this paper we assess the extent of this secondary forest zone and the drivers of old-growth forest disturbance due to shifting cultivation in the Peruvian Amazon with high spatial resolution satellite imagery and community-level data from the Peruvian Amazon Rural Livelihoods and Poverty (PARLAP) Project. Using the Esri World Imagery base map, we define the area of 'working forest' around each of the 906 PARLAP study communities situated along the Amazon, Napo, Pastaza and Ucayali rivers, based on the spatial distribution of forest patches and the visible boundary between intact and disturbed (secondary) forests. We then determine the area within the working forest that is intact, disturbed, and non-forest from a Landsat satellite image classification from CLASlite. Statistical analyses relate the extension from river's edge, area and patch distribution of the non-intact forest area to community age, size, economic orientation and other characteristics. Our findings identify the factors that predict the extent of old-growth forest disturbance and the dynamics of secondary forests around indigenous and folk communities. The implications for rates of deforestation, forest recovery and carbon sequestration are discussed. Keywords: Peru, deforestation, swidden-fallow agroforestry, fallow forests

Joel E. Correia, Center for Latin American Studies, The University of Florida

FRONTIER POLITICAL ECOLOGIES: RUPTURE, RESOURCE RULE, AND AGRARIAN CHANGE IN SOUTH AMERICA'S "GREEN HELL"

Referred to by colonists as a "green hell," the Gran Chaco forest has long been at the edge of the states it crosses—Bolivia, Paraguay, and Argentina—on their distant margins where the exercise of authority is fraught, defined by shifting regimes of speculation, resource rule, and extractivism. Political ecologists have shown how non-state actors produce state-like forms of rule in frontier spaces through (extra)legal actions that produce new regimes of governance and authority while spurring insurgent citizenship movements that respond to defend or reclaim territorial control. This paper builds from such scholarship to develop an analytic of frontier political ecologies—sites where political authority is predicated on resource access and control yet subject to radical shifts created by moments of rupture and economies of violence that rework nature-society relations. I ground my argument in an analysis of the dramatic deforestation of the northern Chaco driven by the expansion of cattle ranching and recent incursion of new varieties of genetically-modified soybeans destined for export markets. I incorporate ethnography, drone reconnaissance, and analysis of archival documents, drawing from field research conducted across the region in collaboration with Indigenous peoples and human rights lawyers between 2013-2019. The paper makes a timely contribution to literature on engaged scholarship and political ecologies of resource rule. Keywords: resource governance; extractivism; Indigenous resistance; territory; deforestation; Latin America

Max Counter, Department of Geography, University of Colorado, Boulder

CRAFTING CONFLICT, CRAFTING LAND: ASSEMBLING LAND FOR RESTITUTION IN COLOMBIA

The dispossession of land is of central concern in Latin America. In that vein, this paper analyzes Colombia's 2011 "Victims' and Land Restitution Law" (the Victims' Law), which purports to reconstitute an estimated 6 million hectares to displaced Colombians who abandoned or sold their land due to armed conflict. Land restitution is not a self-evident step for addressing forced displacement, and I argue that Colombia's congress had to assemble "land" as a highly particularly entity in order to make it available for restitution. Under the Victims' Law, "land" in Colombia is contentiously assembled as: 1) a structural facet of armed conflict; 2) a medium of human rights protection; and 3) a site of agrarian transformation. This assemblage of land faces significant political opposition within Colombia. Therefore, this paper posits that addressing land dispossession requires precise analytic attention to the competing and contingent manners in which "land" itself may be mobilized for political projects. Keywords: Colombia; dispossession; forced displacement; land restitution; human rights; agrarian politics

Nicholas Jon Crane, School of Politics, Public Affairs, and International Studies, University of Wyoming
WHY “LANDSCAPES” OF DISAPPEARANCE?

The administration of Andres Manuel López Obrador in Mexico is observably supporting what have in the past largely been citizen-led efforts to search for the disappeared, both rhetorically and also through financial support for transitional justice institutions. These gestures of support unfortunately tend to neglect the wider production of social vulnerability of which forced disappearance is symptomatic. This paper shows that the concept of “landscape” may be useful both for understanding contemporary patterns of violence in Mexico and also for the work necessary to politicize disappearance and related forms of violence. Defining “landscapes” of disappearance as our object allows us to examine 1) how territorial authorities produce a sense of place or give tangible form to space in such a way as to facilitate the naturalization of violence; and 2) how activists and organizers are problematizing the scene in which disappearance is made to make sense, and in that way are politicizing disappearance.

Nicholas Cuba, Department of Geography, Clark University

LANDSAT TIME SERIES SHOW THE NATURE AND MAGNITUDE OF THE IMPACT OF MINERAL EXTRACTION ON AGRICULTURE AND NATURAL VEGETATION IN THE PERUVIAN HIGHLANDS

Accelerated global expansion of mining, driven by growing demand for resources and facilitated by technological innovation, has transformed landscapes to an unprecedented degree and poses significant challenges to environmental sustainability. Extractive operations occupy a small area relative to other land uses such as agriculture or forestry, yet they may trigger tremendous, diffuse changes to land systems and compete for land or resource access with other anthropogenic drivers of change such as agriculture. Mining may impact agricultural production through a number of pathways, including: restricted access to land or water, migration, and intensification prompted by reduction in the amount of available cropland. These dynamics are well illustrated by development in Peru during that country's mining boom of the past 30 years. During this span, the regions of Cajamarca and La Libertad in the North-Central Peruvian highlands have seen the development of multiple productive mines, exploration activities and widespread expansion of mineral concessions, all near, or upstream from, large areas of agriculture. This paper uses temporally dense Landsat (1985-2011) and MODIS data series (2000-2011) to characterize the spatial extent and intensity of agricultural practices in La Libertad during these decades, to measure change of land cover as well as of vegetation condition attributable to mining, and to gauge the impact of extraction and of legal concessions to subsurface resources on agriculture. This long-term time series of moderate spatial resolution data offers the opportunity to test hypotheses about the relative strength of potential pathways through which mining impact agriculture. Keywords: Mining, Peru, GIS, remote sensing

Nate Currit, Geography Department, Texas State University

NEAR REAL-TIME TRACKING OF ILICIT DEFORESTATION IN CENTRAL AMERICA'S PROTECTED AREAS

Central America's protected areas are experiencing unprecedented rates of deforestation, and while ethnographic research indicates deforestation is caused by the money laundering efforts of drug trafficking organizations (DTOs), better data is needed about the patterns and rates of deforestation to fully elucidate its causes. DTOs invest in large-scale deforestation to create ranches that appear to be legitimate cattle operations. When the cattle are sold the DTOs receive a valid receipt of sale and the money they transact appears legitimate. They hire local, often indigenous, labor to clear the forest and manage the ranches in an effort to obfuscate their role as the primary driver of deforestation and to cast blame for deforestation on local communities. Because of the illicit nature of these activities and the confusion surrounding the role of local communities in them, land management policy and governance has made little progress in halting deforestation in these protected areas because DTO-driven deforestation cannot be easily distinguished from background patterns of deforestation. This paper reports on the development of a near real-time, satellite-based deforestation tracking system that identifies spatio-temporal patterns unique to illicit cattle ranching, and that can be used by stakeholders to direct forest conservation efforts. Keywords: deforestation, drug trafficking organizations, near real-time, satellite imagery

Mirosława Czerny, Facultad de Geografía y Estudios Regionales, Universidad de Varsovia, Polonia

DISPERSIÓN, DIFUSIÓN, DIFERENCIACIÓN – DETERMINANTES DE LA RECONFIGURACIÓN INTERNA DE LAS CIUDADES LATINOAMERICANAS

La pregunta básica con la cual tratamos de desarrollar nuestra hipótesis sobre la permanencia y la increíble duración del fenómeno de la fragmentación urbana se basa en los estudios de la historia de la ciudad, las tendencias de su expansión territorial y sus cambios estructurales. Desde la mitad del siglo XX, o más preciso des los años 70 de dicho siglo, junto con una enorme dinámica urbana y en consecuencia del dinámico crecimiento de la población urbana y de la mancha urbana se empezó el proceso de labor de retazos dentro de la superficie urbana. Fuera del centro tradicional, por la necesidad de servir y manejar a una población mucho más grande que todavía en la primera mitad del siglo XX se crearon sub-centros, se separaron barrios de diferentes clases sociales, se establecieron zonas industriales y de servicios a gran escala. Diferentes capas de la sociedad eligieron a actuar y estar presentes solo en unas partes de la ciudad y no en otras. Se empezó el periodo de ruptura de relaciones socio-espaciales. El proceso de la fragmentación de la mancha urbana ha provocado la intensificación de las investigaciones sobre los modelos de las ciudades latinoamericanas realizados por geógrafos urbanos. Dichos conceptos han dado las bases para la explicación de los cambios estructurales urbanos en el siglo XX pero ya no bastan para formular hipótesis y paradigmas sobre las transformaciones urbanas en el siglo XXI. Formulando la premisa que son los procesos de la dispersión, difusión, diferenciación que impulsan a la fragmentación cada vez más profunda buscaremos las respuestas a tales preguntas como: ¿Qué tiene un significativo “fragmentado” en la realidad urbana latinoamericana? ¿Cuáles son o pueden ser las consecuencias del proceso de fragmentación para el urbe? ¿Hasta qué nivel de dispersión puede alcanzar la fragmentación? Lo permitirá buscar los conceptos más generales sobre el modelo actual de la ciudad latinoamericana. Palabras claves: urbanización, fragmentación, modelos de las ciudades latinoamericanas, estructura urbana

Andrew Davis, PRISMA

EXTRACTIVE ECONOMIES, NEW “REGIMES OF RULE” AND IMPLICATIONS FOR SOCIAL MOVEMENTS IN CENTRAL AMERICA

The violence observed in Central America in recent years has drawn a number of comparisons with the region’s conflicts between the 1970s and 1990s, despite its formal transition towards democracy. Yet emphasis focused solely on the levels of violence or the state’s inability to regulate it, may hide important ways in which new and diverse “regimes of rule” are unfolding. These regimes are often closely linked to the dispossession or disintegration of social organizations, as well as massive resource degradation associated with cattle ranching, african palm, unsustainable fishing, and mining, among others. The diverse local expressions of these regimes may bear new territorial features that contrast with previous periods characterized by more stable elite agreements, and hierarchical relations. New methods may be more loosely organized through varying relationships of agents networked across state, civil society and private organizations, operating with a broader set of territorial logics, and a more dynamic rotation of dominant alliances. A more precise understanding of these developments is important for helping social movements identify strategies of resistance, resilience, and the construction of alternatives in the face of the new regimes of rule in Latin America.

Valéria Maria de Souza Lima, Glauco José Marafon, Universidade do Estado do Rio de Janeiro

TURISMO RURAL: O EXEMPLO BRASILEIRO

A diversidade geomorfológica, ambiental, paisagística e cultural do território brasileiro propicia grande valor turístico, capaz de atender a diferenciados segmentos e motivações. Neste contexto, destaca-se como potencial ainda a ser melhor compreendido o turismo que decorre da experiência vivenciada no campo, em especial aquela relacionada às atividades que encontram interface com práticas rurais e na natureza que não são, essencialmente, consideradas turísticas. Encontram-se neste âmbito os pequenos produtores de orgânicos e de flores, os apiários, os micro fabricantes de queijos e doces, além dos organizadores de eventos que reproduzem manifestações fortalecedoras das culturas locais e regionais. Dentre outros, estes são exemplos de como o turismo se evidencia no espaço rural, traduzindo-se em possibilidade de complementação de renda para os que dele se apropriam e sinalizando, em alguns casos, como novas marcas de destinos. Entretecendo uma teia de esperança para enfrentar a crise econômica, sociocultural e ética que tomou o país nos últimos tempos, o turismo no espaço rural ressurge no cenário de alguns estados brasileiros como mais uma oportunidade para repensar não só práticas, mas, sobretudo, valores. Neste contexto, assiste-se à retomada de projetos que se apoiam nos sinais de despertar de ofertas estimuladas pelo sentimento de autoestima e pertencimento, e no interesse crescente de demandas ávidas por um espaço que congregue natureza, sossego e segurança – o campo. Contudo, esse espaço parece ser ainda pouco compreendido ou percebido em suas nuances e particularidades, apresentando-se, portanto, desqualificado para bem receber um *neo* turista ansioso e estressado, desejoso de experiências sinceras, de trocas verdadeiras e de novas e simples descobertas, mas com algum conforto e acesso a facilidades. Este movimento de retomada do rural no contexto do mercado turístico estimulou a nossa investigação sobre o comportamento das políticas públicas nos estados brasileiros, a partir das novas premissas e metas destacadas no Plano Nacional de Turismo do Brasil – 2018/2022, aprovado pelo Decreto nº 9.791/19. O objetivo desta pesquisa é observar a evolução dessas políticas e de suas propostas, em face das iniciativas para o desenvolvimento do Turismo Rural sinalizadas por alguns órgãos estaduais de turismo. Trata-se de uma pesquisa de base qualitativa, contando com investigações bibliográficas, entrevista ao Ministério do Turismo e busca de material específico em sites e por solicitação direta aos estados. A análise dos dados coletados pretende contribuir não só para uma revisão do panorama do turismo em espaço rural no Brasil, mas também para reflexão sobre os caminhos deste segmento diante do quadro socioeconômico nacional, das novas demandas turísticas e do papel das políticas públicas neste contexto.

Nadia Degregori, School of Geography, The University of Melbourne

AN EVERYDAY APPROACH TO WATER GOVERNANCE AFTER EXTRACTION: THE CLOSURE OF BARRICK’S PIERINA MINE

This paper pays attention to the least studied moment in a mine’s life-cycle: its closure. The closure of large-scale, open-pit mine ‘Pierina’ (property of Barrick Gold Corporation), located in the Peruvian Andes, will serve as case study. Drawing from Political Ecology and Discursive Institutionalism, I explore how discourses and practices of water, as well as water’s materiality, intersect in the everyday lives of communities in the vicinity of Pierina, creating or transforming water governance institutions. In addition to showing that the exit of mining operations represents a highly active and unstable moment of socio-environmental transformations, this paper argues that using an everyday lens contributes to a more sophisticated understanding of governance processes, where ‘quotidian’ elements such as corporeal enactments of the state and of territory, community debates, local exercises of state power, or acts of individual agency, among others, do play an important role as shapers, in this case, of water institutions. Finally, this paper suggests that shifting the scale to the everyday has the potential to reveal alternative epistemologies of notions such as territory or state, and to bridge structural and actor-oriented approaches to power by foregrounding how local practices interact with more stable regimes of governance. Keywords: mine closure, everyday lives, water governance, socio-environmental transformations, ethnography, Peru, Barrick

Audrey Denvir, Department of Geography and the Environment, University of Texas at Austin

MAKING AVOCADOS A GLOBAL COMMODITY: WHO BENEFITS?

The global demand for avocados has skyrocketed in recent years, yet there is a lack of research on the impact of the avocado trade on the landscapes where the fruit is produced. This project looks at the world’s two largest producers of avocado – Mexico and Peru. How have the neoliberal policies of free trade and economic development, which have encouraged the expansion of avocado cultivation, impacted local economies, people and landscapes in these countries? Mexico’s long history of avocado agriculture created a legacy of small- and medium-sized growers, but the economic benefits of the highly profitable avocado are impeded by growing inequality and the possibility of extortion. Meanwhile, Peru’s export-oriented avocado agriculture is dominated by large agribusiness and exists almost completely separate from avocado production for the national market, which is largely done by small producers. By examining avocado production in these places, we can uncover larger insights on the impacts of neoliberal globalization as it touches down in particular places. Keywords: commodities, neoliberalism, Mexico, Peru, development

Jennifer Devine, David Wrathall, Bernardo Aguilar, Karina Benessaiah, Beth Tellman, Daria Adrievskikh

NARCO-DEGRADATION: DRUG TRAFFICKING'S ENVIRONMENTAL IMPACTS IN CENTRAL AMERICA'S PROTECTED AREAS

Despite the existence of an extensive network of protected areas, Central America has experienced some of the highest deforestation rates in the world in the last twenty years. Across the region, drug trafficking organizations (DTOs) are illegally ranching cattle in forests and protected areas in order to claim drug smuggling territory and launder drug money. Forest residents, conservationists, and journalists call this practice "narco-cattle ranching," and scholars refer to the resulting land use change as "narco-deforestation." This article demonstrates that deforestation is just one of many negative environmental impacts of drug trafficking in the context of the US-led War on Drugs. Comparative research in Guatemala, Honduras, and Costa Rica illuminates a diversity of forms of "narco-degradation" that include land grabbing in protected areas, infill of wetland areas, forest fires, mangrove degradation, timber poaching, flora and fauna trafficking, gold mining, and road building, to name a few. Our work further suggests that different types of narco-degradation, as well as their spatial and temporal differences, reveal roles and patterns of interdiction and node emergence and deactivation in global cocaine smuggling routes. We also show how beyond land use change, narco-trafficking incites land tenure change, influences governance of protected areas, and signals a fundamental change in ownership of who has access to and agency over natural resource use. Keywords: drug trafficking, environment, degradation, protected areas, conservation, Central America

William E. Doolittle, The University of Texas at Austin, and **William I. Woods**, Deceased.

NORTHERN MISTS VISITED: PART 3.

In his most non-Latin American book, *Northern Mists*, Carl O. Sauer waxed eloquently on who came to the Americas from Europe prior to 1492. In so doing, he also traced backwards in time the origins of knowledge about the New World and transatlantic voyages leading up to that all-important date. His work was based on documents, sagas, and legends. Not undertaken was fieldwork, a hallmark characteristic of the Sauer tradition. Forty years after the book's publication, we visited Newfoundland and Labrador to explore some of Sauer's ideas in the context of research conducted by others in the intervening period. A report of that study was presented at the 2009 CLAG meeting in Nicaragua. Ten years further on, one of us (WED) visited Ireland in order to better understand St. Brendan and his descriptions of what may be the earliest journey to the Americas. A report of that study was presented at the 2017 CLAG meeting in New Orleans. In the summer of 2019 one of us (WED) visited Norway, the Shetland Islands, Iceland, Greenland, Newfoundland, and Nova Scotia in order to better understand these distant and remote lands, and sailing conditions in the North Atlantic. This paper reports on the findings of that field study.

