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Abstracts**

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The NC Big Three: Growth Dynamics in Charlotte, the Triangle and the Triad

Susan M. Walcott
University of North Carolina Greensboro

ABSTRACT

North Carolina's urban economic base is spread among its three largest urban centers, two of which are themselves a set of three major cities: the Research Triangle of Raleigh, Durham and Chapel Hill, the Piedmont Triad of Greensboro, High Point and Winston-Salem, plus the business magnet of Charlotte. While all three contain a similar population size and are roughly evenly spaced throughout the state, their development trajectories from 1990-2010 differed dramatically. This research uses a multimethods combination of statistics, news articles, and interviews to test the hypothesis that the development outcome results from differences in underlying place culture and leadership – the human side of urban economic geography. Sections examine numerical measures of the economic picture, followed by a history of each location. The conclusion summarizes and contrasts the outcome of their varying trajectories.

When an Exotic becomes Native: Untangling the Kudzu Vine and Paying Tribute to John Winberry

Derek H. Alderman, University of Tennessee

With the recent passing of John Winberry cultural and historical geography lost an important voice in the study of the American South. John addressed a number of topics in his work—from barbeque and sorghum syrup to Confederate monuments and southern pottery. His research on the cultural history of the exotic kudzu vine has been especially influential within southern studies. Over forty years ago, Winberry and co-author, David Jones, traced kudzu’s various roles within the southern landscape, its widespread promotion as a “miracle vine” in New Deal social conservation, and later its decline to the status of pest and weed. As a tribute to John Winberry, I further untangle the cultural and historical dimensions of kudzu, devoting particular attention to how people have used, represented, and identified with the plant since Winberry and Jones published their seminal piece in *The Southeastern Geographer*. While landowners, government officials, and scientists continue to wage an ecological battle against kudzu, the vine has also become a widely recognized cultural symbol of the South and people have expressed positive associations as if it were native to the region rather than an exotic invader. In this paper, I present examples of people using kudzu to identify themselves and the region, to the extent that some businesses and organizations use the word “kudzu” in their names. An exploratory survey of these enterprises reveals that some entrepreneurs use kudzu, discursively, as a form of symbolic capital, a way of asserting the “southernness” of their brand or market identity. This discourse presents an interesting counterpoint, and perhaps challenge, to larger calls for kudzu’s demonization and eradication from the South--allowing us to add another chapter to the cultural geography of kudzu and the important work of Winberry and Jones (1973).

Abstract

Alchemy in the 21st Century: Turning Rock (Climbing) into Gold in Chattanooga,
Tennessee

Alice Luthy Tym

University of Tennessee at Chattanooga

Chattanooga's 300 million year old sandstone formations have become a world class rock climbing and bouldering destination. Outfitters, a downtown city-sponsored information center, indoor climbing wall facilities, and a hostel are revitalizing the downtown landscape. Local universities have installed climbing facilities and student use of these facilities has steadily grown. Competitions for national and international professional climbers are held locally and sponsored by local companies. Business mission statements include protecting the environment as a new form of commerce evolves on ancient rocks.

Economic development strategies using micro-social networks to forge local-global links: The Azores Case.

Sharon C. Cobb, Phd.
Department of Economics and Geography
Coggin College of Business
and
Ben Brandao, BA Candidate
International Studies
College of Arts and Sciences
University of North Florida, Jacksonville, FL 32224

ABSTRACT

This paper addresses the use of micro-social networking using new media tools to promote economic growth in peripheral communities. The goal is to assess the viability of the website www.AzoresNation.com to serve as a model to influence the cultural and economic conditions of small or geographically isolated communities. We will do this by identifying ways to measure: the spatial distribution of diaspora populations; and social network reliability and integrity. The hypothesis that Internet based social media allows isolated producers to amplify the effect of traditional social nets to overcome economic growth barriers of isolation and limited natural resources is tested through a case study of the Portuguese autonomous region of the Azores Islands in the Atlantic Ocean. By leveraging social media networks to build and maintain real world connections, firms create additional export demand through members of the diaspora. The online model presented for this study provides benefits to a dispersed population with Portuguese heritage estimated by Google Analytics to be between 2 to 3 million, whereas the ancestral homeland has fewer than 200 thousand inhabitants. If this strategy proves to be of value, the system can be duplicated for any ethnic or geographic population who wish to strengthen the heritage and economy of the homeland jurisdiction.

Presentation abstract: Challenging the nation-state: indigenous activists and allies resisting border militarization on Tohono O'odham lands

Carrie Mott, carrie.mott@g.uky.edu
University of Kentucky

In May, 2010, a group known as “The Border Patrol Six” locked themselves to one another in the lobby of the Tucson Headquarters of the Border Patrol. The chief aim of the Border Patrol Six was to call attention to the impacts of border militarization on the Tohono O'odham Nation- an indigenous tribe whose 25,000 members span both sides of the Arizona/Sonora border. Popular and scholarly discourse emphasizes the plight of migrants and Chicano borderlanders facing anti-immigrant legislation in increasing numbers of US states. While such a focus is certainly important, often the situation facing indigenous borderlanders remains in the background. My presentation questions the theoretical implications of what it means when indigenous people and allies get together and to challenge state securitization. Is it a re-articulation of territory? A renunciation of territory? Such groups of indigenous and allied activists are often drawn together through anarchist and radical politics. Beyond a drive to make public the various injustices faced by indigenous peoples separated by international boundaries, there is also something much deeper at stake- a challenge to the legitimacy of the state itself.

Bending the Arc of Justice: Dr. Martin Luther King, Jr., the Poor People's Campaign and Defiant Geographies.

Joshua Inwood, PhD
University of Tennessee
Department of Geography and Africana Studies Program

Abstract:

This paper examines Dr. Martin Luther King Jr.'s efforts at organizing the "Poor People's Campaign" in 1968. Critical for this analysis is the way King's political project emerged from an increasingly complex and multifaceted engagement with the federal government that ties into Lefebvre's work on the State Mode of Production (SMP). In the last years of his life Dr. King was struggling to craft a new kind of political engagement that fundamentally challenged the SMP and was focused on alternatives to burgeoning economic and social crises, a goal that is as relevant today as it was forty years ago.

When is a Drought? Reconciling Farmer Perception with the Instrumental Water Budget in Flagaman, Jamaica

Scott Curtis, East Carolina University

Doug Gamble, UNC-Wilmington

Jeff Popke, East Carolina University

Climate change's negative impact on agricultural systems is of particular concern, especially for small-holder farms in developing countries. Recent observations and climate predictions suggest an increase in temperature, decrease in precipitation, and increase in precipitation variability over Jamaica, where the majority of the agricultural production occurs on small farms in St. Elizabeth Parish. However, St. Elizabeth has a diversity of rainfall climatologies as well as irrigation systems, leading to an uneven geography of vulnerability. To better understand the vulnerability and resulting outcomes we propose a strategy for modeling on-farm water balance and farmer-recorded perceptions of water availability and irrigation use for several different farm types. In a proof of concept case study conducted from June to October 2011 we found that farmer perception of water availability for crops is not simply an objective assessment of rainfall, but something more subjective and complex. One dimension of the complexity is farmer memory. Farmers are very aware of the long-term moisture conditions and have thus developed a strategy of proactively irrigating crops when they perceive a deviation from the norm. This paper discusses this and other hypotheses under development that attempt to reconcile farmer actions with the instrumental record.

The Export Performance of Korean Machine Tool Firms and The Use of Trade Fairs

Ronald Kalafsky
University of Tennessee
Department of Geography

Abstract

With heightened global competition, many manufacturers export as a means to increase sales and expand markets. South Korean manufacturers have long utilized exporting in order to expand outside of a small domestic market. Korea's machine tool industry has played an integral role in the country's economic development and in its emergence as a high-end site for manufacturing. This article analyses the recent export performance of Korea's machine tool industry and also, examines efforts by machine tool makers to reduce the friction of distance involved with exporting through the use of international trade fairs.

Keywords: machine tools, Korea, exports, trade, trade fairs

Dying to Serve? An Examination of Appalachian Soldier Stereotypes.

This paper examines the stereotype of Appalachian military service that would have us believe that more mountain men fought, were wounded, and died in military conflict than men from non-Appalachian regions. The “Volunteer State” of Tennessee is used as a case study, and World War I data from the Tennessee State Government website is tabulated to test three hypotheses within that stereotype. Tennessee is divided into Appalachian and non-Appalachian portions, with 30 counties selected from each. A t-test and F-test were run on the number of enlistees, wounded, and dead from each county in comparison to the 1910 county population. Only one relationship was statistically significant: more men from the Blue Ridge were wounded in WWI than other Appalachian regions or non-Appalachia ($p < .01$). The following trends, however, were noted: slightly more soldiers proportionally served and were wounded from Appalachia, but there were more dead from non-Appalachian counties.

“White” Open Spaces – How college students perceive the outdoors according to race

Stefanie Benjamin, PhD Student
University of South Carolina

The lack of minority tourists to the national parks has been an issue dating back to the 19th century. Researchers have tried to understand why this lack of participation is occurring and feel like it is essential to understand for the sustainability of the park system since America’s demographics will shift in 2050 where the minority will become the majority population. Past literature has focused on Floyd’s (1998) five hypotheses: Marginality, Subculture, Assimilation, Interpersonal, and Institutional Hypotheses to explain this phenomenon. However, leisure research has not focused on incorporating memories and history to this phenomenon. To gain a better understanding of low park visitation rates by minorities, it is essential to uncover the racial, memory, and historical factors that shape and influence how and where minorities recreate.

Using the collective memory and whiteness theories as a theoretical framework, this paper aims at investigating how African American and Caucasian college students perceive the “outdoors” through word association and photo elicitation.

Exploring Participant Involvement in Climate Change Decision-Making: A Case Study
Public Lands in Alaska

Kassie Hauser, University of Tennessee-Knoxville, Master's Student

While climate change increasingly affects the world, it does so in varying degrees and frequencies across different regions. Since 1980, the rate in the Arctic has been approximately one degree Celsius per decade and is strongest over portions of northern Asia and northwest North America (Anisimov et al. 2007). Alaska is facing the most rapid climate change impacts in the United States, heightening the need for entities in Alaska to plan for a world with a changing climate.

Responding to climate change has been highlighted as a priority in many federal agencies in the United States, but just what this response looks like remains unclear. Without specific federal guidelines coming from laws, regulations, or policies at the national level in regard to climate change, it is up to federal departments, agencies, regions, and individual entities to determine how they will respond to climate change. This paper explores a case study of the Climate Change Scenario Planning Project of the Alaska Region of the National Park Service to better understand the factors that shape climate change governance, and particularly asks what institutions and actors are included or excluded in climate change governance and how does this affect the decision-making process?

Heidi G. Frontani and Anna McCracken

Department of History and Geography and International Studies Program, Elon
University

ABSTRACT

China's growing relationship with African countries has received relatively widespread criticism in the presses of the United States and the United Kingdom for undermining human rights, good governance, and environmental protection. This paper examines fifty years of Chinese development assistance to Ghana to determine the extent to which such general criticism of the Chinese in Africa holds true for an individual country. Chinese Economic and Technical Cooperation (ETC), the official term used by the Chinese for their development assistance, is assessed on the level provided to Ghana across its democratically and non-democratically-elected regimes and perceptions of it as expressed in Ghanaian radio and newspaper coverage, and scholars and aid organizations' studies. Findings indicate that Chinese ETC: 1) varies by stability at home and in Ghana, 2) is viewed more favorably in Ghana than in Western presses, and 3) since 2003, has become more environmentally unsound and ethically questionable.

Keywords: China, Ghana, development assistance, Economic and Technical Cooperation, sustainability

Resilience of Sales Prices in Historic Districts After a Real Estate Bubble: A Case Study of Savannah, Georgia

Serge Atherwood
College of Agricultural Sciences
Pennsylvania State University

Rebecca J. Walter, Ph.D.
Department of Geosciences
Florida Atlantic University

Russell Ivy, Ph.D.
Department of Geosciences
Florida Atlantic University

Abstract

As a community and economic development tool, the historic designation of residential districts can bring multiple benefits, including a premium to the sales price of residential properties. This descriptive statistics study examines year-over-year fluctuations in property values in seven historic districts and 12 adjacent non-historic neighborhoods in Savannah, Georgia, across a nine-year period (2002-2010) that includes the mid-2000s boom in real estate prices and the subsequent bust later in the decade. We investigate the resiliency conferred by historic designation on sales prices and whether being geographically proximate to historic districts provides a benefit to the valuation of non-historic residential properties during a real estate market correction.

Findings reveal that although properties geographically proximate to historic districts generally commanded higher prices per square foot than more distant properties, no significant relationship exists between year-over-year price gains or losses between residential properties in historic districts and properties in adjacent, non-historic neighborhoods. It is also discovered that price gains per square foot in non-historic neighborhoods were marginal despite those neighborhoods' proximity to historic districts.

HartXabst

Southern Crops in 1924, John Fraser Hart, University of Minnesota, Minneapolis, MN 55455.

The first modern census of agriculture was taken in 1924. It shows that the principal commercial-scale producing areas of the major Southern crops -- cotton, tobacco, peanuts, rice, and sugarcane -- have not changed much geographically, although they have intensified. In 1924 many farmers outside the major producing areas grew small patches of these crops for domestic use, or subsistence. Then farming was a way of life, and farmers tried to produce as much as possible of what they needed. Now farmers specialize in growing what they can produce most competitively, and contemporary farming in the South, as in the rest of the United States, has become a business, or, for many undersized farm

Using Land Surface Phenology for National Mapping of the Occurrence and Health of Evergreen and Deciduous Forests

William W. Hargrove^{1*}, Joseph P. Spruce², Steven P. Norman¹,
William M. Christie¹, Jitendra Kumar³, and Forrest M. Hoffman³

¹Eastern Forest Environmental Threat Assessment Center, USDA Forest Service,
Southern Research Station, Asheville, NC 28804, USA

²Computer Sciences Corp, NASA Stennis Space Center, Stennis, MS 39529, USA

³Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

Unsupervised statistical multivariate clustering of specially processed, smoothed MODIS Normalized Difference Vegetation Index (NDVI) Land Surface Phenology data every 8 days over an 11-year period produces a series of detailed annual national maps of phenologically defined vegetation types at 231m resolution. Because these vegetation types were discriminated by their dynamic phenological behavior through time, the resulting vegetation types maps typically show more detail than those produced statically using imagery from only one or a few dates. When higher levels of division are specified, the map classes also resolve types of vegetation disturbances. Trends and changes in these vegetation types can be tracked across this 11-year period. Examining the constancy of these phenological ecoregion (or "phenoregion") classifications at a particular location from year to year produces a national map showing the persistence of vegetation, regardless of vegetation type.

Using temporal unmixing methods and annual satellite phenology data, separate national maps of evergreen and deciduous forests can be produced. A trend analysis on these separated evergreen and deciduous forests shows locations where these forests are thriving or declining during the last decade. Such national evergreen and deciduous decline maps show disturbances from multiple insect, disease, abiotic, and anthropogenic factors causing chronic or lasting decline in these forests, including hemlock wooly adelgid, mountain pine beetle, wildfire, tree harvest, and forest conversion for urbanization.

The Geography of Non-Earned Income in the Piedmont Megapolitan Region

Keith G. Debbage and Edward M. Beaver

Department of Geography, University of North Carolina at Greensboro

Economic base theory has long theorized that non-earned income can be a significant variable in models of local economies, although it has not received much attention in the economic geography literature. In 2009, non-earned income accounted for over one-third of total personal income in the United States. The primary purpose of this paper is to better understand the spatial variation of non-earned income by county in the Piedmont megapolitan region – one of the fastest growing areas in the nation. Based on a stepwise regression analysis, it is argued that the geography of dividend, interest and rent (DIR) and transfer payments (TP) are largely determined by demography and various socio-economic attributes. Data are obtained from the Bureau of Economic Analysis and the American Community Survey. Only 22 of the 108 Piedmont counties included in this study generated a DIR/TP ratio greater than one suggesting a heavy reliance on transfer payments regarding the primary source of non-earned income. The spatial distribution of the DIR/TP ratio exhibited a distinct core-periphery relationship largely determined by the percent of the population with a bachelor's degree and percent single parent household.

Land use scenarios for the Johnson County, TN adventure tourism site
Tina Delahunty
Dept. of Geosciences, Texas Tech University

The state of Tennessee recently purchased 8,600 acres of private forested land for an adventure tourism site, the first of its kind in the state. The development of the recreation area is set to include, at minimum, off highway vehicle use, horseback riding, mountain biking, and hiking. Such a large natural area and the complexities involved in multiuse compatibility create a need for responsible planning that considers both environment and culture. Three land use distribution scenarios are presented in spatial database form that complement slope, aspect, hydrology, geology and soils, vegetation, roads and trail networks, projected visitation, and proximity to residential/commercial areas information. Each scenario is coupled with scientific and social conclusions of why scenario details were preferred over others (with specific reference to local and regional watershed impacts). After thorough accuracy assessment and database improvement, the scenarios will be presented to the Authoritative Board of Directors of the site.

NEW DEVELOPMENTS IN THE PRESERVATION OF THE CUMBERLAND MOUNTAINS LANDSCAPE. Thomas F. Howard, Armstrong Atlantic State University (ret.)

The state of Tennessee has acquired surface ownership of a 200 square mile tract in the Cumberland Mountains and created the multi-use North Cumberland Wildlife Management Area. Subsurface mineral rights are still held by TVA and mining companies, which have expressed intentions to strip mine coal in the area. The state has filed a “lands unsuitable for mining” petition with the federal Office of Surface Mining, affecting all land within 600 feet of peaks and ridgelines and effectively eliminating the threat of mountaintop removal. A decision by the Department of the Interior is still pending. At the same time, an independent but compatible measure to forbid strip mining on all land over 2000’ elevation is in process in the state legislature. An interesting third force has appeared. A coalition of private and public organizations called Alliance for the Cumberlands has developed a proposal to create a Cumberland Plateau National Heritage Corridor under the aegis of the National Park Service. Its area would include and be more extensive than the state’s wildlife management area, and predictably would provide an extra layer of environmental protection.

