Abstracts

Paper Sessions

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Whatever Happened to Cottonville?: The Town That Hortense Powdermaker Made Infamous.

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In 1939 Hortense Powdermaker published "After Freedom: A Cultural Study in the Deep South." The book is about race relations in a town which Powdermaker calls Cottonville. Cottonville is actually Indianola, Mississippi in the Yazoo Delta. The purpose of my paper is to analyze racial changes in Indianola caused by the civil rights movement and the War on Poverty.

Powdermaker described rigid segregation in Cottonville. Because the 1965 Voting Rights Act restored the vote to Mississippi blacks, whites refused to annex the new black residential areas beyond the southern boundary. Annexation of three white areas triggered the Voting Rights Act. The federal district court ordered Indianola to annex the black residential areas prior to the 1990 census. Blacks were 66 percent of the population in 1990, and they began to elect black officials. Whites began to flee Indianola. By 2000, blacks had begun to purchase dwellings in the white residential areas, and the business infrastructure had begun to decline. In 2007 Indianola was becoming a ghetto town, one which is more than 75 percent black with a high poverty rate.

Symbolic Excavation and the Memory Work of Remembering Slavery in the American South: Observations from Walterboro, South Carolina. Derek H. Alderman & Rachel Campbell, East Carolina University

Traditionally, historic sites in the American South have not engaged visitors in critical discussions of slavery. Some scholars have used the term "symbolic annihilation" to capture the manner in which these sites have failed to represent the identities and histories of the enslaved as they valorize the accomplishments and worldviews of whites. Yet, there are early indications that this pattern has begun to change as tourists seek out and are offered fuller and sometimes traumatic representations of African American history. In understanding how slave histories are resurrected and written into memorials, museums, and other public places of memory, it is perhaps useful to think about it as a process of "symbolic excavation." The metaphor of excavation also prompts us to realize that the unearthing of difficult and long suppressed (and repressed) historical narratives can only happen through memory work, the active construction and representation of the past. To explore the ongoing symbolic excavation of slave history in the South, we focus on a recent addition to the southern tourism landscape—the Slave Relic Museum in Walterboro, South Carolina. Our paper focuses on the museum's African American owner and curator, Danny Drain, and discusses one of the unique strategies he uses in narrating the history of slavery. Part of the power of his museum is the way in which Drain provides visitors the opportunity to see and actually touch some of material traces of slavery, including chains and shackles. Establishing this tactile relationship between museum visitor and artifact does more than simply assist Drain in illustrating the history of the slave trade. It is also involves the visitor in the excavation process. Physically engaging the chains forces them to participate in the "memory work" of not forgetting or trivializing the enslaved and their experiences.

National Parks and the Inversion of Appalachian and Hill Country Stereotypes.

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During the early decades of the twentieth century, pressure came from multiple sources to make the U.S. national park system truly national in scope by creating parks in the eastern portion of the country. Although many places were proposed as national parks, when Congress authorized money to fund site selection, it was clear the site would be Southern, not merely Eastern. This paper examines the history of deliberation and legislation encompassed in the Congressional Record to show that a critical component in selection process was a reframing of essential characteristics about the South that inverted longstanding stereotypes of Appalachia and the upland South. Using discourse analysis, it shows that the areas that became Shenandoah, Great Smoky Mountains, and Mammoth Cave National Parks were re-imagined by Congressional discourse to be central, rather than peripheral; to be easily accessible by modern transportation networks, rather than isolated by impenetrable mountains; and, most significantly, to be empty lands, forest primeval, rather than a "strange land" inhabited by a "peculiar people."

Spatial Analysis of Sea-Level Rise and Coastal Spit Morphodynamics

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Abstract

Cape Henry, a spit complex in Virginia, is chosen for investigation of the morphodynamic response of shoreline to sea-level rise. Cape Henry's shore changes during the late Holocene rise in sea level to present were analyzed. Digital elevation models and geomorphometric analyses quantified the volume of the spit complex during various stages of evolution. Photogrammetric spot heights were integrated with topographic and vector shoreline data. Isobaths from the quadrangle were used to estimate the slope and toe depth of the modern shoreface. These data modeled the antecedent base of the prograding shoreline of the spit. Vertical rates of relict-berm submergence were used to estimate the age of dune and beach-ridge sets in the spit complex. The oldest ridges were estimated to be 3,300 years old. Ridge sets were used to reconstruct paleoshorelines. The Virginia Beach headland could have been 4 km further seaward about 2,500 years ago. Spatial analysis techniques used to reconstructing past shoreline positions hold promise for predicting future complex responses, if both morphostatic and morphodynamic processes can be incorporated.

Indigenous Beliefs and Environmental Stewardship in Rural Ghana

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ABSTRACT. Despite recent interest in indigenous knowledge, few studies have linked it with indigenous beliefs system and its role in environmental stewardship. This link is important to cultural geographers interested in the study of small-scale cultural groups and how they relate to the environment. It also helps us understand the cultural dimensions of environmental stewardship and resource conservation. Based on a study of a monkey sanctuary in Ghana, West Africa, this paper argues that indigenous belief system is an essential part of indigenous knowledge and that it could serve as a very effective tool for the protection of sacred groves and isolated patches of rainforests that have fallen victim to development as a result of increasing globalization, population pressures, and the spread of Christianity. Thus, indigenous beliefs system is not just a relic of the past but is something that is important now and will be worth having in the future.

Observed patterns in tropical impacts on North Carolina and their relationship to drought

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The observed relationship between two of the major historical hazards common to the Southeast, tropical activity, and prolonged drought conditions, is studied by estimating the relative frequency of tropical events impacting North Carolina during drought periods and during equal length preceding and following periods. Both tropical activity and drought are known to have elements of periodicity, and have been correlated with various local and remote climate mechanisms. Using a standard paired t-test, it is found that periods following drought have a significant increase in tropical activity affecting the region, relative to both the drought and preceding period. By quantifying the pattern between drought and non-drought periods, we gain insight into further research questions. From the observed relationship, we see two possibilities. Changes in tropical activity work to initiate, prolong and/or eventually ameliorate drought or the observed relationship is diagnostic of an omitted variable, suggesting that one or more remote mechanisms are playing key roles in the patterns of both phenomena concurrently.

Identifying Barriers to GIS-based Land Management in Guatemala

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Abstract: Land tenure and effective land management are recognized as priority areas for government agencies, particularly for sustainable development, natural resource planning, and environmental management. In Guatemala, there is specific interest in the development of GIS capabilities to address these issues within the context of developing a national land information system. Previous work has shown successful land registration may be constrained by barriers in national spatial data infrastructure (SDI). This case study examines limits to successful completion of the land registry processes in Latin America by addressing the most significant barriers to developing a National Land Information System used to support cadastral reform in Guatemala. Findings from interviewees of government agencies during this project indicate that while technical improvements can be readily implemented, social factors associated with NGO and government interaction, inefficient spatial data infrastructure, and disincentives such as expenses involved in the land registration process and lack of access to the government registry seriously hinder the completion of the cadastral process. These findings are discussed in light of international aid and development policy.

Abstract

Joby Bass

Cultural landscapes offer potential insights into cultural processes. As a cultural/political landscape element, the domestic campaign sign is linked to a variety of socio-cultural and political processes. Examination of the geographical distribution of 2004 Presidential Election campaign signs posted throughout one town in Mississippi illustrates that ethnicity is a factor in understanding who chooses to post signs. Further, the correlation of sign postings to voter turnout indicate that both activities are forms of political participation that are embraced differently by different ethnic groups.

A Place-Based Approach to Rural Development: Success and Failure of Crossbred Cows in India

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While crossbred cows are promoted by national and international development agencies as harbingers of a revolution in dairy production, their adoption across rural India has been extremely uneven. This paper argues that this unevenness in adoption, usually explained as resistance to Western technologies, can be more fruitfully approached through situating development programs within place-based agrarian practices and social relations. More specifically, this paper focuses on two villages in order to understand how dairying based on crossbred cows differs from dairying based on water buffaloes. Utilizing data from household surveys and ethnographic fieldwork, this paper shows that the ownership of dairy cattle is broadly related to land, household size, and caste identity in both villages, even as the context-specific ability of households to pursue dairying separately from crop-based agriculture is key to the adoption of crossbred cows. Given that one of the principal aims of dairy development is replication, this paper shows how replication is produced in the conjuncture between local needs and global desires, rather than merely being a direct effect of official development policy.

The irrelevance of Flannery compensation

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Abstract

For symbolizing attributes using proportional symbols cartographic software often provides an option to apply perceptual scaling or Flannery compensation. This compensation increases the symbol sizes to account for a tendency of underestimation by map readers when interpreting the area of symbols. The tendency for underestimation of symbol size is based in the classic theories of psychophysical estimation developed in the 1800s and incorporated in cartographic research beginning with the work of James Flannery in the 1950s. Since that time, there has been substantial work on map readers' interpretation of values of proportional symbols, though the initial work by Flannery seems to be the best known and has become a significant influence on cartographic design – even though it may be inappropriate to apply it in many situations. This paper will provide a background in the psychophysical estimation trends that can influence perception of proportional symbols on maps, and will also discuss whether or not Flannery compensation is an appropriate and / or necessary tool to use when creating proportional symbol maps.

Private Remembering and Public Forgetting: New Suggestions from the Japanese American Internment Camp Landscapes. Stephen S. Birdsall, University of North Carolina at Chapel Hill.

Private and public memory are often seen as alternative facets of remembrance that can be made compatible through appropriate landscape memorials. The tangled process of publicly acknowledging a shameful episode in the country's past suggests a different interpretation of private and public remembrance. The internment of more than 110,000 Japanese Americans during World War II in ten large "relocation centers" was largely forgotten by all but the internees and their families. After visiting all eight sites not on Native American land, a more complex relation between time, space and remembrance is illuminated by the differences among the mostly obliterated camp landscapes.

Rails to Trails in Action: The Dahlgren Railroad Heritage Trail

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The Dahlgren Railroad Heritage Trail (DRHT) is a controversial rails to trails conversion project on an abandoned former military railroad in King George County, Virginia. An organization, Friends of the DRHT, formed in late spring, 2006, to turn an idea into reality, has made remarkable progress in the last 18 months clearing land, creating a trail head, marshalling support from county residents, and educating those who are opposed to trail development. Establishment of the trail brings an unprecedented recreational resource to the county, which is experiencing rapid population growth. The 2006 Virginia Outdoors Survey revealed that nearly half of respondents indicated a pressing need for walking/hiking trails; a non-scientific survey of residents in the local region mirrored these state-wide conclusions. The DRHT was included in the 2007 Virginia Outdoors Plan, and supporters of the trail hope that this listing will finally encourage County officials to support the trail. This paper explores the context of rails to trails conversion, the organization of Friends of the DRHT, its efforts to develop and promote the trail, and the opposition which the group has faced.

Crescent City Crisis: Recounting a Large-Scale Emergency Urban Evacuation

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Abstract

Hurricane Katrina and multiple breaches of the levee system around greater New Orleans necessitated the near complete evacuation of this major metropolitan area. Nearly 1.4 million people were temporarily displaced, while approximately 400,000 individuals suffered long term displacement from flooded homes. This large scale population movement has been compared to the great migration during the dustbowl years, with the important distinction that the evacuation of New Orleans occurred over just a few days. This paper attempts to account for the movement of people out of the region during this ten day period. We begin with the estimated August 2005 population of the 'at risk' areas and data on the evacuation and sheltering operations to estimate the number of people who neither evacuated nor sheltered. These individuals are assumed to be in their homes at the onset of hazard conditions. Next, we apply flood depth data to estimate the number of people exposed to flood conditions and compare this estimate to the search and rescue, emergency sheltering, and final evacuation counts. Comparing these independent sources, it is estimated that approximately 60,000-65,000 people were exposed to flood conditions.

Robert Brinkman
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Sinkholes in Florida do tremendous damage to property each year. However, while their distribution is well known, the timing of sinkhole formation associated with climatic factors is less well understood. This paper assesses short-term and climatic precipitation trends as they relate to the formation of sinkholes. Previous work done on this topic examining the Florida Sinkhole Database indicates that there is a distinct seasonality to sinkhole formation. However, the database is flawed in that it is a self-reported database. To augment this work, this paper examines the timing of significant sinkhole events in Tampa and Orlando between 1985 and 2004. Events were considered 'significant' if they were reported on by local papers. Thus, a lexis nexis database search was conducted of newspapers reporting on sinkholes in Tampa and Orlando. The results indicate that there are seasonal variations in the timing of sinkhole formation. Most of the sinkholes form during rainy months, or at the end of the dry season. In addition, as annual rainfall increases, sinkhole formation increases. These results provide a framework for the development of a model for sinkhole formation in the Florida peninsula.

A Grave on the Green Hillside: Sacred Space and Political Struggle in the Southern Appalachians.

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In the summer of 2006, officials in Watauga County, North Carolina selected a site for a new high school. Soon after the site selection became public, many residents testified that a graveyard lay beneath a portion of the property. As oral history, county records, and archival documents confirmed the existence of the graveyard, a conflict ensued as the various parties fought over the proper balance of development and sacred space.

In this paper, I recount the situation as it emerged in Watauga County in 2006 and the ways that the case reveals issues of contested sacred spaces and the spatial qualities of power. I pay particular attention to the ways that social and community groups construct places of sacred meaning and how these places fit into modern civic society in light of development and the spatial encroachment of the state. Finally, I comment on the ways that traditional customs of burial, death, and sacred space continue to resonate among the people of the Southern Appalachians.

Key words: Southern Appalachians, sacred space, burial customs, folk traditions

MITIGATING THE EFFECTS OF DIFFERENTIAL ILLUMINATION IN MULTISPECTRAL SATELLITE IMAGERY IN THE APPALACHIAN MOUNTAINS

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Researchers have recognized the impact topography has on remotely sensed imagery of mountainous areas since the mid-1970s. Because of the considerable effects topography has on spectral reflectance values, removal of these effects is necessary for accurate assessment of remotely sensed imagery in rugged terrain. The purpose of this research was to take an operational approach to: 1) analyze the impact DEM source, interpolation routine, and resolution have on mitigating the effects of topographically-induced differential illumination present in remotely sensed imagery, 2) analyze the influence of imagery source, and 3) determine if multiple Minnaert *k* values or a single globally computed Minnaert *k* value produces the most accurate correction results. Results from this research indicate that the DEM characteristic that accounted for the most variance between correction results was source, with LIDAR data generally outperforming NED or SRTM data. However, it was imagery source and the use of multiple Minnaert *k* values compared to a global Minnaert *k* value that had the most influence on the total amount an image was corrected.

NEGOTIATING UNCERTAINTY: SMALL FARMERS' ADAPTIVE STRATEGIES BEFORE AND AFTER AN ENCOUNTER WITH HURRICANE DEAN IN JAMAICA

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ABSTRACT

In recent years, Jamaica has been seriously affected by a number of extreme events. The most recent of these, Hurricane Dean, passed along the south coast of the island in August 2007, damaging crops and disrupting livelihood activities for many small farmers. This study is based on detailed ethnographic research in the parish of St Elizabeth during the passage of Hurricane Dean, and explores the unique ways in which small farmers negotiate the stressors associated with hurricane events. These data are combined with quantitative and qualitative data gathered from a survey of 282 farming households to fulfill two main objectives. Firstly, the paper documents adaptive strategies employed by farmers in the immediate period of Hurricane Dean to reduce damage to their farming systems. By doing this, the positive correlation between farmers' perceptions of hurricanes and degree of damage to farming systems is highlighted. Secondly, through an analysis of socio-economic and environmental data gathered, the paper provides an understanding of the determinants of adaptive capacity and strategy among farmers in the area. The study shows that despite high levels of vulnerability, farmers have demonstrated that successful adaptation can be achieved at the farm level.

FLOODING THE AMAZON WITH LIFE: A hydrologic approach to understand catfish larvae drifting in the Madre de Dios River, southeastern Peru

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Seasonal hydrologic conditions and catfish larvae production were evaluated in the Madre de Dios River in order to understand the influence of environmental conditions on the reproductive behavior of a group of large catfishes. A simple stochastic model is presented to describe the influence of the natural flow regime of this river on the drifting of catfish larvae. One year of daily river stage records were related to weekly larval catches to determine the association between floods and spawning events, and on the basis of hydro-climatologic characteristics of Andean-Amazon regions, available long-term historical rainfall records were employed to determine the inter-annual variability of floods within the basin.

Major larval drift appeared associated with stages of over the 5 m, named as "Biologic Hydrologic Significant Event" (BSE), a physical indicator used as the trigger for spawning responses of these species. Uniform distribution of timing of these BSEs, estimated from the historical rainfall records, and inter-arrival times were exponentially distributed during wet season. These observations provided the basis of the stochastic model describing the likelihood of larvae releases from this headwater region to lowland Amazon. Ecological role of this region was emphasized in life cycle completeness of this important Amazon fish resource.

"NO MOUSE IN MY HOUSE?" ORLANDO 'GAY DAYS' AND THE GEOGRAPHIES OF SPECTACLE

Thomas Chapman
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Culture war battles in and around Orlando, Florida over the past decade have, in part, been articulated through various public debates about expressions of identity as seen through a lens of sexual citizenship. Traditionally viewed as a 'family oriented' space for both residents and tourists alike, geographical imaginings of Orlando and its surrounding venues are most often wrapped within a decidedly heteronormative cultural domain. But various changes within the scalar politics of the urban regime, specifically as it relates to increased visibility of gays and lesbians, has begun to alter the traditional landscape. This redefinition of Orlando's cultural spaces has not materialized without its fair share of confrontation and heated debate, for which competing images of Orlando as a 'family playground' have emerged. One highly visible example is the advent of Orlando's annual "Gay Days", a large public event that has impacted the area's social, economic and political geographies. This paper discusses this very public celebration in the context of competing discourses on who has the right to public space within the mind's eye of Orlando area residents.

Children in the City: Racial/Ethnic Disparities in Air Pollution Exposure at School and Home

Jayajit Chakraborty, University of South Florida, and Paul A. Zandbergen, University of New Mexico.

This paper examines the environmental justice implications of children's health by exploring disparities in potential exposure to air pollution, based on both school and home locations of children and two types of pollution sources in Orange County, Florida. Using geocoded school and residence locations of children enrolled in public schools, distribution functions of proximity to the nearest facility are generated for each type of air pollution source to compare the exposure potential of White, Hispanic, and Black children. The results indicate a consistent pattern of racial inequity in the distribution of both pollution sources, with Black children facing the highest relative levels of potential exposure at both school and home locations. At any given distance from each pollution source, the cumulative proportion of Hispanic or Black children significantly exceeds the proportion of White children. Regardless of race, however, a larger proportion of children are potentially exposed to air pollution at home than school. The study addresses the growing need to consider both daytime and nighttime activity patterns in the analysis of children's environmental health.

Ken Chilton
University of North Carolina-Charlotte

As urban regions continue to expand in a sprawling manner, the necessity of planning for future development grows. While planning is an acceptable policy to most urban residents, the proper role of planning in the rural context is often fundamentally misunderstood by residents and planners alike. Exurban growth brings multiple forces to bear on the economic, political and social landscape of a community. The opportunities for discord are immense given the conflicting perspectives of long-term residents, new-comers and expanding bureaucracies spawned by development. Newcomers can bring innovative ideas to formally under-planned areas. At the same time, they can demand advanced urban services and encroach upon agricultural or informal housing arrangements like manufactured housing areas. Likewise, natives want the best of both worlds—complete freedom to exercise their property rights while longing for preservation of a rural heritage that is under threat. In this milieu, planners are tasked with the job of creating communities that respect property rights, preserve rural heritage and promote a high quality of life. In reality, this is a planning minefield that practitioners and academicians have offered limited advice. The challenges facing rural planners are too often assuaged by imposing urban planning ideas upon small towns.

Agriculture and the Economy: Case Studies of New Mexico and Mississippi

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University of Southern Mississippi

How significant is soil type and climate in reference to the economy of a state? One of the major divisions of a state's economy is its agriculture. The agricultural census can be compared to the state's climate, soil type, and size, to answer the initial question. Soil type and climate have an enormous impact on agriculture and therefore the economy. Two states that emphasize this point are New Mexico and Mississippi. The effect of dry climate and shallow soil is visible in New Mexico's agricultural census. On the other hand, Mississippi's agricultural census reflects its wet climate and deep fertile soil.