Elizabeth Durden, Department of Sociology, Bucknell University

LATINO COMMUNITY ORGANIZATIONS: SPACES OF RECEPTION AND IMMIGRANT INTEGRATION

Today, as in the past, it is impossible to discuss a single American immigrant experience. The integration process has been shaped over time by not just *who* the immigrant is, but also *where* one settles within the United States and *when* one arrives. Immigrants in a particular state encounter different contexts of reception, varied access to services, uneven access to political power, and diverse avenues for incorporation than immigrants in a different state. This paper examines Latino community organizations in Arizona and Virginia, exploring their commonalities and differences. Part of a larger research project exploring state level immigration policies and contexts of receptions, this particular thread will draw upon interviews done with the leaders and staff members of various Latino organizations in Arizona and Virginia. How are these non-profits working to incorporate new immigrants into their communities? How are the successes achieved and challenges faced influenced by particular state dynamics in which they are situated? Keywords: US immigration policy, immigrant reception, qualitative interviews, Latinx communities

José Heriberto Erquicia Cruz, Ministerio de Cultura de El Salvador/Universidad Tecnológica de El Salvador

GEOGRAFÍA DEL XIQUILITE: EL ESPACIO DE PRODUCCIÓN DEL AÑIL EN SAN SALVADOR DE GUATEMALA (1750-1810)

Este trabajo, se enmarca en el período de mayor auge de la producción y exportación añilera de Guatemala 1750-1810. El descubrimiento de añil en los territorios hispanoamericanos fue de gran interés comercial para España; así, el tinte que se obtenía del Xiquilite se encontraba entre los productos de mayor aprecio para la exportación durante la época colonial, a tal grado que llegó a conocerse como el "oro azul". La provincia de San Salvador contenía las zonas productoras de añil más importantes del Reyno, San Miguel y San Vicente; estas dos regiones con su dinamismo transformaron los aspectos económicos, sociales, políticos, culturales y geográficos de la sociedad salvadoreña de los últimos años de la dominación colonial. En Centroamérica, el desarrollo de la población y de la producción agrícola fueron procesos esencialmente combinados, fue durante la segunda mitad del siglo XVIII que hubo un incremento poblacional estrechamente relacionado al aumento de las actividades productivas y comerciales, entre ellas las de producción y comercialización de la tinta de añil y de los productos colaterales que derivaban del entorno de dicha actividad. El agente geográfico-productivo, ligado al cultural y al poblacional, determinó las tendencias de la ocupación de la tierra, así como el inmediato interés por su apropiación, para desarrollar los cultivos de exportación, como el añil. Palabras claves: Geografía, Añil, producción-exportación, San Salvador de Guatemala, siglos XVIII-XIX

Thais Escobar Sanabria, Departamento de Historia y Geografía, Universidad de Los Andes

DE SAN FELIPE AL B.A.D.: RESIGNIFICACIONES ESPACIALES POR MEDIO DEL ARTE EN EL BARRIO SAN FELIPE, EN BOGOTÁ 2010-2018

La cotidianidad del barrio San Felipe, en Bogotá, transcurre entre el ajetreo del comercio y las actividades de quienes allí habitan: el "picadito" de fútbol, la misa o "echar polita" en la tienda. A las 6 de la tarde, las campanas de la iglesia de San Pedro Apóstol marcan el final de la jornada y la noche cae sobre los techos de San Felipe. Sin embargo, desde el año 2010 el tiempo dictaminado por el campanario se fue transformando, la noche se alargó con la paulatina llegada de luces de neón, camionetas ostentosas y fiestas chic que comenzaban a ofrecer las recién instauradas galerías de arte. Así las cosas, San Felipe está cambiando, sus actividades, sus pobladores, los modos de vida, he incluso su nombre. De a poco el San Felipe residencial se torna en el BAD, Bogotá Art District, el nuevo distrito cultural y artístico de Bogotá. ¿qué han hecho posibles estos cambios? ¿existe un proceso de gentrificación? En esta pesquisa analizo cuáles son las lógicas y agentes que intervienen en la

resignificación espacial que ha tenido lugar en la creación del BAD. El argumento central es que las estrategias mediáticas que se han dado en el barrio de San Felipe sugieren la puesta en marcha de procesos de gentrificación, los cuales a su vez provocan una resignificación en las estructuras y dinámicas socio-espaciales que antiguamente predominaban y definían al barrio. Palabras Clave: resignificación espacial, gentrificación, dialéctica del espacio, ciudad desarrollista, ciudad neoliberal, empresarismo urbano, city marketing, Bogotá, Colombia, Latinoamérica.

Maria Fadiman, Department of Geography, Florida Atlantic University

WHO PUT THE CHILIS IN MY CHEESE? LATIN AMERICAN INFLUENCE IN BHUTANESE FOOD TRADITION AND IDENTITY

Bhutan, known for its Gross National Happiness, proves to be more interesting than the image portrayed. The study site, RukhaVillage, located in the buffer zone of Jigme Singye Wangchuck National Park in Bhutan, is surrounded by forest and the residents are the last Olep speakers in the country. Their culture and their ecosystem are poised in a moment of change, as the government builds a road to the village. As times change, so do the people and their knowledge and traditions. This paper focuses on the adoption, many from Latin America, that have already been incorporated into what is considered “traditional”. Numerous foods that are now central to their culture, including the Bhutanese National Dish, include central ingredients originally from Latin America. This paper looks at the fluidity of “tradition” and the influence of foreign lands.

Keywords: tradition, food, Latin America, Bhutan, culture, ethnobotany

Benjamin Fash, Graduate School of Geography, Clark University

RE-PRESENTING EXTRACTIVISM AND ALTERNATIVES FROM HONDURAN SOCIAL MOVEMENTS

Popular use of the term *extractivismo* in Honduran social movements raises critical questions about the predominant definitions in the literature. Facing an aggressive, multi-faceted national agenda to expand resource extraction, key actors present *extractivismo* in expansive terms – often with dramatic images – that encompass diverse forms of extraction of natural resource rents. Such discourse has created synergies between actors that might not organize in an anti- or post-extractivist movement under predominant definitions. Through processes of collective learning and action, these actors have stalled numerous megaprojects and are generating experiments with alternative economic activities under logics that defy the socioecological relations implicit in the national development agenda. However, the lack of boundaries on the definition – and the contradictions between popular use and academic definitions – has generated confusion, weakening advocacy and opening opportunities to de-legitimate movements. Based on field research conducted in collaboration with the Coalición Ambientalista de Copán from 2016-2019, this paper presents these trends alongside key points in the existing literature to propose ways to add analytical, political, and practical utility to the term *extractivismo*.

Anthony W Fontes, School of International Service, American University

MORTAL DOUBT: MARAS AND SOCIAL ORDER

Since the end of Central America's longest and bloodiest civil war (1960-1996), Guatemala City has become an epicenter of homicidal violence. *Maras* (transnational gangs) have become the erstwhile emissaries of this new order. They are victims and perpetrators of spectacular violence and pivotal figures in a peacetime politics of death. Drawing from five years of investigative ethnography, media analysis, and oral history, I explore the loops and feedback effects between the *maras'* material violence and their symbolic power in social imaginaries. However, the *maras* are not the problem, and the problem does not begin or end with them. In Guatemala City and other Central American urban centers, *maras* in fact moor a collective sense of existential uncertainty over the terms of everyday survival that has come to dominate urban life. And in the United States, they have become an integral instrument for nationalist, xenophobic politics. In this talk, I will show how the specter of out-of-control criminal violence has become utterly entwined with the making of lived and symbolic landscapes, defying every effort to fix it in time and space.

Key words: Gangs, Guatemala, prisons, violence, crime

Melanie Ford, Rice University

ARCHITECTING PRIVATIZED PUBLICS: THE ECOLOGICAL RECLAMATION OF RAVINES IN GUATEMALA CITY

Ravines (*barrancos*) are undergoing a momentous transformation in Guatemala City. Comprising forty-two percent of Guatemala City, these ravines are contentious ecological forms for city residents. Architects in particular have taken interest in these ravines, identifying them as sites in need of ecological and developmental attention. Ravines, they argue, are underutilized and contaminated spaces that have thus far worked against, rather than with, the built environment. Interested in the production of place, and from four months of fieldwork, this paper examines the architectural movement to reclaim ravines in Guatemala City. In particular, this paper traces how ravines as multiplicitous yet singular entities (Morton 2013; Strathern 1991) surface tensions between public space, land ownership, and sustainable architecture in twenty-first century urbanizing Latin America. Different than what Teresa Caldeira (2000) among others have called “fortified enclaves,” this paper presents a new perspective on how ecological reclamation is assembling a group of independent design professionals that are developing public space on private land, as efforts to create an urbanizing and sustainable city in spite of their distrust in the municipal government. Keywords: Guatemala, architecture, cities and urbanization, conservation and development, public space

Gabriela García Ayala, Centro de Investigación en Geografía Ambiental, Universidad Nacional Autónoma de México

UN ESTUDIO TEMPORAL DEL PAISAJE LACUSTRE EL PALEO LAGO MAGDALENA, JALISCO, MÉXICO.

La relación entre el paisaje y las sociedades ha sido tratada desde muchas ciencias y perspectivas; a partir del punto de vista de la geografía histórica es difícil entender los procesos sociales sin comprender el origen de los mismos, por lo que es necesario remontarse en la historia. En los alrededores del paleo lago Magdalena, en Jalisco, se establecieron y complejizaron diferentes grupos sociales desde hace dos mil años. La relación entre dichas sociedades y su entorno lacustre es analizada a partir de una reconstrucción histórica del paisaje, lograda a partir de estudios geográficos, arqueológicos, históricos y paleo ambientales, tomando en cuenta los cambios en el patrón de asentamiento, la

variación de recursos y los cambios climáticos. El resultado de conjugar diferentes ciencias en un objetivo común demostró la eficacia para llegar a mejores interpretaciones respecto al estudio de la relación paisaje y sociedad, encontrando que en diferentes momentos la relación es más estrecha, produciendo cambios sociales importantes, los cuales son similares en todo Mesoamérica.

Palabras Clave: geografía histórica, paisaje lacustre, estudio multidisciplinario, Mesoamérica, Nueva Galicia

Armando García Chiang, Departamento de Sociología, Universidad Autónoma Metropolitana-Iztapalapa

THE ENERGY REFORM IN MEXICO AND THE EVOLUTION OF SOCIAL AND ENVIRONMENTAL IMPACT STUDIES

An overview is presented on the evolution, within the energy sector in Mexico, of the social base line studies towards social impact assessments, and on the other hand, the environmental impact studies that evolved from characterizations of contaminated sites to environmental baselines. The starting point is the change in the state regulations on the production of energy in recent years. The normative effects of such reforms have already manifested in the social and territorial management plans of the companies involved, giving rise to the emergence of social impact assessments. This process has been called Energy Reform and has introduced significant changes in two markets that were exclusive monopoly of the Mexican State for more than 70 years. In this context, we also present the experience of a team of researchers and professionals from the academic sector (Department of Sociology, Universidad Autónoma Metropolitana, Mexico) who have been linked to the oil industry by developing social and environmental impact assessments on the territories affected by oil extraction.

Magda Angélica García von Hoegen, Universidad Rafael Landívar, Guatemala

TEJIENDO LA VOZ: CORPOREIDAD Y ARTE COMO CAMINO DE INDAGACIÓN HISTÓRICA.

En contextos diversos y complejos como el guatemalteco, es indispensable re pensar desde dónde pueden construirse las vías de diálogo entre las diversas formas de ver el mundo, los distintos sentires, conocimientos y saberes ante un entorno que pretende homogeneizar a las personas desde discursos dominantes. Este trabajo se apuesta por el arte como un derecho humano y por la aventura creativa como herramienta de transformación individual y colectiva. Se aborda el proceso realizado desde el arte como vía de interacción y el cuerpo como lugar de construcción epistémica, temas explorados en mi investigación doctoral por la Universidad Pablo de Olavide en Sevilla. El estudio fue realizado entre los años 2013 y 2016 en los municipios de Tactic y San Cristóbal, Alta Verapaz, Guatemala, sobre todo trabajando con la juventud de sus comunidades K'ekchi'. Asimismo, se tuvieron experiencias complementarias en las regiones de Coto, Abrojo de Moctezuma y Rey Curré en Costa Rica. Palabras clave: historia oral, micro historia, proceso creativo, arte y transformación social.

Guadalupe García Prado, Department of Anthropology, Universidad del Valle de Guatemala

IXIWA'IH: EVERYTHING THAT IS ALIVE. XINKA RESISTANCE: AN ETHNICTERRITOIARL MOVEMENT AGAINST LARGE SCALE MINING

The everyday life of xinka people has been transformed in multidimensional ways since a large-scale silver mine started operating in San Rafael las Flores. The arrival of the Escobal1 mining project triggered a self-identification process, resignifying and restoring the Xinka ethnic condition. Having as a result, new discursive forms and strategies for the population to be recognized as Xinkas, a condition that historically has been denied, repressed or forgotten. Likewise, the creation of new forms of social organization that allows them to respond to the presence of a mining company that denies the presence of indigenous communities, disrespecting their rights to consultation through free, prior informed consent. The Xinka ethnic-territorial movement has positioned itself politically in front of the mining project, generating organizational dynamics of resistance that have united the population around the Xinka identity. This dynamic through the 6 municipalities in resistance revolve around a reappropriation of the territory through the social control of space. Using various political resources, from judicial to physical control of the territory through permanent resistance. Thus, the movement has become a space for generating knowledge and political-administrative proposals. They believe that science and political action should always go hand in hand, to make visible the social and environmental consequences of large-scale mining has on their communities that feel threat not only in their individual health but to the social peace and cohesion in their communities. Keywords: Extractivism, mining, indigenous rights, Xinka, identity, Guatemala.

Julie Gibbings, School of History, Classics, and Archaeology, University of Edinburgh

Q'EQCHI' MAYA CARTOGRAPHIES AND NINETEENTH-CENTURY LAND LIBERALIZATION

Historians of Guatemala have often been surprised that Mayas, rather than ladinos (non-Mayas) or immigrant settlers, were among the first to put into use new land privatization laws passed after Guatemala's 1871 Liberal revolution. While historians have examined the political and economic reasons Maya communities would seek to title lands, rarely have they considered the cultural meanings and practices associated with Maya landscapes. Likewise, historians have often overlooked the actual cartographic practices of rendering space legible, making people governable, and archiving knowledges associated with these state polices. This paper examines how Q'eqchi' Mayas in Alta Verapaz contributed to the remaking of rural spaces in the late nineteenth century as active participants in the process of petitioning, mapping, and archiving land according to new liberal laws. Reading land petitions, court cases, and departmental records against the grain, this paper illustrates how Q'eqchi' ontologies of rural landscapes, which emphasized the power and territoriality of mountain spirits known as Tzuultaq'as shaped the scientific process of map-making and the reinscription and fixing of rural space. Even more, this paper argues that because state officials, ladinos (non-Mayas), and foreign immigrants often lacked knowledge of tierras baldíos they sought to title, they relied heavily upon Maya inhabitants as informants and their land titles also bore the mark of Tzuultaq'a. As result, this paper argues that land privatization was also a potent act of cultural translation. Keywords: Guatemala; land privatization; land survey; Maya cartographies; 19th century liberalism

Raúl González Pérez, Plantel Nezahualcóyotl de la Escuela Preparatoria, UAEM, **Fernando Carreto Bernal**, Facultad de Geografía, UAEM
DIFUSIÓN DEL PATRIMONIO GEOGRÁFICO Y AMBIENTAL DE MÉXICO, A TRAVÉS DEL DIPLOMADO EN CULTURA MEXICANA DEL CENTRO INTERNACIONAL DE LENGUA Y CULTURA, DE LA UNIVERSIDAD AUTÓNOMA DEL ESTADO DE MÉXICO, CILC/UAEM

Con el propósito de difundir al Patrimonio Geográfico y Ambiental de México, como parte de la riqueza cultural mexicana, el Centro Internacional de Lengua y Cultura, (cilc), de la Universidad Autónoma del Estado de México, (uaem), imparte desde 2013, el Diplomado en Cultura Mexicana. El Diplomado se estructura en cuatro series; cada serie contiene cinco módulos: Serie I: Arte Prehispánico, Arte Virreinal, Literatura Contemporánea, El Muralismo en México y Tradición Festiva Mexicana. Serie II: La Independencia en México, Literatura de la Revolución, Tradición Musical en México, Danzas y Bailes Folclóricos Mexicanos y Arte Culinario Mexicano. Serie III: El Tianguis y la Artesanía en México, Museos de la Ciudad de Toluca, Enología Mexicana, Antropología Familiar en México y Sistema Político Mexicano. Serie IV: *Patrimonio Geográfico y Ambiental de México*, Cine Mexicano del Siglo XX, Tradición Musical en México, El Tianguis y la Artesanía en México y Tradición Festiva en México. En esta ocasión y para los propósitos que nos anima a participar en esta conferencia de Geógrafos Latinoamericanos, hacemos referencia al módulo I de la serie IV, *Patrimonio Geográfico y Ambiental de México*. Su contenido, alude a las manifestaciones culturales como producto de la relación que existe entre los fenómenos físico-naturales y los acontecimientos socio-económicos, determinantes en la sustentabilidad de nuestro país. En este sentido, el módulo ha quedado organizado para su divulgación, en cuatro etapas de acuerdo con los fundamentos institucionales, pedagógicos y disciplinarios: Diseño, Instrumentación, Implementación y Evaluación, lo anterior con el apoyo del método cipp que implica (contexto, insumo, proceso y producto). Hasta ahora, los resultados han sido alentadores, la reflexión ha predominado en los participantes que asumen el interés por asimilar los valores que otorga la Geografía en la identidad y sentido de pertenencia nacional, así como la conciencia y responsabilidad en su desempeño individual y social. Palabras clave: Cultura Mexicana, Patrimonio Geográfico, Patrimonio Ambiental.

Chris Hair, The University of Southern Mississippi

A VIEW FROM ABOVE: ALTERNATIVE PERSPECTIVES OF AGROBIODIVERSITY CONSERVATION IN SMALL-SCALE AGRICULTURE

Small-scale, family agriculture in Latin America faces a number of obstacles including the loss of crop diversity, water scarcity, labor shortages, and new plant disease and pests. On a global scale, farmers are beginning to incorporate small unmanned aerial systems (sUAS) or drones in various capacities to address some of the same obstacles that are faced by small-scale Latin American farmers. This research explored the potential for integrating data collected by the DJI Mavic Pro, into the daily practices of small-scale female indigenous farmers in northern Ecuador. Using the DJI Mavic Pro, aerial surveys were conducted of 250 farms ranging in size from a few hundred square meters up to 1 ½ hectares. The primary goal of these surveys was to document agrobiodiversity and provide useful data for the continued conservation of crop varieties. Although individual farmers are not currently equipped with the skills or resources to own and operate sUAS for agriculture, we did find that data collected by the DJI Mavic Pro is useful to local farmers in three primary ways: Documenting crop varieties, coordinating water management projects, and delineating individual parcel and community boundaries. Keywords: small-scale agriculture, agrobiodiversity conservation, food security, sUAS, drones, Ecuador, Latin America

Espen Haugen, Proyecto Remedios Educativos (PRE), Nicaragua

FROM DISCUSSIONS TO ACTION: METHODOLOGICAL REFLECTIONS ON HOW OPEN CONVERSATIONS WITH RURAL COMMUNITIES LED TO THE BUILDING AND REPAIR OF NUMEROUS SCHOOLS IN THE MUNICIPALITY OF TOLA, NICARAGUA.

