

# Abstracts

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## **Peasant Collectives and the Question of Autonomy: From the Spanish Anarchists to the Brazilian Landless Movement**

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This paper examines autonomist peasant collectivization movements, through the cases of the Spanish National Confederation of Labor (CNT) of the 1930's, and the present-day Brazilian Movement of Rural Landless Workers (MST). We discuss the increasing relevance of contemporary peasant social movements in the context of contemporary capitalist economic globalization, coming as it does at a historical juncture at which many consider the peasant to be "dead" as a social actor. Next, we describe the MST and CNT as autonomist, populist peasant social movements, and compare the two groups' particular practices of autonomist politics and agricultural collectivization, focusing on the ways in which autonomist political goals are articulated by the two groups at multiple levels of social and political engagement. Finally, we attempt to problematize the characterization of social movements generally as being 'autonomous' from state or other institutional actors, arguing instead that they be viewed as 'autonomist' in terms of their political goals and practices.

## **The Rules of the Road: Street Renaming Ordinances and the Scale Politics of Commemorating Martin Luther King Jr.**

Derek H. Alderman, East Carolina University

While studies of commemorative street naming are growing in popularity, there has been little work on the decision-making politics behind street name changes and how governmental procedures affect this form of public memorialization. To fill this void somewhat, I focus on the legal barriers that confront African Americans as they attempt to rename streets after slain civil rights leader Martin Luther King Jr. Street naming proponents often try to place King's name on major roads that extend beyond the geographic scale of the black community. These proposals face intense white opposition and frequently fail because elected officials are reluctant to rename a thoroughfare without the approval of its residents and business owners. In some instances, local governments have responded to these controversies by creating ordinances in which the approval of name change requires the support of a large percentage of property owners along a street. These ordinances draw strict boundaries around who has a legitimate voice in the renaming process, limit the street choices of African Americans, and make the renaming of prominent, racially diverse streets difficult. The purpose of my paper is to conduct a critical examination of the street renaming ordinance phenomenon. First, I discuss the politics of scale that underlies King's commemoration and why the renaming of major roads is so important but contested. Second, I revisit Statesboro, Georgia as an example of how a street renaming ordinance was created to deal with the controversy of placing King's name on a commercial artery and how it eventually led to the renaming of a smaller, primarily African American street. Third, I conclude by offering a preliminary interpretation and critique of the ordinance movement, suggesting that it represents a privatization and territorialization of street renaming as a public spatial practice.

## **Modeling the Bathymetry, Hypsometry, and Tidal Prism of a Coastal Lagoon**

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Coastal bays and lagoons are spatially complex and challenging for GIScience investigation. Scarce bathymetric data, gaps in spatial coverage of intertidal features, differing vertical datums, and sparse water-level and tidal data are but a few of the problems explaining a relatively limited literature on estuarine GIS. This study develops a prototype integrative GIS for a coastal lagoon at Chincoteague Bay, Maryland/Virginia. Combining available navigational, topographic, and tidal benchmark data, the project builds a digital bathymetric model and spatially explicit tidal prism. Together, these information products provide a resource for analysis of lagoon flushing, habitat distribution, and submergence from sea-level rise. In comparison to basin-wide metrics of estuary volume and hydrography found in national surveys, the results of this study

provide more accurate and precise hydraulic characteristics as well as useful geospatial data for local scientific analysis, management, or restoration.

### ***Almost Level, West Virginia: A Political Ecology of Mountaintop Removal Coal Mining***

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Kent State University

This paper attempts to illuminate some of the complex environmental, economic and political issues surrounding the increased prevalence of mountaintop removal coal mining (MTR) in West Virginia. This highly profitable, yet highly destructive method of natural resource extraction has significantly increased throughout central Appalachia in the last two decades. The complexity of this issue lends itself to a political ecology framework through which multiple angles of the issue will be examined to gain a better understanding of the processes enabling MTR and what that means to the surrounding communities. Processes that are focused on in this research include the historical background of resource dependency in West Virginia, the economic factors of development such as surplus extraction, and the languages and discourses circulating around MTR that serve as both voices of protest and also political and legal enablers of the extraction method. The examination of these issues will show that MTR is not only an issue of physical geography or natural resources but a convergence of multiple processes converging in West Virginia.

### **Charcoal production and forest development on the Western Highland Rim**

Justin L. Hart, Saskia L. van de Gevel, David F. Mann, and Wayne K. Clatterbuck  
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Forests of the Western Highland Rim were heavily influenced by the iron industry during the 19th and 20th centuries. The production of iron required large amounts of charcoal. Timber was cut, burned in hearths to produce charcoal, and then the charcoal was transported to local furnaces and forges. The goal of our study was to document the lasting effects of charcoaling on forest composition, stand structure, and soil characteristics for a forest on the Western Highland Rim in Tennessee. Fires used in hearths to produce charcoal were intense, spatially concentrated events that modified soil characteristics differently than typical surface fires. Results show significant differences in some soil traits between charcoal hearths and surrounding sites. However, differing soil conditions have not significantly influenced forest development as there were no systematic differences in species richness, diversity, evenness, density, and basal area between charcoal hearth and non-charcoal hearth sites. Although remnant charcoal hearths are still visible on the modern landscape, the results of this study indicate the historic land use has no or minimal influence on modern forest communities.

**Fire on the Rimrock.** R. Stockton Maxwell, Department of Geology and Geography, West Virginia University and Ray R. Hicks, Division of Forestry and Natural Resources, West Virginia University. The fire history of a rimrock pine community at the New River Gorge National River, West Virginia was studied using 22 Virginia pine (*Pinus virginiana* Mill.) and 1 pitch pine (*Pinus rigida* Mill.) basal cross sections. Fire frequency and the goodness of fit between the fire interval distribution and the normal and Weibull distributions were evaluated with the FHX2<sup>®</sup> program. A 108-year fire chronology (1897-2005) was constructed from 51 fire scars. Fire intervals ranged from 1 to 9 years within individual samples. When analyzing sample sites separately, the Weibull median interval was approximately 4 years for one or more trees scarred during a single year (liberal criteria) and 8 years for two or more trees scarred during a single year (conservative criteria). When analyzing sample sites together, the Weibull median interval decreased to approximately 2 and 3 years, for the liberal and conservative criteria, respectively. Fires in the 20<sup>th</sup> century were likely human-caused. Prescribed fire may be used to help restore and maintain rimrock pine communities in the park.

### **Patterns and Controls of Forest Damage Caused by Hurricane Katrina in a Southern Mississippi Landscape.**

John Kupfer, Dept. of Geography, Univ. of South Carolina.

Using field sampling and air photo classification, we categorized forest damage resulting from Hurricane Katrina in a 153,000 ha landscape in southern Mississippi into three classes: low, moderate, and heavy. We then developed predictive damage models using single tree classification tree analysis and stochastic gradient boosting (SGB) and examined the importance of variables addressing storm meteorology, stand conditions, and site context in predicting forest damage. Overall damage classification accuracies for a 290-plot training dataset were 72% and 93% for the single tree and SGB models, respectively; these values dropped to 56% and 61% for a 72-plot independent validation dataset. Producer's and user's accuracy for the SGB model showed marked improvement for both datasets. Distance to streams and slope aspect were the best predictors of damage for both models while measures of storm meteorology along with hardwood basal area, slope, and stand condition were of secondary importance. Our results indicate that broad-scale damage prediction for a given event is feasible and clarify how physical and biological factors interact with one another to determine hurricane damage.

## **Dendroecology of Southern Appalachian Balds**

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Southern Appalachian balds are shrub or grass dominated openings in the surrounding matrix of forest. These communities are home to many rare and endemic plant and insect species and therefore have high conservation value. During the past century, many balds have experienced closure from the surrounding forest. Dendrochronology provides a strong tool to explore possible causal factors, rates, and patterns of tree encroachment into balds. Trees growing along the edge of balds respond differently to climate than those growing in the interior of the surrounding forest. Specifically, trees along the edge have a one-year lag in their dendroclimatic relationships, indicating a more stressful existence. This edge stress is also exhibited in the pattern of gradual encroachment of the balds by trees from the edges inward; it appears that the shelter of existing trees facilitates the establishment of young saplings adjacent to the forest edge. Tree invasion of balds appears to be triggered by a combination of fire suppression, logging, and cessation of grazing. The actual causes vary by site, but the successional pathways are similar – early successional hardwoods and conifers establish in formerly grassy and shrub dominated areas.

**Who Will Inhabit The City? Homeless Perspectives on the Re-location of The Shelter in Tallahassee, Florida.** Andy Walter, Assistant Professor, Department of Geosciences, University of West Georgia, Carrollton, GA 30118. Phone: 678-839-4070. Email: awalter@westga.edu

This paper assesses the location of The Shelter, a large homeless facility in downtown Tallahassee, FL, based on interviews with 24 men and women who used the facility. Since the initiation of two major urban revitalization projects in the late 1990s, city officials have contested The Shelter's location and have sought in various ways to have it re-located out of the downtown area. Officials of The Shelter, who believe its downtown location to be central to their mission, have unequivocally resisted these efforts. In the resultant public debate, the homeless themselves have not been substantively incorporated and nor, therefore, have their perspectives and value judgments been considered. This paper aims to reveal the viewpoints of homeless people regarding this issue and to answer the question, is The Shelter in a location that is good for them? The paper concludes by suggesting the failure of city efforts to "cleanse" the downtown of the "homeless problem" by simply relocating The Shelter.

## **Ecotourism in Protected Rainforest Areas: Elephant Crop Raiding Problems Around the Kakum National Park in Ghana.**

Seth Appiah-Opoku, Geography Department, University of Alabama, Tuscaloosa

Focusing on the Kakum National Park (KNP) in Ghana, the paper argues that the full benefits of ecotourism projects in protected forest areas require a good understanding of the impacts on local livelihoods as well as the opportunity cost incurred by setting aside land for conservation. Prior to the creation of the park, inhabitants of the surrounding villages relied on the forest for their building materials, *bushmeat* (game), mushrooms, herbal medicines and other daily needs. The KNP project has denied them access to these resources. Official efforts to create alternative economic base such as wood carving, snail farming, soap making, and raising livestock in place of hunting for *bushmeat* have not been successful. In addition, forest elephants from the park have been destroying crops outside the park partly because it is not fenced and the elephant population has increased tremendously. These developments have resulted in conflicts and tensions between host communities and park officials.

## **SPATIO-TEMPORAL VARIATIONS OF OBSERVED SOIL MOISTURE IN NEBRASKA DURING THE WARM SEASON**

Ashley Littell  
Western Kentucky University

Soil moisture is a measure of the water content in a soil that is dependent upon precipitation, evapotranspiration, runoff, drainage, and irrigation. Nebraska is one of the few states in the country that maintains a weather data network that measures soil moisture. Daily soil moisture observations from depths of 10, 25, 50, and 100 centimeters were analyzed from May through October of 2005, after being grouped into datasets of weekly, bi-weekly, and monthly observations. These datasets were imported into a Geographic Information System (GIS) and the Ordinary Kriging method was applied for spatial interpolation. The interpolation parameters were set to create output surfaces of 4 x 4, 16 x 16, 32 x 32, and 64 x 64 kilometer grids for analysis of their variations. As expected, it is found that soil moisture content is higher in southeastern Nebraska and lower in the northwest. Changes in the grid size render small scale variations, however, the general pattern of estimated soil moisture distribution does not change.

**The Imprint of a Growing United States Population on National Parks Visitor Rates.** **Katie Ball. East Carolina University** National parks are some of the last great open spaces in the United States untouched by development. The National Park Services collects visitor rates on all major National Parks to help each individual park care and maintain for a given area and plan for the future. The National Park Service requires accurate visitor rate data for proper future planning. Both state populations and national parks' visitor rates have increased since 1980. This study examines a possible relationship between these two variables. The hypothesis states that as the state populations increase the visitor rates to national parks also increase. While the hypothesis seems likely, the Spearman nonparametric test indicates that there is no significant correlation between state populations and visitor rates for the years 1980, 1990, and 2000. Though the results prove the null hypothesis to be correct, an inherent need remains for research involving population levels and visitor rates. Population levels indicated development to be encroaching on remaining open spaces federally protected and otherwise. The visitor rates still remain the best predictors for planning the future of the National Parks.

**“Spatial Patterns of Religious Diversity in the U.S. and Canada.”** Barney Warf, Dept. of Geography, Florida State University, Tallahassee, FL 32306. [bwarf@cos.s.fsu.edu](mailto:bwarf@cos.s.fsu.edu)

This paper addresses the spatiality of religious diversity in both the U.S. and Canada. It opens with a review of theoretical conceptualizations of religious diversity, particularly its relations to religiosity, contrasting rational choice and social ecological perspectives. Second, it interrogates the major dimensions of religious diversity in North America, the causes and implications, situating Canada, which is relative moderate in terms of its religiosity, between the conceptual poles of a relatively secular Europe and a relatively more religious United States. Third, it summarizes the data and methodology, which involves nine religious categories and three different measures of diversity among census divisions in Canada and counties in the U.S.: 1) The largest religious category as a percent of total population; 2) Shannon's index, derived from entropy maximization, and 3) Simpson's index, derived from probability theory. Fourth, it displays the results using both a cartographic display of these indices in both countries. In both countries, relatively low diversity is evident in the east coast, whereas the west coast has considerably greater diversity, including larger proportions of those with no explicit religious identity. It appears that the most ethnically and religiously diverse regions are also the least prone to religiosity, at least as indicated by the uneven spatial distribution of those with no explicit religious identification.

## **Theorizing the co-production of land use and livelihood change.**

Edward R. Carr  
Brent McCusker

Many recent “nature-society” studies have rejected dualistic characterizations of “society” from “nature”. In the more staunch approaches, nature is even given agency equal to or superseding human agency, while in others social relations are still central. We draw on our previous work to bring empirical evidence from sub-Saharan Africa into this debate. We wrote about the concept of the co-production of land use and livelihood change in two sites in sub-Saharan Africa. The concept rejects the notion that long hypothesized “driving forces” shape the conditions of change in land use. Rather, we see changes in land use as produced together with changes in livelihoods (co-production).

We are concerned in this paper with the theoretical underpinning of co-production. We set aside the issues of land use and livelihood change in order to locate the concept of co-production as a manifestation of the debate over the nature-society relationship. Co-production is not drawn neatly from one theoretical approach. Actor-Network Theory justifies examining nature-society relations as unity, but falls well short when operationalized. Neil Smith’s treatise on the production of nature moves a great distance towards theorizing co-production, but stops short due to its treatment of power relations and the role of nature. A Foucauldian approach adds power/knowledge in richly illuminating ways, but underemphasizes what we see as a very important element of both co-production and nature-society relations – the production and reproduction of material and meaning.

Drawing on the strengths of these three approaches, we locate the production and reproduction of materiality and meaning in Ghana and South Africa. This paper is not a detailed explanation of those case studies; rather it is a piece that draws on empirical data to highlight theoretical concerns. We end our paper with weaknesses and blindspots we’ve encountered along the way.



## **An Analysis of Shoreline Change in Gulf Shores, Alabama Using Historical Aerial Photography**

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In Alabama, the term “coastal shoreline” applies to the Gulf shoreline and shorelines of estuaries, bays, and sounds connected to the Gulf of Mexico and subject to its tides. However, studies have yet to include Little Lagoon, which has been connected to the Gulf of Mexico for most of the last 200 years. GIS analysis of historical nautical charts, aerial photographs, and LIDAR-derived shorelines reveal 50 years of shoreline change on Little Lagoon and its adjacent Gulf shoreline. The greatest shoreline changes were related to the formation of natural and constructed inlets, human development, jetty construction, beach nourishment projects, and hurricanes. The strongest correlations between changes in shorelines of the Gulf and Little Lagoon occurred where changes were greatest. This paper demonstrates that large-scale analysis with sampling intervals representing relatively short time periods can illuminate historical shoreline changes.

Keywords: Shoreline Change, Longshore Transport, Tidal Inlets, Correlation Analysis, Historical Aerial Photography.

## **Aqua Dams: Controlling Flooding Through Appropriate Technology**

Heather A. Sheffield. East Carolina University

My poster addresses the utility of Aqua Dams as a flood control technology. In a previous study conducted at Humboldt State University, I examined the flooding of a farmer’s field after a levee break. Theoretical data on maximum/minimum volumes of water diverted by use of Aqua Dams were calculated. This same methodology is applied to recent flooding from Tropical Storm Ernesto to determine how much area in North Carolina could have been protected from the use of Aqua Dams. The cost and ease of the construction of Aqua Dams is compared to conventional flood control mechanisms like concrete and earthen dams, levees, and restoration of natural watershed in a way that uses an appropriate technology non-harmful to the environment.

## **Lines on the Map of Delmarva – Geopolitics for the Middle School Student**

Catherine W. Cooper

George Washington University

The paper is a lesson in political geography couched in terms of boundaries of a particular region and county. The paper considers various natural and artificial boundaries in the context of a place familiar to the student living on the Delmarva Peninsula, such as the local rivers and the Mason-Dixon Line. The lesson discusses boundaries of counties, watersheds, towns, school districts, zip codes, fire districts, legislative districts, census areas, and others. Boundaries can cause controversies, as illustrated by the oyster wars between Maryland and Virginia watermen of the Chesapeake Bay. The student who recognizes the way boundaries may work in a familiar place can then transfer this analysis to boundary issues on a global scale. The paper includes teaching guide points: the link to the Standards of Geography (Standard #13, et al), lesson goals and targeted outcomes, assessment and project items.