The Evolution of Methodology in Research of Tapia Canyon's Petroglyphs and Pictographs

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From the late 1990's to 2007, students and faculty from the University of Southern Mississippi have been participating in an ongoing research project to document the petroglyphs (carved images) and pictographs (painted images) of Tapia Canyon, New Mexico. These petroglyphs and pictographs are deteriorating via weathering, erosion, and vandalism. The goal of the project is to document each petroglyph and pictograph with its location and appearance. Over the last few years, technology and data collection techniques have changed drastically making compiling data problematic. By examining data and equipment used to gather the data from previous expeditions, it is possible to compensate for the data inconsistency. Once the data are standardized, these historical artifacts can be preserved and presented digitally for posterity.

Re-Defining 'Offshore' in the Western Hemisphere.

Sharon C. Cobb

ABSTRACT

The onshore-offshore political and economic tensions arising from outsourcing and offshoring activities have largely ignored the original 'offshore' business activities—those found in offshore financial centers with offshore financial services. Now is the time to revisit these centers of financial activity that have many features in common with the new 'offshoring' places, but at the same time have characteristics that are unique and pose challenges and tensions not necessarily seen in the new offshoring world. This paper documents and analyzes the state of offshore finance and offshore financial centers (OFCs) in the twenty-first century with a particular concentration on those OFCs in the western hemisphere. This research comprises an introduction to a larger project that will use econometric techniques to analyze the relationship between foreign direct investment (FDI) targeted toward OFCs, and the offshore capital flows to those places. Re-defining 'offshore' is problematic and chaotic in terms of creating a reputable database of offshore financial services. There is no doubt that onshore-offshore financial services tensions exist, but the post 9-11 world, tensions are broader (in terms of specific activities) and deeper (in terms of number of jurisdictions involved in suspect activities).

LOCAL KNOWLEDGE, LAGOON SEDIMENTS, AND HURRICANE HISTORIES IN THE MOSQUITIA REGION OF EASTERN HONDURAS

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Kam-biu Liu
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ABSTRACT

Central America is vulnerable to tropical cyclones, but most of its nations are ill-equipped to mitigate their impacts. Little is known of the long-term frequency of catastrophic storms or the contemporary vulnerability of coastal peoples across the isthmus, particularly in isolated regions like the Mosquitia of eastern Honduras and Nicaragua. This paper reports the preliminary findings of a collaborative project that integrates paleotempestological analysis with participatory research methods to calculate the historic frequency of hurricanes and document local storm histories in the Honduran Mosquitia. Paleotempestological results indicate the area has been hit by at least three catastrophic hurricanes over the last 800 years. Local hurricane histories, drawn from the memories of residents, do not extend far enough into the past to overlap with the paleotempestological evidence, but provide a rich resource to interpret the sedimentary record and to draw insights about the long-term vulnerability of the Mosquitia and other areas of Caribbean Central America to tropical cyclones.

Armenia, Its Caucasus Neighbors, and US Financial Aid

By Catherine W. Cooper
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The Caucasus region might not be the crossroads that it was during the height of the Silk Road trade, but the pressures continue, and it could be an opportunity, or a flash point, in the future. The level of US foreign aid to the three Caucasus countries has declined dramatically in recent years. Armenia has the reputation of having a very influential lobby in Washington DC. This paper investigates the level of US aid to Armenia, Azerbaijan, and Georgia and the importance of remittances. The difficulty in finding consistent, comparable data was surprising. Keywords: Armenia; financial aid; remittances; Caucasus region.

Recent Successional Patterns in a High-Elevation Forest-Grass Ecotone from Tree-Ring Records of Fraser Fir (*Abies fraseri*) and Mountain Ash (*Sorbus americana*)

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Abstract: A dendroecological analysis showed that tree rings of Frasier fir (*Abies fraseri*) and mountain ash (*Sorbus americana*) adequately cross-date providing proxy evidence of historical ecological conditions in a changing forest-grass ecotone in North Carolina. Increment cores collected along belt transects revealed a significant relationship between tree age and distance from the forest-grass boundary. Absence of fir before the 1950s suggests severe fir mortality resulting from a balsam wooly adelgid (*Adelges piceae* Ratz.) infestation. High periods of recruitment between 1980 and 1990 reflects Fraser fir recovery and to some extent, successional replacement by mountain ash. Our data suggest that the openness of the forest-grass ecotone may depend on the ability of Fraser fir to reproduce sufficiently, and survive future insect infestations, continued atmospheric deposition of pollutants, and climate changes. Warmer temperatures may favor the rapid upslope establishment of fir and mountain ash. Expansion of this study is needed to investigate other potential causal factors and to better understand successional patterns and how they might change under changing climate and land use.

Mapping the Urban-to-Rural Continuum: Remote Sensing, City Lights and Exurban Sprawl Patterns in Coastal North Carolina. Thomas W. Crawford, Department of Geography, East Carolina University.

Exurban land development is occurring in many rural and coastal regions throughout the US. Critics are concerned with its potential to contribute to negative effects of sprawl. Here I aim to extend analysis of coastal sprawl from prior work for a single metro region to a broader spatial scale for the entire North Carolina coastal region east of Interstate 95. Objectives include: (1) Develop an urban-to-rural classification product using Defense Meteorological Satellite Program (DMSP) nighttime satellite imagery, (2) Perform a preliminary accuracy assessment of the classification, (3) Quantify and compare indicators of sprawl for a selected set of urban regions, (4) Quantify a set of landscape ecology pattern metrics to characterize spatial configurations of the urban-to-rural continuum. Result demonstrates great promise and acceptable accuracies for a classified urban-to-rural continuum classification product that includes the classes: urban, urban transitional, suburban, exurban, and rural. Smaller micropolitan cities in the region had the highest ratios of exurban to urban land areas which may suggest high levels of exurban sprawl. Pattern metrics revealed a pattern of compact urban patches conforming to a general central place theory expectation surrounded by more numerous and expansive suburban and exurban patches having complex shapes as indicated by their fractal dimensions.

The Geographical Pivot of (the End of) History

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Abstract: This paper analyzes evangelical Christian geopolitical visions by studying audience interpretations of the Left Behind books and related sacred texts such as the Bible. Left Behind is a series of fictional books that portray a narrative of the end of the world, culminating in the return of Jesus Christ. Utilizing a qualitative content analysis of fifty "Current Events" discussion threads taken from the Internet-based Left Behind Prophecy Club bulletin board, the author finds that fans of the Left Behind series utilize a geopolitical vision that is focused almost entirely on Israel, with Iran and Islam serving as a specific and general 'Other', respectively. However, the geopolitical vision fragments when it comes to the role of the United States in the Endtimes and in debates over from where the Antichrist will emerge. Related to these varying views is the issue of prophecy interpretation itself, which is contested among fans of Left Behind. Conclusions are drawn about the way geopolitical knowledge is produced in fan communities and the ways in which religion can be theorized in popular geopolitics.

Key words: Popular geopolitics, Evangelical Christianity, Left Behind, Fan communities, Popular culture, Audience interpretation

Predicting Atlantic hurricane paths using monthly surface pressure data

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Abstract

Previous research has shown some success in predicting preferred tracks of tropical cyclones in the Atlantic basin using NAO anomalies during preceding months. This paper continues this research while also incorporating other surface pressure values as independent variables, based on some of the earliest NAO research. Monthly sea level pressure (SLP) data from Reykjavik, Iceland, Cape Hatteras, North Carolina, and Nassau, Bahamas, along with NAO anomalies, are all tested for success in predicting preferred paths and landfall locations of Atlantic tropical cyclones during the period 1970–2005. Average SLP from Nassau during the preceding May and June shows the strongest correlations with tropical cyclone tracks, with increased values leading to more cyclones impacting the southeastern United States but fewer landfalls in the Gulf of Mexico.

"The Role of the Built Environment in Increasing Physical Activity Rates for Better Health and Economic Productivity: An Evaluation of Tuscaloosa, Alabama."

James Dixon
University of North Carolina at Charlotte

Since the Industrial Revolution, American cities have served as the nation's economic engines, functioned as the cultural/administrative centers, and represented the nexus for social interaction. A steady trend of rural-to-urban migration has taken place across the United States as people have continuously sought the myriad of opportunities cities have offered. As the physical, political, and human/economic components of our cities continue to evolve, it is compelling that planning efforts be established to accommodate these changes while at the same time promoting the health, safety, and welfare of the general population. If urban environments provide a sufficient quantity and variety of health-promoting recreational opportunities, not only will the overall health and well-being of the local citizenry increase, but also the healthy population will, in turn, positively impact the productivity rates of the local workforce and facilitate a growth-oriented competitive economy (Fine, 2006). This study evaluates the role of the built environment in encouraging physical activity rates through a case study of Tuscaloosa, Alabama.

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Developers in the Public Interest? The Role of Urban Development Corporations in the Anglophone Caribbean

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Abstract

Urban centres in the Caribbean face a wide variety of infrastructural and planning challenges. One of the key strategies that has been adopted by national governments to address these challenges is the formation of urban development corporations. These are governmental agencies with far-reaching planning and development powers to facilitate urban regeneration in specific areas. This paper examines the history, role and function of urban development corporations in Jamaica, Antigua and Barbuda, and Trinidad and Tobago. The St John's Development Corporation in Antigua is able "to acquire, manage, or dispose of lands and to lay out, construct, and maintain roads, buildings, public parks, piers, car parks, and other public amenities" within specified Designated Areas, whilst Jamaica's Urban Development Corporation is empowered "to carry out and/or secure the laying out and development of 'designated areas'". These three urban development corporations can be seen to act as developers in the public interest, as agents of modernisation, and as responses to neoliberalization. However, whilst they have succeeded in effecting large-scale transformations to the urban landscape, this has often been achieved through a top-down development process with exemption from planning regulations and little accountability to the residents of the cities.

Keywords

Caribbean, urban development corporations, urban regeneration, neoliberalization

Street Vending in Nairobi Kenya: More Than What Meets the Eye

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Abstract

This paper examines the informal economic activity of street vending and how this particular activity contributes to survival within an African urban environment. Much literature on the informal economy fails to acknowledge the heterogeneous nature of street vending and, instead, tends to lump all sellers together, either as being involved in street vending as purely a survivalist mechanism, or as being "entrepreneurs" in a country where formal, wage paying jobs are lacking. Through the use of interviews with vendors on the streets of Nairobi, I present in my paper a new framework to consider – a framework recognizing that sellers operate in a range of circumstances, in a continuum between survivalists and entrepreneurs. This framework focuses on distinctions among different groups of sellers, often related to the location in which these sellers operate, and through these distinctions, I offer policy suggestions affecting those involved in this informal economic activity.

An Analysis of 3-Hour and 24-Hour Extreme Rainfall in El Paso, TX, Gregory E. Faiers, Department of Geography, University of Pittsburgh at Johnstown
and Barry D. Keim, Louisiana Office of State Climatology

El Paso, TX averages just under nine inches of rainfall a year, but occasionally experiences unusually heavy rainfall events which can trigger localized flooding and related impacts. To better understand the nature of extreme rainfall in the area, the partial duration series of extreme 3-hour and 24-hour storms was extracted from the official weather records from the National Weather Service El Paso station for the period of 1948-2003. The majority of the extreme events of both durations took place between the months June and September. Over three quarters of events of both durations occurred with frontal boundaries in the area to act as triggering mechanisms for the storms. The majority of the hours during which these extreme events transpired were nocturnal. The latter part of the study period saw a decrease in the frequency of these extreme events, especially the 24-hour storms.

Contradictions in neoliberal land use: Rearticulating 'disconnects' between land use managers and environmental scientists.

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Abstract

In Southern Beaufort County, SC, conflicts between environmental scientists and land use managers are often characterized as 'disconnects' between incommensurable epistemologies. This paper rethinks those disconnects. Following Polanyi's 'dual movement' of capitalism and the environment, I argue that we need to rearticulate these normalized 'disconnects' as the dual movement of the environment and neoliberal development. This approach suggests that the context driven nature of environmental science is not compatible with the necessary generalizations of land in markets. Put this way, disconnects that have manifested in Southern Beaufort County speak to broader contradictions in the neoliberalism of environments rather than the inability of groups to communicate. Rearticulating these disconnects can illustrate the contextual impacts of economic discourses, as well as providing new avenues for critiquing neoliberal development.

Central American (re)integration

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Paper prepared for the Annual Meeting of the Southeastern Division of the Association of American Geographers, Charleston, South Carolina, November 18-20, 2007

Abstract: This paper examines Central American integration since the 1950s utilizing the analytical frameworks of scales and networks. After a fairly successful decade during the 1970s, the Central American Common Market hit a series of setbacks, many of which could be identified as national particularism. Regional re-integration started in the 1990s and an endogenous solution to trade constraints progressed. Negotiations in 2003 for the Dominican Republic-Central American Free Trade Agreement (DR-CAFTA) realigned the trade bloc, directing control to the United States and establishing highly uneven relationships. DR-CAFTA processes are distinctly scaled and yet also represent ever more messy and hybridized networks. Polycentric institutions exist under the Central American Integration System, yet simultaneously each nation maintains concern about the loss of sovereignty.

Keywords: Central America, free trade, governance, scales, networks

DISCOVERING CHARLOTTE'S LATINO COMMUNITY: COVERAGE AND REPRESENTATIONS IN THE LOCAL PRINT MEDIA

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Charlotte, North Carolina is in the midst of rapid population growth, with unprecedented increases in Latino immigration to the city and the surrounding local jurisdictions. The local news media's treatment and coverage of immigrants offers valuable insights into public response and receptivity to these newcomers. A content analysis of stories and Latino news coverage in *The Charlotte Observer* over the past four years is presented in this paper. The research findings include limited coverage of Latino oriented news, a shifting focus in the thematic content of Latino stories, and a growing negative, prejudiced slant in the news reports towards Latinos.

Teaching mobile GIS and GPS in an undergraduate geography program

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Mobile GIS is the digital collection of attribute data directly into a geographic information system (GIS) while in the field, at a location marked by a global positioning system (GPS) receiver. It is widely used commercially and by governments and agencies, and is taught fairly routinely in geology field programs. It does not appear to have been widely adopted by geography programs in the US, despite apparent benefits claimed by various practitioners. Literature documenting the uses, drawbacks and benefits of mobile GIS is reviewed and an outline of a course in mobile GIS and GPS at a small public undergraduate program is given. It is suggested that increased student engagement, decreased time between data collection and analysis, and the ability to compare primary and secondary sources while at a field site, make the expense and time involved in preparing such a course worthwhile.

PAPER
An Operational Definition for Caribbean Drought

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The purpose of this paper is to develop an operational definition of Caribbean drought that will allow for the identification of a mid-summer dry season and true mid-summer droughts. Monthly precipitation deficit frequency, frequency of deficit event duration, average magnitude of precipitation deficit months, precipitation deficit frequency per month, precipitation deficit onset by month, and average monthly precipitation deficit magnitude was calculated for Havana, Santo Domingo, Kingston, and Raizet. Results indicate that on average, drought will be most frequent and severe in Kingston and least severe in Raizet. Spatial variability in monthly drought characteristics exists across the Caribbean. Drought frequency and onset display the greatest variation, while drought magnitude is most consistent. The analysis further suggests that no clear signal of increased drought frequency, drought onset, or drought magnitude exists during the summer, indicating that the term mid-summer drought is misleading. In fact, results in this analysis indicate that drought may be more prevalent at other times of the year. Consequently, the use of the term mid-summer drought should be avoided unless specifically referring to a precipitation deficit in summer months.

An empirical assessment of lidar vertical accuracy and instantaneous scan angle

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Abstract

The influence of instantaneous scan angle on lidar vertical error is generally accepted and well understood from the theoretical standpoint. However, few empirical studies have measured the actual influence of scan angle on the observed vertical error within a final deliverable such as a tiled bare earth lidar dataset. This paper presents a methodology to reconstruct flight lines and scan angles for a tiled lidar dataset based on mission GPS/INS navigation data. These data is used to assess the relationship between instantaneous scan angle and vertical error using a low altitude, high density airborne lidar survey acquired over a portion of the Savannah River National Laboratory (SRNL) near Aiken, SC. The magnitude and causes of the error distribution observed are discussed, and a systematic error in the production of the bare earth lidar dataset is revealed.

Sweetgrass basketry: The political ecology of an African American Art

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ABSTRACT

Political ecologists are increasingly interested in the persistence of subsistence resource practices in advanced capitalist societies and the impacts rural gentrification may have for this resource use. At the same time, there is a growing recognition that livelihoods and land-uses are co-produced. This case study explores the "subsistence art" of sweetgrass basket making in the greater Mt. Pleasant, SC area. Using a grounded visualization, we examine the social and spatial responses of basket-makers to the urbanization in the region and its influence on the gathering, sewing, and marketing that are integral to the process of sweetgrass basket-making as a livelihood strategy. Our results highlight the difficulties that basket-makers have in accessing sufficient raw materials and implications this has for thinking about incomplete transitions from subsistence resource use to market-based resource management. We also show the ways in which urbanization is impacting this African American artform and the ways that basket-making is shaping emerging land-uses in this area, by focusing on the diversity of strategies that have emerged to ensure both resource supply and places to sell their wares.

Making Mayberry Global: Blending Southern Culture and International Finance

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The historic poverty of the Southern US made it difficult to develop a strong local financial complex. The poverty of the region was compounded by the region's image which impeded the acquisition of extra-regional capital. This poverty was ultimately levered into a regulatory comparative advantage with region-wide protectionist policies which nurtured the local banking industry. The resulting corporate culture is poorly suited for the current global financial environment. Even the largest Southern banks have struggled to compete globally, a situation that is partially explained here by the region's history and the resulting corporate culture.

Place and Placelessness of Chocolate and Sugar

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Abstract: This paper examines the geographical implications of food technology using the examples of chocolate and sugar. The capitalist agro-food industry produces both place defined foods and so-called placeless foods. Placeless foods are complexly constructed and advantage the places of manufacture (usually located in the wealthy world) and disadvantage the places of agricultural producer (in the case of chocolate and sugar in the tropical poor world). I discuss how the opportunities for substitution make this geography possible. Place defined foods are more simply constructed and underscore the unique characteristics of the food. It also allows consumers to participate in conscientious consumerism such as the support of fair trade or organic production. A case study of chocolate producers in Ecuador is discussed as an example.

Keywords: chocolate and sugar, agro-foods, food technology.

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Abstract

This study explores whether trends in snow depth are dependent on elevation in the Rocky Mountains of Colorado. The results indicate that there is no trend with elevation for snow depth, snowfall, or melting degree days. These findings, particularly with snow depth, run counter to results in previous research which found an elevational component to 1 April snow water equivalent values. However, there is a distinct spatial pattern with negative trends in the western portions of the state and positive trends to the east. Some of these patterns may be related to slope aspect. Western and southern facing slopes showed positive trends in snow depth while those with western aspects had negative trends.

Altitudinal examination of deforestation in a tropical rainforest: Eastern Arc Mountains Tanzania

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Deforestation trends were analyzed in terms of altitudinal zones in the Eastern Arc Mountains of Tanzania from historical to year 2000 area extents. Forest loss has been greatest within 500 m to 900 m elevation, with less loss occurring above 2000m altitude during the period analyzed. As an ecosystem, the Eastern Arc has lost 44% of forest area since 1955 and has suffered an estimated 80% total loss of forest area. However, this forest loss has not been even across all altitudinal ranges. Due to factors of accessibility and topography, the submontane habitat (800-1200 m) has lost close to 93% of its historical extent, and 9 mountain ranges have lost 96-100% of forest in this zone. In contrast, upper montane habitat (>1800 m) has lost only 34% of its original forest extent. Linking deforestation trends to available information on the altitudinal preferences of endemic tree species illustrates the severe pressure and extinction risk posed by this and likely other taxa. Conservation efforts should be sure that the entire range of altitudes of Eastern Arc forests are being properly protected.

An Analytical Assessment of Barrier Island Changes Using Aerial Photography: Topsail Island, NC

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The rate of change of back-barrier land cover types was computed by gathering, rectifying, interpreting, and digitizing historical aerial photography (from 1938 to 1998) for Topsail Island, North Carolina. Topsail is a typical transgressive barrier island where the marsh area has steadily decreased from 1938 to 1998. To quantify the significance of the spatial changes, cross-tabulation matrices were analyzed. Results indicate that upland has replaced marsh more than marsh replacing upland areas, but more research is needed to determine the reason why these changes have taken place. A first step in determining the significance of the land cover change is to perform an accuracy assessment. The accuracy of the photointerpretation and digitizing was greater than 80 percent. A crenulation test indicate that the digitizing was not a factor in the results. Third, a fuzziness test was used to identify true changes in the marsh habitats versus positional changes, or sliver polygons. Again, the results indicate that rectification, interpretation, and digitizing did not result in erroneous change detection results. These accuracy assessment techniques are useful for testing the validity of change detection and spatial landscape indices.