Development projects rarely begin with loosely defined missions open to the interests and opinions of target groups and stakeholders, yet this was how Proyecto Remedios Educativos (PRE) was established. PRE was founded following several years of open conversations between its founder and community members about local concerns and possible solutions. These discussions led to a focus on supporting communities' efforts to build new schools or repair their existing schools in the Municipality of Tola. Through a series of iterations, PRE developed a methodology which triangulated volunteer work from recipient community members, support from the local government, and its own team of builders and materials. PRE's work received governmental support and local investment in a manner which other NGO's in the area had struggled to achieve. PRE's founder attributes this success to the emphasis it placed on relationship building, expectation of local government and volunteer support, and gaining a contextual understanding of the Municipality of Tola's situation before beginning any work. Opportunities for and against the possibility of replication of this methodology are discussed and considered. Keywords: Grassroots, relationship building, education, development methodology, civil society, Tola, Nicaragua, Latin America

Oliver Gabriel Hernández Lara, Facultad de Ciencias Políticas y Sociales, Universidad Autónoma del Estado de México

DYNAMICS OF TERRITORIAL CONTROL IN THE ESTADO DE MÉXICO IN THE CONTEXT OF THE RISE OF THE COMMUNICATIONS AND TRANSPORTATION MEGAPROJECTS

During the federal administration of Felipe Calderón and the state administration of Enrique Peña Nieto (EPN), initiated a stage that intensified investment in communications and transport infrastructure and that revitalized, in very violent ways, territorial development policies in the Mexico City Megapolis. Subsequently, during the federal administration of EPN, an attempt was made to complete that investment, so territorial control dynamics were generated in which repressive policies were used to promote capitalist development. The present paper tries to cross information on the megaprojects concessioned and built during both six years administrations, with information regarding on repression events. This seeks to present some maps and statistics to propose working hypotheses regarding pertinent theoretical proposals to understand how power was territorialized in the first two decades of this century in central Mexico.

Oscar Gerardo Hernández Lara and Benjamin Toney, Sol Price Center for Social Innovation, University of Southern California
ELDERLY'S RIGHT TO THE CITY AND THEIR SOCIAL CONNECTEDNESS THROUGH CULTURAL SPACES IN MÉXICO CITY

Nearly 10% of the population of Mexico is over the age of sixty. The roughly 1 million persons in this group represent a momentous demographic shift in age distribution as the population has grown older. As more people are living longer lives, there are accompanying social, institutional, and cultural shifts which are needed to ensure that older inhabitants of Mexico are able to not only survive, but also to thrive. One component of great importance concerns access to cultural spaces, and the related sense of social connectedness that access to these spaces can foster. We analyze 2017 data from the Museum Statistics database published and managed by the National Institute of Statistics and Geography of Mexico. The first time that a national database has catalogued museums in Mexico. This database consists of data collected by museum personnel during visits as well as characteristics about Museum Institutions. The database shows –among other characteristics- the social ties of older adults, their spatial origin and their motivations to use and occupy urban space according to their cultural interest. The data show how older adults are able to keep connected spatially and socially in an environment that not necessarily is adequate for them, and in turn, raises important questions for designing programs and institutions which effectively support active aging.

Robert Huish, International Development Studies, Dalhousie University

CUBAN MEDICAL INTERNATIONALISM 2.0: HOW CUBA'S MEDICAL OUTREACH IN THE AMERICAS IS SHAPING IN 2020 AND BEYOND

Cuba's reputation as a partner in health is well known throughout the Americas. Each and every country in the Americas has been offered Cuban medical personnel, scholarships for medical school, or medical supplies at some point in the last 60 years. Cuba's medical internationalism is complicated as it has built political bridges, has fostered dissent and resentment, and has been a transformative factor in the health outcomes of millions of Latin Americans. The question then is what will Cuba's medical outreach look like going forward? Was medical internationalism a temporary innovation in foreign policy and global health? Is it the basis for deeper South-South Cooperation in the Americas, or is it beginning to evolve both in terms of policy and ideology? This paper offers a brief review of Cuban medical internationalism in the 60 years of the revolution, and then presents a forecast of what to expect from Cuban medical cooperation in the Americas going forward. Keywords: Cuba; health; medical internationalism; South-South Cooperation.

Aaron Groth, Department of Geography and the Environment, University of Texas at Austin

HUMAN RIGHTS AND FOREST CONSERVATION IN AMAZONAS AND MADRE DE DIOS, PERU

Environmental defenders seek to protect land and resources, including biodiverse landscapes. Recent research and news reporting have focused upon the murder, assault, kidnapping, and judicial harassment of environmental defenders. This paper examines how environmental defenders practice conservation: not only what diverse strategies they employ, but how their actions and decisions directly impact conservation outcomes. Research was conducted in the Regions of Amazonas and Madre de Dios, Peru, where private property owners, communities, user groups, and civil society have adopted different conservation strategies under a multitude of threats. Semi-structured interviews were used to elicit local views of conservation practice, the role of government, and threats encountered. Interviews revealed tenacious dedication and resolve on the part of environmental defenders in the face of violence, threats of violence, and judicial harassment. Findings suggest the need for closer attention to be paid to the practices and strategies of environmental defenders within the context of asymmetries of power and information. Key words: Amazon, Andes, conservation, human rights, environmental defenders Kathryn Hannum

Kathryn Hannum, Department of Geography, Kent State University

MINIFUNDISMO AND THE STRUCTURE OF THE GALICIAN COLLECTIVE IN BUENOS AIRES

Between 1836 and 1930 one million and a half Galicians emigrated from Spain, most of whom were destined for the Americas. Galicia, an agricultural region in the northwest of the Iberian Peninsula had been suffering from famine and extreme poverty due to overpopulation and a split land inheritance system known as *minifundismo* (micro-territorialism). Many of those who emigrated found their way to Buenos Aires, Argentina. New arrivals settled into enclaves in the city which were organized around mutual aid associations pertaining to locality of origin at the micro-territorial scale. Today, these associations serve mostly social functions, but remain strong symbols of the link Galicians and their descendants have not only to the region, but to a particular locality of origin. As the diaspora near the fourth generation, the Galician collective writ large is facing a shifting demographic landscape of precarity due to the fragmentation of associations within its micro-territorial organization. This paper maps the structure of the Galician collective in Buenos Aires and analyzes perceptions of its future from interviews with collective members. Keywords: diaspora, Buenos Aires, Spain, social organization, external citizenship,

Peter Herlihy, Jorge Cano González, Taylor A. Tappan, Guillermo Santos, Mónica Hernández, Facultad de Agronomía, Universidad de San Carlos de Guatemala (USAC), Universidad de Kansas (KU), Instituto Geográfico Nacional (IGN)

INVESTIGACIÓN CARTOGRÁFICA PARTICIPATIVA EN EL DEPARTAMENTO DE SACATEPÉQUEZ, 2015-2018 GUATEMALA, C.A.

Realizado en los 16 municipios del departamento de Sacatepéquez, capacitando a 11 líderes comunitarios en cartografía básica, utilización de imágenes satelitales y fotos aéreas, uso de Sistemas de Geoposicionamiento Global, identificación de usos del suelo, encuestas comunitarias, conocimiento de aspectos geográficos y legales en la gestión territorial. Se recogieron datos y toda la información se recopiló en mapas que fueron validados por las comunidades y el IGN, para generar como producto final un mapa estandarizado del departamento de Sacatepéquez y contribuir a la elaboración de la agenda de desarrollo comunitario. Con los resultados del proyecto se obtuvo información para la elaboración de planes de ordenamiento territorial, gestión de riesgo, administración de recursos naturales, compensación de servicios ambientales, incorporación de geógrafos locales a futuros proyectos y la orientación en la inversión pública y privada. Actualmente se ejecutará un proyecto financiado por la Dirección General de Investigación de la USAC para un año calendario 2020 titulado "Normalización, análisis y utilidad de toponimias como respaldo

a problemas socio-ambientales a través de web-map en un Sistema de Información Geográfica en Sacatepéquez, Guatemala, C.A.” Palabras Claves: Geografía humana, Conocimiento cognitivo, croquis comunales, Recursos Naturales, empoderamiento comunitario

Juan Herrera, University of California, Los Angeles

DAY LABORERS AS PLACE-MAKERS: RETHINKING THE PLIGHT OF INFORMAL WORKERS IN THE NEOLIBERAL CITY

Throughout the United States day laborers struggle daily to defend their right to solicit work on street corners. My aim in this presentation is to reposition day laborers, or informal workers more broadly, as human beings that engage in social relations, and consequently are agents in the production of space. I do so as a response to a common academic and popular practice in which these workers are viewed and treated as de-spatialized transient and therefore tractable workers. This consideration of informal workers as aspatial is precisely part of the process in which capitalism relegates immigrant workers into informality and which legitimizes practices to police their solicitation practices. Instead, I propose that we more precisely analyze that day laborers are residents and place-makers in the very cities, or regions in which they solicit work. Utilizing ethnographic work I conducted with a free community resource center for day laborers in Oakland CA, I explore the quotidian forms of politics and place-making practices enacted by both day laborers and multiple stakeholders to defend the humanity of these workers

Matthew Himley, Department of Geography, Geology, and the Environment, Illinois State University

UNDERGROUND GEOPOLITICS: SCIENCE, RACE AND TERRITORY IN PERU DURING THE LATE NINETEENTH CENTURY

Building on recent scholarly interest in the technoscientific discourses and practices through which the underground is constructed as a political-economic space, this paper investigates the relations between science, race and territory in Peru during the late nineteenth century. This period saw an expansion of state-sponsored science aimed at generating knowledge of Peru's territorial features, including its subsurface resources. Through an analysis of one mineral-focused scientific text by the naturalist Antonio Raimondi, the paper addresses the normative visions that motivated and were expressed through state-sponsored subterranean knowledge-making during this period, while also calling attention to the racialized dimensions of these scientific endeavors. Overall, the paper seeks to give further momentum to a 'subterranean geopolitics' research agenda, including by illustrating the potential for research in this area to address power-knowledge relationships through studies of the discourses and practices of the Earth sciences. Keywords: Earth science, Latin America, mining, Peru, race, subterranean geopolitics, territory

Lynn Holland, Korb School of International Studies, University of Denver

RETHINKING COLD WAR LOGIC IN REGARD TO CRIMINAL ORGANIZATIONS IN THE US AND LATIN AMERICA

We continue to apply Cold War logic to our understanding of criminal organizations (COs) in the US and Latin America, a practice which conceives of COs as autonomous state-like actors or insurgent groups seeking political and ideological domination over the nation-state. This view is fortified by notions of the "weak" or "failed state" in which COs are seen to be mounting a successful challenge to nation-states for control over governance. I argue that this is a fundamental misunderstanding of COs, which are disinclined toward political and ideological domination and inherently dependent upon the state for their functioning and survival. The resulting interdependence between COs and the state actually strengthens the state at the expense of civil society. Whereas Cold War logic supports the use of the military as a chief strategy for dealing with COs, an alternative view in which interdependence is featured directs our attention toward the importance of strengthening civil society and the democratic norm as the chief strategy.

Denise Humphreys Bebbington, International Development, Community and Environment Department, Clark University

INFRASTRUCTURE DEVELOPMENT, RESOURCE EXTRACTION AND THREATS TO FOREST COMMUNITY RIGHTS IN MEXICO

The expansion of extractive industry and large scale infrastructure development presents new challenges to standing forests in Mexico. These forests are largely in the hands of rural communities who both protect and make a living from the sustainable management of forest resources. Today this highly organized sector engages in a range of activities as community-managed forest enterprises characterized by local control and decision-making over natural resources. Nonetheless, the cumulative effects of two decades of policy reforms have undermined local stewardship of forest resources in significant ways. Beginning in the early 2000s, successive Mexican governments have promoted the modernization of Mexico's infrastructure and increased logistical capacity, connectivity and competitiveness as a pillar of national economic development. This has been coupled with the promotion of natural resource extraction and the relaxation of laws governing land use in protected areas, giving energy and mining investments priority over other land uses and rights by granting them "public utility" status, and weakening the authority of environmental agencies. This paper maps out these trends, analyzes their complex relationships to criminal efforts to control territory, and describes how these patterns vary across Mexico. The paper analyses different forms of civic action and the extent to which they rework these patterns and offer the possibility of increased protection of forests and the rights of communities and environmental defenders.

Ryan Isakson, University of Toronto

BANKING ON THE FEMINIZATION OF FARMING: MICROFINANCE, GENDER, AND THE COMMERCIALIZATION OF PEASANT AGRICULTURE IN GUATEMALA

Microfinance is widely celebrated as a development intervention that can alleviate poverty and empower its predominately female client base. In an increasingly global campaign to deliver on these promises, it has arguably become the most widespread development practice in the 21st century. Yet, as critics observe, the standard approach for delivering microfinance is unlikely to benefit one of the poorest and most marginalized populations in the global South: small-scale and peasant farmers. This paper analyzes efforts to design a microfinance product that aims to overcome those design failures, thereby facilitating the inclusion of the rural poor into formal financial markets. In particular, it focuses upon a recently implemented microfinance product that targets poor and indigenous K'iche' Mayan women in rural Guatemala with the dual objective of facilitating

the transition from subsistence-oriented peasant agriculture into global value chains while increasing female participation in – and control over – the predominantly male domain of non-traditional agricultural exports. Drawing upon recently collected interview and survey data, the paper critically evaluates the potential of financial intervention alone to correct for the historical marginalization of Guatemala’s peasant farmers and deeply rooted gender relations. Specifically, it documents how the layering of microfinance upon an agrarian landscape that is stratified along the lines of class, gender, and market power exacerbates unequal vulnerabilities and fuels socio-economic differentiation.

Philana Adora Jeremiah, University of Arizona

Islands in the Caribbean region are continually challenged to address critical development issues whether they are economic, land use, or environmental. Approximately ten years ago, a local Non-Government Organization (NGO) hosted a discussion with a diverse group of concerned residents and community leaders to discuss the development of the southern part of the Bahamian island of Eleuthera, Lighthouse Point. Local and national government officials identified this area for major economic development. However, given the history of failed large-scaled economic development projects and the potential for physical damage to the island, community leaders and residents convened to create a plan for environmental sustainability. These concerns prompted community leaders to be open to exploring alternative models and tools for regional planning within the context of economic, social, and environmental development. The purpose of this research project was to explore the willingness of NGOs in the Bahamas to utilize Geographic Information Systems (GIS) data as an analytical tool for addressing environmental sustainability issues. Introducing Geographic Information Systems (GIS) for understanding natural and human impact on island ecosystems. Mixed methods were used to develop a conceptual framework for describing needs, actions, and desires towards achieving environmental sustainability goals. Results highlighted the need for NGOs to consider the use of GIS technology as an analytical tool for achieving SDG goals. Keywords: GIS, Environmental Sustainability, the Bahamas, Small island, Environmental planning.

Adrienne Johnson, Environmental Studies Program, University of San Francisco

COMPLIANT OR COMPLICIT? LOCAL INSTITUTIONS, RSPO STANDARDS, AND UNEVEN POWER RELATIONS IN ECUADOR'S PALM OIL INDUSTRY

National institutions play an important role in the local substantiation and implementation of standards as linked to roundtable governance mechanisms. Environmental governance scholars often advocate for a high degree of ‘institutional fit’ or compatibility between the standards and locality for successful institutionalization. For example, in certification mechanisms such as the Roundtable on Sustainable Palm Oil (RSPO), high priority is placed on the compatibility and more importantly, *compliance* with local laws and regulations for standards entrenchment. Such emphasis rests on the assumption that local institutions properly and fairly represent all social groups evenly. This paper questions whether compatibility or fit between standards and a locality should be a major goal in global sustainability standards adoption. It is argued that in seeking ways to introduce, entrench, and facilitate RSPO standard legitimization in localities, little attention is given to the ways in which pre-existing local institutions underserve and/or exclude vulnerable populations. Furthermore it is argued that in aiming to connect with, and adhere to local institutions, in highly divisive societies, RSPO standards risk being complicit in the reproduction of unequal power relations in environmental governance over time. This paper is based on empirical research findings that were collected over 15 months in 2011-2014, and 2017. Over 80 interviews were conducted with palm oil company employees, small-scale farmers, indigenous peoples, Afro-Ecuadorians, representatives from the Ecuadorian government as well as from Ecuador’s National Palm Oil Cultivator’s Association. The paper concludes with the suggestion that roundtable governance mechanisms should be more aware of the local political contexts of legitimizing countries before standards are consulted upon and adopted. Keywords: palm oil; private standards; local institutions; RSPO; environmental governance; Ecuador

Richard L. Johnson, University of Arizona

POST-DEPORTATION LANDSCAPES IN GUATEMALA

Undocumented labor-out migration to the United States remains a core livelihood strategy and avenue of generational reproduction among families in rural Central America. Yet, US border militarization, mass deportation, and violence have made undocumented migration from Central America to the US increasingly risky, costly, and prone to failure. Rising costs coupled with limited opportunities to fund migration attempts through labor and savings have pushed many to fund migration through informal, high-interest mortgages. With a US wage as the principal way to pay off debts of these proportions, deportation or other forms of “fracaso” often lead to extreme socioeconomic hardships. Offering preliminary findings from recent doctoral dissertation fieldwork in Guatemala, this paper examines how migrant debt — as a concrete outcome of border militarization — imperils both immediate and generational social reproduction in rural Guatemala, while also reverberating along socioeconomic networks in migrant-sending communities to produce new “debt landscapes” in the current era of mass deportation.

Brad Jokisch, Ohio University

THE DAMAGE DONE: RECENT U.S. MIGRATION POLICIES AND ITS IMPACT ON LATIN AMERICANS

Since 2017 the president of the United States has attempted to limit immigration, build a wall on the Mexican border, increase deportations (removals), radically reduce or eliminate asylum concessions, end protective status for Central Americans, create border conditions that might serve as a migration deterrent, and implement other practices that would radically change U.S. immigration policy. This paper systematically examines the policies taken by the current regime and discusses the implications for Latin America as a region and particular countries most affected by the policies. It will also provide an outline of how Latin American governments have responded to the policies and pressures and discuss what we might expect in the next years. Keywords: migration, U.S. immigration policy, asylum, Mexico, Central America.