Paper Title: Biogeography of emerging infectious diseases

Authors: Ross K. Meentemeyer¹, Sarah E. Haas¹, Tomáš Václavík^{2,3}

Author affiliations: (1) Center for Applied GIScience, Department of Geography & Earth Sciences, University of North Carolina, Charlotte, NC 28223, USA; (2) Department of Computational Landscape Ecology, Helmholtz Centre for Environmental Research – UFZ, Permoserstraße 15, 04318 Leipzig, Germany; (3) Department of Ecology and Environmental Sciences, Faculty of Science, Palacký University Olomouc, tř. Svobody 26, 77146 Olomouc, Czech Republic. SEH email: shaas1@uncc.edu, TV email: tomas.vaclavik@ufz.de

Abstract. A central challenge to studying emerging infectious diseases (EIDs) is a landscape dilemma: our best empirical understanding of disease dynamics occurs at local scales while pathogen invasions and management occur over broad spatial extents. The burgeoning field of landscape epidemiology integrates concepts and approaches from disease ecology with the macro-scale lens of landscape ecology, enabling examination of disease across spatio-temporal scales in complex environmental settings. We review the state of the field and describe analytical frontiers that show promise for advancement, focusing on natural and human-altered ecosystems. Concepts fundamental to practicing landscape epidemiology are discussed, including spatial scale, static versus dynamic modeling, spatially implicit versus explicit approaches, selecting ecologically meaningful variables, and inference versus prediction. We highlight studies that have advanced the field by incorporating multi-scale analyses, landscape connectivity and dynamic modeling. Future research directions include understanding disease as a component of interacting ecological disturbances, scaling up the ecological impacts of disease, and examining disease dynamics as a coupled human-natural system.

Have locally co-occurring conifers in the Northern Rockies experienced differential changes in radial growth during the past century? Peter T. Soule¹, Appalachian State University, Paul A. Knapp, University of North Carolina Greensboro.

We examined radial growth rates of locally co-occurring Douglas-fir (PSME -- *Pseudotsuga menziesii* var. *glauca*) and ponderosa pine (PIPO -- *Pinus ponderosa* var. *ponderosa*) trees growing within the Northern Rockies to determine if there are differential growth responses between these species overall, and during drought years and drought recovery years. We developed standardized tree-ring chronologies from seven sites, with each site a matched pair of PSME and PIPO. We examined temporal changes by comparing 1905-1950 and post-1950 growth rates and climatic conditions. Both conifers experienced increased radial growth post-1950, there were no significant differences in growth between species, and the increases were pronounced during drought periods and drought recovery years. The primary climatic drivers of radial growth remain unchanged during the last century or have trended toward drier conditions unfavorable for growth. We conclude that increases in standardized radial growth rates are unlikely climatically-driven. Other potential vectors of radial growth change, such as atmospheric CO₂ enrichment, have affected these co-occurring species on a largely equal basis and positively.

Remote Sensing of Evaporative Fraction in Florida: A Comparison of Methods

Aaron H. Evans

Department of Geosciences, Florida Atlantic University

The evaporative fraction (EF) of available radiation energy (A) is useful for determining evapotranspiration in the landscape. This paper compares three methods for the remote sensing of EF. These methods utilize surface temperature (T) calculated with LANDSAT band 6. The first method is a version of the triangle method utilizing relationship between T and NDVI. The second method fits a linear relationship between EF and T using eddy flux tower measurements. The third method is based on the residual method assuming a constant surface roughness so that sensible heat (H) can be linearly related to T. The 3 methods were applied to 2 study areas: 1) Big Cypress National Preserve and 2) Waldo, FL and vicinity. Method 1 consistently over estimates EF compared to method 2 and 3. Method 2 and 3 have very little difference on average, but the variance of the difference is significant. These differences form spatial patterns where method 2 over/under estimates EF compared to method 3 depending on surface type. Determining whether method 2 outperforms method 3 will require validation data which can be difficult since the availability of eddy flux data is limited and needed for calibration.

Food Deserts in South Central Alabama: Using Geographical Information Systems (GIS)
to Measure Accessibility and Transportation Costs

Robert Ealy
University of Alabama
and
Jeffrey P. Richetto
University of Alabama

Urban land-use policies that have facilitated the development of wealthy and predominantly white suburban neighborhoods have significantly impacted the location decision and spatial distribution of food stores across the United States. Larger, more upscale supermarkets have followed this trend and, in fact, are most prevalent in these characteristically white suburban settings. By comparison, the smaller, lesser competitive, lower-quality grocery stores are noticeably more prevalent in poorer urban neighborhoods. As a result, these neighborhoods and all other similarly characterized urban and non-urban areas may potentially be defined as a food desert. Initial research on food deserts examined the impacts of retail food flight away from the urban core to the outlying suburban fringe; more recent studies have investigated the impacts and prevalence of food deserts among specific populations, such as minorities and the elderly. Whereas both of these approaches to exploring food deserts have and continue to be significant, there is an increasing risk of rural food deserts emerging as market pressures continue to adversely impact small grocers. Within this context, this study delimits rural food deserts in south central Alabama by utilizing GIS to measure accessibility and transportation costs that rural residents face.

Neil Conner

University of Tennessee

For many people in Northern Ireland, there is no greater characteristic of an individual's identity than their religious affiliation. Almost everything in their daily lives is shaped by whether they are a Catholic or a Protestant. Thus, where they live, work, go to school, even where they shop for groceries depends almost entirely on their religious beliefs. Why should which football team they support be any different? Consequently, the Old Firm battle lines between Celtic FC supporters (Catholics) and Rangers FC supporters (Protestants) are drawn throughout the segregated communities of Northern Ireland. In some cases, these lines are literally painted onto the streets, the sides of buildings, and even onto the 'peace' walls which were built to physically separate the two antagonistic communities. In this paper, I examine the ways in which the mechanisms of territoriality discussed by Agnew (2000) are firmly rooted in Belfast among Celtic FC supporters through a series of conversations that I had with former members of the Irish Republic Army (IRA) at *The Celtic Bar* on the Falls Road; a Belfast thoroughfare synonymous with Northern Irish Catholicism.

**Indian Ocean as Geostrategic Location:
India, China and Sri Lanka Jostle for Relevance in the Indian Ocean**

Ram Alagan and Seela Aladuwaka
Alabama State University

Abstract

This paper examines the regional geopolitical-hegemonies of Indo-China and the role of Sri Lanka in the Indian Ocean. The recent expansion of global development in Asia underlines the pivotal of keeping the Indian Ocean as a geostrategic location for following reasons: 1) future development prospective of Asia; 2) cultivate the global trade, economic development, and global peace, 3) reduce poverty, and 4) provide opportunities to new global powers.

Like many global powers, India and China are jostling to build their regional hegemonies on naval capabilities, economics, warfare technologies, and energy exploration in the Indian Ocean. The new relevance and challenges have critically influenced the regional geo-political stability. It raises serious concerns in the global community as to Indo-China relevance and challenges in the Indian Ocean as a cause for “optimism or rather concern.” Because of Indo-China’s jostling for power, small nations in the region are facing new challenges. 1) to what extent Sri Lanka-China association shape the harmony in the region; to what extent Indo-China geostrategic positions transform the region; to what extent Sri Lanka-China relationship will impact the United States relationship with Sri Lanka. The study illustrates that the use of geostrategic regions and world regions approaches facilitate to understand the regional hegemonies.

Key Words: Indian Ocean, Geostrategic location, Indo-China

Using spatial interpolation to improve fractional green vegetation cover estimates in satellite imagery

Brian Johnson, Ryutaro Tateishi, and Toshiyuki Kobayashi

Center for Environmental Remote Sensing (CEReS), Chiba University, Japan

Abstract: Fractional green vegetation cover (FVC) is a useful parameter for many environmental- and climate-related applications. A common approach for estimating FVC involves the linear unmixing of two spectral endmembers in a satellite image; bare soil and green vegetation. The spectral properties of these two endmembers are typically determined based on field measurements, estimated using additional data sources (e.g. soil databases or land cover maps), or extracted directly from the imagery. Most FVC estimation approaches do not consider that the spectral properties of endmembers may vary across space due to local differences in climate, soil type, vegetation species, etc., However, when the spectral properties of endmembers vary across space, these local variations should be into account for estimating FVC. In this study, spatial interpolation (Inverse Distance Weighting and Ordinary Kriging) were used to predict local variations in the spectral characteristics of bare soil and green vegetation. When the spatially-interpolated values were used in place of scene-invariant endmember values for calculating FVC, the accuracy of FVC estimates increased, showing that it can be useful to consider endmember variation for spectral mixture analysis.

Indicator based assessment of sustainable urban development in the Piedmont of North Carolina.

Jasraj V. Gramopadhye

Department of Geography, University of North Carolina at Greensboro, NC 27402.

Urban sprawl has challenged sustainability of American cities. The decisions taken to manage urban growth need to consider a trade-off between conflicting priorities. The study describes a quantitative method that addresses the trade-off between economic growth and the quality of the environment. The approach uses sustainability indicators to compare these two dimensions of urban growth over geographic space. Economic development had a pronounced negative impact on the environment, but the strength of the relationship varied over geographic space. The results of analysis identified counties where the quality of the environment deteriorated with increased economic development. The study demonstrates the value of producing indices from otherwise disparate data as a way to examine the impact of urban sprawl.

Transboundary Political Ecology in the Amazon Borderlands: Mapping, Geographic Information, and Political Will on the Border between Brazil and Peru

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

Settlement, resource, and development frontiers continue to expand into the international borderlands of the nine Amazonian countries in South America. Expansion increases conflict as national policies project development and conservation projects onto inhabited and managed landscapes deemed rich in resources and biodiversity, and empty of people. In Peru and Brazil, regional governments are increasingly frustrated by the imposition of national policy, and the lack of accurate and actualized geographic information available to contest national efforts and improve regional planning in the remote borderlands. The borderlands demonstrate particular sensitivity to development and conservation initiatives due to the transboundary socioenvironmental impacts at national, regional, and local scales. These transboundary impacts motivate Amazonian countries to not only improve the quantity and quality of geographic information in their country, but also obtain detailed knowledge of their neighboring country's geography. This paper details the efforts of a multi-institutional transboundary mapping and GIS initiative designed to share and improve information between the Amazonian states of Acre, Brazil and Ucayali, Peru. Results demonstrate the importance of transboundary efforts to reconcile conservation and development in the increasingly threatened Amazon borderlands. A transboundary political ecology and applied approach proves useful to analyze nature-society relationships in the borderlands.

Amazonia; borderlands; transboundary; political ecology; conservation

Sea Level Rise Policy Conflict in North Carolina: Local Context, Agency and Skepticism

Michelle Covi, East Carolina University

In June 2012, the North Carolina legislature received national media attention over a bill to shape sea-level rise policy in the state. NC Bill 819 gave prominence to an on-going policy conflict between scientists anticipating a rise of one meter by 2100 and coastal development interests worried about the economic impact of policies preparing for sea-level rise. Coastal municipalities in North Carolina vulnerable to sea level rise have not yet adopted any planned adaptation measures. This paper examines how spatial and temporal perceptions at the local level have shaped the discussion about sea-level rise risk at the local and state levels, and considers factors such as science skepticism and fatalism that may promote or inhibit action. To move forward with policies and actions that would increase the resilience of communities vulnerable to sea level rise, interested groups must find a way to address existing perceptions and attitudes.

Climate decision making in the Carolinas: the role of information networks in supporting adaptation

K. Lackstrom^{1,2}, N. Kettle³, K. Dow^{1,2}, A. Brennan², B. Haywood^{1,2}

¹ University of South Carolina Department of Geography

² Carolinas Integrated Sciences and Assessments

³ Alaska Center for Climate Assessment & Policy

This paper reports findings from research that assessed climate-related decisions, climate information use, and networks that support decision making in the Carolinas. The analysis draws from 100+ online questionnaires and follow-up interviews with key leaders across five climate-sensitive sectors – Forestry, Tourism, Government, Water Management, and Wildlife Management. Questionnaire results suggest that all sectors draw from a common set of climate information sources to some degree. However, sector-specific sources – such as professional journals or associations, conferences, workshops, and colleagues – are consistently considered key sources of climate information. Trust in and accessibility of the source, information format and ease of understanding, and relevance to decision making influence information use. Follow-up interviews demonstrated further significant differences in the structure, composition, and dynamics of information networks within and across the sectors. Understanding how the distinctions among networks influence information needs and uses has important implications for supporting capacity-building and future climate adaptation.

Land Is Not A Commodity: Property Law And The Tragedy Of The Family

Commons In Coastal South Carolina

Brian Grabbatin, University of Kentucky

Wendy Wolford (2008) has pointed out that both neoliberal and populist political actors use John Locke's 'labor theory of property' to support their agendas for land reform. Neoliberal policies, which favor the titling and commodification of land, and populist strategies, which promote common land rights based on subsistence uses, rely on different definitions of productivity and the effectively allocation of ownership rights. In this paper, I investigate how these divergent perspectives on the labor theory of property surface in disputes over heirs' property, a form of tenants in common ownership common found among African American families in the American South. Legal scholars have raised concerns over the economic inequities and tenure vulnerabilities that heirs' property owners face. I argue here that in disputes over heirs land, the transformation of land into a commodity is a fundamental point of contention. Using archival evidence of court proceedings and interviews with heirs' property owners, I will illustrate how arguments over labor, best use, and equitable distribution reflect the difference between neoliberal and populist notions of the labor theory of property. This research contributes directly to the literature on land reform and makes a broader contribution to the political ecology of the American South.

Tropical cyclone formation in the Mozambique Channel

Corene J. Matyas

Department of Geography, University of Florida

Nations bordering the Mozambique Channel frequently experience the devastating effects of tropical cyclones (TCs). Previous research examined linkages between atmospheric teleconnections and TC formation in the Southwest Indian Ocean, but a separate analysis of TCs forming within the Mozambique Channel has not been reported. This study relates the frequency of genesis and motion for TCs that form within the channel to five teleconnections: the El Niño Southern Oscillation (ENSO), Madden-Julian Oscillation (MJO), Indian Ocean Subtropical Dipole (IOSD), Quasi-Biennial Oscillation (QBO), and Southern Annular Mode (SAM). Track data were obtained from the International Best Track Archive for Climate Stewardship (IBTrACS) and after careful quality control, attributes such as genesis and dissipation times and coordinates, storm heading, and track sinuosity were examined for 69 (35) TCs since 1958 (1979). Chi-square tests showed that formation occurred less frequently during positive IOSD and La Niña conditions. Kruskal Wallis and Mann-Whitney U tests revealed that genesis occurred farther equatorward during the convectively-active phase of the MJO, and farther poleward when the SAM was in its positive phase. Landfall was more frequent under ENSO- neutral and warm conditions. Tracks were most sinuous when weak steering winds associated with La Niña conditions were present.

Social Stress as an Indicator of Crime:
Correlating Crime and Social Stress at the Census Block Level

Abigail Jacobs, Jacksonville State
Dr. L. Joe Morgan, Jacksonville State University
Holly Park, Auburn University

Abstract

This research examines the 2010 US Census data and crime incident data from the Piedmont, Alabama police department. Five variables were derived from the US Census demographic data to create surrogate measures for social stress and devise an Index of Social Stress (ISS). Police data were used to analyze the spatial distribution of crime over a four-year period within the city limits of Piedmont. This paper evaluates the spatial distribution of crimes for 1428 incidences as it relates to stress indicators at the block level. Reviewing social stratification and crime data at the US Census block level, the basic social character of many Piedmont communities were identified. It was hypothesized that there is a positive correlation between the location of crime and social stress in the urban environment. Evaluating crime by location and using the Index of Social Stress (ISS), a statistically significant correlation is shown to exist between these two factors. This has set the stage for further research and has implications for urban development, crime control, and a deeper understanding of the social structure of the urban environment.

Keywords: social stratification, crime, census, segregation

Heat Related Illness and North Carolina: Linking Spatial Variations in Heat Related Illness to Land cover and Socioeconomic Patterns

Maggie M. Kovach

University of North Carolina – Chapel Hill

Abstract:

While many heat vulnerability studies have focused on characterizing individuals most at risk, far fewer studies have examined how socio-economic, demographic and environmental characteristics predict the actual incidence of heat related morbidity. In this study, Geographic Information Systems (GIS) techniques are employed to relate emergency department (ED) admissions for heat stress to various community level characteristics across the state of North Carolina. A wide range of demographic information, including housing, education level, racial status, income, and age information is obtained from American Community Survey and interpolated to the census tract level to match the scale of ED data. Additionally, satellite land cover data is obtained and extrapolated to the census tract level to provide a dominant land cover type. These land cover types play a strong role in mediating temperature and humidity at a local scale across the study region. Geographical weighted regression analyses are employed to tie heat related ED admissions to the demographic and land cover attributes at the census tract level. Results indicate that low-income, rural areas of North Carolina are the most vulnerable to heat related illness.

Foreclosure Effects: The Changing Landscape and Those Left Behind in Broward County, Florida

Cindy M. Shaw

Department of Geosciences

Florida Atlantic University

ABSTRACT

The recent financial crisis in the United States has particularly shown its adverse effects on the housing market. Increased foreclosures in residential areas have caused visible deterioration of the landscape, characterized by deterioration of property, buildings, and yard space. There may be many underlying factors which contribute to this “browning”, aspects hitherto unexplored which may be influencing the habits of people left behind in such neighborhoods.

This study intends to delve into attitudes and perceptions which may have changed due to the mortgage crisis and have in turn affected not only foreclosed properties directly, but also the whole neighborhood. Have the people left behind been caring for their surroundings less, and if so, why? Or, have their habits remained unchanged in an effort to hold on to their property values? Do outlooks and habit vary depending on variables such as density of foreclosure in a neighborhood, or on demographics?