This paper explores the potential of lidar datasets and GIS in quantifying volumetric and morphological changes on northwest Florida's barrier islands before and after Hurricanes Ivan (2004) and Dennis (2005). An automated model operating in a GIS environment was developed that allows for rapid analysis of beach erosion, overwash, breaching, dune erosion, structural damage, and overall volume change on barrier islands. Lidar data from before Hurricane Ivan, after Hurricane Ivan, and after Hurricane Dennis are automatically processed and analyzed using cartographic modeling techniques. Results presented include volumetric calculations of sand loss/gain in the nearshore environment following a storm event, a profile analysis of dune structures, and measurements of washover deposits.

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Remote Sensing of Algal Chlorophyll Concentration in Pensacola Bay

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Pensacola Bay is located on the west end of the Florida panhandle. As one of 39 estuaries located on the Gulf of Mexico, Pensacola Bay is largely impacted by rivers. The Landsat 7 ETM+ data were acquired during the collections and hyperspectral data and water sampling data. The techniques used were derivative spectra analysis, band ratioing, regression modeling, and the neural network. In situ data collection consisted of water sampling and hyperspectral reflectance data collection with a hand-held spectroradiometer over 16 sampling stations evenly distributed over the bay. The Landsat ETM+ data were first geometrically rectified. Then brightness values were converted to reflectance through the radiometric correction process. For the regression models, we used logarithmically transformed chlorophyll a as the dependent variable. Single bands, band ratios, and logarithmically transformed band ratios were the independent variables. R2 values were computed and evaluated. Results from our study indicated the ratio of ETM+1/ETM+3 was the most effective in estimating chlorophyll a. Finally, we found the neural network (NN) was effective in describing the non-linear relationship between the band reflectance values and chlorophyll-measurements, especially when the chlorophyll concentrations were relatively low.

NEIGHBORHOOD ACTIVISM IN GENTRIFYING NEIGHBORHOODS: FROM MAKING SAFE SPACES TO 'GILDING THE LILY'

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Laura Wilson, Department of Geosciences, Georgia State University

According to Neil Smith (1996), gentrification consists of the class remake of the inner city landscape. Much gentrification literature has focused on periodizing the waves of gentrification and characterizing various sources of investment, including the role of the state in encouraging gentrification. In this paper, we explore the landscape of gentrification in Atlanta, Georgia, and the different degrees of neighborhood activism associated with gentrifying and gentrified neighborhoods. We argue that neighborhoods undergoing early phases of gentrification have active neighborhood associations that focus on providing basic neighborhood services that the state has failed to offer, such as safe and clean streets. Neighborhood organizations in more established, gentrified neighborhoods have fewer participants and tend to focus on land use, aesthetics, and place identity. This preliminary study reveals the uneven landscape of gentrification, as a product of the movement of capital and the uneven geography of the local state.

Abstract

A Study and Documentation of the Patterns of Rebuilding Found within Harrison County, Mississippi Following Hurricane Katrina

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On August 29, 2005, the face of the Mississippi Gulf Coast was forever changed by Hurricane Katrina, one of the single most destructive natural disasters in the history of North America. Federal Emergency Management Agency (FEMA) estimates place the number of housing units which suffered major to severe damage within Harrison County, Mississippi at approximately 25,000 units. This paper explored both anthropogenic and natural factors which have influenced the rebuilding patterns of the inhabitants of Harrison County, Mississippi, with focus on the area of the city of Gulfport. Redevelopment patterns were evaluated using GIS and spatial analysis methodologies. Data suggests that the repopulation and reconstruction of the Mississippi Gulf coast is following trends away from high risk areas. Areas susceptible to flooding and further damage from major land falling hurricanes are being actively avoided. This paper reveals both the location of these avoided areas and the foci of the relocating population.

Key Words: Hurricane Katrina, Population Shift, Mississippi Gulf Coast.

Intriguing First Measurements of Erosion Pins on Stream Banks of Tributaries of the Little River, Tennessee

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To quantify stream bank contributions to sediment loads of five tributaries of the Little River (Blount County, TN), we installed erosion pins at 17 sites and returned to measure them after approximately six months. The most intriguing and unexpected results from this first set of erosion pin measurements were the magnitude of change in such a short time (25 of 125 pins with at least 2 cm change) and the erosional change at pins well above the ordinary water line. Monitoring will continue through 2009. Our initial results demonstrate that channel bank instability and channel adjustment are widespread and channel banks are likely to be very important sediment sources in these tributaries of the Little River.

Fire history from soil charcoal in a mesic hardwood forest on the Cumberland Plateau

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University of Tennessee

We documented the presence of macroscopic charcoal in soil cores, quantified charcoal mass, and radiocarbon-dated charcoal macrofossils to develop a coarse-resolution fire history in a mesic hardwood forest on the Cumberland Plateau in Tennessee. Macroscopic charcoal occurred in each of 10 soil cores recovered. Total dry mass of charcoal varied by core and by depth. Charcoal macrofossils were most abundant in two cores that were spatially non-contiguous, a pattern that may be evidence of a patchy fire regime. The earliest recorded fire in the study site dated to 6735 cal yr B.P. and the most recent to 174 cal yr B.P. No overlap occurred within the 2-sigma calibrated age ranges of the dated charcoal samples indicating that a minimum of five separate fire events occurred on the site during the past 7000 years. Our study was the first study to use soil charcoal to document past fire events in hardwood forests on the Cumberland Plateau and our results provide a basis for reconstructing long-term fire histories at the stand-scale in hardwood forests of the southern Appalachian region.

Sea Breeze to Sherbet Town: An Historic African American Beach Resort is Lost to Affluenza.

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From the 1920s to the 1970s African Americans enjoyed the restaurants, nightclubs, and hotels of an exclusively black beach and inland village known as Sea Breeze. Blacks who remained in Wilmington after the 1898 white supremacist riot had few places to recreate away from whites, so Sea Breeze, 15 miles to the South, provided a popular refuge. On land they had owned since Reconstruction, a black family developed a booming resort that attracted black customers and entertainers from across the country. Several events contributed to Sea Breeze's demise: a 1930s Intra-Coastal Waterway project altered the placid currents of the adjacent sound, the wading route to the beach; the cutting of an artificial inlet to the north destroyed Sea Breeze's beach and ocean-front building in the 1950s; and finally, desegregation of public facilities in New Hanover County by the 1970s meant that African Americans were no longer relegated to segregated beaches. Thus, Sea Breeze, valiant survivor of hurricane Hazel in 1954, fell into disrepair and neglect. Now as coastal New Hanover County booms, an amenity location because of its climate, boating, fishing and, not insignificantly, golf, Sea Breeze with its water views and accesses is being developed in the style of the rest of North Carolina's coast—huge, often sherbet-colored "McMansions." There's money to be made. However, Wilmington's African American Sea Breeze veterans decry the loss of their beloved beach resort and the eradication of its history. This research examines the social and physical changes in Sea Breeze from the 1920s to the present and concludes that "Affluenza" trumps African American nostalgia.

Keywords: African American beach, coastal development, Wilmington, NC, affluenza

Mapping the Potential Swath Coverage of a Remote Sensing Satellite-Sensor Combination

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Pointable sensor systems onboard many earth resources satellites today, particularly the higher spatial resolution sensors, provide for a near infinite set of collection opportunities. Satellite orbits of these systems are not systematic repetitive tracks. Predicting future collection opportunities requires first, predicting ***where*** the satellite will be and second, computing the ***potential swath coverage*** from a pointable sensor along these orbits. While each agency or company model their own satellite-sensors, few publicly available sources exist for mapping future satellite ground tracks. Evaluating collection opportunities from multiple satellite-sensors from different agencies/companies is problematic. This manuscript's goal was to develop a generic approach for mapping future satellite-sensor collection opportunities. In this paper we develop formulae for 1) computing the potential swath coverage, and an algorithm for 2) constructing potential swath coverage **area**. Our solution to the swath coverage problem is based on spherical trigonometry and a well-known map projection, used in an unconventional dynamic form, and a satellite-orbital propagation model. We demonstrate how the computation of the swath coverage *area* can be accomplished using a temporal series of re-centered map projections.

Dendroclimatology and GIS: using technology to advance climate reconstruction

David Harms Holt, Ph.D.

SUMMARY

This study is a proposed methodology for sampling and analysis of trees used for dendrochronology. Trees are spatially identified with a global positioning system (GPS) and plotted with a geographic information system (GIS). Typically these individual trees are combined in a Master Chronology to help "average out" any anomalies from the individual trees leaving a climate signal. This paper is deconstructing this method and evaluating stand dynamics. By using GIS to evaluate the stand of trees used in the reconstruction, spatial patterns emerge. These patterns may reveal both problem areas and areas that are responding well to climate change. Perhaps, with selection of these trees, climate can be inferred. Further, this technique may be used to develop a predictive model for sampling climate-sensitive trees. It is the hope that a larger project can implement the hypothesis and help reveal climate data with a greater level of confidence.

An analysis of the effects of socio-economic status on hurricane disaster relief plans

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Understanding the impacts of transportation policies on different socioeconomic groups is a crucial part of ensuring equity in transport service provision. However, despite substantial research on the socioeconomic impacts of transportation in various contexts, there has been relatively little discussion of their potential influence on the provision of disaster relief. Following recent catastrophic natural disasters and terrorist acts around the world, transportation for disaster relief has become an increasingly important area of research. This paper focuses on disaster relief allocation following a hurricane. Using a spatial model developed to site relief goods distribution facilities, this paper investigates the differential impacts of location decisions on socioeconomically disadvantaged groups. The model is implemented using spatial data for a mid-size city in the Southeastern U.S. Results point out the differential accessibility to relief goods experienced by population groups and suggest that consideration of socioeconomic status in future disaster relief decision making is warranted.

Daylighting Urban Streams in Seoul and Providence. Thomas F. Howard. Armstrong Atlantic State University

This is a study of two ambitious and successful urban stream restoration projects in widely separated cities -- Seoul, Korea, and Providence, Rhode Island. In both cases, watercourses that had been buried under cement and asphalt for decades were "daylighted" and transformed into "festival centers."

Providence removed railroad yards, bridges, and parking lots from the confluence of the Providence River and two of its tributaries, in the center of the city, rerouted portions of the streams themselves, and surrounded the restored shoreline with parks and walkways.

Seoul removed a major elevated freeway and the surface roads beneath it, from a creek that formerly ran through the city center on the same alignment. The restored creek then became the centerline of 3.5-mile long linear park.

In both cases the completed projects have become magnets for locals and tourists alike, and venues for a variety of events and celebrations, both organized and impromptu.

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Constructing commons, constructing community-based conservation? A political ecology of amenity migration and urbanization in Lowcountry, SC

Abstract
Many parts of the U.S. are undergoing dramatic social and ecological transformations due to residential growth associated with amenity-migration. In studying these transformations, nature-society scholars focused on the ways neoliberalism makes nature legible as a commodity, while political ecologists have focused on proliferating conservation territories and uneven environmental management. Increasingly, "conservation development" is advocated in high amenity areas, often through The use of Planned Residential Developments (PRDs) to create common areas and so-called "amenities." Yet, little research has examined variations in environmental governance among PUDs and the range of conservation features that result in specific places. Using a case study of the South Carolina Lowcountry, this research explores the intersection of amenity migration, regional ecological conservation practice on private lands, and the environmental governance structures that are seized upon by developers and residential communities help sell Lowcountry ecologies. This paper examines "conservation developments" in the South Carolina Lowcountry and diverse spaces of conservation that are sold. It suggests a trend toward environmental governance where hybrid conservation spaces *and* conservation communities *may* simultaneously be created, but where certain local ecologies are valued more than others. These findings have implications for debates about the intersection of neoliberalism, changing environmental governance, and ecological change.

DPSIR AND THE EVALUATION OF DEVELOPMENT EFFORTS

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Abstract

In recent years the DPSIR framework for environmental reporting has become a prominent structuring framework for efforts to achieve sustainable development in line with the Millennium Development Goals. While (arguably) pertinent in its original use in evaluating environmental problems from a scientific/biological perspective, this framework is of questionable utility in practical application when it comes to complex questions of sustainable development. One of the chief critiques of DPSIR, outlined in this document, is the inflexibility of the framework in allowing for variability in local circumstances and human agency. As a result, this framework merely reifies existing power relationships in the development arena. This, however, does not mean the framework is unusable, rather, with some adjustments, namely the inclusion of local knowledge, it can become a better tool to evaluate and improve development projects.

Salsa Politics: Cultural Worlds, Place, Spaces of Leisure and Exclusion

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Salsa no tiene raza ni color. This notion that salsa music has/knows neither race nor color is commonly held by salsa musicians, dancers, and avid listeners. I explore Latin nightclubs in the Triangle area of North Carolina as figured worlds constructed around a musical event. I argue that within these Latin music clubs, salsa music not only shapes notions of space and place, but is also integral to the manifestation of subtle forms of territoriality, and that dancing to salsa music simultaneously constructs and transcends class and ethnic boundaries creating a bifurcated Latin music scene. I am challenging notions of salsa as strictly a unifying force by arguing that the meaning ascribed to salsa music within these nightclubs also *creates* boundaries. I am suggesting that the meanings ascribed to salsa music and dancing shape the spaces of leisure for some while defining spaces of exclusion for others within the Latin music scene in the Triangle.

Exploratory Spatial Data Analysis in Health Research: A Case Study of Inequalities in Miscarriages, 1998-2002

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Abstract

This paper introduces the use of exploratory and advanced spatial data analysis, using local public health data, to study miscarriages in U.S. counties. Exploratory spatial data analysis is conducted using the CDC Atlas of Reproductive Health, and combined with other spatial neighborhood information for geographically weighted regression analysis. The relationship between miscarriages and socioeconomic context supports previous research on health inequalities, finding that individual traits are not the only relevant aspect of fetal health. The article concludes that advanced spatial methods offer a useful policy tool that can be made more accessible to non-experts.

Export Challenges and Potential Strategies: Canadian Manufacturers in the Chinese Market

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Abstract

In order to expand sales and market shares, manufacturers often need to look beyond geographically proximate markets. For years, most Canadian manufacturers have relied on the robust North American market for sales, especially those firms selling to other, relatively nearby manufacturers. Given changes in the global manufacturing landscape, producers must now look to distant markets – a task which often calls for new strategies and products. This paper looks at the potential of the Chinese market for Canadian manufacturers. In particular, the challenges of entering a new market will be examined, including the numerous social and economic challenges that face firms, particularly new exporters to China. Evidence from a recent manufacturer survey indicates that a relatively small number of firms currently engage the Chinese market, but do see the potential for eventual export activities.

Keywords: Exports, manufacturing, China, Canada

Five years of riparian ecosystem restoration during drought in the US Southwest: streamside herbaceous vegetation

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This project tested the hypothesis that riparian degradation on an un-dammed semi-arid region river can be reversed by a management strategy focused on restoration of groundwater levels and base flows. The hydrologic restoration project was conducted on the lower San Pedro River (LSPR), an important conservation landscape in southeastern Arizona, USA. Although many reaches of the LSPR support cottonwood-willow forests and emergent wetlands, many reaches have been degraded by groundwater pumping for irrigation and mining activities. To reverse these shifts, The Nature Conservancy purchased two LSPR properties in 2001/2002 and terminated alluvial groundwater pumping. We monitored groundwater hydrology, and tracked streamside herbaceous composition and cover at six restoration sites and six reference sites for the first five years (2003-2007) of the hydrologic restoration project. At most sites, groundwater levels declined until July 2006, and then rose following monsoon flooding. Plant community and cover analysis indicated that although individual sites exhibited differences among years, there was no consistent trend of recovery. The lack of detectable recovery could be due to drought, long-term changes in aquifer storage, vegetation 'inertia', or system shift to a new steady state. Long-term monitoring, beyond the typical 5-year period, will be essential in cases such as this.

The Wenhai Ecolodge: A Case Study of Culture and Environment in Southwest China

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Abstract

Ecotourism, a tourist activity that was once associated with small numbers and out-of-the-way places, is becoming increasingly popular. With this increase in ecotourists, definitions of ecotourism and the activities that fall into this category are being re-examined. This paper addresses current definitions of ecotourism and one specific ecotourist realm, the ecolodge, using the Wenhai Ecolodge in northwest Yunnan Province, China as a case study. Research shows that the Wenhai Ecolodge does indeed meet the basic criteria of an ecolodge, but that the educational component of ecotourism is currently a challenge for the project. This paper also addresses the importance of cultural considerations in international ecotourism projects, as western ideas about the environment often differ from Chinese ideas. The paper concludes by raising questions for future research on the Wenhai Ecolodge, and the changing nature of ecotourism.

Evaluating Poverty-Environment Dynamics: From Indicators to Assessments

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Poverty-environment indicators were developed as tools to aid in the design and evaluation of poverty reduction strategies in the context of environmental change. This article argues that, in their current form, poverty-environment indicators do not further our understanding of the links between poverty and the environment, and may contribute to critical misunderstandings of human-environmental interactions. These issues stem from a problematic and largely unacknowledged process of simplification. This article describes how poverty-environment indicators simplify complex human-environment interactions and illustrates how current applications of poverty-environment indicators may lead to inaccurate assessments. The study concludes by suggesting how poverty-environment indicators may be reconsidered as preliminary tools for understanding site-specific poverty/environment dynamics and informing policy.

Changing Mid-Latitude Wave Cyclone Climatology and Fire Activity in the Northern Rockies. *Paul A. Knapp*, University of North Carolina, Greensboro, and *Peter T. Soulé*, Appalachian State University.

We used climate data from eight stations in the United States Northern Rockies to examine the occurrence and frequency of major mid-latitude cyclonic storms (MLCs) from August through October, 1900-2004. We then compared these data with area burned by forest wildfires from1940-2004. During the past century the onset of the first major MLC occurred approximately one month later and MLC frequency decreased from two events to one event/year. The most pronounced decreases in timing and frequency occurred during the past two decades and coincided with a period of large increases in wildfire activity. Further, we found that late summer/early autumn MLC activity accounted for approximately one-fifth of the total area burned annually. We show that pronounced ridging west and north of the Northern Rockies was concurrent with the period of rapid changes in MLC activity. We conclude that changes to the late summer/early autumn synoptic-scale atmospheric conditions during the past century have significantly influenced fire activity in the Northern Rockies.

The incorporation of a land use analysis fieldwork project in a study abroad program

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Fieldwork can be considered an important part of a geographer's education, but there is little research examining its usefulness during a study abroad experience. The project presented in this paper centers around a land use analysis conducted in a Dominican shantytown by students on two different study abroad trips (2005 and 2007). Students gathered data on land use, building quality, and building location in the shantytown, and examined spatial patterns after entering the data into a GIS. Approximately two-thirds of the 1,375 structures are residences and an additional 463 structures were constructed between 2005 and 2007. The community has grown through both in-fill development and construction along the edges. Based on journal writings and responses to essays following data collection, students gained an understanding of life in a shantytown beyond what could be learned in a classroom, demonstrating that fieldwork can be effectively implemented during even a short-term study abroad trip and appears to have a positive impact on a student's overall experience in a foreign country.

ABSTRACT

Personal Geographies of Little People: Socio-Spatial Experiences of People with Dwarfism

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This paper reveals ways in which the geographies of everyday life are experienced by people with dwarfism. Part of a larger research project, it details the experiences of a married couple with dwarfism in public and private spaces. In addition, it describes how this couple was able to adopt a child, also a little person, through a process that transgressed the social and material boundaries involved with international travel. Drawing upon the theorization of social spaces forwarded by Henri Lefebvre and of discourse outlined by Michel Foucault, this paper contributes to the body of geographical work devoted to spatialities of disability and social difference.

Patterns and Controls of Forest Damage Caused by Hurricane Katrina in a Southern Mississippi Landscape. John Kupfer, Dept. of Geography, Univ. of South Carolina.

Using a combination of air photo interpretation and field sampling, we categorized forest damage resulting from Hurricane Katrina into four classes (none, low, moderate, heavy) for nearly 450 plots in a 153,000 ha landscape in southern Mississippi. We then developed predictive damage models using single tree classification tree analysis and stochastic gradient boosting (SGB) and examined the importance of variables addressing storm meteorology, stand conditions, and site characteristics in predicting forest damage. Overall damage classification accuracies for a training dataset (*n=337 plots*) were 72% and 81% for the single tree and SGB models, respectively, with Cohen's weighted linear κ values of 0.71 and 0.86. For an independent validation dataset (*n=112 plots*), classification accuracy dropped to 57% ($\kappa = 0.65$) and 56% ($\kappa = 0.63$). Proportions of agreement between observed and predicted damage were significantly greater ($p < 0.05$) than would be expected by chance alone for all damage classes with the training data and all but one class for the validation data. Stand age was the best predictor of damage for both models, with forest type, stand condition, site aspect and distance to the nearest perennial stream also explaining much of the variation in forest damage. The forest-wide application of our CTA model provided a realistic, spatially-detailed map of predicted damage while also maintaining a relatively high degree of accuracy.