## **“A 250 year tree-ring record of northern red oak (*Quercus rubra*) establishment and recruitment in a southern Appalachian grass/heath bald”**

**Christopher J. Crawford**

*Department of Geography, Virginia Polytechnic Institute and State University*

Craggy Gardens, a southern Appalachian grass/heath bald in western North Carolina is experiencing *Quercus rubra* encroachment on the western slope. Belt transects along with dendroecological analysis was used to reconstruct *Quercus rubra* establishment and recruitment over the past 250 years. Tree rings records from a 128 trees yielded distinct spatial and temporal patterns of encroachment mainly explained by disturbance. Historical grazing by megaherbivores and European livestock appears to be the main disturbance both suppressing tree establishment during grazing and facilitating tree establishment and recruitment after the cessation of grazing early 1930s. Decline in tree encroachment after the 1960s is primarily a result of shading after canopy closure. Inter-annual climate variation is apparent in *Quercus rubra* suggesting a combination of human disturbance and environmental conditions has and continues to govern bald vegetation dynamics. Absence of tree encroachment after 1980 is due to the ecological restoration project aimed at restoring and maintaining Craggy Gardens to promote preservation of rare and endangered species and scenic appeal. This reintroduces human disturbance, which will further alter successional development of the community.

**Keywords: Craggy Gardens, grass bald, *Quercus rubra*, tree rings, belt transects, disturbance, grazing**

## **“Effects of Large Woody Debris on Stream Channel Morphology and Velocity”**

Christopher Labosier

University of Alabama

Most studies involving large woody debris (LWD) focus on streams in marine west coast climates or in mountainous regions and center upon fish habitat. This study examines the effects of LWD on channel morphology and velocity in a stretch of Turkey Creek, Alabama, a humid subtropical climate and mixed pine-oak forest. Three LWD sites within Turkey Creek were selected at random for sampling. Channel width and depth were measured both immediately upstream and immediately downstream of LWD sites. These measurements were graphed in order to compare channel shape upstream and downstream of LWD. Velocity at the thalweg was also determined immediately upstream and downstream of the LWD for comparison purposes as well. Results show that channel shape did change downstream of the LWD, but not dramatically. Velocity at the thalweg decreased downstream of the LWD. Channel shape may not have changed much due to the LWD having been there only a brief time and the channel may have been in a period of adjustment. Velocity most likely decreased due to the increased amount of friction between water molecules and LWD.

## **Modes of Power in the WTO**

Chris Blackden

University of Kentucky

Despite the numerical superiority of developing states in the World Trade Organization, it has been convincingly argued that most WTO agreements are biased in favor of developed country interest. This outcome seems to be at odds with what one would expect from a body where all member states have equal representation and all decisions are based on consensus. I propose eight hypothetical, overlapping mechanisms of hegemonic politics to explain this situation. These are further divided into three broad modes of power: *State-Level* (economic bargaining positions, bilateral pressure, and solidarity of interests), *Discursive-Institutional* (Neoliberal discourse, institutional lock-in and overlap), and *Micro-politics* (domination of bureaucracy, organization of meetings and production of documents, and numerical superiority in delegates). These suggestions are not meant to be exhaustive and are stated only provisionally. This paper is meant to provide a preliminary analytic framework for a larger project aimed at studying the strategies of developing states in the WTO.

### **30 years of disturbances to ecosystem functioning in North America.**

Christopher S.R. Neigh, Compton J. Tucker, John R.G.

Townshend,

NASA Goddard Space Flight Center, University of Maryland, College Park, Geography

Remote sensing data from the NOAA series of Advanced Very High Resolution Radiometers (AVHRR) revealed regions in North America that experienced marked increases in annual photosynthetic capacity at various times from 1982 to 2005. Inspection of these anomalous areas with Landsat, Ikonos, aerial photography, and ancillary statistical datasets revealed a number of ecological disturbances: climatic influences; drought and subsequent recovery; irrigated agriculture expansion; herbivores insect outbreaks followed by logging and subsequent regeneration; and forest fires with subsequent regeneration.

We describe an efficient continental monitoring system to locate and understand processes that alter ecosystem functioning.

### **Factors in Constructing the College Football Landscape of Tailgating**

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Every Saturday from September through early December, the game of college football is played throughout America, in towns both big and small. In some places an excess of 100,000 spectators are in attendance at these football games, making the sport an important part of American culture. This paper looks at college football's cultural landscape at three locations with an emphasis on the social act of tailgating—a prideful pregame celebration of eating and drinking with family, friends, and fellow alumni that usually takes place in a stadium parking lot utilizing a truck's drawn tailgate. There is a definite relationship between tailgating and the urban space allowed for these festivals. For example, open areas create different atmospheres than confined ones. A separation of space can exist among celebrants at the same event, usually along lines of age and/or socioeconomic status. These pregame activities vary from place to place, and lend definition to the local landscape and community.

Keywords: cultural landscape, college football, tailgating, urban space

## **Application of Space-Time Concepts in Geographic Profiling**

Christine Titus, Sue Bergeron, Jesse Rouse and Gregory Elmes, Department of Geology and Geography, West Virginia University, Morgantown WV 26506-6300

This poster illustrates the concept of potential accessibility surface as applied to the movement of offenders and victims in a crime context. The project is an extension of three-dimensional representation of Hagerstrand's time geography in a GIS. Using a fully coded roads and trails network and service area algorithms, the potential accessibility area is calculated. Elapsed time is encoded on each segment of the network, which may then be displayed in two dimensions. Using cumulative time as a third dimension, the network can be displayed as a volume. Locations in time-space may be displayed for unknown or unrecorded behavior after a known position, or for retrospective behavior before a known point. Given the ability to model known and possible trajectories for a potential suspect, the concept may be used to rule out certain individuals. Furthermore, the technique may be used to determine coincidence by intersecting the known geometry of victims and incidents and the modeled accessibility space of suspects. Depicting these space-time paths requires special coding within the ArcObject model.

## **Designing A Geodatabase To Analyze Metropolitan Knoxville Commuter Patterns**

Charles J. Phillips and Andrew J. Baker, Department of Geography, University of Tennessee, Knoxville, TN 37996, cphill11@utk.edu

This poster focuses on the creation and implementation of our geodatabase to achieve the objectives of our initial research on urban form within Metropolitan Knoxville. During the late 20<sup>th</sup> Century, residents and jobs moved out of the Knoxville central city into the suburbs and surrounding "edge cities" causing a weakening significance of the Downtown Central Business District (CBD) and the emergence of scattered, multiple centers in expanding low-density suburban areas. A geodatabase is critical to the organization and interpretation of intra-metropolitan spatial patterns of commuters, along with streamlining work flow and overall efficiency. Our geodatabase is designed to allow users to select a specific residence geography, then, by clicking a "draw map" tool, a choropleth map showing the distribution of workers from the selected residence throughout Metropolitan Knoxville is created. The data is derived from the Census Transportation Planning Package (CTPP) 2000 Part 3 from the U.S. Census Long Form Survey for Households measuring journey-to-work patterns. Further, we utilized the Traffic Analysis Zone (TAZ) which provides detailed geography.

**Inland Coastal Boom? Random and Systematic Land Cover Transitions in the Inner Banks, 1992-2001.** Thomas W. Crawford, Department of Geography, East Carolina University.

Media accounts report that North Carolina's inland estuarine region is experiencing dramatic land cover change described as the "coastal boom moves inland". This follows a history of development along the Outer Banks and other barrier island settings related to land scarcity along the oceanfront. The region is being actively promoted as the Inner Banks to attract economic growth and in-migration. This paper uses multi-date land cover data from the National Land Cover Dataset to characterize land cover transitions and provide a baseline analysis of change during the period 1992 to 2001. A methodological extension to traditional transition matrix analysis is employed to separate systematic from random transition and highlight important signals of change on the landscape. Results are consistent with the inland coastal boom theme and demonstrate a systematic transition primarily from agriculture and secondarily from forest to developed cover. While much of the region remains in agriculture, forest, or wetlands, results suggest the need for continued monitoring and future modeling efforts to better understand drivers and impacts of land cover change which, if continued or accelerated above rates found during the study period, may have significant impacts on the region's rich natural resource base and sense of place.

### **A Comparison of TRMM to Other Basin-Scale Estimates of Rainfall during the 1999 Hurricane Floyd Flood**

Scott Curtis, Thomas W Crawford, Scott A Lecce  
East Carolina University, Department of Geography

The volumetric rainfall attributed to Hurricane Floyd in 1999 was computed for the bulk of the Tar, Neuse, and Cape Fear river basins in eastern North Carolina from the Tropical Precipitation Measurement Mission (TRMM) Multi-Satellite Precipitation Analysis (TMPA) research product, and compared with volumes computed using kriged gauge data and one centrally located radar. TMPA showed similar features in the band of heaviest rainfall with kriged and radar data, but was higher in the basin-scale integrations. Furthermore, Floyd's direct runoff volumes were computed and divided by the volumetric rainfall estimates to give runoff coefficients for the three basins. The TMPA, having the larger storm totals, would suggest greater infiltration during Floyd than the gauge and radar estimates would. Finally, we discuss a concept for adjusting the United States Department of Agriculture Soil Conservation Service rainfall-runoff model when predicting discharge values from real-time TMPA in ungauged river basins.

## **PLACING THE YASUKUNI-JINJA WITHIN TOKYO'S LANDSCAPE**

Daniel McGowin  
The Florida State University

Yasukuni-Jinja (Yasukuni Shrine) in central Tokyo has increasingly become a place of contested memory. Much of the controversy surrounds the visitation of high-level officials, namely the Japanese prime minister, to the shrine honoring the war dead, including war criminals. While much of the recent research has focused on the visitations, very little research has been conducted on the relative location of the shrine to the Imperial Palace and its implications.

Using the method employed by Atkinson and Cosgrove in their study of the Vittorio Emanuele II Monument, this paper examines the controversial Yasukuni-Jinja. Does Yasukuni-Jinja create a site where the ancient Japanese empire is merged with the modern Japanese state? This paper finds that the shrine does create a spatial representation of that connection, which is also personified through the emperor himself.

### **The Creation of Community? Citizen Action, Social Movements, and the Portmore Toll Controversy**

**David Dodman**  
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Mona, Kingston 7, Jamaica.

Proposals to develop the area now known as Portmore in St Catherine, Jamaica, were first suggested in the mid-1960s as a means of dealing with rapid population growth in the capital city of Kingston. Although the development at Portmore was originally envisaged as a new town, for many years the settlement served as little more than a dormitory community for its larger neighbour. New commercial developments and the creation of the Portmore Municipality in 2003 have added economic and political functions to the town, but it is far from clear whether these have led to the formation of a distinct community.

This question is addressed in this paper through an analysis of the Portmore Toll Controversy. The Portmore Toll Road is a six-lane highway linking Portmore and Kingston that forms part of the major Highway 2000 Project. Although promising to shorten journey times and reduce congestion, residents of Portmore have become increasingly concerned about the nature of the toll and the alleged inadequacy of non-toll alternative routes. The history, character and success of citizen organisation in response to this perceived threat are examined through the concept of urban social movements.

## **Analysis of Blowdown Directionality from Hurricane Katrina across Southeastern Mississippi**

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Hurricane Katrina caused extensive ecological damage throughout the Southeastern United States, especially in Mississippi. Assessments of tree blowdown resulting from hurricanes commonly address the importance of wind speed, duration and/or steadiness in dictating damage severity. Treefall directionality is controlled by mesoscale circulation patterns and local site factors. To understand the extent of local and/or mesoscale features we performed linear regression using mean treefall direction as the response variable and measures of wind directionality, plot location, plot topography, and site context as predictors. We postulated that most of the variation in treefall direction could be explained by the projected direction of hurricane-driven wind but that finer-scale features would also be significant. In this study, we analyzed treefall directionality following Hurricane Katrina over a 4500 km<sup>2</sup> landscape in southern Mississippi. We identified nearly 3000 individual downed trees at 360 plots on high-resolution, post-hurricane aerial photography. Our results indicate that while the local landscape structure (forest/edge or open) is significant, the expected hurricane-driven wind flow is the primary mesoscale factor in determining treefall directionality.

## **David Brommer University Of Alabama An Analysis of Precipitation Durations and Climate Teleconnections**

A majority of research on precipitation in the United States has focused on several characteristics of precipitation. These characteristics include precipitation intensity, precipitation frequency, and precipitation amount. Typically, the temporal and spatial variations in the character of precipitation have been analyzed using daily averages or longer. These analyses have aided in quantifying the changes in precipitation throughout the United States, but they have not addressed precipitation variations on time scales of less than one day or the duration of precipitation occurrences. This research focused on precipitation duration for the conterminous United States, characterizing the spatial and temporal variations in precipitation duration and determining duration's relationship to changes in climate teleconnections.



Data were collected from 87 first-order National Weather Service weather stations throughout the conterminous United States for the period from 1949 through 2004. Analysis of climate teleconnections with hourly precipitation data indicated precipitation duration responded to large-scale atmospheric variations. Composite precipitation duration increased throughout the conterminous United States during El Niño/Southern Oscillation events and during positive Pacific Decadal Oscillation events, composite precipitation duration decreased. Regional precipitation duration patterns were also noted in response to the climate teleconnections. This study identifies precipitation duration as an important variable in the study of climate change.

**Edward H. Davis and John T. Morgan, Emory & Henry College  
Did Collards Really Come from Africa?**

Collards, an important food crop of winter gardens in the United States South, are often associated with African-Americans and “soul food.” Numerous sources claim that the African slave trade was responsible for bringing food plants such as okra, the peanut, yams, and the collard to the American colonies. Other sources material indicates, however, that the collard, a non-heading form of the cabbage family (*Brassica oleracea* var. *acephala*), is not native to Sub-Saharan Africa, and would not likely have diffused from there to America. In this paper, we examine ecological, geographical, and historical factors to assess the hypothesis that American collards are of African origin.

**Left Hanging by the Seat of Their Pants: Worker Retraining and the Marginalization of Apparel Workers in Rural Appalachia**

Donna J. Hall  
Florida State University

In this paper, I examine how worker re-education and training efforts in a deindustrialized rural community in central Appalachia were implemented as part of a community economic redevelopment effort when the major employer, a transnational apparel manufacturer, closed its manufacturing facility. Preliminary analysis of interview data suggests that narrowly focused ad-hoc worker education efforts aimed at developing human capital lack the potential to change the marginalized status of displaced workers and help suffering communities revitalize their economies. I conclude by suggesting a broader conceptualization of education that links it with development so as to enhance individual and community capabilities.

## **Detection and Analysis of Forest Cover Change in Southern Chile**

Doug R. Oetter, Mark Patterson, Jorge Marin Alfaro, and Miguel A. Curihuinca

Georgia College & State University, Kennesaw State University, INVESGEO Ltda.

Dept. of History, Geography, and Philosophy

Chile has increased foreign trade dramatically in the last 15 years, especially in agro-forestry products, whose export has tripled in the last five years. Extensive temperate forests in southern Chile have been harvested and replaced with eucalyptus and pine plantations. The economic climate of the Pinochet government promoted Neoliberal policies that rewarded the conversion of native forests and woodlots into plantation forest operations. The environmental impacts of this conversion include soil erosion, stream siltation, fisheries impact and disruption of native wildlife. Using Thematic Mapper and Enhanced Thematic Mapper satellite imagery from the last 30 years, we have determined that a significant portion of the Bío Bío River basin, near Concepción, is now engaged in large-scale agro forestry, and extensive native forests have been removed, and replaced with exotic trees for production. Additional analyses indicate a direct relationship between forest conversion rates and regional population changes, especially due to urbanization trends. The relationships between harvest and planting rates and global demand and pricing for wood products is under investigation.

## **Estonia: Possibilities for Geographers**

Thomas F. Howard, Associate Professor

ABSTRACT: Estonia offers good material for a unit on ethnicity and nationalism in a cultural geography course. Here in a small area and among a small population is a case study in some of the issues that have dominated the political geography of Europe since the late 19C. Specifically, Estonia provides material with which to contrast the common assumption that national identities are primordial and of ancient origin with the idea that national identities are continually under construction and that many aspects of these identities can be of surprisingly recent origin.

## **NO SPACE FOR CHILDREN: THE FALLING BIRTHRATE AND HOW IT RELATES TO WOMEN AND SPACE IN JAPANESE SOCIETY**

**Dorris Scott, Kent State University**

It is widely known that Japan's total fertility rate is falling every year. In the 1970s, Japan's fertility rate fell below 2.1 births per woman, the number of births required to maintain the population at its current size. There have been initiatives in the past to promote a pro-natal policy and equal employment, but the problem is that they are not enforced, not stringent enough to cause any change, or reinforce the status quo. I will discuss the spatial constructions that arose from government policy, which are main contributors to the falling birthrate. I will first examine social, economic, and cultural factors in the in the post-World War II period. I will then go on to explore the effects of the urban sprawl that occurred after World War II. Furthermore, I will explore how the Japanese government has limited women's space by reviewing the government policies to gender discrimination, solutions such as the two-track employment system and Japan's pro-natal policies. Finally, I will examine Japan's future if nothing is changed.