Shannon Jones, Department of Geography, University of Denver

USING MIXED METHODS TO UNDERSTAND FLOODS IN TROPICAL COASTAL CATCHMENTS

Coastal regions are becoming more vulnerable to flooding due to accelerated sea level rise and human modification of the landscape. Yet we are still uncertain about how rainfall and runoff processes impact coastal flooding, particularly in regions that lack access to available hydrometeorological data. This paper explores the use of mixed methods to understand extreme flooding in Ostional, Nicaragua. In 2017, flooding from Tropical Storm Nate devastated this region but there was no instrument record on the extent and timing of the flood in this catchment. Thus, we apply a mixed methods approach using quantitative paleohydrology methods and qualitative interview-based methods to reconstruct the timing and duration of rainfall and flooding from the storm. Results show that mixed methods can help calibrate a rainfall-runoff model. Findings suggest that mixed methods can be used in data-limited regions to better understand flooding impacts. Keywords: coastal flooding, mixed methods, Nicaragua, hydrology, Latin America

Audrey Joslin, Department of Geography and Geospatial Sciences, Kansas State University

TRANSLATING WATER FUND PAYMENTS FOR ECOSYSTEM SERVICES IN THE ECUADORIAN ANDES

As a form of environmental governance, Payments for Ecosystem Services (PES) is imbued with ideological values that can conflict with those of participating rural communities. The discursive frame surrounding PES may be contentious, even if the conservation activities promoted by these initiatives are not. Moving PES into practice therefore requires a process of translation from urban-based practitioners to rural communities. Drawing upon an empirical case study of FONAG, a water fund from Ecuador that is often promoted as the ideal type, I employ data from participant observation, key informant interviews and textual materials to examine this process of translation. I particularly focus on the efforts to negotiate the discourse of PES that move the projects into on the ground practice. While Ecuador's political context has softened emphasis on economically valuing ecosystem services, FONAG uses neoliberal conservation narratives that place rural poverty as the main cause of environmental degradation and targets the reform of local people through economic incentives. To enroll communities, however, intermediaries are necessary to translate water fund PES to appeal to local perspectives, values, and institutions. I find that contrasting narratives of PES can simultaneously exist between the entities that are implementing PES and the targets of implementation. Keywords: conservation and development; water; Andes; narratives; ecosystem

James R. Keese, Social Sciences Department, Cal Poly, San Luis Obispo

LPG COOKSTOVE USE, SUBSIDIES, AND FUEL SWITCHING IN THE CUZCO REGION OF PERU

2.8 billion people around the globe continue to use open fires and biomass fuels for cooking and heating. Household air pollution is a serious health hazard, especially for women and children. A solution involves promoting clean fuels such as liquefied petroleum gas (LPG). The purpose of this research is to examine the use of LPG cookstoves in the Cuzco region of Peru. A specific focus is on the Peruvian government's FISE gas subsidy program. Surveys were administered to seventy-seven households in four indigenous agriculturalist communities during site visits over multiple years. The results show the widespread use of gas stoves, but only as a supplement to wood and other biomass. The LPG subsidy program promotes the use of gas, but is insufficient to prompt a complete fuel switch given current prices and resource availability. Within this context, the use of multiple fuels, or fuel stacking, continues to be the norm. Furthermore, the data suggest an increase in eucalyptus and pine reforestation efforts, which will impact the relative scarcity of fuels, fuel choice, and health in the rural areas of the Cuzco Region. Keywords: LPG cookstoves, household air pollution, fuel switching, FISE subsidy program

Gregory Knapp, Department of Geography and the Environment, University of Texas at Austin

CLAG'S ROLE IN EVALUATING RESEARCH AGENDAS IN LATIN AMERICANIST GEOGRAPHY, 1970-2020

The first meeting of the Conference of Latin American Geography (CLAG) in 1970 and its publication in 1972 were overviews of prior research and identification of new research frontiers. Since then, three additional CLAG Yearbooks attempted every decade to identify promising research agendas. This presentation provides a personal evaluation of these decadal efforts, sometimes labelled "Benchmarks." The final volume of the Yearbook in 2002, edited by me and published by the University of Texas Press, was also the final benchmark issue, with a streamlined format that was also meant to be sold as a stand-alone book. This presentation will also provide reflections on the more recent evolution of agenda-making in the context of diverse and pluralistic positionalities, after the Yearbook became JLAG. Keywords: history of geography, CLAG, fifty years, geographic research agendas, benchmarking.

Lazar Konforti, Department of Geography and Planning, University of Toronto

1. CYCLES OF TERRITORIALISATION AND THE GLOBAL LAND GRAB IN THE POLOCHIC VALLEY, GUATEMALA

This paper explores how local agrarian histories shape present-day conflicts and trajectories of change in the Polochic valley lowlands of north-eastern Guatemala. Building on published work, I use new archival research and life-history interviews to show that the Polochic has since the late 19th century gone through at least four cycles of territorialisation, which I describe in terms of property relations, labour regimes, and accumulation patterns. I name these historical cycles "speculative" (1880s-1920s), "banana" (1920s-1940s), "*finquero*" (1950s-1990s), and "agrarian extractivist" (2000s-present). The *finquero* period produced an aspiring campesino smallholder class, a proto-capitalist *finquero* class, and an emerging capitalist *empresario* class, thus setting the stage for a three-way contest as the 2000s global commodities boom changed the balance of class interests and forces. The paper also explores how historical class relations, particularly during the *finquero* period, shaped the "moral economies" – understood as sets of beliefs about the basic acceptability or unacceptability of economic relations and practices – that informed peasant responses to contemporary agrarian change. I argue that oil palm *empresarios* who generally emerged from the local *finquero* class were able to navigate moral economies such as to avoid mass conflict. A sugarcane plantation established by extra-local footloose *empresarios*, on the other hand, violated existing moral economies and, in the eyes of a critical mass of campesinos, lost social legitimacy. The paper highlights the

continued importance of class formation and class relations in understanding contemporary agrarian change and territorialisation as well as the role of political contestation in these processes. Keywords: Agrarian change, land grabbing, class formation, moral economy, Guatemala.

2. LIVELIHOODS STRUGGLES AND AGRARIAN CHANGE IN THE POLOCHIC VALLEY, GUATEMALA

Livelihoods analysis has been criticised for focusing on agency at the expense of structure, relegating institutions to a “black box”, treating assets and institutions as fixed rather than dynamic and contested, and insufficient theorisation of multi-scalar linkages. In this paper, I present a livelihoods analysis of four indigenous Q’eqchi’ campesino communities in the Polochic valley in north-eastern Guatemala that acquired access to land through different forms of contestation in the post-war period (1996-present). My surveys show that despite adding land to their asset portfolios, campesino households are still earning incomes below the poverty level and have little to no prospects for endogenous accumulation. I situate these findings within a broader political economy framework in order to address some of the limitations of mainstream livelihoods analysis. I find that, first, campesino contestation has changed the trajectory of change under way since the turn of the century, leading instead to a “dually functionalist” agrarian structure where plantations co-exist with semi-proletarian smallholders who act as providers of cheap commodities, wage goods, and labour to the global circuits of accumulation that operate around them. Nevertheless, campesino struggles created space for social reproduction and partially weakened the power of traditional landlords. Second, the political spaces that appeared as part of the peace process and transitional justice efforts have provided new opportunities for livelihoods struggles while simultaneously limiting the potential outcomes of these struggles. The underwhelming poverty alleviation outcomes in my sample can in large part be attributed to these institutional limitations. Situating livelihoods analysis within these wider dynamics shows how livelihoods are embedded into structures of accumulation, exploitation, and domination that operate beyond the “local” scale. Rather than producing a list of decontextualized technical fixes as recommendation, the analysis presented here aspires to produce knowledge that is more useful to future struggles for structural change. Keywords: livelihoods, agrarian change, political economy, land grabbing, Guatemala

Maria Lane, University of New Mexico, **Kirsten Greer**, Nipissing University

CONNECTED LANDSCAPES OF CUBA AND MONTREAL: REDPATH SUGAR’S ISLANDS, 1850s-1870s

This paper investigates the connected landscapes and environmental histories of sugar islands of the Caribbean with the island of Montreal by focusing on the Redpath Sugar Refinery and its reliance on raw sugar from the West Indies, particularly from Cuba. As this paper demonstrates, the trade in sugar linked the metropolis of Montreal to the commodity frontier of the Spanish West Indies via Portland, Maine, producing drastically different outcomes in both regions. The production of refined sugar, which caused environmental problems ranging from the discharge of chemicals into Montreal canals to increased soil erosion in the West Indies, enriched prominent Montrealers and helped to make Montreal into Canada’s pre-eminent commercial metropolis. This paper explores the connections between industrialization, nationalism, race, and slavery in Atlantic environmental histories and geographies.

Matthew C. LaFavor, Department of Geography, University of Alabama, **Alexandra Ponette-González**, Department of Geography and the Environment, University of North Texas

HYDROCLIMATIC VULNERABILITY AND LARGE-SCALE INVESTMENTS IN ADAPTIVE CAPACITY ON RAINFED FARMS IN MEXICO

This paper examines the investment outcomes of one of Mexico’s largest programs to develop adaptive capacity on farms vulnerable to hydroclimatic change. Analysis shows that hydroclimatic vulnerabilities were associated only weakly with investment outcomes—most investment went to sparsely populated, arid and semi-arid regions in northern Mexico. By contrast, farms in Mexico’s southern regions received comparably little investment, despite being home to the most intensively cultivated and vulnerable rainfed systems in the country. Findings highlight the importance of spatial targeting of investments to build adaptive capacity in rainfed agriculture. Keywords: agricultural vulnerability, adaptive capacity, rainfed agriculture; Mexico

Jennifer C. Langill, Department of Geography, McGill University

GENDER, HOUSEHOLD DIVISION OF LABOUR, AND RIVERINE LIVELIHOODS IN PERUVIAN AMAZONIA

Gender is at the forefront of rural livelihoods and development. Gender equality and empowering women and girls is one of the United Nations’ Sustainable Development Goals, and yet countless research shows that these targets are not being met, particularly in rural areas. Research has found that much of rural women’s work is spent on unpaid domestic and reproductive labour, that women often face a ‘triple burden’ of productive, reproductive, and community-based labour, and that women’s contributions to household labour and income generation are widely underrepresented. One such region where gender remains poorly understood is rural Amazonia. The majority of social science research in Amazonia is nearly silent on social difference. While there are references to gender in regard to livelihoods and household division of labour, they are scarce and mostly anecdotal. In this paper, I draw upon what we do know regarding gender in Amazonia, and offer a framework for understanding gendered division of labour and gendered livelihoods in rural Amazonia. I draw on ethnographic data collected in two riverine *mestizo* villages located in the floodplains of the Ucayali River, Peru. I disaggregate riverine agro-fishing livelihoods by introducing the gendered and seasonal divisions of livelihood activities, highlighting how gender roles and livelihood seasonality need to be understood as co-produced. This paper begins a necessary conversation of gender and social difference in riverine Peruvian Amazonia, and suggests new directions for building on these findings. Keywords: gendered livelihoods, riverine livelihoods, gendered division of labour, social difference, Peruvian Amazonia

Jean-Roch Lebeau, Franck Carrascoza, Jonathan Reynoso, Grupo Innovaterra, Escuela de Gobierno Instituto Nacional de Estadística (INE)
DEFINICIÓN OFICIAL DEL LÍMITE URBANO RURAL EN GUATEMALA: LECCIONES CARTOGRÁFICAS Y GEOGRÁFICAS DEL NUEVO CENSO DE POBLACIÓN 2018

Los resultados del El XII Censo de Población y VII de Vivienda de Guatemala fueron presentados públicamente el 17 de septiembre de 2019 y han requerido de un proceso de revisión y validación de la definición urbana y rural en función de criterios que reflejen la dinámica de urbanización en el territorio nacional, las incorporaciones de tendencias internacionales en materia estadística, así como de la disponibilidad de datos en la base de datos censal y de la cartografía digital, tanto descriptiva como gráfica. La modelación estadística y geográfica que se propuso parte del uso exclusivo de los datos del Instituto Nacional de estadística, partiendo de una clusterización de las estructuras censales en su posición geográfica permitiendo construir conglomerados que marcan cierta centralidades en el espacio municipal. La modelación usa los criterios de población, población económicamente activa y radios de influencia para caracterizar los distintos tipos de territorios según un continuo que va desde un urbano consolidado hasta un rural disperso en seis clases distintas, organizada a partir de la información atributaria de los lugares poblados. Esa modelación se basa en análisis de sistema de información geográfica y análisis de bases de datos. La revisión de esa definición estadística implicó abrir una discusión de país para la discusión de parámetros técnicos y operativos de lo urbano y rural en el contexto de Guatemala, elementos que dicen mucho de la geografía demográfica urbana y rural del país en los inicios del siglo XXI. Palabras Claves: Geografía humana, Sistemas de Información Geográfica, Geo-estadística, Censos de Población, Urbano-Rural

Hannah Legatzke, Department of Forest Resources, University of Minnesota
THE SOCIAL EQUITY OF COMMUNITY-BASED ECOTOURISM AND ITS IMPACTS ON LIVELIHOOD STRATEGY AND POVERTY ALLEVIATION: A CASE STUDY IN THE MAYA BIOSPHERE RESERVE

Within the Maya Biosphere Reserve (MBR) in northern Guatemala, tourism development has been proposed to simultaneously promote both local livelihoods and conservation. However, globally, tourism initiatives often fail to reach these lofty objectives as tourism revenues are unequally distributed and more socially marginalized individuals, particularly women, are excluded from full participation. This paper examines whether community tourism management in the Carmelita concession of the MBR promotes local livelihoods and alleviates these social inequalities in ways that contribute to conservation behavior. Through collaboration with the Rainforest Alliance, I interviewed 46 Carmelita residents and 7 local government and NGO informants to understand perceived challenges in tourism development as well as motivations and barriers for tourism participation. Preliminary findings indicate that tourism is of substantial economic importance for Carmelita households. Opportunities to participate in tourism are dispersed throughout the community, although there is a gendered distribution of jobs and participation is more accessible to younger adults. The economic opportunities from tourism appear to reinforce existing conservation values, yet community-managed tourism remains challenged both internally from intra-community management disputes and externally from competing proposals for tourism development in the MBR. Keywords: ecotourism, Maya Biosphere Reserve, Carmelita, community forestry, conservation, livelihood strategies, Guatemala

Rubén C. Lois-González, Department of Geography, University of Santiago de Compostela Spain, **Francisco Cebrián-Abellán**, Department of Geography, University of Castilla-La Mancha, Spain
SPANISH AND LATIN AMERICA GEOGRAPHY: A CHANGING RELATIONSHIP

The condition of Spain as a former colonial power has greatly conditioned the interpretations that its academy has made on Latin America, with which undoubted cultural ties continue to be maintained. As it has happened with other European countries, the first approaches of the academic Geography to the old possessions of Latin America suffered from a certain postcolonial and paternalistic character, as the texts of M. de Terán and H. Capel express on the matter. Terán and Capel have been two great masters of Spanish Geography in the second half of the twentieth century (liberal the first and leftist the second) and, nevertheless, did not avoid the Spanish discourse on the old colonies, rather than a series of geographers exiled after the Civil War (P. Vila, G. de Reparaz, L. Martín Echevarria, etc.) managed to overcome with a direct practice on the American reality. In the 1980s and early 1990s Spain is integrated into the European Communities and its role as an economic and cultural bridge between the Old World and America becomes evident. Much more taking advantage of the celebrations of the V Centenary of the discovery of America in 1992, when numerous financial resources were channeled to support Americanist research and meetings between Spanish and Latin American university students. The result was a multiplication of research on America and a remarkable advance in the mutual knowledge of Latin American and Iberian Geographies (Spanish and Portuguese). With the reduction of funds for this purpose, joint work declined, being replaced by a Development Cooperation strategy where Spanish public agencies and private entities financed the establishment of joint research networks Spain-Latin America, while numerous governments in Central America and from the south they began to offer scholarships of all kinds to realize the masters or the doctorate in Spain. These processes defined a new glorious, and again paternalistic, period of the studies and efforts of the Spanish Geography on the Latin American theme, during the first decade of the 21st century. All this dynamic supported by various types of programs ran parallel to a notable increase in Spanish multinationals (communications, energy, financial services, etc.) in Mexico, Central and South America. Finally, the crisis of 2008-2009 has weakened the relationship flows and has generated a real disinterest of the Spanish academy on Latin America, which has been carefully accounted for. Theses of young American geographers continue to be presented in Spanish universities, but direct studies of Spanish Geography on this region of the world have fallen to a minimum until a few years ago, with a timid current increase. Spanish University academic Geography has preferred to look towards Europe, value more publications in English and become the efficient southern periphery of the global North, precisely when emerging nations have greatly increased their prominence in the global generation of knowledge. Keywords: geography, colonialism, Latin America, paternalism, geographical thinking

David López-Carr, Department of Geography, University of California, Santa Barbara, **Aracely Martínez & Felipe Girón**, Universidad del Valle, Ciudad de Guatemala

FARM HOUSEHOLDS & LAND USE IN THE MAYA BIOSPHERE RESERVE: 1998, 2009 & 2019 PANEL DATA

What are significant demographic, political-economic, socioeconomic, and ecological patterns of farm households and land use outcomes in the Maya Biosphere Reserve (MBR), Petén, Guatemala? Data were obtained from a panel survey: a 1998 probability sample of 241 farm households, followed by a 2009 and a 2019 survey of remaining households in the Sierra de Lacandón National Park, a core conservation zone of the Maya Biosphere Reserve. The data are the result of the first large detailed household land use survey in Guatemala's Selva Maya and is one of only a handful of panel surveys from three periods or more of farm households in agricultural frontiers in Latin America. Descriptive statistical and qualitative analyses reveal important patterns. Virtually all households migrated to the SLNP during the 1980s and 1990s in search of land for subsistence. While these households share a similar ecological and macro-economic context once settled in the MBR, their land use strategies and patterns of forest clearing vary according to demographic, household, and farm characteristics. Findings support and challenge aspects of frontier agricultural land use theory. These, in turn, suggest policy implications for sustainable conservation and development in the Selva Maya and across Latin America's forest-agricultural frontiers. Keywords: environmental change, deforestation, land use/cover change, conservation and sustainable development, migration, Maya Biosphere Reserve, Selva Maya, Guatemala, Latin America.

W. George Lovell, Department of Geogrpahy, Queen's University, Canada

MANO DERECHA: PEDRO DE ALVARADO AND THE CONQUEST OF MEXICO

Before he headed, with trusted Tlaxcalan allies and short-lived Kaqchikel allegiance, the conquest of Guatemala, Pedro de Alvarado (1485-1541) served as the "mano derecha," the right-hand man, of Hernando Cortés (1485-1547) in the conquest of Mexico. The bond struck between the two men in helping bring Cuba under Spanish rule in 1511 was put to the test a decade later when confronting the Aztecs, an episode that stretched their camaraderie to a fraught, charged limit. Alvarado's reckless behavior in triggering the Toxcatl massacre on or around May 16, 1520, which thereafter precipitated Spanish retreat from Tenochtitlán to Tlaxcala during the Noche Triste, incurred Alvarado the furor of Cortés. "He deemed it a very wrong thing to do," wrote conquistador/chronicler Bernal Díaz (1496-1584) in understated reckoning, a rash act that signaled "a considerable setback." Relations between the two, despite Cortés entrusting Alvarado with the conquest of Guatemala in 1523 after the Aztecs were defeated, were strained to breaking point, never quite the same again. Keywords: Pedro de Alvarado; Hernando Cortés; conquest of Mexico; conquest of Guatemala

Aaron Malone, Center for Mining Sustainability, Colorado School of Mines, USA, **Nicole Smith**, Department of Mining Engineering, Colorado School of Mines, USA, **Eliseo Zeballos Zeballos**, Facultad de Ciencias Histórico Sociales, Universidad Nacional de San Agustín, Peru

EVERYDAY COEXISTENCE: RURAL LIFE AT THE INTERSECTION OF SMALL-HOLDER AGRICULTURE AND ARTISINAL AND SMALL-SCALE GOLD MINING

Explosive growth of informal mining boomtowns along the Rio Ocoña in southern Peru has jolted life in this remote valley, bringing small-holder agriculture into coexistence with artisanal and small-scale gold mining (ASGM) and established campesino communities into coexistence with rural-to-rural migrants. Our research examines how these multiple forms of coexistence shape everyday life and livelihoods in the study communities. We engage these complex dynamics as the necessary background to understand how the community is responding to environmental hazards, including everyday concerns like the contamination of water needed for agriculture and household uses, as well as more infrequent but dire concerns like the potential for El Niño rains to trigger catastrophic flooding, landslides, and debris flows. We ask how perceptions of environmental risk and potential mitigation options are shaped by diverse individual and household livelihood strategies and community tenure, as well as looking for areas of consensus and convergence. We will share preliminary results from social science research meant to inform technical-engineering projects being developed by a joint US-Peruvian research group. In addition to contributing to applied environmental work, this research also aims to help diversify the literature on the nexus of mining and rural livelihoods in South America, which has tended to emphasize large-scale, corporate mining and has neglected closer examination of how the effects of ASGM follow or diverge from the mega-mining experience.

