

Abbenante, Dominic, *San Diego State University*. **Children of Poverty: Escape through the Arts.** Adolescence is a harbinger of emotional unpredictability. Throughout the formative years, children experience transformative emotions. The inability to direct this surge of unfamiliar feelings can manifest itself through socially “deviant” and “self-destructive” behaviors in the absence of adequate coping mechanisms. Particularly abundant in children of poverty, who often lack familial, community, and scholastic resources necessary to moderate these psychosomatic waves, the necessity for a constructive outlet is essential to maintain a balanced mental well-being. My work examines performance as an effective and inexpensive means for these children to confront and nurture the mysterious and often overwhelming pubescent emotions in a supportive environment. I look at how the foundational frameworks of community and academic programs cultivate and affect youth self-identity and social-networks through freedom of expression and performance; with particular focus on the creation of concrete (re)presentations of society through personal association and perception in both the “individual” and “group”. Positive correlations are sustained through lower rates of violence and higher scholastic achievement and test scores, resulting in an improved capacity for upward economic mobility. I stress the potentiality of fine arts programs as an instrument necessary for emotional and psychological health, and as a method through which to escape the grip of poverty.

Abel, Troy D. and White, Jonah, *Western Washington University*. **Gentrified Risksapes and Environmental Injustice in Seattle, WA.** This paper examines whether urban gentrification exacerbates environmental injustice as affluent residents out-compete less affluent ones for neighborhoods with fewer environmental hazards. Numerous studies have found that spatial distributions of environmental hazards and socially vulnerable populations (poor and minority) cluster together in metropolitan areas. We expect and hypothesize that metropolitan Seattle block-groups near environmental hazards will grow in poor and minority residents while block-groups further from pollution will grow in affluent residents. We analyze the socioeconomic changes in Seattle census block-groups from 1990 to 2000 coupled with manufacturing facilities regulated under the Environmental Protection Agency’s (EPA) Toxics Release Inventory (TRI). In the case of Seattle, young, urban professionals have moved into working class and blue-collar neighborhoods and displaced original residents. In doing so, the displaced residents are forced to seek housing in other locations within Seattle. Due to the city’s high costs of living and shortage of affordable housing, the displaced residents must settle for environmentally marginal areas that remain within reach of their limited financial resources. Thus, the skewed geography of environmental risks fostered by urban gentrification deserves more attention from scholars and environmental practitioners.

Akhter, Majed and Dallerba, Sandy, *University of Arizona*. **Spatial Distribution of Wheat Yields in Transnational Punjab.** The agricultural performance of the Punjab region in Northern India and Pakistan has long been a topic of interest for economic historians, agricultural economists, and policy-makers. In the literature focusing on the post Green Revolution period (roughly since early seventies), the debate has circled around the determinants of disparity in yields between Pakistani and Indian Punjab. However, no previous contribution has paid explicit attention to the role of spatiality in

this debate. This paper intends to fill this gap by employing the tools of Exploratory Spatial Data Analysis (ESDA) on wheat yields across the 35 Pakistani and 20 Indian districts of the Punjab in 2005-2006. Although the analysis is constrained by data limitations, the results indicate the significant presence of both spatial autocorrelation and spatial heterogeneity. These results suggest that spatial effects should be part of the debate around uneven Punjabi yields and inform future policy-making.

Allen, James P., james.allen@csun.edu, and **Turner, Eugene**, eugene.turner@csun.edu, *California State University, Northridge*. **Black-White and Hispanic-White Residential Separation in U.S. Counties.** Assuming that the degree to which Blacks and Hispanics live in different neighborhoods from Whites indicates the degree of their social separation, we used Census 2000 and the index of dissimilarity (D) to analyze residential separation (or segregation) in U.S. counties. We measured separation at the block-group level and included only counties in which each relevant group numbered at least 1,000. Because the presence of prisons in many counties affects residential separation, we eliminated from our study those counties in which half or more of Blacks or Hispanics were in correctional institutions. Correlation analysis determined the variables that best explained differing levels of residential separation. Group separation was much less in counties with smaller populations and where higher percentages of each group were homeowners and were living in a house built in the 1990s. Counties where more Blacks and Whites lived in mobile homes also showed much less separation between these groups. There was less residential separation between Hispanics and Whites where Hispanics had greater English proficiency and higher percentages of high school graduates and employment by the government. Group income levels and percentages in poverty were not strongly or consistently related to level of residential separation. Thus, less populous counties may be the places to expect less social separation between Whites and the other groups.

An, Li, lan@mail.sdsu.edu, *San Diego State University*, **Tan, Chia L.**, CTan@sandiegozoo.org, *Zoological Society of San Diego*, **Aitken, Stuart C.**, saitken@mail.sdsu.edu, *San Diego State University*, **Yang, Yeqin**, fjshanyeqin@yahoo.com.cn, *Fanjingshan National Nature Reserve, China*, and **Zhang, Weiyong**, fjshanzwy@yahoo.com.cn, *Fanjingshan National Nature Reserve, China*. **What affects attitudes toward ecotourism? A case study of the Fanjingshan National Nature Reserve, China.** Ecotourism has grown very rapidly in the past decades over the world. However, successful cases of ecotourism remain scarce in light of conserving the environment and helping local people. This study explores the relationships between local people's attitudes towards ecotourism and a set of proximate and related factors in Fanjingshan National Nature Reserve (FNNR), China. FNNR is the only and last habitat for the highly endangered Guizhou snub-nosed monkey (*Rhinopithecus brelichi*). FNNR is also a famous tourist destination in China, rich in both natural and cultural heritage. A stratified random sample of 69 households was taken from 54 villager groups. On-site interviews were performed to solicit local people's attitudes towards local ecotourism programs and monkey conservation, along with several socio-demographic features and their knowledge about protected species. We found that most of surveyed households hold positive attitudes towards ecotourism and monkey conservation, and classic factors

such as household incomes do not explain much variability in their attitudes. However, public awareness and distance to the existing ecotourist trails play an important role in affecting such attitudes. Our findings will help the reserve improve its ecotourist programs, and contribute to a global concern of better understanding the effectiveness of ecotourism.

Archer, Reginald S., *University of California Santa Barbara.* **Remote Sensing & Change Detection for Assessing Post Disaster Reconstruction in New Orleans, LA.**

Almost four years after Hurricane Katrina struck New Orleans and surrounding areas, the impact of the devastation is still evident. Previous research suggests that reconstruction after a disaster consists of four identifiable post disaster periods: emergency response, restoration, reconstruction and betterment reconstruction. It is estimated that the second and third periods last approximately ten times the interval of the previous period. Use of this time scale has served to provide an approximate determination of the length of time required for long term disaster recovery as well as a set of milestones for gauging progress throughout the different periods. Although much of the area in New Orleans has recovered most of its population and economic base, progress has not been able to keep pace with the growing challenges in the disaster recovery of some of the hardest hit parishes. Remote sensing and GIS have frequently been used for emergency response and damage assessment after natural disasters. However, techniques for spatiotemporal analysis of long term disaster recovery are not currently available. Several challenges exist in this regard including whether or not the status of recovery can be determined by using imagery alone. How much information can be assessed with imagery alone? What are the neighborhood characteristics that indicate recovery? At what stage does a community become viable for continual recovery efforts? How much recovery is needed before the neighborhood can be sustained? In addition to questions about recovery, there are also questions about data resources, resolution, scale and availability. In order to address these questions, remote sensing and spatial modeling techniques will be used to detect changes on the ground that distinguish one post disaster period from another. The continual development of techniques for long term disaster recovery assessment will provide baseline and time series data to inform us on and validate the pace, process and progress of reconstruction.

Arreola, Daniel D., daniel.arreola@asu.edu, *Arizona State University.* **Sonoran Journey, Reflections on Townscape Change.** In spring 2007, I directed a graduate field seminar in Sonora, Mexico. The course explored the varied regional personalities of Sonora through case studies of the changing landscapes of towns. Two sites were visited and investigated—Huépac, a seventeenth century Spanish colonial village in the Sonora River Valley, and Puerto Peñasco, a twentieth century fishing village on the Gulf of California. The Huépac exercise was a re-study of a town mapped by Leslie Hewes in 1931 when he was a graduate student working with Carl O. Sauer. The Puerto Peñasco exercise was a re-photography project to visually document townscape changes between 1950 and the present. Huépac and Puerto Peñasco exemplify what the late geographer Robert C. West called the “two Sonoras,” an older, rural, small town colonial landscape of the eastern mountain interior, and a newer, modern, extractive economic landscape of the western coastal deserts. The remapping and re-photography projects were a means to

measure changing townscapes and to explain how changes shape the historic personalities of communities. This presentation reflects upon this journey as a graduate field training exercise but also about the Sonoras defined by West and their contemporary geographical expressions.

Ashraf, Cameran H., *California State Polytechnic University Pomona*. **Iranelection: Geographies of Digital Media in Post-Election Iran.** The ability of social and digital media to play a crucial role in helping mass social movements coordinate and communicate effectively has been highlighted by the recent post-election unrest in Iran. Due to the borderless nature of digital communications, the resources available to many activists can now be global in scale and supported by virtually instantaneous communication. Some governments have taken notice of this borderless nature and the potential threat it poses. In response, they have erected their own border in the form of firewalls and Internet filtering systems. With Iran as a case study, this presentation will explore the role new communication technologies are playing in the post-election unrest, how people outside of Iran are helping through digital media, and the Iranian government's efforts at maintaining its information border.

Atkinson, Emily E., eatkinso@rohan.sdsu.edu, **Farley, Kathleen A.**, kfarley@mail.sdsu.edu, *San Diego State University*, **Ojeda-Revah, Lina**, lojeda@colef.mx, *El Colegio de la Frontera Norte*, and **B. Ricardo Eaton-Gonzalez**, ricardoeaton@hotmail.com, *Universidad Autónoma de Baja California*. **Linking Land Use and Policy: San Diego's Multiple Species Conservation Program (MSCP).** Changes in land use have a wide variety of impacts on wildlife, vegetation, and ecological processes. In the case of San Diego County, an area that has been subject to fragmentation of vegetation and wildlife habitat, there is a lack of information concerning policy impacts on land use. In this study, we investigated how a local conservation policy in San Diego County, the Multiple Species Conservation Program (MSCP), impacted land use during the period 1994-2005. We used two approaches, including: 1) an analysis of the policy through archival research and interviews with governmental and non-governmental officials, and 2) a community analysis through interviews with residents and landowners. Results suggest that MSCP significantly impacts land use at a community level due to its relationship with proposed land-use zoning policies. A better understanding of what causes changes in land use, including the role of policy, can help to guide future efforts to guide land use decisions and conservation policy.

Beland, Mike, *San Diego State University*. **Developing Water Budgets for High Altitude Himalayan Wetlands using Remote Sensing Techniques.** High altitude wetlands in the Himalaya are key components of the hydrology and ecology of several major rivers in Asia. Changes in glacier melt patterns, decreases in snowpack and increases in evapotranspiration resulting from climate change are likely to alter the timing and volume of wetland inflow. This study combines several different remote sensing products to estimate precipitation, snow water equivalent, snow covered area and total ice volume for five high elevation Ramsar wetlands in the Himalaya. Early results suggest the wetland watersheds are dominated by rain (>75%). However, the estimated storage contained in glaciers (330 to 9,700 million cubic meters) represents a substantial volume

of water, and potentially a significant influence on wetlands if changes in melting patterns occur. Several IPCC climate scenarios and the calculated water budgets will be integrated into a hydrological model to predict changes in magnitude and timing of inflow.

Biggs, Trent; Anderson, William; Perkins, Emily, San Diego State University, and Pombo, Alberto, El Colegio de la Frontera Norte. Marginality, land cover, and sediment production in Tijuana. Conceptual models of the effect of urbanization on land cover and erosion have been based on cities in the United States. This paper develops a conceptual model describing the spatial and socioeconomic structure of urban-land-sediment relationships in Tijuana, Mexico. The conceptual model included three cover-sediment regimes that correspond to zones in the Griffin-Ford model of Latin American cities: wealthy areas on the periphery followed the classic Wolman model, with a brief period of soil exposure during construction followed by rapid transition to impervious surface with low SPP. Poorer areas on the periphery and in a "zone of accretion" developed on steeper slopes and had persistent soil exposure with high SPP. Models of urban structure from human geography can help physical geographers develop a comprehensive theory of urban watersheds.

Biggs, Trent; Cook, Sean, and Beighley, Ed, San Diego State University. Analyzing the relative importance of Andean snowmelt in the Amazon Basin. Despite its primarily tropical climate, large amounts of snow fall in the Andean mountains of the Amazon basin. The Andean mountains which form the western boundary of the catchment reach heights of over 6000 m and can have snowfall in any month of the year. This snowfall is often overlooked when modeling the Amazon basin, as it remains subsidiary to tropical rains as the primary source of water within the hydrological system. The degree to which this ignored snowfall may affect modeled hydrological results of discharge is unknown. Using TRMM rainfall data and daily temperature data from Peruvian meteorological stations, a degree-day model was constructed in Python in order to better understand the role of snow deposition and melt in the Andes within the Amazon basin.

Bosco, Fernando J., fbosco@mail.sdsu.edu, and Herman, Thomas, thomas.herman@cox.net, San Diego State University. Play, Work and Activism: Bridging the Gap Between Political and Children's Geographies. In the literature in political geography, children are rarely afforded the possibility of being political actors or of being involved in activism. This paper considers some of the connections between children and activism and between the literatures in political geography and children's geographies. The goal is to develop a conceptual framework that pays explicit attention to the political implications of children's activities and that considers children's agency as capable of generating political and social change. To develop the argument, the paper draws from Walter Benjamin's recognition that children's activities are ways of experimenting with cultural, political and social relations as well as from recent work that considers children's agency in imaginative ways—including children's ability to be catalysts for political change through a consideration of what children often do. Rather than focusing on the ways in which different types of adult's politics shape children's

experiences and citizenship, the paper argues that is possible to think about political possibilities through a consideration of children's activities. The suggestion is that many of the activities that involve children, from family help and work to children's play, could and should be considered political because they contribute, directly or indirectly, to political and social change for children themselves, for their families and for the broader local communities in which they are embedded.