## **Evaluation of Challenges to Sustainable GIS Technology in Post Hurricane Mitch Central America**

**Emily Phillips and Peter Chirico**  
**US Geological Survey**

A geographic information system (GIS) is a crucial component of mitigation, recovery, and reconstruction operations, often transferred to areas of need after natural disasters. In such situations there can be significant challenges associated with implementation of the technology that can affect the long term sustainability of the GIS. While an initial needs assessment cannot fully address all of the eventualities which may be encountered during GIS implementation, post-transfer long term follow-up provides additional information that can help identify obstacles specific to a locality or region. After evaluating the GIS transfer to 75 Central American municipalities following Hurricane Mitch in 1998, two main dynamics have been identified as obstacles for that region: the potential for staff loss due to political turnover and weak linkages between local municipalities and higher governmental levels. After a final summary of obstacles to the sustainability of GIS for hazard mitigation is completed, an additional study can be conducted to determine successful strategies for more efficient, cost effective, and sustainable technology transfers in the future.

**Tear-Downs, Rebuilding, Renovation, and Neighborhood Change: An analysis of major home renovation and patterns of in-fill construction in Homewood, Alabama.**

Eric J. Fournier  
*Samford University*

The building of large new houses (or major renovations of existing homes) on small lots in desirable neighborhoods is a relatively new phenomenon. This process has resisted easy labeling. But it is a significant new force in the geography of housing in some U.S. cities. This study explores the housing market of Homewood, Alabama as a means of examining this process. A snapshot of the current listing of homes for sale shows several sub-markets within the city as well as a variation between houses constructed in different eras. There are large numbers of houses built in the 1950s currently for sale, and many of these are ripe for redevelopment (or even demolition). Building permit data are used to show the spatial and temporal patterns of large-scale renovation and new in-fill construction. The results of this project will contribute to an ongoing debate in the city about zoning regulations, neighborhood change, and a new version of the city's master plan.

**Lidar-derived forest metrics and bird species occurrence: A case study from the Core Arboretum, Morgantown, WV**

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Lidar data sets collected over forested land contain valuable information regarding the spatial arrangement of the tree stems, branches, and leaves making up the forest canopy. Previous studies have used lidar-based metrics to characterize the physical structures of forest ecosystems. Recent research relating lidar-based forest metrics to bird species occurrence inspired this project, in which lidar data were processed, using computer programs written by the author, and commercial GIS computer applications, in order to extract forest metrics and assess their relationship to bird species occurrence in the West Virginia University Core Arboretum, Morgantown, WV. Canopy height profile histograms produced from the lidar data provided an effective tool for visualizing the distribution of vegetation around nine different annual breeding bird survey (BBS) stations. While several lidar-based statistical parameters failed to demonstrate a correlation to bird species occurrence, an index of canopy openness did show a trend ( $R^2$

= 0.61) when compared with the number of species observed at each of the plots. This project may serve as a pilot study for future research relating lidar-derived forest metrics to species occurrence.

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**“Spatializing Eco-governmentality in Central America.”** Mary Finley-Brook, Geography Program, University of Richmond, Richmond, VA 23173.

**Abstract:** Sustainable development donors are encouraging new spatial patterns for aid and trade across Central America. In indigenous communities, opportunities for community forestry have emerged that are tied to policies that can be broadly categorized as neoliberal multiculturalism. This work examines how these trends have played out in eastern Nicaragua. The author examines partnerships involving international donors, government agencies, private firms, non-governmental organisations, and Miskitu villages. The findings, building from twenty months of fieldwork directly prior to and at the start of aid interventions, depict three spatial patterns linked to eco-governmentality: (1) neoliberal green spaces, (2) eco-efficient territoriality, and (3) transboundary governance.

### **Putting the Urban Poor on the Map Using Participatory GIS**

Francis Koti, *University of North Alabama*; Daniel Weiner, *West Virginia University*

There is notable progress in the practice of geo-spatial information technologies for urban practices in Kenya. Most recent literature has identified a concern for mapping land use and land cover change, infrastructure inventory, environmental management and other location-based uses. In these practices, the creation of urban geo-spatial databases has tended to reside in mainstream planning and is mainly characterized by formal data. Consequently, experiences of marginalized groups have remained invisible on city maps. This paper employs a participatory GIS conceptual framework to demonstrate how local knowledge can contribute to a more robust and inclusive urban geospatial database. The study involves building a GIS for Athi River town, Kenya. The Athi River GIS is augmented with community local knowledge in the context of group mental mapping, focus group discussions, GPS-based transect walks, social histories of exclusion, and oral narratives of land use. From the study, participatory GIS are found to offer an alternative methodology to integrate local knowledge into a GIS as an information layer. The study reveals low-income dwelling spaces not often found in formal planning data.

## **MID- TO LATE-HOLOCENE ASIAN SUMMER MONSOON VARIABILITY: STALAGMITE EVIDENCE FROM SOUTHWESTERN CHINA**

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Variations in Asian summer monsoon strength from ca. 5.1-1.5ka were documented for southwestern China by a high-resolution record from a 25 cm long stalagmite. The stalagmite is enriched in  $^{18}\text{O}$  and depleted in  $^{13}\text{C}$  over time in response to the gradual decline of summer solar radiation over the Asian continent at  $40^\circ\text{N}$ . Lower  $\delta^{18}\text{O}$  and higher  $\delta^{13}\text{C}$  values from 5.1-3.75ka suggest a stronger monsoon passing rapidly through the area, bringing intense rains but less total rainfall to South China. The gradual increase in  $\delta^{18}\text{O}$  and decrease in  $\delta^{13}\text{C}$  values from ca. 3.75-1.5ka indicates a weakening monsoon. When the monsoon is weak the monsoon front stagnates in the Yangtze River valley for a longer time, bringing more, but less intense precipitation to South China and much drier conditions to northern China. An abrupt climatic event, which was documented by a sharp increase in  $\delta^{18}\text{O}$  by 1.02‰ and a marked drop in  $\delta^{13}\text{C}$  by 0.73‰, occurred around 3.75ka and probably defined the end of the Holocene Climatic Optimum in China.

## **Tropical Flank Margin Cave Microclimatology: External or Internal Control?**

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John C. Rodgers, Dept. of Geosciences, Mississippi State University

The purpose of this study is to further assess the microclimatology, particularly temperature, of tropical flank margin caves and attempt to link the climatic conditions inside the cave to external and internal processes. The study focuses on Crescent Top Cave, San Salvador, Bahamas, a small young flank margin cave with a single, small entrance and standing water present in a pit at the back of the cave. Temperature data was collected with Onset Hobo H8 and Tidbit Temperature Sensors and Dataloggers<sup>TM</sup> for two six month observation periods. Based upon correlation results, the authors do not believe that a single mechanism, exterior air entering the cave or transfer of heat from water at the bottom of a pit, controls this flank margin cave's microclimatology. Rather, the cave can be divided into two microclimatic zones, front and back, which are each controlled by separate processes. The front of the cave is more directly related to the exterior thermal environment and most likely influenced by the advection of external air through the down sloping entrance. In the back of the cave, heat transfer through conduction across the water surface to the air column above the pit at the rear of the cave influences the cave temperature.

**Leon Dominian and Language Mapping at the Paris Peace Conference.** George W. White. Frostburg State University. gwhite@frostburg.edu. Middle Atlantic Division (MAD) member.

New political boundaries were drawn at the Paris Peace Conference in 1919 that created new nation-states. They were determined by the “mapping” of the spatial distributions of nations. It is generally recognized that language was seen as the principle national identifier but this paper demonstrates that the idea of language was circumscribed within the broader concept of environmental determinism. A close examination of the ideas of Leon Dominian, a geographer who influenced decisions made at the Paris Peace Conference, ideas reveals this connection. This paper will show that the identification and mapping of linguistic areas was pursued much differently in Paris in 1919 than usually realized today.

### **Excising Jim Crow from the Alabama Constitution: The Electoral Geography of Two Referenda**

Gerald R. Webster and Nicholas Quinton, University of Alabama

With the departure of federal troops from the South in 1877, some southern states altered their state constitutions and legal codes to require racial segregation. Some states added to these racist provisions in the wake of the massive resistance to court ordered desegregation in the 1950s. Though now unenforceable, several states including Alabama have begun the process of deleting these laws from their legal codes and state constitutions. This paper examines the electoral geography of two referenda in Alabama to delete racist language from the state’s 1901 constitution. The first referendum held in 2000 asked voters to delete the state’s prohibition against interracial marriage and won passage with 59% of the vote. The second referendum held in 2004 asked voters to delete constitutional passages pertaining to the poll tax and segregated schools and failed to pass with just under 50% of the vote. We find that white voters in rural areas commonly voted against both referenda, while urban and minority voters provided substantial support for the referenda.

### **Southern Gotham? Identifying Charlotte’s New Urbanites.** William Graves. UNC Charlotte.

Few Southern cities have seen urban transformations as dramatic as Charlotte. Its rise as a globally significant financial center has been accompanied by sweeping change in the downtown residential environment. As the population of center city Charlotte has recently doubled to more than 10,000, reporters, planners and scholars know little about the causes and character of this change. A mail survey was used to identify the

demographics, motivations and behaviors of Charlotte's urbanites. The results show that this population is extraordinarily affluent, young, and reliant on auto transportation. Little evidence was found to support the assumption that the residential boom has been driven by empty nesters and northern transplants.

### **Three-Hour and Twenty Four-Hour Rainstorm Ratios Across the Southern United States**

Gregory E. Faiers, Department of Geography, University of Pittsburgh at Johnstown, Johnstown, PA 15904 and Barry D. Keim, Department of Geography and Anthropology, Louisiana State University, Baton Rouge, LA 70808

Atlases of extreme rainfall were produced over the past fifty years (both nationally and regionally), for various applications. Quantile estimates – rainfall amounts for a given duration and return period - are often used in stormwater drainage and impoundment design, flood control, agricultural engineering, as well as in many other applications. The foundation for these atlases rests upon daily rainfall data. Past researchers determined relationships between daily rainfall frequency/magnitude relationships and 24-hour storm frequency/magnitude relationships and then used ratios of 24-hour to shorter n-hour-durations to determine storm magnitudes for durations of less than 24-hours. However, these ratios can vary geographically and the application of one ratio over a large region may produce significant error into the quantile estimate maps. This research examines fourteen hourly rainfall sites across the southern United States, thereby forming a transect from San Diego, CA to Jacksonville, FL. Results show that the ratios between 3-hour and 24-hour rainstorms vary considerably from one Climatic regime to another.

### **Contesting Globalization by Reconstructing Markets: Florida's "Wild & Wonderful Shrimp" Program**

John R. Grimes and Don Yow  
Eastern Kentucky University

This paper examines how globalization is impacting Florida shrimpers and Florida's "Wild and Wonderful Shrimp" program as a way to contest or reshape globalization's outcomes. The geography of shrimp imports is described as well as the recent history of its growth. The U.S. market for shrimp can be described as mostly consisting of a "mass market" that is met by farm-raised, frozen imports and a much smaller "specialty market"



met by fresh wild-caught shrimp. The interaction of these two very differently characterized segments of the shrimp market are discussed as well as Florida's strategy to increase demand of their shrimp by the use of a shrimp marketing campaign. The examination of this program shows a state that is attempting to confront the challenges of globalization while acknowledging its own policy limitations because of interdependencies that globalization creates.

Key Words: Florida shrimp, globalization, agro-foods, the state

### **The Rules of the Road: Street Renaming Ordinances and the Scale Politics of Commemorating Martin Luther King Jr.**

Derek H. Alderman, East Carolina University

While studies of commemorative street naming are growing in popularity, there has been little work on the decision-making politics behind street name changes and how governmental procedures affect this form of public memorialization. To fill this void somewhat, I focus on the legal barriers that confront African Americans as they attempt to rename streets after slain civil rights leader Martin Luther King Jr. Street naming proponents often try to place King's name on major roads that extend beyond the geographic scale of the black community. These proposals face intense white opposition and frequently fail because elected officials are reluctant to rename a thoroughfare without the approval of its residents and business owners. In some instances, local governments have responded to these controversies by creating ordinances in which the approval of name change requires the support of a large percentage of property owners along a street. These ordinances draw strict boundaries around who has a legitimate voice in the renaming process, limit the street choices of African Americans, and make the renaming of prominent, racially diverse streets difficult. The purpose of my paper is to conduct a critical examination of the street renaming ordinance phenomenon. First, I discuss the politics of scale that underlies King's commemoration and why the renaming of major roads is so important but contested. Second, I revisit Statesboro, Georgia as an example of how a street renaming ordinance was created to deal with the controversy of placing King's name on a commercial artery and how it eventually led to the renaming of a smaller, primarily African American street. Third, I conclude by offering a preliminary interpretation and critique of the ordinance movement, suggesting that it represents a privatization and territorialization of street renaming as a public spatial practice.

**A Geography of ‘Pork’: The Place Names and Political Authority in the West Virginia Landscape.** Joshua Hagen, Marshall University

As a powerful member of the Senate Appropriations Committee, Senator Robert C. Byrd has built a reputation for channeling a disproportionate amount of federal spending to West Virginia. Byrd has become nearly synonymous with ‘pork barrel’ spending in both the national and West Virginia press. After an overview of past research on pork spending and describing illustrative spending projects in infrastructure, government, and higher education, the presentation offers some preliminary assessments on the political effects of pork spending in West Virginia. The presentation suggests how this spending may influence state economic growth and electoral results. While the economic significance of ‘pork’ in this case is questionable, it appears that its political impact, especially the power of naming projects after Senator Byrd, likely play a more significant role.

Mat Mitchelson

University of Georgia

**Economic Geographies of "MLK" Streets**

In what follows, I investigate the economic geographies of streets named for Reverend Dr. Martin Luther King, Jr. (MLK Streets), which are an increasingly common means by which various community members across the United States are attempting to commemorate the slain Civil Rights leader. It is my intent to characterize these negatively ‘branded’ spaces, in order to challenge some of the common perceptions about them and inform current and future MLK Street naming debates. I statistically analyze non-residential establishments located on streets named for King in terms of distribution, size, scale (as measured by annual sales and employment) and composition. I find that establishments located on MLK Streets *do not* systematically exhibit economic marginality. Establishments located on these streets *do* systematically exhibit unique local functions and industrial composition. Hence, in the absence of empirically driven research, the negative stereotypes that surround MLK Streets have gone unchallenged and are proliferating. The research reported here calls into question a number of these stereotypes, and should inform the public, city councils, and other local policymakers, who are increasingly being faced with contentious MLK Street naming debates.

**East is Least and West is Best: Cultural Roots of Geographic Bias in Place and Business Names in Knoxville, Tennessee.** Margaret M. Gripshover, Department of Geography, University of Tennessee, Knoxville, TN 37996-0925

By the late 1800s, Knoxville, Tennessee, had developed four distinct neighborhoods areas, each of which had their own unique demographic and physical qualities. The city was broadly defined by these four residential areas—North, South, East, and West Knoxville. These cardinal directions included in each neighborhood's name, describes their locations relative to the central city core. Within each place name, there are embedded layers of geographic code that locals decipher and often conclude that West is best and East is least desirable. If you live in North or South Knoxville, you lay somewhere in between. This paper explores the cultural meaning of North, South, East, and West, in Knoxville and how racial and socio-economic stereotyping became major components of place and business naming conventions in the city.

**Keywords:** Knoxville, place names, neighborhoods, race

## **MINE SWEET MINE: SPATIAL AND TEMPORAL CHANGES IN COAL TOWN PLACE NAMES IN WEST VIRGINIA**

**Christa Smith**  
**Clemson University**  
**and**  
**Margaret Gripshover**  
**University of Tennessee**

The purpose of this paper is to examine historic trends in settlement place names linked to the coal industry to determine the underlying historical, economic, and cultural themes that best explain the variations in coal town toponyms in West Virginia. Previous research has suggested that some trends did exist, such as the naming of coal towns after females related to coal company owners or officials, but the literature does not adequately explore the possibility of additional influences in the naming of place. A data set of over 800 coal town toponyms was created, which included the location of the coal camp or towns closely associated with the coal industry, the name of the coal companies that owned the towns, the date the towns were constructed and, if applicable, the year the towns ceased to exist. After dividing the data into nine categories of place names, it was then cross-compared to the historical development of the West Virginia coal industry to discern if temporal and spatial patterns of toponyms existed on the historic landscape.

## **Using Feminist Geography to Create a WikiBoK**

Hannah Rose Mendoza  
West Virginia University

The language used to approach the definition of the Body of Knowledge (BoK) for Interior Design has been territorial and based upon the masculinist assumption that knowledge is a commodity which can be defined and possessed. The creation of a BoK which draws borders around a knowledge set, the sum of which equals the whole, is contrary to the very idea of knowledge as knowledge ceases to exist the moment it is encapsulated and isolated. This paper explores knowledge as process transcending boundaries, and proposes a method for the creation of a BoK which allows questioning of the accepted authority that denies us entrance, either as women or designers, to certain places and denies our authority to create and handle knowledge. Rather than being built upon or evolving from existing epistemologies and territorial ideas of legitimacy, I advocate the creation of an inclusive WikiBoK which recognizes the multiplicity of sources involved in knowledge creation. Through exploring the spatial/temporal epistemological binary I create a space open, in the words of Toni Morrison, “for discovery, intellectual adventure, and close exploration...without the mandate for conquest.”