Dorota Mantey, Faculty of Geography and Regional Studies, University of Warsaw

MODELS OF SUBURBAN PUBLIC SPACES-POLISH CONTRIBUTION TO THE RESEARCH ON ENVIORNMENT AND BEHAVIOR

The majority of studies on public space refer to urban space and urban residents. The question arises whether the conclusions from the research on the cities can be implemented in suburban areas. There is a need to investigate what kind of public spaces are expected by suburban residents and simultaneously what kind of public spaces are conducive to building local ties in the suburbs. The paper focuses on two key concepts: the degree of publicness of space and the utility value of space. Publicness of space is a multidimensional feature that determines the conditions for establishing various interpersonal contacts, while the utility of space, identified with its pro-social character, is the degree to which the space fulfills its social function. Utility value is measured by the frequency and the type of behavior that can be observed in the space. The aim of the paper is to present the results of the survey and field observations carried out in the suburban area of Warsaw – the capital of post-socialist country, which has experienced rapid and chaotic suburbanization since the 1990s. The research has proved that suburban residents prefer spaces with a limited degree of publicness, and the highest utility value measured by social behavior is appropriate for spaces that are not fully public. The author of the paper presents model public space dedicated to Warsaw suburbs. It has the greatest chance to contribute to building local ties, and the greatest acceptance of the residents. Model space will determine the optimal level of publicness that can be influenced by the localization and the design of space. Keywords: publicness of space, utility of space, Warsaw suburbs

Glaucio José Marafon, Departamento de Geografia/UERJ.

PAISAGEM RURAL E TURISMO NO ESTADO DO RIO DE JANEIRO

As transformações no espaço rural, nas paisagens rurais, decorrem da crescente urbanização e da proliferação das atividades não agrícolas no meio rural. As áreas mais afetadas por essas mudanças são as que apresentam produção familiar, no estado do Rio de Janeiro. O espaço rural abriga, cada vez mais, atividades não agrícolas, como a produção industrial, os serviços associados às atividades de turismo que valorizam as áreas com aspectos naturais e que remetem as mudanças em curso no campo, que além de ser o local da produção agropecuária, transforma-se em um espaço, no qual inúmeras atividades não agrícolas são efetuadas, como o trabalho de caseiros, diaristas, jardineiros e etc., configurando um hibridismo entre o rural e o urbano. Entre as atividades não agrícolas presentes no campo, na atualidade, merecem destaque as atividades turísticas, devido à proliferação de áreas de lazer. Desta forma busca-se através da investigação compreender a paisagem rural resultante da prática da agricultura familiar no estado do Rio de Janeiro, bem como analisar as transformações na paisagem rural devido à crescente urbanização e à proliferação das atividades não agrícolas no meio rural.

Pedro Marchetti, Nitlapán, el Instituto de Investigación y Desarrollo, Universidad Centroamericana de Nicaragua & el Instituto de Conocimiento Ch'orti', Guatemala

MITIGATING CLIMATE CHANGE NOT MIGRANTS: CROSS-BORDER CHALLENGES TO DOMINANT DISCOURSES.

The media hype about the “migration crisis” of the Northern Central American countries focuses only upon the migration flowing steadily to the North despite every effort designed to dissuade, imprison, and stop it. Migrants are portrayed either as victims or criminals. At the state institutional level, migration is faceless; where the migrants came from and why they came are now low priority questions. New proposed international agreements argue the need “to make migration safe and orderly” (ECLAC,37). Yet, the probability of success for those efforts to “regularize” migration is absurdly low. Migration has been a dynamic in Mesoamerica from pre-Columbian to modern times. Until the 1970s, the migrations were mainly internal or regional movements of a trans-border, bi-national, and temporal character for the purpose of building local livelihoods (Nyberg Sørensen 2014, 45). At present, most data extrapolate from abstract, national aggregates from “statistically significant” survey research that tells us everything about the migrants except where they came from and what is happening in their abandoned territories. This paper, through an analysis of the existing evidence on remittance and deportation flows, argues that the very geographies that show highest South-North migration in Central America today are indigenous cross-border territories with longer histories of transborder South-South migration. It attempts to explore possible linkages and discontinuities between migration and traditional ecological knowledge (TEK). It concludes with an analysis of the potential of indigenous cross-border territories for mitigating South-North migration and the effects of climate change, specifically with efforts linking TEK with attempts to recover and reestablish ancestral governance over cross-border territories. Keywords: Indigenous territories, cross-border South-South migration, traditional or ancestral ecological knowledge.

Kent Mathewson, Department of Geography & Anthropology, Louisiana State University

CARL SAUER, THE “BERKELEY SCHOOL,” AND MESOAMERICAN RESEARCH: FROM BEACHHEAD TO BENCHMARK

The record of Carl O. Sauer, founding figure of the “Berkeley school” of American geography, and major contributor to Mesoamerican Studies (along with his PhD legatees -- now into the sixth generation) stretches back almost a century. Starting in the late 1920s, Sauer and his students began systematic cultural-historical survey and study of Northwest Mexico. Their research included archaeology, cultural anthropology, linguistics, history, geomorphology, climatology, and botany, all subsumed within an expansive cultural geographic rubric. From there, his legatees have fanned out over Mesoamerica and produced by far the largest record of geographic research on the region. This paper traces this development, and highlights some of the key actors and signal achievements. Keywords: Carl O. Sauer, Berkeley school, history of geography, Mesoamerica

Kendra McSweeney, Department of Geography, The Ohio State University

THE DRUG WAR DATABASE THAT SPEAKS AGAINST ITSELF

For the past 28 years, a dataset now managed out of the White House has vetted and recorded every verified cocaine trafficking event through Central America, Mexico, and the Caribbean (the Western Hemisphere Transit Zone), and recorded every successful interdiction by counternarcotic forces. This is the Consolidated Counterdrug Database (CCDB), and by U.S. law it is the exclusive source for performance data on key aspects of the drug interdiction mission, one of the foundations of U.S. drug policy. Nevertheless, the dataset remains poorly known and little used among researchers, despite being unclassified. This paper primarily draws from 50+ reports related to the CCDB produced by the Government Accountability Office in order to: 1) draw greater attention to this dataset, the conditions under which it is produced, and its usefulness to Latin Americanists; 2) to help correct for the relative analytical neglect of Latin America’s drug maritime transit zones as important drug war theaters; 3) show how this carefully curated database yields consistently scathing indictments of the interdiction mission, and highlighting the urgent need to re-think the costs and outcomes of drug war spending beyond U.S. borders.

T. Shawn Mitchell, Department of Earth Sciences, University of South Alabama

MEDIATING THE MEDIATRIX: AN ANALYSIS OF MARIAN ICON DISCOVERY NARRATIVES

One of the Virgin Mary’s many titles in the Roman Catholic Church is Mediatrix because of her unique status as intermediary between humans and God. She has been declared national patroness of all seventeen of mainland Ibero-America’s countries, each with a unique title and icon. Nine of these icons are associated with narratives in which Marian statues or images were miraculously discovered in natural contexts like caves or springs. Because Mary does not speak in most of these encounters, narratives around the events are constructed for specific religious and political ends. This paper is an analysis of how the narrative elements, icons, and discovery locations legitimized foreign authority during the colonial period but bolstered local and national identity during independence and modern times of crisis.

Keywords: Religious geography, discovery narratives, Marian icons, sacred space

Enrique Montiel Hernández, Colegio de Geografía, Facultad de Filosofía y Letras, UNAM
DINÁMICA TERRITORIAL DE LA PRODUCCIÓN COMERCIALIZADA DEL CAFÉ DE COSTA RICA

A lo largo de su historia, la producción y exportación del café se han mantenido íntimamente ligadas al desarrollo económico y político de Costa Rica, propiciándose el establecimiento de pocas y grandes compañías agroexportadoras con control sobre los distintos estadios y eslabonamientos de la cadena productiva del café en el territorio costarricense, concentrando los procesos de comercialización y exportación, así como los mercados internacionales. Sin embargo, la crisis internacional en los precios del café a finales del siglo XX, llevó a que disminuyera la producción de café y una importante parte de los productores abandonara la caficultura, esto, aunado a la quiebra y desaparición de los grandes beneficios y exportadores, han propiciado a la reconfiguración de la estructura territorial de la producción de café de Costa Rica para la comercialización, con la búsqueda de pocos productores por la apertura de nuevos mercados, lo que ha llevado a la especialización en la producción de cafés diferenciados, que le otorgan al café costarricense valor sobre el café de otras regiones. El objetivo de la investigación es revelar desde una perspectiva geográfica la reconfiguración del territorio a partir de la dinámica espacial generada por los cambios en los sistemas agro-cafeteros de Costa Rica; puesto que, esta especialización en la producción ha propiciado la aparición de pequeños microbeneficios, así como la apertura de nuevas firmas comercializadoras y la especialización, también, en los mercados de exportación, lo que ha llevado a la desconcentración macro-territorial de la comercialización de carácter nacional del café de Costa Rica, que se concentra ahora en establecimientos más pequeños, más especializados y a una escala regional. Palabras clave: Dimensión territorial, comercialización, producción, café, Costa Rica.

Giulia Montanari, Instituto de Geografía, Universidad Nacional Autónoma de México
RECONSTRUCTING MEXICO'S MAPPING STYLES: CARTOGRAPHIC IMAGERY AS A MIRROR OF VISUAL CULTURES

Since the visual turn within geography took off, a good amount of data has been added to the discipline to investigate, namely in the form of images and videos. Gillian Rose's seminal book "Visual Methodologies" has reached its fourth edition and helped to establish the analysis of photos and videos in geography and beyond – while at the same time keeping it up-to-date with recent developments in social theory. With few exceptions, the map has not been placed in this field of inquiry, at least not as a research object. Rather, cartographic imagery still dominates the discipline as a knowledge-producing tool. This paper puts maps on the same methodological side such as interviews, photos or videos, and relates to them as socially produced visuals that have to be analyzed as such. The documentary method, a qualitative methodology proposed by the German sociologist Ralf Bohnsack and used to analyze interviews, group discussions as well as images, will be adapted to cartographic work. The methodology allows to identify and decipher different styles of mapping – styles that reveal specific understandings of the world. This will be exemplified by a comparative analysis of different Mexican maps, that include meso-american codice maps, cartographic graphics from newspapers as well as thematic maps in scientific journals. Keywords: visual methodologies, cartography, documentary method, qualitative research, mapping styles, Mexico

Lucía Morales Vargas, Department of Geography and Environmental Studies, Carleton University
GENDER MOBILITY ON GUATEMALA CITY'S TRANSMETRO: WOMEN'S EXPERIENCES OF PUBLIC TRANSPORTATION

Research interest in gender mobility is increasing, emphasizing the need to incorporate women's perspectives and experiences in the planning and design of public transportation systems. Although many studies highlight that transit systems need to be responsive to differences in mobility patterns among women and men such as "trip chaining", these studies have not been undertaken in Guatemala. The aim of this research project is to understand women's experiences on public transportation in Guatemala City to contribute to safer, more equitable, and inclusive transportation. Field research for this paper was conducted on Guatemala City's Transmetro, the local bus rapid transit (BRT) system, using a case study approach and feminist methodologies. Through in-depth interviews, surveys, and a mobile focus group with women users of Transmetro, this research captures participants' perceptions of safety, everyday coping strategies on transit, and access issues. Initial findings suggest that participants' age is an important factor in their experiences and supports the need for local research to address context-specific concerns and issues. Keywords: gender mobility, public transportation, women's safety, Guatemala City, Guatemala, Latin America

Belén Noroña, Geography Department, University of Oregon
MINING AS EPISTEMIC VIOLENCE: ERASURE OF INDIGENOUS EPISTEMOLOGIES IN THE AMAZON REGION OF ECUADOR

This study adds to critical feminist geography by bringing post-colonial intersectionality (Quijano 2000b, Lugones 2007, Mollet & Faria 2013, Radcliffe 2015:1-36) in conversation with settler colonial notions of elimination (Wolfe 1999, 2006; Zaragocín 2019) to better understand recent state efforts to expand the mining frontier into the Amazon of Ecuador. Such efforts reinforce structural processes of violence that seek to eliminate indigenous epistemologies and ontologies. By using three case studies with Kichwa indigenous communities in the Amazon, I illustrate how the symbolic power of state-led modernization paid for with mining profits not only reinforces colonial violence based on race, gender and patriarchy in indigenous territories as others have shown (Vallejo 2014, Gorriti 2005, Lu, Valdivia & Silva 2017); I argue that internalized colonial violence along with state intervention systematically undermine, silence and erase indigenous epistemologies that explain the complexity of mining conflicts and denounce systemic violence. Such erasure allows the state to justify the expansion of the mining frontier and portray indigenous accounts of violence as a-historical and naïve eliminating indigenous epistemic authority and therefore displacing claims for accountability. Keywords: De-colonial methods, coloniality, gender and race, oil violence, extractive frontiers, indigenous epistemologies.

Timothy B Norris, University of Miami Libraries / Center for Computational Science, University of Miami, **Christopher Mader**, **Amin Sarafraz**, Center for Computational Science, University of Miami.

MAPS OF THE VERNACULAR: PPGIS AND PARTICIPATORY DATA COLLECTION IN LAS FLORES OF BARANQUILLA, COLOMBIA

More than half of the world population lives in cities. Nearly one billion people within this urban population live in informal communities that are generally not documented, lack land tenure, and are often beyond the reach of government services and infrastructure. Concurrent to this trend, maps and geospatial databases are recognized as powerful tools to aid community planning, mitigate poverty, assist in public health initiatives, and establish land tenure. This paper reports on how new technologies such as drone surveys, GPS, and open source GIS can be used in conjunction with established participatory mapping methodology can facilitate the construction of a Public/Participatory Geographic Information Systems (PPGIS) and thus the self-documentation of the informal urban community of Las Flores in Barranquilla, Colombia. Our goal is to outline an interdisciplinary and reproducible approach to “map the vernacular” which can enable more environmentally sustainable and socially just development during periods of intense urbanization. We ask how insights from participatory mapping, cartografía social, urban planning and indigenous data governance come together in the documentation process. Results suggest a shift from participatory mapping to participatory data gathering which deserves attention. Keywords: participatory mapping, vernacular architecture, drone survey, Colombia, data governance, cartografía social

Adriana Nunez-Picado, The University of Western Australia, **Thomas Sigler**, The University of Queensland, **Kirsten Martinus**, The University of Western Australia

SURGING INTEREST IN NEW ENERGY TECHNOLOGIES: UNDERSTANDING THE CONNECTIVITIES OF AUSTRALIAN IN THE LATIN AMERICAN LITHIUM AND COPPER INDUSTRIES

Disruptive new technologies, like electric vehicles, energy panels and storage grids, have the potential to change the way resource-based economies function and connect to global value chains. Australia and Latin American resource-based economies as Chile and, more recently Argentina, are good case studies of this as they are the largest producers and reserve owners of increasingly critical lithium and copper. Australian resource sector, especially mining, has long played a determinant role in shaping its national economy, as well as in how Australian cities have globalised and connected with other mineral-rich, processing or manufacturing economies across the world. Whilst the resource industry in Australia has been linked largely to domestically-oriented national development policies for much of the 20th century, domestic resource firms are progressively seeing overseas markets as essential to their expansion strategy. Under looming energy transitions, dwindling global hydrocarbon sinks and increasing calls to address climate change, there has been a surge in overseas investment, exploration, and cooperation by Australian firms particularly in Latin and North America. As a result, Australian mineral companies are directly investing in international resource projects as well as exchanging knowledge and expertise while developing resource sinks in these regions. In this paper, we aim to understand how such corporate connections in the mining sector might have shaped patterns of connectivity in the resource sector between Australia and Latin America. Drawing on firm-subsiary and firm-project linkages derived from a data set of all Australian Securities Exchange (ASX) publically listed and delisted firms between 1900-2018, we map Australian overseas investments in the Latin American lithium and copper industries, and explore the historical and contemporary context in which those connections occur. By understanding these connections we seek uncover driving factors fostering new connectivities between two of the largest mining regions in the world. Keywords: Australia, Latin America, Mining industries, Copper, Lithium, cross-country connectivity

Karl Offen, Environmental Studies Program, Oberlin College, Ohio

SUBSIDY FROM NATURE: GREEN SEA TURTLES IN THE COLONIAL CARIBBEAN

This paper draws attention to overlooked provocations by Archie Carr, James Parsons, and Bernard Nietschmann concerning the extent to which the green sea turtle (*Chelonia mydas*) provisioned human activities throughout the colonial Caribbean. My brief summary sustains and extends their earlier inferences by highlighting the importance of *Chelonia* as a food source for early English Jamaica, but also other Caribbean port cities, east-bound Atlantic vessels of multiple nations, and pirates on the go – all with wide ranging social, political, and economic consequences. The paper argues that the meek, plodding, herbivorous, green sea turtle served as a subsidy from nature, or the natural capital that buttressed the rise of plantation slavery and, hence, Atlantic capitalism. This gives *Chelonia* the ignominious distinction of being the grease that allowed the English Caribbean to emerge as the “hub of empire.” Keywords: green sea turtle, Jamaica, Cayman Islands, western Caribbean.