Through the use of mail-in surveys, and the subsequent statistical analysis of the responses, it is hoped that some patterns and invaluable information will be revealed, to shed light on how people respond to deteriorating surroundings, and how their own lawn maintenance habits are affected.

Seeing Beyond Blair Mountain: Abandonment, Erasure and Permanence in the Southern Appalachian Coal Fields. William M. Hunter. Geographer, Cultural Resource Analysts, Lexington, Kentucky wmhunter@crai-ky.com.

The ongoing debate over the ecological costs and economic benefits of large-scale surface mining often involves the deployment of specific representations of nature, history, and place that obscure more than they reveal about the reality on the ground in the coalfields of southern West Virginia. Drawing on extensive fieldwork throughout the seven coalfields of southern West Virginia, this paper revisits the long ecological transformation of the region and examines what the relics of bygone instruments of labor processes can tell us about the ecological present. Further, the paper explores how the processes of environmental impact assessment of mountaintop coal removal at once bring legibility to a largely forgotten history, while rendering technical, and therefore non-political, the most political of landscapes. By confronting the ruins that litter the coalfields, and examining the durable capstone features that remain, this paper will engage with their history, nature, myth, and transitoriness, not as some anomaly but as illuminating a fundamental aspect of capitalism. By doing so, the paper will show how the theoretically informed interpretation of an enormous body of empirical field data reveals previously concealed truths within the landscape, and puts to the test the representations of nature that congeal around our contemporary political debates.

Keyword: Abandonment, Mountaintop Removal; Governmentality

Adaptive Capacity of Quota Markets in the New England Groundfishery

Jennifer F. Brewer

East Carolina University

Governments, NGOs, and private capital are engineering new markets to provide environmental goods and services, intending to align individual incentives with collective stewardship of common pool resources. In the case of New England groundfish, sectors and transferable quotas created under United States catch share policy may raise barriers to climate change adaptation. Problems include quota market barriers, fleet consolidation, entrenchment of assessment limitations, and obstacles to alternative management options. Resulting uncertainties and shifts in firm decision criteria interrupt intended linkages between fish populations and industry stewardship.

Kitchenspace, participatory mapping, and women's empowerment: working with peanut farmers and aflatoxins in Uganda

Maria Elisa Christie¹, Peace Kyamureku², Archileo N. Kaaya³, and Alexandra Devenport⁴

Abstract: This paper asks whether participatory research and a focus on kitchenspace can empower small-holder farmers, especially women. It is based on qualitative, participatory research with peanut growers in Kamuli District, Uganda which traced “the path of the peanut” primarily through farmers’ hand-drawn maps and journal writing. This paper describes a process whereby university researchers and women’s organizations worked with farmers to produce a book documenting food-preparation and other post-harvest practices as part of a study on aflatoxins and peanuts, or groundnuts. The book used gendered space, primarily kitchenspace, as a lens for targeting aflatoxin contamination of the crop. By focusing on everyday life and including recipes and drawings, this research created opportunities for women’s participation and emphasized the centrality of women’s roles in peanut post-harvest practices.

1. Virginia Tech; 2. National Association of Women’s Organisations in Uganda; 3. Makerere University, Uganda; 4. Kenyon College

Key Words: *kitchenspace, participatory research, peanuts, Uganda*

Urban Revitalization in Tallahassee's Art District

Olivia Williams

Florida State University

The global economic and political realities of the world have changed drastically since the 1950s. Patterns such as globalization, suburbanization, and neoliberalism have emerged, altering the way municipalities govern urban areas. An entrepreneurial style of governance has become the norm around the world, whereby cities compete for capital by luring investors with favorable laws, low-interest loans, and grants to develop specific projects. This paper provides an understanding of the shift in urban governance while examining how this change affects urban communities, small businesses, and culture. The Gaines Street District in Tallahassee is used as a case study for this purpose, with information gathered from city documents and publications in local newspapers. The revitalization project happening in the district has spurred discontent from the existing community for reasons discussed in the paper.

ABSTRACT

Changes in the Georgia Coast 1987 - 2012

Robert N. Saveland

Professor Emeritus, The University of Georgia

Focusing on the area along the coastline of Georgia, this paper summarizes some major changes and points out some relatively stable areas over the past 25 years. Recent developments are cause for consideration and discussion.

Key words: *A.I.C.W., islands, Kings Bay, ports, retirement, River Keeper*

Towards an urban political ecology of electricity in eastern North Carolina

Conor Harrison
University of North Carolina at Chapel Hill
Department of Geography

Abstract

The development and operation of electric utilities in the United States is a supreme geographical achievement, yet it has received little attention by scholars. In this paper, I use the concept of circulation, as it has been put forward by urban political ecologists, to examine electric utilities. Using the case of Rocky Mount Mills, a cotton mill and mill village in eastern North Carolina, I focus on the way nature is transformed into a commodity and circulated through the city. This circulation process is a dual one, encompassing both the circulation of nature and the circulation of capital. Both of these aspects of circulation are, however, subject to devaluation. In closing, I examine how Rocky Mount Mills attempted to fend off devaluation through the re-working of nature and the employment of technological innovation.

A Geographic Comparison of Marketing New Emissions Technology for Farm Machinery

Dawn M. Drake, PhD
Missouri Western State University

On January 1, 2011 manufacturers of self-propelled farm machinery greater than 75 horsepower in the US and Canada were faced with Tier IV interim regulations on diesel emissions, mandated by both the US Environmental Protection Agency and the Canadian Environmental Protection Agency. This represented the largest decrease in emissions of particulate matter (PM) and nitrogen oxides (NOx) in a process that has been ongoing at step-wise intervals over the last 20 years. It has been very costly for farm machinery manufacturers who faced some of the largest R&D investments in over a hundred years of manufacturing. And it is not over yet. On January 1, 2014 Tier IV final standards will be mandated, further reducing PM and NOx for all self-propelled farm machinery, regardless of horsepower.

While the laws are the same in both the US and Canada, marketing of the new technology to farmers is markedly different at trade shows in the two countries. This paper will examine, through trade show reconnaissance, how companies market the technology to skeptical farmers in both the US and Canada. It will speculate on why different marketing happens and the impacts on competitiveness for farm machinery manufacturers in the future.

Property Owners' Attitude towards Sustainable Tourism Development --- A Spatial Approach

Huili Hao, East Carolina University

Pat Long, East Carolina University

Scott Curtis, East Carolina University

Carol Kline, East Carolina University

The purpose of this study is to explore factors influencing property owners' attitude (both full time residents and second home property owners) toward sustainable actions in tourism development in an amenity-rich coastal community with a predominance of second home property owners. Different from most place-based research in tourism attitudes, this work adopts a comparative framework that investigates the spatial effects on sustainable development attitude in Pender County, North Carolina. A total of 423 property owner respondents (252 permanent residents and 171 second home property owners) contributed to information about their perceptions on the importance of sustainable actions in tourism development and to future economy success in their community. Factor analysis is used to reduce the number of variables in order to avoid the effect of multicollinearity and to identify the primary structural dimensions underlying the variables. The results showed that spatial effects did exist in accessing property owners' attitude toward sustainable tourism development and that the spatial regression model indeed did have slightly better performance in terms of fit, efficiency and accuracy than the ordinary least square model.

High resolution population distribution maps for Southeast Asia in 2010 and 2015

Andrea E. Gaughan^{1,2,3}, Forrest R. Stevens^{1,2,3}, Catherine Linard^{5,6}, Peng, Jia.^{1,2} and Andrew J. Tatem^{1,2,4}

1. Department of Geography, University of Florida, Gainesville, Florida, United States of America
2. Emerging Pathogens Institute, University of Florida, Gainesville, Florida, United States of America
3. Land-use Environmental Change Institute (LUECI), University of Florida, Gainesville, Florida, United States of America
4. Fogarty International Center, National Institutes of Health, Bethesda, MD 20892, United States of America
5. Fonds National de la Recherche Scientifique (F.R.S.-FNRS), Rue d'Egmont 5, B-1000 Brussels, Belgium
6. Biological Control and Spatial Ecology, Université Libre de Bruxelles, CP 160/12, Avenue FD Roosevelt 50, B-1050 Brussels, Belgium

Abstract

High resolution, contemporary data on human population distributions are a prerequisite for the accurate measurement of the impacts of population growth, for monitoring changes and for planning interventions. The Southeast Asia region has undergone rapid urbanization and population growth over the past decade, yet existing spatial population distribution datasets covering the region are based principally on population count data from the circa-2000 round of censuses, with often insufficient spatial resolution or input data to map settlements precisely. Here we outline approaches to constructing a database of GIS-linked circa-2010 round census data and methods used to construct fine-scale (~100 meters spatial resolution) population distribution datasets for each country in the Southeast Asia region. Landsat-derived settlement maps and land cover information were combined with ancillary datasets on infrastructure to model population distributions for 2010 and 2015. These were compared to datasets derived using methods employed to construct other global population datasets to assess the accuracy of the different mapping techniques. Results suggest mapping accuracies are consistently higher when incorporating land cover and settlement information into the modelling process. Using

existing data, it is possible to produce detailed and easily updatable population distribution datasets for Southeast Asia.

University of Tennessee at Chattanooga

Abstract: Lookout Mountain began the movement for tourism evolution in Chattanooga in the last century. With it being located perfectly in the southeast corner of the United States, Chattanooga was destined to be a tourism empire. The distinctive geological phenomena here, creates a natural mecca for human activities, travel, and trade dating back thousands of years. This essay will show how Chattanooga transformed through several revitalization plans to create new tourism. It also emphasizes Lookout Mountain and its role in becoming the tourism hub it did, and the impact that it created economically and socially for the city.

Neoliberalizing (re)regulation of socionature: the case of industrial mine tailings waste in the tar/oilsands region of Alberta, Canada

Hugh Deaner
University of Kentucky Department of Geography

Americans remain only vaguely aware of the petroleum resources of Alberta, Canada. This paper focuses attention on one key region, here called the “tar/oilsands,” which many are surprised to learn is both the world’s largest oil deposit and the United States’ largest source of daily oil imports. For political ecology, Alberta’s tar/oilsands presents an opportunity to engage with the commoditization of a nonrenewable *socionatural* resource. To investigate the socionatural processes wrapped up in the commoditization of the tar/oilsands, this research draws on extensive interviews with industry workers and other stakeholders, as well as extensive participant observation conducted from 2010 to 2012 in Fort McMurray, Alberta, the far-north hub of 100,000 that enables the industry’s operations and growth. This case study exemplifies how neoliberalization is interrelated to an ongoing project of environmental (re)regulation. By following the production and disposition of mine tailings waste, this paper illuminates the relationships among material ecology and environmental (re)regulation in a neoliberalizing political economy characterized by: rollbacks of state command-and-control regulations; rollouts of new regulatory structures enlisting firm and nongovernmental participants with market incentives and consensus-seeking decision-making; and, co-constituting relationships among human and non-human.

Support and challenge factors for tourism entrepreneurs: four cases from North Carolina, U.S.A.

Carol Kline, East Carolina University

Neha Shah, Pittsboro-Siler City Visitor Bureau

Jerry Tsao, East Carolina University

Annette Cook, East Carolina University

Huili Hao, East Carolina University

Abstract

Entrepreneurship deeply impacts the tourism industry and can shape a local economy. The creation of tourism enterprises are developed and sustained through human capital; however, the entrepreneur's community climate (e-climate) profoundly impacts his success. The four entrepreneurs in this study discuss the principles and environmental factors that contribute to their success within the tourism economy. The interview questions encompassed entrepreneurial background and skills, as well their community's supportive operating climate. Core similarities, attributes, and factors contributed to each entrepreneur's individual successes. Private sector entrepreneurs required proximity to a lively downtown, financial tools /services, access to funding, and access to adequate labor pools. Public sector entrepreneurs needed public funding for tourism development, marketing services, opportunities for networking, formal coordination between entrepreneurs, access to information from service providers, positive resident attitude toward tourism, and positive community attitude toward innovation and change. All entrepreneurs shared several challenges, a thread that linked them despite varying goals and environment. Results displayed dramatic differences worth additional exploration in understanding entrepreneurship in a tourism economy.

The Development and Social Implications of Gated Communities in the Democracy of India: the trappings of a newly developing middle class

Dr. L Joe Morgan – Jacksonville State University
Richard Adam Smart – Jacksonville State University

Abstract

In a country of so many contrasts and such disparity it is difficult to think of another means that society can be segregated. In India, the economic middleclass has been historically in short supply. But, India is experiencing a large scale change. What can be measured is a new economic reorganization and a change in the cultural and economic structure of the country. This is causing pronounced transformations in the cultural and economic structure, in the basic fabric of the second most populated country in the world.

Gated communities are, in large part, a manifestation of this change. Segregated or walled-in areas are creating a new and pronounced social structure. This new economy, brought about by globalization and internationalization is further fragmenting the political, social, and economic integrity of the country. The new economics, while good for the country, is deepening the social structure further fragmenting the fabric of India.

SMALL RESERVOIRS OF THE GEORGIA PIEDMONT, USA:

HISTORIC LOCATION AND LANDCOVER TRENDS

Amber Ignatius^{1,2} and John Jones³

1 Geographer, Eastern Geographic Science Center, U.S. Geological Survey, Athens, GA

30602

2 PhD Candidate Department of Geography, University of Georgia, Athens, Georgia

30602

3 Research Geographer, Eastern Geographic Science Center, U.S. Geological Survey,

Reston, VA 20192

ABSTRACT: Since 1989, the Apalachicola-Chattahoochee-Flint (ACF) River Basin of Alabama, Florida, and Georgia has been at the center of surface water allocation disputes and a multimillion dollar “water war”. The ACF Basin also contains tens of thousands of small reservoirs. These reservoirs fragment stream habitat, alter water chemistry, and modify hydrology, and their construction modifies the landscape. However, for many small reservoirs, the historical uses and shifting motivations for creation are not well understood. Analyses of historical patterns in reservoir distribution, rate of construction, and adjacent landcover from 1950 to 2010 in the Upper and Middle Chattahoochee Basins help to demonstrate the impact they have had. Between 1950 and 2010, the surface area of small reservoirs increased nearly 6 times, culminating in 0.95 percent of the study area being inundated by 2010. The highest rates of pond construction occurred during a period of suburban expansion between 1980 and 1990. Pond uses often change over time through abandonment, reforestation, and conversion to amenity features.

Analyzing the patterns and rate of small reservoir construction in the Chattahoochee may help to understand their cumulative impact on the watershed.

Historical Channel Geometry of a Major Juncture: Lower Old River, Louisiana. Joann Mossa, University of Florida.

Old River is one of the most important river junctures in North America, connecting three very large, navigable rivers, the Mississippi, Atchafalaya and Red, which support industry and the nation's economy. Following removal of a log jam, the Atchafalaya River began receiving more flow through this juncture in the mid-1800s. By the mid-1900s an avulsion was likely and the Old River Control Project was authorized to prevent diversion and completed in 1963. Little is known about the Old River juncture prior to emplacing the engineering structures, such as whether and how it was changing as the Atchafalaya was getting more flow. The purpose of this paper is to review historical discharge and channel geometry data of Lower Old River juncture, collected by the U.S. Army Corps of Engineers in infrequent or annual reports, but not synthesized until present. Data show the transformation of this juncture from a bidirectional to unidirectional system around 1940, lagging that of the Atchafalaya by several decades. As this change happened, the width, cross-sectional area and discharge through the system increased, but these peaked at different times once the juncture became unidirectional.

“Truth, Justice, and the Right to the City in Boston, MA.” Melanie Barron, University of Tennessee, Knoxville. While geographic scholarship has documented the way racism constructs place through memorials, museums, and street names, less attention has been focused on how legacies of violence and racism continue to create and reinforce modern

inequality. This research examines the work of The Union of Minority Neighborhoods, a group of community organizers in Boston, MA who recognize that the violence surrounding the desegregation of public schools in the 1970s continues to negatively impact parental/community involvement and student success in the Boston Public School system (BPS). To combat the persistent relevance of events that occurred nearly 40 years ago, they are organizing a truth and reconciliation process, called the Boston Busing/Desegregation Project (BBDP), in order to construct an inclusive discourse about the events that highlights the short-term and long-term impacts of the racialized violence during that period. I argue that through the BBDP's goals of bringing otherwise disparate stakeholders into a conversation about BPS, and finding solutions to the issues BPS faces through grassroots community organizing, they are demonstrating a new way to conceptualize how one could assert a right to the city. Finally, this work presents broad implications and possibilities for other cities in which legacies of violence, racism, and inequality continue to mire contemporary development.

Crowdfunded Place: An Examination of Successfully Funded Place Based Initiatives
Brenna Elrod
University of Tennessee

This paper examines how individuals use the crowdfunding site Kickstarter to create place on their own terms. Kickstarter was mined for projects actively engaged in placemaking. Following an initial count of projects across the United States, the cities of Detroit, New Orleans, and Baltimore were selected for a more in depth examination of the impacts of placemaking efforts funded by Kickstarter. The site was searched for successful projects between the time of its founding on April 29, 2009 through July 26, 2012. Crowdfunded placemaking could play an important role as funding is often cut from cultural organizations in an economic downturn and often those organizations benefit minorities. Kickstarter and other crowdfunded sites offer potential alternatives to traditional funding sources by allowing money to be donated in amounts large or small. Lessons learned from crowdfunded placemaking efforts could prove important for city planning and community building.