## **Aboriginal Development Corporations of the Canadian North: the case example of the Inuvialuit of Western Arctic.**

James C. Saku  
Department of Geography  
Frostburg State University

The emergence of modern land claim agreements in northern Canada gave rise to a new strategy to Aboriginal economic development in this depressed region. Several factors including demand by Aboriginal people for recognition of ownership to traditional land and Aboriginal participation in economic development gave rise to the new strategy. The first modern treaty achieved in the Canadian North was the 1975 James Bay and Northern Quebec Agreement. Three years later, the North-eastern Quebec Agreement was achieved with the Naskapis. Subsequently, other regional agreements including the Inuvialuit Final Agreement (1984), the Gwich'in Comprehensive Land Claim Agreement (1993), and the Tangavik Federation of Nunavut Final Agreement (1993) were achieved. An important outcome of these land claim agreements is the creation of Aboriginal Regional Development Corporations. With very elaborate institutional structures, these corporations are designed to promote regional economic development within Aboriginal communities. Using the Inuvialuit Regional Corporation (IRC) as an example, this paper examines the structures and functions of Aboriginal Regional Development Corporations in promoting regional development in the Western Arctic of Canada.

James Tyner

Kent State University

### **The Erasure of Space in Democratic Kampuchea**

Many geographers have approached Geography from the standpoint that geo-graphy is about the writing of space. In this paper I forward the inverse proposition, namely that anti-geographies constitute the un-writing, or erasure, of space. Through a case study of the Cambodian genocide I consider the spatial practices of the Khmer Rouge as a form of place-annihilation. Specifically, I examine the erasure of space through the urban-based de-population policies strategies as espoused by the Khmer Rouge.

### **An Exploration Into The Effect Of Church Density Upon The 2000 Presidential Election Results In Alabama Counties**

Jacob Kohute, Jacksonville State University

During the past four decades, Republicans have dominated the Presidential election in Alabama. This research focused on the outcome of the 2000 Presidential election. The analysis presupposed that as the number of churches within a county increased, the percentage of votes for the Republican candidate for President, George W. Bush, increased. Data was compiled relating to the number of churches per county and percentage of votes received by the Republican and Democratic candidates for President. This data was statistically analyzed for all counties in Alabama. One individual county, Calhoun, was analyzed at the voting district level. Both datasets were used to determine correlation and regression between the two variables. The analysis of all counties in Alabama resulted in weak, or indirect, correlation between the number of churches and votes for the Republican candidate. The data analysis pertaining to Calhoun County, Alabama voting districts resulted in indirect correlation between the two variables, but also resulted in the discovery of gerrymandering within the county's voting districts.

### **Saint Augustine's Historic Identity: Separating the Authentic from the "Tourist Trap" in the Nations Oldest City**

**John Derek Morgan**

#### **Abstract**

Saint Augustine, on the northeast coast of Florida, has become a haven for heritage tourism. Approximately 100 miles to the West, in Orlando, the comparatively behemoth, and manufactured, Disney is one of the largest tourist attractions in the world. What makes Saint Augustine different is that what it is selling is essentially "history". With an

often cited catch-phrase like “The Nations Oldest City” Saint Augustine is a perfect example the idea that time can add value to objects and place. Utilizing property records, tourist maps, existing literature and first-hand experience this paper weaves two themes to address the tourist spaces of Saint Augustine. The first theme of this paper is recognizes that there are certain historically authentic spaces and places that re-create and preserve images of place. These authentic places and spaces can validate the tourist experience. The second theme attempts to expose certain touristed places in Saint Augustine as being merely a fabrication and commodification of something that possibly never really existed and is thus less than authentic.

**Anomalous monsoonal activity in central Arizona, USA.** Jeremy E. Diem. Georgia State University.

Published research has suggested that urban and agricultural activities in central Arizona may be enhancing monsoonal precipitation in the region; therefore, this study employed cloud-to-ground lightning data and topographic data to reveal spatially anomalous zones of lightning activity in central Arizona. A multiple linear regression model with topographic variables as predictors explained 85% of the variance in gridded lightning-flash counts. Clustering of large positive residuals of lightning flashes existed between 40 km and 100 km north/northeast of urbanized Phoenix. Observed lightning flashes in this zone were ~40% more frequent than lightning flashes predicted by the model. Two plausible causes of the enhanced lightning activity are intensified convective storms due to Phoenix-derived water vapor and altered microphysical processes in storm clouds due to Phoenix-derived atmospheric pollution. It is possible that the positive-anomaly zone also had enhanced rainfall.

**A New Form of International Conflict? : The Geography of the 2004 Presidential Debates**

Jerrod Bowman, University of Alabama

This paper attempts to alert geographers to the possibilities in studying the geographical perspectives of public leaders by analyzing the use of place names in the 2004 presidential debates. To understand what we can learn about our leaders' post 9/11 perceptions from these debates, this paper takes three steps to solidify research on the use of place names in presidential debates. First, this paper reviews past research related to presidential debates. Second, the paper examines how place name use in the 2004 presidential debates compares to past recorded trends, specifically in terms of the use of international place names. Finally, the paper drafts a series of cognitive maps based on candidates' performances in the 2000 and 2004 Presidential debates. Results indicate a clear shift in place name use, with candidates decidedly more likely to mention international place names than in the past two decades. Thus, it would seem that the

international perspectives of presidential candidates can be a factor and may in fact be becoming a larger factor when the electorate determines the suitability of a presidential candidate.

### **Participatory Geoweb: webmaps and geobrowsers in PGIS**

L. Jesse Rouse, Dept of Geology and Geography, West Virginia University  
Susan J. Bergeron, Dept of Geology and Geography, West Virginia University

The linkage between the ideas driving Participatory GIS and the technologies and techniques provided by the set of tools that have been coined the geospatial web have yet to be compared. In order to see how the recently released web mapping API's from companies such as Google, Map24, Microsoft, Yahoo! and others can serve the goals of PGIS, this paper will review and discuss the concepts and goals of PGIS, and examine how the emerging geospatial web is beginning to meet these goals, especially in the areas of promoting access to geographic information and collaborative mapping.

**Bass, J.O. Joby, Clifton 'Skeeter' Dixon, and George Raber. *Unfortunate Bounty: research opportunities in Geography after Hurricane Katrina.*** Department of Geography and Geology, The University of Southern Mississippi.

Hurricane Katrina's impact will be felt by those of us in the affected region for many years. The storm, though, also has provided geographers with abundant opportunities for research. From understanding Katrina's impacts on the physical and built environment of the Mississippi Gulf Coast to understanding impacts on inland forest environments, from developing tools to help avoid problems and aid recovery in future events to understanding cultural responses through cultural landscapes, some geographers are finding ways to help understand how humans deal with such events, what these events mean for us, and how we may respond better in the future.

## **URBAN SPRAWL AND ACCESSIBILITY TO EMPLOYMENT IN BIRMINGHAM**

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Urban sprawl and the issues raised by it have attracted a considerable amount of attention in recent years, including its effects on transportation. These commonly include increased congestion, longer commutes, greater auto dependence, and increased energy consumption. However, the effect of sprawling workplace and population locations on accessibility to employment has not yet been closely examined. This research investigates the extent to which workers living in sprawl areas have lower accessibility to employment than those living in higher density areas. Data from the 1990 and 2000 Census Transportation Planning Package (CTPP) is used for Birmingham, Alabama. Accessibility is measured using the population potential measure as well as one that incorporates variable demand for jobs, reflecting competition among workers. The analysis shows that urban sprawl makes surprisingly little difference to accessibility, even when occupation, race, and ethnicity are controlled for. Urban sprawl does not appear to be a very useful concept for defining areas with low job accessibility in a metropolitan area.

## **Apple as an Indicator Species for Viticultural Potential in Virginia and North Carolina**

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Traditional temperate fruit crops in the eastern US, as with most agriculture in general, are in steady decline with one exception: European wine grapes. This commodity is a relative newcomer to the area and therefore lacks a significant track record in terms of sites that are most conducive to grow these imported species. However, examining the



apple industry—a tree fruit with similar physiographic requirements and a well-established history—provides some insight. Spatial analysis of apple data in Virginia and North Carolina over the last century reveals a strong correlation between increased elevation and long-term concentration of fruit production. This highlights regions of the states that are more environmentally suitable for this crop for a variety of climatic and topographic reasons. In addition, interviews with growers and agricultural extension agents, as well as other historical documents, confirm and illuminate these trends further. This paper demonstrates that an initial small-scale spatial-temporal analysis of the apple industry provides key clues for future growth areas of the physiographically similar grape. Thus, history of the apple is used as an indicator species for improved site selection for viticulture.

Keywords: Apple, Spatial-temporal analysis, Viticulture, Indicator Species.

## **NOT JUST WEARING DIXIE? PERFORMATIVITY, DIXIE OUTFITTERS AND ‘SOUTHERN’ IDENTITY**

Jonathan Leib  
Florida State University

And

Jason Dittmer  
Georgia Southern University

Over the past two decades, controversy has raged through the American South over the public display of the Confederate Battle Flag. While the most prominent debates have occurred at the state level, disputes have grown at the local level over the wearing of Confederate flag attire in public schools. Fearing racial strife, at least 300 schools have banned the wearing of Confederate flag clothing. However, such bans have not been without controversy, as lawsuits and court cases have occurred. At the center of these controversies is Dewey Barber and his T-shirt business Barber & Company, maker of the ‘Dixie Outfitters’ line of clothing, which features the battle flag. This presentation examines the debates over the Confederate flag and ‘Southern’ identity through an examination of Dixie Outfitters T-shirts, the resulting school controversies, and the activities of the company’s founder.

## **Tropical Cyclone Vulnerability in Alabama**

Jonathan Herbert  
Jacksonville State University

Tropical cyclones affect Alabama. This study presents a climatology of tropical cyclones, tropical storms and hurricanes, for the period 1851 - 2000, and attempts to quantify this natural hazard in terms of incidence, exposure, and vulnerability at the county level. Results suggest that the state averages a tropical cyclone once every other year, between June and November, but that it experiences active and inactive periods. The majority of storms that affect the state are tropical storms, but the record includes several major hurricanes. Coastal counties have the greatest incidence of tropical cyclones, but many inland areas are still vulnerable to the impacts of these storms.

## **Field Spectra Collection in Support of Reservoir Integrity Characterization for a Coal Bed Methane Carbon Sequestration Site**

Jeremy Tensen and Timothy Warner  
West Virginia University, Department of Geology and Geography

In determining the integrity of coal bed methane reservoirs for use as CO<sub>2</sub> sequestration sites it is important to locate potential paths that may allow injected CO<sub>2</sub> to migrate to the surface. Paths may be indicated by microseeps of hydrocarbons associated with the coal, or CO<sub>2</sub> from the injection. Therefore studying signs of botanical or mineralogical changes in plant and soils spectra caused by exposure to hydrocarbons and CO<sub>2</sub> microseeps might help identify migration pathways. A total of 81 field sample sites were established over a grid covering 1 km<sup>2</sup> around a proposed CO<sub>2</sub> injection site in New Mexico. At each site, field spectra of dominant plants soils and rocks were acquired using an ASD Full Range (400-2,500 nm) portable backpack spectrometer. The spectral field data will be used to guide the mapping of anomalies and change detection studies with other sources of multi and hyper spectral data. Lessons learned and best practices established in the project may provide a framework for future field spectra collection studies.

## **Exploring the Research Potential of Publicly Owned Data Sets: Case Study in Fairfax County, Virginia**

Judith A. Buchino, Ph.D., Environmental Science and Policy, George Mason University

Routine monitoring data can provide a wealth of knowledge about stream ecosystems. These data are collected primarily to meet water quality criteria and protect the public health of the community. However these data can also be used to develop other research hypotheses. A case study is presented in which the Fairfax County Health Department

monitoring data for water chemistry and fecal coliform levels have been used to characterize the elevated levels of fecal coliforms. A detailed description of how the data was used to develop statistical models is presented. Limitations and shortcomings of using data originally designed for another purpose are listed. Several other jurisdictions are considered as a possibility to extend and expand the scope of this research. Monitoring data can be used to develop the 303(d) list for the requirements of the total maximum daily load (TMDLs) under the Clean Water Act; to provide information to government agencies to enable them to make informed environmental decisions; and to provide information relevant to the development of watershed plans.

### **Charcoal production and forest development on the Western Highland Rim**

Justin L. Hart, Saskia L. van de Gevel, David F. Mann, and Wayne K. Clatterbuck

University of Tennessee

Forests of the Western Highland Rim were heavily influenced by the iron industry during the 19th and 20th centuries. The production of iron required large amounts of charcoal. Timber was cut, burned in hearths to produce charcoal, and then the charcoal was transported to local furnaces and forges. The goal of our study was to document the lasting effects of charcoaling on forest composition, stand structure, and soil characteristics for a forest on the Western Highland Rim in Tennessee. Fires used in hearths to produce charcoal were intense, spatially concentrated events that modified soil characteristics differently than typical surface fires. Results show significant differences in some soil traits between charcoal hearths and surrounding sites. However, differing soil conditions have not significantly influenced forest development as there were no systematic differences in species richness, diversity, evenness, density, and basal area between charcoal hearth and non-charcoal hearth sites. Although remnant charcoal hearths are still visible on the modern landscape, the results of this study indicate the historic land use has no or minimal influence on modern forest community dynamics.

### **The politics of a park in gentrifying Atlanta**

Katherine B. Hankins, Georgia State University

Residents of gentrifying neighborhoods are increasingly making demands of urban services, as they move into neighborhoods with deteriorating parks and schools. In this paper I provide an empirical example from Atlanta to illustrate the ways in which gentrifiers are responding to the changing level of state involvement in neighborhood services. Using a qualitative approach, I focus on a classic neighborhood institution—a

park—and the creation of a privately-managed park conservancy to examine new economic and social requirements of urban citizens. Not only are gentrifiers putting substantial time and energy into supplementing a retrenching state, but they are often accused of socially exclusionary practices in the process. In the end, the traditional state responsibilities are undertaken by gentrifiers, who become the new scapegoat for spatially uneven neighborhood services.

### **A Spatial Interaction Model of Bank Branch Deposits**

John Travis

The University of Alabama

The purpose of this research is to locate optimum sites for the entrance of a new bank branch in the Birmingham Metropolitan Statistical Area (MSA). The methodology used in this research is based from the original Huff model and uses actual bank deposits, network distance, and income to estimate the market potential of a proposed site. The model predicted that locations in northwest Birmingham and in the southern portion of Birmingham would receive the highest level of deposits. Individual branch characteristics as well as characteristics of the population were also evaluated to determine which are significant to bank deposits. It was found that the type of branch to include main branch or regular branch and the number of competing branches with a one mile radius of each existing bank are most significant in relationship to actual bank deposits.

**A Predictive Model of Archaeological Potential: An Example from Northwestern Belize.** Sallie Vaughn, East Carolina University. An inductive predictive modeling approach is used to identify areas of high archaeological potential in a portion of a Belizean conservation area. This 110,000 acre section of jungle has been allocated for ecological and archaeological research. Due to the labor intensive nature of archaeological survey and research, little of this region has been explored. Areas that have been explored produce substantive information pertinent to the culture and history of the ancient Maya who inhabited the region. The predictive modeling process involves remotely sensed imagery, Geographic Information Systems (GIS), and multivariate statistical approaches. Models include characteristics of the present day landscape and the landscape of the ancient Maya. One variable representing the existing landscape and two variables interpreting the ancient landscape are utilized to generate an archaeological potential model. Several areas of high archaeological potential are identified as well as areas that are unlikely to contain any archaeological remains. Future archaeological surveys should focus on high potential regions to decrease time, effort, and expenses and increase overall archaeological yield.

## **“A 250 year tree-ring record of northern red oak (*Quercus rubra*) establishment and recruitment in a southern Appalachian grass/heath bald”**

Christopher J. Crawford

*Department of Geography, Virginia Polytechnic Institute and State University*

Craggy Gardens, a southern Appalachian grass/heath bald in western North Carolina is experiencing *Quercus rubra* encroachment on the western slope. Belt transects along with dendroecological analysis was used to reconstruct *Quercus rubra* establishment and recruitment over the past 250 years. Tree rings records from a 128 trees yielded distinct spatial and temporal patterns of encroachment mainly explained by disturbance. Historical grazing by megaherbivores and European livestock appears to be the main disturbance both suppressing tree establishment during grazing and facilitating tree establishment and recruitment after the cessation of grazing early 1930s. Decline in tree encroachment after the 1960s is primarily a result of shading after canopy closure. Inter-annual climate variation is apparent in *Quercus rubra* suggesting a combination of human disturbance and environmental conditions has and continues to govern bald vegetation dynamics. Absence of tree encroachment after 1980 is due to the ecological restoration project aimed at restoring and maintaining Craggy Gardens to promote preservation of rare and endangered species and scenic appeal. This reintroduces human disturbance, which will further alter successional development of the community.

**Keywords: Craggy Gardens, grass bald, *Quercus rubra*, tree rings, belt transects, disturbance, grazing**

## **Alien Invaders, Thugs, & the Southern Curse: The Discourse of Fear Behind Anti-Kudzu Legislation in Missouri**

Anna Eskridge  
East Carolina University

Abstract. In 2001 an anti-kudzu law was created in Missouri, making it the duty of all citizens in the state to control and eradicate the vine. The law worked to construct kudzu as an environmental “other,” setting it aside as something different and inferior as well as biologically threatening. Like all laws, the 2001 Missouri law was not a result of value-free observation and experience but was a negotiated, socially constructed outcome. In order to justify the need for the law and to convince people that kudzu was harmful, legislators and conservation officials in Missouri used several discourses to create a fear of the vine. They created fear by claiming kudzu and other invasives threatened native Missouri plants, by using formidable metaphors to describe the vine, and by discussing kudzu’s [bad] reputation in the United States South.