Sol Pérez Jiménez, Universidad Nacional Autónoma de México

Examples of large industries affecting the environment of the communities are abundant across the world. Most of the times, we study the impacts of nowadays mines. However, what happens in mining sites whose pollution dates back to the 20th century? Some of the operations of the Grupo México company (and its subsidiaries Asarco and Southern Copper) date from 1890 or 1950. At that time, the company directly controlled life inside and outside the mine like colonies, trade, activities of entertainment, health services, and education. Now it participates indirectly, having interference and power in multiple areas of everyday life. The smelter town model determined the territorial ordering of entire regions at the beginning of the 20th century. Then the cities grew and developed, leaving in the center of it the old smelting furnaces and sites heavily contaminated by heavy metals. In the present study, we compare the cases of the United States, Peru, and Mexico. Although in each country there were protests about the impact on health and environmental pollution of foundries, only in the United States has there been comprehensive environmental remediation processes. We collect testimonies from villagers are living day by day the ravages of pollution. The company and the corresponding authorities practically forget them. Keywords: Mining, historical pollution, Grupo México

Diego Pons, Angel G. Muñoz, The Earth Institute, Lamont-Doherty Earth Observatory, Columbia University,
FROM MONITORING TO FORECASTING: CONNECTING FAO'S AGRICULTURAL STRESS INDEX SYSTEM -ASIS- TO SEASONAL CLIMATE FORECAST IN GUATEMALA

The Agricultural Stress Index System -ASIS- developed by FAO's Global Information and Early Warning System is currently capable of detecting agricultural areas with a high likelihood of undergoing drought at a global, regional and country level scales. Based on the monitoring of a satellite-derived vegetation index (VHI) originated from NDVI and land surface temperature, this system can assess the severity of agricultural drought by monitoring vegetation every ten days (dekadal). The lagged response of vegetation to drought has been assessed for several regions of the world, including Guatemala and is well understood and used as a predictor of agricultural droughts. In this study, we evaluate the predictability skill of a seasonal forecast system based on a model ensemble for Guatemala to determine the predictability skill of the ensemble to forecast agricultural drought. First, we assessed the predictability skill of 11 individual dynamic precipitation models. After selecting the models where prediction skill for total precipitation was deemed enough, we generated and verified tailored multi-model, statistically calibrated predictions at a season timescale at regional, national or sub-national level. We then performed an assessment of the model ensemble to predict hydrological agricultural stress at different lag times. Our analysis demonstrates that predictability skill is present for agricultural areas in the dry corridor of Guatemala further suggesting that there is opportunity to forecast agricultural drought in the region months in advance. The use of seasonal forecast systems connected to drought monitoring tools seems useful in the face of climate variability and change. Key words: Seasonal Forecast Systems, Agricultural Stress Monitoring, Vegetation Health Indices, Guatemala

Lilliam Quirós Arias, Consuelo Alfaro Chavarría, Escuela de Ciencias Geográficas, Universidad Nacional de Costa Rica
ESTRATEGIAS PRODUCTIVAS IMPLEMENTADAS POR LOS PEQUEÑOS PRODUCTORES COMO ALTERNATIVAS PARA AUMENTAR LA CALIDAD Y ACCESO A LOS MERCADOS DEL CAFÉ DE ALTA CALIDAD: CASO PRODUCTORES DE RIVAS DE PEREZ ZELEDON, COSTA RICA

En la historia productiva de Costa Rica la actividad cafetalera representó, una actividad que configuró la ocupación del territorio en su expansión desde el centro del país hacia las áreas periféricas. Arraigada en la cultura e historia del país, la caficultura ha sobrevivido los embates del mercado internacional, y ha generado nuevos sistemas productivos, orientados a mantener una actividad que ha apostado por un café de alta calidad como estrategia de sobrevivencia. Esto ha conllevado la organización productiva de las parcelas a través de microlotes con la finalidad de aumentar la calidad del café y el surgimiento de microbeneficios como alternativas de comercialización. En esta ponencia se analiza el caso de productores de café ubicados en el distrito de Rivas de Pérez Zeledón. Con la finalidad de entender si ¿Es posible desde la pequeña unidad familiar mantener la calidad del café bajo nuevas modalidades productivas que les permita insertarse en el mercado mundial? ¿Representan las nuevas formas de comercialización a través de los microbeneficios, opciones que permitan a los productores el acceso al mercado internacional del café? Para ello se revisan las estadísticas relativas a la producción y comercialización del café, se realizaron entrevistas a actores clave institucionales y pequeños productores. Palabras clave: café, sostenibilidad, estrategias productivas, microbeneficios de café, Costa Rica.

Nasya Razavi, The City Institute at York (CITY), York University
CONTESTED URBAN FUTURES: THE RIGHT TO THE CITY IN AN ALTERNATIVE HOUSING COLLECTIVE IN BOLIVIA

In 1999, an association of women neighborhood leaders founded the Maria Auxiliadora community, an alternative housing collective in the peri-urban Southern Zone of Cochabamba, Bolivia. The women organized to provide decent housing (*vivienda digna*) for single mothers and survivors of sexual and domestic violence that typically face prejudice and precarity in the Bolivian housing system. Centered around principles of collective property, female leadership, and participation, Maria Auxiliadora presents a unique model of community in the city where women organize and manifest their Right to the City. However, following a decade of flourish, internal conflict erupted over the collective property model. Spurred on by intense land speculation in the region, violence and legal action further fractioned the community. Based on semi-structured interviews with residents, this paper explores the everyday struggles, structural barriers, and strategies around women-centered collective property ownership in urban spaces. Keywords: urban; Right to the City; housing collective; Bolivia; Cochabamba; everyday; place-making

Sharon Rodríguez-Brenes, Universidad Nacional de Costa Rica
ENFRENTAMIENTOS ENTRE LA GUARDIA NACIONAL Y EL FSLN: REFLEJO DE UNA FRONTERA IMAGINARIA DE DISTANCIA GEOGRÁFICA Y DISTINCIÓN CULTURAL

Explorar la experiencia histórica posibilita comprender las dinámicas socioculturales actuales, en este sentido conocer los procesos e intereses sociopolíticos alrededor de la construcción de la nacionalidad nicaragüense y nos permiten aproximarnos a esclarecer porque en los titulares de la prensa de 1979 se emplean frases como "Ataques sandinistas en todo el país", cuando en realidad se refieren al centro y pacífico de Nicaragua, invisibilizando u omitiendo la Costa Caribe. Por lo tanto, consideré apropiado ubicar geográficamente los enfrentamientos entre la Guardia Nacional y revolucionarios del FSLN, para ello tomé los lugares donde el periódico La República hacía referencia a dichos eventos durante 1979. Como resultado podemos apreciar la permanencia en el imaginario del siglo XX de la Frontera Segoviana propuesta por Ibarra (2011) que refleja la distancia geográfica y distinción cultural entre los miskitos y los *Spaniard*. Palabras clave: Frontera imaginaria, población indígena, Nicaragua, Revolución Sandinista.

Sharon Rodríguez Brenes, Ana Sofía Solano Acuña, Universidad Nacional de Costa Rica

INDÍGENAS Y AFRODESCENDIENTES EN COSTA RICA: PERCEPCIONES SOBRE LA POBREZA Y LA EXCLUSIÓN ÉTNICA

En Costa Rica para el 2018, según los datos estatales 298 630 hogares viven en condiciones de pobreza, de acuerdo con investigaciones previas es posible afirmar que los territorios donde habitan la población indígena y afrodescendiente son donde principalmente se enfrentan a estas condiciones de vida, por lo tanto, se volvió de interés acercarnos a este hecho. Desde el programa “Nuevas lecturas de Centroamérica” de la UNA desarrollamos un estudio a nivel nacional durante el segundo semestre de 2019, este nos permitió aproximarnos a las explicaciones que 554 personas en Costa Rica otorgan a este hecho, lo cual abona al análisis de la percepción sociocultural del territorio. Palabras clave: Percepciones en Costa Rica, pobreza, poblaciones étnicas.

Juan de Dios Páramo Gómez, UNAM, Ciudad de México, México

INTERACCIÓN ESPACIAL, TURISMO Y PATRIMONIO CULTURAL EN LA RUTA JESUÍTICA GUARANÍ DE PARAGUAY, ARGENTINA Y BRASIL

Los vestigios de lo que en algún momento fue considerado como el “imperio jesuita” (1609 - 1776) son las llamadas ruinas jesuítico-guaraníes que hoy en día se ubican en tres países, hacia el sur de Paraguay, noreste de Argentina y sur de Brasil. Estos lugares en su conjunto han sido poco abordados desde la perspectiva territorial del turismo, gran parte de las obras que hablan sobre éstos lo hacen desde el punto de vista histórico en la conformación de cada lugar, pero al momento, no se han encontrado trabajos que mencionen el arreglo territorial de la actividad turística de todas las misiones. Actualmente, hay diecisiete ruinas que presentan actividad turística y los gobiernos nacionales de Paraguay, Argentina y Brasil han tratado de construir una “ruta turística” que pueda articular cada una de las ruinas en su oferta y promoción, sin embargo, existen varios obstáculos para que esta planeación multinacional resulte, sobre todo por las distancias y las fronteras que un turista debe cruzar. Asimismo, siete de ellas están bajo la declaratoria concerniente a “Patrimonio Mundial”, lo que de alguna forma ayuda en su conservación y en las actividades temáticas que se desarrollan en cada sitio, debido al financiamiento que otorgan distintos organismos para la difusión de la existencia de las misiones guaraníes. El objetivo central de este trabajo es revelar el contexto de la actividad turística de las reducciones jesuíticas desde el punto de vista de la Geografía, además de explicar la interacción espacial que relaciona a cada uno de los pueblos misionales a través de diferentes características o patrones que tienen en común, ya que cada uno de éstos está aparentemente conectado por medio de canales espaciales que favorecieron la constitución de una ruta turística internacional que, hasta el momento, no se sabe si existe o si realmente articulan a las ruinas jesuítico-guaraníes en los tres países. Palabras clave: Ruinas jesuíticas, interacción espacial, patrimonio cultural, ruta turística, canales espaciales de articulación

Zoe Pearson, Sara Ellingrod, School of Politics, Public Affairs, and International Studies, University of Wyoming, **Emily Billo**, Center for Geographies of Justice, Goucher College, **Kendra McSweeney**, Department of Geography, The Ohio State University

CSR AND THE REPRODUCTION OF NEOCOLONIALISM IN THE ECUADORIAN AMAZON

Ecuador’s famed Yasuní National Park is home to Waorani indigenous communities and the Block 16 oil concession, operated by Repsol oil and gas company. Inspired by feminist geographic methodology we carried out qualitative research on Repsol’s Corporate Social Responsibility (CSR) programs in the Waorani communities of northern Block 16/Yasuní, with attention to the micro-scale relationships, discourses, and everyday social relations enacted through CSR. In doing so we demonstrate how a better understanding of these dynamics can help to shed light on the ways that CSR produces forms of intimate governance that ultimately serve to facilitate resource extraction. Specifically, we argue that colonial epistemologies communicated through Repsol’s CSR programs reinforce neocolonial social relations between Waorani residents and the people facilitating Repsol’s CSR programming. This serves to assert Repsol’s legitimacy and belonging as a territorial authority in this place, facilitating the company’s ongoing oil extraction and the state’s larger project of neo-extractivism. Our grounded analysis of CSR in this place contributes a unique perspective on how CSR efforts function between a multinational oil company and indigenous communities, providing a postcolonial critique that has implications within and beyond Ecuador for how hierarchical colonial relationships are reproduced over historically subjugated populations through CSR. Keywords: Colonial Epistemologies, Corporate Social Responsibility; Ecuador; Waorani; Yasuní National Park

David Poissant & Oliver T. Coomes, Department of Geography, McGill University

REGULATING ACCESS TO FLOODPLAIN LAKES IN THE PERUVIAN AMAZON

Fish provide food and economic security for most floodplain peasants in the Amazon basin. The rapid adoption of more efficient fishing technologies in recent decades combined with increased market connectivity have sharply increased fishing pressure throughout the basin. In response to fish depletion in local lakes and increased fishing activities coming from outsiders, many communities have designed and now enforce fishing regulations. In comparison to the Brazilian Amazon, few studies have yet examined how increased fishing pressure has affected fish populations and how communities have responded in western Amazonia. Our field team has visited more than 19 communities situated along the highly productive Ucayali River, in the region of Loreto. Semi-structured interviews were conducted with local authorities and with more than 210 fishermen to reconstitute fish trend over the past years using local ecological knowledge and discuss local perceptions on different managerial strategies. Results indicate that many commercial fish species have suffered considerable declines. Discussions with fishermen and local authorities suggest that unregulated or poorly regulated access to lakes provide the conditions for highly extractive and often destructive harvesting behaviours by outsiders, local elites, or community members. Despite genuine concerns, communities and individuals must overcome numerous challenges to regulate fishing activities so as to effectively manage their local fisheries. Limited governmental support, widespread corruption, lack of accountability, high dependence on fish resources, and elevated transaction costs between local and governmental authorities remained key problems in most communities. Implications of our findings for fishery management initiatives in the region are discussed. Keywords: Peru, Amazon floodplains, fishery, conservation and development, local knowledge.

Yann le Polain de Waroux, Department of Geography and Institute for the Study of International Development, McGill University
RIPPLES IN THE FRONTIER: CHANGING LIVELIHOODS OF FOREST-BASED HOUSEHOLDS AMIDST A SHRINKING RESOURCE BASE IN THE ARGENTINE GRAN CHACO.

In this talk, I will explore the effects of expanding large-scale commodity agriculture on the livelihoods of forest-based households, focusing specifically on small-scale livestock herding in agricultural frontiers of the Argentine Chaco. Small-scale, forest-based livestock herders often operate under extensive systems requiring large amounts of land per animal. It is also common for them not to own legal titles to that land, which can make them vulnerable to encroachment by outsiders. Such encroachment has been happening at a massive scale in the Gran Chaco region, where large-scale soy and cattle farms are responsible for millions of hectares of deforestation in the last decades. As a consequence, the accessibility of open woodlands has drastically decreased for smallholders. Here, I use a newly available database on animal vaccinations to quantitatively assess the influence of the conversion of forests to agriculture on the numbers and composition of livestock herds for smallholders living in close proximity to these frontiers. I show that the impacts of agricultural frontier expansion reach beyond the areas that are converted, causing a fundamental restructuring of livestock rearing in the surrounding woodlands.

Claire Powell, David S. Salisbury, y el Grupo Geográfico Transfronterizo del Sud-Occidental de la Amazonía, Department of Geography and the Environment, University of Richmond
TALLER DEL GRUPO GEOGRAFICO TRANSFRONTERIZO DE LA AMAZONIA SUD-OCCIDENTAL (GTASO) PARA MITIGAR DESAFIOS EN LA AMAZONIA PERUANA E BRASILENA

Este póster presenta el proceso y los productos de un taller transfronterizo en Puerto Maldonado, Madre de Dios, Perú. El Taller del Grupo Geográfico Transfronterizo de la Amazonía Sud-Occidental (GTASO) 2019 incluyó a 27 profesionales de 18 agencias gubernamentales, organizaciones no gubernamentales e instituciones académicas de Ucayali (Perú), Madre de Dios (Perú), Acre (Brasil) y Virginia (EEUU). Los participantes del taller usaron sistemas de información geográfica (SIG) para un análisis geoespacial de una selección de dinámicas socioambientales en la Amazonía Sud-Occidental de Ucayali, Madre de Dios y Acre. Esta región transfronteriza ha visto un aumento en los proyectos de desarrollo de infraestructura y extracción de recursos naturales, lo que ha resultado en conflictos socioambientales para las poblaciones locales y fronteras, junto con repercusiones a una escala mayor con respecto a las reservas de carbono en toda la cuenca. Este póster presenta los productos cartográficos del taller, los cuales son enfocados en escenarios climáticos, amenazas socioambientales, zonas vulnerables y corredores transfronterizos de comunidades nativas, territorios indígenas y áreas protegidas. El póster también identifica los desafíos técnicos y vacíos de información que impiden un análisis geoespacial colaborativo y efectivo en una región bioculturalmente diversa amenazada por el cambio climático, la deforestación, la expansión de redes viales y la extracción descontrolada de recursos naturales. Los resultados demuestran la importancia de los talleres regionales y transfronterizos para compartir el conocimiento geoespacial en una manera más eficiente para mejorar la toma de decisiones en una zona fronteriza remota y vulnerable. Palabras claves: SIG, Taller, Transfronterizo, Amazonía, Peru, Brasil, Desarrollo sostenible

Marie Price, Department of Geography, The George Washington University
THE GROWTH OF IMMIGRATION WITHIN LATIN AMERICA: THE DUAL IMPACTS OF THE VENEZUELA CRISIS AND THE TRUMP ADMINISTRATION

Between 2000 and 2019 the migrant stock within Latin America and the Caribbean grew from 7 million to 12 million, a 70 % increase. The combination of the Venezuela Crisis and the Trump Presidency has resulted in dramatic shifts in population movement within Latin America. Currently there are more migrants staying within the region than leaving it. For the first time in decades, Colombia, Ecuador and Peru have positive rates of net migration. Most of this is due to the nearly 4 million Venezuelans who are settling within Latin America. At the same time, the Trump Administration's Zero Tolerance policies, greatly reduced admission of refugees, and bilateral negotiations to remove asylum seekers to Mexico, El Salvador and Honduras has led to marked changes in flows. Mexico's net migration rate is at zero, which is an indication of a slow down in one of the longest and oldest migration flows to the United States. Using data from the United Nations Population Division as well as administrative data from the Department of Homeland Security, and human rights reports this paper explores these major changes and speculates what they means for the region. Keywords: Intra-regional Migration, Migrant Stock, Venezuela Crisis, Immigration Policy, Trump Administration

Sterling Quinn, Department of Geography, Central Washington University & **Luis Felipe Alvarez León**, Department of Geography, Dartmouth College
STREET LEVEL IMAGERY IN LATIN AMERICA: MOTIVES, RISKS, AND POSSIBILITIES

Companies such as Google, Mapillary, and others are amassing hundreds of millions of images of the world's streets. These images create profit by feeding into various search, navigation, and map products. They also allow the public to digitally travel the streets for free in popular apps such as Google Street View. This paper discusses the various actors collecting street level images in Latin America, why they do it, and their models for collecting imagery. We show the geographic patterns of data coverage that the different platforms have amassed, with particular emphasis on Brazil where we evaluated the coverage of Google, Mapillary, and OpenStreetCam in 25 cities of varying size. We share elements of a theory of street level imagery politics, discussing how the images affect and reflect livelihoods in Latin America in ways that enable both benefit and harm. We discuss the risks of privacy infringement, surveillance, and violence, while also showing ways that the images might enable a better understanding of the region by researchers and students. Keywords: geographic data, imagery, GIS, surveillance, crowdsourcing, volunteered geographic information, political geography

Steven Rainey, Department of Social Sciences, McNeese State University & **Maura C. Araújo Rainey**, Independent Geographer
EFFECTS OF LARGE HYDROELECTRIC DAMS AND EXTREME CLIMATIC EVENTS ON MADEIRA RIVER ENVIRONMENTS AND COMMUNITIES

In recent decades, the Brazilian government has pursued a policy of dam construction in the Amazon River basin, with as many as seventy dams having been proposed at various times for the Brazilian portion of the basin. Despite widespread protests among environmental groups and members of impacted communities, several of these proposed dam projects have already been implemented, including the recently completed Santo Antônio and Jirau hydroelectric dams on the Amazon's Madeira River tributary. A number of articles have been published by various environmental experts on the potential social and environmental impacts of these dams, especially in light of recent climatic events that have also impacted the region, including the recent wildfire outbreak. This paper will present some of the results of research on observed impacts that have occurred since dam construction began, including their implications for small communities living in areas affected by these human-induced and natural processes. Keywords: Brazil, ribeirinho communities, hydroelectric dams, social impacts, environmental impacts

Gabriel Ramón, History Section, Pontificia Universidad Católica del Perú & **Martha Bell**, Geography and Environment Section, Department of Humanities, Pontificia Universidad Católica del Perú
SPATIAL DISTRIBUTION OF THE SUBALTERN POPULATION IN LATE COLONIAL LIMA, PERU

Spatial patterns are key for explanations of historical social relations, however in Peruvian history the spatial variable has often been overlooked. While many Peruvian social histories identify key actors and important social groups, rarely are these actors or groups located or their movements mapped. This is especially evident in the case of colonial urban history. In this presentation we present preliminary results of a project aimed at "placing" people and their movements in late colonial Lima. Specifically, this project seeks to map the residences of subaltern individuals between 1780 and 1820 using a series of patient registries from Lima hospitals that treated low(er) status people, mostly ex-slaves. These registries often include diverse information about hospital patients, including name, age, gender, race, marital status, and – key for this project – home address. In our presentation, we will present our archival sources and methodology, a preliminary map of hospital patient residences, and initial interpretations of the significance of the spatial distributions of these individuals for Lima's urban history.