Brown, Scott B., scott.b.brown@asu.edu, **Li, Xun**, xunli@asu.edu, **Torrens, Paul M.**, torrens@geosimulation.org, and **Zhu, Haojie**, haojie.zhu@asu.edu, *Arizona State University*. **A Platform-Independent Tool to Visualize Simulated Pedestrian Scenes.**

While advances in social science simulation have yielded robust models of human pedestrian behavior, accessibility of these models remains low. Output from common platforms such as NetLogo are discrete and opaque to stakeholders. Furthermore, simulation platform variety leads to nonstandard means for representing results. In this work, we introduce a platform-independent tool to standardize graphical representation of simulated data. Our tool represents artificial agents as fully articulated 3D human models. These models are capable of a wide range of expression, including fully customizable gesture and gait based on inverse kinematics. The tool can leverage motion capture data to further enhance realism, and embed resultant models in a richly detailed environment. We support simulation data post-processing to improve trajectory realism, yielding a smoothed pedestrian path with reduced collision rates. Our tool provides a standardized environment to represent simulated pedestrian scenes readily accessible to lay people and stakeholders. Through realistic 3D representation, viewers may employ their innate understanding of society and crowds to understand the scene presented.

Buckman, Stephen, sbuckman@asu.edu, *Arizona State University*. **Neighborhood Activism in the Face of Development: The Case of 44th Street and Camelback.** This paper highlights the role that neighborhood activism plays in the development process. Through the examination of the neighborhood fight against development on the corners of 44th Street and Camelback Road in Phoenix, issues of place, community empowerment, NIMBYism and urban design are played out. The role of neighborhood activism is ascertained via the study of archival data through the readings of news media reports and meeting minutes, as well as interviews and survey data. The results of the research point out that the community is essential in shaping the development process and that without community support major development projects face a difficult road to completion.

Burkhart, Nick., nick.burkhart@asu.edu, *Arizona State University*. **A Photographic Landscape Inventory of Tijuana's Avenida Revolución.** This paper details the process and the benefits of assembling a time-series visual inventory of the commercial and cultural landscapes of Tijuana's Avenida Revolución using historic photographic postcard images and a set of contemporary repeat photographs. This study successfully sought to develop an inventory of photographs of sufficient temporal variation and spatial density to enable future urban landscape change analysis. What resulted is an archive of several hundred photographic images, with each image classified both temporally into periods of time bounded by transformative dates (ex: beginning and end of prohibition in the United

States), and spatially, by block and specific location. Every image within the inventory additionally offers a rich snapshot of the street's vernacular landscape, adding to the inventory unique cultural views that are absent from more traditional forms of record keeping, including land use records and Sanborn fire insurance maps. The inventory's many images, which offer views of changing commercial establishments, transportation infrastructure, and structural built form, open the door to more extensive exploration of Revolución's dynamic commercial landscape.

Castagna, Chris N., castagna@hawaii.edu, *University of Hawai'i at Manoa*. **On Maori Land: Selected Maori Perspectives on Exotic Forestry, New Zealand.** This study addresses the ever-changing relationships between people and place. The processes of globalization continually reshape connections between people and place, as well as how resources are defined, developed, and used. Timber production is an example of a worldwide phenomenon that ties together people, organisms, and technology from many regions, states, and locales. One country where forestry is a significant component of the national economy is New Zealand. Though many of the production forests are currently on Crown land, a considerable amount of the forested land is still Maori owned, is contested, or will soon be Maori owned. As is the case with all peoples and cultures, being Maori does not necessitate a monolithic identity, even within any given hapu (sub-tribe) or iwi (tribe) grouping. Drawing on interviews with selected native individuals, this study addresses some of the interconnections between Maori and exotic forestry in Aotearoa/New Zealand with an aim at demonstrating cultural dynamism and the importance of place. This is accomplished by looking at some of the different ways in which Maori have experienced the industry and, further, how forestry is intertwined with various place-based community issues that include: changes to the visible landscape, land access, health issues, and tribal led development.

Champion, Sarah K., schampio@rohan.sdsu.edu, *San Diego State University*. **Geography of Change: Examining the spaces within urban revitalization.** This paper examines the impacts of recent revitalization efforts in the San Diego neighborhood of City Heights at an individual scale. A dynamic and tumultuous past, a cultural melting pot, and widely spread neighborhood poverty have all led to the revitalization and search of identification of this unique community. This study investigates a redevelopment project known as the "Urban Village" and its effect on the community's use of space. Has this project replaced the uniqueness of City Heights with mundane suburbia or has City Heights retained its diversity and thrived from new redevelopment opportunities? A longitudinal study of the last quarter of the twentieth century to the present analyzed various economic indicators over time providing some manifestation of change. However, by observing landscape and land use change as well as changing human interactions in the spaces of the redevelopment, its significance was evaluated. Interviews at all levels of the redevelopment project provide insight into the impacts of revitalization of this scale. This research displays how City Heights' restructuring fits into urban revitalization trends, and additionally the perceived successes and failures of these types of redevelopment projects.

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christopher.lippitt@gmail.com. and **Fraley, Grant, W.**, fraley@rohan.sdsu.edu, *San Diego State University*. **Volunteer Hazard Mapping Corps: A student-based Hazard GIS support group.** Building on the success of volunteer efforts coordinated by the San Diego State University (SDSU) Geography department during the 2003 and 2007 wildfires, the Volunteer Hazard Mapping Corps (VHMC) has been established to serve as a group of trained on call volunteers to assist in mapping and analysis efforts required for hazard response and evacuation, while also providing valuable experience to students at SDSU Geography. City of San Diego Office of Emergency Services (OES) analysts are overtasked with mapping and data requests during hazard events and often are not able to exploit all incoming data streams. One of the most visible consequences of this overload is the delayed release of information to the public, who during the 2007 wildfires were informed largely by unofficial sources. Geographic Information Systems (GIS) managers at the San Diego County OES strongly endorse such a group to relieve overloaded GIS offices within the county. Sponsored by the SDSU chapter of the American Society for Photogrammetry and Remote Sensing (ASPRS), the VHMC serves as a valuable educational experience to its student volunteers. Volunteers participate in workshop series focused on the specific data management, processing, and distribution needs of the OES. Students become certified in the data management system used by California OES', and receive instruction from experts in the field. The VMHC offers a service to the region, SDSU Geography students, and SDSU at large. The program is housed at SDSU Geography's Center for Earth Systems Analysis and Research (CESAR) and is populated and managed by SDSU students, faculty, and staff. This presentation will outline our experience establishing a student-based volunteer group for regional GIS hazard response, its effects on San Diego's hazard preparation, and discuss the feasibility of university-based GIS hazard volunteer groups in other regions.

Cortez, Sam, *San Diego State University*. **Globalization and Mexican Immigrant Youth in the US/Mexico Border.** The North American Free Trade Agreement (NAFTA) is the most direct manifestation of globalization in the US/Mexico border. This study examines how these global forces affect immigrant youth in Imperial and Mexicali Valleys. This study uniquely focuses on globalization and on young people within the context of geography. By using qualitative methodologies such as interviews and focus groups, this study examines how young people make decisions concerning work and education in this globalized context. In some instances they choose to become wage earners to help their parents while in other situations they decide to continue their education to earn a college degree. The following research questions are addressed: (i) How do young people decide whether to work or to go to school to live the lifestyle they desire in the future? (ii) What educational and occupational options do young people have where they live? (iii) How are these options tied to the condition of the border economy created by globalization, and does it hinder or enhance the future well-being of young people? (iv) Are young people on both sides of the border impacted equally?

Craine, Jim, jwc53531@csun.edu, *California State University, Northridge*, and **Curti, Giorgio Hadi**, cedarboot@gmail.com, *San Diego State University*. **(En)Acting Rio: Law, Desire And The Production Of The City In Jose Padilha's *Tropa De Elite*.** Our engagement with Jose Padilha's 2007 film *Tropa de Elite* is apropos to larger discussions

of the role of desire and law in the formations of geographies of place. It is *Tropa de Elite*'s exploration of the transformative potentialities of law within the everyday and mundane world through its central character, Captain Roberto Nascimento (Wagner Moura), that evokes the film's true social and cultural significance. Contextualizing the Rio de Janeiro landscape as a particular economic order through which its characters have literally and metaphorically profited and lost uncovers *Tropa de Elite* as a powerful example of what Deleuze (1989, 206-207) has described as landscapes as mental states, and mental states as cartographies, "both [of which are] crystallized in each other, geometrized, mineralized." Through the connections and folds between mental states, landscapes and cartographies, we can see how, through the transformation of the urban landscapes and spaces within *Tropa de Elite*, Padilha accomplishes a qualitative task of exposing often marginalizing and exploitative forces bound up in space, social organization, the politics of place and capitalistic production and consumption.

Curti, Giorgio Hadi and Moreno, Christopher M., *San Diego State University. When a Drug Using Parent Falls, Who is There to Pick Them Up? Institutional Borders, Revolutionary Imaginings, and the Becoming-Adult of the Child. Questions surrounding children's capacities and abilities to exert responsible agency have increasingly become a topic of interest in studies of children. Using empirical examples from Family Treatment Drug Court cases in the San Diego area, we discuss how children entangled in familial circumstances of drug addiction and abuse actively exert care and responsibility in and for the continual remaking of different familial and institutional relationships and spatialities. In the process, we argue, can be found the becoming-adult of the child: a movement of becoming understood not through developmental stages or forms, but by what children do and are able to do.*

Davis, Brittany, bydavis@email.arizona.edu, *University of Arizona. Altering Oceanic Spatialities through Marine Protected Areas.* As scientists, conservation organizations, and governments turn to marine protected areas (MPAs) to protect biodiversity, understanding the myriad spatialities of these areas becomes increasingly important. Turtle Harbor-Rock Harbor Marine Reserve in Utila, Honduras, where the local management authority is currently moving from a passive to an active management role, exemplifies the complexity of the situations developing. The reserve's current condition reflects some of the island's political, economic, and cultural realities of the island and the complex issues faced those seeking to establish and enforce protected areas—whether terrestrial or marine. Understanding these realities may further our understanding of how marine protected areas and the resulting new oceanic spatialities are influencing relationships between terrestrial society and the ocean.

Davis, Kathryn, Kathryn.Davis@sjsu.edu, *San Jose State University. The Lure of the Unknown: Harriet Chalmers Adams, American Explorer, 1904-1937.* Whether crossing Africa, traveling the Amazon River, botanizing South America, or mapping India and Arabia, American women explored the world in the first half of the 20th century. They published important works on India, Devil's Island, South America, Africa, Russia, China, and many other regions of the world. Most of the time they traveled alone, unafraid and undaunted by dangers and privations of exploration. During

their lifetimes their expertise on the geography, culture, ethnography, and environment of the regions they explored was acknowledged and sometimes honored by their [mostly] male peers. However, they were not allowed to join the all-male bastion of American exploration, the Explorer's Club. In response they formed a separate, all-female, organization, the Society of Woman Geographers (SWG). The SWG invited women to membership who made contributions to geography and ethnography. While their accomplishments equaled that of their male peers, they have mostly been disappeared from the history of geography and exploration. This history must be re-conceptualized to include these women and acknowledge their accomplishments. This poster presentation highlights the work of Harriet Chalmers Adams, an early 20th century explorer as well as organizer and first President of the SWG.

Duncan, James, *Oregon State University*. *Building the Skyline: Impacts of development on the spatial pattern of mule deer habitat in Central Oregon*. Land use change affects ecological patterns and processes, and Central Oregon has experienced rapid rural residential development typical of the American West. Plans to develop a large private parcel have raised concerns about possible impacts on mule deer (*Odocoileus hemionus*) habitat and winter range within and around the parcel. Mule deer habitat was mapped to the simulated results of a spatially explicit vegetation dynamics model. The spatial pattern was quantified using measures of patch size, isolation and connectivity to compare present conditions to conditions sixty years later. Mule deer winter range showed small decreases in mean patch size and extensiveness on the landscape and became less isolated. High quality forage increased in mean patch size and connectivity. The spatial pattern of a habitat suitability index showed substantial shifts from higher-rated habitat to lower values of the index, with high quality habitat becoming smaller, rarer, more isolated and less extensive. Future work will use the results of these analyses to quantitatively compare another alternative future in which development is allowed on the private parcel. This pattern analysis and comparison will provide insight into the potential effects

Dutt, Sugato, sugato@hawaii.edu, *University of Hawaii, Manoa*. *Masked by the tiger: an evaluative study of rural livelihoods and conservation values in northeast India*. Western conservation values, which prioritize the ecological problems of endangered wild species over human economic needs, continue to dominate protected area management across the globe. In India, Project Tiger, a nationwide program furthering the protection of tiger habitat, draws legitimacy from biological studies documenting the animal's needs for a large undisturbed home range and an abundant prey base, for coercive policies and prescriptions aimed at creating "inviolable space" for this wild carnivore. The resulting denial of livelihood resources to the local community produces sharp conflicts, which remain unresolved despite recent interventions that include economic incentives for "pro-conservation" behavior. This study of rural livelihoods and their interface with conservation values in the Buxa Tiger Reserve in Northeast India has three objectives. First, it investigates the degree to which individual households are dependent on forest resources for income generation. Second, it examines the variation in attitudes towards management restrictions on the use of biomass resources, across the axes of wealth, education, physical location and ethnicity in these households. Third, it

establishes how support for the conservation agenda varies only according to the capacity of household members for regular monetary income. The study concludes with recommendations on how management could reconcile local values and perceptions with the goal of endangered species management.

Eaton-González, B. Ricardo, eaton@uabc.mx, *Universidad Autónoma de Baja California*, **Ojeda-Revah, Lina**, lojeda@colef.mx, *Colegio de la Frontera Norte*, **Atkinson, Emily A.**, eatkinso@rohan.sdsu.edu, and **Farley, Kathleen A.**, kfarley@mail.sdsu.edu, *San Diego State University*. **Impacts of the change in the Ley Agraria on the development of ejidos within the Tijuana River Watershed.** The Tijuana River Watershed (TRW) encompasses an area of approximately 1750 square miles and is located in the border between Baja California, Mexico and California, United States. In Mexico, where 75% of the surface of the TRW is located, the land is in its majority rural or countryside and has two forms of ownership: collective, in ejidos, communities and colonies, and private. Land tenure and land use on the Mexican side of the TRW have been changing due to two factors: population growth, which demands territory for housing developments and changes in the Federal Constitution and the Ley Agraria. These changes in policy gave ejidatarios the option to sell or rent the land, making it possible to modify land tenure in the ejidos. In this investigation we studied the present state of land tenure in the ejidos located in the TRW and how changes in the agrarian legislation have affected their development. We followed two approaches: 1) Interviews with more than forty ejidatarios, represent the majority of the ejidos within TRW, 2) Statistical and spatial analysis of the data obtained in the interviews. The results indicate that most of the ejidatarios agree with the changes in policy and feel that they have benefitted from them. They also demonstrate that the ejidos nearer the highways and main cities have been most affected, as they have experienced the greatest changes in land use and land tenure. A better understanding of the change in the Ley Agraria and its impacts on the development of ejidos within the TRW could have a positive impact by helping to focus conservation efforts in the region and by highlighting ways in which ejidos can continue to contribute to social, economic, and environmental aspects of development.