## **Canadian Content Regulations and Newfoundland Music on the Radio: Local Identities and Global Implications**

Sara Beth Keough  
University of Tennessee

As our access to information increases with the aid of communication technologies, there is concern that cultural homogenization threatens to become a reality. Ironically, in the face of globalization in the media, the local often becomes increasingly important. This study explores how Canada's cultural policy, known as Canadian Content regulations, has both local and global implications. In this paper, I examine how Canadian Content regulations apply to radio, and how these radio regulations influence broadcasting in the St. John's, Newfoundland radio market. Results show that radio stations in St. John's emphasize local (Newfoundland) music in the face of more popular Canadian and American music. In addition, this emphasis on local content ensures the survival of these stations in light of new radio broadcasting technologies such as the internet and satellite radio. This study shows that radio technology brings both the local to the global, and the global to the local.

## **Beyond Food Localism: Politics and Challenges of Defining "Local Food" under Direct-Sale Context in Kentucky's Farmers' Markets**

After burley tobacco production started to decline in the last decade, various restructuring efforts were made to market other agricultural products produced within the state of Kentucky. Strong promotion of direct marketing of agricultural products such as farmers' markets, community supported agriculture, and roadside farm stands have expanded throughout the state. Promotion of 'locally grown' food products, what I call "food localism," ranging from state-wide to home-based scales, in turn creates normative dimensions to defend the justification of 'local' through political boundaries and sense of surveillance. This paper examines how food localism is being constructed through spatial settings in Kentucky and how such practices are influenced by fixtures of scales. My discussion, based on document data and participatory fieldwork at Owensboro Farmers' Market, shows that while localized markets respond to customers' interests and can operate successfully, excessive emphasis on food localism creates a vulnerability that places producers in uneven struggles with consumers. Previous literature, many of which are written by researchers in California, has critiqued tendencies toward food localism. Here, however, I propose a flexible production scheme that embeds both specialization and diversification while requiring less enforcement on scalar practice that will still provide the benefits associated with 'local' food.

## **Emotions and the Creation of Public Housing Policy: The Case of HOPE VI**

Ellen Hostetter

University of Kentucky

The objective of this paper is to explore the emotions that went into creating the public housing program HOPE VI, a 1992 grant dedicated to demolishing the worst public housing stock and replacing it with small-scale developments that blend with mainstream America. Analyses of HOPE VI have used historical, political, and economic lenses to understand this radical landscape transformation. What is missing is an analysis that considers the human, emotional dimension of the policy process. This paper, therefore, considers why HOPE VI was created by focusing on the emotive narratives of public housing. It asks which emotive narratives entered the policy process and which ones gained prominence, becoming the basis for decisions regarding the material landscape? These narratives are found in Congressional documents and transcripts. Analysis relies on the psychology literature to isolate and understand the narratives' emotive content, as well as interviews with the people involved in creating HOPE VI. The paper concludes by suggesting 1) the specific emotions of disgust and fear make politically effective arguments and 2) these emotions shaped the details of HOPE VI in particular ways.

## **Sweet Auburn: Contesting the Racial Identity of a Significant African American Neighborhood in Atlanta, Georgia.**

Joshua F.J. Inwood

The University of Georgia

*Abstract:* In 2004 Big Bethel AME Church announced a \$45 million redevelopment project on Auburn Avenue. Once home to the wealthiest African American community in the nation, by the late 1990's Auburn Avenue faced serious economic and social challenges. Through a multi-method qualitative research agenda I use Big Bethel's redevelopment as a lens to examine the construction of significant racialized space. In so doing this paper counters normative conceptualizations of the construction of racialized space that posits people of color as ungeographic and/or philosophically undeveloped

## **Women and Environment: A Case Study in Activism**

Sya Burya Kedzior  
University of Kentucky

The groundswell of environmental activism evidenced in the global south during recent decades has been characterized by the participation and leadership of women. Although some of these movements identify their causes as “feminist”, many do not. But the prevalence of women among their membership raises questions about what constitutes a feminist movement and how women’s activism, particularly in relationship to the environment, are interpreted. I present a case study of the Chipko movement in order to explore the relationship between gender and activism, including their representation and interpretation. In doing so, I examine three aspects of women’s activism: how women’s participation in Chipko was differently constructed by their gendered social roles and relationships with forest resources; how their activism and the expression of their gendered interests shaped the movement and its larger social message; and, how their activism has been represented and interpreted. I conclude that Chipko contributes new ideas to the debate over what constitutes feminism and environmentalism by blurring the boundaries between the two and calling attention to their shared concerns with economic and environmental justice.

Gender and Environment, Environmentalism, Activism, Chipko, India

## **Keep the Doors Open... Just Don’t Say Anything: The Response of NC United Methodist Pastors to Homosexuality**

Caleb Parker  
East Carolina University

The United Methodist Church has a history of being divided on social issues, which have historically involved African-American membership and the ordination of women. While those debates have been settled, the debate over homosexuality has only escalated over the past 35 years. This research offers a look at how this controversy has unfolded within North Carolina’s local churches as seen from the pastors’ perspective. A web-based survey is used to understand the pastor’s opinions and actions toward homosexuality within church space. The results of the survey are analyzed to understand how individual pastors are able to influence this socially-contested and sacred space for the general congregation and gay persons in attendance.



## ***Selling Uniqueness and Authenticity in Columbia, South Carolina: Bohemian and World Market***

Sarah Schwartz, University of South Carolina

Based on the descriptions appearing on their respective websites, one might anticipate similar shopping experiences from Bohemian, a boutique operating in Columbia, SC, and World Market, a chain with nearly 300 locations across the United States. However, while the stores sell a similar array of what they describe as “uncommon” products, the shopping experiences they offer are in fact markedly different. This poster uses a series of comparative images of the two stores to explore how locations, layouts, product descriptions and product displays can intersect to create distinct consumer experiences and impressions in stores that carry similar items. The poster pays particular attention to the ways in which display tactics and the use of place names in product descriptions may (or may not) signify uniqueness and authenticity.

## **SPATIO-TEMPORAL VARIATIONS OF OBSERVED SOIL MOISTURE IN NEBRASKA DURING THE WARM SEASON**

Ashley Littell  
Western Kentucky University

Soil moisture is a measure of the water content in a soil that is dependent upon precipitation, evapotranspiration, runoff, drainage, and irrigation. Nebraska is one of the few states in the country that maintains a weather data network that measures soil moisture. Daily soil moisture observations from depths of 10, 25, 50, and 100 centimeters were analyzed from May through October of 2005, after being grouped into datasets of weekly, bi-weekly, and monthly observations. These datasets were imported into a Geographic Information System (GIS) and the Ordinary Kriging method was applied for spatial interpolation. The interpolation parameters were set to create output surfaces of 4 x 4, 16 x 16, 32 x 32, and 64 x 64 kilometer grids for analysis of their variations. As expected, it is found that soil moisture content is higher in southeastern Nebraska and lower in the northwest. Changes in the grid size render small scale variations, however, the general pattern of estimated soil moisture distribution does not change.

## **A Statistical Model to Forecast Short-term Atlantic Hurricane Intensity**

Kevin T. Law  
Marshall University

An alternative 24-hour statistical hurricane intensity model is presented and verified for thirteen hurricanes during the 2004-2005 seasons. The model uses a unique method involving a discriminant function analysis (DFA) to select from a collection of multiple regression equations. These equations were developed to predict the future 24-hour wind speed increase were constructed from a dataset of 103 hurricanes from 1988-2003 that utilized 25 predictors of rapid intensification. The accuracy of the 24-hour wind speed increase models were tested and compared with the official National Hurricane Center (NHC) 24-hour intensity forecasts which are currently more accurate on average than other 24-hour intensity models.

The average error for the 24-hour wind speed increase models on the 13 independent hurricanes was 11.83 knots for the DFA selected models and 12.53 knots for the official NHC forecast. The DFA selected models had slightly less average error than the NHC, but had the DFA used the correctly selected model (CSM) each case, the average error was 8.47 knots, providing significant improvement over the NHC.

## **Cultural Landscape and Rural Economic Segmentation**

James Leonard, Marshall University  
*Abstract*

This research uses the cultural landscape of an isolated Appalachian county, Mingo County, West Virginia, to inform statistical indicators of segmentation. An initial Dissimilarity Index analysis, akin to earlier studies of economic segmentation, provides some evidence that Appalachia may be less segmented in terms of economic status than the rest of the US. Second, we discuss how the scale of analysis affects the evaluation of economic segmentation in rural areas like Mingo County, West Virginia and that the statistical results must be compared to the cultural landscape to be meaningful. Thirdly, the cultural landscapes of two Mingo County neighborhoods are adduced as cases of residential integration of economic classes. The paper concludes with a discussion of the forces acting in Mingo County to produce low levels of residential economic segmentation and the applicability of these forces in our sample county to Appalachia and other areas.

## **Abandoned Deep Mine Mapping in West Virginia Using ArcGIS**

**Lee Stocks**

West Virginia Geological Survey; Kent State University

West Virginia Miners' Health, Safety and Training and the West Virginia Geological Survey have undertaken a cooperative program entitled the Underground Mine Mapping Project, to capture, catalogue and consolidate all of the historical abandoned deep mines in the state, as well as associated geologic data, such as coal bed thickness, structural contours of coal, and drill-hole elevations. This information will be used for public and commercial safety via locating mine portals and deep-mined areas, as well as facilitating planning of future mines, assist tax departments in allocation of land-use fees, and aid in restoration and reclamation efforts.

An enterprise geospatial database within ArcGIS 9.1 is compiled using rasterized georeferenced tiff images of abandoned deep mines, submitted by coal companies. Vector point shapefile polygons are created to capture shape and extent of mines, entries, augering, highwall mining, and surface stripping. Line features are created for coal discontinuities, such as geologic faults, bad tops and bottoms. Attribute tables are populated for specific information relating to individual mines. An Oracle-based program is used to catalogue individual mine information and assign attributes.

## **The Effects of Beach Nourishment on Sea Turtle Nesting in Baldwin County, Alabama**

Michael David Anderson  
The University of South Carolina

Beach nourishment involves the placement of large quantities of sand directly on the beach to widen it and protect landward structures. The effect of this common coastal engineering practice on the seasonal nesting of threatened and endangered sea turtles is not completely understood. Changes in the physical characteristics of the beach due to beach nourishment have been found to decrease nesting activity during the first couple of seasons following a project. This study assesses the impact of a large beach nourishment project on sea turtle nesting in Baldwin County, Alabama. Differences in nesting density and abundance were examined for four years before and two years after the beach nourishment project on both control and impact beaches. The results show that although Baldwin County's beaches have experienced a steady decline in nesting activity, there is not enough evidence to prove that the beach nourishment project was responsible. Nesting may have been affected by other factors such as coastal development and artificial lighting, or may simply represent a downward trend in the natural cycle.

## **SuicideGirls: Bodies, beauty and cyberspace**

Marcia R. England  
Department of Geography  
University of South Carolina

Pornography is a sensitive, but important, social issue to explore. For decades, feminists have been split over their views on the matter—some see it as the oppression of women while others have argued that the acceptance of alternative sexual practices should be a feminist tenet. While always a topic of discussion, the debate has been recently revived with the increased popularity and accessibility of the Internet. In this paper, I explore the idea that internet pornography can be seen as a device to institute social change through depictions of deviant bodies, while being at the same time a symbol of oppression since those same bodies can also be seen as reification of patriarchal norms regarding beauty and attractiveness. Representations and images promoted in cyberspace have a dialectical relationship with the “real” world. Geographies in cyberspace reflect and influence modern social mores. Using the website SuicideGirls.com as my empirical example, I discuss the complicated relationships between bodies, beauty and cyberspace.

## **Biophysical and Spectral Responses of Centipede Grass to Water Stress**

María J. García Quijano, Ph.D., Department of Geosciences, Florida Atlantic University.  
John R. Jensen, Ph.D., Department of Geography, University of South Carolina.

Centipede grass (*Eremochloa ophiuroides*) is a common vegetative cover used on capped hazardous waste sites at the Savannah River Site, near Aiken, SC. Identifying the best data analysis approaches for early detection of water stress in Centipede grass can help us develop novel monitoring systems for grass-covered hazardous waste sites.

This study assessed the spectral and biophysical responses of centipede grass under different hydric conditions, induced during a controlled irrigation experiment. Specific goals were to (1) determine if variations in soil moisture induce significant differences in vegetation vigor – using biophysical parameters and spectral measures; (2) identify the wavelength regions that optimize spectral separability between water-stressed and control vegetation. Spectral measures proved to be more sensitive to hydric differences than visual or biophysical parameters, improving the threshold of separability among irrigation treatments by two weeks in average. This spectral discrimination was optimized in the 700 nm region. These results can assist managers in devising better hyperspectral monitoring campaigns for anomalous vegetation responses on grass covered waste sites.

## **Landslides in the Tandayapa Valley, Ecuador**

Mark R. Welford

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Alan Dykes

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The dissected mountainous terrain of the Cordillera Occidental of Ecuador is characterised by high local relief (c.800 m), high annual rainfall (> 2000 mm) and secondary-succession wet montane forest. On the very steep (45 to > 60°) upper main valley slopes little regolith is present, but thick accumulations of tephra occur on the slope crests and ridgetops. Natural landslides in the Occidental comprise rare large deep-seated bedrock failures and occasional shallow failures on the steep upper slopes where tephra have accumulated. Field and laboratory analysis indicates that natural shallow failures are unlikely in the absence of a surficial cover of tephra. Thus long-term landform development can be explained in terms of channel incision, driven by uplift, producing steep lower valley slopes that eventually exceed bedrock failure thresholds initiating large deep-seated landslides. The development of in-situ residual soil on any given slope, sufficiently thick to become unstable, might require up to 100 ka because of cool temperatures and steep, well-drained slopes. Failures of tephra above the steepest slopes probably cause erosion of in-situ weathered materials, thus further reducing the role of weathering-controlled shallow landslides in landscape development.

## **Characteristics of Bank Failure in Channelized, Tributary Streams**

M.A. Lisa Boulton

Assistant Professor, Department of Geography, University of Alabama

Bank failure processes occurring in three tributary streams with a history of channelization were observed and described. Bank descriptions included: bank angles (measured at lower, middle, and upper banks), bank material composition and structure (cohesive, non-cohesive, or both), and absence or presence of bank failure (where present, bank failure type and whether the failure appeared active - recent or dormant - old). Results suggest that bank failures are common in the tributary streams due to bank over-steepening caused by channel incision. However, the most common type of bank failure observed were slumps and slab failures related to bank undercutting, suggesting

that flow dynamics are the dominant control in determining the occurrence of bank failures in the tributary streams and not necessarily gravitational processes related to bank over-steepening.

### **Discrimination of Managed Grassland Classes with NDVI and Image Texture**

Matthew E. Ramspott

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Information about land use and management is needed to prioritize conservation efforts in the managed grasslands of the Central Great Plains. This information can be obtained using remote sensing techniques, but this process is problematic in grasslands because of subtle class differences, large within-class variability, and complex phenology and associated seasonal changes in canopy spectral characteristics. In this study, a unique high-spatial and high-temporal resolution time-series of remotely sensed data was used to derive NDVI and image texture measures. The utility of these measures for classification of five managed grassland types was assessed using ANOVA and stepwise discriminant analysis methods. Image texture was found to improve the overall accuracy of classification by ~13% over the use of NDVI alone. The optimal timing of data acquisition for classification with NDVI was in April/May and in October, while the optimal timing for discrimination with texture data was in June.

### **The Challenges to the Creation of a Transnational European Space along the Polish/German Border: A Case Study of the Euro-Cities of Slubice and Frankfurt-Oder.**

By Michelle Brym  
The University of Tennessee

Borderlanders living along the contemporary Polish/German border, a region which in the last sixty-one years has changed from an alienated to interdependent borderland, have first had experience of the volatility that can be found in border regions. A new era of cooperation across the Polish/German border began in the nineties with the creation of Euro-Regions, zones of cross-border cooperation along the international borders of member countries. Residents in the Polish city of Slubice and the German city of

Frankfurt-Oder have benefited from the cities joint partnership as Euro-Cities in the framework of the European Union. Despite the economic and educational cross-cultural collaboration as well as the lifting of restrictions on border crossings, a low trust environment continues to prevail in the region. My paper focuses on the cultural restrictions which continue to constrain mobility in Slubice and Frankfurt/Oder.

### **Mapping a New Past: A call for a critical cartography of new world history**

Melina Patterson

Mary Washington College

Traditional atlases of world history, like traditional narratives of world history, have focused on the separate evolution of distinct civilizations; military conflicts that led to some empires dominating others; and historical progress through stages, from primitive to civilized, with Western Civilization representing the culmination of this procession. World history research has undergone tremendous change in the last thirty years and increasingly challenges the assumptions that underlie this narrative. However, few atlases of world history reflect these trends and instead reproduce and represent a more conventional narrative as objective truth by representing regions as more isolated than they were in early history, over representing Europe during the pre-modern era, and presenting Europe as more internally complex and historically active than other regions. Market forces partially explain this failure, but the fact that conventional cartography has roots in the same ideological moments that produced nationalist and civilizationalist histories contributes as well. This paper calls on geographers and cartographers to engage with recent world history research, which is deeply geographical, and one point of engagement could be in mapping, literally, this new understanding of the world.