Elisabet Dueholm Rasch, Sociology of Development and Change Group, Wageningen University and Research (The Netherlands)
"MY STRUGGLE CONTINUES TO THE PILLOW". TERRITORY DEFENDERS' EVERYDAY LIFE EXPERIENCES OF VIOLENCE AND CRIMINALIZATION IN CONFLICTS OVER NATURAL RESOURCE EXTRACTION

In this paper I explore how in Guatemala violence towards, and criminalization of, territory defenders involved in grassroots organizing against megaprojects such as open pit mining, oil extraction, hydro dams and large plantations, impact different domains of territory defenders' everyday lives: family relations, (mental) health, household finances and experiences of feeling (un)safe. Numerous communities in Guatemala are involved in processes of demanding a clean environment, participation, and justice - all at the same time. Indigenous communities not only face foreign companies, but are also caught in the middle of armed and non-armed actors that contest the same territory and its natural resources. Their resistance is considered as a threat to internal security; citizens are increasingly viewed as criminals. In my presentation I explore how we can understand local resistance towards megaprojects and the increase of human rights violations and criminalization in natural resource conflicts by looking into the personal experiences and everyday lives of activists. I argue that looking at such processes from below by way of engaged ethnography paves the way not only for understanding how citizens engage in acts of resistance and experience violations of human rights, but also how such processes shape new subject-positions. Keywords: Guatemala, environmental conflicts, everyday life, violence, criminalization

Craig S. Revels, Department of Geography, Central Washington University
ISOLATION AND CONFLICT ON THE HONDURAN PERIPHERY: HISTORICAL-GEOGRAPHIC PERSPECTIVES FROM THE NINETEENTH CENTURY AGUÁN VALLEY MAHOGANY TRADE

The Aguán Valley has occupied a prominent place in the national narrative of Honduras since the banana boom of the early twentieth century. Notably, in the 1960s it was the centerpiece of land reform and resettlement, helping launch the workers movement and the oil palm economy. Still on the state periphery, it has recently been the focal point for violent land conflicts between local cooperatives, elite landholders, and the state. But it has always been a region shaped by conflict. This paper discusses the historical geography of the Aguán in the nineteenth century, when isolation and a mahogany boom combined to foster disputes over land, resources, and legal rights to fell timber, with mahogany firms seeking to manipulate state power for private gain. These conflicts can be seen as a prologue to more recent events, shaping a place narrative that reflects the perpetual challenges of isolation and ineffective state integration. Keywords: Honduras, historical geography, mahogany trade, Aguán Valley

Octavio Romero Cuapio, Posgrado en Geografía, UNAM, Ciudad de México, México
DIMENSIÓN TERRITORIAL DEL TURISMO RURAL ASOCIADO CON LA RUTA DEL TABACO EN LA PROVINCIA DE PINAR DEL RÍO, CUBA

Este trabajo tiene por objetivo mostrar la dimensión territorial del turismo rural asociado con la Ruta del Tabaco en la Provincia de Pinar del Río. A grandes rasgos, esta ruta es un producto turístico que se encuentra diseñado y forma parte de programas nacionales y locales de desarrollo. Sin embargo, en la realidad no se llevan a cabo, ya que las cuestiones culturales vinculadas a las actividades agrícolas del tabaco son recursos turísticos que generan gran interés en los turistas internacionales, pero esta no es la única motivación de la exploración de la zona. Por este motivo se puede mencionar el entorno natural con el que cuenta el Valle de Viñales, el cual no pertenece a esta ruta pero ofrece gran diversidad de actividades turístico-recreativas, infraestructura de alojamiento y servicios de transporte; asimismo, genera los mayores flujos turísticos de esta región y es un modo de conexión con destinos turísticos en el litoral pinareño. Por ello, la Ruta del Tabaco no se encuentra articulada, posee poca promoción y tiene un enfoque en turistas con intereses específicos. En contexto, las personas que visitan este Valle pueden ver cómo se realizan actividades agrarias, principalmente relacionadas con el proceso de producción del tabaco (desde la siembra hasta el enrollado de las hojas para

fabricar puros), probar productos derivados, apreciar los vínculos que tiene la población local con la naturaleza y formar parte del día a día de los habitantes de la zona. Este conjunto de actividades es la principal motivación de viaje por parte de los turistas nacionales e internacionales. Palabras clave: Dimensión territorial, turismo rural, Ruta del Tabaco, Cuba, América Latina y del Caribe.

Thomas Saleh, Department of Geography and Planning, University of Toronto
THE POLITICAL ECOLOGY OF CLIMATE CHANGE ADAPTATION IN THE RUPUNUNI, GUYANA

In the Rupununi savannah of Guyana, along the southern border with Brazil, climate change adaptation and international economic interests have converged to magnify (and modify) pre-existing colonial relations. Local Indigenous groups are forced to re-evaluate and re-negotiate their relationship to the government of Guyana and international organizations as these entities attempt to improve drought preparedness and promote the economic development of the region. By examining new water infrastructures in and around Indigenous land holdings, this study highlights the challenges which communal Indigenous land rights present to capitalist rural development programs. Interviews, mapping exercises, and document analyses reveal the extent to which the recent water projects in the Rupununi have succeeded in producing a landscape favorable to future investment. The paper also examines the unique challenges which Indigenous land holdings present to conventional rural development efforts, exploring opportunities for Indigenous groups to control and direct investments on their lands. Keywords: water infrastructure, production of nature, rural development, Indigenous land rights, international development, Rupununi, Guyana, South America

David S. Salisbury, Department of Geography and the Environment, University of Richmond
CLIMATE CHANGE ATLAS OF THE AMERICAS

Climate change has already begun to affect the Americas through impacts such as sea level rise, glacier volume decrease, dry season expansion, and species range shifts among others. The region will experience greater impacts in the future, even under conservative warming estimates, due to the compounding of multiple effects and feedback loops. Despite this, knowledge of the impact of climate change on the Americas, and particularly Latin America, remains fragmented. The Climate Change Atlas of the Americas project seeks to provide students and the general public with a hemispheric understanding of potential changes in temperature and precipitation regimes, while also providing case studies of particularly vulnerable areas and impactful effects of climate change. Climate Change Atlas of the Americas workshops in Colombia (2017) and Chile (2019) helped plan the construction of a digital Climate Change Atlas of the Americas that can be incorporated in classes and/or shared with the general public to increase climate change awareness throughout Latin America and the hemisphere. Keywords: Climate Change, Latin America, GIS, Cartography, Global Warming.

Luis Sánchez Ayala, Universidad de los Andes
LA SALSA EN CALI: UNA DULCE HISTORIA DE CIRCULACIONES

Uno de los aspectos donde se puede ver el efecto transformador de las circulaciones es sobre la identidad de los individuos y grupos. El dinamismo espacial que sugieren las circulaciones implica procesos de construcción de identidades dinámicos, donde los significados y experiencias de lugares se encuentran, se negocian y renegocian, y se funden. Bajo estos preceptos podemos explorar y abordar diferentes contextos que marcaron el desarrollo del género musical de la salsa en la ciudad colombiana que se hace llamar "Capital Mundial de la Salsa"; Cali. Desde Nueva York la salsa encuentra su camino hasta Colombia. Pero a pesar de la proximidad de la costa caribe colombiana con las islas caribeñas, este género musical no tiene mayor trascendencia en esta región, sino que es en Cali donde fue acogido como parte de la identidad cultural de la ciudad. En este escrito presento una perspectiva dentro de las variables que incidieron en la llegada y popularización de la salsa en Cali. Así entonces, mi argumento es que la llegada de la salsa a esta ciudad en la región del Pacífico colombiano está directamente vinculada a procesos espaciales de circulación. Palabras clave: Salsa, Caña de azúcar, Circulación, Colombia

Álvaro Sánchez Crispín, Instituto de Geografía, UNAM, Ciudad de México, México
ESTRUCTURA TERRITORIAL DEL TURISMO EN EL SALVADOR

En este trabajo se expone el arreglo actual de la actividad turística en uno de los destinos menos preferidos de América Latina: El Salvador. En los últimos años, y a ritmo pausado, este país se ha ido colocando en el competido mercado turístico regional, dominado por Costa Rica, Guatemala y Panamá. Diversos factores se han interpuesto en el crecimiento del sector tales como los resabios de la Guerra Civil y la inseguridad pública que los medios masivos de comunicación internacionales se encargan de divulgar constantemente. Sin embargo, con la llegada de nuevos gobernantes y el deseo de que el turismo contribuya a que la economía nacional se haga más sólida, diversos sitios en El Salvador ahora disponen de una infraestructura adecuada y mecanismos para revelar la existencia de recursos tanto naturales como culturales que pudieran ser la base de la expansión del sector en los años siguientes. Derivado de diferentes recorridos en este país, se explican la estructura territorial básica del turismo salvadoreño contemporáneo. En tal contexto, se examina el papel de la capital nacional, la promoción de distintas rutas turísticas como la de las flores y la ruta fresca, así como la ocupación de la costa para actividades como el surf; también se consideran las propuestas de visita a las zonas volcánicas del país, en particular en la parte occidental. Se presenta un mapa sintético en el que se muestran los principales hallazgos de la investigación realizada. Palabras clave: Estructura territorial, turismo, El Salvador, Ruta de las Flores, Ruta Fresca

Laura Aileen Sauls, Environmental Studies Program, College of the Holy Cross

EXAMINING THE SOCIO-ENVIRONMENTAL IMPACTS OF EXTRACTIVIST POLICY IN CENTRAL AMERICA

While agriculture and livestock expansion is by far the largest direct driver of forest loss in Central America, the effects of extractive industry and infrastructure are important considerations in understanding threats to forest maintenance, emissions avoided and community rights. As part of a larger study on interactions between extraction, infrastructure, and forest change across geographies, this paper draws on geospatial analysis, archival data, and interviews and workshops with government, non-governmental, and Indigenous leaders to examine the role that government and donor prioritization of investments in these industries play in driving forest loss. Significantly, we find that remaining forested areas in Central America, mostly along the Caribbean/Atlantic coast and in highland areas, overlap with Indigenous and traditional communities, making the targeting of these regions for new investment a central human rights issue as well. Ongoing regional initiatives to enhance infrastructure and energy integration may indicate potential zones for socio-environmental concern, as governments reduce protections to incentivize investment. We find that while extraction and infrastructure may have limited direct impacts on deforestation in Central America, the conflict, displacement and policy shifts that surround them does influence the future of forest cover in the region and contributes significantly to ongoing rights violations. Keywords: environmental conflict, extractive industries, infrastructure, deforestation, human rights, Central America

Joseph L. Scarpaci, Center for the Study of Cuban Culture + Economy, Blacksburg, VA, USA

BRANDING NATURE IN CUBA: NARRATIVES FROM HUMBOLDT TO HAVANATUR

The cultural trope depicting Cuba as a place where “sugar is king” or as a “sea of grass” has ebbed and flowed over the past two centuries. Rich, descriptive accounts of Humboldt's views of nature and its economic uses in the early 1800s would today seem idyllic given the rapacious forest clearing for sugar cane until the 1930s. Since the closing of half of the sugar mills in the early 2000s, the old-world invasive species, marabú (*Dichrostachys cinerea*) has taken over much of those former cane fields. Descriptive accounts by 19th-century travelers, and 20th-century geographers Leví Marreo and Núñez Jiménez, offer a backdrop against which contemporary campaigns directed by the Tourism Ministry highlight a healthy tourist-landscape experience. Contemporary tourism and marketing strategies aim to move the positioning of Cuba's tropical offerings beyond the cliché of sun, surf, sex, sand, and sangria, but barely. This paper traces the threads of these humanistic and economic branding strategies, which today are largely framed by the military-run tourism company, Gaviota. It concludes with an assessment of how on-target these branding messages are for their designated audiences.

Cynthia Simmons, University of Florida

DYNAMIC AMAZONIA: LESSONS FOR A CHANGING WORLD

Amazonia is critical to the global environment given its store of biodiversity and its repository of carbon. Since the mid-20th century, the Amazonian countries -- particularly Brazil, Ecuador, Peru, and Bolivia -- have implemented a variety of infrastructure projects meant to tap the region's resources and open it to human settlement. Consequently, a large fraction of the forest has been converted to agricultural use. At the same time, human populations have grown precipitously to more than 20,000,000 people, many of whom live in an expanding network of urban areas that span the basin. There is little doubt that development has transformed the region's environment and put the heritage of its indigenous peoples at risk. Despite global concerns for maintaining Amazonia's ecological and cultural integrity, a new infrastructure program joined by all the South American nations has initiated a complex transformation of the region that will turn it into a transportation hub, a continental source of hydropower, and a preferred location for industrial development. Resulting environmental changes will be intensified by global warming. Amazonia is a dynamic region on the verge of dramatic anthropogenic change. What will happen to its remaining ecosystems and indigenous peoples? What will happen to those who came as colonists and worked hard to establish frontier livelihoods? The purpose of this paper is twofold. First, we wish to discuss Amazonia within a broad context placing it within a globalized world system. Second, we wish to attempt a glimpse into the future, to better prepare ourselves for the changes that are coming. Key Words: Amazonia; Sustainable Development; Infrastructure Investment; Globalization

Araby Smyth, Department of Geography, University of Kentucky

REFUSAL AS METHOD

Based on a year of ethnographic field work in an indigenous village in northwestern Oaxaca this paper reflects on refusal in field work as a part of collaborative methods that are inroads for co-production of knowledge. Refusal is practiced by saying no, disengaging, omitting and staying silent, or turning into the trouble. It is found in mass mobilizations and movements as well as everyday life. Resisting within the site of colonial knowledge production, a university in the United States, I analyze the ways that research participants and I negotiate consent, initiate difficult conversations, are accountable to each other and where there is space for us to refuse to participate when we feel discomfort, sense compromise, or fear harm. I offer ideas about how refusal may disrupt the power relations of colonial knowledge production. When we sit in refusal, we might have a better chance at getting to a knowledge production that is less extractive, not reproducing Euro-centric and white supremacist values, and instead is forming alternative relationalities. Keywords: methods, decolonial, feminist, indigenous, refusal, Oaxaca

Ana Sofía Solano Acuña, Universidad Nacional-Costa Rica, Colegio de América-Universidad Pablo de Olavide.

TIERRA Y VIDA ADMINISTRAR. FORMAS DE RESISTENCIA GUAYMÍ EN EL OCCIDENTE DE PANAMA (1880-1925)

En esta ponencia propongo hacer un recorrido por las estrategias (políticas, económicas e ideológicas) del Estado y las élites para ocupar y controlar espacios del “territorio nacional” pensados como “vacío” y “salvajes”, desgarrar los etnoterritorios y los universos culturales, así como administrar a la guaymí y sus bienes en el marco dos proyectos (Colombia, Panamá) de Estado Nacional en consolidación. A través de este estudio de caso podré identificar la construcción social de la época sobre esta sociedad indígenas pues que aunque la empresa colonizadora fue una, las condiciones territoriales determinaron de forma contundente la particularidad de la avanzada estatal, la construcción del otro cultural y los discursos

para la incorporación de estos cuerpos sociales al proyecto nacional. El corpus documental utilizado consta de artículos de prensa de la época, documentación oficial presente en el Archivo Nacional de Panamá, Archivo General de la Nación-Colombia y el Archivo Nacional de Costa Rica, comunicaciones de autoridades indígenas, así escritos de intelectuales y militares. En la frontera occidental panameña la desindianización implicó una "desaparición administrativa" de los indígenas en algunos lugares y el surgimiento de nuevas categorías socio-raciales; y experimentos eugenésicos con población europea y negra para "apaciguar la bravura de los indios", entre otros, todo ello con el objetivo de acceder a la puerta (por tierra) a Centroamérica y asegurar las intermediaciones del Canal Interoceánico. Palabras Clave: Desterritorialización-Guaymí-ciudadanización-Nación-Frontera-territorios culturales-resistencia.

David Solís Aguilar, Centro de Estudio en Geografía Humana, El Colegio de Michoacán A.C. (a CONACyT's public research center)

ETHNOECOCIDAL PRACTICES ON THE MALEKU INDIGENOUS PEOPLE TERRITORIALITY, NORTHERN REGION OF COSTA RICA (Prácticas etnoecocidas sobre la territorialidad del pueblo indígena Maleku, en la región norte de Costa Rica)

El territorio histórico para el pueblo indígena Maleku se localiza en la actual región norte de Costa Rica y está lineado por la cuenca del río Frío, donde sus ancestros por incontables generaciones tuvieron una vida comunitaria, marcada por las prácticas de subsistencia en espacios de caza y pesca protegidos por seres espirituales, considerados por los Maleku como lugares sagrados. Enfrentaron posteriormente el sometimiento de colonizadores extractores de hule silvestre procedentes de Nicaragua, que entre 1860 y 1900 llevaron a niveles casi de exterminio físico a los Maleku. El continuum de apropiaciones y violencia atravesados por los Maleku está marcado en la actualidad por la condición de ser el pueblo indígena menos numeroso de Costa Rica y con el segundo territorio indígena del país con mayor control de apropiadores privados mestizos. Muestra de la transformación y degradación de los ecosistemas fuente para la reproducción material y simbólica de la cultura Maleku, como herencia del genocidio en el siglo XIX, y de la colonización agraria sobre su territorio en el siglo XX. Planteamos que la articulación de prácticas sociales etnocidas y ecocidas históricamente presentes sobre el territorio Maleku, se vislumbran en las relaciones socioespaciales intervenidas por la acumulación capitalista neoliberal. Los pueblos indígenas ante la necesidad de reconocimiento efectivo de sus derechos colectivos por parte del Estado, se enfrentan al reto visibilizar sus relaciones con todo espacio valorado por su sentido biocultural. Palabras clave: pueblos indígenas, Maleku, despojo territorial, etnocidio, Costa Rica.