Fernandez-Achenbach, Sandra M., sandrageog@gmail.com, *California State University, Northridge*. **An Assessment of Ecotourism Lodges in the Peruvian Amazon.** This study evaluates three rain forest lodges in the northeastern Peruvian Amazon using a set of international ecotourism principles. To meet this objective, I surveyed and/or interviewed indigenous villagers, lodge managers, lodge staff, and ecotourists in the locality of Yanamono. The results showed that all three lodges succeed in 1) providing positive learning experiences and hospitality and 2) conserving the environment - with few compromises. Both of the two older lodges provide some jobs and help to construct utilities, but the oldest has an exemplary Non-Governmental Organization (NGO) to assist with education, conservation, and sustainable business projects. The newer lodge has strong intentions to employ more indigenous people and help more in the community in the future. All lodges might improve their practices by 1) increasing economic linkages between the lodges and local villages 2) conducting environmental impact assessments with the indigenous community 3) including local

staff and villagers in lodge management 4) teaching tourists about poverty, degradation, and lack of representation in the region 5) providing guests with ongoing information on sustainable projects and 6) using lodge income to support acquisition of land rights and advocacy. I concluded that the adoption of a specific set of certification standards and a lodge coalition would unify the community to achieve environmental and economic goals.

Finn, John, finn.j@asu.edu, *Arizona State University*. **Advertising, graffiti, and representations of a Black city.** In the popular imagination of the United States, Brazil is a country of soccer, samba, and bikinis. Representations of Brazil enter the United States through the cultural filters of Pelé—soccer star of generations past— and the Girl from Ipanema. The northeastern city of Salvador, the colonial capital of Brazil and the current capital of the state of Bahia, resides in the vortex between integration into and marginality from the Brazilian mainstream (Moura 2002). In the words of Brazilian historian Antonio Risério (1981, 20), “Salvador is a Black city,” a “Black Rome.” Entering Salvador and attempting to understand the city’s racial make-up in terms of popular visual media in the urban landscape, however, an outsider might never guess that more than 80% of Salvador’s population is of African descent. After giving a short introduction to the urban geography of Salvador and briefly interrogating current thought in race and representation, I will deconstruct some of the most shocking and contradictory images and representations of race in this Afro-Brazilian urban context. I conclude by wondering if much of the city’s graffiti isn’t an informal, grassroots medium through which the dominant representations of whiteness in a Black city are contested, and through which representations of race are democratized on the vertical surfaces of this Bahian capital.

Flaherty, Kevin, kflahert@csulb.edu, *California State University Long Beach*. **Public Data Initiatives: an inquiry into local government practices in Long Beach CA.** Participatory GIS has been a major focus amongst critical GIS researchers for several decades. Amongst the major issues being discussed since the late nineties is the idea of public data initiatives: a situation where local government agencies make data available to community groups for use in neighborhood mapping projects. While data initiatives have been around for many decades in cities such as Chicago, IL and Milwaukee, WI, local governments in western states are less familiar with the idea and are licensing agreements often hinder their development. This presentation will cover the theoretical basis and methodology which went into the administration of interviews at the local government level over GIS initiatives in Long Beach, CA.

Ford, Larry R., larryf@mail.sdsu.edu, *San Diego State University*. **Interstitial Stories: Places Between Theory and Lurking.** Even though some human geographers have finally concluded that the long debate about whether geography should be polarized by emphases on quantitative techniques, critical theory or other sub-disciplines should be put to rest and the approaches merged, this is easier said than done. People tend to get embedded in a research identity and become more specialized as new contexts are developed to package favorite topics. This usually leads to criticism of the "other side". My goal here is not to suggest merging approaches so much as exploring the spaces

between them by "lurking"--that is open minded, informal, unobtrusive, but intensive observation. But structure is still needed. Without some theory, academic efforts can be simply slow journalism. By becoming familiar with, but not committed to, new and interesting theories, one can explore places without trying to substantiate or prove those theories but simply to see if they can be helpful. This is what I have been attempting to do for decades as a geographic lurker. I present here several case studies in which I used some familiarity with different theories to inspire productive experiences in, and descriptions of, places as both unique and representative entities.

Fraley, Grant W., fraley@rohan.sdsu.edu, *San Diego State University*. **Generation and Evaluation of Diverse Design Alternatives for Spatial Optimization Problems.** The world presents complex situations for which decision-makers and stake-holders require methods to intelligently design a course of action. Stake-holders in a situation often articulate views that are conflicting to varying degrees. Thus, it is natural to desire multiple alternative designs that decision-makers can choose among, which also embody the objectives of those involved. Multi-objective genetic algorithms (MOGA) are a class of heuristic computation method that operates with a population, or set, of solutions to an optimization problem. Upon formulating a mathematical optimization problem from decision-maker objectives, a MOGA can be used to generate a potentially diverse solution set of alternatives. The optimization problem then becomes a task of evaluating the solution set to arrive at an ultimate decision. This research presents a generative-evaluative methodology for optimal decision-making in complex scenarios. A spatially adaptive MOGA is utilized first to generate robust trade-off options, then interactive multi-attribute decision analysis (MADA) tools are used in conjunction with geographic maps to identify salient solutions, and these key solutions are then further evaluated against each other using spatial criteria. The multi-phase, generative-evaluative spatial decision analysis methodology is illustrated on a problem of designing an environmental sensor network for radioactivity monitoring in Germany and the Netherlands.

Freeman, Mary P., freemanm@rohan.sdsu.edu, *San Diego State University*. **Temporal and spatial patterns in conifer mortality in San Diego County: an object-based remote sensing analysis.** This retrospective study examines trends in mixed-conifer mortality from 1997 to 2005, in three montane study areas in San Diego County, utilizing 1 m resolution digital airborne image data. Object-based remote sensing methods have an advantage over per-pixel methods in their ability to incorporate spatial/contextual information. Initially, the effectiveness of two object-based approaches to detecting dead trees from high spatial resolution imagery was examined: (1) a segmentation and multi-pixel classification approach, and (2) a spatial contextual approach that uses an artificial neural network classifier. These approaches were tested and one was preferentially selected based on several criteria, including accuracy assessment and ease of use. The map products were then improved further utilizing manual editing techniques. Preliminary assessment of resultant maps gives insight into trends in mortality conditions for Palomar Mountain, Volcan Mountain, and Laguna Mountain.

Fuentenebro, Pablo., pfuentenebro@ucla.edu, *University of California, Los Angeles*. **Public Buildings in Capitalist Urbanization: The French example.** Despite numerous

claims that pointed out to the abdication of the State in favor of the market economy at the turn of the century, the most recent experiences have not only shown the failures of laissez faire policies but also the need for State intervention. In this context, both architecture and public buildings stand out as significant examples: even if from its very origins, and even before, the modern State played an active role in the construction of museums, opera houses, monuments and other cultural amenities, over the past few years we have witnessed a renewed interest in the development of such cultural infrastructures. While some authors have tried to explain this phenomenon from a contemporary point of view, linked to the emergence of a “new economy” and place-marketing policies along with the renaissance of a so-called iconic architecture, less efforts have gone into putting this argument in a wider frame of reference, this is, within the context of State-led national policies. By looking at the case of France and the implementation of its cultural policies over the past two decades, this paper provides an alternative account of the relationship between the State, French society and the cultural economy.

Fusch, Richard, rdfusch@owu.edu, *Ohio Wesleyan University*. **The Mauling of Columbus, Ohio: Public Policy, Social Change, Mall Wars and Lazarus Rising (?)**. Opened in 1909, by 1970 the “downtown” Lazarus in Columbus was the second largest department store in one building in the U.S. In 1964 Northland, Columbus first suburban mall opened. In 1989 the Columbus City Center Mall opened connected by a pedestrian bridge to the “downtown” Lazarus. In the 1950’s city government, in a series of public utility and housing development policies, created “corridors of potential annexation” for the city so that it would not be closed off from future annexation by its incorporated growing suburbs. In 1954 the U.S. Supreme court passed the school desegregation ruling *Brown vs. Board of Education*. From the mid-1950’s Columbus underwent large-scale suburbanization with concomitant decline of its inner city. Simultaneously the annexation and development policies contrived with state government policy to “get around Brown” in newly annexed areas. Furthermore, in the mid-1990’s the city of Columbus began using a variety of public/private partnerships including Tax Increment Financing to foster both inner city re-development and suburban mall construction which lead to “mall wars,” the closing of Northland and recently the closing of the City Center Mall and the venerable Lazarus Department store. Now, the city is trying to revive the Lazarus building while razing the City Center Mall. This paper examines the complex role of public policy in shaping both the unique geographic character of suburbanization in Columbus, and the geographic character of social change in the city and the simultaneous decline of an inner city the city government long attempted to sustain.

Garmany, Jeff, garmany@email.arizona.edu, *University of Arizona*. **Religion and governmentality: explaining governance in urban Brazil**. In this paper I argue that geographies of religion are fundamental to understanding how governance and social order become constituted in contemporary urban space. More specifically, I show how Foucault’s notion of governmentality characterizes regimes of power beyond just the state apparatus, positing that religion and churches also produce and maintain the knowledges, truths, and social order associated with governmentality and self-regulated governance. By considering the geography of religion literature within the context of

Foucault's work, I illustrate the importance of religious and spiritual practices to contemporary urban space, and the roles they play in producing and maintaining governance and socio-political order. My purpose is not to suggest that governmentality has been misapplied as a theoretical tool for understanding the state and political power, but to show how the term actually describes power more generally, including spiritual and ethical moments in addition to political ones. In order to substantiate my theoretical argument with empirical examples, I draw upon my own case study in the *favela* (urban slum) community of Pirambu in Fortaleza, Brazil, showing how governmentality is produced through religion and churches and the relationship between spiritual practices and governance in everyday space.

Gervais, Stephen, sgervais@usc.edu, and **Stuemky, Matt**, stuemky@usc.edu, *University of Southern California*. **Just How Accurate is your Trimble?** The Trimble Nomad, a mapping grade GPS device, claims a positional accuracy of 2-5 meters. The objective of our project was to test this claim using the sub-meter accuracy of the higher quality Trimble GeoXH as a reference device. This study was designed to evaluate the Nomad's capabilities under different satellite coverage conditions and to ascertain if positional accuracy can be improved by applying differential correction techniques. To minimize the effects of multi-path signals, the study was conducted along an open ridgeline on Santa Catalina Island. The data collection methodology involved using the GeoXH and Nomad simultaneously to map selected ridgeline features as points, lines and polygons. Two separate data collection excursions were completed, one coinciding with a period of good satellite coverage (low PDOP) and one with reduced coverage (high PDOP). Post-processing of field data involved applying differential corrections from selected base stations. This data was then imported into ArcMap to produce analysis maps used to measure the distance between paired point and line features created by the GeoXH and Nomad. To compare the sampled values from the analysis maps a two-factor ANOVA statistical analysis approach was used. Final results revealed a significant difference in the Nomad's positional accuracy between periods of high and low PDOP. Nevertheless, the Nomad did fall within the manufacturer's claims of 2-5 meter accuracy when used in unobstructed areas.

Getis, Arthur, *San Diego State University*. **Dengue Virus Transmission in Thai Villages.** The World Health Organization estimates that there are 50 million cases of dengue infection annually. In its most virulent form, dengue hemorrhagic fever (about 5% of all dengue cases), the death rate is a bit less than 5%. Dengue is a tropical infectious disease that is endemic in Southeast Asia. The main vector for the transmission of the disease is a mosquito, *Aedes aegypti*. Global warming is increasing the spread of *Aedes aegypti* and the disease to new areas. Currently, there is no vaccine available to reduce the spread of dengue. It is estimated that 2.5 billion people are now at risk from dengue. In this study I report on a relatively small part of a large study on the transmission of the disease in a central province of Thailand called Kamphaeng Phet. The goal is to attempt to trace the spread of the disease on a local level, that is, within villages. Once it is known exactly how the disease spreads, control mechanisms already in place can be upgraded to better anticipate the location and virulence of a disease outbreak. In this study we report on the capture of female *Aedes aegypti*, the

determination of mosquito viremicity, the symptoms of the disease within our sample population, and their relationships to the number of observed cases of dengue. We conclude that our study design that identifies the disease within hours of its manifestation represents a useful model for the control of the disease.

Goerisch, Denise, goerisch@mail.sdsu.edu, *San Diego State University*. **Smart Cookies: Performances of Capitalism in the Girl Scout Cookie Program.** For the past 75 years, Girl Scouts have been selling their renowned cookies to family, friends and neighbors in order to raise funds for their troops and local councils. In 2008, the Girl Scouts extended this program to their youngest ranking scouts, the Daisies. Unlike other youth-oriented fundraisers, the Girl Scouts has transformed their annual fundraiser into an educational program, which teaches scouts business and leadership skills such as customer service, marketing, goal-setting and budgeting. Themes of personal success in relation to financial and personal growth are particularly stressed as is the importance of women's roles as performers of emotional labor within a capitalist society. In this paper, I will explore how the Daisy Cookie program encourages very young girls to perform gendered constructions of capitalism, with the expectation that they 'become' practicing capitalists—an expectation that simultaneously reinforces and challenges traditional gender roles in Western capitalist societies. By utilizing Judith Butler's theories on performativity, I will investigate how this program creates a dynamic space that perpetuates modern constructions of girlhood and capitalism, while also challenging these same dominant ideologies.

Grant, Andrew, *University of California, Los Angeles*. **Globalizing Place in Christian Missionary Work in China.** Since Deng Xiaoping initiated the Opening Up policies, religious groups in China have become more active and religious affiliation has increased. As restrictions on foreigners' presence and autonomy have eased, foreign missionaries have reentered areas closed off to them since the beginning of the communist period. In Western China, missionaries are enrolling in schools, opening small businesses, and engaging with locals in ways never before possible, despite the continuing illegality of missionary work. This paper will look at the methodology of modern foreign Christian missionaries in China's western Qinghai Province and how they employ specially crafted places as catalysts for religious conversion.

Gregorio, Aline. *California State University, Fullerton*. **The Caiçaras of Serra do Mar: Perspectives for Participatory Conservation.** The Brazilian Atlantic Forest, a biodiversity hotspot, is a forest of high priority for conservation. From its original extent, there is only 7% of left to represent the original forest. Consequentially, it is one of the South American regions with the most areas under strict protection that combines different strategies of ecological stations, parks, forest reserves, and private reserves. With much of the protected areas designated as restrictive, the local traditional group, the Caiçaras, face the impositions of conservation goals in their way of life. Considering that much of the rainforest areas where Caiçaras reside have been well preserved, it has been argued that these populations are responsible for the conservation of these forests. This paper addresses the implications of an analysis of the Caiçaras as isolated subjects of study in the midst of one of the most dynamic regions in Brazil. I draw from geographical

and historical research that focus on the dynamics of this group within the regional context and point out various factors that have contributed to the relationship of the Caiçaras to the surrounding forest in addition to the implemented conservation areas and its restrictions on traditional use.