Who will fix the drought problem?
The evolving role of hydroelectric dam operators as drought coordinators in the Catawba-Wateree and Yadkin-Pee Dee basins

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Abstract

As the Carolinas experienced severe drought conditions during the summer of 2007, water users drew upon lessons learned from the region's last major drought. The severity of drought impacts in 1998-2002 led to the recognition that collaborative and collective efforts were needed to ensure efficient and equitable management of water resources during periods of low flow. As water users engaged in systematic efforts to manage drought conditions, hydroelectric dam operators in the Catawba-Wateree and Yadkin-Pee Dee basins have emerged as de facto regional drought coordinators. Both basins span North and South Carolina and encompass diverse stakeholders, including homeowners' groups, municipalities, agriculture, multinational corporations, and the state and federal agencies charged with ensuring water quality and environmental protection. Specifically, the dam operators have provided important functions to facilitate regional drought management, namely 1) communications, 2) data collection and monitoring, and 3) operations and flow management. The author's research suggests that the dam operators have emerged in this role due to their basinwide responsibilities and mandates delineated in their Federal Energy Regulatory Commission (FERC) operating licenses. The author draws upon critiques of environmental governance trends to explore the potential benefits and disadvantages this development holds for drought management in the Carolinas.

An Inconvenient Truth of Energy Conservation – Consumer Habits and Attitudes

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In 2003 households were responsible for 21 percent of energy-related carbon dioxide emissions and electricity represented almost for 70 percent of emissions. Stable electricity prices, with real prices between 1990 and 2000 actually decreasing, provide little financial incentive for conservation. The availability of inexpensively priced fossil fuel makes a conservation emphasis challenging, while use in the residential sector has increased with rising appliance numbers.

This paper illustrates the difficulty of increasing community awareness of the importance of energy conservation. A municipal utility located in Florida surveyed customers to compare local and national behavior and attitudes to conservation. The survey showed consumers committed to recycling, alternative transportation and hanging laundry. Customers were more likely to believe global warming is a result of high energy use, and be interested in knowing how their homes compared with others. However, customers were less likely than national respondents to agree that they had done everything possible to save, and less likely to install programmable thermostats, insulate attics or floors, or add energy efficient windows. Programs targeting lighting, and heating and air conditioning systems successfully influenced awareness of energy use.

Key Words: Energy Conservation, Conservation Goals, Electricity

Creating 'Facts' on the Bumper: Identity, Nationalism, Geopolitics, Contestation and License Plates

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ABSTRACT

In the automobile era, one of the most visible expressions of a person's place of residence is found on the license plate attached to their vehicle. Within several decades of the first issuance of license plates in the early 1900s, governments began to use these devices for advertising purposes, such as promoting local economies and tourism. By the middle to late 20th Century, however, some countries and localities started to use their license plates as a way of trying to establish a measure of sovereignty, to pursue geopolitical claims to territory, and to promote nationalist ideology. At the same time, however, this nationalist and geopolitical scripting found on license plates is not always a top-down process. Rather, by defacing their license plates, individuals can contest the official representation promoted. This presentation catalogs and illustrates some of the numerous examples from around the world of how governments have used such a mundane signifier of place as the license plate for such efforts and how these efforts have been contested.

The Interaction between Home Remodeling, Neighborhood Satisfaction, and Household Mobility Decisions

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Abstract

The paper uses the 2001 home and neighborhood satisfaction dataset for Franklin County, Ohio, to explore the impact of household remodeling decisions, neighborhood quality, household characteristics, and housing and neighborhood satisfactions on household mobility decisions. The research finds that landscaping and garage remodeling, the age of the householder, the length of time in the residence, and housing and neighborhood satisfactions are all very important factors associated with household moving likelihood. Both non-movers and movers remodel similar items of the housing units to maximize their housing consumption utilities and realize housing consumption equilibrium, but the likely movers choose those projects that are cost effective but will probably have more positive effect on housing value and shortening the resell time. They are not willing to pursue projects with major structural changes of the floor plan, or special fixtures such as adding handicapped or "senior friendly" features. The paper will help us understand the housing consumption and investment utility maximization decisions, and the housing consumption equilibrium process of the households, whether those are related to movers or non-movers.

Hydrologic Metrics as Indices of Urban Influences on Streamflow Regime

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This study examined several hydrologic metrics for their usefulness in detecting urban influences on streamflow regime, including (1) annual maximum discharge, (2) analysis of flow duration curves, (3) $(Q_{10} - Q_{95})/Q_{50}$, streamflow variation scaled by median flow, and TQmean, the fraction of a year that daily mean discharge exceeds annual mean discharge. This study shows that not all hydrologic metrics are good indicators of urban influences on streamflow regime. Among the metrics examined in this study, annual maximum daily flow and flow duration curves were not able to separate stations with varied levels of urbanization in their contributing watersheds. On the other hand, $(Q_{10} - Q_{95})/Q_{50}$ and TQmean, consistently differentiated those stations. The former can be used for spatial analysis of urban influences, such as downstream propagation; the latter can be used for analysis of long-term dynamics as well as downstream propagation of urban influences on streamflow regime. For future studies of urban influences on stream hydrology, more hydrologic metrics should be examined and applied to more streams for further validation.

Using GIS for Geo-demographic Analysis in College Enrollment

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ABSTRACT

In 2005 the Virginia General Assembly adopted Title 23: Educational Institutions Chapter 4.10 entitled *Restructured Higher Education Financial and Administrative Operations Act* (2005). The goal was to make public colleges and universities more efficient, more competitive, and more accessible to Virginia students. In response to the Act, public universities developed six-year financial, academic, and enrollment plans to demonstrate their commitment to the commonwealth's needs and to ensure adequate state financial support. The purpose of this study was to use GIS to examine existing spatial enrollment disparities across counties. The study analyzed enrollment in the fifteen state universities from the eighty-eight counties. The counties were grouped into eight regions. The spatial analysis used the Market Penetration Index (MPI) and the Gravity Model. Using the aggregated regional level data the MPI analysis found that recruitment in some regions was below the market share. Due to lack of detailed county level data only Radford University (Radford) was used as a case study for the disparity across counties. The Gravity Model using the weighted distance against the market set as a basis for university attractiveness, revealed a consistent spatial inequality in the distribution of enrolled students relative to the total number of college-bound students by regions. Overall, the results were unusual considering that in some cases distant counties had a better representation than immediate neighboring counties. Based on these findings it is recommended that college managers and outreach planners consider the market share at county level as a tool in their recruitment campaign efforts in order to achieve their market share.

KEY WORD: GIS, Enrollment, Market Penetration Index, Gravity Model.

Subsurface Hydrochory: Application of Hydrologic Modeling for Investigating Non-Buoyant Seed Movement

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This study uses hydrologic modeling to establish the discharges that move non-buoyant seeds as bedload or suspended load; determines the observed return intervals of the modeled discharges as measured at stream gages from late June to mid-July; and the potential transport distance of the seeds of *Hymenocallis coronaria*. The results show that the majority of non-buoyant seeds of *H. coronaria* can be transported as bedload through entire modeled stream reaches of lengths 10.8, 18, and 14.4 km with the 0.5 year return interval flow. This difficult to observe subsurface process apparently has the ability to move seeds over great distances, and may be a substantial factor determining the genetic structure, demography, and dynamics of populations and communities. However, movement of non-buoyant seeds in suspension may be quite rare. Although pollinators and biochory are acting in concert with bedload transport, the mean gene flow rate may be accounted for by bedload transport alone. Many seeds are transported distances exceeding that between populations and more frequently than the species' generation time.

Classifying radar reflectivity regions during the landfall of Hurricane Charley (2004)

Corene J. Matyas

University of Florida

It is important to examine convective regions within landfalling hurricanes as they can produce high rain rates that may cause flash flooding. Researchers generally agree that 30 (40) dBZ radar reflectivity returns are associated with stratiform (convective) regions. This research calculates the spatial attributes of radar reflectivity regions within Hurricane Charley (2004) to determine whether 35 dBZ regions are derived from convective or stratiform clouds. A GIS is employed to spatially analyze the radar regions. Discriminant analyses then classify individual reflectivity regions based on their spatial attributes. Results show that in the outer region of Charley, 35 dBZ polygons are very similar to 40 dBZ polygons and should be classified as convective in nature. Within the interior region of Charley, 35 dBZ regions are most likely a transition-type of precipitation that originates from convective clouds but falls in the region between the convective and stratiform clouds. Transition-type regions are most commonly found within mesoscale convective complexes. Future work will examine 35 dBZ regions within several landfalling TCs to determine if they too represent a transition-type of precipitation.

General Education Reform and the Case for Geography

Michael W. Mayfield

Appalachian State University

General education reform has been ongoing at a large number of institutions of higher learning in the United States over the last decade; one source suggests that nearly one-half of all such institutions either have recently undergone a review or are in the process. Curricular review is being driven by internal and external critiques of institutional effectiveness. The most widely cited models for reform of general education provide ample opportunity for geographers to contribute but will require much work if they wish to benefit from the changes that are underway. A brief discussion of the vectors of general education reform is presented, a case study of general education reform at one institution is examined, and a few strategies are suggested for geographers at other institutions undergoing general education review and reform.

SEDAAG 2007 – Charleston, SC

TITLE:
Ethnic Residential Settlement and Dissimilarity in Birmingham, Alabama

AUTHOR:

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ABSTRACT:

This paper examines the residential patterns of various racial and ethnic groups in Jefferson and Shelby counties, the two most populous counties in the Birmingham-Hoover Metropolitan Statistical Area (MSA), in central Alabama. Information is also discussed about the history and demography of migration to the Birmingham area. Immigrant settlement patterns and economic indicators provide context for understanding Birmingham's ethnic economy. The specific question I explored in this paper is: What is the nature of the Asian, Hispanic, and Foreign Born residential settlement patterns in relation to the traditional black and white populations in the Birmingham area and how do they align with patterns of immigrant settlement in other southern cities and more traditional gateways? I use quantitative techniques to support the discussion of the demographic structure of the area. Specifically, location quotients and indices of dissimilarity are calculated and illustrated in order to shed light on the current nature of ethnic residential patterns in Birmingham. This study adds to the literature and discussion on the changing nature of immigrant and ethnic settlement patterns and migration to and within the U.S. South.

KEYWORDS: Ethnicity, Immigration, Migration, Birmingham, Alabama, U.S. South

FIGHTING FOR ASIA: JAPAN, YASUKUNI-JINJA AND THE LOST CAUSE

Daniel McGowin
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Abstract

Postwar Japan was a country scrambling to reclaim its identity after a devastating defeat. Japanese attempted to understand the Pacific War and its defeat by rationalizing its role in the war. This included not only attempting to justify its aggression in East Asia, but also constructing an identity of a victimized country.

This paper presentation examines the Japanese "Lost Cause," which presents striking similarities to the Lost Cause myth in the United States South. In presenting this phenomenon in Japan, the author will examine the Japanese postwar justifications for the Pacific War, and the identity construction that has taken place as a result. It is held that Yasukuni-Jinja – Japan's shrine to the war dead – serves as a spatialized representation of this myth.

Beyond the 3 S's: The Rhythms of Music Tourism in Kingston

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Abstract

Traditionally, tourism in Jamaica has been heavily reliant on the 3 S's- sun, sea and sand. While mass tourism has had success, it is insufficient for a thriving tourist industry, hence the relevance of music tourism. Reggae music, viewed as being almost synonymous to Jamaica, became established with the prominence of Bob Marley. The role of music tourism in providing diversification to the island's tourist product as well as contributing to the livelihood of the populace has largely been ignored by cultural-related studies.

Both qualitative and quantitative methods were employed in exploring the ways in which tourists from a variety of demographic backgrounds construct the musical landscape of Kingston. The gradient of this musical landscape extends from "Uptown" (the Bob Marley Museum) to the more socio-economically depressed space of "Downtown" (Trench Town Culture Yard Museum). The research reveals that the majority of music tourists was European, and conveyed that the fame of Bob Marley was largely responsible for their visiting Kingston. Safety was of chief concern as many of the respondents recommended that the town be made safer.

Land-Cover Change Facilitates Spread of Emerging Forest Disease

Ross K. Meentemeyer, Nathan E. Rank, Brian L. Anacker, David M. Rizzo, and J. Hall Cushman

Abstract. Human-caused changes in land use and land cover have dramatically altered ecosystems worldwide and may facilitate the spread of infectious diseases. To address this issue, we examined the influence of land-cover changes between 1942 and 2000 on the establishment of an invasive pathogen, *Phytophthora ramorum*, which causes the forest disease known as Sudden Oak Death. We assessed effects of land-cover change, forest structure, and understory microclimate on measures of inoculum load and disease prevalence in 102 15 x 15 m plots within a 275 km^2 region in northern California. Within a 150 m radius area around each plot, we mapped types of land cover in 1942 and 2000 using detailed aerial photos. During this 58-year period, oak woodlands significantly increased in area by 25%, while grassland and chaparral decreased by 34% and 51%, respectively. Analysis of covariance revealed that woodland expansion was a significant predictor of pathogen inoculum load in bay laurel (*Umbellularia californica*), the primary inoculum-producing host for *P. ramorum* in mixed evergreen forests. Path analysis showed that woodland expansion resulted in larger forests with higher densities of the primary host trees (*U. californica, Quercus agrifolia, Q. kelloggii*) and cooler understory temperatures. Together, the positive effects of woodland size and host stem density and negative effects of understory temperature explained significant variation in inoculum load. We conclude that enlargement of woodlands and closure of canopy gaps, likely due largely to years of fire suppression, facilitated establishment of *P. ramorum* by increasing the area occupied by inoculum-production foliar hosts and enhancing forest microclimate conditions. Epidemiological studies that incorporate land-use change are rare but may increase understanding of disease dynamics and improve our ability to manage invasive forest pathogens.

The Costa Maya: Evolution of a Touristic Landscape. Klaus J. Meyer-Arendt, University of West Florida

The Costa Maya is a vernacular coastal region of southeastern Quintana Roo (Mexico) and adjacent Ambergris Cay, Belize. As Mexico's Caribbean coast suffered many growth pains associated with mass tourism development, the Costa Maya was projected for more sustainable development including low-density housing and ecotourism. Development has been concentrated in Puerto Costa Maya, where a cruise-ship pier and terminal were built in 2001. Now Mexico's number two cruise-ship port, Costa Maya is impacting tourism development within a narrow radius by discharging 10-12 shiploads of tourists every week. And in spite of development plans, especially near the Belize border, the more remote beaches of the Costa Maya cater to fewer, but well-heeled, ecotourists and dive tourists who stay in the 260 lodging units scattered throughout the region. Hurricane Dean dealt the area a blow in August 2007, but recovery has been rapid except for the cruise-ship pier that is expected to remain closed until Spring 2008. Whether the Mexican and Belizean portions of the Costa Maya will be linked by highway and bridge one day remains to be seen.

Visual Blight and Environmental Inequities within the City of Atlanta, Georgia

Dan Miller, Department of Geosciences, Georgia State University

Spatial inequities function as manifestations of sociospatial segregation, both by class and race. While identifying these inequities can be a difficult task, a strong framework commonly referred to as 'Environmental Justice' helps to make this a manageable goal. Using this framework, this paper seeks to identify a case of environmental injustice in the metropolitan Atlanta area through analysis of the spatial associations of demographic variables with various pollutants. Methods used included comparative spatial analysis and spatial modeling using data provided from the US Environmental Protection Division and US Census Bureau. This paper concludes that two census block groups to the east of Hapeville, Georgia, face the largest case of environmental injustice in the study area.

Cross Sectional Variability of the Restored Kissimmee River, Florida

Joann Mossa, Jim Rasmussen, and Ursula Garfield
University of Florida

ABSTRACT

River restoration is an emerging science, and monitoring is an important component of evaluating success. The Kissimmee River in south-central Florida was channelized into C-38 during the 1960s and is currently being restored. This paper focuses on one aspect of geomorphic monitoring being conducted by the authors. In 2007, twenty cross-sectional transects were established in both restored and unrestored sections of river. In the restored portion, transects were located in remnant reaches (the original channel, now with restored flow), recarved reaches (buried by spoil, then dug out by heavy equipment), and connector reaches (reaches built across the backfilled C-38). Only the connectors were notably different, considerably wider and shallower than the others. All four transects in the connector reaches had bars or islands, suggesting insufficient velocities to move the sediment. Continued monitoring and establishing additional transects in different connectors soon after other portions of the river are restored will help document whether these reaches continue to be sites of bar development or whether adaptive management can result in improved engineering of these vulnerable portions of the channel.

Tar Heel Cinema, Sense of Place and Idiosyncratic Naturalism

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Films articulate that naturalizes the physiography of a place. North Carolina's physiographic division into mountains, piedmont and coastal plain provides a cinematic correlative to two recent films filmed in North Carolina by North Carolina-born filmmakers: Phil Morrison's "Junebug" and Tim Kirkman's "Loggerheads". The cinematic depictions of the region-specific physiography of North Carolina enshrines "Junebug" and "Loggerheads" with what Arturo Escobar calls "the particular, the limited, the local and the bound". In "Junebug", a Chicago-based art dealer is trying to woo an outsider artist who lives in North Carolina and realized that the paintings of this self-taught artist are not as luridly gothic as the family of her husband that she romanticizes about. In "Loggerheads", Kirkman's unconventional narrative repeatedly shifts between mountains, piedmont and coast as he explores the trajectories of three different sets of characters who are struggling from legal barriers that keep them from reconnecting with their progenies who they gave up for adoption. While both films are steeped in distinctively North Carolina topographies, I will use the notion of idiosyncratic naturalism of Godfrey Cheshire in proposing that place is not a secure ontological category rooted in vernacular utterances and a predictability complicit to the viewers' expectations.

Keywords: film, place, representation, North Carolina

Abstract

Title: **Dividing the Pie in the Sky-- The U.S. Military and the Regulation of Airspace over East Carolina**

Author: **L. Jean Palmer-Moloney**, Associate Professor of Geography, Barton College, Wilson, N.C.

The military's role as a geographical agent of change is clear; national security is a non-negotiable in our society, and military pilots needs airspace to practice. The purpose of this paper is to analyze of the role of the military as a geographical agent of change in the airspace over East Carolina. Initially, the relationship between the military and East Carolina is taken into account. Then, after the social construct of airspace, in general, is examined, military Special Use Airspace is reviewed. Next the military airspace required by Cherry Point Marine Corps Air Station (MCAS) and New River Marine Corp Air Station is put into historical perspective. Finally, both the proposed U.S. Navy outlying landing field (OLF) "site C" and the proposed MCAS Cherry Point military operations areas (MOAs) are scrutinized as examples of how the military acts as geographical agent of change in the airspace over East Carolina.

The Roles of Elevation, Soils and Microtopography in Shaping the Course of Secondary Succession on Logged Areas Acquired by Congaree National Park. Ashley Pipkin and John Kupfer, Dept. of Geography, Univ. of South Carolina. Successful management and restoration of cleared and degraded southeastern floodplain forest ecosystems requires an understanding of seedling recruitment and establishment and the implications for successional changes. This study tests hypotheses about the interactive effects of site elevation and soil characteristics on early, post-logging succession in a bottomland forest at Congaree National Park, SC, that was partially clearcut in 2001. Woody composition was sampled in 64 plots along 32 forest-to-field transects spanning clearcut boundaries. Multivariate analyses using non-metric multidimensional scaling (NMS) showed that species patterns on regenerating sites were primarily related to elevation, cation exchange capacity (CEC) and extractable soil sodium. Species occurring on low elevation sites with greater CEC and sodium levels were almost exclusively obligate wetland species such as water tupelo and bald cypress while species loading high on NMS Axis 1 included facultative and upland species such as various oak and hickory species. Species patterns were secondarily related to a suite of soil conditions and microtopography. These factors most clearly differentiated high- and mid-elevation plots situated on a natural levee of the abandoned Bates Old River with more alkaline conditions, greater base saturation and higher levels of extractable copper, magnesium and calcium, from those that occupied floodplain interior settings along sloughs and in alluvial flats.