THE ELECTION OF A LESBIAN MAYOR IN A RELIGIOUSLY CONSERVATIVE
CITY: THE CASE OF HOUSTON, TEXAS

Nancy Stockwell Morris

Lone Star College-Kingwood

ABSTRACT

Researchers have reported trends showing that Evangelical Christians tend to vote for conservative, Republican candidates in state and national elections. Houston, Texas, where the percentage of Evangelical Christians is higher than the national percentage, serves as the case study that demonstrates the temporal and spatial changes to Houston's religious and political landscape and how these changes influence voter behavior. In 2009, Houston became the first major U.S. city to elect an openly homosexual mayor. The changes in Houston's religious landscape, changes in attitudes toward gays and lesbians, and the varying degrees of voter participation among religious groups across the city, illustrate the unpredictability of religion as an influence on voter behavior in local elections. This paper presents Houston's demographic and religious profile, data and methodology, the results of analysis, and conclusions drawn from the study.

Deliberation and the Machine: Twenty-five years of progressive politics in Knoxville, TN
Toby Martin Applegate
East Carolina University

Abstract

This paper presents a history and comparative analysis of the political geography of Knoxville, TN over the past 25 years. It notes a shift within the city of Knoxville to a more deliberative style of democracy marked by pragmatic decision making and inclusive policies. In contradistinction, Knoxville's twin municipality, Knox County, is presented as remnant political entity that still participates in partisan politics driven as much by state and national party political agendas as the needs of local municipalities. A brief history is offered and a discussion of possible avenues of change for machine politics dominated County, but also a set of strategic decisions that must be made in the future by the City of Knoxville in order to maintain its progressive politics and independence.

ABSTRACT

Conservation Culture in the American South: Land, Leadership, and Livelihoods in the Carolina Lowcountry

Angela C. Halfacre

Department of Political Science/Department of Earth and Environmental Sciences

Furman University

Communities across the United States are seeking a sustainable pattern of growth that promotes prosperity, protects the environment, and preserves the distinctive quality of life and cultural heritage of their region. This paper examines how a land-preservation-based “conservation culture” emerged in the Lowcountry of South Carolina, a traditionally conservative region, since the late 1980s. Ethnographic, historical, and spatial analysis reveals how growing numbers of Lowcountry residents, bolstered by political, corporate, and media support, have become increasingly successful in preserving the rapidly growing region’s sense of place as well as its fragile ecology, natural beauty, and traditional land-based livelihoods. The diverse social and cultural threads forming the fabric of the Lowcountry conservation culture include not only the stereotypical environmentalist activists but also those who make their living from the land, such as African American basket makers and multi-generational farmers, as well as people who own, manage, regulate, and develop the land--municipal planners, conservation organizations, civic leaders, sportsmen, and homeowners’ association members. Their distinct voices have combined to form a diverse yet cohesive culture of conservation that wields growing influence in the Lowcountry and has become an important regional model for “place-based” conservation efforts across the nation.

Wish You Were Here: Postcards from St. Augustine’s Slave Market

Abstract

Over the course of sixty years, St. Augustine's slave market was represented numerous ways on postcards. Progressive local place promoters for St. Augustine selectively represented the city through postcards of the various tourists spots demonstrate. These postcards portrayed St Augustine as uniquely historic and progressive – the “oldest city in the United States” and a city that does not have the racial violence such as lynching that occurred elsewhere in the South. Yet, postcard makers and local promoters were not able to completely control the way that postcard senders and receivers saw or thought about the place as demonstrated by some of the comments that visitors wrote on these postcards. This paper looks at the changing ways that the slave market is portrayed in postcards and the comments and connections tourists made with the same site. Emerging out of this, we see a decades-long conversation over how to frame the slave market into a site of leisure. Never completely able to separate slavery from the market, locals were able to use postcards to reframe slavery as a distant past – and thus St. Augustine as a progressive city – as indicated in the maintenance of the site's designation as “the Old Slave Market”.

Abstract

The growing subfield of community geography places explicit emphasis on identifying the spatial thinking and local knowledges that emerge from neighborhood residents' experiences and seeks to "affect positive community change, in a variety of ways, whether it is to visualize challenges and assets, improve service delivery, or more accurately identify geographic disparities" (Robinson, 2010: 6). As a framework dedicated to community-engaged scholarship and teaching, the subfield of community geography holds much promise for developing a more inclusive and societal-relevant discipline of geography. In this paper presentation, I reflect on lessons learned from the field and from working with community partners in academic research and teaching. I focus particular attention on a community geography research agenda in Atlanta, GA as students and faculty at Georgia State University work with a variety of community partners to explore social and environmental disparities.

Department of Geography, University of Kentucky

Here I present a case study of the work it takes for one Kentucky farm to grow and market local foods. Those allied with the local food movement in the US - from individual consumers to government officials - champion the motto “know your farmer, know your food” as means to achieve important ecological and social outcomes. As such, there is keen interest in "scaling-up" local food production and distribution to extend the reach of local foods' effects. I draw upon participant observation on one Kentucky community supported agriculture (CSA) operation to flesh out the opportunities and obstacles that farmers face in scaling-up. I show in particular how they treat the seasonality of crop production. That natural processes give shape to the business of farming is well-known to both ag-food scholars and political ecologists. I argue that in CSA managing seasonality means managing shareholder expectations. Decisions about using greenhouses, buying from produce auctions, or combing lettuce for unwanted bugs are “scalar practices” that shape what knowing farmers and food means. I conclude that whether CSA can survive scaling-up with legitimacy as an institution for social and ecological change depends on active and reflexive shareholder governance, particularly at the on-farm level.

Pungent Provisions: Continuing an Appalachian Tradition

Bridgette Rivers, Dr. Lynn Resler, Dr. Robert Oliver

Virginia Tech

Over the past ten years, [the ramp, a traditional Appalachian food, has](#) invaded elite culinary circles outside its native culinary region of Appalachia. Ramps (*Allium tricoccum*) are wild leeks traditionally foraged for in the spring, and are known for their pungent smell. This unique vegetable is traditionally celebrated in Appalachia through dinners and festivals that have been widely attended by members of the community and recently, outsiders. Similarly, outside the region, the ramp has been featured on fine dining menus and has been sold in farmer's markets and grocery stores for the first time across the country. This study aims to understand not only this recent popularity, but why the ramp has emerged as representative of traditional Appalachian culture. Qualitative interviews with experts in the ramp industry, patrons of ramp festivals, and those outside of Appalachia yet involved with ramps were conducted. Participant observation at ramp festivals [corroborates our interview data set](#). Preliminary analysis of these data has yielded hilarity, flavor, pride and tradition as all contributors to the ramp's popularity and status. With this research, a more complete view of the interaction between cultures, food, and geography can be gained, aiding future research and the preservation of Appalachian foodways.

**Using GIS and Remote Sensing Applications to Determine Recovery from Disaster:
Seven Years Post-Katrina in Communities of Hancock County**

Carlton Anderson
University of Southern Mississippi

Abstract

Hurricane Katrina devastated the gulf coast states of Louisiana and Mississippi on August 29th, 2005. The communities of Shoreline Park and Waveland, in Hancock County, Mississippi, were used in this study to analyze land use change post-Hurricane Katrina using Geographic Information Systems (GIS) and Remote Sensing. These two communities are experiencing slower recovery than their counterparts along the coast. By examining high-resolution aerial imagery from 2007 and 2012, comparisons show the timeline of recovery for these two communities post-Katrina. Waveland has seen an increase of housing structures by 13 percent, while Shoreline Park seen an increase of 7 percent, from 2007 to 2012. While these numbers may seem high, 70 percent of structures in Shoreline Park and 90 percent of structures in Waveland were damaged or destroyed. The data indicate rebuilding is slower than expected 7 years post event. This study shows how insurance costs, elevation, and flood zoning are a direct contribution to slower rebuilding efforts. Evidence suggest that residents are migrating from their coastal locations to areas north in the county.

Range-wide risks to a foundation tree species from disturbance interactions

Whalen W. Dillon, University of North Carolina at Charlotte

The geographic range of tanoak (*Notholithocarpus densiflorus*) encompasses tremendous physiographic variability, diverse plant communities, and a complex set of ever-changing disturbance regimes (e.g. development, silviculture, and wildfire), which now includes severe threats from *Phytophthora ramorum*. Knowing where and how these disturbances interact and the risk they pose to tanoak abundance, structure, and function is critical for developing comprehensive conservation strategies. I present a spatial risk model quantifying the threat to tanoak from four disturbance factors and their two-way interactions. I mapped silviculture, disease (*P. ramorum*), development, and fire across the geographic range of tanoak and overlaid them in the model to calculate overall disturbance risk to tanoak. The majority of tanoak's range is at moderate risk (3.4 million ha), with smaller areas of high (495,878 ha) to extreme (10,905 ha) risk. I estimated that 1.5 billion tanoak trees are at moderate risk from disturbance interactions, and another 268 million trees facing high to extreme risk. Extreme risk levels resulted from the interaction of disease and silviculture factors in this model. With limited resources, identifying the geographic location of disturbance interactions and the risk they pose to foundation species like tanoak is essential for prioritizing and targeting conservation treatments.

User-Generated Political Geographies: Placing Politics on the Geoweb

Taylor Shelton, Clark University (presenter)
Matthew Zook, University of Kentucky
Mark Graham, University of Oxford

Abstract:

From electoral politics to mass social movements, the internet has assumed a central role in 21st century politics. And while a significant amount of work has explored the ways the internet has changed political action in recent years, we argue that much of this work lacks an explicitly geographic perspective necessary to understanding the situatedness of the internet within the offline world, while also tending to glorify more popular or successful instances of online politics without understanding the politicization of everyday online practices. By examining the often decentralized and highly place-based nature of political engagement within the Google Maps platform online, we argue for a conceptualization of ‘user-generated political geographies’ which more fully captures the evolving nature of online politics in conjunction with the growth of user-generated geographic information on the internet.

Tracing the variegated use of public space through the geoweb: a short history of the High Line

Ate Poorthuis, University of Kentucky

The Geoweb has recently seen an increased interest both as a research subject, method and data source. However, still relatively little is known about the possibilities and limitations of using the Geoweb for academic research, especially when it concerns studying urban or local phenomena. This paper will explore some of the ways in which the Geoweb can be used to look at the use of public space. It will do so through a case study of the High Line: a public park in New York City. The park has experienced a tumultuous history evolving from an abandoned railroad into a favorite hangout for trendy New Yorkers and, more recently, into a popular tourist destination. While narrating its history, this paper will simultaneously trace the park's (differentiated) use through various Geoweb sources.

Continuous connectivity, handheld computers, and mobile spatial knowledge

Matthew W. Wilson, University of Kentucky

Abstract:

With shifts in the distribution of geospatial data and practices, and the rise of the geoweb as a site of inquiry, new concepts are needed to better understand the conditions of geographic technologies. Here, I conceptualize one such element of interactivity: connection. I argue that a logic of continuous connectivity underlies the development of digital spatial media and influences the contemporary production of spatial knowledge. For those lives lived that are presumed to be 'always-connected', interactions are figured by these connections to digital media. Many of these digital devices (especially mobile ones) become functional only through a series of connections to data and communication networks. For instance, mobile phones are in continuous communication regardless of direct use, 'listening' to cellular towers and analyzing proximity to deliver the best possible connection. From these system-level codes that maintain device connectivity to software-level codes that push and pull data to and from 'the cloud', being always-connected is part of a cultural milieu that has diverse implications not only for attention but also for the development of collective, spatial knowledge. I situate the emergence of continuous connectivity in the marketing of handheld computers in the late-1990s.

Mapping zombies: a guide for digital pre-apocalyptic analysis & post-apocalyptic survival

Mark Graham, Oxford Internet Institute

Taylor Shelton, Clark University

Matthew Zook, University of Kentucky (presenter)

Zombies exist, though perhaps not in an entirely literal sense. The zombie trope, however, provides a means through which society can playfully, if somewhat grimly and gruesomely, discover the intricacies of humanity's relationship with nature and the socially constructed world that emerges from it. In this paper, we present an analysis of the prevalence of zombies and zombie-related terminology within the geographically grounded parts of cyberspace, known as the geoweb. Just as zombies provide a means to explore, imagine and reconstruct the world around us, so too do the socio-technical practices of the geoweb provide a means for better understanding human society. In short, looking for and mapping geo-coded references to zombies on the web provides insight on the memes, mechanisms and the macabre of the modern world. Using a series of maps that visualize the virtual geographies of zombies, this paper seeks to comprehend the ways in which both zombies and the geoweb are simultaneously reflective of and employed in producing new understandings of our world.

Developing statistical tools to determine significance of land cover changes in persistence analyses.

Peter Waylen¹, Jane Southworth¹, Cerian Gibbes² and Huiping Tsai¹

¹ Department of Geography, University of Florida, Gainesville, FL

² Department of Geography, University of Colorado, Colorado Springs, CO.

Remotely sensed data have provided snap-shots of environmental conditions over considerable spatial extents. These snap-shots were often few in number and irregular in timing, limiting their application to the analysis of longer term temporal changes. Recent availability of reasonably long (≤ 30 years) records of remotely sensed data, not only facilitates the analysis of changes in spatio-temporal patterns, but, the sheer quantity of data, also necessitates new objective, theoretically-based tools. This paper develops two simple statistical tests to be applied to time series derived from these data products, specifically to investigate the statistical significance of two metrics of persistent changes within the landscape. One measures only the direction of changes and the other incorporates their magnitudes. Statistical significance is derived through a combination of theoretical considerations and Monte Carlo simulations, and applications are illustrated using monthly NDVI values over Florida (1982-2006) derived from MODIS, to detect areas of significant change in Land Use/Land Cover.

Mountain Pine Beetle Selectivity in Old-Growth Ponderosa Pine Forests: A Dendroecological Analysis between Live and Dead Trees in Outbreak Areas. Paul A. Knapp, University of North Carolina Greensboro; Peter T. Soule', Appalachian State University; Justin T. Maxwell, Indiana University.

The ongoing mountain pine beetle (MPB) epidemic in western North America is the largest in recorded history and has been attributed to multi-decadal climate change. Despite widespread mortality in forest stands, not all trees are affected, and the reasons for variations in host susceptibility remain uncertain. We compare radial growth rates of co-occurring mature healthy and MPB-infected ponderosa pine trees collected at two sites in western Montana and: 1) compare basal area increment (BAI) values within populations and between sites; 2) examine the potential influence of changes in intrinsic water-use efficiency (iWUE); 3) compare climate-growth responses; and 4) postulate on what increases individual tree susceptibility to MPB-induced mortality within a stand where other growth-influencing factors are held constant. BAI values within populations and between sites were similar until the last 20-30 years, at which point the non-infected populations had consistently lower BAI values. These results suggest that growth rates several decades prior to the current outbreak diverged between our selected populations, with the slower-growing trees being more vulnerable to attack. Both samples experienced upward trends in iWUE, with significant regime shifts towards higher iWUE beginning in 1955–59 for the non-infected trees and 1960–64 for the MPB-infected trees.

Geography of Culture Change at Hickory Ground, a Historic Creek Indian

Archaeological Site

Kelly M. Ervin

Department of Geology and Geography

Auburn University

Abstract

Changes in community space reflect changes in society. This paper presents investigations on the effect of culture change on community organization between a Protohistoric (1600-1700 CE) and a Historic Creek (1700-1814 CE) Native American community at Hickory Ground, or 1EE89. The five year long excavation of 21 acres at the Hickory Ground site included the drawing of hundreds of field maps which have been uploaded and re-drawn in ArcGIS in order to isolate contemporaneous features and compare changes in the spatial organization and reorganization of these features over time. The spatial patterning among these features suggests a correlation between changing community space and changing cultures. The research presented here is an attempt to better define the Creek Indian community plan and how the reorganization of domestic and public structure arrangements changed as the southeastern Native American culture of the New World converged with the Euro-American culture of the Old World.

Keywords: Historical geography; Community planning; Culture change; Historic Creek Indians; GIS; Cultural landscape

Marketing Opportunities for Small-Scale Wine Producers in Slovenia:

Proposing a Wine Cluster Model

Maja Djorcev

University of Tennessee - Knoxville

Sustainable and organic approaches to wine production have recently gained significant importance and popularity around the world. Slovenia's burgeoning yet relatively unknown wine regions are no exception. The emergence of small-scale organic wine farms is a consequence of two primary factors: winemakers' newfound knowledge of the damage caused by conventional farming techniques, and a desire to produce quality wine reflective of the terroir of the region.

Because small-scale organic wine producers are creating a niche product, they must be well-educated about marketing in order to effectively reach their target audience. However, marketing represents one of the major obstacles in Slovenian wine industry. In this paper, therefore I am proposing a "clustering" marketing model as one of the potential solutions for small scale organic wine producers. I argue that this marketing model, which places organic wine producers into co-operatives called "clusters," will make the wine regions more recognizable, provide easier access to markets, and act as a resource for developing wine-growing communities.

Detecting the Effects of Land Use/Land Cover on Mean Annual Streamflow in the Upper Mississippi River Basin, USA

Liem T. Tran

Department of Geography, University of Tennessee, Knoxville, Tennessee 37996.

Abstract

The effects of land use/land cover (LULC) along with other climate and geomorphologic factors on mean annual streamflow in the Upper Mississippi River Basin (UMRB) were explored using a nonlinear model applied to a spatial dataset of more than 180,000 catchments. The model was linearized and solved via a geospatial regression model to deal with spatial dependency in data. Results show that LULC is a very important agent with respect to its impact on mean annual streamflow in UMRB. The magnitude of the impact on streamflow varies from one LULC to another. It is not a simple function of a LULC's spatial extent but arguably a result of complex interactions among various LULCs as well as other climate and geomorphologic factors. Our analysis indicates that caution needs to be taken in comparing different studies or in generalization across scales regarding the impact of LULC on streamflow. It is because the result of a study is not only the outcome of the geophysical processes observed at a particular spatial and temporal scales but also a product of the approach, model, variables, and/or measures used in the study.