Guthey, Greig T., gguthey@csusm.edu, *California State University San Marcos*. **A Comparison of Sustainability in California and New Zealand's Wine Industries.**

Connecting agricultural production with environmental quality is quickly becoming a significant factor influencing food purchases, retailer marketing, and farming practices. In California, research shows that the wine industry in particular has strong linkages are making these connections. But New Zealand wine seems to be making the largest strides in achieving agro-environmental goals where wine producers themselves appear to be prospectively embracing change through industry policies and collective marketing that promote the country's wine as "pure discovery." By contrast in similiarly ecotopian California, it has been more difficult to develop broad policies, hence a more voluntaristic approach predominates in California through the use of land trusts, codes of conduct, and the like. This paper presents new work exploring the differences contained in the two industries' embrace of environmentalism.

Hauselt, Peggy, Phauselt@csustan.edu, *California State University, Stanislaus*.

Employing Sampling Techniques to Analyze Historical Plant Cover Change on Santa Rosa Island, California. Santa Rosa Island, part of the California Channel Islands National Park, was intensely grazed by introduced cattle and sheep for over 150 years. This study examines the dynamics of plant cover change during the twentieth century, specifically if there was expansion of the grasslands, dominated by introduced annuals, at the expense of communities dominated by native woody plants. An earlier study of land cover change comparing 1940 and 1994 aerial photos overlays found minimal change that was well within the margin of error of the aerial photo processing and complicated by reduced quality due to shadowing as a result of topographic variability. The historical photos are being re-analyzed using ecological sampling techniques to see if a smaller, carefully analyzed set of observations more accurately detects overall plant cover changes. The study is being expanded to include aerial photos from 1929. Such sampling techniques may be useful in analysis of older aerial photos of poor quality.

House-Peters, Lily A. housepet@pdx.edu, *Portland State University*. **Suburban Residential Water Consumption in the Pacific Northwest: A Spatial Analysis of Determinants and Climate Sensitivity in Hillsboro, Oregon.** The Portland, Oregon suburb of Hillsboro has experienced rapid population growth and development over the last decade. Significant increases in residential water demand are a product of population growth, climate change and the type of urban development that occurs. This study analyzes the spatial patterns of single family residential water consumption in Hillsboro, Oregon at the census block scale. The dual objectives were to determine the significant factors influencing single family residential water consumption in Hillsboro and to ascertain the sensitivity of water consumption to drought and interannual climate variability. Using Ordinary Least Squares multiple regression and spatial regression methods, we found that base use, representing indoor water use, is dependent on

household size and that seasonal use, representing external water use, is dependent on both education level and the size of the property's outdoor space. Spatial analysis techniques determined that although the water demand of the study area as a whole is not sensitive to drought conditions, certain individual census blocks do respond with a higher magnitude of water use. The most climate sensitive census blocks tend to contain newer and larger homes, have higher property values and more affluent and well-educated residents.

Hung, Yvonne, YHung@gc.cuny.edu, *City University of New York*. **How young activists of color in Harlem learn, express and enact their geographical imagination.**

The period of adolescence is strongly associated with explorations of one's identity, values and surroundings. Youth organizations can offer a platform for young people to take part in community organizing and campaigns for social justice. Through the process of becoming politically engaged, young people are tapping into and expanding their capacity to perceive, analyze and engage with the environment. There is little research that considers the contexts in which the geographical imagination develops in young people and how this concept relates to emergent youth identities as political actors and activists. Interviews, participant observation and a mapping project were conducted over the course of the yearlong case-study at a Harlem-based organization. This interdisciplinary research clarifies the concept of the geographical imagination in relation to young people, and offers a framework for understanding how young people learn, express and enact their critical consciousness about the social and material world. By extending and articulating the concept of the geographical imagination in relation to social justice and community change, this work contributes to understanding and establishing conditions for young people to not only see things as they are, but how they could be.

Ibes, Dorothy C., dibes@asu.edu, **Larson, Kelli L.**, kelli.larson@asu.edu, and **Wentz, Elizabeth A.**, wentz@asu.edu, *Arizona State University*. **Identifying the Water Conservation Potential of Neighborhoods in Phoenix, AZ: An Integrated Socio-Spatial Approach.** The provision of freshwater, potable water to sustain rapidly growing urban populations is an urgent challenge of the 21st century, especially in the face of rising water demands and climate changes that foreshadow a potentially drier and warmer future. A key strategy for sustainable water resource management in cities is enhancing water use efficiencies in the residential sector, which accounts for a significant portion of overall demand. For conservation programs to be effective, knowledge about the determinants of water use is essential. In the past, studies have examined demographic and structural characteristics of households and residential properties to understand the significant drivers of metered demand. A related but largely parallel body of work has examined human understanding as a predictor of reported water use and conservation, with few linkages to actual rates of consumption and mixed results concerning the relationship between perceptions and behaviors. Through a novel approach integrating metered water use and social survey data into a Geographic Information System, this paper examines how residents' perceptions about water consumption correspond to actual residential demand in Phoenix, Arizona neighborhoods. Utilizing geospatial and statistical analyses on diverse spatially

referenced datasets, we develop a typology characterizing the socio-spatial relationship between water use, perceptions, and additional determinants of neighborhood-level demand. Of critical importance to water managers and conservation planners, we pinpoint areas where addressing high consumption rates is confounded by the perception by many residents that they use less water than they actually do.

Ilicheva, Aleksandra, aleks@vis.caltech.edu, *California State University, Northridge*, and **Hayes, James**, james.hayes@csun.edu, *California State University, Northridge*.

Reconstructing the Sepulveda Basin Wildlife Preserve. This project focuses on urban wildlife geography of the San Fernando Valley (SFV). To create a deeper understanding we take an historical perspective on the ecology of SFV landscape: examining how human institutions act as ecological processes to modify landscapes, and in turn, the landscape and non-human agents shape institutions in a continuous cycle. Of particular interest are institutionalized attitudes about wildlife and how they have changed and developed throughout time. Sepulveda Basin Wildlife Preserve is used as an example of an environment that has been modified as the rest of SFV has, but then altered and “revegetated” in attempt to acquire a more native condition. The preserve provides habitat for many native plants and animals, as a result of changes effected by contemporary institutions quiet in contrast to their antecedents. Still, as an artificial construction surrounded by urban area, it cannot be considered “wilderness” in a tradition sense. We argue that in the context of highly urbanized and still-expanding landscape such as SFV, for a successful effort to restore wildlife ecology we must think in terms of wildness rather than wilderness. The former constantly changes and forges its own space, rather than being confined to a specific state and location.

Jackiewicz, Edward, and **Davidson, Ron**, *California State University, Northridge*. **Re-assessing the role of parks as public space.** Public spaces are seemingly increasingly difficult to define or identify in urban areas. When people go out “in public” they more than likely are referring to a trip to the store or mall or restaurant where their interaction with others is often of a secondary nature, e.g. the waiter at a restaurant. Aside from being distinctively ‘private spaces’, they often are delineated along class and/or racial/ethnic lines. In the purest sense, public spaces ought to be freely accessible and highly integrative. Carr, et al. (1992) posit that public spaces should be “meaningful” whereby people can integrate the place with their own lives and the larger world around them. They also argue that these places must be democratic and serve the needs of their users, identified as: comfort, relaxation, passive and active engagements with nature (including the place and people), and discovery. Not that all of these objectives and needs are met at every place, but that a good (i.e. well-conceptualized and designed) public space will meet more than one of these. A looming question within this discussion is whether people feel the same way about public space as do academics and other like-minded individuals. To this end, surveys were administered to residents of the San Fernando Valley. The results indicate that many prefer an outdoor park-like public space to a mall, but perhaps we need to reconsider the design and role of parks in urban areas. This paper is part of a larger project on public space.

Jankowska, Marta, mjankows@rohan.sdsu.edu, *San Diego State University*.

Geodemographics for Small Area Population Projections: The Case of Leipzig.

Throughout Europe and other developed nations demographic shifts are fundamentally altering the spatial and demographic makeup of cities. These shifts are pronounced in Eastern Germany, where out migration coupled with below replacement fertility and population aging is resulting in shrinking cities. The shrinking process raises a number of questions as to the future of such cities. Yet if planned for, shrinking may also provide for an opportunity to revitalize the urban core, reduce urban sprawl, and plan for efficient environmental and infrastructural changes. The city of Leipzig is one example of a shrinking city with a number of potential policies being discussed by its local government to revitalize and restructure the urban space. What might the spatial demographic makeup of Leipzig look like in 40 years if some of these policies are implemented? This paper utilizes geodemographics, the analysis of people by where they live, to model migration patterns into, out of, and within Leipzig under a number of shrinking city policy scenarios. These modeled migration patterns are then integrated into population projections for the city, resulting in a number of potential demographic structures for the city in the year 2050.

Johannessen, Carl L. carlj@uoregon.edu, *University of Oregon.* **Reawakening Civilization's History – Faunal Evidence for Transoceanic Diffusion Before 1492.**

This article lays out the archaeological evidence that exists for animals having been moved from the Old World to the Americas as well as in the other direction, long before 1492. Eight animals have been found in early archeological digs. These animals originated on continents which are separated by the Atlantic or Pacific Ocean then prior to 1492, transferred to the Americas from the Old World or to the Old World from the Americas. The only rational explanation for these discoveries, knowing what we have learned about the transportation of plants, is that there was regular, repeated, and sustained interaction between the Old World and the Americas prior to 1492.

Keese, James R., jkeese@calpoly.edu, *Cal Poly State University, San Luis Obispo.* **The Geography of Volunteer Tourism: Place Matters.** The use of volunteers is increasingly prevalent as a method of carrying out work by non-governmental organizations (NGOs), especially in less developed countries. Volunteers pay for the opportunity to participate in community-based development work. They are engaged in an emerging field of study known as volunteer tourism. However, some places receive more volunteers and program assistance than others, which reflects a larger pattern of concentration or clustering of development assistance by NGOs. This paper examines where international volunteer organizations send volunteers and why certain countries and locations were chosen. Volunteers generally go where tourists want to go. Because of this, I also examine how these NGOs use locational factors, place images, and tourism activities in the design and marketing of their programs. The organizations studied in this paper are the twelve members of the International Volunteer Programs Association (IVPA). Data were gathered through a review of organization web-sites and interviews with staff. A case study highlights student volunteers working in Latin America for *ProWorld Service Corps*.

Kennedy, Christina B., tina.kennedy@nau.edu, *Northern Arizona University.* **The**

Tourist's Gaze? – On Exploring Photographs to 'Re-present' Cultural Contradictions in Northwestern India. Using an autobiographical approach, this paper/photo-essay looks critically at my attempt (as a geographer on sabbatical, volunteer with Cross Cultural Solutions, and tourist) to capture 'representative' images for use in courses on cultural and world geography. Images are from Himachal Pradesh, Punjab, and Delhi. Aspects of Buddhism, Hinduism, Sikhism and Islam; urban versus rural; and the Women's Team Badlav Ki Aur are discussed. Also discussed are ethical considerations and the attempt to represent the 'unrepresentable'.

Kitson, Jennifer, Jennifer.L.Kitson@asu.edu, *Arizona State University*. **Dwelling in Distance: Nostalgic Practices of Home and Place in the Coronado Residential Historic District.** Born out of a sense of "homelessness" associated with the modern condition, notions of dwelling and nostalgia have been accused of a debilitating backwards glance. Yet, practices that attend to the past, those that invoke personal and collective memories, have been identified as critical in the making and remaking of place. Residential historic preservation, one aspect of the burgeoning "heritage industry," presents an intriguing intersection of dwelling and nostalgia. I pair writings on "productive" or "critical" nostalgia and dwelling to frame residential historic district inhabitation as practice and performance. Using ethnographic methods, I explore the meaningfulness of residing in an inner-city residential historic district, the Coronado, in Phoenix, Arizona. A sense of caretaking and cultivating difference permeates the Coronado, much more than preservation of homes by adherence to prescribed codes. Rather than forging an overarching narrative, "dwelling in history" in the Coronado is experienced through engagements and incidental stories that emerge in relation to the built environment. Affective currents between residents, historic homes, and features of the environment communicate a sense of familiarity, of bodily connectedness in the world. In light of the nuances, subtleties, and "matterings" of dwelling revealed here, I argue that the notion of historic preservation warrants scrutiny and rethinking.

Klein, Marti L., mklein@saddleback.edu, *Saddleback College*. **A Tale of Three Neighborhoods: Housing preferences and Chinese-American home buying behavior in Irvine, California.** According to an old Asian proverb promoting conformity, the tallest nail gets hammered down. Anecdotal evidence suggests that cultural norms pertaining to conformity influence home buying decisions of Chinese-Americans in the ethnoburb of Irvine, Orange County, California, in that they appear to prefer those single family detached dwelling units that have uniform exteriors. In order to conduct a preliminary test of this assumption, an empirical analysis of home buying patterns was performed based on sales data from three adjacent single family detached home neighborhoods in Irvine's Westpark planned unit development, as well as on interviews with local real estate agents. Study variables included buyer ethnicity, unit size, unit age, and exterior building uniformity, among others. The preliminary analysis appears to support the anecdotal evidence. Chinese-American home buying behavior is consistent with the proverb in that uniformity of dwelling unit exteriors

Koelsch, William A., wkoelsch@cox.net, *Clark University*. **Henry Fanshawe Tozer: A "Missing Person" in Historical Geography.** This fragment of an ongoing research

project into the historical relations of geography and classics introduces a minor but significant scholar, Henry Fanshawe Tozer (1829-1916). Tozer's lectures on the geography of ancient Greece as part of an effort to modernize Oxford University's curriculum, his exploratory travels in the Balkans, the Aegean and Asia Minor that resulted in three classic volumes, his book of selections from Strabo as a geographical alternative to standard classical texts, and his well-regarded *History of Ancient Geography* entitle him to consideration from geographers. Most of his books have been reprinted (from 75 to 130 years after their initial publication), and he was regarded in his own time as a geographer. Yet few Anglo-American geographers today know of his work. His selection for the *Dictionary of National Biography's* "Missing Persons" volume in 1993 and his omission from more recent surveys, such as those in the 2003 British Academy volume on British geography, suggest how much more we have yet to learn about the nineteenth-century roots of our discipline.