General Orders No. 11: The Landscape Memory of a Federal Policy Chris W. Post, Department of Geography, University of Georgia, Athens, GA, 30602; cpost@uga.edu

On August 22, 1863—during the peak of the Civil War and the day after Confederate guerilla William Quantrill's raid on Lawrence, Kansas, resulted in 143 deaths—Union officials evacuated 20,000 citizens from their homes by issuing General Orders Number 11. Houses and crops were subsequently burned to rid the region of all possible resources for guerillas. This policy deeply impacted the civilians of the time and still bears strong, albeit subtle, emotions on the landscape. This paper highlights one such media involved in the memorialization of the policy's effects: landscape art. The identity of memory embodied in two particular pieces contain the most telling displays of emotion against what was seen as unjust power placed in the hands of the Union Army. The narrative details of the art—who painted it and why, the symbolism of the pieces, their location, timing, and funding—reveal that these pieces are imbued with meaning just as any other monument. They, like other Confederate memorials, take on a counter-hegemonic attitude that is critical of the federal government's drafting and implementation of Order No. 11.
Keywords: landscape art, memorialization, Order No. 11, Civil War, Missouri

The Effect of the Kentucky/Tennessee Sales Tax Differential on High Order Goods

Nick Quinton
Florida State University

A geographically elongated state, Tennessee can count eight other states as neighbors. Tennessee's tax structure relies almost solely on a general sales tax, creating significant contrasts in aggregate sales tax levies on goods purchased in retail outlets in close proximity to the border. Do businesses consider the sales tax implications associated with state borders in location decisions? Do consumers take variations in sales tax levies into consideration when deciding where to shop? Tennessee is a somewhat unique subject area for a study of the affect sales tax has as it relates to retail outlet locations. This paper examines the influences associated with the differential sales tax levies along the Kentucky/Tennessee border as they relate to the location of electronics and appliance stores. As retailers of "big ticket" items, electronics and appliance stores may be particularly susceptible to price differentials created by two separate sales tax levies. Analysis indicates that the sales tax differential may be secondary to other factors.

Industrial Utopian Communities: Using Aesthetics to Produce & Control Space

Amanda Rees, Ph.D. Columbus State University

SEDAAG Conference 2007

The use of aesthetics to produce particular attitudes and behaviors towards neighbors, community, and even democracy has found a strong home in the contemporary New Urban and Urban Village Movements. To explore role of aesthetics in spatial practices employed to produce and control space this paper draws on two late nineteenth century industrial utopian communities: Pullman, Chicago (1880) created by George Pullman, and Port Sunlight, Liverpool (1888) created by William Lever. Both communities have been identified as influencing the contemporary New Urban and Urban Village movements. The paper reveals a complex set of spatial practices shaped by two distinct built space aesthetics: the Beaux Arts and Arts and Crafts in the last part of the nineteenth century. These case studies offer an exploration of the intensions of each developer in order to understand how two distinct aesthetic movements represent conflicting symbols of the capital-labor relationship. I hope to offer some possibilities for understanding the role of aesthetics in the development such as Disney's Celebration, the Mormon Church's Shoal Creek Valley and Prince Charles' Poundbury.

Title: The city is not a sandwich: urban development in Havana, Cuba

Matthew Reilly
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After decades of benign neglect, a consequence of the Revolutionary government's anti-urban development policies, the urban landscape of Havana is being transformed as the government, in cooperation with foreign corporations, and newly formed quasi-private entrepreneurial companies, NGOs, and local participatory planning groups, are re-investing (materially and symbolically) in the built environment and public spaces of the city. This represents a rapid and systematic shift in the location and quantity of capital being invested in the built environment and public spaces of Havana, and is part of a broader cultural shift as the state markets and (re)develops the city's cultural and tourists sectors. Cuba's efforts at aggressively marketing the cultural economy of Havana, through urban redevelopment, heritage preservation, and tourism development, can be seen as an attempt to marshal space and place as a means of capital generation in line with neo-liberal strategies being employed throughout the West. These new institutional actors and corporations are altering social and economic relations among Cubans, as well as changing the nature of the relationship between the state and society.

Time of day in the paintings of Claude Lorrain: A meteorological analysis

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Claude Lorrain (1604/5-1682) is renowned for his paintings of the sun on or near the horizon. But it is rarely clear whether sunrise or sunset is intended, although interpretation of the meaning of the picture often depends on the choice. This paper approaches a solution through investigation of the meteorological conditions displayed in these low sun scenes. Early in the artists career, largely between 1630 and 1635, most painted scenes had a rather realistic view of nature. Using the common meteorological conditions likely in summer around Rome, the main locale of Claude's landscapes, many of the pictures fit into a simple diurnal sequence of cloud types, based on an increase in instability after dawn and a decrease starting in late afternoon. Consequently it is possible from cloud evidence to suggest a time of day for many of these early pictures. Later in his career Claude moved away from realism towards a more classical or mythological approach, with a more timeless quality. Clouds were still frequently shown with reasonable accuracy, but the combination of cloud types in the picture makes it virtually impossible to define any specific time of day. Indeed, the combination reinforces the idea of a mythical time.

The Effects of Hurricane Katrina and Following Drought Conditions on the Weeks Bay Reserve, Alabama Vegetation from Lansdat 5 Satellite Imagery. John C. Rodgers III, Department of Geosciences, Mississippi State University and Adam Murrah, Department of Geosciences, Mississippi State University. The purpose of this project was to examine changes in Normalized Difference Vegetation Index (NDVI) values before and after Hurricane Katrina (August 29th, 2005) within the Weeks Bay Reserve, coastal Alabama. Normalized Difference Vegetation Index (NDVI) values were calculated from Landsat 5 satellite images for March 24, 2005 (pre-Katrina); September 16, 2005 (post-Katrina); and April 28, 2006 (8 months post_Katrina); and August 7, 2002 (control). The September 2005 image had the lowest average NDVI for all study areas and habitat types. NDVI values decreased by 49% from the control image. The April 2006 image also showed a large decrease in NDVI from the control (47%). The continued NDVI suppression may be related to drought conditions following the storm. Areas proximal to Weeks Bay and the Swift Track had substantial decreases in NDVI post-Katrina, but recovered more than the River study areas. Emergent wetland vegetation experienced the greatest decrease in NDVI after Hurricane Katrina and recovered the least. Upland forest habitats were more resilient. It appears that Hurricane Katrina and the ensuing drought had a significant effect on the Weeks Bay Reserve vegetation that persisted into the following growing season.

The Fallout from Amenity Based Residential Development: A Case Study from the Swannanoa Valley, Buncombe County, NC

Jovian Sackett
University of South Carolina at Columbia
and
Southern Environmental Law Center (Chapel Hill, NC)

Abstract

Several circumstances have converged on Western North Carolina in recent years to make it a hot spot of high-end home development in amenity-based areas. The Southern Appalachians have long been characterized by their scenic beauty and rugged terrain, which made travel difficult. However improvements in transportation and information infrastructures, coupled with a focused national spotlight on Asheville, NC as one of the best places to live regardless of lifestyle, have brought on a wave of wealthy residential development in the form of gated communities. Drawn by mystique of unspoiled mountain wilderness, the new residents threaten to change both socio-economic and environmental dynamics that currently give sense of place to the Swannanoa Valley. The primary concern of this paper is the issue of inequity resulting from the growing popularity of vacation home development in Western North Carolina. Rising property values, political power shifts, land-use law change, loss of access to resources are all examples of ways that vacation home development is fragment the socio-economic structure of the Swannanoa Valley. Of economic concern to the region is also the condition of the environment and its ability to drive the local economy. A cross section of the local population was interviewed in order to assess the variance in opinions between local residents, local politicians, conservation groups, public land managers, developers, and planners on the past, current, and future state of the Swannanoa Valley as a result of development.

Overcoming Marginality on the Margins: The Asháninka and the Political Geography-Ecology of the Amazon Borderlands

David S. Salisbury

University of Richmond

This paper traces the political geography-ecology of an Amazon borderland over the last hundred years through an analysis of the borderland Asháninka, a transboundary indigeuous people. Harley (1988) and Hecht (2004) have outlined the desocializing power of cartographic silences and empty Amazonia meta-narratives. Existing official maps of the Amazon borderlands poorly represent local people and allow planners to project their goals onto a landscape deemed empty of inhabitants. This paper outlines how inadequate geographic information has been a characteristic of the borderlands since contact and highlights the important contributions of indigenous people to improving this information and facilitating the creation of nation states through boundary definition and demarcation. Once their role of creating the political margins or harvesting natural resources is accomplished, these people are abandoned and forgotten along these international frontiers. This paper documents how the borderland Asháninka are overcoming marginality on the margins by appropriating national security discourse in Brazil and engaging in counter mapping efforts in Peru.

Denials and Declarations: Disaster Policy and Political Influence

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Abstract

Federal disaster declarations in the U.S. are authorized by the president under the provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988. Several studies have considered the political geography of presidential disaster declarations over the past several decades and have found varying levels of political influence associated with the disaster declaration process. This research provides a comparative analysis of those requests for disaster declarations that are denied by the president. The assessment of the proportion of disaster request denials (turndowns) relative to total disaster declaration requests corroborates prior findings supporting the absence of political influence with respect to gubernatorial and presidential political party. However, there was no statistically significant association between disaster turndown percent and the incidence of presidential disaster declarations in respective states. This finding contrasts with prior research and provides additional consideration regarding the role of political influence in the federal disaster declaration process.

The Battle of Richmond Civil War Park and Re-enactment: A Living History Tourist Destination in Madison, County, Kentucky. Richard Alan Sambrook, Department of Geography & Geology, Eastern Kentucky University. The events of the Battle of Richmond unfolded over August 29-30, 1862, ultimately becoming the most conclusive victory for CSA forces of the entire conflict. Despite its historical importance, the surviving buildings and the battlefield site(s) remained unprotected from destructive development until the mid-1990s. This paper documents the cooperative effort put together to create and manage a county park to celebrate and preserve the battlefield. Part of the preservation effort is supported by an annual reenactment, as well as other events such as the Kentucky Civil War Heritage Trail. Supporters of the battlefield park believe advantages of site and situation will contribute to the growth of the area under management, as well as participation in the reenactment events. Ultimately, the growth and success of the park will contribute to maintaining green space area in the county, as well as contribute to generating tourism visitation dollars for the local economy. An attempt to define the visitor shed for the 2007 reenactment will be presented based upon a parking lot license plate survey.

Spring Breaking Point: How Do College Students Impact Foreign Places?

Kathleen Schroeder and Kara Brown

Appalachian State University

Abstract

This paper argues that geographers should be involved in the growth of international service opportunities on their college campuses. Often these experiences are touted as universally good, a win-win, with students gaining international experience while helping the less-fortunate abroad. This paper presents the results from a preliminary research project on the local impact of international Alternative Spring Break trips sponsored by a mid-sized comprehensive university. It finds that, overall, the trips were a positive experience for both students and host communities but argues that these positive exchanges cannot be taken for granted. Successful Alternative Spring Break experiences require a substantial amount of careful planning, experienced group facilitation in the host community and solid debriefing upon return. It recommends that geographers with a critical perspective and years of foreign area expertise should be involved in guiding the development of these trips.

Title: The Spatial and Temporal Role of Irrigation and Flow type on Daily Warm Season Precipitation in Eastern Nebraska 1950 – 2005

Jason Senkbeil

University of Alabama

Abstract:

The impacts of increasing irrigation have resulted in a significant decrease in daily maximum growing season temperature over irrigated areas. While the irrigation impacts on temperature have been studied extensively, there have been relatively few studies detailing the possible relationship between irrigation and precipitation.

Does irrigation create a precipitation feedback when the use of irrigation exceeds some critical threshold? This question is answered using a combination of statistical analyses and classification systems in Eastern Nebraska. The procedure involves the use of the Palmer Drought Severity Index (PDSI) as a proxy for irrigation use, and the creation of five atmospheric flow types characterizing the synoptic flow pattern. Scenarios, at each irrigated region, involving PDSI level and flow type were tested using both parametric and non parametric procedures. This approach yields precipitation results according to flow type at times when irrigation was likely or not likely to be used. Further analysis on the significant irrigation results at each region involved the use of surface based dynamics. In the absence of considerable dynamic influence upon precipitation, irrigation is assumed to be a probable cause for slightly higher precipitation at stations immediately within or adjacent to heavily irrigated regions.

Abstract

J. Marshall Shepherd

University of Georgia

Analysis of a unique satellite precipitation dataset coupled with an extensive database of storm tracks are used to develop a parameter called the "millimeter-day (MD)." MD analysis in 4 mini-basins near coastal southeastern United States reveals that September and October account for the largest number of extreme rainfall days (e.g. "wet millimeter-days" or MD > 0) during the 1998-2006 Atlantic hurricane season. Tropical cyclone (TC) days are more likely to produce "wet millimeter days" than non-TC days and category 3-5 hurricane days (e.g., major hurricanes) produce the wet millimeter-days of largest magnitude. Major hurricanes produce the most extreme rainfall days, but tropical depression/storm days contribute most significantly to cumulative seasonal rainfall (8-17%, basin-dependent) due to frequency of occurrence. Thus, the influence of major hurricanes on rainfall may be most apparent in extreme daily events while weaker storms may be more critical for assessing trends in cumulative seasonal rainfall.

Was the Bachman's Warbler a "Cultural Ecological-Dependent" Species? Michael K. Steinberg, New College and Department of Geography, University of Alabama.

This paper discusses the relationship between the Bachman's warbler and canebrakes, an ecosystem partly created and maintained by human disturbance. This paper argues that because the Bachman's warbler was a canebrake specialist, the decline of the human disturbance agency, which maintained this ecosystem, ultimately set in motion the decline and possible extinction of the warbler, thus making the Bachman's warbler a cultural ecological-dependent species. It may at first seem strange to describe a bird species as dependent on cultural ecological practices (mainly burning for agriculture in this case), but the Bachman's warbler was indeed dependent on the ecosystem - canebrakes - that Native American land use and ethnobotanical practices produced and maintained. As the cultural ecological practices or agency that helped create and maintain canebrakes declined, so too did the Bachman's warbler.

Sea Level Rise, Globalization, and Urban Design: Between the City and the Sea. Philip E. Steinberg. Florida State University.

Events ranging from sea-level rise to economic globalization are forcing urban theorists to reconsider the Platonic ideal of the insular polis that exists in isolation from and in opposition to the supposedly chaotic world of nature that persists just outside its borders. In response, urbanists are finding new ways to incorporate the sea into the spaces of everyday life, from permanent residency condominium cruiseships and floating factories ("sweatships") to cities built on floating pontoons. This paper, after briefly reviewing the role of the sea in urban theory and considering some of the legal-juridical implications of developments that blur the urban-marine divide, presents a range of examples, from science fiction to the world of cruiseship jetsetters to the lives of offshore computer programmers, to explore social futures beyond the division of city and sea.

Poverty Evolution in the Capital of the Sunbelt: An Investigation of Neighborhood-level Poverty Among Racial and Ethnic Groups within Houston, Texas; 1990-2000.

John B. Strait, Sam Houston State University; Gang Gong, Sam Houston State University. **Abstract:** Neighborhood-level poverty in the urban United States exhibited significant changes during the 1990s. The authors examine the nature of poverty changes evident at the neighborhood level among Whites, African-Americans, Hispanics and Asians in Houston, Texas from 1990 to 2000. All four groups were generally less exposed to poverty residentially in 2000 than was the case in 1990. In addition, far fewer people resided within extremely poor neighborhoods at the conclusion of the decade. Empirical evidence demonstrates that a rigid racial and/or ethnic continuum exists within Houston in terms of poverty concentration. African-Americans were more exposed to poverty residentially than all other groups. Moreover, despite the increasing presence of poor Hispanics among the overall poverty population, over time African-Americans accounted for a much higher proportion of the population residing within extremely poor neighborhoods.

Key words: Poverty, race, ethnicity

Rediscovering the Local: The New Deal and the New South in the *American Guide* Series, Jamie L. Strickland and Tyrel G. Moore, UNC Charlotte.

Regions are much more than figments of geographers' imaginations. The place-making characteristics that collectively define regions derive from multiple perspectives and sources. Images and words that appear in print are perhaps the most durable of these region-forming perspectives. In 1935, President Roosevelt signed legislation that ultimately would contribute to a round of "federalized" local color literature produced on a national scale. In this paper, we are concerned with exploring the textual images of the South in Henry Alsberg's edited compendium, *The American Guide*. Specifically, we address the following questions: (1) What images and characteristics are used to demarcate the South?; and (2) How are these "imagined" characteristics related to a federalized view of the region? The resultant images documented in the guidebook essays and tours present a South that was both integrated within, yet diverse from, the nation as a whole.

Ecologically Sustainable Water Management for the Relicensing of Saluda Dam

Laura J. Stroup, Department of Geography, University of South Carolina

This paper overviews the application of Ecologically Sustainable Water Management (ESWM) for the Federal Energy Regulatory Commission (FERC) relicensing process of Saluda Dam in South Carolina. ESWM, a process designed by the Nature Conservancy, integrates ecologically-based flow targets into dam operation. The process was applied successfully in the Savannah River Basin, where flow recommendations became incorporated into the operation of Thurmond Dam. Steps involved in the ESWM process include 1.) stakeholders meeting to determine direction, 2.) developing a literature review 3.) convening a flow recommendation workshop, 4.) incorporating recommendations into the FERC license, and 5.) monitoring the effects of flow regime. Since 2005, the study author, and colleagues at the University of South Carolina, have gathered information to advise the National Park Service and stakeholders of the effects of Saluda Dam on the downstream riparian environment. The Saluda Dam ESWM process is still incomplete. Differences in institutional arrangements and lack long-term monitoring of the resources downstream of Saluda Dam may be impediments. However, ESWM is a powerful tool in conceptualizing and organizing information to incorporate ecological flows into dam operation.

Selima Sultana, Department of Geography, University of North Carolina at Greensboro, Greensboro, NC 27402. E-mail: s_sultan@uncg.edu. ACCESSIBILITY TO EMPLOYMENT FOR HISPANIC WORKERS IN CHARLOTTE METROPOLITAN AREA, NC. This paper examines the relevance or applicability of the spatial mismatch hypothesis to the Hispanic population in Charlotte, which has been labeled as one of the nation's Hispanic "hyper growth" cities over the past decade. Using the 2000 Census Transportation Planning Package (CTPP), Public Use Microdata Samples (PUMS) and Geographic Information Systems (GIS) based techniques, this paper calculate accessibility to employment for Hispanic, Black and White workers in the Charlotte, NC, metropolitan area, using both travel times and network distances as measures of proximity. The results suggest there are differences in accessibility to employment between ethnic groups. Accessibility is much higher (almost double) for whites compared to African American workers and both of these groups have much higher accessibility to jobs compared to Hispanic workers. Analysis based on PUMS data, African Americans tend to have disadvantages in access to automobiles and accessibility to work (have long commutes) compared to workers in all other ethnic groups when public transportation is used. However, Low-status and low-income (below<$25,000) Hispanic workers are the most disadvantaged in commuting time (therefore, access to the jobs).

Not all Squatters are Created Equal

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Since its establishment in 1971, officials in charge of managing Digya National Park in Ghana, West Africa have been carrying out eviction exercises to rid the park of human settlement. In this paper I will begin to explore the ways in which different groups of people who have historically and more recently resided inside the park boundaries are differentially perceived and represented by the Wildlife Division of the Forestry Commission of Ghana. More specifically I will seek to find how the designated titles of "indigenous" and "non-indigenous" may result in differing outcomes for different ethnic groups affected by the evictions.

IDENTIFYING TRENDS IN LAND USE/LAND COVER CHANGES IN THE OLOMOUC REGION, CZECH REPUBLIC

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ABSTRACT

The Olomouc region in the Czech Republic has undergone significant changes in the past several decades, such as the change in a political system of the country in 1989. Although the political and cultural transformation is generally recognized as an important driver of land use, there have been few studies conducted that would empirically assess and quantify land use/land cover changes in the Czech Republic, especially in the context of the post-socialistic transformation. In this study, I present an approach for identifying major land use/land cover changes in the Olomouc region applying remote sensing techniques to compare data from multispectral satellite sensors acquired twelve years before and twelve years after the revolution in 1989. I pay closer attention to specific trends in land cover changes: changes in agricultural areas, forest areas, and residential development. The results support initial assumptions that the land cover will reflect the changes in human perception of landscape and natural resources, such as smaller need for intensive agriculture, shift to environmental friendly management of forested areas, or increasing development and suburbanization.