Flooding and surface connectivity of abandoned channel waterbodies in a southern floodplain forest system. John Kupfer, University of South Carolina, Kimberly Meitzen, Duke University and Peng Gao, University of South Carolina. An understanding of the factors controlling the permanent and episodic links between the main stem of a river and the waterbodies lying in its alluvial floodplain is critical for the successful implementation of flow regimes that meet human needs for water in a manner that sustains the ecological integrity of affected systems. We examined relationships between river hydrology and lateral hydrological connectivity, which is crucial to maintaining fluxes of water, material, and organisms into and across a floodplain. We did so by creating high resolution maps of flood conditions at Congaree National Park using a LiDAR-derived digital terrain model and 2-D flood inundation modeling. Observed flood depths for a specific event in levee breaches, the primary point where flood waters initially enter the floodplain prior to bankfull discharge, were generally predicted with an accuracy of ca. 15-20 cm. Utilizing a graph network approach, we then analyzed the connectivity of floodplain waterbodies to the mainstem river and to other floodplain waterbodies under different flows. Our methods demonstrate the sensitive and non-linear response of floodplain connectivity to river flows and provide useful information to facilitate the management of flood processes in the Congaree River watershed.

Modeling European Hot Spells Using Extreme Value Analysis

David Keellings¹, Mari Jones², Candida Dewes³, Christiana Photiadou⁴

¹ Department of Geography, University of Florida, Gainesville, Florida, USA

² Earth System Laboratory, National Center for Atmospheric Research, Boulder, Colorado, USA

³ Department of Geography, UC Santa Barbara, Santa Barbara, California, USA

⁴ Institute for Marine and Atmospheric research Utrecht, Utrecht University, Utrecht, The Netherlands

Abstract

Atmospheric blocking events are an oft-cited cause of spells of extremely hot temperatures in Europe. By their nature, these extreme events are rare and yet the theory of extreme value statistics is seldom applied. We adopted an extended multivariate point process approach, using extreme value theory, to simulate the frequency, intensity and duration of hot spells, together with their dependence on atmospheric blocking, ENSO and NAO. Our statistical model is a considerable enhancement of previous studies, combining several methods both to simulate hot spells and to characterize the level of dependence on large-scale atmospheric circulations in different regions of Europe. The model was applied to 74 observation stations across Europe to examine the influence of atmospheric drivers on hot spells over a 60 year period of record since 1951. We find that atmospheric blocking has a significant influence on the frequency, intensity and duration of extremely hot spells during this time, although other influences such as natural variability also have a controlling influence. It is also apparent that the frequency and duration of hot spells have increased over the period of record.

A Tale of Two Pueblos: The Uneven Mexican Geographies of US Migration Policy. Jeff Popke, East Carolina University. This paper examines the differential impacts of changes in US immigration policy on migrant sending communities in Mexico. I focus in particular on the Immigration Reform and Control Act (IRCA) of 1986, which offered a path to legalization for undocumented migrants in the US, and also increased border restrictions on future migrants. These provisions, I argue, had geographical consequences. IRCA's amnesty provision gave migrants from Mexico's traditional sending areas a foothold in the United States, and thereby facilitated in some communities a process of managed migration and deepening transnational connections. Migrants from newer sending regions, by contrast, have been forced to contend with IRCA's tighter border restrictions, leading to more undocumented crossings and negative consequences for many communities. To illustrate these differing regional impacts of IRCA, I contrast the migration experience of two Mexican towns, San Lucas in the traditional sending state of Michoacán and Agua Dulce in the newer sending state of Veracruz. Drawing upon interviews and surveys carried out in both communities, I show how migration in San Lucas has served to cultivate and strengthen transnational connections, while in Agua Dulce it has resulted in family disintegration and community fragmentation.

PILGRIMAGE TO THE BIRTHPLACE OF ELVIS PRESLEY

Joseph S. Miller

The University of Southern Mississippi

At the Elvis Presley birthplace in Tupelo, Mississippi, a sacred, secular pilgrimage is taking place. This study used the categories of myths, symbols, and experiences to understand the perceptions of the pilgrims at the birthplace. Using a combination of interviews and mapping, the themes and data presented show that the area has a clear distinction of sacred space, which was defined by the relics in the spaces that Elvis physically interacted with. The pilgrim related to these symbols through strong, varied mythological content. Finally, a mapping component illustrated the international spatial distribution of pilgrims to the birthplace and confirms that it is an international pilgrimage site.

Intentional neighboring and the quiet politics of spatial solidarity

Katherine Hankins, Georgia State University

Andy Walter, University of West Georgia

Sam Nowak, University of Washington

Harrison Annixter, Middlebury College

Among the forms of resistance to the persistent social inequality in American inner cities, we highlight the practices of the intentional neighbor as a form of politics. Intentional neighboring is the act of relocating to a high-poverty neighborhood to live in spatial solidarity with the poor. Drawing from a multi-year study involving interviews with intentional neighbors from across the country and highlighting the efforts of intentional neighbors in the neighborhood of South Atlanta in Atlanta, Georgia, we examine the politics of intentional neighboring from three vantagepoints. First, we explore the politics associated with the relocation process and the resulting sociospatial positionality that emerges from the very act persons of privilege living in spaces of marginalization. Next, we explore the mundane acts of being neighborly that constitute what we suggest are a quiet politics. Finally, we highlight the ways in which the politics of intentional neighboring become radicalized, when the *where* of daily life, of dwelling, produces subjectivities that become (re)oriented to social hierarchies and power relations and reveal the need for pressing political claims.

Multi-Scale Multi-Temporal Analysis of DMSP-OLS Night Light Images and Economic Activity
in the United States

Dolores Jane Forbes, Florida Atlantic University

Researchers have long sought to link socioeconomic information to the data provided by the visible light band of the Defense Meteorological Satellite Program (DMSP) Optical Line Scan (OLS) instruments. The night light data from these instruments has been shown to correlate by lit area with national level Gross Domestic Product (GDP), and to correlate with GDP at the State level by radiance value. Very strong correlation was found between the night light data at a new, larger scale, the Metropolitan Statistical Area (MSA) within the state of Florida. This study seeks to determine if the strong correlation found in Florida extends to all MSAs within the contiguous United States. A comparison is also made between MSA scale and State scales using one consistent methodology to determine which scale best represents economic activity with the DMSP-OLS data. In addition, two separate time periods are examined to inform future time series analysis of the relationship. Preliminary results indicate that the MSA scale exhibits a stronger correlation with the DMSP-OLS data over the State scale, and that correlation found holds through time at both scales.

Keywords: DMSP, night lights, GDP, United States, economic activity

Human and Environmental Variables as Predictors of the Spatial Pattern of Lyme Disease Emergence in Virginia

Sara Liz Dymond¹, Korine Kolivras¹, Yili Hong², Jie Li², Steve Prisley³, Jim Campbell¹,
David Gaines⁴

Department of Geography¹, Department of Statistics², Department of Forest Resources and Environmental Conservation³, Virginia Department of Health⁴
Virginia Tech

Lyme disease is caused by a bacterium *Borrelia burgdorferi* which is transmitted through a tick bite. The cost, both financial and physical, is especially concerning because Lyme disease has become the number one vectorborne illness in the United States. One area of particular concern to the study of Lyme disease emergence is the state of Virginia. Since 1984 the number of cases has been increasing exponentially with a slow geographical spread in from the northern part of the state to the southern end. Movements of *B. burgdorferi* into new areas results from tick, disease reservoir, and tick host movements. However, it is not certain why some areas are seeing higher incidence of Lyme disease than others in the state. This project explores how specific human and environmental variables such as forest fragmentation, land cover change, and human characteristics or behaviors are linked to the emergence of Lyme in Virginia. The end goal of this research is to aid in statewide disease risk prediction and the allocation of resources for the prevention and awareness of Lyme disease.

The Spatial Epidemiology of Chronic Kidney Disease in Northwestern Nicaragua

Sophia Giebultowicz, Michael Emch, Douglas Morgan, Rodolfo Pena
University of North Carolina-Chapel Hill Department of Geography, Carolina
Population Center, and UNC Kidney Center

The incidence of Chronic Kidney Disease (CKD) presents a global health issue. An epidemic is currently occurring throughout the Pacific Coastal region of Central America, where renal insufficiency is a major cause of death. Knowledge is limited regarding the origins, causes, and prevalence of CKD in this area, but previous work suggests that environmental exposures are a major contributor. This research investigates CKD in a high-incidence region of Nicaragua from a medical geographic perspective, considering population-level as well as environmental and cultural factors and how their interactions lead to the disease outcome. The study population is drawn from an ongoing spatially-referenced health and demographic surveillance system in Leon, Nicaragua. Data on CKD incidence, household-level characteristics, and individual-level demographic and lifestyle factors was integrated into a geographic database of the study area. Individuals were classified as either diagnosed with CKD, at risk, or non-cases. Results suggest that rural versus urban residence, agricultural employment, alcohol and water consumption, and pre-existing health conditions are significantly related to CKD. Additional spatial analysis will yield clues as to whether proximity to environmental and geographic features influences individual-level risk.

Collaborative Asset Mapping for Regional Food Security: ODK & Google Fusion Tables

Abstract: Food insecurity has been on the rise in Western North Carolina during the recent economic recession. A recent study has estimated that more than 15% of the residents in the 16 westernmost counties – or more than 100,000 people – are food insecure. In 2011, a small group of food security advocates created the Asheville-Buncombe Food Policy Council (ABFPC) in an effort to build a community coalition dedicated to improving access to food in the region. One goal of the Council is to inventory and map current food “assets” in order to identify potential food deserts and better understand food distribution networks. Given that the Council has no financial resources, is completely volunteer-driven and is founded on a collaborative decision-making model of dynamic governance, the asset mapping group sought to employ software tools that were free and user-friendly. The asset mapping team also wanted to provide the AFBPC with collaborative editing capabilities and a mobile application for the crowdsourcing of regional food pricing information. Given these parameters, the team decided to employ three tools: Open Data Kit, Google Fusion Tables and Google Maps/Earth. This paper demonstrates how these tools are used, their limitations, and preliminary results of the project.

Producing “Prehistoric” Life: Breeding giant tortoises in the Galapagos Islands

Elizabeth Hennessy
PhD Candidate
Geography Department
University of North Carolina at Chapel Hill
eah@email.unc.edu

SEDAAG 2012 Abstract

The giant tortoises of the Galápagos Islands are often considered “prehistoric” animals. As the largest native residents of what is called one of the “best preserved” ecosystems on Earth, they seem, in the words of one historian, to be “survivors from a past age of reptiles” (Rothschild 1983, p. 197). Since the mid-1960s, these survivors have been the focus of one of the world’s most successful conservation breeding programs. In this paper, I explore the paradox of this program, examining how seemingly “prehistoric” life has been actively produced through several decades of work by scientists and conservationists dedicated to saving this endangered species. To do this, I trace the story of one particular tortoise, named “Diego,” and his nearly 900 offspring through different sites of the production of tortoise life. Drawing on interviews, archival research, and participant observation at the breeding center, I focus on the particular sites and ways in which conservationists and scientists struggled to recreate the most “natural” atmosphere for tortoise breeding. In doing so, I unpack the complex intra-actions between humans, tortoises, and technology that goes into the production of “prehistoric” life.

Agroindustrial Development as White Supremacy in the Yazoo-Mississippi Delta.

Brian S. Williams

Master's student

Department of Geography

The Ohio State University

In this paper, I discuss the historical development of agriculture and racial exploitation in the Yazoo-Mississippi Delta, with a focus on the highly racialized nature of agricultural modernization. I argue that rather than being a relic of the past, racial inequality in the Delta is very much a product of marginalization and exploitation through targeted agrarian development that benefits a plantation bloc elite, rather than the vast majority of the Delta's residents. Poverty and inequality in the Delta today, then, are closely tied to control of land and labor. From the massive capital investments involved in changing the course of the Mississippi River to the tremendous sums of capital devoted to cotton genetics, marginalization of the Delta's poor has been accomplished through ecological regimes. Agroindustry in the Delta is dynamic, highly capital intensive, and seals off many opportunities to truly address the social inequities of which agricultural modernization was in many ways generative. Finally, I challenge the idea that the agricultural economy of the Yazoo-Mississippi Delta is insular. It is, rather, closely tied to global capital, and as such can shed some light on the nature of agroindustrial regimes elsewhere.

Atlanta's Beltline: A postmodern Old Wheat Street

Scott Markley
Georgia Southern University

Dr. Jill Stackhouse
Bemidji State University

Atlanta's substantial growth over the past half century has necessitated the adoption of progressive planning policies to best accommodate diverse social and political stakeholders' interests. The city's most recent revitalization effort, The Atlanta BeltLine Project, represents a revolutionary proposal advocating postmodern design. As the project continues to gain publicity and popularity among locals, attention, as well as investment, has increased around areas of the BeltLine. The specific focus of this paper features an aged, predominantly residential area directly adjacent to the Central Business District as a potential area of development located on a block of vacant property on the corner of Old Wheat Street and Hilliard Street. This paper offers two suggestions of land use that consider local demands, revenue generation, and overall appeal to the community. Research and historical analysis are used to provide a multifaceted perspective in order to best serve the interests of the local community as well as to satisfy the broader goals of the city of Atlanta.

Changing States: Applying State-and-Transition Models to Understand Channel Evolution

Chris Van Dyke

University of Kentucky

Channel evolution models (CEMs) are used to predict the response of a stream or river channel to a disturbance. Classic CEMs, developed by Schumm, Simon, Hupp, and others examined the adjustments that channels underwent following channelization. They propose that channels will evolve in a linear manner, passing through sequential stages until the channel achieves quasi-equilibrium. CEMs have proven useful for modeling what changes occur to channel morphology following a variety of disturbances, including dam removals. Although there is a great deal of empirical evidence supporting the logic of CEMs, there are examples of situations in which CEMs are less successful in predicting channel adjustments. In fluvial systems that undergo swift adjustments (e.g. braided rivers) existing CEMs do not sufficiently account for complex interactions between the hydrologic, geomorphic, and ecological properties, which can motivate evolutionary trajectories that are non-linear. This paper critiques classic CEMs and proposes that a state-and-transition (STM) framework to better account for channel evolution in systems that accommodate multiple pathways of adjustment, or in systems prone to sudden disturbance events that can trigger a rapid transition in channel morphology. An STM-based approach to channel evolution offers a framework to fully model the biogeomorphic evolution of riparian environments.

Differentiating Between Urban Green Space and Suburban Areas in Landsat Imagery

Gillian Breary
Department of Geosciences
Florida Atlantic University

Cities across the globe have been implementing measures to increase their levels of sustainability. Green spaces are increasingly becoming an integral part of the efforts to promote sustainability because of the different areas benefits they provide. This paper is a part of a larger research that looks at the quantity of green space versus built up areas in nineteen of the most sustainable cities across the United States. This paper focuses on methods that were used to identify and separate green space from built up areas in Landsat imagery. It highlights the problems that arose such as: suburban areas being classified as green areas and agricultural areas being classified as urban and suburban. Solutions that were used to resolve the misclassifications are also discussed.

Sustainable Livelihood Analysis of Ta Hen's Irrigation Project, Cambodia

Irene Rehberger, South Florida University

This study examines potential livelihood outcomes from a recently established irrigation project in Ta Haen, Cambodia in a sustainable livelihoods framework. The aim of this project is to provide water for drinking and irrigation purposes with the goal of enhancing food by producing an extra rice harvest, the staple, per year. Field research conducted in December 2011 provided qualitative data from questionnaires, key informant interviews, and participant and direct observation, in addition to quantitative data from water quality analysis focusing on arsenic (a potential risk), pH, EC and temperature. Most of the people in the village did not obtain an extra rice harvest in this first year of the project. However, they did plant other crops along the Ta Haen riverbanks. Average arsenic concentration was 32 ppb, above WHO guideline value (10 ppb). However, dose response data is uncertain at levels below 50 ppb, tipping the scale towards using river water. Preliminary results suggest that project sustainability and positive livelihood outcomes depend upon improving overall agricultural and water management practices by addressing quality issues, rationing water, and removing invasive water hyacinths that affect water quantity.

Climate Change Response in the Carolinas: Framing Outside the “Climate Change” Box

B. Haywood^{1,2}, A. Brennan², K. Lackstrom^{1,2}, N. Kettle³, K. Dow^{1,2}

¹ Univ of South Carolina Dept of Geography

² Carolinas Integrated Sciences and Assessments

³ Alaska Center for Climate Assessment & Policy

Communicating the science, risks, and impacts of climate change to encourage public deliberation and participation in multi-scale mitigation and adaptation action requires careful consideration of the cultural backgrounds, experiences, and beliefs of constituent groups. Communication “frames” are messaging strategies used to convey complex issues succinctly for the purpose of providing accessible information to lay audiences in a manner that resonates with the values, attitudes, and interests of those audiences. This article evaluates major climate change concerns and actions within five climate-sensitive sectors (Forestry, Government, Tourism, Water management, and Wildlife management) in North and South Carolina. With that context, the authors interrogate the communication frames used to share information about climate change and related organizational activities to constituent groups. The analysis draws on data gathered from sector documents on climate change and over 100 questionnaires and associated personal interviews with leaders in the Carolinas among the five study sectors. Findings indicate that regional and sectoral differences influence identified risks and concerns, climate change planning priorities, and the strategies used to frame activities aimed at enhancing climate mitigation and adaptation. Frames are additionally influenced by political constraints, public awareness and “palatability” of specific actions, perceived uncertainty, and various stakeholder interests and influence.

Nineteenth Century Sediment Yield and Sediment Delivery in Southern Appalachia
Linda Kennedy, Dan Royall
University of North Carolina, Charlotte: University of North Carolina, Greensboro

This presentation describes some of the results of recent research that included the investigation of the impact of nineteenth century forest clearance and agricultural activity on concurrent soil erosion rates and sediment yield values in a low-order Southern Appalachian drainage basin. Both past and current research initiatives conducted in the adjacent Piedmont have demonstrated the impact of human activity on fluctuating historical sediment yield values and sediment delivery ratios, illustrating the significance of stored sediment in terms of fluvial system complexity. However, very little comparative investigations have occurred in Southern Appalachia, a region presently experiencing increasing urban and suburban development. The sediment yield rate and sediment delivery ratio were extracted from sedimentary deposits impounded by a late nineteenth century mill pond in Southern Appalachia, then compared and contrasted to published data for the Piedmont and studies of contemporary and near-contemporary Southern Appalachian basins, providing the first regional ergodic sequence of sediment yield rates spanning over one hundred years. The results suggest that low-order highland basins may also contain substantial stores of legacy sediment and that the distinct spatial distribution of Appalachian nineteenth century land-use practices may have resulted in lower sediment yields than might be expected for a region in which slope-channel connectivity is high.