Kuzera, Kristopher., kuzera@rohan.sdsu.edu, *DePaul University, San Diego State University*. **Examining the potential link between climate and dengue hemorrhagic fever (DHF) in Thailand.** The scientific community has widely accepted that climate plays a key role in the sustainability and transmission of many infectious diseases. Global climate change can potentially trigger the spread of infectious disease into new regions and increase the intensity of disease in regions where disease is already present. Dengue fever transmission is a serious concern for Thailand where warming temperatures may increase the size of the habitat of the disease-spreading vector, the mosquito *Aedes aegypti*. This research examines the relationship between dengue hemorrhagic fever (DHF) and climate in Thailand by linking monthly climate conditions to monthly rates of DHF between 1983 and 2001, and determining their correlation at various temporal lags throughout different spatial regions. The results indicate that daily minimum temperature is highly correlated to that month's logged DHF rates, while the daily maximum temperature is highly correlated with the logged DHF rates three months following. Understanding the link between climate and DHF can help identify potential areas of increased risk, particularly during months when transmission is highly variable from year to year.

Lee, Der-Shiuan, dlee11@asu.edu, *Arizona State University*. **Interregional Networks of Coinvention in Biotechnology Corporate Space.** The relational aspect of economic geography has come to offer a number of strong streams of ideas and considerable case evidence in support of the argument that knowledge flows are highly related to a combination of local/global network connections. This broadening scope of knowledge circulation in relational space explores an alternative way to conceptualize the spatiality of innovation. This study offers an empirical examination by exploring the geography of knowledge flows in biotechnology. It works with important new insights in economic geography that stress the role of relational proximity in the interregional networks of co-invention. The nodes indicate the U.S. metropolitan regions with multiple knowledge connections of varying intensity and spatial distances, while the links signify the existence of collaborative work between the regions drawing them to be relationally close. I apply social network concepts and analytical techniques, as well as graph theory to investigate the structure and evolution of co-invention networks and knowledge flows

within and across regions. The space associated with these regions is called the biotech corporate space where knowledge circulation takes place. I argue that the biotech corporate spaces are not constrained by geographically close, but rather reveal the possibility of relational proximity that even associates with distant places. In this study, I interpret some measures of social network analysis as key features of the structure of interregional networks of biotechnology co-invention.

Lippitt, Christopher; Freeman, Mary; LaMantia-Bishop, Jeffrey and Pang, Wyson, San Diego State University. A principle step in most object-based image analysis (OBIA) techniques is the regionalization or segmentation of image data. Segmentation routines are typically performed on spectral bands, despite the demonstrated utility of data transformations to improve the discrimination of many landscape features of interest during image classification. This research explores the effect of input data transformations on segmentation quality and classification accuracy, presents a novel technique for the calibration and validation of segmentation, and provides a quantitative assessment of the relationship between segmentation quality and classification accuracy. To explore the effect of a range of input data transformations on segmentation results, an object based land use classification of Accra, Ghana is performed. Several common data transformations, spectral mixture analysis, compression transformations, and vegetation indices, are used as segmentation inputs, and the results are compared. Segmentation results are validated against reference building and tree objects generated through heads up digitizing of Quickbird panchromatic data. The effect of segmentation quality on classification accuracy is assessed by relating segmentation quality to overall map (classification) accuracy and kappa index of agreement. Results indicate that input data transformations can enhance segmentation results and that there is a significant relationship between segmentation quality and classification accuracy.

Meehan, Katie., kameehan@email.arizona.edu, University of Arizona. Reclaiming a Commons: Water Theft as Community Economy in Tijuana. Theft of municipal water is widely considered to be symptomatic of institutional failure and poor governance, particularly in cities of the global south. For the World Bank, theft *is* anti-development: ‘non-revenue water’ takings are unlawful, wasteful, and inefficient. Despite these claims, water theft is often the only means of creating supply for marginalized and non-provisioned citizens. The mechanics of this shadow economy remain in the dark. How is illicit water use managed? What are its economic characteristics? In what ways is theft a successful provisioning practice? Drawing on ethnographic research of two cases of illegal water use in Tijuana, Mexico, I make three arguments. First, using the principles of institutional design, I demonstrate that even theft has rules: unauthorized access is governed by clearly defined norms and decisions that shape water use. Second, I unsettle notions of ‘community-based’ development by showing how the ‘commonality’ of these institutions occurs at specific moments of accumulation and distribution. Finally, I argue that water theft does not necessarily ‘resist’ the state or development initiatives, but reclaims a commons through a remarkably effective system of noncapitalist and socionatural practice –in effect, a community economy.

Monk, Janice, jmonk@mail.sbs.arizona.edu, *University of Arizona*, **Foote, Kenneth E.** k.foote@colorado.edu, *University of Colorado*, and **Schlemper, Beth**, MSchlem@utnet.utoledo.edu, *University of Toledo*. **Graduate Education and Careers in Geography: Student Aspirations and Faculty Expectations.** How well do the career aspirations of graduate students in geography match the expectations of the faculty with whom they are studying? As part of the AAG's EDGE (Enhancing Departments and Graduate Education in Geography) project, we addressed this question by interviewing students and faculty in a stratified random sample of five doctoral and five masters departments across the US. While approximately half of the doctoral students aspired to academic careers, their discourse foregrounded teaching rather than research. Many expressed willingness to consider careers outside academia and were ambivalent or unclear about their options. In contrast, many doctoral faculty focused on preparing students for careers in research institutions and expressed limited capacity to advise students about other options. Masters students primarily aspired to applied careers in government or business. Their faculty recognized these aspirations and adapted curricula to meet them, especially by incorporating internships into graduate education. Because of the limited number of faculty in masters departments, however, and the demands in some hybrid programs (such as geography and planning), they encounter challenges in meeting their goals. We nuance these findings by taking into consideration program location and the gender, ethnic, and international origins of students.

Morrow, Rosa M., rmmorrow@hotmail.com, *University of California, Los Angeles*. **Body as a Place-based Trigger for PTSD.** In cases of sexual assault, the ensuing psychological treatment frequently separates human bodies from the location where the trauma occurred. While recognizing that one treatment of place-based psychological trauma is to avoid activities, places, or people that arouse recollections of the trauma, this approach fails to include the body itself as a place of trauma. What happened when a victim treats her body as a place of trauma? This paper examines Hatha yoga and Chinese medicine as healing modalities when a body has experienced sexual assault, focusing on how individuals alter the landscape of their bodies to deal with the trauma. Most individuals diagnosed with PTSD are treated with "talk therapy." Most victims are lead to intellectualize, minimize, and/or rationalize an attack on their body, thus ignoring the fact that PTSD can also be triggered by being in place in an inescapable body. This ignorance can lead to corporeal changes through eating disorders, dissociation, spinal alignment, body knots and spasms. Western therapist need to link psyche and physical behavior in ways that are currently standard for a shaman, yogi or acupuncturist. The effect of a traumatic event on the body's material landscape can be compared to the human manipulation of cityscapes, forest, rivers and even rainfall. Frequently in Western culture, victims are taught to override these bodily changes by ignoring the body as a place of assault in order to prevent feelings of being physically deviant. This can result in auto-abusive behavior that changes the shape of the body.

Naraghi, Nazanin, nna19@sfu.ca, *Simon Fraser University*. **That Obscure Object of My Desire': The Islamic Republic of Iran and the Films of Mohsen Makhmalbaf.** Processes of nation building and the development of the national subject have long captivated geographers. Filmmaker Mohsen Makhmalbaf over the last three decades has

illustrated many of the central nation-building strategies of The Islamic Republic of Iran. Through his films and his personal experiences as an Iranian subject I will discuss some of the complexities of these nation-building ideals. Of primary concern is the appropriation of fundamental mystical Islamic principles such as death, sacrifice, and unity by nationalistic ideologues to engineer the master signifier of the Islamic Republic. I draw connections between the concept of *das Ding* (that which resists symbolization) as understood by Jacques Lacan and national identity. Through Lacan's theorizations of *das Ding* and *objet petit a* (object-cause and support of desire) I consider the relationship between the organization of fantasy, desire, enjoyment and lack and its expression through nation-making ideology. George Bataille's notion of the continuity of existence and unification of community as revealed through death and sacrifice is also elaborated upon through the films of Mohsen Makhmalbaf.

Narins, Tom, tnarins@ucla.edu, *University of California Los Angeles*. **Winning Twice: China's Natural Forest Protection Program and the Russian Far East.** China's economic transformation has been fueled in part by its ability to harvest natural resources in bulk and transform primary commodities into finished goods that people in wealthy world economies want to buy. The passage of China's Natural Forest Protection Program in 1998 has enabled the Chinese government to protect its domestic forest resources while simultaneously encouraging Russian Far East timber imports. China's ability to harvest and process Russian Far East timber has been economically beneficial in terms of growing the Chinese economy -- so much so that China will soon become the dominant economic player in the Russian Far East. This paper focuses on how this domestic environmental protection law facilitates the stability and growth of China's timber industry while simultaneously fostering China's commitment to environmental protection at its northern neighbor's ecological expense. The increase of this bi-national timber trade serves as a clear indicator of China's growing economic influence in the Russian Far East.

Ojeda-Revah, Lina, lojeda@colef.mx, *El Colegio de la Frontera Norte*, **Eaton-Gonzalez, B. Ricardo**, ricardoeaton@hotmail.com, *Universidad Autónoma de Baja California*, **Farley, Kathleen A.**, kfarley@mail.sdsu.edu, and **Atkinson, Emily E.**, eatkinso@rohan.sdsu.edu, *San Diego State University*. **Land-Use Change In The Tijuana River Watershed: One Basin, Two Patterns.** The dynamics of land use change in a watershed spanning two countries is an excellent laboratory to study the outcomes of different policy approaches, land use tenure structures, and legislation. Understanding urban spatial and temporal dynamics can help in both monitoring and mitigating environmental impacts. A multitemporal land cover/use change analysis was carried out in the Tijuana River Watershed (TRW), a binational river basin between Mexico and United States, for the period between 1994 and 2005. Based on 1994 NOAA color images and 2005 ASTER images and using ArcGis 9.2, land use/cover maps were constructed for each year at a 1:50,000 scale. Several landscape ecology metrics were used to determine area, fragments, and change rate per category, and Markov matrices were constructed in order to analyze transitions between categories. On both sides of the border farmlands appear to diminish. On the U.S. side the number of fragments is higher, while on the Mexican side natural vegetation loss and urban area are greater, with faster

urban growth. Urbanization occurs in accordance with a variety of change processes identified in landscape ecology and urban growth models, with differences between the two countries. However, urban growth trends on both sides of the border create barriers between U.S. and Mexican ecosystems, with implications for conservation planning and policy.

Ormerod, Kerri Jean, ormerod@email.arizona.edu, *University of Arizona*, and **Scott, Christopher A.**, cascott@email.arizona.edu, *University of Arizona and Udall Center for Studies in Public Policy*. **Drinking Highly Treated Wastewater: Public Trust in the Next Water Frontier.** Urban demands for water are increasing in Arizona, the fastest growing and driest region in the Southwest. Planning to meet the needs of anticipated rising municipal water demands is a significant challenge for water managers. To secure future supplies, potable water reuse is one option under consideration. Potable reuse supplements drinking water supplies with highly-treated municipal wastewater, and is an innovative alternative that attracts substantial public attention. As a political and technological solution to urban water scarcity, potable water reuse is overwhelmingly reliant on experts; professionals who design, regulate, and operate the wastewater treatment and water delivery systems. This research examines how public acceptance of potable water reuse is mediated by trust in the professional institutions responsible for guiding the course of water development in Tucson, Arizona. Here, we assess public opinion by means of a community questionnaire. A sample of over 250 Tucson residents indicates near-unanimous concern for future water supplies (96%); however opinions about the appropriateness of potable water reuse vary widely. Results demonstrate that potable water reuse is a highly politicized local issue where institutional legitimacy, trust, and fairness contribute to individual attitudes. By considering opinions related to political authority and expert legitimacy in Tucson, this study helps to illuminate the larger social context that informs individual risk perceptions and personal decisions to support or reject potable water reuse more broadly.

Perkins, Emily P., eeperkins@gmail.com, *San Diego State University*, and **Biggs, Trent W.**, *San Diego State University*. **Sediment budgets during rapid urbanization: Chronic sediment production from bare soil and road surfaces in Tijuana, Mexico.** The Tijuana Estuary in San Diego County has experienced extreme rates of sedimentation, and erosion from watersheds originating in Tijuana, Mexico has been suspected as a major cause. In order to identify the processes contributing to the sediment loading, erosional features were mapped and a first-order sediment budget was constructed for an urbanized watershed in Tijuana (Goat Canyon, 11.5 km²). The sediment budget quantified the contributions of sheetwash and rilling, gullies, landslides, and stream channel erosion. Various models were used to estimate sheetwash and rilling. Extensive gullies developed on unpaved roads which increased sediment production from a given road segment by 15 to 70 times of the model estimates. Channel surveys of 38 locations indicated that channel sediment contribution is very low. Sediment budget estimates were compared to measured sediment captured in the sediment trap at the mouth of Goat Canyon. For 2008-2009, there was an estimated 79,145 tons of sediment. The sediment budget estimated 65,504 tons year⁻¹. Gullies contributed a majority (85-88%) of the sediment flux; sheetwash and rilling alone accounted for 11,095 tons year⁻¹

compared to the 79,145 *tons year⁻¹* that accumulated in the estuary in 2008-2009. In contrast to agricultural environments and badlands, these gullies were filled in every year during road maintenance and re-formed annually. Severe erosion was found in areas that had been urbanized for up to 38 years, suggesting that urbanization does not yield a single pulse during construction, as suggested in Wolman's model of the cycle of erosion, but rather yields chronically high rates for decades.

Peterson, Nikki L., peter260@unr.nevada.edu, and **Berry, Kate A.**, kberry@unr.edu, *University of Nevada, Reno*. **Localism and Northern Nevada Microbreweries**. This study examines the relationship between localism and microbreweries. As a counter to the homogeneous global culture, localism emphasizes the preference and support of local, unique customs and products. A familiar aspect of localism is the loyalty created between a local, independent business and its customers. When a consumer makes a conscious decision to support a local operation instead of a large national chain, that person is expressing localism. But what are the characteristics of localism that a local business consciously conveys? One local business to consider is the microbrewery. Previous research, conducted by Flack (1997) and Schnell and Reese (2003), has demonstrated a link between American microbreweries and localism through the uses of imagery and product naming. Although their research used samples from all over the U.S., this paper reduces the scale and focuses on a smaller area: northern Nevada. Limiting the scope will (1) determine whether the methods used previously will apply to a smaller, regionally dedicated population and (2) discover connections, other than imagery, that are associated with localism. To do this, microbrewery owners were interviewed, product names and labels categorized, the extent of product distribution analyzed, and historical documents evaluated.