Nicholas Velluzzi
College of Charleston

This paper investigates the role of the Walla Walla Community College Center for Enology and Viticulture in aligning workforce and economic development and enhancing the competitiveness of the Walla Walla wine industry. I identify four distinct areas in which the Center enhances local competitiveness. First, the Center builds regional competences through the provision of sector-specific education and training, which includes continuing education opportunities for incumbent workers and local business owners. Second, due to the highly specialized nature of the enology and viticulture program, the Center functions as a source of gravitational pull that attracts job-seekers and talent into the region who otherwise would not have migrated into Walla Walla. Third, the Center socializes trainees into the local production system and facilitates their becoming embedded in the local industrial culture. Finally, the Center is a source of *hard* and *soft* infrastructure that provides technical support and productive capacity to local wineries, the use of its building and facilities for various industry needs, and increases the level of visibility for producers in the Walla Walla Valley and Washington State. This paper demonstrates how community colleges can be spatially and institutionally situated to effectively coordinate and align workforce and economic development.

Rethinking Critical Race Theory: The Role of Bodies in the Social Construction of Race

C. Veninga
College of Charleston

This paper joins recent calls to more fully incorporate the materiality of the body into geographical treatments of race and related interest in reconsidering the ontological commitments of critical race theory. I use performativity theory to access the contested process of racial identity formation and reveal how racial identities are worked through embodied practices as both conscious and unconscious attempts to fit into particular social realms. Drawing on research regarding school desegregation, my analysis shows how students actively mobilized their bodies to negotiate belongings that were ostensibly foreclosed by the primacy of phenotype. I suggest that by placing the experience of embodiment at the center of theoretical and empirical analysis we can better theorize the ways in which racial categories and power structures are (re)produced through everyday life.

Reconstructing Thimphu: Balancing Transition and Tradition in Bhutan

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ABSTRACT

Third World cities commonly suffer from modernization's destabilizing affects exacerbated by the need to manage the population pressure of new migrants. Poised on the verge of modernization, Bhutan's capital city of Thimphu merits study as a model for managing urbanization as that country steers a middle path (a term from the prevalent Buddhist theology) between patterns elsewhere and cultural imperatives that actors seek to carry over. Actor network theory is applied to trace convergent and divergent forces involved in the process. This case study first outlines the underlying principles of Gross National Happiness, then discusses policies to retain rural population by improving living conditions while designing urban areas to encompass new types of population and preserve cultural elements in the built environment. The final section focuses on construction of a GIS base map of Thimphu as an aid to monitoring urban modernization effects and looks at networks implementing policy in a Himalayan hinge location. Data comes from one of only two nations with a complete census count, field study informants, and work in progress on an integrated map.

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African American and Hispanic Entrepreneurship in Three US Southern Metropolitan Areas

Abstract. Rates of self-employment are different among ethnic groups, between men and women, and in different places. The prevailing literature suggests that personal characteristics, human capital, discrimination, ethnic networking, and institutional regulations are all associated with ethnic entrepreneurship. However, very few recent studies have analyzed how different urban socioeconomic contexts influence this process. Using the Public Usable Microdata Samples (PUMS) in year 2000, this study examines the self-employment of US-born blacks and foreign-born Hispanics in three different metropolitan areas in the US South that are transforming dramatically by immigration in recent decades. The industrial concentration patterns of the two groups indicate a possible succession between these two groups depending on to what extent the local labor market is transformed by immigration. The ethnic diversity, history of immigration, and the economic structure in each local area have provided different opportunities and challenges for ethnic minorities and immigrants to start up and maintain their own businesses. This study suggests that the process of economic incorporation of ethnic minorities depends significantly on the institutional capacity and social, cultural and political resources of local communities.

Key Word: Ethnic Entrepreneurship, urban contexts, American South, immigration

Mapping Estuarine Shorelines and Accompanying Infrastructure and Human Vulnerabilities: Recent Advances in Using High Spatial-Resolution Remote Sensing

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Abstract

We aim a) to review the recent advances in mapping and quantifying trends of estuarine shorelines using the latest space-borne, aerial, and comprehensive historical datasets, and b) to discover how shoreline changes and erosion rates may affect infrastructure and social and economic vulnerabilities, and to model shoreline changes at these hot spots. The approach integrates remote sensing, geographic information system (GIS), and spatial analysis, and includes examples of: a) development of baselines of estuarine shorelines from newly available remotely sensed data and accurate historical shorelines from ancillary datasets and field surveys; b) investigation of shoreline change through time and delineate areas of high erosion rate (hot spots) in order to reveal infrastructure and human vulnerabilities and property at risk; and c) analysis of shoreline changes at the hot spots with land use and land cover type, topography, morphology, wave energy, and other factors to predict future shoreline changes.

Warf, Barney. Dept. of Geography, Florida State University, Tallahassee, FL, 32306. bwarf@fsu.edu. **"Geographies of Time in Colonial America."**

This paper contributes to the emerging literature on the geography of time by focusing on its spatial variations within colonial America. First, it addresses the long-standing philosophical question as to the nature of time, emphasizing that its symbolic meaning and social construction are inseparably fused. Although time typically appears as "natural" and outside of society, it is, like space, in fact a social construction; every society develops different ways of measuring, using, and perceiving time. The "meanings" of time are the subjective significance that they hold for people who experience them in daily life, the daily rhythms of existence in which people engage as they construct their biographies. Second, it utilizes David Fischer's (1991) famous work *Albion's Seed* to explore how time was differentially constructed in four distinct geographic contexts in colonial America, offering vignettes of each region's approach to time, including daily and annual cycles, calendars, attitudes toward work and leisure, marriage cycles, literary references, and use of time-keeping technologies. Its aim is to demonstrate that there was not one, universal sense of time but a series of locally and culturally-specific notions of time that reflected and in turn reinforced prevailing mores and attitudes toward work and leisure. In summarizing how time was unevenly produced and given meaning, it contributes to the larger analytical project of denaturalizing time.

Going, Going, … Gone? West Africa's Disappearing Short Dry Spell.

Peter Waylen and Kwadwo Owusu, Department of Geography, University of Florida.

Traditional rain-fed agriculture practices in the productive humid regions of West Africa are adapted to a major (March-June) and minor (September-October) rainy season, separated by a short dry spell. Evidence is examined throughout the region for a shift in regime towards a more uni-modal pattern in the period post-1970s, to the south of 9°N. Indications of declines in rainfall in both major and minor rainy seasons, combined with a more humid short dry spell are consistent with an hypothesized weakening of the West African monsoon system in the last 10,000 yrs, as the perihelion has shifted into the boreal winter. Reduced continental heating in summer induces a more southerly maximum extent of the Inter-tropical Convergence Zone. Such a monotonic trend is apparent in a more humid (drier) short (long) dry spell observed in long term records. The quantity of rainfall during the rainy seasons is more closely connected to tropical sea surface temperatures both in the Gulf of Guinea and South Atlantic, as well as potentially changing teleconnections with the El Niño-Southern Oscillation phenomenon. These influences appear in the longer records of the rainy seasons as low frequency cycles of about 25 years.

Evaluating the Accessibility Impacts of the Corridor X Freeway

Joe Weber, University of Alabama
Brandy Phillips, Alabama-Tombigbee Regional Planning Commission

The relationships between improved transportation, economic development, and resulting socioeconomic changes have been the focus of much debate over the years. This research examines the relationships between socioeconomic factors and accessibility change resulting from highway construction along the Corridor X highway project, running from Memphis, Tennessee to Birmingham, Alabama. This new freeway has been justified on economic development grounds, and is expected to open up areas to growth. However the results show only minimal increases for several accessibility measures between 1990 and 2000, largely concentrated in communities already highly accessible. When accessibility models used travel costs that were adjusted for inflation and fuel costs, only two locations experienced any gains. Statistical analysis found that socioeconomic characteristics and accessibility improvements showed little correlation. Regression was then used to examine the relationships of a range of independent variables to socioeconomic characteristics, but the accessibility measures were included in only one model. This shows very little evidence that a relationship between increased accessibility and growth exists, raising questions about the role of transport in improving conditions in many areas of the U.S.

Quantitatively Delineating the Black Belt Geographic Region, Gerald R. Webster, University of Wyoming, and Jerrod Bowman, University of Alabama

The Southern Black Belt has been variously defined in character and geographic extent. In the nineteenth century settlement focused upon the region's rich dark soils for which it was originally named. The Black Belt became the site of the South's Antebellum plantation-cotton-slave complex. Today many of the counties in the region have large African American populations and are more noted for their lack of economic opportunities than the fertility of their soils. As a result, the Black Belt region is now more commonly defined on demographic and economic factors than soil. Using principal components analysis, this study attempts to quantitatively define the county membership of the Alabama and Georgia Black Belts based upon a set of criteria commonly associated with the character of the Black Belt. It finds the Alabama Black Belt has greater uniformity of character than the Georgia Black Belt, and that growing urbanization has brought economic opportunities to some portions of the region.

Mark Welford

Georgia Southern University

Tropical mountains exhibit species richness elevation profiles with a maximum peak at mid-elevations. Several hypotheses are derived from mid-domain null models, environmental heterogeneity, and contour area and tested using three elevational gradient gamma diversity data sets of hummingbirds from northwest Ecuador to explore which theory(s) best explain tropical montane mid-elevation peaks in species richness. Although the data are limited in scope, hump-shaped species richness elevational profiles are evident and simulations using mid-domain null model partially explain these patterns. However, terrain dissection might play a role in hummingbird species richness at feeders while the close proximity of high relief intensity values and high species richness suggest that environmental heterogeneity along elevation gradients can at the local scale determine species richness.

The Geography of Major American Corporations: A Research Note

James O. Wheeler, University of Georgia

This research note focuses on the location and structure of the Fortune 500 largest U. S. corporations in 2005. The emphasis is on location by areas of the United States and on the location and locational change among metropolitan areas. This study shows that petroleum, banking, insurance, and pharmaceuticals dominate the 500 largest firms and that worker-dependent industries are primarily retailers. New York remains the U.S. corporate capital, followed by Chicago and the mid-continent metropolises of Houston and Dallas-Fort Worth. The American Census-defined South has expanded significance in the number of major corporate headquarters, from 7.6 percent of Fortune 500 firms in 1960 to more than 30 percent in 2005. Agglomeration economies are the bases for the considerable concentration of corporate headquarters in only a few of the largest American metropolitan areas: (1) major international airports, (2) economic ties to local producer services, (3) face-to-face communication, (4) telecommunications infrastructure, (5) the clustering of the knowledgeable creative class.

Paper

National Arts and National Territories in Southeastern Europe. George W. White. Frostburg State University. Frostburg, MD 21532. gwhite@frostburg.edu.

Many national territories are seen as those territories inhabited by nations, themselves usually defined common language and/or religious affiliation. Subsequently, language and religious affiliation maps are employed as maps of national territories. However, national territories are defined by more complex factors than simple language and religious distribution maps. They also are determined by human territoriality. The question then arises as to how national groups identify and then become possessive about particular territories. One answer is familiarity, which arises and is cultivated in many ways. This paper examines how the depictions of places in the arts contribute to the building of a familiarity that engenders territoriality. Examples are drawn from nations in Southeastern Europe.

Health, Place and Ethnicity:
Exploring the Ethnic Density Hypothesis for Haitian and Mexican Immigrant Women

Sara McLafferty, PhD, University of Illinois Urbana-Champaign
Michael Widener, Florida State University

An important step towards meeting the U.S. Department of Health and Human Services' goal of lowering the percentage of infants born with a low birth weight involves identifying at risk groups and increasing their accessibility to prenatal care. Studies have shown that certain immigrant populations suffer from poor reproductive health outcomes such as high rate of low birth weight. Previous studies have shown links exist between ethnic immigrant density and improved health outcomes. We present an empirical test of this 'ethnic density hypothesis' for Mexican and Haitian mothers in New York City using GIS and spatial analysis methods. Using births data for 2000 from vital statistics, we analyze low birth weight. Ethnic density is calculated using kernel estimation and the corresponding values are assigned to each mother based on her place of residence. Using logistic regression methods, we examine the impact on reproductive health of ethnic density as compared with traditional risk factors. Results show a pattern similar to one found in our previous study on Bengali immigrant mothers, but wasn't statistically significant.

Race, Consumption, and American Capitalism

Bobby M. Wilson

In American capitalism, rising absolute levels of consumption help to compensate workers who suffer exploitation in production. Workers produce surplus value, but capitalists appropriate the surplus and distribute only a portion to workers, contributing to a high level of class exploitation. Workers tolerate this exploitation in return for securing higher rates of individual consumption. The uniqueness of American capitalism is that workers came to see themselves primarily as consumers, not producers of surplus value. Blacks rejected identities as subservient workers by embracing and reshaping their identities as consumers This paper examines whether this reshaping of identity as a consumer also generate a greater tolerance for racial inequality in the black community. Consumerism appears not to have diverted energy away from struggle against racial injustice, but it entail costs that are most profound in the black community.

A precarious power: international oil companies, knowledge and global reach.

Andrew Wood, University of Kentucky and Gavin Bridge University of Manchester

This paper draws on collaborative research on the upstream oil sector which examines how geographies of oil exploration and production are conditioned by the ways in which international oil companies (IOCs) develop, mobilize and deploy knowledge in its various forms. The paper is structured around three 'problematics'- those of risk, reach, and regulation. Section One outlines emerging geographies of exploration and production activity and discusses how they are structured by the interplay of 'above-ground' and 'below-ground' risks. Section Two centres on the knowledge practices through which IOCs seek to manage these risks and achieve global reach. Section Three reflects on the significance for oil politics of contemporary patterns of exploration activity and the networked-nature of the oil production chain. It uses the concept of social 'regulation' – which draws attention to the institutions, structures and practices that facilitate the reproduction of conditions for accumulation – to show how a key component of regional oil politics is the search for a new 'institutional fix' that will enable IOCs to continue to access high-grade, conventional resources.

The Current State of Geography in Secondary Social Studies Curricula in Georgia: A Preliminary Assessment

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Abstract

In the climate of increased standardized testing to meet national and state requirements associated with mandates like *No Child Left Behind* (NCLB), this paper explores the status of Geography in high school curricula in the state of Georgia. Specifically, we examine how geography is integrated into the state-mandated secondary Social Studies curriculum in Georgia and whether or not all students are provided with the opportunity to take a course in world geography. Data collected through a survey conducted by the authors indicate that 40% of public school districts in Georgia offer no stand-alone course in Geography as part of the secondary curriculum. Underscoring this trend, survey results demonstrate that only 28% of districts across the state require a Geography course for high school graduation. We view this absence of geography in high school graduation requirements as symptomatic of broader, national trends promoting science and mathematics at the expense of social studies. Instead of advocating for an addition to the burdensome standardized testing mandates, we conclude that actively promoting the integration of a geographic perspective into required social studies courses is one effective means to begin remedying this paucity of geography education in secondary schools in Georgia.

Abstracts

Poster Sessions

Annual Meeting
SEDAAG
Charleston, SC
November 18-20, 2007

Effects of People Park Conflict on Land Use Land Cover change is the Bannerghata National Park and the Ragihalli Reserve Forest

Sanchayeeta Adhikari, Department of Geography, University of Florida

Abstract:

This paper investigates a protected area of India and analyses the impact of suburbanization and people park conflict on the forest cover. The impetus for this research is the growing debates over the effectiveness of the two different approaches of conservation, one in which people are excluded from the use of the forest resources and second, where people are included in management and control of forest resources. The forest areas where people are excluded from the resource use gives rise to people-park conflict. These conflicts on the other hand can give rise to unsustainable forest conservation. The present study will focus on remote sensing methods of change detection analysis in evaluate the land use and land cover change in the Bannerghata National park in the Suvarnamukhi Watershed area and Ragihalli Reserve forest. The study will also try to compare two different methods of image classification in middle resolution images like Landsat MSS, TM and ETM+ & LISS III. Viz. the pixel based and the object oriented classification in the present study area.

Sea Turtle Nesting Patterns in Boca Raton, Florida

Michael David Anderson
Gumbo Limbo Nature Center
City of Boca Raton

Abstract

For over 30 years sea turtle specialists have monitored sea turtle nesting activity on the beaches in Boca Raton, Florida. Since 2001, handheld computers equipped with GIS have been used to record and track nesting data. The results reveal previously unknown patterns of nests, false crawls, hatchling disorientations, predations, and hatch success. Some portions of the beach have experienced increases in light pollution and decreases in dune vegetation, resulting in a decline in nesting activity. These same areas have also had higher percentages of false crawls and hatchling disorientations. The data also show clusters of predated nests and areas where hatch success is low. The distribution of predators and predated nests allow for the application of the most appropriate protection measures, while hatch success patterns provide clues of possible changes in the physical and chemical characteristics of the beach. The use of GIS to analyze sea turtle nesting activity has provided sea turtle specialists and city decision makers with the information necessary to better understand and implement best management practices regarding sea turtle conservation in Boca Raton.

Climatic Influences on Annual Ring Growth of Longleaf Pine

Arvind A.R. Bhuta
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Lisa M. Kennedy
Department of Geography, Virginia Tech, Blacksburg, VA

Abstract

The fire-dependent and endangered longleaf pine ecosystem comprises 0.7 percent of its historical range in the southeastern United States. Recovery of this ecosystem is of interest to scientists and land managers because of its economic importance and its unique biodiversity in Southeastern forests. Quantifying the climatological factors that influence annual ring growth of this species is essential to understanding how climate could affect the planning and implementation of proper conservation and restoration efforts in the recovery of this species in any part of its range. Dendroclimatological research of longleaf pine has been limited to its central and southern range. For this study, we 1) discuss the importance of and indicate sites for future dendroclimatological research for the northern range of longleaf pine in the Appalachian Plateaus, Ridge and Valley, Blue Ridge, and Piedmont ecoregions of Alabama and Georgia and the Piedmont and Coastal Plain of North Carolina and Virginia and 2) investigate how climate (precipitation, temperature, PDSI, and PHDI) affects annual ring growth of naturally regenerated longleaf pine for two sites (Seacock Swamp: n = 32; COFECHA $r^2 = 0.509$ and Everwoods: n = 39; COFECHA $r^2 = 0.494$) at its northernmost range in Virginia.

Abstract

Suitability of Green Roofs in Urban Areas
Amy R. Blankenship
Department of Geography, Marshall University

Approximately one-half of the world's population live in urban areas and many more join them each day. Cities are faced with many environmental problems, and among some of the most serious environmental issues affecting our urban areas are air and water pollution and Urban Heat Island Effect. As environmental problems in cities increase, we continue to look for ways to mitigate the effects on our environment and negative health effects for the people living in these areas. Such problems as Urban Heat Island Effect, air and water pollution could be alleviated by green roofs. However, all cities may not benefit as much as others. Creating a suitability model using GIS could help establish what factors determine whether a green roof would be beneficial for a particular city or if the city should seek alternate ways of mitigating their environmental problems.

Trends in Precipitation Duration throughout the Contiguous United States

David M. Brommer
University of Alabama
Department of Geography

Abstract

Accurately depicting changes in precipitation and the character of precipitation across the United States has been the focus of numerous previous studies. Most research addressing changes in the character of precipitation centered on spatial and temporal changes related to total precipitation, precipitation intensity, precipitation frequency, and diurnal variability. A major shortcoming in previous studies dealing with precipitation characteristics has been a failure to address changes in precipitation duration and/or intensity on time scales of less than one day. Research in this study focuses on using high-resolution hourly precipitation data from 87 National Weather Service stations with a continuous record from 1949-2004 to asses temporal trends in the length of precipitation occurrence throughout the contiguous United States. Results indicate decreasing precipitation duration was most pronounced and widespread during the winter and in the annual average, corresponding with warmer atmospheric temperatures during these time periods. Spring, summer, and fall have smaller and more sporadic areas where significant changes in the length of precipitation occurrences take place, corresponding with fewer locations experiencing significant changes in surface air temperatures during the period of record.

GIS Analysts in the Workplace: Putting Academic Achievement to Work

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A survey was conducted to evaluate the educational experience as it transfers to the workplace reality. The survey participants are those individuals involved in doing GIS work at an environmental consulting firm. This firm has provided high quality water resources engineering and environmental consulting services to clients since inception. This project will characterize the make up of the staff, how many actually have degrees in Geography, and how did their academic training enhance their work efforts. It will also investigate what additional fields are related to GIS work and how these enhance the understanding and efficiency in the work place. This survey will assess, compare and contrast the educational experience of GIS workers as it relates to their occupational experience. This survey could be expanded to study the members of a GIS list serve, or be done on a company wide basis to provide a detailed profile and overview of its talented workforce.