### **Environmental Injustice: An Unspoken Form of Racism?**

Mindy Mahar

University of North Carolina at Charlotte

The population of the United States is one that encompasses many different races and ethnicities. Inevitably, some races or ethnicities may find themselves in situations that could potentially be cases of environmental injustice. As the Latino population in the United States continues to grow; they too could potentially find themselves living in environmentally unfriendly conditions. Going back in history to the early 1900s, the Latino population in the United States was a mere 500,000. Almost 100 years later the Latino population has soared to over 35 million and has quickly surpassed the African American population as the nation's largest minority group (PRB 2004). This study examines socio-economic data from the U.S. Census Bureau in conjunction with data from the Environmental Protection Agency to form a potential correlation between Latinos and TSDF's (treatment, storage and disposal facilities) in four South Carolina counties.

## **Improving the Accuracy and Quality of a Photogrammetrically Derived ASTER Digital Elevation Model through the Application of a Progressive Morphological Filter**

By Michael B. Warner and Peter G. Chirico  
U.S. Geological Survey

The research described in this paper addresses the effectiveness of a progressive morphologic filter developed to remove erroneous values from DEMs. During this study, four DEMs including the raw ASTER DEM, the DEM after one filter pass, the DEM after a second filter pass, and the raw DEM after applying a 3x3 focal mean filter were tested against a control DEM to measure the effectiveness of the filter. The results indicate that the progressive morphologic filter improves the accuracy and quality of the DEM by lowering the RMSE values with each filter pass. In comparison, although the basic 3x3 focal mean filter improved the RMSE values, this filter effects all elevation values in the DEM and therefore, may introduce error in the resultant DEM by reducing the fidelity of the dataset. Conversely, the progressive morphologic filter only affects elevation values that exceed a user-defined threshold. Therefore, the integrity of the initial DEM is maintained while erroneous values are removed, resulting in a DEM dataset that is more accurate and more suitable for geospatial analysis and visualization purposes.

## **Participant Statistical Areas: Considerations for Census 2010**

Michael Ratcliffe, Vincent Osier, and April Avnayim

Geography Division, US Census Bureau

In the years between decennial censuses, the Census Bureau's Geography Division examines statistical geographic area concepts and criteria. The reexamination focuses on the continued relevancy and validity of concepts and criteria, the relationship between geographic area delineation and availability of reliable statistical data, and assures that geographic area concepts continue to meet the evolving needs of the data user community. Based on this review, the Census Bureau proposes criteria for the delineation of statistical areas to be implemented for the forthcoming decennial census. This presentation focuses on the Census Bureau's participant statistical areas—census block groups, census tracts, census county divisions, and census designated places—and reviews the concepts and criteria used for Census 2000 and potential changes to the criteria for the 2010 Census.



## **STREAMFLOW DURATION AND RECREATIONAL FLOWS ON THREE SOUTHEASTERN STREAMS**

Michael W. Mayfield  
Appalachian State University

Whitewater boating has become an important part of the economy and has significantly changed the cultural landscape of numerous communities in the Southeast (Mayfield and DeHart 1989; Pyle 2000). In this paper I examine the flow duration statistics for three Southeastern streams to determine how often they typically flow at rates sufficient for kayaking and rafting. Decadal and inter-annual variability of flows are examined.

## **A GIS-based Comparative Assessment of Landscape Connectivity in 1973, 1990, and 2000 in St. Johns County, Florida.**

Monica Dazzini  
Virginia Polytechnic Institute and State University

During the past three decades, debate has continued regarding the advantages of habitat connectivity using the preservation of landscape connectivity for species survival in the conservation planning of natural areas. This exploratory research examines the landscape connectivity of St. Johns County, Florida in 1973, 1990, and 2000 by using a parametric methodology within a Geographic Information System (GIS) at a regional scale, by assessing ecological connectivity in the region. The landscape classification of ecological areas defined by the Florida Natural Areas Inventory was used along with St. Johns County land cover, land use, road systems, and urban areas data. An Index of Ecological Connectivity (IEC) is calculated for 1973, 1990, and 2000 to compare the connectivity throughout different landscapes and periods. Further statistical analysis will test the preliminary results, which show that landscape connectivity declines because of the expansion of urban areas and the increase of road systems. This study is the basis for policy recommendations on the management of urban natural areas, which allows modeling different scenarios.

## **Space-Time Patterns of U.S. Highway Hazmat Incidents, 1993-2004**

Ronald L. Mitchelson

Department of Geography, East Carolina University

There are about 300 million shipments of hazardous materials per year in the United States and these shipments involve over 2 billion tons of material valued at over 600 billion dollars. The purpose of the research reported in this poster is initial analysis of the space-time patterns that are imbedded in the record of 162,587 highway hazmat incidents that were reported by law on USDOT Form 5800.1 and then entered into the HMIS national database between 1993 and 2004. Temporal incident patterns are disaggregated by year (12 years of data), season, day of week, and time of day. There are strong signals associated with seasonality and the U.S. business cycle. All temporal incident characteristics exhibit some level of spatial variability. Spatial patterns illustrate a very high level of incident concentration with metropolitan centers dominating the distribution. A gravity model captures the spatial structure of hazmat flows and provides an initial glimpse at explaining the spatial distribution of incidents. Future work will be devoted to refining the space/time models and incorporating spatial effects through time.

Mark Lowry II

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### ***A Geographer's Novel for Academia and the General Public.***

PURPOSE: To present a novel written by a professional geographer for the general public, a book that is appropriate for use in courses and seminars in Geography, Sociology, Ethnic Studies, and History of the South. For many decades professional geographers have grown increasingly aware of the need for works like this that spread the attractiveness and understanding of Geography out of the professional realm and to the general public.

## **IMPACTS OF THE APPALACHIAN MOUNTAINS ON SUGAR MAPLE'S POST-GLACIAL MIGRATION**

MATTHEW MILLER

University of Georgia, Department of Geography

The migration ranges of sugar maple (*Acer saccharum*) since the last ice age, as described by Delcourt and Delcourt (1987), were refined to exclude elevations where sugar maple was unlikely to have existed. The elevations, used as indicators of climate limits, were based on the modern regional elevation limits of sugar maple. The paleo-range maps of the range of sugar maple were combined with a digit elevation model in a geographic information system to remove the climatically unsuitable regions for sugar

maple. The Appalachian Mountains were shown to constitute a formidable barrier to gene flow, especially when the elevation limits were lowered to represent the site establishment stress caused by migration. The physical barriers that the Appalachian Mountains presented to the migration of sugar maple provide an explanation for the patterns of genetic diversity observed along sugar maple's northern limit.

Molly E. Brown and Fritz Policelli  
SSAI/NASA Goddard Space Flight Center, Code 614.4, Greenbelt MD

### **NASA's Earth Science Impact in Africa: Leveraging results for Societal Benefit**

**Abstract:** As a consequence of the United Nations World Summit on Sustainable Development, held in Johannesburg in 2002, the US Government is making an assessment of how its activities are contributing to the development of the African continent. Although the promise of technology is alluring, in this paper we examine the actual impact of technological innovations funded by NASA on local and national governments throughout Africa. Through the Applied Sciences office of NASA Goddard, we conducted a survey of NASA funded scientists to find case studies where science has had a discrete societal benefit on the continent of Africa. This paper examines how basic science research is being used and by whom in Africa, and provides an analysis of opportunities for substantive collaboration that are currently being missed.

### **Gender and livelihoods: Mapping the Strategies of Porters in Accra, Ghana**

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Economic conditions across the African continent have worsened over the past few decades, and as a result there has been unprecedented growth in urban livelihood strategies and their resilience in the face of socio-economic hardships. Using feminist methodologies this paper examines the linkages between gendered livelihood strategies and vulnerability amongst porters in the context of wider contemporary socio-economic changes taking place in Ghana. Porters, people who transport goods from one location to another location in and around market areas in cities in Ghana are among urban poor people striving to earn livelihoods in cities of Ghana. The paper highlights some of the processes that porters adopt in engaging their activities as well as gender-related issues in their strategies in Accra. In conclusion, the paper emphasizes the importance of policy measures that target porters particularly women at their home villages than measures aimed at targeting them in Accra.

**Participatory Planning in a Low-Income Minority Neighborhood:  
The Case of Greenville, NC**

**Shamaury Myrick  
East Carolina University**

Recent planning theory has promoted the concept of citizen participation as a way of providing a voice for individuals not traditionally included in the planning process. To date, however, few empirical studies have focused on the role of race in determining the outcomes of participatory planning processes. The research presented in this poster addresses this, by examining the opposition to a proposed redevelopment project in an African-American neighborhood in Greenville, NC. Semi-structured interviews with neighborhood residents and representatives from the city highlighted significant differences in perceptions about the goals of the plan and about the level of participation and openness that existed within the planning process. Although planning officials believed that the residents had an adequate opportunity to provide input, many in the general public expressed concern about the lack of citizen involvement. I argue in conclusion that this lack of trust derives in part from past experience, and a perception of poor relations between the city and its African-American neighborhoods. This shows that advocates of participatory planning should take account of localized histories of race relations .

**Granger is my home: memories and change in a suburban landscape  
Natalie K. Jensen  
University of South Carolina**

The community of Granger in West Valley, Utah has been shaped by to a large degree, by the extended Bangerter family, who first settled in this portion of the Salt Lake Valley in 1882. This family still has many members present in the area, due to the fact that William Henry Bangerter and his wife, Isabelle Bawden, subdivided and developed their former farmland in such a way as to encourage their children to build there. Two of their children have stayed in the area over the years, as well as many of their adult grandchildren. Despite the fact Granger was incorporated in to the city of West Valley in 1980, the Bangerters and their neighbors still refer to the community as Granger, and call it home, as do many of their extended family members, even those who no longer live in the area. The poster uses primary sources such as journals, archival photos, current photos and personal interviews to establish the identity of the area.

Nick Lawalin

Geography & Geology Dept. of Western Kentucky University, Kentucky Climate Center

### **Diurnal Temperature Range Analysis**

This study is using data from 45 USHCN stations in the United States east of the 100-degree West meridian to determine shifts in the seasonal peaks and dips in the 20<sup>th</sup> century. It is well known that DTR has seasonal maximums and minimums for a given year. These include spring and fall peaks and summer and winter dips. DTR peaks in the spring because of increasing solar radiation and relatively long and clear nights but relatively low atmospheric moisture content. This condition allows sufficient rise in daily temperature and notable radiative cooling at night that leads to spring DTR peak. In the summer DTR dips because of higher moisture content in the boundary layer of the atmosphere, long day-time heating, and shorter nights; in the fall it peaks again much for same reason as spring and in the winter it dips again because long-nights and significant cloud cover. We smoothed the data and tracked the DTR over several decades to discover when these peaks and dips were occurring. It is found that 84% of the stations are indicating an earlier onset of the spring DTR peak and 29% showed the fall DTR peak to be occurring later.

### ***The View from the Trenches: Spaces of Filipino Identity and Ethnicity in Early Cinema***

***Joseph Palis***

Department of Geography

University of North Carolina at Chapel Hill

I will examine the early filmic representations of Filipinos in three Biograph shorts that were shot in 1899 by Thomas Edison as found in the Library of Congress' American Memory page. I am particularly interested in the cinematic representations of Filipino resistance to foreign aggression. Most of the cinematic portrayals of Filipinos especially when the issue of constructing American colonial outposts is concerned, continue to reduce Filipinos as rebels and terrorists. My paper aims to uncover the spaces that characterize the various constructs of orientalism and othering in Edison's early films by juxtaposing these images with Marlon Fuentes' documentary Bontoc Eulogy (1995). I will argue that the spatial hierarchies and spatially situated images in Edison's short films do not intend to suggest the "badness" and "goodness" of the American powers that produced such images, nor is this a celebration of the minority cultures. Rather the spatial orderings in these early films show the historically configured powers of relation and its attendant oppressive relation to its external "others".

## **Keep the Doors Open... Just Don't Say Anything: The Response of NC United Methodist Pastors to Homosexuality**

Caleb Parker  
East Carolina University

The United Methodist Church has a history of being divided on social issues, which have historically involved African-American membership and the ordination of women. While those debates have been settled, the debate over homosexuality has only escalated over the past 35 years. This research offers a look at how this controversy has unfolded within North Carolina's local churches as seen from the pastors' perspective. A web-based survey is used to understand the pastor's opinions and actions toward homosexuality within church space. The results of the survey are analyzed to understand how individual pastors are able to influence this socially-contested and sacred space for the general congregation and gay persons in attendance.

## **LOOKING AT THE FULL SUN: HOW HIGH CAN IT BE?**

Peter J. Robinson  
Department of Geography  
University of North Carolina at Chapel Hill

A comparison of two paintings in London's National Gallery raised the question of how low in the sky must the sun be before it can be viewed, or painted, safely. Observational studies, using a safe method based on time from sunrise or sunset, indicated an upper limit between  $5^{\circ}$  and  $12^{\circ}$ . Theory indicates that solar intensity increases with solar elevation because the resultant decrease in optical path length decreases the light scattering by atmospheric molecules and aerosol. For a given path length, molecular scattering is largely invariant. Variations in aerosol scattering depend on many factors, but it can be postulated that globally atmospheric water content is the major variable. This postulate was tested by examining the solar elevation shown by full-sun paintings from a variety of regions. Results indicate that the pictures reflect typical regional aerosol loadings by portraying higher elevation suns in humid areas than in dry climates. It is also suggested that the whole study represents a way of introducing the concepts of atmospheric transmission to a non-scientific audience.

**Locating Queer Key West: Between the Closet, the Resort, and the Bridge**, Philip Steinberg & Thomas Chapman, Florida State University.

This paper utilizes data from 52 interviews conducted in Key West, Florida in December 2004 to investigate Key West's attraction as a destination for gay and lesbian tourists. Drawing on the insights of queer theory, as well as critical cultural geography and geophilosophy, we propose that Key West's attraction lies less in its being a destination with distinct queer places, or refuges, than in the way in which it provides an environment wherein individuals can construct space and, in the process, construct themselves and their own identities (including their sexual identities), engaging in a process of self-determination. This finding suggests that place-based metaphors, such as "the closet" and "the resort," are less evocative of the queer tourism experience than is the metaphor of "the bridge," which implies continual processes of crossing, connecting, and transgressing.

### **Hurricane Katrina and National Flood Insurance Program Influences on a Gulf Coast Community: Dauphin Island, AL**

Philip L. Chaney  
Auburn University

Hurricane Katrina caused significant damage to buildings and infrastructure in New Orleans and along the Mississippi-Alabama Coast when it made landfall in August, 2006. Recent estimates place the total cost of damages at \$80 billion. The excessive amount of damage can largely be attributed to development of flood-prone areas as a result of questionable landuse planning decisions. The planning decisions that led to the disaster along the Mississippi-Alabama Coast seem even more questionable given the damage Hurricane Camille inflicted on the region in 1969. This paper investigates the influences of the National Flood Insurance Program on Dauphin Island, Alabama, where 190 homes along the west end beach were destroyed by Katrina. The west end beach is a flood-prone hazard zone where it is impossible to get coverage from a private insurance company. However, NFIP regulations guarantee coverage in these types of areas, even after the house has been destroyed. The guarantee of coverage provides an attractive incentive to outside investors. Land ownership records indicated that the houses along the west end beach section of the island where most of the damage occurred were not owned by local residents, but were in fact the property of non-local investors from 24 states.

## **Identifying barriers and least cost paths for Autonomous Vehicle Navigation using airborne lidar data.**

Om Prakash Poudel  
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In the past several years, the Defense Advanced Research Projects Agency (DARPA) has sponsored the Grand Challenge, a race among autonomous ground vehicles in rural environments. These vehicles must follow a course using no human guidance. For the most part these competitions have been populated with vehicles developed entirely by engineers, but in the case of Virginia Tech, the department of Geography has been active as well.

Use of high resolution lidar data in identifying barriers and least cost paths for autonomous vehicle navigation in an unstructured terrain has now gained some acceptance. Since it is extremely precise, airborne lidar data can be used in various ways such as in barrier identification and path planning for such vehicles. This paper explores the use of lidar data by developing a model in ArcGIS. The model has shown that it can identify barriers and least cost paths for Autonomous ground vehicle navigation.

**Key words:** Autonomous Vehicle, Lidar, ArcGIS, Accumulated surface, Least cost path

## **Chagas Disease in the U.S.: The emerging threat and the role climate and awareness play in its spread.**

Rebecca Lambert  
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This study evaluates the interconnected role that environmental variability and physician awareness play in the emergence of Chagas disease (Cd) (American trypanosomiasis). Cd is endemic in Central and South America and primarily spreads to humans directly via the *Triatoma* vector. The disease itself is caused by a parasitic protozoan, *Trypanosoma cruzi* (*T. cruzi*). The primary host for most *Triatoma* species is rodents, and occasionally dogs, along with tree toads and lizards. In the U.S., of the 9 *Triatoma* species covering 26 states, 6 species are reported to be naturally infected with *T. cruzi*. The multivariate analyses indicate that warming trends play a role in the risk of Cd transmission. Analyses of the physician survey are in the preliminary phases, but indicate that based on a vignette, only 8 of the 22 physicians listed Cd as a possible diagnosis and only 4 chose Cd as a diagnosis in the top 4 choices. These results indicate that the risk of if Cd emergence is greater than once believed if climate variability and lack of awareness play a role.