Pham, Kim, kpham26@gmail.com, *California State University, Fullerton*. **Grassroots or "Click-through" Activism? A Geography of Web 2.0 as Platforms for Political Mobilization**. Recent press coverage concerning the disputed results of Iran's June 12th elections highlights the role of various communication technologies, in particular social media sites, in facilitating the opposition's efforts to organize and demonstrate against the government's actions. Because the situation in Iran is still unfolding, the role of the Internet – specifically Web 2.0 technologies – has yet to be measured, although some skeptics are already voicing criticisms of their impact. The contrasts of these critiques with emergent popular recognition of the power of social media and other new technologies in political spheres, a narrative supported by press coverage of the success of President Obama's campaign and Ukraine's Orange Revolution, emphasizes the necessity of evaluating Internet Communication Technologies as a platform for political organization and mobilization. This presentation explores these claims from a geographical perspective, and argues that while the Internet enables multidirectional communication and simultaneously expands the geographical reach of spaces for engagement, it must still actively interface with various local contexts to be an effective tool for political mobilization.

Plane, David A., plane@email.arizona.edu, *University of Arizona*. **Monitoring the Impacts of Migration on Metropolitan Areas Using New American Community**

Survey (ACS) Data. An important attribute of the culture and economy of the U.S.A. is our deeply ingrained tradition of geographic mobility. The highly mobile nature of the society has many beneficial outcomes, but highly migratory behavior has its downsides also. At the community scale is there such a thing as too little or too much migration? Do stable populations imply less dynamic and insular communities? Are extreme levels of turnover detrimental to institution building? Much migration research has focused on exploring the determinants of migration, the characteristics of migrants, and migrant experiences. Relatively less attention has been devoted to the impacts of migration as played out at the scale of the functional units at which migration decisions are now largely made: that of the metropolitan area. In this paper I explore the first set of American Community Survey three-year (2005-2007) annual average migration estimates. I examine the differential effects that migration has on individual metropolitan areas as measured by various indicators of overall population ‘churn,’ age-structure change, educational gains or losses, and income importation or exportation. While statistical indicators alone cannot provide answers as to whether migration is, on balance, ultimately a good or bad influence, they can spark debate by exposing the myriad impacts implied by people moving in and out of local populations.

Pompeii, Brian J., bpompeii@asu.edu, *Arizona State University*. **Water, Capital, and Growth in the Phoenix Waterscape: From Individual Practice to Institution.** The Phoenix metropolitan area is deeply-rooted in a history of water control and procurement. The process of water procurement initiated by individuals, or groups of individuals, heavily influences the landscape. Recognizing the reciprocal relationship of work between people and the landscape this paper situates historic moments of change in the Phoenix waterscape in relation to economic development, capital accumulation, growth, and decision making. The first modern procurement and control project in the valley was initiated by the Swilling Irrigation and Canal Company (SICC) created in 1867 by Jack Swilling. Swilling instigated a cyclical process of water control, economic development, capital accumulation, growth, and consequently, more water control, that continues to influence Phoenix water policy and decision making today. Guided by the tenets of landscape studies and political ecology I will reveal the specific historical and geographic configurations of the changing Phoenix waterscape. The result is a detailed description of how the first modern moment of human influence on the waterscape sparked a series of similar moments that continue to exacerbate the limited supply of water in a desert environment. The purposes of this study are: (1) To identify the deeply-rooted historical configurations of supply-side water management; (2) To chronicle the perpetuation of an individualistic culture of policy; And, (3) to trace ‘spatio-temporal fixes’ as a result of capital over-accumulation following large-scale water infrastructure change (Harvey 1982).

Ptak, Tom., tptak@uoregon.edu, *University of Oregon*. **Retaining Tibetan culture and identity in a geopolitical landscape.** This ongoing research undertaken in Sydney, Australia, Portland, Oregon, Seattle, Washington and New York City investigates current issues surrounding cultural retention and national identity within the exiled Tibetan diaspora. This research examines the importance placed on retention and re-creation of Tibetan culture through a wide variety of culturally based events and daily cultural

practices within the Tibetan communities. The research seeks to examine broader issues relating to the deep politicization of Tibetan identity in exile. In order to adequately understand localized outcomes researchers focusing on Tibetan issues must always consider and examine geopolitical forces operating and producing impacts at multiple scales. The contemporary Tibetan diaspora challenges common ‘fractured and fragmented’ notions pervading academic studies on diaspora theory by exhibiting a cohesive functioning and essentialized cultural model. During early stages of this project a “strategic essentialism” of Tibetan culture in exile was discovered, current research, therefore, seeks to examine the motivations and mechanisms involved in this essentialized cultural model. Complimentary to the examination of Tibetan culture is a focus on the perceptions and understandings of Tibetan cultural or national identity. This study provides a comparative approach by examining the question of identity in exile between Tibetans born in their homeland and those born in exile. This research contributes new data and new theoretical understanding to the increased levels of interest found in migration studies, and within the broader discipline of Geography.

Pyles, Don, donpyles@gmail.com, *University of Phoenix*. **State Theory: A New Paradigm.** Over the decades, various states have fallen into varying states of anarchy, the resulting chaos lasting from a few months up to several years. Examples from the post-colonial era include: Rwanda, Somalia, Cambodia, and Afghanistan, to name a few. In some cases a military coup has gained or assumed total or partial power over the citizenship. In the particular case of Somalia the region is ruled by drug lords and tribal chieftains to this day. Cambodia was ruled by the Khmer Rouge, as graphically illustrated in the movie, *The Killing Fields*. Afghanistan has traditionally been governed by tribalistic custom. Rwanda’s bloodbath between its two ethnic groups is also a source of infamy. Such countries have national borders that are enforced by surrounding neighbors in an effort to keep the chaos and violence from spreading outward, or to keep the problems inside. However, these states do not have standing central governments with international ties, and are generally not formally recognized by the majority of countries or by international organizations. This paper examines current descriptors as they apply to states, reviews current trends in categorizing states, and advances new descriptors and methods as candidates for redefining the status of modern states.

Quintero, Annette, annettequintero@hotmail.com, *California State University, Long Beach*. **Famine or Feast: A Geo-Political Analysis of Costa Rica’s Food Security.** This study examines the socio-economic, environmental, and political indicators of famine in Costa Rica. Famine epidemics are habitually attributed to environmental factors such as droughts or floods, while socio-economic and/or political factors are oftentimes latent manifestations overlooked by heads of state and international aid organizations. These linear conceptualities of the symptomatic causal effects of famine not only mask its true origins but lead to superficial remedies in national policy making and international aid relief. The purpose of this study is to provide a broader conceptualization of food security and famine indicators by exploring the socio-economic and geo-political climates in addition to baseline environmental factors for a specific region. To meet the outlined objectives listed above, I have incorporated the use of geo-spatial technology (e.g., remote-sensing and GIS) and statistical analysis.

Romero, Leandro L., leandror@hawaii.edu, *University of Hawaii at Manoa*.

Adjudicating Modern Water Under Ancient Rules: An Instance of ‘Translation Between Two Laws’ in Kona, Oahu. This paper analyzes several 19th century cases from the archives of the Kona District Commission on Private Ways and Water Rights in order to demonstrate how ‘ancient’ practices were reconstructed in modern judicial proceedings. The paper identifies which practices were described as ancient, in what languages, and by whom. The cases are drawn from the independent Hawaiian Kingdom period and describe how knowledgeable ‘local’ informants and appointed water rights commissioners translated between traditional Hawaiian practices and modern Western laws. The findings are important for understanding the simultaneous maintenance and transformation of traditional rights regimes, a process that I argue played a crucial role in delaying colonialism in Hawaii.

Rossiter, Jonathan T., jrossite@rohan.sdsu.edu *San Diego State University*. **New Urbanism, Automobile Dependence, and Communitarian Behavior.** The typical post-World War II suburb in the United States is characterized by exclusive zoning, low-density development, banal architecture, and an inefficient street morphology. New Urbanism aims to correct many of the ills associated with much of American suburbia by employing mixed-use and higher density development, interesting architecture, and an efficient, interconnected street network. Among the many problems of typical suburban development that New Urbanism claims to mitigate are an overdependence on automobile use and erosion of community-oriented behavior. Very little empirical academic research has been completed that tests New Urbanism’s efficacy in reducing automobile use and promoting pedestrianism, bicycling, and public transportation use, while the theoretical connection that increased pedestrianism leads directly to communitarian behavior is unproven at best. This study takes a qualitative approach to ascertaining transportation habits and communitarian behavior by using residents of Kentlands, Maryland as an empirical case study, while paying particular attention to how their habits may differ from when they lived elsewhere prior to moving to Kentlands. This paper argues that increased pedestrianism is more a result of existing predilections towards community-oriented behaviors, rather than the traditional New Urbanist theory of pedestrianism leading to community building. It also attempts to investigate whether the built environment is the most salient factor in promoting these behaviors.

Royal, Nathaniel, nroyal01@yahoo.com, *University of California Santa Barbara*.

Guinea worm instances in Niger and their spread. This study examines spatial patterns of Guinea worm occurrences in Tillabery, Niger. Using several statistical methods that deal with Guinea worms spread through the population of nomadic and semi nomadic people, environmental factors that appear to promote or restrict its spread are analyzed. Guinea worm is a two host parasite that is has been the focus of an international eradication effort for the past 30 years. Its decline has been well documented, however its resurgence in several remote regions of Africa has thwarted the eradication community. Models to predict its spread or examine the reasons behind this resurgence have never before been created. The results of this analysis indicate as spread of Guinea worm that follows a relocation diffusion pattern. The network of infrastructure

and population movements supporting this pattern of spread indicates a difficult to calculate and complex system of variables.

Schmandt, Michael J.; schmandt@csus.edu, *California State University, Sacramento*. **Free For All: Introducing GIS Commons a Free, On-Line Textbook.** Not a typical textbook, *GIS Commons* is a free, web-based, open-source “e-text” available to anyone interested in using Geographic Information Systems (GIS) to make maps and analyze spatial patterns and relationships. These tasks can be challenging, time consuming, and expensive, but recently, a new set of powerful mapping tools has enabled almost anyone with a computer to easily make maps—but not necessarily good maps with reliable analyses. Most of the new mapmakers do not have adequate training in mapping concepts, principles, and methodologies, and their maps are often improperly designed and do not communicate easily nor effectively. Another problem is that typical introductory GIS textbooks are expensive and static. *GIS Commons* overcomes these obstacles by helping one create, analyze, and produce maps that communicate more effectively, and it does this freely. It is designed to replace traditional GIS textbooks in introductory GIS courses, and be a savings to students who have difficulty paying for textbooks. An exciting aspect of this project is that “readers,” including students, professors, and the general public, become contributors when they comment and provide resources to the project. This e-text focuses primarily on GIS, but most of the chapter's concepts are applicable to other geotechnologies including remote sensing, global positioning systems (GPS), Internet mapping, and virtual globes. This paper introduces the e-text, which can be found at [HYPERLINK "http://www.giscommons.org"](http://www.giscommons.org) <http://www.giscommons.org>, and describes its development.

Seeley, Tiffany, tseeley@csu.fullerton.edu, *California State University, Fullerton* and **Salim, Zia**, zsalim@mail.sdsu.edu, *San Diego State University*. **The Expat Experience of Saudi Arabia : At Home in the Kingdom?** In the Kingdom of Saudi Arabia, housing compounds hold hundreds, sometimes thousands, of expatriate workers and families. Despite the presence of these gated communities across the Saudi urban landscape, they have been significantly understudied. To gain a better understanding of expats in the Kingdom, we interviewed individuals who lived inside and outside compounds in order to reconstruct their experiences and interaction with the host culture. The results reveal some notable similarities and differences between Saudi Arabia's gated communities and other gated communities worldwide. We conclude that research on these understudied areas is a valuable addition to previous work on both ethnic enclaves and gated communities.

Selby, William A., wselby@smc.edu, *Santa Monica College*. **Geographers Define Global Citizenship?** Increasing numbers of scholars and leaders in the U.S. and around the world are realizing that global citizenship is not only important, but vital to our survival. Some are also discovering that many geographers were showing the way toward global citizenship long before the concept received so much popular attention. But, what is global citizenship and how can physical and human geographers help define it and then use it to move us in a direction that will improve the quality of our living and working environments? Our discussion may begin with some global examples, such as Turkey and

the Yucatan; but we will also recognize some great local opportunities to participate in global citizenship by emphasizing our diversity and powerful connections to the rest of the world right here in California. Your comments and ideas are encouraged.

Duncan, Shaeffer, J., shaeffer@asu.edu, *Arizona State University*. **Four Eastern European Capitals: Expectations from Tourist Guidebooks and Cultural Geography Perspectives.** Prague and Budapest are very favorably described in the tourist guidebook literature. Less so, on the other hand, for Bratislava and Bucharest. In part, this reflects the preference of travel authors and most tourists, for that matter, to pay less attention to, or even avoid, European cities that bear the unmistakable imprint of communism, which Bratislava and Bucharest have in abundance. From a landscape perspective, however, these two capital cities are perhaps even more exciting and attention-grabbing than the more popular Prague and Budapest, as this author discovered. The constantly-encountering juxtaposition of pre-communist, communist, and post-communist landscapes has given Bratislava and Bucharest a tremendous variety in urban form that is so appealing to cultural geographers. In retrospect, the fascination with these cities discovered by this author was due, at least in part, to the low expectation of Bratislava and Bucharest as portrayed in tourist guidebooks (and the additional positive hype given to Prague and Budapest, which mostly deserve their acclaim). Guidebook writers' work to fulfill the needs of their audiences and the interesting diversity of urban landscapes appear not to be high on the agenda of either the writers or tourists. This void gives cultural geographers, and other landscape scholars—in writing geared to the public at large—an opportunity to convey the zeal and enthusiasm they feel for the fascinating variety that may exist in urban cultural landscapes.

Shaw, Ian G. R., ishaw@email.arizona.edu, *University of Arizona*, **Robbins, Paul**, robbins@email.arizona.edu, *University of Arizona*, and **Jones III, John Paul**, jjones@email.arizona.edu, *University of Arizona*. **A Bug's Life and the Spatial Ontologies of Mosquito Management.** Surprisingly, Southern Arizona and the Sonoran Desert ecosystem have long been historical centers of mosquito-borne nuisances and diseases. Yet it was the 2003 arrival of West Nile Virus to the state that saw a manifold of institutions grapple with a potentially deadly public health threat. With little historical precedent or established protocols, agencies had to rapidly mobilize resources against a newly baptized public enemy. The resulting institutional scramble was underscored by divergent knowledge regimes, practical skills, and organizational capacities: from water management and public health to agriculture and transport, agencies were to draw upon different disciplinary backgrounds in an effort to control and eliminate the mosquito. This paper presents research from two institutions charged with managing the bug in Arizona: Pima County Health Department and Maricopa County Vector Control. What emerges from a two-year period of interviews is an appreciation for the ways in which abatement strategies and tactics – from backyard cleanups and education to city-wide adulticiding and larviciding – are tied to the distinct cultural underbellies of each institution. That is, the management of mosquitoes never takes place within a vacuum; it is instead always-already enmeshed within a complex abatement world – where distinct spatial ontologies, socio-cultural landscapes and political milieus collide.