Keywords: GIS Analyst, survey, academic experience, occupational experience, water resources

The Relationship Between Wind Radii and Rainfall Extent of Hurricane Katrina

Erin L. Bunting
University of Florida

This project compares the horizontal extent of rainfall to that of the radius of gale-force winds (R17) of Hurricane Katrina 2005. Katrina is examined because it made landfall as a weak hurricane in South Florida, and as a major hurricane near the Louisiana / Mississippi border. Storm intensity is hypothesized to influence the symmetry of the rain shield. Therefore, the extent of the rain shield should be closely related to the extent of gale-force winds during the Louisiana / Mississippi landfall. This study uses GIS and spatial analysis to calculate the area of intersection between the R17 and the edge of the rain shield. The extent of the rainfall shield is determined using reflectivity radar data. Results show that 19% of the rainfall extent fell within the R17 during the first landfall. During the second and third landfalls the rainfall extent within the R17 increased to 71% and 72%. Thus, the hypothesis is accepted that the extent of the rainfall shield will be closely related to R17. Future work will examine additional tropical cyclones to see if the R17 can be utilized to denote the arrival of rainfall as a tropical cyclone makes landfall.

Public preparedness and response to the Enterprise, AL, tornado disaster of March 1, 2007

Philip L. Chaney and Greg S. Weaver, Auburn University

This paper evaluates the natural hazards concept of geographical familiarity in terms of local residents' level of awareness and respect for tornado hazards. The study was conducted following the tornado disaster that occurred at Enterprise, Alabama, on March 1, 2007. The tornado went through high-density residential areas and left many homes completely destroyed. Nine deaths were reported, with eight of those occurring at the high school when a building collapsed. Field inspection of the residential damage suggests that the death count could have been much higher. Sixty-three local residents participated in a questionnaire survey that was conducted on March 27-29. Most participants were aware of the tornado warnings. A majority had an emergency plan, and most followed the plan. However, few participants perceived the tornado warnings to be a serious personal threat, possessed a tornado-proof shelter (basement, storm shelter, or safe room), or owned an emergency weather radio. Approximately one-third had previous experience with tornadoes; however, they did not have a greater perception of danger and were less likely to have an emergency plan.

Jennifer Collins
University of South Florida

Storms like Katrina revealed to the nation that cities do not have adequate emergency plans. The city of Tampa and its over 303,000 residents have enjoyed good fortune in dodging hurricanes for over eighty years. If a storm like Katrina were to hit the city however, public and emergency officials would need to act quickly to execute sound detailed emergency plans to help evacuate vulnerable populations. The aims of this study are to identify vulnerable pockets within Tampa's population and consider if the city has adequate plans for this group. Analysis of data generated by the 2000 United States Census Bureau was used in this study to identify the research area and its demographic and mitigating characteristics, explanatory characteristics like income, education, and lack of access to vehicles that display vulnerability to hurricane damage within the population of the area of study. A social impact assessment of Ybor City was conducted using the principles outlined by the U.S. Department of Transportation (1996). Census tracts 39, 40 and 41, right in the heart of bustling Ybor City (Tampa), are where the most vulnerable populations are to be found. Current emergency plans for these people are evaluated.

Geospatial Frequency Analysis of Tropical Cyclone Tracks through South Carolina from 1851-2006

Jeffrey L. Cooley
University of Florida Geography
Undergraduate

As a result of the 2004 and 2005 North Atlantic hurricane seasons, popular concern about tropical disturbances has sparked questions about warming trends and an increase in tropical cyclone prevalence and intensities. The aim of this project is to design a method of geospatial frequency analysis of tropical cyclone tracks using ESRI's ArcGIS software and Microsoft Excel spreadsheets. ArcGIS provided a host of geoprocessing tools, including a line density function and spatial joins, to facilitate spatial analyses. Excel provided a powerful spreadsheet handling platform for organizing tables exported from ArcGIS and for calculating statistics. The project was based on the 105 storms that tracked through South Carolina from 1851-2006. Findings indicate that the methods efficiently processed the data, and provided instructive graphical output. The methods could easily be applied to similar analyses in other states for comparative purposes. Later research will investigate the reasons for particular findings. The emphasis of this project was to develop a quick method of frequency analysis to permit the elucidation of possible spatio-temporal trends in the data.

Spatial Variability of Geomorphic Processes in Channelized Tributary Streams

Lisa Davis
Assistant Professor, Department of Geography, University of Alabama

Human-induced change in fluvial systems results in a wide variety of physical processes involving changes in channel shape and sediment dynamics that can be localized or propagated throughout the system. As a consequence, spatial and temporal variability of geomorphic processes occurring in fluvial systems in response to human-induced change remains somewhat unpredictable. I examine spatial variability of geomorphic processes in three tributary streams that were channlized nearly 40 years ago using a conceptual model - Channel Evolution Model. Results from the application of the CEM showed that geomorphic processes of channel widening and aggradation dominated each part of the watersheds, from headwater to mouth, while vertical incision processes were very limited in their spatial extent. These results suggest that geomorphic adjustment processes may occur for extended periods of time in channelized tributary streams, and that after a period of incision, adjustment processes largely consist of channel widening related to bank failure, which contributes to and sustains system-wide aggradation.

Skeeter Dixon and Kathi Boatright, The University of Southern Mississippi

"Location Matters? Spatial Patterns and Attendance at Annual SEDAAG Meetings 1995 - 2006"

Within the operational code of SEDAAG is the understanding that the organization attempts to position the location of its annual meetings such that meetings are to be held alternating between a 'core' location and a 'peripheral' location. The goal is to accommodate, over a period of time, as many attendees as possible as to not having to travel overly long distances every year. This study spatially analyzes seven consecutive meetings as to attendance and the home location of participants. The results suggest: 1) there is a travel advantage to meeting site locations for many members and that these members constitute a regional core as referenced by residence, 2) there exists an optimal 'zone' for meeting site locations, and 3) that the core-periphery policy does help with travel for periphery attendees.

The Indian Trading Path and today's Piedmont Urban Crescent: a historical geographic investigation

G. Rebecca Dobbs, Emporia State University

In central North Carolina, the polycentric urban region known as the Piedmont Urban Crescent forms the state's vibrant "Main Street". Since this urban form is unusual in the South, the question of how it arose is important, yet historical geographic techniques have never previously been applied to it. Instead, both scholars and the public have made untested assumptions regarding the Crescent's possible bases, including the 1856 NC Railroad, the Indian Trading Path, and even Interstate 85. In this poster I present models at both the town scale and the system scale to illustrate the mechanism by which the Indian Trading Path, a major Indian-origin route later used by European traders and settlers, could have influenced the location of towns and the formation of the interdependent settlement system that became the Piedmont Urban Crescent. I further present the results of Phase I of the ongoing project in which I use colonial landgrant records from 1748-1763 to reconstruct European settlement over space and time. The Phase I results indicate a clear relationship between town development and the ITP and support my town-scale model.

The contribution of mesoscale convective systems to anomalous rainfall across portions of subtropical South America

Joshua D. Durkee

Climate Research Laboratory, Department of Geography,
University of Georgia, Athens, Georgia

In December 2002, the southeastern portion of subtropical South America (20°-40° S) experienced up to +329 mm per monthly anomaly of rainfall. This region is particularly susceptible to some of the world's heaviest precipitation events, such as mesoscale convective complexes. These systems are large organized clusters of thunderstorms that are capable of producing copious amounts of rainfall over a short period and across vast areas. This study seeks to determine the contribution of MCC rainfall to the regional anomaly. MCCs were identified and tracked based on cloud-shield characteristics observed from GOES-8/12 infrared imagery. MCC and regional rainfall was determined from Tropical Rainfall Measuring Mission three-hourly data at a 0.25-degree grid resolution. Ultimately, results show that MCCs contributed up to 36% of the total monthly rainfall in the vicinity of the regional rainfall anomaly. The spatial coherence of this contributive amount provides evidence of the possible greater impact MCC rainfall has on the hydroclimate in this part of the world.

Lost in the Mix: The Vulnerability of Mobile, Alabama to a Major Hurricane. Shawn Gable and Sean Conner. Department of Geography and Geology, The University of Southern Mississippi.

Mobile, Alabama is no stranger to tropical cyclone impacts. However, Mobile appears to be "lost in the mix" not experiencing a significant hurricane direct hit since 1979. The purpose of this study is to perform a brief assessment of the overall vulnerability of the city of Mobile, Alabama to a major hurricane; in an attempt to determine whether a more detailed study is warranted. This study combined Flax, Jackson, and Stein's "Community Vulnerability Assessment Tool" and G.I.S. software to identify the physical, social, and economic factors often considered vulnerability indicators. Social and economic data for the city of Mobile were combined with predicted storm surge data. The results show that Mobile has numerous regions with high percentages of the typical social and economic indicators that are commonly used to identified the socially vulnerable, the majority of which fall within the predicted storm surge regions if a major hurricane were to hit Mobile head on; concluding that more detailed study is necessary to examine the degree of Mobile's vulnerability to major hurricanes.

Air flow and sediment transport through a blowout at Jockey's Ridge State Park, North Carolina, USA

P.A. GARES

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Few studies have examined the spatial distribution of air flow over topography, particularly the very local directional patterns of flow. This study examines the wind field and associated sediment transport through a linear blowout at Jockey's Ridge State Park, North Carolina. Single-height anemometers and wind vanes were placed in a spatial array within the blowout. V-shaped sediment traps were used to monitor sediment transport. Sampling occurred during four wind events with different directional components. Topography exerted a significant control on local wind directions enhancing or inhibiting the development of sand transport pathways depending on the wind approach angle. During onshore winds whose approach was within 50 degrees of the blowout axis, topography controlled local airflow direction and sediment transport through the blowout. Wind flow was realigned to the blowout axis, maximizing erosion and sand transport through the blowout. Wind deflections on the ridges adjacent to the blowout were less significant and sediment transport moved in the direction of the dominant flow of wind. When wind flow approached at an angle of more than 50 degrees off the blowout axis, wind directions and speeds within the blowout became erratic as eddies dominated the flow. Net sand transport was minimized and deposition in the blowout occurred.

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A Decade After In-Stream Mining: The Leaf River Mississippi and Two Mined Tributaries

Ursula Garfield, University of Florida

Sand and gravel from alluvial river channels and floodplains are a readily available source of construction material. But following the abandonment of the mining pits channel stability was determined utilizing digitized channels and point bars in a GIS analysis. The point bar area and river change indices from two time periods indicated a trend toward in-stream mining pits stability and allowing for the recovery of a more natural flow system. The mined rivers with very large mining pits however continued to cause instability upstream of the confluence of the higher order river. Floodplain mining and ponds adjacent to the channel additionally causes an increase in point bar area and continued migration of the river channel through erosive processes indicating continued instability.

Seagrass Extent off Horn Island, Mississippi using Airborne Hyperspectral Imagery.
Jerry Griffith, University of Southern Mississippi, Elitsa Peneva, University of South Carolina, and Greg Carter, University of Southern Mississippi.

Mapping seagrass is important as its extent is an indicator of coastal ecosystem health. While aerial photography and multispectral imagery have been used to map seagrass, hyperspectral imagery is at the forefront of current mapping technology. In this study, HyMap hyperspectral imagery at 2.9 m resolution was used to map seagrass distribution off Horn Island, Mississippi and estimate areal coverage. Seagrass beds and sand bottom classes were defined based on visual interpretation and field observations. Image spectra were sampled for each class in three water depth zones determined by distance from shore. Supervised image classifications were performed using Maximum Likelihood (ML), Minimum Distance to Means and Spectral Angle Mapper (SAM) methods to compare accuracies. The ML classification produced the highest overall accuracy (83%). The SAM yielded the lowest accuracy due to the predominant influence of water optical properties on spectral characteristics of seagrass and sand bottom. The ML classification indicated total seagrass coverage of 107 ha. This compared favorably with a separate study based on aerial photography acquired one day following the HyMap flyover. For tracking seagrass coverage in the northern Gulf of Mexico, mapping of individual seagrass patches at a spatial resolution of at least 3 m is recommended.

Abstract

The Geography of Illegal Dumpsites in Rural Appalachia
BJ Jones
Department of Geography, Marshall University

Taking a hike or a drive through the Appalachian Mountains can be a breathtaking experience. The scenic mountains, beautiful valleys, and raw nature provide for an experience of a lifetime. However, many people have seen this ancient mountains' dark side. Rural Appalachia is plagued with open sores called illegal dumpsites. Cars, batteries, tires, and appliances are found in great numbers throughout this mountain landscape. Destroying aesthetic beauty and often polluting watersheds, illegal dumpsites need to be removed from this ancient jewel. This research will reveal the motives that contribute to the formation of open dumpsites. From those discoveries hopefully action can be taken in the prevention and ultimately the removable of illegal dumpsites in Rural Appalachia.

Participatory GIS and Rural Development in Alabama's Black Belt

Francis Koti, *University of North Alabama*

The Black Belt of Alabama has been recognized as a region of reduced economic opportunity and uneven regional development. Increasing economic distress and declining quality of life in the region has been attributed not only to scarcity of resources but also differential access. This poster proposes an innovative methodology of enhancing quality of life through local community empowerment. The poster seeks to answer two main questions: 1) what sustains the economies of small rural communities in Alabama's black belt; and, 2) how might participatory geographic information systems (PGIS) methodologies contribute in enhancing the capacity of socially differentiated local communities. To answer these questions, a PGIS methodology is employed. Traditional GIS methods are combined with participatory approaches to analyze spatial data. A base map for the region is created from USGS topographic maps. Data created within GIS is used in the field to help local communities formulate questions and seek answers to local issues. Preliminary results indicate that small rural communities in Alabama's black belt continue to experience declining living standards and economic distress. Western counties in the region exhibit greater disparities and economic decline.

"The Distribution of Toxic Release Inventory (TRI) Sites in Jefferson County, Alabama"

Christopher Labosier
University of Alabama

Although the environmental justice movement is fairly new, it is becoming more widely accepted that the spatial distribution of toxic pollutants is often disproportionately located in areas dominated by minority and/or lower income groups. This research focuses on the spatial distribution of Toxic Release Inventory (TRI) sites in Jefferson County, Alabama. Geographic Information Systems (GIS) are used to map TRI sites and analyze the spatial distribution of the TRI sites along with socioeconomic variables. The initial analysis of the results shows that TRI sites in Jefferson County, Alabama are frequently located in census tracts dominated by minority groups. In addition, when the analysis is done on a proximity basis instead of by census tracts, TRI sites are still located disproportionately closer to these populations than to other populations. While mapping TRI sites in conjunction with socioeconomic character of a location is an important first step, it does not address the root cause of why disproportionate TRI siting seems to exist in Jefferson County, Alabama. This question along with a much more in depth quantitative analysis will be the subject of future research.

Near-Surface and Atmospheric Response to Modeled Land-Use and Vegetation Fraction Changes.

Ronnie. D. Leeper., Arturo. I. Quintanar, Rezaul. Mahmood. Department of Geography and Geology Western Kentucky University.

This study investigates the impacts of land use change on near-surface and planetary boundary layer regimes by using the MM5 mesoscale model. The MM5 is coupled with the Noah land surface model. The purpose of this study is to signify the importance of land-cover and vegetation fractional coverage on simulated PBL processes and soil moisture over western Kentucky. Changes in 2-meter temperature, latent and sensible heat fluxes, and soil moisture content at depths of 0.1, 0.4, 1.0, 2.0 meters were simulated with changes in land-use and factional vegetation coverage (FVC). The current land cover consisting of a mix of forests and cropland at roughly 65% FVC were systematically changed to bare-soil, grassland, and forests at current and 100% FVC, 0% FVC for bare soil, for a total of 7 different modeling scenarios. Simulations identify the importance of rooting zone depth on subsurface properties and the partitioning of surface energy fluxes. In the case of the extreme example under bare-soil and 0% FVC, results indicated higher stable soil moisture content in relation to the control experiment due to vegetation soil-water extraction characteristics.

Map and Image Interpretation over Time using a Multiple Monitor High-Resolution Display

Candice R. Luebbering, Virginia Tech
Dr. Laurence W. Carstensen, Jr., Virginia Tech

Multiple monitor displays are useful for a variety of computing tasks such as group collaboration, viewing multiple applications simultaneously, or for enhancing video gaming experiences. In particular, maps and imagery displayed on multiple monitor configurations provide a new geospatial visualization opportunity by incorporating both larger coverage areas and greater amounts of detail into a single view. In a previous experiment, subjects performed map and image reading tasks on 1 monitor, 4 monitors, and 9 monitors. Results showed improved efficiency on the larger monitor configurations in elapsed time, virtual navigation (mouse clicks), and tool usage (less zooming and panning). The largest improvement jump occurred between the 1 and 4 monitor conditions, with the 9 monitor setup only showing modest additional improvement. To explore the possibility that larger displays, such as the 9 monitor setup, may take more time and training to be used effectively for geospatial tasks, we designed a longitudinal study incorporating map and image interpretation using only the 9 monitor display to investigate user behavior and screen usage over time.

Neighborhood Effects on Malaria among Colonist Households in the Northern Ecuadorian Amazon (NEA)

Amy L. McCleary, Patricia E. Polo
University of North Carolina – Chapel Hill

This study explores the effect of small area (or neighborhood) variables on malaria prevalence among colonist households in the NEA. We focused on two key questions: (1) at the farm level, how are demographic factors related to self-reported Malaria prevalence, and (2) at the neighborhood, how are ecologic factors related to self-reported Malaria prevalence at the farm level? We focused on a portion of a longitudinal data collected in 1999, which included household demographic characteristics, access to resources, and self-reports of malaria for all individuals within the households over a three month period. A log-linear Poisson regression model was run to quantify the relationship between ecological and demographic factors, and self-reported malaria prevalence. This analysis demonstrates that demographic and access variables measured at the household level were better predictors of the number of malaria cases in the NEA than ecological variables derived at the neighborhood level. The results of this study serve as a foundation for future research on the influence of ecological variables on malaria prevalence in frontier settings, such as the Amazon basin.

Human mortality in Florida during the 2004 hurricane season

Nathan L. McKinney
University of West Florida

Abstract:

Natural disasters such as hurricanes are usually thought of as posing the most risk to human life during the storm itself. However, due to early warning technology and other preventative measures, developed countries such as the United States typically suffer relatively few deaths during the storm impact-phase. This study examines the distribution of actual risk to human life including hazardous conditions and other indirect or delayed impacts that may persist for weeks or months post-storm as well as where, when, and how indirect mortality occurs. Findings suggest that in coastal areas in the direct path of the hurricane, the greatest risk may exist several weeks following storm impact.

The Re-evolution of North Carolina's Wine Industry, Amanda Morrow, East Carolina University

The return of North Carolina's wine industry illustrates the re-emergence of an industry in which the state once dominated. Although grievously behind other states, due to prohibition, the wine industry has made an impact not only financially for North Carolina but also socioeconomically for the residents in surrounding areas. North Carolina is reimaging itself as a dominant competitor in a national market. The rebranding of the state as once again a major producer of wine reconnects North Carolina with its heritage. This study defines how this shift is recreating the state as not only a producer of wine, but a niche market in wine tourism. Surveys were sent to all wineries within the state and on site interviews were employed at selected wineries. Also, a textual analysis of bottle labels was conducted to show how North Carolina represents itself to outsiders on a national and global level.

Economic Impacts of Beach Nourishment: A Case Study of Florida Beach Counties

Jeffrey Osleeb
Department of Geography
University of Connecticut
and
Yehuda Klein
Earth and Environmental Sciences
Graduate School – CUNY

Beach enhancement projects and, especially beach nourishment projects, are costly and in many cases controversial. At the same time, there is some evidence that those local beach economies that are dependent on tourism and residential and commercial development are heavily dependent on the physical and other geographical qualities of beaches. Previous works by the authors documented the economic and demographic importance of the coastal zone and the crucial role that tourism plays in its economy. The link between beach enhancement and the coastal economy is less-well substantiated. This paper links an exploratory spatial data analysis of the tourism sector with a statistical study of the economic determinants of coastal tourism in Florida to determine the impacts of beach nourishment. We conclude that, in several Florida tourism-dependent counties, beach nourishment projects generated economic benefits in the form of greater than expected increased earnings in the tourism sector. However, at this time there is no strong evidence to conclude that beach nourishment projects generally benefit local economies.

Sustainable Business and Social Entrepreneurship: A Complementary Partnership
The case of Andes Huasi, Argentina

Lynn M. Patterson, Nancy Bauer, Jennifer East,
Alesia O' Keefe, John Nieves
Kennesaw State University

The purpose of this poster is to illustrate how local development projects blend concepts of sustainability and social entrepreneurship to promote cultural preservation and economic self-sufficiency in marginalized communities. The research utilizes a qualitative case study method to explore a local development project, Andes Huasi. Andes Huasi was created to preserve traditional weaving practices and simultaneously increase income levels in a local marginalized indigenous population in Salta, Argentina. The matrix analysis uses primary data collected through interviews and direct observation, and secondary data. Initial findings indicate (1) the weaving tradition is being preserved, (2) the project provides a living wage to the workers, and (3) there is an ancillary environmental benefit. Further, these findings suggest there is a moderate level of sustainable community development based upon the business model. This project provides not only an analysis of a local development project and an assessment of its sustainability structure and outcomes; it also contributes to the literature concerning the nexus of social entrepreneurship and sustainable business.