Patricia Schwartz, Geography School of Geography and Development, University of Arizona

GOOD INTENTIONS? AN AUTOETHNOGRAPHIC EXAMINATION OF INTERNATIONAL DEVELOPMENT IN GUATEMALA

In light of longstanding colonialist and neoliberal structures of influence, analysis beyond good intentions is an imperative practice in determining the appropriateness of engaging in transnational work. In this paper I reflect on two years working with a Guatemalan nonprofit organization in Quetzaltenango. Work that, among other duties, involved placing and coordinating foreign volunteers in projects with grassroots organizations. I explore the economic and social context of the development program and my personal experiences during a process of familiarization with the local language, history and culture. The narrative tracks the changing trajectory of my beliefs and concerns around this work as I developed a greater appreciation for its complexities and incongruities, and more understanding of my blind spots as a white American woman of relative privilege. I focus in particular on the compounding contradictions around accessibility and influence brought to light by the comparative ease of my migration to the southern side of a one-way border. By bringing together an autoethnographic account with observations and discussions of neocolonialism within global volunteerism and development programs, I hope to inform future geographical field work and collaborative projects. I wish to consolidate and present my experiences of discomfort surrounding common international intervention methodologies in an academic setting to motivate critical conversations about the practice of geography outside of a researcher or practitioner's own nation. Keywords: Autoethnography, International Development, Volunteerism, Guatemala

Kate Swanson, San Diego State University

HIDDEN STORIES FROM MIGRANTS AND REFUGEES IN U.S. IMMIGRATION DETENTION

Immigration detention has become a multibillion-dollar industry in the United States, one that amasses great profits from the incarceration of migrants and asylum seekers apprehended within America's borders. On any given day, over 50,000 men, women and children are detained in U.S. Immigration and Customs Enforcement (ICE) facilities. The geography of America's carceral landscape is vast; there are over 200 ICE detention facilities distributed across both rural and urban areas. While some migrants spend weeks in detention, others spend years. In this paper, I explore America's carceral spaces as experienced by Latin American migrants and refugees. Pulling from an archival collection of letters from detention, I explore first-hand testimony to provide rare insight into the lives of detained migrants and refugees incarcerated in the United States. Keywords: Detention, Prison, Migrants, Refugees, United States

Gabriel Tamariz, Department of Geography and GeoSyntheSES Lab, The Pennsylvania State University

AGROBIODIVERSITY CHANGE IN DRUG CULTIVATION LANDSCAPES: RETHINKING THE GEOGRAPHIES OF VULNERABILITY IN OAXACA, MEXICO

In Latin America, illegal drug crops have been produced by vulnerable smallholder farmers who have historically grown a diversity of native food crops. With neither greedy nor emancipatory motivations and without seeking any structural change, farmers who grow illegal crops usually arm themselves to engage in an activity that they know involves the potential exacerbation of an already violent environment. They often locally organize to manage the risks of such violence, in the hopes of reducing their vulnerability to other historical stressors (e.g. climatic, economic, and institutional change). This paper is based on 7 months of research carried out in one female prison and three male prisons in the state of Oaxaca, Mexico, where I worked with former illegal-crop growers, former illegal-crop buyers (middlemen), and soldiers who were formerly involved in "eradication" operations. The methods used in this study include a combination of focus groups (including film presentations) and individual semi-structured interviews. This paper offers new insights to political and social-ecological vulnerability theory through the analysis of the geographic implications and economic decision-making of farmers who engage in the cultivation of illegal drug crops, as well as the consequences of this activity

on their livelihoods and their food and agricultural diversity at the household and community levels. Oaxaca is one of the most diverse regions in the world both ethno-linguistically and in terms of (agro)biodiversity, and has produced marijuana and opium poppy since the 1970s in around 75% of its municipalities. Such diversity and the widespread, uneven, and dynamic production of marijuana and opium poppy in Oaxaca offer the opportunity to analyze the interactions between different political and social-ecological conditions, a range of levels of vulnerability and agrobiodiversity change, illegal drug cultivation, and its related violence, in the context of the militarization of anti-narcotic policies. Keywords: agrobiodiversity, illegal drug crops, Mexico, violence, vulnerability

Benjamin F. Tillman, Texas Christian University

BREADFRUIT USE, MEDICINAL AND AS A FOODSTUFF, BY COSTA RICA'S AFRICAN DESCENDED POPULATIONS

European colonization of the New World introduced hundreds of plant species as part of a process Alfred Crosby called the "Columbian Exchange." Despite the late 18th century saga of Captain Bligh of the good ship Bounty and his efforts to transport breadfruit from the South Pacific to feed the slave population of the West Indies, how this non-native tree spread through the Caribbean to eastern Central America and became incorporated into the diet of millions, is still unknown. Today, the tree is common among African descended populations in the region and rural residents often depend on it as a reliable food source. This study examines breadfruit use, medicinal and as a foodstuff, by African descended populations of Costa Rica's Caribbean coast. Fieldwork methods consisted of on-site observations, photographs, and conversational interviews based on open ended questions with the oldest female or male in the village, during August 2013, and May 2018. Findings show breadfruit is commonly eaten fried, boiled, and as a shake known as "criminal." Common medicinal uses include a tea made from boiled breadfruit leaves to treat high blood pressure and kidney stones. Keywords: breadfruit, biogeography, cultural geography, Costa Rica, Central America.

Benjamin Timms, California Polytechnic State University in San Luis Obispo

REFORESTATION AND LOCAL LIVELIHOODS IN THE SOUTHERN PERUVIAN ANDES

This is part of a larger project investigating local livelihoods and forest resources in the Peruvian Andes, including undergraduate students and multiple faculty members from Cal Poly. Specifically, this paper is a review of government-initiated programs to reforest Andean landscapes. In the mid-20th century the Peruvian government began a program of plantation style Eucalyptus plantings for the purpose of providing fuelwood and building materials for local populations. While initially a noble endeavor, it has created both positive and negative effects on the environment and local livelihoods. Recently, with neoliberal austerity complications, re-forestation efforts have been delegated to NGOs that are switching to Pine plantations. This paper seeks to investigate these changes within a Political Ecology perspective and the Forest Transition Model to better inform the larger projects goals on local livelihoods and forest resources. Keywords: reforestation, eucalyptus, forest transition, political ecology, Peru, Andes, Latin America

Elena Tjandra, University of Melbourne

'LIVING WITH' MINING: EVERYDAY LIFE BY THE CUZCATLÁN UNDERGROUND SILVER MINE

This paper invites reflection on the lived aspects of resource extraction, by asking, 'what is it like to live with mining?'. This paper takes up this question through preliminary field work in Magdalena Ocotlán, a small town located near to the Cuzcatlán-Fortuna Silver underground mine in Valles Centrales, Oaxaca, Mexico. Following Bebbington and Humphreys Bebbington's (2018) conceptualisation of mining as made up of multiple movements, processes and flows, I consider the range of ways mining manifests in Magdalena. I focus on the way mining inserts itself in the many ways of being, dwelling and living in Magdalena, suggesting that "living with" can frame mining as active and ever-present, even when the mine does not physically exist in the town. The aim of this paper is to bring attention to the lived and experiential, that can help provide a focus in geographical studies of 'the everyday' and the extractive industries. Key words: mining, extraction, flows, everyday life, Oaxaca, Mexico

Nathan Treacy, University of Arizona

COUNTER-GEOGRAPHIES OF DISPLACEMENT AND RESETTLEMENT IN THE ERA OF NEOLIBERAL MULTICULTURALISM

Guatemala's Comunidades de Población en Resistencia – Sierra (Communities of Population in Resistance; CPR–Sierra) present a compelling case study encompassing negotiations of territoriality, indigenous politics, and transitional justice in a post-conflict landscape. Uprooted from Guatemala's western highlands in the late 1970s and early 1980s, these communities of Ixil and K'iche' Mayans formed the highly organized and cohesive social structures necessary to survive over fifteen years of military violence and displacement. Today, however, CPR–Sierra communities have been geographically dispersed by the post-conflict resettlement process, environmental challenges, and the slow attrition of migration both within Guatemala and beyond. Through this dispersal, the struggle to preserve the social cohesion and organizational capacity that earlier allowed them to challenge wider structures of political and economic inequity has been locally constrained to disaggregated communities spread across the country while also becoming entangled in neoliberal structures of governance. How have this movement's political objectives been rearticulated through its unremitting displacement? Building on ideas of neoliberal multiculturalism and drawing from archival research and interviews conducted with CPR community members and leadership, this research analyzes the territorial logic of the post-conflict neoliberal state and how indigenous resistance takes shape within its framework. Keywords: territoriality; peace & conflict studies; post-conflict geography; transitional justice; indigenous politics; neoliberal multiculturalism; Guatemala

Gabriela Valdivia, University of North Carolina at Chapel Hill & **Eloisa Berman-Arévalo**, Universidad del Norte, Barranquilla, Colombia
A POLITICAL ECOLOGY OF THE ORDINARY: A COMPARATIVE ANALYSIS OF RESOURCE EXTRACTION SPACES IN ECUADOR AND COLOMBIA

“Ethnography,” write Laurent Berlant and Kathleen Stewart (2019:34), is “the commitment to writing from the ground... an impulse to stay open to what’s in your vicinity.” This ground, they argue, should not be assumed as a context but sensed as a becoming, a space of potentials through which concepts, knowledge, and normative stances break through, break down, and solidify. Building on this proposition, this paper privileges the register of ordinary and mundane events as a lens through which to examine the potentials for transformative justice in polluted environments. Ordinary routines and encounters, we argue, are a kind of “epistemic register” for knowledge-making and writing. We base our reflection on our long-term ethnographic work in two sites of intense resource extraction: palm oilfields in the Colombian Caribbean and the oil refining complex of Esmeraldas, on the coast of Ecuador. For this paper, we focus specifically on how our own material/embodied experience of pollution generates particular perceptions of socioecological harm and on the constant “*contrapunteo*” between setting conceptual and thematic boundaries and opening them vis-à-vis everyday life. Our goal is to critically interrogate the relations, experiences, and methodological decisions that have unfolded in our study of the everyday routines and habits of living with resource extraction activities, and how these have informed our own ethnographic and writing practices. Keywords: political ecology, ethnography, resource extraction, ordinary life, Ecuador, Colombia.

Julie Velásquez Runk, Department of Anthropology at the University of Georgia
ILLEGAL ROSEWOOD AND ITS GOVERNANCE CHALLENGES: PANAMA, CHINA, AND MANY PLACES IN-BETWEEN

Over the last decade, illegal wildlife trade of rosewood has been sky-rocking worldwide, driven by Chinese demand. This paper shows how the rosewood boom has challenged the governance of forests and timber. Using Panama’s cocobolo rosewood logging as an entry point, I combine interviews, permit data, and literature review to overview the rosewood commodity network. I reveal the worldwide movements of permitted wood, raising questions about laundering illegal logs into legal ones. At the national level, I highlight Panama’s rosewood bans and how governance remains difficult even with new traceability technology. I show how rosewood governance was more successful at the international scale via the Convention on International Trade of Endangered Species of Wild Flora and Fauna (CITES), but was recently loosened with lobbying from the guitar lobby. Findings suggest the need for greater attention to laundering illegal wood, particularly in the transit spaces of rosewood’s commodity network. Keywords: rosewood, governance, Panama, China, illegal wildlife trade

Richard Vercoe, University of Wyoming
RE-ENGAGING THE METABOLIC RIFT AS A FORM OF RESISTANCE AND RENEWAL IN LATIN AMERICAN AGRARIAN SYSTEMS

The transformation of natural resources by agrarian systems is a process that turns nature into products whose production and exchange, in turn, reproduce socio-ecological values (Marx 1990, Smith 2008, Sheppard 2011). The metabolism of agrarian systems includes both biological (ie soil, nutrients, plants, animals, climate) and the social (ie labor, social relations, governance) to produce and reproduce nature-society relations (Schneider and McMichael 2010). This paper engages with the idea of how the metabolism of heritage agroecological systems not only produces nature, food, and social systems, but also important forms of resistance to disrupt capitalist interventions in rural societies such as the Chilotes of Southern Chile. One of the ways in which agrarian political ecologists study the socio-ecological impacts of capitalism on rural communities is through the concept of ‘metabolic rifts’. These socio-ecological disruptions are a result of a double separation of both economic production from its biological systems, and of producer-consumer societies from direct relations with their local natural systems (Foster 1999, Schneider and McMichael 2010). The rifts resulting from conventional export-oriented agro-food networks have multi-scalar effects through the capitalist production of agricultural nature, its products, and social labor where these co-productions are transported, exchanged, modified, and consumed across multiple scales of social and territorial sovereignty to a global extent. Recent place-based agroecological responses to this metabolism such as the Globally Important Agricultural Heritage Sites (GIAHS) are reclaiming local and regional metabolisms, re-embedding family farming and restoring the metabolic processes by which agrarian societies can restore and renew the social and biological natures of food production.

Gisselle Vila Benites, University of Melbourne
ENTANGLED CONVIVIALITY: MINING IN INDIGENOUS AND AFRO COMMUNITIES IN PERU AND COLOMBIA

Although mining can negatively impact communities due to environmental degradation and territorial conflicts, it also offers a productive development alternative for impoverished communities. This paper discusses the diversity of community arrangements around artisanal and small-scale gold mining based on the exploration of two extractive frontiers: Madre de Dios (Peru) and Chocó (Colombia). Drawing on qualitative data that includes interviews, archive materials and observation, as well as previous research experiences of the author in one of these regions, it introduces the concept of entangled conviviality to explain the agreements and frictions that arise within and between communities when integrating mining as an important economic activity for livelihood subsistence. This research offers a critical analysis of community-driven extraction and conservation politics as exercises of self-determination that question who has the right to mine. Keywords: gold mining, resource frontier, entangled conviviality, Peru, Colombia, afro-Colombian, indigenous people

Robert Walker, University of Florida
AMAZONIAN CATASTROPHES

New threats now confront the Amazon in the form of a massive infrastructure program, the *Initiative for the Integration of the Regional Infrastructure of South America*, or IIRSA. This presentation gives results of a projection analysis showing that IIRSA could push the Amazonian forest past a “tipping point,” replacing it with tropical savanna. Such an event would degrade biodiversity, reduce carbon storage, and harm continental agriculture, dependent on moisture transport from forest-based rainfall recycling. The presentation considers environmental policy in Brazil and discusses its weakening over time. One short-term approach to conservation is provided by indigenous resistance to development forces. The presentation discusses resistance by the Mundurucu people, who recently stopped construction of a large dam on the Tapajós River in defending their territories. It argues that more research is needed to understand the impacts of IIRSA, which is proceeding in the dark.

Griffin Walsh & David S. Salisbury, University of Richmond

USING CLOUD BASED GEOSPATIAL TECHNOLOGY TO FACILITATE ANALYSIS AND SHARING OF TRANSBOUNDARY AMAZONIAN CONSERVATION AND DEVELOPMENT DATA

The Amazon borderlands shared by Peru and Brazil are rich with cultural and biological diversity even as they become increasingly targeted by development and conservation initiatives. This project highlights the uses of ArcGIS Online to provide a transboundary GIS dataset to researchers in Brazil, Peru, and the United States to reconcile conservation and development initiatives in the Southwestern Amazon. In July of 2019, 27 members from 18 organizations and three countries gathered as one group under the name Transboundary Geographic Group of the Southwestern Amazon (GTASO) to share data from the Amazon borderlands. At the conclusion of the workshop, the group decided to create an online geospatial database and portal. Cloud based technology allows for the dataset to be shared among collaborators in a convenient fashion and be easily updated. The main goal in creating this online database is to provide data and tools that expedite spatial analysis. Challenges include resolving cartographic differences between national datasets, merging unofficial and official views, and navigating power dynamics of local and foreign interests. Keywords: ArcGIS Online, Amazon, Conservation, Development, GIS, Cartography, Indigenous

Margaret Wilder, School of Geography and Development and Center for Latin American Studies, University of Arizona

PROMISES TO KEEP: DISCOURSES ON THE HUMAN RIGHT TO WATER IN MEXICO

What does Mexico’s 2012 constitutional guarantee of a human right to water really mean? This paper examines the discourses around general water law proposals meant to codify and implement the human right. Using the frameworks of political ecology and legal geography, I explore: How is it defined? What is the legal and institutional framework for implementing it? and What are the implications for social relations of power as Mexico (ostensibly) seeks to move from a neoliberal and technocratic, market-based approach to a socially-inclusive policy that purports to embrace indigenous and community rights and environmental sustainability? Methods include interviews with key actors, focused case studies, and archival and literature review. Preliminary findings show the implementation of a human right to water faces two principal challenges: 1) different sectors define the human right to water in diverse ways, leading to incompatible visions; and 2) the legal and institutional framework is complex, fragmented, and under-resourced, creating structural challenges to moving forward and signaling potential important shifts in social power between the state and civil society. The election of left-leaning president Andrés Manuel López Obrador has engendered a fresh wave of social mobilization around the promised new law. The constitutional reform gives the human right to water a positive grounding that may ultimately democratize and improve Mexico’s water governance, but its future fulfillment is far from certain. Keywords: human right to water, water justice, political ecology, legal geography, Mexico

Daniel Zayonc, Oliver T. Coomes, McGill University

GOT GAME? A CHARACTERIZATION OF HUNTERS IN THE PERUVIAN AMAZON.

In parts of Amazonia, hunting and game meat play an undervalued role in Amazonian identity, food security and income. Hunters are also criticized and penalized for depleting wildlife and creating “empty forests”. Indeed, uncontrolled hunting is often blamed for wildlife population declines but the factors shaping hunter livelihoods is poorly understood. In this talk, I present a model to characterize hunters in the Peruvian Amazon based on livelihood and community characteristics data collected during the PARLAP survey (Peruvian Amazon Rural Livelihoods and Poverty Project) of 919 communities spread across four major river basins in the Peruvian Amazon. The double hurdle model allows for the modeled hunting income to be broken down into two dimensions: the participation of a household in hunting (probit model) and the quantity of household hunting income (lognormal model). I also draw upon a rich set of data collected in an indigenous Kichwa community and a campesino community along the Napo river – communities previously identified as hunting communities using PARLAP data. A total of 44 hunter characterization surveys were conducted to better understand how household and community characteristics influence hunter offtake. Recent research suggests that age and education influence the amount that campesinos hunt in Amazonia however the double hurdle model used suggests that other individual factors and community factors may have a stronger influence on terrestrial wildlife income. Implications of our findings are discussed for wildlife conservation and we highlight conservation opportunities in the rapidly changing game meat market along the Napo River. We suggest that with careful targeting, hunters and hunting communities can be empowered to conserve valuable wildlife resources from outsiders. Keywords: Peru, hunting, conservation, livelihoods, poverty

Anaïs Zimmer, University of Texas at Austin

FUTURE OF PROGLACIAL LANDSCAPE: ALPINE ECOSYSTEMS AND DEGLACIATION IN THE TROPICAL ANDES AND FRENCH ALPS

In most mountain regions of the world, glacier retreat exposes new landscapes to ecological succession. These deglaciated lands will soon represent a large total land area that scientists and decision-makers need to consider in landscape management policy. Our research aims to assess how physical, ecological, and social processes interact to drive ecosystem changes in alpine proglacial landscapes and what this tells us about

adaptation to sustain livelihoods and downstream services. From a previous study, we hypothesize that species range shifts and possible species extinctions in alpine regions are being influenced by the increasing time lag between the velocity of global warming and the slowness of primary succession. Now, we set up a biogeographical comparison between two continents: we have implemented a new protocol in seven recently deglaciated terrains distributed between the Peruvian Andes and French Alps. Our approach is both descriptive and experimental. We study the distribution and composition of pioneer alpine communities, focusing on the structural and functional characteristics of vascular plants, biological soil crust and proglacial soils along the seven chronosequences of deglaciation. Besides, we are looking at proglacial soil variability and geomorphic activity to understand how periglacial processes and landforms produce microhabitat diversity along alpine slopes. We hypothesize that temperature gradients, topographic, and geomorphological traps for sediment deposits and seeds act as micro niches to enhance primary succession processes.

Keywords: Post glacial Landscapes; Alpine ecosystem; Chronosequences; Tropical Andes; French Alps