Smith, Jenn Lee, *University of California, Los Angeles*. **Transnational Religious Regulation in Contemporary Mormonism: The Case of Marriage.** Just as certain civil societies have become dominated by transformational politics, religious organizations have become dominated by reproduction of the modernist capitalist agenda. By analyzing its discourse on marriage as well as its proselytizing tactics, this paper explores the ways in which Mormonism attempts to perform globalization. In sharing its message around the world, Mormonism has reproduced ideas generally accepted as American capitalist normative values. Based upon recent actions involving gay marriage, I argue that Mormon leaders are interpreting their faith and organizational practices outside the culture of their location, taking into account the cultural expectations of the world's majority.

Smith, Marissa, marissa.l.smith@asu.edu, *Arizona State University*. **A Sociospatial Analysis of Food Insecurity in Bogotá, Colombia.** This preliminary research explores the geography of food insecurity in Bogotá, Colombia. Food insecurity is an increasingly urgent issue worldwide with rising food prices and climate change threatening to swell the ranks of the food insecure by hundreds of millions. Colombia's food security challenges are similar to other nations, with urbanization, the increasing globalization and commodification of food, and income inequality representing large scale threats. Complicating these challenges in Colombia is a decades long civil war and increasing urban violence which hinder access to food. This paper explores the lack of access to food experienced by those of the lower socioeconomic strata in Bogotá through a sociospatial analysis of community food kitchens.

Starrs, Paul F., starrs@unr.edu, *University of Nevada*. **“Getting by on Gettin’ High”: Corraling the Weed Trade in California, A Fordist Approach.** “Smoke ’em if you got ’em,” was the droll instruction traditionally rendered by sage Army sergeants to untested troops during a lull in the action. The adage may soon be a byword in California, where marijuana cultivation has migrated from backyard hobby to epic business. State lawmakers have proposed enabling legislation to tax legalized marijuana sales, and subsequently bean counters employed at the California State Board of Equalization suggest that a neat \$1.5 billion could be earned from taxing legalized marijuana. The process of preparing an entry on “Marijuana (Cannabis)” for an upcoming *Field Guide to California Agriculture* (UC Press, 2010) required estimating total production and putting a dollar amount for marijuana grown in the Golden State. From this effort “The Emerald Triangle” emerges as an inescapable regional division within California agriculture — and toponymy. The value of marijuana production, equally at wholesale or retail level, is, in the cool light of day (and the purview of public policy analysts) something altogether startling, perhaps sufficient for all of us to aspire, in retirement, to a garden plot of pot in the woods.

Stephenson, Scott, stephenson@ucla.edu, *University of California, Los Angeles*. **Integration of Estimates of Winter Road Suitability in Arctic Accessibility Modeling.** An important consideration for urban and economic planners is the degree to which regions are connected to each other. Accessibility measures the time necessary to travel from a given origin to one or more points of interest, or regional “hubs,” such as

resource deposits, markets, and service providers. Accessibility models in a GIS can be used to calculate the time necessary to travel from any location to any of a set of hubs. In northern climates, winter roads are relied upon heavily for access to remote communities and resource bases, due to the relative scarcity of existing transportation infrastructure in the Arctic coupled with the high cost of constructing new all-weather roads in cold, remote environments. A salient question for transportation planners in the Arctic is which regions are climatically suitable for winter road construction. Analysis of four winter roads in the Northwest Territories reveal that regions with mean monthly temperature - 20° C or lower may be suitable for winter road construction in that month. ArcGIS modeling of accessibility throughout the circumpolar North shows that accessibility of remote regions is highest where winter road suitability is highest. With winter road operating season trending downwards as a result of rising winter temperatures in the Arctic, accessibility throughout the Arctic is projected to decrease in the 21st century.

Stone, Lindsay, *University of California, Los Angeles*. **Faith, Territory, and Spiritual Colonialism: The Geopolitical Visions of the Russian Orthodox Church.** Drawing on critical geopolitics and the sociology of religion, this paper explores the ‘war for souls’ that broke out shortly after the collapse of the Soviet Union. At the center of this war are battles for the discursive and institutional control over space. Beleaguered and underfunded after suffering decades of oppression, the ROC has vehemently opposed what Patriarch Kirill labels the “spiritual colonialism” of Western missionaries, perceived carriers of ‘foreign’ and despised creeds of individualism, syncretism and pluralism. In reaction to what they perceive to be ill-conceived missionary tactics on the part of culturally insensitive yet well-funded religious organizations, church leaders decry the onslaught of “an aggressive globalizing monoculture.” In doing so, they engage in a form of dissident geopolitics, identifying threats according to spatialized visions of global power. In the end, these spatial visions provide a rationale for renegotiation of the relationship between religious and political authority as well as for redefinition of the boundaries of the religious community. Thus I argue that controversies over proselytism are instrumental in the re-imagining of social space and the re-territorialization of the Orthodox faith.

Stow, Douglas, stow@mail.sdsu.edu, *San Diego State University*, **Fraley, Grant**, fraley@rohan.sdsu.edu, *San Diego State University*, **Lippitt, Christopher**, lippitt@rohan.sdsu.edu, *San Diego State University*, and **McCreight, Richard**, neos500@gmail.com, *NEOS, LTD*. **Flexible and Inexpensive Airborne Color Infrared Imaging System.** Spatially detailed mapping and monitoring of land and water surfaces are important means for providing information in support of many geographic applications. Comprehensive mapping surveys can only be achieved by implementing remote sensing technologies and are consequently, technically and economically challenging to implement, particularly when fine spatial details are important. We developed and have tested a flexible and relatively economical airborne multispectral imaging system that is based on light sport aircraft (LSA) as a platform, a single camera color infrared (CIR) sensor, and custom image acquisition and processing software. FAA certified LSA are ideal platforms for imaging and reconnaissance missions; they can be mobilized at small landing strips, are runway independent, are agile and responsive, and

have efficient fuel characteristics. The Geospatial Systems MS-4100 Color Infra-red (CIR) camera enables three broad waveband images to be captured simultaneously through a single lens. The MS-4100 has a 1920x1080 pixel CCD for each band, with a 7.4 micron pixel size, and either 8 or 10 bit radiometric precision. We developed custom sensor mounts, inertial navigation sensor integration, and image acquisition and geometric processing technologies for capture, mosaicking and georeferencing of small format images. The system enables mapping and monitoring (through repeat pass imaging) of geographic areas at spatial resolutions between 10 and 100 cm. We present application examples that include mapping/monitoring of natural and agricultural vegetation condition, forest mortality, and invasive plant species. Strengths and weaknesses of the imaging system pertaining to fidelity, coverage, and costs are also addressed.

Sturm, Tristan, *University of California, Los Angeles*. **Affirmation and Resistance: The Development and Practice of Liberation Theology and Christian Zionism in a Palestinian Protestant Context.** The insertion of Protestantism into the Middle East in the 19th century took place within the context of colonialism and Orientalism. It sought to extend to the peoples of the Middle East; Muslims, Christians and Jews, a Western Eurocentric Christianity. With the conversion of a small number of locals these various Protestant missionary movements succeeded in implanting seeds of their churches in the region. However the outcome of these initial attempts proved varied and not as the original missionaries had intended. One theological descendant of these groups are Palestinian Christian Zionists who are connected with the overall ethos of American Evangelical Christian Zionism. Another separate group that has grown out of these missionary efforts are Palestinian liberation theologians who use their theology to structure their understanding of the Arab nation and the national struggle of the Palestinian people for liberation. I highlight several influential voices from these two communities and examine the way in which Protestant missionary societies resulted in the creation of these two diametrically opposed, yet familial, groups. Using ethnographic methods including in-depth interviews with pastors and congregants and participant observation among these two ideological typologies, I explore how place, ethnicity, and nationalism do not necessarily determine identity as such, despite the oft-cited examples of the influence of place, but can have opposed effects when studied through a religious lens.

Swobodzinski, Martin, mwsobodz@mail.sdsu.edu, *San Diego State University*. **A Methodology for the Analysis of Human-Computer Interaction within an Online Public-Participation Transportation System.** In fall 2007, over 200 residents of the Seattle metropolitan area participated in a 4-week long experiment on participatory transportation planning called "Let's Improve Transportation" (LIT). For that purpose, we designed and implemented an Internet portal that allowed the participants to engage in a structured participatory process involving various deliberative and analytical tools. In this session, I elaborate on the motivation, problems, challenges, and benefits of analyzing human-computer interaction data that was collected throughout the LIT experiment. I discuss issues that pertain to the process of data preparation and analysis through exploratory data analysis and multivariate statistics. More specifically, the analysis

involves sequence alignment analysis in combination with logistic regression. Subsequently, I outline how the human-computer interaction data can be related to human decision-making in the context of transportation planning. The overall goal of the analysis is to gain an understanding of the relationship between the participant's socio-demographic and cognitive characteristics and his or her preference for analytical and/or deliberative participatory tools.

Taylor, Jonathan, jstaylor@fullerton.edu, *California State University, Fullerton*.

GLOFs: an emerging hazard in the Himalayas. Glacial lake outburst floods are an increasing concern in high alpine environments worldwide as the rate of alpine glacial melt continues to increase. GLOFs have occurred over the last few decades in Nepal, China, Pakistan, India, and Bhutan, as well as in the Central Asian Pamir range, the European Alps, the Andes, and Alaska. This paper presents an overview of this emerging hazard and human responses with an emphasis on the Himalayas and particularly Bhutan. Monitoring, early warning detection systems and mitigation measures are discussed.

Timms, Benjamin F., btimms@calpoly.edu, *California Polytechnic State University, San Luis Obispo*. **Coerced Relocation from Celaque National Park, Honduras: The (Mis)Use of Disaster as Opportunity.** 'Disaster capitalism' refers to political economic processes that take advantage of mass trauma to impose neoliberal capitalist economic policies, facilitating the redistribution of wealth and exacerbating socio-economic divisions. Here the basic tenants of disaster capitalism are applied in another context - how natural disasters can be used to impose exclusionary protected area conservation principles - with similar political and economic results. The post-Hurricane Mitch relocation of resident populations from Celaque National Park, Honduras serves as a case study whereby a natural disaster, combined with the effects of neoliberal structural adjustment policies, created the opportunity to implement a global model of exclusionary nature protection. The resultant displacement, dispossession, impoverishment, and increased semi-proletarian state of the affected population effectively served the capitalist interests of the coffee industry and, contradictorily, worked against the proclaimed goals of nature protection through exclusionary national park policies.

Tivasuradej, Areeya L., alt68191@csun.edu, *California State University, Northridge*.

Big Business v. Locals: People's Opinions on Tourism Business in the Galapagos Islands. This study aims to acquire individuals' opinion toward tourism in the Galapagos Islands. My objective was to determine whether visitors and residents prefer cruise ships as a method to travel the islands or on-land accommodations operated by local business. To inquire data, I conduct informal interviews with six individuals who represented both residents and visitors of Puerto Baquerizo Moreno, the capital of these archeological islands. The result indicates that four people prefer to have tourism done by local business because it creates jobs for the local, and it offers alternative jobs other than involving in illegal fishing. On the other hand, only two interviewees support tourism being done mostly on cruise ships since tourists will be kept out of the islands most of the time thus reducing the risk of contamination on the endemic species and their habitats. I conclude that most people prefer tourists to utilize local business when they travel to the

Galapagos Islands.

Tsou, Ming-Hsiang, mtsou@mail.sdsu.edu, *San Diego State University*. **Promoting Geospatial Technology Education in high schools and community colleges.** This paper will introduce a few successful strategies to promote geospatial technology education in high schools and community colleges by collaborating the newly established National Geospatial Technology Center (GeoTec Center). The new center was funded by the National Science Foundation in Fall 2008 (DUE #0801893). San Diego State University is one of the partners of the GeoTech Center. The first strategy is to provide real world GIS application examples rather than introducing basic GIS technology. For example, teaching the concept of GIS databases will be less effective than teaching an example of crime mapping web services for raising awareness of geospatial technology. The “Teach-with-GIS” approach is better than the “Teach-about-GIS” approach for promoting GIS career and geospatial technology education. The second strategy is to integrate Web-based resources and geospatial cyberinfrastructure to provide easy and accessible on-line learning materials for under-representative students and minority groups. The third strategy is to adopt innovative (non-traditional) methods for raising awareness of geospatial technology. The center will provide new media, new tools, and new materials, such as on-line GIS games and downloadable mobile phone applications (on Google’s Android platform or Apple’s iPhone) to attract the young generation of students into the career of geospatial technology. The major goal of the GeoTech Center is to demonstrate that geospatial technology is becoming the main stream of information technology and scientific tools in the twenty-first century.

Vaughan, Jennifer R., jvaughan@rohan.sdsu.edu, *San Diego State University*. **Local Geographies of the Coastal Cactus Wren and California Gnatcatcher on Marine Corps Base Camp Pendleton, California** The California gnatcatcher (*Poliophtila californica californica*) is a federally-listed threatened species and the coastal cactus wren (*Campylorhynchus brunneicapillus couesi*) is a California Species of Special Concern. This study examines the local geographies of these target species on part of MCB Camp Pendleton, approximately 101, 606 acres in area. Local geographies include an examination of landscape, demography and management. One research objective was to explore how vegetation communities and landscape dynamics would affect the viability of these two species on the Base. Landscape level characteristics were examined with 2003 vegetation data. A total of 24 land cover types were examined. Individual class level analysis on the base was performed on a total of 4,113 patches. Diegan Coastal Sage Scrub, which is the key habitat for these species, had the largest number of patches (670 in total); the percentage of like adjacencies (PLADJ) was 76.97%, indicating that this vegetation type is highly contiguous on the Base. The patch cohesion metric supports the PLADJ with a high value of 95.5, which indicates that the patches are more physically connected on the Base. The landscape had a Contagion of 49.9%, a relatively high value indicating that the overall landscape has less habitat fragmentation. This preliminary work will be significant for my ongoing research on the Base in identifying and prioritizing core areas for these two species.

Walker, Margath A. mwalk2@uky.edu, *University of Kentucky/San Diego State*

University. Cultural Transformation through Gastronomic Practice. The interest in the economic bases of cultural transformation has led to a focus on the culture industries, in particular arts, leisure and tourism. While the importance of services in the post-Fordist economy has certainly not been overlooked, particular structures through which urban metamorphosis occurs- namely restaurants-have been under analyzed. The social practice of eating out has not received significant scholarly attention and much like farmers' markets- restaurants, especially up-scale establishments- have been treated as agents of gentrification. Not only is food an important dimension of cultural identity but the urban experience can be a vehicle through which new ideas about food and consumption emerge. What is more, the relationship between food and identity has broader implications for how we think politics, nation, self and Other. This paper engages gastronomic practices in Tijuana, Mexico to argue that food as art, as strategy, as nationalism, and as urban practice are all themes rarely examined through the space of the restaurant. In addressing the importance of cooking and restaurants in Geography, I elaborate the inadequacies associated with commodity literature and point to the ways food is imbricated in the production of borders. I conclude with an exploration of the way non-representational theory might be useful in such an intervention.