## **Teaching Spatial Thinking Skills in Earth System Science: An Example Using the GLOBE Program**

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GLOBE is a “hands-on”, inquiry-based K-12 Earth system science curriculum developed to improve Earth science education. GLOBE students would benefit from an integrated, interdisciplinary, geographic approach to teaching Earth system science using GIS and remote sensing as tools of spatial thinking. To be fully successful, such an approach will require an appropriate organizational framework, such as the ‘watershed’, to explore spatial relationships and study interactions within and between Earth system components. GLOBE investigations of weather and climate, soils and hydrology, phenology, land cover, and ecosystems are all easily encompassed within the watershed concept, facilitating a geographic context for understanding the dynamic nature of Earth system interrelationships.

## **When I’m Dead and Gone: Landscapes of Memory and the Burial of Bluesman Robert Johnson**

Robert N. Brown  
Appalachian State University

Robert Johnson was one of the most important blues performers to come out of the Mississippi Delta Blues tradition. He died in the Delta in 1938. No other bluesman has been the subject of more popular interest than Robert Johnson. Because of the intense interest in his life and the mythical status he has achieved, the landscapes of his life have become sites of memory and pilgrimage. In this paper I attempt to explore the nature of such sites as they are expressed through Robert Johnson’s life in the Mississippi Delta.

Specifically, this paper looks at the three locations in the Delta that blues scholars—at various times—have believed to be Johnson’s burial site. Geographers increasingly are looking at sites of memory as places where history, myth, and heritage take on tangible meaning in public spaces. I believe that a mythic figure like Robert Johnson, a blues performer linked intimately to particular places, provides an ideal opportunity to explore such meaningful spaces.

Key words: Blues music, Mississippi, memory

### **“Not an Equal Opportunity Campus”: Framework for Crime Prevention Through Environmental Design (CPTED) at College Campuses**

Author: Robert Huizar III, University of North Carolina – Charlotte

College campuses have become hotbeds for crime, however, only self-defense and added security have been addressed as solutions. Crime Prevention Through Environmental Design (CPTED) is a technique developed to prevent crime by changing the physical environment (e.g. lighting, walls, vegetation, etc.). It is believed that the physical environment affects a person’s perception of their safety and a criminal’s sense of opportunity in committing a crime. This project presents a framework for applying CPTED to college campus safety through the use of geocoding campus crime and crime in surrounding areas in a GIS, surveys of people’s perception of safety on campus, a 3D visualization of a recreated environment based on the survey results, and a final survey using the visualization. This framework can be used as a way to gather students’ perceptions before actually changing the environment, reducing the risk of not improving students’ perceptions.

### **Securing Boundaries, Securing Children and Sustaining Networks: Gated Communities in the Kingston Metropolitan Area**

Robert Kinlocke

University of the West Indies, Mona

The number of gated communities in the Kingston Metropolitan Area has increased significantly over the last 30 years. They now house a considerable portion of the city population but particular demographic groups tend to be more represented in their resident stock as they seemingly appeal to those who feel most vulnerable. Drawing on a survey of 165 households in gated communities across the KMA, the results suggest that these enclaves are seen as a retreat for parents who are paranoid about the perceived social dangers to which children could be exposed. It also reveals that children play a

significant role in cementing social networks among adults in the community and this, in turn, serves to enhance the efficiency of the system of defense.

### **Geographies of John Lennon and Yoko Ono's 1969 Campaign for Peace: An Intersection of Celebrity, Media, Art and Activism**

This paper examines the series of events and performances that comprised the “Campaign for Peace” conducted by John Lennon and Yoko Ono throughout 1969. The campaign is described as a unique case study that draws upon the relationships between celebrity, place and media. Employing a largely geographical perspective, this paper situates the events of the campaign in terms of the use of symbolic place representations, art and critical social theory, and media diffusion. Unusual for their era, the spatial tactics of the “Campaign for Peace” are evident in the entangled spaces of politics and commercialism characteristic of the contemporary cultural landscape. While not possible in 1969, the use of the Internet is shown to be a technological innovation consistent with the conceptual orientation of the original campaign.

### **“PLACING IDENTITIES”: EVERYDAY URBAN GEOGRAPHIES AND THE NEGOTIATION OF CENTRAL AMERICAN IMMIGRANT SUBJECTIVITIES IN ATLANTA, GA**

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Numerous empirical studies demonstrate that transnational migrants from Latin America retain a national identity, while simultaneously adopting the pan-ethnic moniker “Hispanic/Latino”. Recent work in geography and other social sciences, however, stresses the fluid and shifting nature of subjectivities. Within the fractured metropolis, moreover, the places that people frequent constitute their everyday urban geographies and thus structure their social interactions. This paper examines the importance of place, conceptualized as socio-spatial context, in the process of negotiating national identity and racialized “Hispanic/Latino” subjectivities by Central American-born residents of Atlanta. Through a series of in-depth interviews, I explore the degree to which a pan-ethno racial “Hispanic/Latino” identity gains salience for Central American immigrants in Atlanta, and the degree to which the expression of such an identity shifts across the various socio-spatial contexts (i.e., home, work, worship, play, etc.) that define everyday life. Results indicate that interview participants’ social interactions and thus the opportunities for the expression of national identities vis-à-vis pan-ethno racial identities

(or some other identity) depend in part on the particular socio-spatial context. Place, therefore, plays a significant role in the process of identity negotiation for these Central American-born residents of Atlanta, GA. By examining the ways in which everyday geographies affect individual identities, I hope to draw attention to the inherent instability of contemporary categories of 'race' and 'ethnicity'.

### **Exports Dynamics within Japan's Machine Tool Sector**

Ronald V. Kalafsky  
University of Tennessee  
Department of Geography

Despite increased global market competition, Japan remains a leading producer of metal cutting machinery. Exports play an important role in firm-level strategies, as has occurred in many Japanese capital goods sectors. This paper examines the dynamics of exporting within Japan's machine tool sector in the context of recent industry changes and in terms of evolving product makeup. Evidence from a recent series of interviews suggests that firms use a variety of strategies to succeed in export markets, with an emphasis on increased precision and service. These strategies continue to keep many producers in prominent market positions, despite obvious spatial redistributions of world manufacturing activities.

Keywords: Exports, Japan, machine tools, manufacturing

### **Increase in Near Surface Atmospheric Moisture Content Due to Land Use Changes**

Ronnie Leeper, Rezaul Mahmood, Kenneth G. Hubbard, and Stuart A. Foster  
WKU.

Land use change can affect soil moisture, surface energy, and near-surface temperature and moisture content. During the 20th century portions of the North American Great Plains have experienced introduction of irrigated agriculture. It is expected that land use change from natural grass to irrigated land would increase moisture content. Modeling studies have shown enhanced rate of evapotranspiration from irrigated areas. This study analyzes dew point temperature (Td) to assess the affect of irrigated land on near surface moisture content. This provides an opportunity to use Td data from the Automated Weather Data Network. Td data from six non-irrigated and eleven irrigated locations were analyzed. Daily time series were developed with their length as the factor in selection. Comparison of Td between non-irrigated and irrigated locations showed higher growing season Td over irrigated areas. Average growing season Td at irrigated sites can

be 4.74 °C higher. Moreover, individual monthly Td at irrigated sites can be 5.43 °C higher during growing season. The results conclude that land use change in the Great Plains has modified near surface moistness.

**FINDING THE TRAIL TO TROUBLESOME CREEK:  
Withdrawal Route and Position after the Battle of Guilford Courthouse,  
15-16 March 1781**

Douglas J. Gels; United States Army  
Roy S. Stine and Rick L. Bunch; UNC Greensboro

This project identified the most likely withdrawal route and position of General Nathanael Greene and his Southern Continental Army after the battle of Guilford Courthouse, North Carolina, 15 March 1781. Based on period and modern military tactics, historic maps, modern spatial data and the use of Geographic Information Systems (GIS) software, three possible retreat routes and two probable defensive positions were defined. Research completed on General Nathanael Greene's actions, as well as, modern military tactics suggest probable retreat routes of the Continental Army from the Guilford Courthouse Battleground over existing roads, following the ridge lines and minimizing river and creek crossings. Viewshed analysis and modern military tactics provide new insights as to the most likely location of the withdrawal position. This project is part of ongoing geographic, archaeological and historic research at the site. These findings will also serve as supporting data for further research to precisely locate the withdraw routes and defensive positions at Troublesome Creek Ironworks, Rockingham County, North Carolina.

**The Relationship between mean NDVI and mean satellite surface temperature in Toledo, Ohio on August 16, 1999: A Remote Sensing Perspective**

Russell W. Anderson

The University of Toledo & The National Geospatial-Intelligence Agency

This study examines the relationship between mean NDVI and mean satellite surface temperature for the Toledo, Ohio metropolitan area on August 16, 1999. Descriptive Statistics were generated for the areas of interest associated with each land cover type representing both mean NDVI and surface temperature values. Landsat 7 ETM imagery (Enhanced Thematic Mapper) was used for the interpretation and classification of land cover and for comparison of NDVI and surface temperatures between urban and rural areas located within the Toledo metropolitan area. A supervised classification was created based on polygon (AOI) training sets in order to separate spectral signatures into unique land cover classes and show the spatial distribution of land-cover across the Toledo metropolitan area for the 1999 image. The spatial distribution of surface

temperatures was shown to be strongly tied to land cover features such as parks, water bodies, industrial areas, commercial areas, residential areas, agricultural areas, etc.

The satellite surface temperature observations between the urban and rural areas showed evidence of the urban heat island effect. The largest mean satellite surface temperature difference recorded was 5.4 degrees Kelvin (9.7 F) between urban/transportation and forest. NDVI and surface temperature were found to represent a statistically significant inverse relationship with a correlation coefficient of  $-0.952$ . It was determined that NDVI accounts for 90.6% of the variance in surface temperature with a standard error of plus or minus .76 K. As urban and suburban land cover is replacing forest, cropland, grass, and wetland, NDVI values are decreasing and the urban heat island effect is increasing spatially.

### **Where are the Geographers? A Preliminary Examination of Newly Incorporated Municipalities (NIMs) and other forms of Boundary Change**

Russell M. Smith, AICP  
University of North Carolina at Greensboro

The creation of new cities can have dramatic impacts on urban America. In the 1990's 263 newly incorporated municipalities (NIMs), that serve over 1.65 million citizens, were created. The study of these new cities falls under the purview of the larger field of boundary change. Boundary change can take the form of annexation, consolidation/merger, secession, the formation of special districts, and incorporation. This paper examines the current literature on the different forms of boundary change and provides an explanation for why municipal incorporation, in particular, is a neglected area of research that has been somewhat overlooked by geographers. Factors that have potentially limited geography's research on municipal incorporation include a historical bias that has resulted in political science and public administration scholars focusing on the creation of cities, the lack of available data on new cities, and the complexity surrounding municipal incorporation across the country. Preliminary research results on the spatial distribution and population sizes of the NIMs created during the 1990's will also be presented.

## ***Selling Uniqueness and Authenticity in Columbia, South Carolina: Bohemian and World Market***

Sarah Schwartz, University of South Carolina

Based on the descriptions appearing on their respective websites, one might anticipate similar shopping experiences from Bohemian, a boutique operating in Columbia, SC, and World Market, a chain with nearly 300 locations across the United States. However, while the stores sell a similar array of what they describe as “uncommon” products, the shopping experiences they offer are in fact markedly different. This poster uses a series of comparative images of the two stores to explore how locations, layouts, product descriptions and product displays can intersect to create distinct consumer experiences and impressions in stores that carry similar items. The poster pays particular attention to the ways in which display tactics and the use of place names in product descriptions may (or may not) signify uniqueness and authenticity.

### **North-South and East-West:**

#### **A geographic method for dividing NCAA Division I football conferences into divisions**

Scott A. Davis  
Appalachian State University

Several NCAA Division I football conferences use geography to place members into divisions. Conferences are often divided as north-south and east-west with division alignment controlling conference schedules. The winner of each division advances to play in a football championship game and financially benefits from the game’s payout. The Atlantic Coast Conference (ACC), Big 12 Conference, Southeastern Conference (SEC), Conference USA (C-USA), and Mid-American Conference (MAC) all sponsor a football championship game. Since divisions determine a significant amount of revenue, a method should exist for splitting a conference into divisions. The purpose of this study is to develop a geographic method for splitting conferences into divisions that considers the geographic orientation of conference members. The method was developed using standard deviational ellipse which describes the directional distribution of conference members. The results reveal there is little agreement between the proposed method and divisional alignment during the 2005 football season.

Selima Sultana, UNC-Greensboro, NC 27410 and Joe Weber, University of Alabama, Alabama 35487.

### **Accessibility to Employment Centers from Segregated Neighborhoods in Metro Atlanta.**

Using the 2000 Transportation Planning Package (CTPP), Public Use Microdata Samples (PUMS) and Geographic Information Systems (GIS) based techniques, this research identified segregated and integrated neighborhoods in the Atlanta metropolitan area. The job-accessibility, measured in terms of both travel times and accessible indexes, for the black and white residents of these neighborhoods is examined. Even though segregated black neighborhoods have a higher job accessibility, our findings provide evidence that Black neighborhoods tend to have long commutes compared to white neighborhoods. This research clearly suggests that access to automobiles increases the accessibility to employment centers for black workers, but it will not eliminate the problem entirely. Our analysis rather shows that accessibility to jobs certainly helps to reduce spatial barriers for black workers, however, whether their longer commute is due to discrimination in the hiring process remains an open question.

Shanna Underwood  
University of Southern Maine  
**Buddhist Spaces in Nashville, TN**

Nashville has an established and growing Buddhist population that reflects both an increase in immigrant/refugee populations, and a greater interest in eastern religion from Americans that have converted to Buddhism. Traits of these groups are reflected in their use of space from temporary converted spaces, to built temples. How easily these spaces are recognized as Buddhist space leads to many questions of public acceptance, visibility, freedom of religious expression, and a changing culture in the heart of the bible belt.

### **Memorials and the Search for Redemption: Japanese American Internment Camp Sites after 60 Years.** Stephen S. Birdsall, University of North Carolina at Chapel Hill.

Shortly after the attack on Pearl Harbor, almost 120,000 Japanese Americans living in western states were forcibly relocated to a number of large internment camps for the duration of World War II. Decades later, this relocation was widely acknowledged to be a shameful episode in American history. The camp sites, abandoned and largely obliterated but never forgotten by the Japanese Americans interred there, have begun to serve as landscapes of remembrance for the larger society. Current differences among the sites suggest stages of an uneven, yet ongoing process of cultural apology and redemption.



***Genocide as the (Re)creating of Moral Geographies: Conflict as an Extreme Politics of Dependence***

Steve Butcher, Doctoral Student  
Kent State University

In recent years the concept of genocide has gained more interest for geographers. However, this work has yet to initiate a 'spatial turn' in Genocide Studies or produced a coherent body of research on genocide by geographers. Nevertheless, momentum towards a Geography of Genocide is mounting. This paper addresses genocide theoretically as an extreme form of *politico-moral space*. Politico-moral space is a process of territoriality. This version of territoriality combines concepts of 'space as *social relations*', 'space as an effect of *geo-graphing*', and '*spaces of dependence and engagement*' to provide a geographic version of identity formation and creation of social space. This is understood as a *politics of dependence* which is imbued with assertions of 'what is and ought to be'. These ethical matters give implicitly and explicitly a moral character to social space. Alteration of these *moral geographies* can be extreme in that group identities become polarizing devices enabling *spaces of violence*. In times of conflict, opposing sides seek to either disrupt 'other's' spaces of dependence or maintain autonomous spaces. Conflicts then at any scale are violent manifestations of the politics of dependence in which genocide is an extreme case of this contestation and (re)creation of space.

**The Kentucky Mesonet: Building A Foundation For Success**

**Stuart A. Foster and Rezaul Mahmood**

Institutional Affiliation: Kentucky Climate Center, Department of Geography and Geology, Western Kentucky University.

The Kentucky Climate Center recently acquired funding through a federal earmark to Western Kentucky University to build the Kentucky Mesonet. The Mesonet will be a dense, statewide network of automated environmental monitoring stations that will collect data and send observations in near real time to be processed, archived, and disseminated. The building of partnerships and participation of stakeholders is vital to successful development of the Mesonet. This paper highlights efforts, some completed and others ongoing, to build a broad base of support for the Mesonet.

## **Geovisualization in historical geography and landscape analysis: a virtual reconstruction of early 20<sup>th</sup> century Morgantown, West Virginia**

Susan J. Bergeron, Jesse Rouse, Lucy Kammer, Zachary Pride, and Trevor Harris  
Department of Geology and Geography  
West Virginia University

One of the most difficult tasks in historical geography and the study of past cultural landscapes is the synthesis and integration of information from disparate sources, and the presentation of that information in ways that aid in understanding and interpretation. However, the widespread availability of computers has spurred the development of digital landscape reconstructions and recreations as tools in the synthesis of information about the physical features of historical landscapes. GIS and other geospatial technologies can now be used to generate a digital context, or contextual GIS, for these landscapes. The contextual GIS can then be used as an analysis tool or as the basis for developing virtual reconstructions of physical and cultural landscape elements. This poster discusses the use of GIS and computer graphics software and techniques to recreate a virtual representation of a past urban landscape using early 20<sup>th</sup>-century Morgantown, West Virginia as a case study.