EFFECTS OF THE MADDEN-JULIAN OSCILLATION ON THE CYCLOGENESIS OF HURRICANE FAUSTO (2002)

Stephanie E. Zick
Department of Geography
The University of Florida

The Madden-Julian Oscillation (MJO) plays a significant role in modifying tropical convection in all the major storm basins. Using the Weather Research and Forecasting (WRF) model, this research discusses a case study of Hurricane Fausto (2002), which formed in the east Pacific during a convectively active phase of the MJO. First, control simulations are run with initial conditions interpolated from the NCEP/NCAR reanalysis; the model is then reinitialized—with the statistically correlated components of the MJO removed—and re-run. In response to modified initial conditions, the modeled hurricanes evolve in very different ways. Mechanisms responsible for these differences and how they are related to the MJO are discussed, including the large-scale environment; location of formation; and storm track, intensity, and structure. The orientation and structure of the monsoon trough are modified by the MJO, affecting the location of formation. In addition, the MJO altered the large-scale vertical wind shear profiles in both case studies. Results support recent research that accurate forecasts of tropical cyclones are dependent upon a correct representation of the MJO in numerical weather prediction models.

Virtual Risksapes: Remaking Future Ecosystems Through Seed Banks And Geospatial Archives

Seed banks and genetics laboratories are emerging spaces for mitigating the risks of global climate change, monocultural agriculture practices, and land degradation. Plant science institutions are leveraging existing seed collections and compiling new biodiversity stores to restore ecosystems, generate new disease resistant crop varieties,

and assist the migration of rare species into new territories. These acts suggest that scientists see material limitations in how plants can respond to the scale and scope of human induced environmental change. In other words, plant populations, as currently constituted, experience a range of environmental variability that may be considered normal and for which their genetic inheritance provides the potential for adaptation. Scientists see this range as being surpassed and suggest molecular- and population-scale interventions to mitigate against abnormal environmental risk.

Drawing from interviews and participant observation with plant geneticists, I examine how scientists at a leading conservation science institution enact risk mitigating strategies through population genetic analysis and ecological restoration. I illustrate how seeds are gathered for the banking process and how genetic concepts are enrolled in this effort. I also examine how plant geneticists conceptualize naturalized environmental variability in regard to genetic variability in plant populations. These geneticists delineate the normal range of environmental variability and determine a plant population's optimal range of genetic diversity in these conditions. Using these data, restorationists plant banked seeds to establish populations with the genetic potential to continuously evolve and reduce environmental risk. Finally, I compare and contrast these methods of mitigation to commodity-producing seed banking regimes.

Geophysical Remote Sensing at Guilford Courthouse National Military Park

Jacob Turner

Stacy Curry

Dr. Roy Stine

Department of Geography,

The University of North Carolina at Greensboro

This paper presents the results of dual gradiometer and Ground Penetrating Radar (GPR) surveys conducted at Guilford Courthouse National Military Park, located in Greensboro, North Carolina during spring and summer of 2011. The instruments were used before and during an archaeological excavation to reveal subsurface anomalies of potential cultural interest and thus determine the placement of excavation units. The remote sensing surveys replaced the standard, labor intensive, time consuming method of gridded interval (shovel) testing, allowing the archaeologist to proceed directly to subsurface areas of interest without digging first. Many features were revealed, including several iron or iron alloy objects that correspond with locations of metal datums from previous excavations, a burned pit feature, two structure remnants (one previously unknown) and potentially the remains of the retreat road or gully that are represented in the written and oral history of the Battle of Guilford Courthouse. Measuring both sub surface changes in density (GPR) and local magnetic variation (Gradiometer) allowed researchers to examine more than one physical property of features of interest, providing clues toward the accurate location, depth, size, and material type of objects that, under normal circumstances, cannot be seen until the soil that covers them is removed.

Natural Hazard Losses, Human Vulnerability and Resilience – Variations along the
Rural-Urban Continuum

Shivangi Prasad

Florida Atlantic University

Hazard losses and vulnerabilities of megacities and large urban centers have been examined in-depth by hazards scholars and policy makers. Small communities, on the other hand, have remained largely understudied from a hazards perspective. This is

understandable given the sheer difference in scale between megacities and small communities. Unlike in smaller communities, hazard events in highly concentrated and built up cities quickly turn to disasters, thereby attracting immediate attention. This paper examines hazard losses, human vulnerability and resilience of communities from the perspective of their metropolitan – non metropolitan status and population size. In doing so, the paper refutes the idea that big urban centers suffer disproportionate hazard losses and that hazards vulnerability is a predominantly urban problem. Using hazard data and vulnerability and resilience indicators for select counties from northeastern and mid-Atlantic United States, the paper makes important inferences. Although absolute losses are higher in big cities, per capita losses are higher in smaller communities. Vulnerability levels are comparable for metropolitan and non-metropolitan counties. Very large and very small communities have higher vulnerabilities than medium sized communities. Despite comparable vulnerability levels, megacity and large urban centers are more resilient than rural and small town communities.

Modeling the Distribution of Northern Hardwoods in the Carolina Northern Flying Squirrel, *Glaucomys sabrinus coloratus*, Recovery Areas of North Carolina, and Tennessee

Andrew Evans, Virginia Tech, Department of Geography

W. Mark Ford, USGS Virginia Cooperative Fish and Wildlife Research Unit, Virginia Tech

Lynn Resler, Virginia Tech, Department of Geography

Abstract

The northern hardwood forest type plays a crucial role in the habitat of the endangered Carolina Northern Flying Squirrel (*G. s. coloratus*) because it provides nesting areas as well as preferred nesting materials. This study examined terrain data, and patterns of occurrence for the northern hardwood forest type in the recovery areas of *G. s. coloratus*, in western North Carolina and eastern Tennessee with the goal of creating a more robust model of this forest type in order to better delineate potential habitat for this endangered mammal. Overstory species composition was recorded as well as terrain variables at 270 sites throughout the study area in order to more quantitatively define the northern hardwood forest type and to be used in conjunction with digital terrain data for creation of the model. Terrain variables examined included elevation, aspect, slope gradient, terrain shape index (curvature), and landform index with the goal of finding a significant correlation between one or more of these and the occurrence of the northern hardwood forest type. Initial results appear to indicate one or more of the variables are significantly correlated with the occurrence of the northern hardwood forest type.

Spaces of Opportunity: Latino Migrants and the Rise of the Saw Palmetto Berry Informal Economy in South Florida

Christine Mitchell
Florida Atlantic University
Geosciences

Abstract: The increasing popularity of Florida saw palmetto (*Serenoa repens*) berries has allowed it to become the most economically important uncultivated non-timber forest product in the Florida economy, worth over \$700 million in 2010. Once considered a weed, many land managers and private property owners view it as a potential source of income, and a berry supplier and processing industry has grown to supply demand. Though the informal trade of berries has grown to become a formal industry, the informal berry market continues to thrive in the rural town of Immokalee, populated primarily by Latino migrants who work on the tomato farms from fall through spring, earning low piece-rate wages. The rise of the berry industry allows Latino migrants the opportunity to benefit by picking berries to sell at the informal market, sometimes making hundreds of dollars a day and contributing significantly to their economic security. Research is needed to explore the significance of earnings from berries to Latino migrant livelihood security, and to illuminate the variable regulatory access framework under which berries are picked, which range from permitted to prohibited access. This paper explores these questions and illuminates Latino migrant's invisible contribution to the formal berry industry.

Metabolic Trespass: Composting Toilets, Boundary Making and Domestic Space

Mike Dimpfl
Department of Geography
UNC Chapel Hill

In the US, flush-toilets consume more than one-quarter of the freshwater supplied to most homes. Where the flush-toilet is a critical component of the infrastructure making urban space habitable, it is taken for granted as standard wastewater management technology in almost every case, over-writing differences in freshwater availability and wastewater management capacity with culturally-structured expectations of toileting practice – “flush and forget”. Where sanitation interventions in the developing world highlight the importance of ecologically-sensitive toilet technology, a similar tactic has not taken hold in the industrial world, leaving the flush-toilet a ubiquitous and little-modified component structuring modern domestic space. Does such widespread standardization of domestic wastewater technology function to the increasing detriment of freshwater supply? What happens when taboo, but entirely unavoidable, daily habits involving freshwater are reframed in light of questions of sustainability? The Skaneateles Lake Watershed Composting Toilet Project highlights the challenges of modifying the modern Western bathroom, exposing tension between cultural beliefs about domestic space and the ‘natural’ environment. Qualitative data from interviews with the households in the program illustrates the ways toileting establishes boundaries essential to the structure of domestic space. In this case, an innovative toilet technology forces an encounter with the body itself, asking questions of its place in domestic space.

An Empirical Comparison of Spatial Demand Representations in Maximal Coverage Modeling

Ping Yin

Department of Geography, University of North Carolina at Greensboro

Lan Mu

Department of Geography, University of Georgia

Abstract

Operationally representing spatial demand is necessary to apply location models to planning processes and closely related to the efficiency of modeling solutions. Most of the current research, however, primarily focuses on assessing and reducing/eliminating representation error while ignoring the complexity of modeling associated with demand representation. In this study, using the maximal covering location problem (MCLP) as an example, we empirically compare a polygon-overlay-based demand representation called service area spatial demand representation (SASDR) to widely-used point-based and regular-area-based demand representations in terms of both problem complexity and representation error. Our study shows that, although use of SASDR can eliminate some errors associated with other demand representations, problem complexity with SASDR could become extremely high with the increase of potential facility sites, which could become computationally intractable for exact methods in current optimization software. Point-based demand representation with fine granularity could be a good alternative to SASDR because it can provide similarly effective modeling solutions while avoiding extensive computation in GIS for the realization of SASDR. Regular-area-based demand representation is not strongly recommended based on its poor performance compared to the point-based demand representation with a similar problem complexity.

The Shaping of Atlanta's Public Housing

Mechelle Puckett

Georgia State University

Using data from the Atlanta Housing Authority's annual report and accounts from local historians, this paper describes the shaping of public housing in the city of Atlanta.

Factors which influenced the shaping of the housing projects, including the architecture of the buildings and the placement of the developments, are more easily understood when

one examines the four phases in which Atlanta Housing Authority developed its properties. This research shows that public housing in Atlanta has been consistently shaped by the interests of local businesses, racism, and occasionally classism. While Atlanta's projects have all been demolished, with the exception of the Crosby Spears Memorial Towers, the author argues that public housing continues to be shaped in new spaces through social networking, entertainment media, and even body adornments. Former residents of the projects have been scattered across the city through the use of Housing Choice Vouchers, but the legacy of public housing remains for many of those who grew up in the projects.

Confluent Crises and Exurban Environmental Governance in Macon County, NC
Seth Gustafson
The University of Georgia

Dramatic land use changes in Macon County, NC, a recent history of landslides, and poorly designed housing developments subject to erosion problems prompted a recent effort to introduce there a county-wide steep slope development ordinance.

Though the ordinance was relatively mild in its regulatory bite, it was highly controversial and ultimately tabled by the county commission. This paper examines the social and ecological conditions under which the ordinance was crafted and defeated. Specifically, these crises are the 2008 financial crisis, resurgent conservatism questioning the role of the state, scientific expertise being reorganized and politically challenged, and the changing environmental conditions in Macon County. I argue that these four crises are the grounds through which the ordinance has been contested and are likely the grounds under which future exurban environmental governance will be articulated.

Modeling the Spatial Variation in U.S. Airline Passenger Fares

Hilton A. Cordoba and Russell L. Ivy,
Department of Geosciences, Florida Atlantic University
Boca Raton, FL 33431. Email: hcordoba@fau.edu

Modeling airline fares is quite challenging due to the constantly changing fare structure of the airlines in response to competitors, yield management principles, and a variety of political and economic changes. This paper attempts to provide a more in depth look at fare structure using a multi-variate approach. A total 6,200 routes between 80 primary U.S. airports are analyzed using linear and geographically weighted regression models. The results from the global models reinforce some of the expectations mentioned in the literature, while the local models provide an opportunity to analyze the spatial variation of influencing factors and predictability.

Migration as labor agency: Producing new divisions of labor in agricultural production

Michael Husebo
University of Georgia, Athens

The spatial division of labor serves a central geographic function in the processes of capitalist economic production. Much attention has been afforded to how capital produces and utilizes these geographic divisions. Yet, the role of workers in the process of producing these particular geographies has so far been ignored in critical geography literature. Through an analysis of migration as labor agency, this paper presents a case-study of the spatial role of labor in producing a division of labor that is central to the existing landscapes of economic tomato-production in southwestern Florida.

These particular workers, then, in the first instance contest the uneven characteristics so fundamental to the capitalist geography of North America that they find themselves in. Perhaps most importantly this division is characterized by the socially determined value of reproducing labor. A variable that is closely related to geopolitical borders and as a result the process of migration. Yet, in the very process of contesting this geography, these workers produce new spatial divisions of labor, with new geographies that holds new expectations of what the value of reproducing labor might be.

The United Nations and Intergovernmental Panel on Climate Change deem many regions of southern Africa as vulnerable landscapes due to changing climatic regimes and ecological conditions. Typically in vulnerable regions, multiple livelihood strategies are employed to develop sustainably. Such diversification has led countries, like Botswana, to be deemed developmental success. While measures of vulnerability and development have been studied, little is known about how people within villages perceive risks to their

livelihoods. This article analyzes local perceptions of risk within seven villages in Botswana and Namibia through the theoretical framework of risk / hazards research. During the summer of 2010, 330 surveys were completed within villages in northern Botswana and the Caprivi Strip of Namibia. As part of the survey, respondents were asked to list risks to their livelihoods. These responses were used in a risk mapping procedure, which calculates indices of severity, incidence, and risk to gauge perceived vulnerability. It is hypothesized that people's perception of livelihood risk is directly dependent on the environmental condition in their surroundings and employment status. Results indicate that variables associated with natural and financial livelihood assets, such as employment, market accesses, and climatic variability, have the highest perceived risk to ones livelihood.

Modeling the Climate Sensitivity of the Central Arizona Surface Water Supply

Andrew W. Ellis, Department of Geography, Virginia Tech

Kevin W. Murphy, School of Geographical Sciences, Arizona State University

Analyses have been conducted over the last decade to assess the threat of a changed climate for the Southwest United States to water supply from runoff. The findings do not incorporate temporal evolution or the year-to-year variability that characterizes the hydroclimate of the region. Analysis of the cumulative effects of variability upon surface water reservoir systems is essential to understanding impacts on water availability. Approximately 40% of the Phoenix, Arizona water demand is met by Salt River Project (SRP) through supply from a system of reservoirs along two upland rivers. This paper presents an analysis of the sensitivity of the SRP reservoir system to variability and change in runoff.

The operational guidelines built into a model developed to simulate the reservoir system provide measures of resilience that can avoid reservoir system depletion under a wide range of flows and temporal variability. There exist variables not yet exercised which would force the system into a critical condition, including significant increases in demand for water deliveries or curtailment of supplemental groundwater pumping during times of drought. However, model results thus far indicate that regardless of origin, the SRP reservoir system will confront and is capable of surviving periods of flow deficit.

INDIGENOUS GHANAIAN FARMERS' PERCEPTION OF SOIL FERTILITY: A CASE STUDY

Abstract:

Increasingly, the urgency of reorienting conventional development paradigms to take into account indigenous knowledge systems is being recognized in both developed and developing countries. Based on a case study from Ghana, this paper discusses the nature of indigenous farming, perception of soil fertility, and the relationship between such variable as gender, age, and knowledge of soil fertility. The farmers are extremely knowledgeable about the physical properties of soils that affect performance and productivity of crops. What's lacking among the farmers is knowledge of the chemical properties of fertile soils. It is therefore recommended that agricultural extension officers should educate farmers in the area about the chemical or nutrient contents of fertile soils. This will go a long way to improve food productivity.

Visible and calculable: the politics of seeing and speaking on the Savannah River.
Ryan Covington – University of Wisconsin-Milwaukee

This research examines environmental injustice as a politics of knowledge. Using the Savannah Harbor Expansion Project as a case study, I explore competing claims of environmental injustice in the production of the project's Environmental Impact Statement. I argue that these claims are grounded in competing notions of participation and recognition, and the prevailing view of science which separates local 'values' from the production of scientific 'facts.' As a result, environmental justice concerns are placed exclusively into the realm of politics; recognized and capable of participating as one political voice among others but not as a legitimate producer of environmental knowledge claims. Thus, despite claims of participation and recognition in the EIS process, at best it can only ever be partial participation and recognition. Conceptualizing scientific knowledge as abstract, disembodied and objective permanently renders the experience of environmental injustice, developed through everyday sensations of the body in place, as a political one.

A Brief History for the Battle of Flood Control in the Yazoo Mississippi Backwater Area
Abstract

After the 1927 Mississippi River flood, the United States government passed the 1928 Flood Control Act, which sanctioned the Mississippi River and Tributaries project. The

purpose of this project was to protect residents of states that border the Mississippi River during episodes of regional flooding. The passage of the Flood Control Act of 1941 created the Yazoo Backwater Project for the specific purpose of protecting inhabitants of the Lower-Mississippi Delta through the construction of levees, drainage structures, and pumping stations. However, the proposed pumping stations were not constructed and frequent flood events continue to plague this area of Mississippi. Included in the review of this case is a discussion on structural and non-structural flood control measures in the Yazoo Backwater Area.