Wallace, Brennan, brenwallace@csu.fullerton.edu, *Cal State University, Fullerton.*
Mountain Lion Ecology and Conservation in Southern California. Mountain Lions (*Puma concolor*), a generalist species, have a realized niche that is constantly changing due to new urban development and management strategies. They have an extensive geographic range, from northern British Columbia down to Patagonia, and from sea level up to an elevation of 4,500 m. Using historic occurrence points, Genetic Algorithm for Rule set Prediction (GARP) will be used to model the potential living area for mountain lions at the country, state, and then southern California regional scale. Then post processing will separate urban areas, roads, and other non-suitable living areas from the model. An analysis of these model results with current conservation strategies and wildlife corridor locations will determine their effectiveness, and allow new strategies to be recommended.

Wandersee, Sarah M., wanderse@rohan.sdsu.edu, *San Diego State University*, **An, Li**, lan@mail.sdsu.edu, *San Diego State University*, **Yang, Yeqin**, fjshanyeqin@yahoo.com.cn, *Fanjingshan National Nature Reserve, China*, and **Tan, Chia L.**, ctan@sandiegozoo.org, *Zoological Society of San Diego.*
Chinese National Policy Effects on Local Level Conservation and Communities. National environmental, social, and economic policies are often decided without considering local specifics. It is important to analyze the effects of national policies on communities to understand their complex outcomes on conservation. Environmental policy coinciding with livelihood support can create a base for achieving sustainable conservation objectives. Without this base, locals may resort to environmentally damaging practices like illegal mining or deforestation. This study focuses on communities by Fanjingshan National Nature Reserve, the only Guizhou golden monkey habitat, in Guizhou Province, China. The objective is to determine conservation awareness and support in the local community to better understand environmentally harmful activities in the area. We interviewed 37 randomly sampled locals on livelihood situations and conservation

knowledge. The interviews yielded more understanding of the efficacy of reserve management in bringing conservation efforts to the public, indicating areas of potential improvement. They also revealed insight into the effects of national policies such as the farmland to forest program, agriculture tax removal, and economic reform, upon local livelihoods, most of which have improved their situations but also create new challenges. Insights from this analysis are vital for the identification of local needs in environmental planning to increase efficacy and ensure sustainability.

Whisenant, Engrid N., realengrid@yahoo.com, *University of Nevada, Reno*. **The Music that Won the West.** Virginia City, Nevada, has a 150 year history of myth-making, playing on a carefully crafted reputation as a lawless mining community. The local economy and folklore dotes on area archetypes of the gunslinger, the soiled dove, and the industrious prospector. The city's rise to fame began in July 1859 when the *Nevada Journal* proclaimed the discovery of silver and stimulated the "rush to Washoe." From April 1860 to January 1861, the city's population grew by nearly a thousand residents and increased exponentially into the next decade. While precious metals motivated many newcomers, closer examination of the emigrant rolls reveals the little known, but hardly less iconic figures of street entertainers and amateur and professional musicians. A better understanding of the roles filled by these performers enhances our grasp of gender, race, and class struggles on the Comstock. Across the city, a musical Civil War raged as brass bands paraded through the streets blaring "John Brown's Body" and claiming Union territory. In China Town, the exotic sounds of Asian musicians heightened both curiosity and prejudice. Bawdy music halls downtown barred entry to "decent" ladies, but transported select minority performers (including women and African Americans) to nationwide celebrity. Virginia City's musical life demonstrates surprising diversity while emphasizing class structure and reinforcing gender roles.

White, Jonah D., daytonjonah@hotmail.com, *Western Washington University*. **Perspectives on Gentrification in Seattle, Washington: 1980-2000.** Gentrification is considered to be a broad process that consists of changing socioeconomic conditions across the urban landscape. Previous research has shown the process to include the movement of affluent middle- and upper-class households back to central city areas potentially causing displacement of lower classes. Using Seattle, Washington as a case study, this paper examines socioeconomic change at the census block-group level over the past two decades to determine the extent and form of gentrification. A series of factor analyses is performed using multi-year census data to analyze significant socioeconomic factors linked with the gentrification process and how each applies in the context of Seattle. Next, cluster analysis is utilized to group together similar block-groups according to their derived factor scores. The analyses reveal unique changes in socioeconomic structures indicative of gentrification as well as distinct locational patterns across the urban landscape of Seattle.

Wilford, Justin, *University of California, Los Angeles*. **Purpose Driven Planet: The Democratization of Missions in Contemporary Evangelical Megachurches.** Missionary work has long been viewed in both human geography and the broader social sciences as a mode of cultural imperialism. This view is problematic on two fronts. First,

the concept of cultural imperialism itself is riddled with contradictions, as anthropologists have recently argued. Second, and more important for this paper, missionary work has undergone a significant change in the last decade as the fastest growing and most influential churches in America—postdenominational evangelical megachurches—have begun to shift their resources towards marketing and organizing short-term mission trips for the laity. The purpose of these trips is marketed and interpreted as spiritual self-transformation as much as old-fashioned humanitarian-laced evangelism. In this way, short-term mission trips take on the characteristics of tourism, pilgrimage, and self-improvement regimes and in the process become more about changing oneself than changing ‘the Other’.

Wilson, Claire, clairejmwilson@csu.fullerton.edu, *California State University, Fullerton and Ministry of Tourism, New Zealand*. **Tourism Resorts and sustainability; a comparative study of the public policy techniques from Whistler, BC and Queenstown, NZ.** The first part of my study used qualitative methods to examine the public policy techniques currently employed by the Resort Municipality of Whistler. As Queenstown shares many similar attributes to Whistler, my research involved determining the challenges and successes of implementing a community sustainability plan, which has been adopted by Whistler, to the Queenstown area. The second part of my research involved deciphering the evolution of Queenstown as a tourism resort using Richard Butler’s 1980 *Tourism Area Life Cycle* as the medium of analysis. Within this analysis a number of interviews were conducted with key tourism stakeholders. I endeavored to determine what recommendations and reactions they had to the current statutory obligations, in particular, the Resource Management Act 1991, and to central government strategies, namely the government endorsed accreditation scheme, Qualmark Green. Based on the conclusions drawn from the two sections of research, recommendations will be made on the future direction of Queenstown to ensure the economic, environmental and social sustainability of the resort.

Xu, Lei, lxu@fullerton.edu, *California State University Fullerton*. **Post-landing Relocations of Recent Immigrants in Canada: the Spatial and Temporal Patterns.** Based on the tabulations of the Immigration Data Base, this research characterized, explained and compared the 1991-1996 and 1996-2001 inter-metropolitan migration of the newly landed immigrants in Canada. The spatial and temporal patterns were consistent with the neoclassical economic theory and the ethnic enclave theory. In making their decisions on departure and destination choices, the immigrants were responsive to income and employment incentives, as well as the retaining and attracting powers of ethnic communities among Census Metropolitan Areas (CMAs). The research also discovered an interesting temporal pattern -- while the inter-CMA migration of immigrants accentuated the over representation of the immigrants in Toronto and Vancouver in the 91-96 period, the rise of the “secondary” CMAs led to a spatial dispersal of the immigrants in the 96-01 period. This finding supplements the existing literature on internal migration of Canadian immigrants, which discovered little evidence of an increased dispersion of immigrants over time.

Young, Terence, tgyoung@csupomona.edu, *California State Polytechnic University-*

Pomona, Smoothing out the Roughness: Modernity and the Development of Camping Equipment. The relationship between campers and their equipment was never anything but indistinct. Nevertheless, environmental attitudes can be revealed by an analysis of the variability and individuality surrounding the camping equipment because it must be chosen in light of the type of trip imagined. Camping emerged as an American leisure activity after the Civil War. As the country's cities swelled, many Americans became anxious and open to suggestions about how they might restore their spirits, health and sense of belonging. Many embraced camping, which allowed them to head out of town, "rough it" for a while and return home renewed. In effect, campers were pilgrims to the wild. In various "natural" settings, they escaped the confines, limits and alienation of everyday urban life in order to immerse themselves in the "real America" that they sensed in wild areas. At the same time that campers were pilgrims to nature, they carried equipment to make the experience relatively safe and pleasant. This gear provided campers with increased efficiency, calculability, predictability, and environmental control, which are the hallmarks of a process that sociologist George Ritzer termed "McDonaldization." It is characteristic of modernity and in particular works by substituting nonhuman technology for direct human-environment interactions. In camping, McDonaldization has expressed itself through a growing proliferation of distinctive, specialized gear aimed at allowing one to camp "the smooth way." My presentation will use camping images to illustrate the shifting relationship between roughing it and comfort, which tells us much about campers' evolving attitudes toward the natural world.

POSTERS

Culverson, David M., *Truckee Meadows Community College.* **Earlier Spring Thaw and Later Fall Freeze Trend in Nevada (1957-2008.)**

Grover, Rebecca M. *San Diego State University;* **Sullivan, Jim and Smith, Julie M.,** *University of Vermont.* **Critical Links Supporting Vermont's Bulk Milk Transportation: A Novel Application Of The Network Robustness Index.**

Kelly, Kevin. kellykr@usc.edu. **Lee, Austen.** austenle@usc.edu. **Drap, Ryan** luckyshot564@cox.net. **Moralez, Juan.** *University of Southern California.* **Mapping the Health Risks for Schools in Los Angeles County.** The epidemiological evidence linking exposure of vehicular air pollution to respiratory and cardiovascular problems is well established, particularly among children whose developing lungs are more susceptible to airborne toxins. Our study examines the relative exposure of children attending schools within Los Angeles County (LAC) to vehicle-emitted gases, which have been linked to increased respiratory illnesses, decreased lung function, and aggravation of children's asthma. Previous Southern California studies have focused on the volume of pollution near major freeways only. To assess the risk for all of LAC, we mapped out the exposure level for all Metropolitan LAC regardless of road type or size. Traffic volume data acquired for representative categories of roads were extrapolated to the rest of LAC, revealing a cumulative vehicular-emitted pollutant risk surface for

Metropolitan LA. We then geocoded the locations of the 3079 operating schools in LAC, and included these on the pollutant risk map. Our study shows that more than 400 schools (>250,000 students) are exposed daily to an air pollution volume that is 3.5 times the already elevated LA Metro Standard. Additionally, students attending those school sites near busy freeway intersections suffer the most pressing health risks.

Mann, Katie, *University of Nevada, Reno*. **Methods To Define Individual Perceptions And Community Values Of Private Land Conservation For Ecosystem Protection In The U.S.**

Rivers, Natasha M., riversn@ucla.edu, *University of California, Los Angeles*. **Does Human Capital Explain African Immigrant Success?** This study examines the most recent wave of African immigrant migration to the United States and the significant increase of this migrant group making the US their permanent home. Important differences in the migration flow before and after 1990 raise questions about the push and pull factors driving these population flows. The behavior associated with the first wave of African immigrants suggested that they would return to Africa upon receiving economic and educational training abroad. Presently, African immigrants are acquiring human capital, but are now choosing to stay in America. The opportunities that exist in America are drawing large flows of immigrants from an increasingly dispersed set of origins in Africa, and those from Africa have steadily increased in proportion to the previous decades. Using the 2000 Public Use Micro data and US Government Census files, this paper examines the demographic profiles for the Nigerian, total other African (which excludes Nigerians) and the African American population living in Los Angeles County. The data will show that Nigerians successfully assimilate based on the accumulation of human capital characteristics of high levels of education, which has translated into higher incomes.

Shepard, Justin, and **Tsou, Ming-Hsiang**, *San Diego State University*. **Web 2.0 Tools for GIS Career Awareness and Education.**

Simons, Nicole, nsimons@mail.sdsu.edu, *San Diego State University and University of California- Santa Barbara*, **Risk assessment framework of emergency management organizations for multiple natural hazard events with a special focus on wildfires: A comparison study between USA and Austria.** Every location throughout the world is susceptible to one or more natural hazards at any given time. With each of these hazards, there is an assortment of devastating impacts, such as loss of life and property, economic disruption, and resident displacement. The entities responsible for minimizing the impacts of these events are emergency service offices (ESOs). In order to efficiently and effectively complete their responsibilities, all ESOs employ a variety of techniques, i.e. spatial decision support systems, geographic information systems, and spatial data, during each phase of emergency management. However, ESOs continue to be plagued by issues that influence the effectiveness of their management of a disaster. The objective of this research is to examine the structure, processes, tools, regulating laws, spatial data, and spatial technology of two ESOs, one in the United States and Austria. This will lead to the identification of the bottlenecks occurring during the preparatory

phase of ESO operations. The research findings will be divided into three prevalent themes (risk identification, governance, and risk management applications) that influence emergency management preparatory activities and their effectiveness. Through examination of various government documents and supplemental interviews, several areas of improvement within the ESO preparatory operations for both ESOs were found. This poster presents matrixes of the three themes identifying areas where bottlenecks are occurring within both San Diego County and Carinthia ESOs. Also the proposed framework to rectify some of these deficiencies will be presented.

Stuemky, Matt, and Gervais, Stephen, *University of Southern California*. **Just How Accurate Is Your Trimble?**

Turner, V. Kelly, vkturner@asu.edu, and **Ibes, Dorothy C.**, dibes@asu.edu, *Arizona State University*. **The impact of homeowners associations on water demand, ecosystem services, and vulnerable populations in Phoenix, Arizona.** Homeowners associations (HOAs) have come to dominate new residential developments across the United States. HOAs are private institutions that govern residential properties including both single family housing subdivisions and condominium complexes via legal documents called Covenants, Codes, and Restrictions (CCRs). The explicit goal of the HOA is to protect property values through these CCRs that set and maintain aesthetic standards. Increasingly, CCRs include rules that regulate landscape architectures and maintenance practices. This shift to private residential governance and the proliferation of the types of developments that utilize HOAs, constitutes a fundamental restructuring of the urban landscape. While many of the socioeconomic and cultural consequences of this restructuring have been at the forefront of scholarly debate, the environmental consequences remain relatively unexplored. This research begins to evaluate the impact that HOAs have on the urban landscape in Phoenix, Arizona. We link the presence of HOAs to water demand which is critical to the provisioning of ecosystem services in an arid environment. Furthermore, we link the provisioning of ecosystem services to the broader community, by exploring the link between HOAs and indicators of social vulnerability.