## **Service Learning Evolution: Progressing from Integration to Facilitation**

Tammy E. Parece  
Virginia Commonwealth University

**Abstract:** Service learning projects are usually defined as integration or collaboration of university students with a community in an effort to benefit the community. This paper reviews the evolution of a service learning project aimed at the clean-up of an urban stream and the level of success of community integration. Efforts to expand this project to the level of university/community facilitation are outlined. Finally the successes and failures of this effort and its impact on the stream clean-up project are revealed.

*Key Words:* service-learning, watershed clean-up, urban stream, community event, facilitation

## **The Earth Imaging Short Courses: Internationalizing Undergraduate and Graduate Education through Remote Sensing**

By: Timothy Warner<sup>1</sup>, Jean-Marie Monget<sup>2</sup>, Guofan Shao<sup>3</sup>, Alexandros Karakos<sup>4</sup>, Jong Yeol Lee<sup>5</sup>, Sheila Kazar<sup>1</sup>, Lucy Kammer<sup>1</sup> and Jeremy Tensen<sup>1</sup>

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The Earth Imaging consortium was formed by a group of US, French, Greek and Norwegian partners in 1999. The project was initially funded jointly by the US Department of Education Fund and the European. The consortium has sponsored 11 international remote sensing courses since 1999, involving about 130 students. The courses are typically structured to last about 10 days, and include formal class lectures, laboratory assignments, field work, and a collaborative project. A cultural component is a formal part of the course.

As might be expected, internationalizing the curriculum requires a special effort to overcome bureaucratic, language, financial, and cultural barriers. Despite these difficulties, the enduring nature of the courses is a testament to the value of the program.

### ***Selling Uniqueness and Authenticity in Columbia, South Carolina: Bohemian and World Market***

Sarah Schwartz, University of South Carolina

Based on the descriptions appearing on their respective websites, one might anticipate similar shopping experiences from Bohemian, a boutique operating in Columbia, SC, and World Market, a chain with nearly 300 locations across the United States. However, while the stores sell a similar array of what they describe as “uncommon” products, the shopping experiences they offer are in fact markedly different. This poster uses a series of comparative images of the two stores to explore how locations, layouts, product descriptions and product displays can intersect to create distinct consumer experiences and impressions in stores that carry similar items. The poster pays particular attention to the ways in which display tactics and the use of place names in product descriptions may (or may not) signify uniqueness and authenticity.

## **Ashes to Ashes: The Role of Media in Perception of Suicide Before and After the Great Chicago Fire.**

Thomas L. Bell and Margaret M. Gripshover

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Media reports hype the fear, angst, and chaos following major catastrophes. This was just as true of reportage in the Chicago Tribune following the Great Fire in Chicago in 1871 as it was in New Orleans about the death and destruction in the aftermath of Hurricane Katrina. And, based on anecdotal evidence, these media reports seem especially drawn to the “epidemic” of suicides in the wake of such catastrophes. Graphic descriptions of suicides were a common feature in practically every issue of the Tribune. But, using official public health statistics we show that, in fact, the suicide rate was depressed from the norm in the years following the Great Fire of Chicago, despite media reports to the contrary. The same phenomenon has been exposed recently after Hurricane Katrina—suicide rates are actually lower than they were before the event, perhaps because of a renewed sense of community among the survivors. It is, however, too early to tell if this lowered rate of suicide will continue in the post-Katrina era.

KEYWORDS: Chicago Tribune, Durkheim, Great Chicago Fire, suicide

## **A Predictive Model of Archaeological Potential: An Example from Northwestern Belize.**

Sallie Vaughn, East Carolina University.

An inductive predictive modeling approach is used to identify areas of high archaeological potential in a portion of a Belizean conservation area. This 110,000 acre section of jungle has been allocated for ecological and archaeological research. Due to the labor intensive nature of archaeological survey and research, little of this region has been explored. Areas that have been explored produce substantive information pertinent to the culture and history of the ancient Maya who inhabited the region. The predictive modeling process involves remotely sensed imagery, Geographic Information Systems (GIS), and multivariate statistical approaches. Models include characteristics of the present day landscape and the landscape of the ancient Maya. One variable representing the existing landscape and two variables interpreting the ancient landscape are utilized to generate an archaeological potential model. Several areas of high archaeological potential are identified as well as areas that are unlikely to contain any archaeological remains. Future archaeological surveys should focus on high potential regions to decrease time, effort, and expenses and increase overall archaeological yield.

## **Geography of Hispanic Entrepreneurship in Greater Charlotte Metropolitan Area**

*Abstract.* The preponderance of work on entrepreneurship suggests that self-employment could provide ethnic minorities and women a springboard for social integration and economic progress. However, some ethnic groups (e.g., Koreans and Cubans) are more successful in establishing small business than others (e.g., Mexicans and African Americans); and members of the same ethnic group display different patterns of entrepreneurship in different places. For these differences, previous research has addressed numerous factors, such as personal characteristics, structural factors, and cultural factors or a combination of these factors. However, very little work has explicitly examined the roles of geography on ethnic entrepreneurship. Therefore, the objective of this study is to investigate how place and ethnicity intertwine to produce the spatial division of ethnic enterprises in local labor markets in Charlotte-Gastonia-Rock Hill metropolitan area. Using data from Census 2000, this study supports a higher economic profile of Hispanic entrepreneurs than non-self-employed in the Charlotte metropolitan area. The presence of Hispanic enterprises is closely related to the local economic structure and socioeconomic conditions of the residents, especially a large number of coethnic populations could provide low-cost labor, ethnic market and other ethnic resources for the ethnic enterprises to grow.

### **Comparisons of Multiple Digital Elevation Models: a Revisit of the Randleman Reservoir, North Carolina**

Yong Wang and Scott E. Wade

Department of Geography, East Carolina University, Greenville, NC 27858.

There have been three major development and delivering of digital elevation models (DEMs) to the general public since 2001. The DEMs were created by different acquisition methods and technologies, and they can differ in representing the topography of the same area. How different are they, and what are their impacts and possibly different outcomes when they are used to study a local problem? Comparisons of using the DEMs to the study of the Randleman Reservoir in Randolph and Guilford counties are presented as an example. We found that a) comparisons of the USGS DEMs, Shuttle Radar Topography Mission (SRTM) DEM, and light detection and ranging (LIDAR) DEM indicated large difference, b) at the same surface water level, reservoir extents and volumetric capacities derived from the DEMs, in the order from the smallest to the largest, were the USGS DEMs, SRTM DEM, and LIDAR DEM, and c) there was “ponding” on the extents derived from the NED DEMs and SRTM DEMs, but no “ponding” on the extents derived from the LIDAR DEM.

## **Flash Floods in the Appalachian Region (1993-2005)**

Dr. Rezaul Mahmood  
William Rodgers  
Western Kentucky University  
Kentucky Climate Center

Flash Flood (FF) is a major natural hazard in the United States. To better understand its seasonality and inter-annual variations, I am building a FF climatology for the whole Appalachian region. This paper shows FF climatology for the Appalachian region for the years 1993-2005. My primary source of data has been the National Climatic Data Center (NCDC) and their electronic records which can be accessed through the World Wide Web. The analysis of data shows variations in the frequency of FFs during different years, seasons, and months. We, we, also plan to expand this work up to the year 1950 and obtain a better knowledge of FF occurrence.

So far, we have covered different parts of the Appalachian Region. Some states have been completed from 1993-2005 such as, Alabama, Tennessee, Kentucky, West Virginia, and Vermont have all been completely studied from 1993-2005. The states of Ohio and Massachusetts as well as others have been overlooked for the time being. With the available data we're trying to determine possible patterns monthly, seasonal, and yearly.

## **Urban Heat: the Effect of Road-side Trees on Local Climate in Residential Neighborhoods**

Won Hoi Hwang and Anita Walz, Ph.D.  
Department of Geography, Marshall University

Urbanization has produced significant changes in the surface and atmospheric properties that can cause climate change. Some published studies use thermal infrared remote sensing and Geographic Information System to analyze the Urban Heat Island, some focus on the vegetation's cooling effect on urban climate, but no published reports exist on the effect of road-side trees on local climates. In the 12-block study area of a residential neighborhood in Huntington (WV) road-side tree canopies were mapped using Geographic Information System. Pavement temperatures were measured in locations of various shade levels. A three-dimensional surface of canopy height was created. Hillshade analyses at 30 minutes intervals across a summer day were conducted and averaged together to determine the proportion of time the pavement received shade. As expected, pavement temperatures of exposed sites were far above those of shaded sites in the middle of the day and into the evening. More importantly, exposed sites remained significantly warmer than shaded sites throughout the entire night until sunrise the next morning.

## **Voices of Aloha: the forces of Colonialism in play in the U.S.**

Sarah E. McLane

Department of Geography

University of South Carolina

The events that took place that catapulted the Sandwich Islands into statehood have left many unnerving scenarios for the Hawaiian people. Ongoing struggles in politics, power and cultural identity play out in the remnants of colonization efforts by early white settlers, efforts more commonly seen in a Third World development scenario. Interestingly, Hawaii went through these colonial influxes of development; forced labor, taxes, extraction of resources, and the assertion of a foreign power on a local people, without ever being a formal colony of the U.S. (Brigg: 2002). As the U.S. economy has grown and the “Aloha Spirit” has become a commodity, locals have struggled to find self-value in their traditional lifestyles. Mirages of development have left many indigenous Hawaiians searching for answers to their socio-economic problems as a minority in the U.S., breeding a strong sovereignty movement in Hawaii. Posing many important questions on the validity of development, even in our own country, Hawaii is throwing what we think we have learned about the influence of the western world out the window. And in their search for a cultural revolution, they proclaim independence from a world power.

## **Identifying barriers and least cost paths for Autonomous Vehicle Navigation using airborne lidar data.**

Om Poudel

Department of Geography, Virginia Tech

In the past several years, the Defense Advanced Research Projects Agency (DARPA) has sponsored the Grand Challenge, a race among autonomous ground vehicles in rural environments. These vehicles must follow a course using no human guidance. For the most part these competitions have been populated with vehicles developed entirely by engineers, but in the case of Virginia Tech, the department of Geography has been active as well.

Use of high resolution lidar data in identifying barriers and least cost paths for autonomous vehicle navigation in an unstructured terrain has now gained some acceptance. Since it is extremely precise, airborne lidar data can be used in various ways such as in barrier identification and path planning for such vehicles. This paper explores the use of lidar data by developing a model in ArcGIS. The model has shown that it can identify barriers and least cost paths for Autonomous ground vehicle navigation.

Key words: Autonomous Vehicle, Lidar, ArcGIS, Accumulated surface, Least cost path

## **USING REMOTE SENSING AND GEOGRAPHICAL INFORMATION SCIENCE TO PREDICT AND DELINEATE CRITICAL HABITAT FOR THE BOG TURTLE, GLYPTEMYS MUHLENBERGII**

Elizabeth M. Walton

University of North Carolina at Greensboro

The purpose of this research project was to determine whether remote sensing and geographical information science (GISc) technologies could be used to model habitats and population distributions of the bog turtle, *Glyptemys muhlenbergii*. A subset of a Landsat 7 ETM+ image and color-infrared digital aerial photographs were used for a portion of Ashe County, North Carolina, where the wetlands occurred. The results showed that publicly available data may not be suitable for detecting small, isolated wetlands across the landscape due to heterogeneous landscape features, low spatial resolution of the images and the inherently poor quality of some of the images. However, spectral signatures for these habitats were detectable when quality, high spatial and temporal resolution color-infrared data were available. This information will be beneficial to researchers, land managers and policy makers in setting conservation priorities for the bog turtle. The methodology is such that it may be calibrated to locate other turtle species of interest in other parts of the world.

## **The Performativity of Space: Rethinking Language as Spatial Practice**

Lauren Martin

University of Kentucky

Drawing on Mikhail Bakhtin, Raymond Williams, and Judith Butler, this paper proposes a framework for theorizing language, especially the utterance, in a continuum of spatial practices. Taking the prohibition of joking in airports as a starting point, I ask how language could become so dangerous as to be banned. I argue that it is not language itself, but its performance, which includes and exceeds the grammatical content of words, that appears threatening in the airport. Space and language are not static containers for social meaning, but are coproduced in through social practice. Thus, each underwrites the power of the other, making the utterance, the embodied performance of speech and language, a key site of the reproduction of social life. This paper is intended to provide an intervention which provokes a wider consideration of language (reading, writing, speaking, performing) in relation to a wider spectrum of spatial practices than is associated with literary metaphors. Using this framework, the significance of the bomb joke and its prohibition can be understood as the intersection of opposing spatio-linguistic regimes.



## **Relating Dekadal Trends in Climatic Variables to Malaria Incidence in Nairobi, Kenya**

Danielle Robinson Fastring, M.S., M.P.H. and Jerry Griffith, Ph. D.  
The University of Southern Mississippi

In equatorial areas of Africa, malaria is seasonally epidemic. Approximately ninety percent of all malaria deaths in the world occur in Africa south of the Sahara Desert region. The majority of infections in these regions are caused by *Plasmodium falciparum*, the most deadly of the four human malaria parasites. Additionally, the malaria vector, the female *Anopheles gambiae* mosquito, is widespread in Africa and difficult to control. The purpose of this research is to determine which series of dekads (10-day periods) for each of the relevant environmental variables rainfall and Normalized Difference Vegetation Index is the best predictor of malaria incidence in Nairobi, Kenya. Four linear regression models were built using SPSS statistical software for malaria cases reported in Nairobi, Kenya as the dependent variable and various series of data for rainfall and NDVI from the dekads in both the current and the previous month as the independent variables. Data from 2003 show that malaria incidence in any given month is best predicted ( $r^2 = 0.995$ ,  $p < 0.001$ ) by the average NDVI for the thirty days including the final two dekads of the previous month and first dekad of the current month, and by the average rainfall for the thirty days including the three dekads of rainfall data from the prior month. Much like the Famine Early Warning System already in operation, this model could allow areas to forecast epidemic prone cycles through the monitoring of climatic variables.

## **Keep the Doors Open... Just Don't Say Anything: The Response of NC United Methodist Pastors to Homosexuality**

Caleb Parker  
East Carolina University

The United Methodist Church has a history of being divided on social issues, which have historically involved African-American membership and the ordination of women. While those debates have been settled, the debate over homosexuality has only escalated over the past 35 years. This research offers a look at how this controversy has unfolded within North Carolina's local churches as seen from the pastors' perspective. A web-based survey is used to understand the pastor's opinions and actions toward homosexuality within church space. The results of the survey are analyzed to understand how individual pastors are able to influence this socially-contested and sacred space for the general congregation and gay persons in attendance.

## **Selling Uniqueness and Authenticity in Columbia, South Carolina: Bohemian and World Market**

Sarah Schwartz, University of South Carolina

Based on the descriptions appearing on their respective websites, one might anticipate similar shopping experiences from Bohemian, a boutique operating in Columbia, SC, and World Market, a chain with nearly 300 locations across the United States. However, while the stores sell a similar array of what they describe as “uncommon” products, the shopping experiences they offer are in fact markedly different. This poster uses a series of comparative images of the two stores to explore how locations, layouts, product descriptions and product displays can intersect to create distinct consumer experiences and impressions in stores that carry similar items. The poster pays particular attention to the ways in which display tactics and the use of place names in product descriptions may (or may not) signify uniqueness and authenticity.

## **SPATIO-TEMPORAL VARIATIONS OF OBSERVED SOIL MOISTURE IN NEBRASKA DURING THE WARM SEASON**

Ashley Littell  
Western Kentucky University

Soil moisture is a measure of the water content in a soil that is dependent upon precipitation, evapotranspiration, runoff, drainage, and irrigation. Nebraska is one of the few states in the country that maintains a weather data network that measures soil moisture. Daily soil moisture observations from depths of 10, 25, 50, and 100 centimeters were analyzed from May through October of 2005, after being grouped into datasets of weekly, bi-weekly, and monthly observations. These datasets were imported into a Geographic Information System (GIS) and the Ordinary Kriging method was applied for spatial interpolation. The interpolation parameters were set to create output surfaces of 4 x 4, 16 x 16, 32 x 32, and 64 x 64 kilometer grids for analysis of their variations. As expected, it is found that soil moisture content is higher in southeastern Nebraska and lower in the northwest. Changes in the grid size render small scale variations, however, the general pattern of estimated soil moisture distribution does not change.

## **Identifying barriers and least cost paths for Autonomous Vehicle Navigation using airborne lidar data.**

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**Key words:** Autonomous Vehicle, Lidar, ArcGIS, Accumulated surface, Least cost path

### **HOPE VI and Cabrini-Green: Public Housing Transformation and Short-term Socioeconomic change in Chicago.**

Todd Sink, Indiana State University

In 1994 the Chicago Housing Authority (CHA) implemented its first phase of HOPE VI at Cabrini Green. Twelve years later, the transformation of public housing continues. The purpose of this paper is to document the short-term, socioeconomic change at Cabrini Green from 1990 to 2000. The study concentrates on two census tracts identified by the United States Department of Housing and Urban Development as the location of Cabrini-Green. Data on the socioeconomic characteristics of Cabrini-Green are obtained from the 1990 and 2000 US Census. Analysis of primary data is conducted using descriptive statistics. Stanley Lieberman's P-star index is used to measure the exposure of Cabrini-Green's African American population to employed and impoverished residents. Findings show HOPE VI to reduce available rental units and deconcentrate poverty.