Key Words: Mississippi River Flood, Yazoo Backwater Area, Flood Control Methods

‘Chocolate Nations’ and the Issues Surrounding Cocoa Production in West Africa.
Michael Waylen
Undergraduate, Department of Geography, Florida State University.

In an era of globalized food systems and economies of scale, consumers are removed from the processes and required labor to produce finished commodities. Chocolate's commodity chain epitomizes the relationship between globalized food systems and the detachment between consumers and hidden labor, politics, business ethics, and environmental externalities of cocoa production. This paper examines the foundation of chocolate's commodity chain, cocoa production. Cocoa production in West Africa is representative of commodities that are geographically limited to tropical regions of economic development. West Africa's cocoa industry exemplifies the hidden labor and questionable business ethics behind food systems and corporate globalization. Although Fair Trade and sustainable alternatives have become available to the public, there is still no guarantee their cocoa was produced ethically. Chocolates commodity chain is dependent on the stability of West Africa's environment, political condition, and inexpensive labor.

Perceptions of Urban Security in San Salvador, El Salvador

Peter D. A. Wood

Florida State University

Drawing on interview data from San Salvador, El Salvador, in August 2012, this paper explores developments in the study of urban violence and informality in Latin American cities. San Salvador is representative of the neoliberal economic changes and social backlash that have persisted throughout Central and South America in recent decades. Analyzing perceptions on urban security, spaces of safety, and institutional protection of individual well-being, this paper expands upon previous research involving urban development, urban-rural migration within Latin American countries, organized violence as a response to economic disparity, social marginality, and the implementation of qualitative methods for gaining access to localized bodies of knowledge on these subjects. Based on these findings this paper proposes theoretical and practical continuations of research on Latin American cities, urban informality, and public engagement with spaces of perceived risk.

Using Remote Sensing to track the extent of agriculture in Virginia: Methods and issues

Ioannis Kokkinidis

Department of Geography

Virginia Polytechnic Institute and State University (Virginia Tech)

Steven C. Hodges

Department of Crop Soil and Environmental Sciences

Virginia Polytechnic Institute and State University (Virginia Tech)

James B. Campbell

Department of Geography

Virginia Polytechnic Institute and State University (Virginia Tech)

Abstract

This paper is part of a project to describe the ecosystem services provided by agricultural land in Virginia. There are very few studies about the extent of agriculture in Virginia. Remote Sensing offers an objective method to measure the extent of farmland. There have been several studies worldwide but few have focused in Virginia or the United States in general. Several land cover products are available for Virginia, the merits of which are examined. The definition of agricultural land is explored and a lookup table is proposed

SEDIMENT PAH CONTAMINATION IN AN URBAN WATERSHED AND THE INFLUENCE OF COAL-TAR PAVEMENT SEALANT SOURCES. Robert T. Pavlowsky, Marc Owen, and Daniel Williams, Missouri State University.

Polycyclic aromatic hydrocarbons (PAHs) can occur at levels of environmental concern in stream sediments in urban and industrial areas. It has been reported that a major source of PAHs to urban watersheds is due to the increased use of coal-tar sealcoats on parking lots over the past 40 years. The goal of this study is to evaluate the spatial distribution of PAHs in urban stream and pond sediments in Springfield, Missouri by focusing on the influence that land use and sediment properties have on PAH trends. There are four major findings of this study. First, urban sediments in Springfield contain PAH concentrations at levels of ecological concern. Second, similar to findings in other cities in the USA, sediments from coal-tar sealed parking lots and the streams that drain them are highly enriched in PAHs relative to unsealed asphalt and concrete lots. Third, sediment PAH concentrations are strongly related to the percentage of sealed parking lot area within the upstream drainage area of the sampling site, in contrast to total parking lot area. Finally, a regression model approach indicates that a ban on parking lot sealants has the potential to eventually lower the total PAH concentrations in sediments by 80-90%.

An Exploratory Survey of Computer Service Firm Interaction and Innovation in the
Charlotte Metropolitan Statistical Area
Jonathan Kozar, UNC Charlotte

Firm interaction and innovation have recently been considered as essential to the modern economic development of regions. The computer service industry enables knowledge production, innovation, and dissemination which present it as the ideal industry to assess knowledge-based metropolitan economic growth. This paper examines firm interaction and innovation of the computer service industry in the Charlotte MSA through the use of primary source data obtained from a mail survey of computer service firms in the metropolitan area. Overall, computer service firms in the Charlotte MSA, particularly Mecklenburg County, appear to be local start-ups relying on locally generated employee talent and client bases. The firms are relatively small in terms of the number of employees and revenue. They tend to rely on constant communication with clients and utilize traditional methods of interaction. Finally, the responding computer service firms are innovative and routinely provide custom products or services to clients which are derived internally or from organizations with close relationships with the firm.

Downstream Variations of a Transitional Blue Ridge River

Tanner Arrington, Allan James

University of South Carolina

This study investigates the variations of bed sediment and reach-scale channel bed forms through the Middle Saluda River in the transition between the Blue Ridge and Piedmont regions of South Carolina. Mountain river systems are less understood than lower gradient systems. Southern Appalachian rivers also lack representation in fluvial geomorphology literature. Steep river channel morphology, especially in-channel bed forms (pools, riffles, and steps), is driven by the interaction of sediment delivery and transport capacity. Field data collected for hydraulic, longitudinal and sedimentological variables are used to describe variations of channel morphology throughout the 110 km² watershed. There is a high range in the data due to local controls on hydraulics, especially evident with ranges in slope from 0.038 to 0.0003. Cross-sectional, longitudinal and sediment data from a case study reach is presented with a discussion of using the methodology for assessing downstream variations.

Producing Spaces of Flourishing: Neighboring, Shalom, and the Urban Commons.

Andy Walter, University of West Georgia
Katherine Hankins, Georgia State University
Harrison Annixter, Middlebury College
Sam Nowak, University of Washington

This paper speaks to a gap in the geographic literature on the space-producing everyday practices of agents of faith-based neighborhood change through ongoing qualitative research with faith-motivated neighbors. Empirically, we review the ways in which faith-motivated “intentional” neighbors – those who move self-consciously into poor neighborhoods in order to “do justice” by bringing about transformations of place – endeavor to address structural injustices within neighborhoods and cities by this means. Approached theoretically and philosophically, we consider the practice of intentional neighboring in relation to work in human geography on spatial justice, care-ethics, place and the urban commons. The purpose of the paper is to analyze the motives, practices, and potential impacts of faith-motivated intentional neighboring and its possible contributions (or not) across various scales to a more socially just urban landscape and human “flourishing” in neighborhoods.

Title: People, Perceptions and Market-Led Pluralism: Home-buying and Foreclosure Experiences in Knoxville, Tennessee

Madhuri Sharma, Department of Geography, University of Tennessee, Knoxville

Abstract

This paper analyzes household responses and perceptions concerning the five elements of a recently published framework of Market-Led Pluralism (*M-LP*) of Brown and Chung in *Annals* (2008), as perceived by homeowners in a southern metropolitan statistical area of Knoxville, Tennessee. The *M-LP* suggests that at the center of the whole dynamism are five elements: the housing developers/builders who continually unveil new urban spaces with culturally open communities; lending agencies that are encouraged and supported by government policies and provide highly affordable mortgages to an increasingly wide range of households; real estate brokers and agents for whom the discriminatory practices of the past are illegal, profit reducing, and often beside the point in today's marketplace; consumers whose preferences emphasize class-type elements such as amenities in housing and neighborhood, tempered by affordability; and communities that impose their own development agenda, or lack thereof, on the housing market. This paper analyzes the household responses, or others foreclosed due to the housing/economic downturn, and critically evaluates the *M-LP* framework as perceived by the consumers' in Knoxville. The analysis suggests some bad lending practices, over assessment of paying capabilities of prospective buyers, some steering based on race/ethnicity of the buyer, difficulties in refinancing and indifferent attitude of realtors in meeting buyer/seller needs.

Keywords: Market-Led Pluralism, Refinancing, Metropolitan Statistical Area, Developers/Builders, Racial/ethnic Residential Intermixing

Black farmers in the city

The purpose of this study is to examine the role of urban black farms (and farmers) in the context of the political ecology of U.S. cities. Specifically, the research will investigate the landscape of urban agriculture and the landscape of uneven food resources in a historically segregated city. Growing crops and raising animals in the city to sell in markets or as shares in a CSA (community-supported agriculture) is a trend gaining favor among public health advisors, city planners and community developers and is often viewed as a progressive solution to the uneven food landscape. This landscape includes deserts and swamps based on variability in store/restaurant proximity and quality, food and nutrition assistance programs, and community characteristics and histories. These factors interact to influence local residents' food choices and diet quality. Urban political ecology theory can be applied to describe and analyze the dominant, normative social processes prevailing in urban policies and markets today and historically. To further understanding of this food landscape and movement an empirical case study, examining an Atlanta neighborhood and urban farm will be conducted. Preliminary background work will include a GIS descriptive analysis of the food resources and population characteristics of the neighborhood. Subsequent interviews and participant observation with urban farm proprietors and supporters will investigate the assertion of an alternative urban food future as a growing social movement and identity. This research will also help to further understanding of the relevance and impact of race to the political ecology of the food environment and alternative urban futures.

**Agricultural investment in Mazabuka, Zambia:
The effect of smallholder-based schemes on economic landscapes**

Lowery Parker
University of Georgia

In the wave of agricultural investment that has hit Africa since the “food crisis” of 2008, smallholder-based biofuel production schemes are seen as “win-win” opportunities to address food and energy security in both rich and poor countries. But the social and environmental impacts of these investments are not yet fully understood. This paper analyzes workers and smallholder farmers incorporated into a large-scale sugarcane scheme in Mazabuka, Zambia, in order to illustrate how they help shape the economic landscape of capitalism. Findings indicate that while financially feasible, the consolidation of land necessary to make smallholder farms profitable, coupled with difficult working conditions for laborers, suggests a more complex system of trade-offs rather than a net positive or negative impact.

Quantifying Urban Food Sustainability: A Case Study in South Florida

John G. Zahina-Ramos

Dept. of Geosciences, Florida Atlantic University

Abstract

Sustainable cities require conditions in which they import fewer commodities and rely more on local production. Since food is one of the largest imports into cities, local food production can play a key role in urban sustainability. A methodology for calculating food sustainability from food production data and a spatial analysis has been developed to quantify the amount of community food demand that can be met. The methodology can be applied across a range of scales (neighborhood-level to metropolitan-level) and offers an objective way to measure the current and potential levels of sustainability that could be achieved through urban agricultural initiatives. Output from this analysis will be valuable for community leaders and planners who seek to expand the practice of urban agriculture. Quantifying potential food production amounts can increase understanding of how much of the resident's food needs can be met locally.

**A Climatology of the Structure, Frequency, and Propagation
of Midlatitude Cyclones that affect North Carolina**

**Linwood E Hall
East Carolina University
Graduate Student: Department of Geography**

Since no major rivers flow into North Carolina, precipitation is the main source of water for replenishing surface and ground water, as well as our soils. Seasonal features such as midlatitude cyclones, as well as interannual phenomena such as ENSO, contribute to North Carolina's complex precipitation climatology. As a result, North Carolina is vulnerable to precipitation extremes, such as droughts and flooding. This vulnerability makes our understanding of the precipitation climatology for North Carolina important. This research used a composite analysis to examine midlatitude cyclone passages for North Carolina on intraseasonal-to-interannual timescales. Using NCEP Reanalysis and TRMM precipitation, composites were analyzed for differences in midlatitude cyclone structure, frequency, and propagation for each season, as well as the effect of ENSO during winter months, between 1998-2010. Composite analysis indicates intraseasonal-to-interannual differences in midlatitude cyclone structure, frequency, and propagation at both the 850mb and 200mb levels. Understanding the synoptic patterns on intraseasonal-to-interannual timescales will contribute to advanced precipitation prediction for North Carolina.

RIDGE MOUNTAINS

James C Rogers & David S Leigh

The University of Georgia

ABSTRACT

Deforestation followed by soil erosion and subsequent deposition of alluvium in valleys played a critical role in the formation of an historical terrace (Leigh 2010). This terrace adds significant amount of sediment to the tributaries of the Southern Blue Ridge as streams laterally erode the terrace banks. This study examines the contribution of total sediment yield derived solely from eroded historical terrace banks in small watersheds (<20 km²) by using floodplain widths as proxies for long-term lateral erosion rates. The bank-derived sediment yield estimates are modeled from the predicted floodplain widths and erodible terrace bank heights with linear regression. Total stream length is a good predictor of both lateral erosion rates and erodible bank heights. Lateral migration and sediment yield results compare favorably to independent yield measurements from five independent watersheds in the region. Modeled estimates fall within 50 percent or better of the observed values at 17.25 to 26.42 tonnes/km²/yr.

GIS-based assessment of landscape dynamics for management of National Battlefields
Todd Lookingbill, University of Richmond

Battlefield parks are established to protect a mix of cultural and natural resources values. This dual mandate provides a challenge to environmental decision-making because the preservation of these two types of resources may sometimes be in conflict. The landscapes also are often a complex mosaic of forest and historic field patches, and are frequently located in areas of increasing suburban development. This study uses GIS-based analysis tools (e.g., FRAGSTATS, GUIDOS, CONEFOR) to quantify landscape pattern and to infer the integrity and risks associated with the patterns for four National Parks in Virginia and Maryland (Yorktown, Petersburg, Richmond, and Antietam Battlefields). Assessment of connectivity and movement processes are emphasized. A main finding of the assessment is the pervasive threat of species invasions to these landscapes. A decision-support tool is presented for prioritizing exotic plant management treatments using geospatial ecological and economic data.

(Coastal Geography Session)

Eric Spears, Ph.D.
Assistant Professor of Geography
Mercer University

The political ecology of Jekyll Island, Georgia is underscored by legal and political interpretations of the island's absolute space (land area). The questions of actual acreage and mean sea level (MSL) are fundamental to the island's conservation and future economic development. The 1971 Georgia legislation that outlined the '65/35' rule, which permits only one-third of the island to be developed, has been the directive for forty years. Recent attempts to revitalize the island's economy, however, have spurred debate over what constitutes the 65/35 decree. At stake are 367 acres of salt marsh that not only expand the island's developable physical space but also produce a new space of political struggle with social and ecological proportions.

Key words: production of space, mean sea level, absolute space, and economic development, political ecology

Fire in the Tallgrass Prairie-Eastern Deciduous Forest Ecotone: Utilizing Undergraduate Research as a General-Education Teaching Tool

Christopher A. Underwood

The University of Tennessee and the University of Wisconsin-Platteville

This paper illustrates a study in which I took all 178 of my Geography 1040 (a general-education earth science class) students, in individual groups of 24, into the field and laboratory to conduct a fire and vegetation study of a restored tallgrass prairie and an adjacent forest. The study site occurs on the campus of the University of Wisconsin-Platteville. Soil charcoal was utilized as a proxy for fire and vegetation types. During this two-week project, we covered the topics of biomes, climate, disturbances, and global change all through the lens of authentic, open-ended research – a very new experience for most of my students. The region serves as a potential ecotone between the eastern deciduous forest and the tallgrass prairie, lending to what was once a vibrant oak savanna. Native vegetation in southwestern Wisconsin now exists only in a fragmented mosaic. The goal was to introduce my students to this fragile ecosystem, since most of them have lived in the region for their entire lives, never knowing how their surroundings appeared before the influence of human disturbance. The results suggest a history of fire on this landscape.

Alterity, contagions and parasites in CSAs (companion species agriculture)

Michael Nesius (ABD)
Florida State University, Department of Geography

abstract

This is a study about queer vegetables and the companion species they make. Drawing on insights from the diverse economies and post-human literatures, I set out to elaborate a politics of the possible with regards to our food system via an investigation of alterity. In so doing, the unassailable character of neoliberalism and the big “C” are called into question. It is argued that many contemporary accounts of alternative food networks (AFNs) revert to a Capitalocentric politics-of-the-same encumbered by the failings of identity politics. Difference is ultimately rendered inconceivable as otherness is ultimately dissolved into the similitude of neoliberal governmentality. I begin with a cursory social network analysis carried out on human members of community supported agriculture programs (CSAs) in Tallahassee, Florida. This analysis, combined with a literature review of AFNs, is then used as a foil for an exposition on companion species in CSAs. Companion species ontological premise of becoming-with is argued to be a fruitful means of performing a political ecology of the possible that avoids misplaced concreteness

Placing Invisible Disability within the University. Toni Alexander, Auburn University. Disability today is defined as a social response to an impairment whether it be physical or psychological illness. Geographers, however, have furthered this discussion by drawing attention to the sociospatial context within which a disability exists. Whether or not someone is disabled is therefore contingent upon the social and physical environment in which they are present. Invisible disabilities then weave a particularly complex component into this equation as they are subject to disclosure by the disabled person and may not be readily perceived by others. The disclosure of an invisible disability can result in a variety in needed assistance being provided or stigmatization. Substantial research has explored the ways in which students experience their invisible disabilities within a university setting, but little attention has addressed the experiences of faculty.

In this paper, I investigate invisible disability within the context of the higher education environment. In particular, I use an autobiographic approach to explore the implications of personal mental health disorders for university faculty whose professional reputations and livelihoods exist in a place where intellect and reason are deemed to reign supreme.

The Flea Market of the American South as an Informal Economic Venue for Social Justice

By Chandler White, University of Tennessee at Knoxville

Historically, the informal economy has proven to be an essential element of the social, political and economic lives of Latin Americans, estimated to constitute “from one-third to over half of the economically active population” (Centeno and Portes 2006). Whereas the informal economy is the result of a multifaceted array of problems that have beset Latin American populations since early colonial times, the informal sector that can be observed today can trace its roots to the rise of neoliberal capitalism. While issues associated with neoliberal capitalism have engendered the informal economy, it concomitantly unravels injustices present in these communities. A manifestation of the informal economy that is pervasive both in the physical and economic landscape of the United States is the flea market. The American flea market occupies the intersection between the formal and informal markets, providing an ideal setting for Latin American communities to mutually individualize and broaden efforts to enhance social, economic, and political standing in a heterogeneous marketplace environment.

Key Words: Flea Market, Informal Economy, Social Justice, Latin America, Immigration, Nuevo South

Unfriendly Infrastructure: An urban socio-ecological study of older pedestrians' risks in South Florida, Rosibel Roman, Florida International University

Numerous studies have recognized and examined the factors that render older populations residing in urban areas vulnerable to traffic-related injuries. In South Florida, older pedestrians' vulnerability is well-known for being an especially glaring problem, as reflected by the disproportionately high rate at which older pedestrians are injured or killed by motor vehicles. Additionally, research inquiring into the socioeconomic background of these victims reveals that low-income residents and minorities make up a disproportionately high percentage of these documented cases. This paper takes a cue from a growing body of work calling for expanding the scope of urban ecology in a way that incorporates questions about the everyday living spaces of urban dwellers and how they negotiate built environments. This paper outlines an urban socio-ecological framework for examining the high-risk environment created by South Florida's car-oriented urban infrastructure converging with socioeconomic factors and particular needs of older pedestrians.

Spatial Thinking, Power, Pedagogy and Children's Participation in Planning: Finding
Common Ground through Geography and Theatre

Amanda Rees, Becky Becker, Andrea Frazier, and Camille Lawrence
Columbus State University

In this paper we describe the development of the *Shaping OurSpace* pilot program that was implemented during summer 2012. The program's goal was to engage young women, more strategically, in the neighborhood's public participation planning process. The pilot included 12 girls in a public housing development slated for demolition in four-five years. *Shaping OurSpace*'s objectives were actualized through an interdisciplinary approach that emphasizes spatial thinking, with learning outcomes made possible through theatre and geospatial activities. We outline the process of integrating geographically and theatrically-inspired spatial thinking activities, creating a shared methodology and pedagogy. We conclude with a reflection on the challenges of engaging girls in the process and working with non-profit organizations in economically challenged urban spaces.

An Integration of Satellite Imagery and LIDAR for Characterizing Change on a Barrier Island: An Example from Coastal North Carolina

Joanne N. Halls and Matthew J. McCarthy
Dept. of Geography and Geology
University of North Carolina Wilmington

Barrier islands provide nursery habitats for many species, naturally reduce pollutants that enter the systems, and reduce the impacts from storms and floods. The purpose for this study was to investigate the topographic and habitat change on Masonboro Island, an undeveloped and protected island in southeastern North Carolina. Several dates of LIDAR elevation data were collected for the island and comparisons were made for shoreline change, back barrier change, and island height, width, and volume. WorldView-2, QuickBird and Ikonos satellite imagery were compared and assessed for spatial accuracy. WorldView-2 and QuickBird were superior to Ikonos. The LIDAR data indicated that the shorelines are eroding and the island is migrating landward (retrograding) in the southern part of the island and the northern part of the island is narrowing. Habitat change from 2002 to 2010 indicated a substantial increase in upland grassland. Future research is comparing the topographic change with habitat change.

Characteristics of built environment and their relationships with pedestrian-vehicle crashes using Geographic Information Systems and remote sensing techniques.

Derek Jaworski¹

¹Department of Geosciences, Georgia State University, Atlanta, GA 30302

Abstract:

This study aims to examine how the characteristics of built environment influence the frequency of pedestrian-vehicle crashes. Pedestrian crashes (2000 – 2007) on major roads in DeKalb County of Georgia were obtained from Georgia Department of Transportation. The roads were broken up into 100-meter segments. By the aid of Geographic Information Systems and remote sensing techniques, the built environment is characterized using road grade, curvature, population density of the census blocks adjacent to each segment, the amount of commercial establishments, bars, and public transit stops nearby. A negative binomial regression model was used to examine the influence of the built environment characteristics on pedestrian crashes. The results show that all the variables except road grade are positively associated with increased number of pedestrian crashes. Findings provide insights into the influence of built environment characteristics which is important for injury prevention to improve pedestrian safety.

Third Presenter

Jihwan Yoon, Geography, University of Tennessee, Knoxville, Email:

amyjh07.yoon@gmail.com

Title: Driving Forces of Spatial Changes

Abstract: Space has continued to change since the birth of the earth. The surroundings of people face are not stationary regardless of our perception. If people would know the processes of spatial change(s) beforehand, and understand their principles, s/he would shape them according toward their purposes and benefits. There are a numerous factors of spatial change such as hurricanes, typhoons, crustal movements, soil erosion, etc. including human intervention. This study will concentrate on the spatial change(s) originating from the human activities that are purposefully designed at creating spaces that cater to their needs and desires. Understanding the aims and activities of class, country, society, individual, etc. is crucial in analyzing the social phenomena which affect our environments and guide civil groups starting social movements. Since the goals of different people are different, there are various struggles and politics involved to bring and create variety of socio/cultural and economic spaces. The various actors strive to find effective ways to fulfill their own purposes. If their strategies are conducted by secret and subtle means, they can not only achieve their ends but also gain social justification(s). To grasp these abstruse processes and principles, this study will focus on the concept of *langue* based on the concept of structuralism and Lefebvre's theory. Society and space are significantly affected by subtle processes rather than vivid ones. In this paper, I use of images and ideas from urban-social spaces in Korea to examine, analyze and discuss various ways of (re)creating space and place.

Key words: Langue, Structuralism, Lefebvre, Production of Space, Group Consciousness, Spatial Change

Farms and Farmers in Historic Censuses: Images and Regional Policy Connections from Nineteenth Century Southern Appalachia. Tyrel G. Moore, University of North Carolina Charlotte

This paper illustrates connections between Southern Appalachia's Nineteenth Century agricultural system and a 1930s national identification of the area as an economic problem area. Historic maps produced by federal studies in the 1930s are combined with manuscript forms of Agricultural Censuses from 1850-1880 at multiple scales to reveal images and connections between the region's agricultural system and a national awareness of regional poverty .

Integrating GIS and BBNs for Exploratory Analysis of Environmental Data and Decision Making

J. D. Morgan¹, M. W. Hutchins¹, J. Fox¹, K. L. Rogers¹

¹UNC Asheville's National Environmental Modeling and Analysis Center (NEMAC)
One University Heights Asheville, NC 28804
Email: {jdmorgan,mwhutchi;jfox;krogers}@unca.edu

Abstract

Geographic Information Systems (GIS) and associated visualizations are very useful for understanding spatial datasets and communicating spatial patterns and information. However, GIS loses its effectiveness when groups of decision makers are trying to work with multiple map datasets and understand how the data corresponds to the problem they are trying to address. Bayesian belief networks (BBNs) provide a graphical (and automated) way to display and interact with probabilities of related event information. Integrating GIS with BBN's provides a solution to the challenge of decision making across multiple map datasets. By using the techniques discussed in this paper a group of decision makers can visualize the relationships between the data and consequently focus on the issues they care about. A group of decision makers can integrate multiple datasets on a landscape scale, understand how these datasets link to their key values and therefore enable the group to make better decisions.

A GIS-based Model for Monitoring Impacts of Exurban Development on Forested Areas

Christopher A. Badurek, Dylan Philyaw, and Rene Salinas
Department of Geography and Planning
Appalachian State University

Abstract:Increasing growth in housing and resulting loss of forested lands are significant issues to western North Carolina residents due to associated effects on both ecosystem services and the local economy's second home market. To further understand the rate of housing density change and potential environmental impacts, a GIS-based model has been developed to forecast land use changes and impacts on public and private forested areas of Watauga County, NC. This forest loss susceptibility model is derived from land cover, terrain, land value, infrastructure, and prior growth rate variables and implemented into a script for running at varying temporal intervals within GIS. Assessment of the model in Watauga County indicates a 30% transition of forested areas to developed low density exurban areas over a 15 year time period with the most significant pockets of growth in exurban land use constrained within range of hotspots of recreational amenities. Results from this study are used to improving land conservation decision-making efforts and in estimating losses of ecosystem services due to transition from forested to exurban land uses.

Cumulative Viewshed Analysis and GIS Modeling to Site Wind Power Parks in the New River Gorge Region, WV

Brian Wize and Christopher A. Badurek
Appalachian State University

Wind power is an increasingly attractive energy source for West Virginia as the state holds valuable wind resources and new wind farms can be developed on former mined sites. This research uses a GIS model to identify potential sites for wind power parks in the New River Gorge Region of West Virginia. The analysis focused on identifying sites conducive to development of utility scale wind energy infrastructure by examining ideal wind locations located within the spatial constraints of economic viability, viewshed protection, and reducing negative impacts on wildlife. A cumulative viewshed analysis was conducted using GIS and added to the site suitability model. This addition adds to prior work on use of GIS models for identifying ideal wind power sites. This, along with land use/land cover, roads, elevation, slope, transmission lines, and population density are integrated into a site suitability model to determine the most economically feasible areas. Results indicate several viable locations for wind power parks in the New River Gorge region within close proximity to Beckley. Development of renewable energy parks in the region may provide the benefits of improving the state's renewable energy portfolio and reuse of formerly mined sites.

Assessing the Impacts of Water Supply Watershed Designation on Rates of Development using GIS

Robin Hale and Christopher A. Badurek
Appalachian State University

Abstract: North Carolina is one of the fastest growing states. As population increases, municipal water demand also increases. In order to meet this growing demand, new water supplies or water intakes are needed. In order to create a new surface water intake, it is necessary to obtain a permit which designates the area of land which drains to the intake as a Water Supply Watershed (WSW). WSW designation puts restrictions on the type and amount of development which can occur in an area. This research reports on a GIS analysis used to assess the impacts of this policy on growth and development across North Carolina between 1996 and 2006. Results indicate that there did appear to be a relationship between WSW designation and change in development, however it depended on the type of WSW (e.g, WS-I vs. WS-II). Results from this study also examine the relationship between WSW type in the Asheville region and how water demand may be better managed and forecasted. Overall, this NC WSW policy appears to be effective in helping to limiting the rate of growth in certain circumstances.

Resisting Strategic Incapacitation: Occupy Wall Street, the New York Police Department, and the Struggle to Control the Field of Protest.

Bob Edwards, East Carolina University, edwardsr@ecu.edu

Patrick Gillham, University of Idaho, Gillham@uidaho.edu (non-presenting co-author)
Abstract

Since the 11 September 2001 terrorist attacks a new repertoire of protest policing we call 'strategic incapacitation' is employed by law enforcement agencies nationwide to police protest demonstrations. A key feature of "strategic incapacitation" is to control and incapacitate protest by enforcing four types of securitized space that we call hard zones, soft zones, free speech zones and free press zones. This research seeks to better understand the implementation of strategic incapacitation tactics through a detailed analysis of the policing of the first two months of Occupy Wall Street (OWS) protests in New York City. Original data for this study are derived from field observations in New York City supplemented by activist interviews, activist accounts posted on OWS websites, Facebook pages, and Twitter feeds as well as news reports, official police documents, press releases, and interviews with legal observers.

Elizabeth Hines, Department of Geography and Geology, University of North Carolina Wilmington, hinese@uncw.edu.

Port City on Fire: Protest and Rage, Desegregation and Rage, and Defiance of Jim Crow in Wilmington, North Carolina

Dr. Martin Luther King, Jr. cancelled a visit to Wilmington the day before his death in 1968. For three days after King's death, black students marched, rioted, burned buildings, and were arrested in the hundreds. Heavy rains quelled the chaos. But rage erupted again when Wilmington's public schools were suddenly integrated that fall, fourteen years after Brown. All-black Williston High was closed: its students were shocked when they were transferred, unprepared, to all-white schools. Fights started and police were a constant presence from 1968 to 1971, when blacks boycotted and took to the streets. Black militants and white supremacists battled for several days around the students' safe-haven. Student unrest became city-wide rioting. Arson claimed 27 buildings. The question is: who fire-bombed who? Records and recollections of the two spates of rage are examined: 1968 following Dr. King's death; and a 1971 sequel blamed on the Wilmington Ten, eight black high school students and two adults convicted and imprisoned for assault on emergency personnel responding to one arson. The MLK riots have been forgotten, but the Wilmington Ten events reverberate throughout southeastern North Carolina as civil rights activists continue to demand social justice in the region's political, social, and economic arenas.

‘A Soul Burning for Life’: The Death and Life of Dang Thuy Tram

James A. Tyner, Department of Geography, Kent State University

Abstract

Recent years have experienced an upsurge in the study of women’s experiences in war. Apart from ‘filling a gap’ in our understanding of the social in warfare, these studies have highlighted the complexities of both ‘resistance’ and ‘defiance’ geographies. The purpose of this paper is two-fold. On the one hand, I seek to contribute to the on-going project of understanding violence in everyday life. On the other hand, by situating ‘everyday violence’ within the context of feminist geopolitics, I contribute to our understanding, specifically, of women’s experiences in warfare. I accomplish these twin tasks through a reading of a narrative of violence provided by Dang Thuy Tram—a medical doctor who lived and died in the Vietnam War.

Watershed Wars: “Say No to Sanderson Farms”

Heather Ward, PhD
252.904.1641

This paper begins to tell the story of efforts by Nash County officials to recruit Sanderson Farms Inc. to the region from the perspectives of those opposed, including adjacent landowners, southern Nash and northern Wilson County residents, the City of Wilson, local businesses, non-governmental groups, and other regional organizations. The intent here is to provide a brief summary of the underlying environmental issues present in this conflict involving two counties, two watersheds, and two competing economic development visions. Additional scholarship on this case study not included in this brief treatment considers how the major actors are contesting space, their competing values and community identities, methods of environmental communication and activism, and finally discourse analysis regarding the role of scientific information in local and regional environmental debates.

Key words: North Carolina, environmental movement, environmental communication, environmental justice, contested space, ethnography, watershed management, discourse analysis.

Learning from, and with, the city: Engagement opportunities for the decentered laboratory

Henry Way
James Madison University

Highlighting the opportunity of using the local city as a “laboratory” for engaged student learning, this paper outlines the ways in which connections can be made with city government, key problems and priorities for the city identified, and local resources mobilized. It explores the Comprehensive Plan as a source of student project opportunities, and the local institutional context for meaningful human and environmental engagement. The paper describes some of the ways the author has created useful projects that facilitate both contextualized, “real-world” student learning, and produce valuable information for the locality, producing a truly two-way engaged pedagogy. It emphasizes how this form of problem-focused, community integrated work can help develop more grounded, critical thinkers in our geography student body. While principally focusing on human and sustainability questions, the “city lab” concept outlined here provides some broad guidelines for productive contemporary student learning, applicable in a variety of contexts. There are many opportunities in our immediate communities; this paper suggests some productive ways in which they can be tapped. In its breadth, integrated character, and concern for the material and imaginative nature of place, Geography as a discipline is perhaps uniquely situated to address diverse complicated challenges in our local communities.

In the Shadow of the Chattanooga Renaissance: Poverty, Crime and Social Disorder
Ken Chilton, Ph.D.

The Ochs Center for Metropolitan Studies
& the University of Tennessee-Chattanooga

Abstract

The city of Chattanooga was recently selected by the New York Times as one of the 50 “must visit” cities in the world. That’s an impressive accolade for a mid-sized southern city that was once considered the most polluted city in America. Local leaders brag about the “Chattanooga Way” and how this community-wide decision making process has transformed Chattanooga into a model of urban redevelopment.

Despite the resurgence of downtown Chattanooga and the urban core, many inner-ring neighborhoods remain mired in poverty. In fact, some city leaders believe Chattanooga’s hard fought reputation as a destination city is threatened by crime and gangs. Shootings and random violence are a common occurrence in some urban neighborhoods. The Chattanooga Police Department constituted a Gang Unit to aggressively suppress gang activity. The city mayor commissioned a comprehensive gang assessment study in February that fully acknowledges the reality of gangs in Chattanooga.

This paper will highlight the demographic, cultural, and community challenges that threaten Chattanooga’s reputation. It will describe the process known as “the Chattanooga Way” and discuss the scalability of this decision making model to non-economic development issues.

Watershed Fragmentation in Coastal Plain Rivers. Jonathan D. Phillips, University of Kentucky.

Watershed fragmentation is a process in the lowermost reaches of coastal plain rivers whereby tributaries or distributaries of a river become hydraulically separated, fragmenting the original drainage basin. Two mechanisms drive watershed fragmentation—fragmentation avulsions, and the drowning and erasure of confluences by sea level rise. The first occurs when, following an avulsion, the former main channel is maintained as an active channel and loses its hydraulic connection with the new channel. The second mechanism occurs when tributary confluences formed on lower river reaches during lower sea level stands are inundated, so that the formerly connected streams now have separate connections to the coastal zone. Fifteen small coastal watersheds in Texas are examined to determine whether they have experienced watershed fragmentation by either process. Ten were separated from adjacent drainage systems by sea level rise during the Holocene, and an additional one in the late Pleistocene. The other four were created by fragmentation avulsions within the past 3 Ka. As all 15 systems examined were created by watershed fragmentation, this suggests that small coastal watersheds are not formed independently of the larger rivers draining the interior.

TITLE

Spatial Distribution in Mississippi Seafood Licenses during the 2010 Gulf of Mexico Oil Spill

AUTHORS

Benedict C. Posadas, Ph.D.

Associate Extension/Research Professor of Economics
Mississippi State University, Coastal Research and Extension Center
Mississippi-Alabama Sea Grant Extension Program

Benedict Kit A. Posadas, Jr.

Doctoral Student, Mississippi State University, Department of Geosciences

ABSTRACT

Natural disasters such as Hurricane Katrina have adversely affected the livelihoods of the people involved in the commercial harvesting sector of the Mississippi seafood industry (crab, finfish, oyster, and shrimp). Man-made disasters are likely to be no different. This paper examines the geographic distribution of the fishermen with active commercial licenses at the time of the 2010 Gulf of Mexico oil spill as the start of a study in how the spatial patterns change over time.