Jim Rasmussen
University of Florida

Abstract:

Oxbow Lakes: An investigation of Landform Longevity and Scale in Southeastern Mississippi, USA.

Oxbow lakes are the remnant features that result from a stream cutoff where the channel occupies a new, more direct route downstream. The lake becomes a feature separate from the river and begins to fill with sediment. Prior research gives little mention to the rate or the spatial pattern of sedimentation in these lakes. This study uses air photos and other imagery from the past fifty years to repeatedly observe the pattern of sedimentation in lakes of differing spatial scale. Recent observations in the study area suggest that stream cutoffs and oxbow lakes occur more frequently in the smaller, lower order streams. But the number of oxbow lakes recorded on the maps and air photos suggests that there are more oxbow lakes in the larger, higher order streams. This trend might be a result of higher sedimentation rates relative to size in the smaller lakes, that suggest that over time smaller lakes are filled in more rapidly and cease to be features in the landscape in a couple of decades, while larger oxbow lakes downstream appear to remain nearly unchanged for half a century.

Volumetric changes in the morphologic zones adjacent to Oregon Inlet, North Carolina.
Katherine Renken. East Carolina University Geography Department.

Oregon Inlet, North Carolina, is the only inlet on a 170 km stretch of barrier island and is in a critical location for environmental and economic reasons. The land on either side of the channel that supports Bonner Bridge, which is the only road connecting Hatteras Island to the mainland, is constantly moving, threatening the longevity of the bridge. Lidar data from NASA's Airborne Thematic Mapper from 1996, 1997, 1998, 2004, and 2005 were analyzed to determine the different morphologic zones of the updrift and downdrift spit. Volumetric changes were calculated for the updrift and downdrift spits as well as for their individual morphologic units, such as foredunes and washover fans. Rates of inlet migration were also calculated. The changes in the morphologic units at different scales provides information about the migration of an inlet that is controlled by humans.

Assessment and Mitigation of Arsenic Contamination in SFKC Water Supply Project, Cambodia

Project.K. Reth[a], D.J. Fredericks[b], M. Leithfield[c]

[a] University of Florida

[b] Consultant, WHO Philippine

[c] Consultant, Unicef Cambodia

Abstract:

Cambodia is now known to have a large area where arsenic concentrations in groundwater exceed the National Guideline value of 50ug/L. Social Fund of the Kingdom of Cambodia (SFKC) supported some 1181 village water supply projects over all 23 provinces of Cambodia between 1995 and 2003 and these were not tested for arsenic contamination before commissioning.

The objective of this program was to locate and test all SFKC community wells for arsenic levels, inform the affected communities of the arsenic contamination at the time of testing, and undertake a follow-up community awareness campaign.

Of the 696 wells which were working at the time of testing 347 wells (50%) were contaminated with arsenic, and 349 wells (50%) were safe. At least 17% of the wells were not used for drinking water because of poor quality.

Awareness teams which visited each contaminated well informed the villagers of alternative safe water sources that they should use in place of the contaminated wells. Unfortunately, experience showed that there were limited alternative water sources, all of which had drawbacks. In essence, none of the affected villages had an acceptable, sustainable, year round alternative source of safe drinking water.

Flash Floods in the Appalachian Region (1978-2005)

William Rodgers
Rezaul Mahmood
Western Kentucky University
Kentucky Climate Center

Flash Flood (FF) is a major natural hazard in the United States. To better understand its seasonality and inter-annual variations, we are building a FF climatology for the whole Appalachian region. This paper shows FF climatology for the Appalachian region for the years 1978-2005. Our primary source of data has been the National Climatic Data Center (NCDC) and their electronic records which can be accessed through the World Wide Web for 1993 to 2005. The data for 1978 to 1992 were retrieved through NCDC's hard copy records, both are called Storm Data. The analysis of data shows variations in the frequency of FFs during different years, seasons, and months. The study finds, overall, summer season experienced most of the flash floods while winter the least. In addition, month of June experienced most of the flash floods while month of October the least. This work is currently being expanded to include possible causes for FFs.

The efficacy of community-based natural resource monitoring in Namibia: the Event Book System.

Luke Rostant

PhD. Student, The University of Florida, Department of Geography

In 1996, the government of Namibia passed landmark legislation which established Communal Conservancies and gave communities certain rights to manage and benefit from wildlife. Subsequent to this, the Event Book System (EBS) was developed to help communities monitor their natural resources themselves. There is a growing debate about locally-based monitoring approaches, some arguing that communities lack the capacity, resources, and sustained interest needed for monitoring, and others suggesting that community monitoring is effective and leads to management actions. To address these questions, we investigated the EBS from January to July 2007. Semi-structured questionnaires were used on different stakeholders to investigate the EBS. The EBS data collected by the communities will be used in a spatial analysis to investigate human animal conflict, and simple ecological transects will also be developed to test whether or not these are comparable to more scientific monitoring, defined as monitoring which the community lacks the capacity to perform. This poster will describe initial results, and link this to allied research on ecosystem change, economy and governance in the Caprivi region of Namibia.

Discovering Vegetation Patterns in the Owens Valley: Teaching Teachers with Geospatial Technology

Kathleen Sherman-Morris, Mississippi State University
John Morris, Mississippi State University

This poster presents results of a project completed in California's Owens Valley with science teachers in summer, 2007. Teachers were provided GPS units to record locations and plant communities throughout the 10-day field course. At the end of the field course, they completed an exercise utilizing ArcGIS and Google Earth to help them recognize the relationships between plant community, elevation and aspect. Results of a survey and pre and post test questions indicate that GIS and Google earth both helped the teachers see the relationships between plant community and elevation. Teachers reported being more likely to use Google Earth in their classrooms than GIS. Combined with GPS, Google Earth provides a free, easy and flexible way to teach a number of earth science concepts and meet several national geography standards.

Agrodiversity loss and recovery: peanut management by a Tupian Amazonian tribe.

Geraldo Silva, Department of Geography, University of Florida

Indigenous crop varieties are cultural artifacts that play an essential role in ethnic identity. Although non-biological factors have been dismissed as residual explanations for crop diversity management, this paper's results demonstrate the opposite. The paper examines non-biological factors for diversity management and recovery. The study focuses on the Kaiabi people, who migrated during the last century and are now engaged in a process of cultural identity revival. In one village, a shaman is leading the initiative to rescue peanut varieties by connecting the pleasing of the spiritual realm with continued crop diversity. The research combined interviews and the use of a sample of 17 peanut varieties. The results show that knowledge of the varieties differ by specific social segments (i.e., women and elders are more likely to hold the knowledge). They are losing both their peanut varities and the mechanisms of knowledge transmission. With few exceptions, diversity in gardens is decreasing and so is the exchange of varieties and knowledge among families and villages. However, the work of the shaman in re-creating varieties and distributing them has counteract these trends.

A Comparison of White Pine Blister Rust Incidence in Whitebark Pine at Two Northern Rocky Mountain Treelines

Emily K. Smith, Virginia Tech
Lynn M. Resler, Virginia Tech

Abstract

White pine blister rust (*Cronartium ribicola*), an invasive fungal pathogen, has severely threatened populations of whitebark pine, a foundation species, at subalpine and alpine treeline locations. Because little is known about blister rust incidence at alpine treeline, we sampled blister rust in krummholz whitebark pine extensively at two treeline study sites in Glacier National Park, Montana, U.S.A. and at one site each in Banff and Kootenay National Parks, Canada, for the purposes of comparing blister rust incidence across geographic gradients. Using belt transects to delineate sampling boundaries, we found that 35% of all sampled whitebark pine were infected with blister rust in Glacier National Park, and that blister rust incidence in Banff and Kootenay ranged from 0 to 33%, depending on location east or west of the Continental Divide. The impacts from blister rust at alpine treeline raise concern for the decline of the whitebark pine species alone, but also for the impact on tree island establishment, and the many ecosytems services provided by whitebark pine to lower elevation ecosystems.

Identification of a maximum temperature "August Singularity" in Montana and Idaho. Peter T. Soulé, Appalachian State University and Paul A. Knapp, University of North Carolina-Greensboro.

The passage of a strong mid-latitude cyclone near the end of August in the northern Rockies of the United States is commonly cited as the "August Singularity." The event, which produces significant declines in temperature and often precipitation, is now so commonly accepted that event dates have been changed and relief from wildfire activity expected. We examined daily standardized maximum temperature anomalies for August-October for eight climate stations in Montana and Idaho as indicators of major mid-latitude storms. The data indicate that a single day negative maximum temperature singularity exists for August 13th. Further, a 3-day singularity event exists for August 24th to 26th. We conclude that a negative maximum temperature anomaly singularity (*i.e.*, the August Singularity) exists in the northern Rockies, as the high frequency of recorded negative maximum temperature anomalies suggests there are narrow time intervals during late summer that are more likely to experience a major mid-latitude storm. The clustering of NMTA activity in the latter part of August lends credence as to why the August Singularity is imbedded in the local culture and recognized by scientists responsible for decisions impacting activities in the region.

A Regression Model for Predicting the Intensity of Built-up Land Cover and Population Density Using Remotely Sensed Data of Pucallpa, Peru

Drake Sprague

Florida Atlantic University

Accurate information on the intensity of built-up areas and population density is essential for sustainable urban growth in lesser developed countries. Unfortunately, this data is often too expensive for planning agencies to acquire but infrequently, resulting in outdated and unreliable information. This study proposes a regression model for predicting the percentage of total built-up area using a combination of moderate resolution satellite imagery, high-resolution Google Earth images, and first-hand knowledge of national census authorities in the city of Pucallpa, Peru. The strength and accuracy of this model is assessed by how closely it resembles current zoning maps and population estimates provided by local authorities.

Post-1950s declines of maple syrup yields in New York State.

William P. Tyminski
Carolina Tree-Ring Science Laboratory, Department of Geography, UNCG

Positive North Atlantic Oscillation (NAO) conditions negatively affect both maple syrup yields and sugar concentrations of sap in New York state. Yearly maple syrup production in gallons, number of taps, yield per-tap, sap-to-syrup ratios, and NAO indices for January-April were examined for the years 1916-2007. Yearly tap yields and sap-to- syrup ratios were evaluated over time, and compared to the NAO index. Since 1950, yield per-tap has decreased by 25%. The top 10 years of maple syrup production occurred between 1918 and 1958, while the five lowest years of production occurred since 1987. The ten-year running average of the NAO was found to be significantly and inversely correlated to the ten-year running average of yield-per-tap (R^2=-0.54, p=<0.01). Additionally, the five-year running averages for the NAO and sap concentration were positively correlated (R^2= 0.63, p=<0.01). These results suggest that maple syrup production and sugar concentration are biologically linked to positive and negative phases of the NAO. Further, positive winter NAO anomalies may enhance observed increases in winter temperatures in the Northeast, which also may be associated with reductions in yields.

Use of *Stenocereus stellatus* by Traditional Farmers in Central Mexico

Robin Wertheim and Kathleen C. Parker

University of Georgia

Jennifer Cruse-Sanders and Brenda Saunders

Salem College

Sol Guerrero

Universidad Nacional Autónoma de México

Stenocereus stellatus is a columnar cactus species found in two regions of central Mexico, the Tehuacán Valley (TV) and La Mixteca Baja (LMB). Traditional farmers grow this cactus under three different management schemes to harvest their edible fruits. Fruits are collected from wild populations of *S. stellatus* and from managed *in situ* populations found along roadsides; additionally, people cultivate the cactus in their home gardens. We mapped cactus populations and interviewed home gardeners and vendors to determine differences in the use of space for *S. stellatus* in wild, managed, and cultivated populations. We also examined regional contrasts between the TV and LMB in terms of the cultivation practices for *S. stellatus* and the role played by the cactus in the local economy. Fruit grown in home gardens in LMB exhibited a greater variety of characteristics than in the TV. While the majority of farmers in both regions used fruit for personal use, *S. stellatus* fruit that was sold in regional markets came primarily from farmers in LMB.

Tourism Marketing: The Best There Is
A Study of West Virginia

Stephanie Lynn Young
Marshall University

The purpose of this presentation is to understand and define the "best" tourism marketing practices in the tourism industry for destination marketing organizations and then to identify what convention and visitors bureaus in West Virginia are currently doing to see how they measure up to these high standards. Not much prior research has been conducted on tourism marketing practices so a standardized list has been self-defined using references from major marketing corporations, travel associations, accreditation programs and universities worldwide. The importance of tourism marketing and its impacts is also discussed. Quantitative and qualitative research was conducted via telephone and the Internet to twenty-four convention and visitors bureaus belonging to the West Virginia Association of Convention and Visitors Bureaus and the West Virginia Division of Tourism, which are all geographically spread across the state. A comparison was then done and analyzed between West Virginia and these predefined best marketing practices and some surprising results and discussions arise.

Abstracts

Honors Papers

Annual Meeting
SEDAAG
Charleston, SC
November 18-20, 2007

Kernel density estimation for spatial data

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Abstract
Spatial representation is emerging as an important issue in the practice of quantitative geography and spatial statistics. Spatial representation can significantly impact the results of geographic analyses, because statistical methods often treat spatial location as an attribute and assume a Euclidean representation of space. For geographic data that are associated with networks, use of the Euclidean spatial representation when analysing data can yield misleading results. This paper examines the consequences of spatial representation on kernel density estimation (KDE), a widely applied method of point pattern analysis used in quantitative geography. Although often not recognised, KDE entails the assumption of a Euclidean model of space. This paper illustrates how KDE mischaracterizes point patterns that are generated by network-related processes, and a network-based kernel density estimator (NKDE) is presented. Both Euclidean and network-based KDE are applied to traffic accident data for illustration and comparison. The results suggest that NKDE is more appropriate for analysing point patterns associated with networks and that assumptions of spatial representation should always be considered before statistical methods are applied to geographic data.

Climatological Perspectives on the Rainfall Characteristics Associated with Landslides in Western North Carolina

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Landslides are a significant hazard in the mountains of North Carolina. While previous studies have focused on determining the critical instantaneous rainfall rates that may trigger landslides, very little is known about the climatology and return intervals of rainfall events associated with landslides. The rainfall climatology of a sample of landslide events in western North Carolina from 1950 to 2004 is presented in two parts. First, the storm types responsible for the rainfall associated with each landslide event are determined using a manual classification scheme. Second, the two-day concurrent and cumulative antecedent (from four to 90 days prior to slope movement) rainfall amounts are assessed climatologically by ranking them within the context of a heavy rainfall climatology for western North Carolina (i.e., all rainfall events with a recurrence interval of 1-yr or greater). Most landslide events were tied to long-duration rainfall events with high antecedent rainfall conditions over the 90-day period prior to slope movement. Tropical cyclones were major contributors to both high concurrent and antecedent rainfall in most landslide events.

An Examination of a Contemporary Gentrification Process in Charlotte, North Carolina

Emily Thomas Livingstone
UNC Charlotte

This research explores the applicability of 'supergentrification' down the urban hierarchy in Charlotte, North Carolina, a globaliz*ing* city with an untraditional gentrification trajectory. As headquarter home to two of the nation's largest banks, Bank of America and Wachovia, Charlotte stands only second to New York in terms of financial strength. In this context, 'supergentrification' appears to be occurring in Charlotte's city core. Wealthy financiers are engaging in "intense investment and conspicuous consumption" (Lees 2003, p. 2487) as they regentrify the urban core in ways suggesting luxury and exclusivity, as well as initiating 'new-build' gentrification.

Using survey and field site data, this research offers a pilot study of a process that has previously been examined in elite global cities. It offers further evidence of contemporary aspects of the process that will add to the 'geography of gentrification,' and will position Charlotte as an appropriate lens through which to learn more about the role of globalizing cities in gentrification research.

An Empirical Test of a Spatial Dissimilarity-Based Index of Jobs-Housing Balance

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Abstract

Current measures of jobs-housing balance, such as theoretical minimum commutes, are limited. They fail to capture either the multidimensional opportunities for spatial interaction or the differential accessibilities to employment, given realistic commuting options. A more comprehensive view of spatiality in jobs-housing balance may be achieved by considering measures of spatial separation, such as those used to study segregation patterns. The purpose of this research is to show how segregation measures may be used to analyze residential-workplace separation.

Examining the Role of Settlement Design in Deforestation: The Case of Margarida Alves in Rondônia, Brazil (1996-2005); Suzanne McArdle; East Carolina University. Tropical deforestation is a serious global environmental issue. However, for many local populations, conversion of forest to agricultural land uses is a vital economic livelihood strategy. This paper examines deforestation in Rondônia, Brazil—a region that has experienced colonist settlement due to population pressures and formal resettlement programs instituted by the Brazilian government. Margarida Alves is a colonization project within this region that has been settled in two distinct patterns. Using land change science techniques, land cover transition matrices were constructed and quantitatively analyzed for each settlement type. Additionally, for each date and settlement type the landscape spatial configuration was characterized using several pattern metrics to describe changes in levels of forest fragmentation and landscape heterogeneity. Data sources include classified Landsat TM satellite imagery as well as property boundaries and GPS data collected in the region during 2005. This paper demonstrates that settlement patterns may play a role in the degree to which forest is fragmented. Further monitoring and analysis are required to help inform policy and colonization planning decisions regarding frontier regions like those remaining in Brazil and elsewhere.

THE HYDROLOGIC EFFECTS OF SALUDA DAM ON DOWNSTREAM FLOWS IN THE LOWER CONGAREE RIVER DURING THE 1998-2002 DROUGHT

Kimberly M. Meitzen
University of South Carolina

Abstract: This paper uses a multi-scale analysis to examine the hydrologic effects of Saluda Dam on flows in the Lower Congaree River, South Carolina during the 1998-2002 drought. Data sources include USGS stream flow data for the Saluda River (above and below Saluda Dam), Broad River, Congaree River, and Cedar Creek. The analysis measures relative discharge contributions from the Saluda and Broad Rivers to Congaree River flows, and quantifies the % change in Congaree River flows. Four different scales of analysis include: 1) global approach for the drought period; 2) Congaree River flows > 8,000 cfs; 3) twenty constrained high-flow events > 8,000 cfs; and 4) seasonal effects during the 20 high-flow events. The first and second analyses, suggest that Saluda Dam is increasing total downstream flows. Results from the second and third analysis indicate that Saluda River flows are decreasing peak discharge of high flow events and potentially reducing downstream lateral floodplain connectivity in Congaree National Park. The fourth analysis is most useful for examining the effects of dam-related hydrologic alterations on floodplain ecology.

'The Graffiti Problem': A Discourse Analysis of Punitive Public Space, terri moreau, East Carolina University

The purpose of this study is to understand the process and politics of how graffiti is defined as deviant in American public space. Public Space is increasingly regulated, privatized, and commodified in punitive ways that support development goals, but exclude marginal social groups from being heard and seen within the public sphere. Discourse analysis of punitive public space allows researchers to understand how principles of exclusion work and how deviance is created. Graffiti Hurts, an organization advocating a zero-tolerance approach to graffiti, creates and legitimizes the idea of graffiti as a "problem" by employing a variety of discourses, one of the most dominant being the representation of graffiti as a form of disorder and crime. Critical textual analysis and traditional content analysis techniques are used to study the power and dimensions of this discourse and the restrictive vision of public space it embodies. Denaturalizing the language of such policies is necessary in order to recognize the potential for creating public spaces of inclusion.

Multi-Scale Analyses of Spatial Variability in Water Resources: Case Study of Danube River Basin

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Scale and data aggregation have important effects on the modeling and interpretation of water resources data. Variability often changes systematically with scale, but these changes may differ between certain types of variables. The existence of scale-dependent spatial variation is however not clearly manifested in water resources research. The main purpose of this paper is a multi-scale GIS and statistical regression analysis using fine-resolution hydrologic dataset for Danube basin in Europe. The study tests the hypotheses that variability changes systematically with scale and that resolution in areal units will yield a better model. The results suggest strong systematic relationships between variability and scale, which varies not only with the statistical measure but also when scaled and unscaled per unit area. This aside, the findings offer fresh insights into the linear and quadratic models characterizing the variance-resolution function when resolution is defined in linear and areal dimensions. Results from the hypothesis tests are applied to analyze vulnerability to water-scarcity and feasibility of using virtual water to mitigate such vulnerabilities.

The Role of Sea Surface Temperature on Mesoscale Convective Systems Morphology in the Indo-Pacific Region using TRMM

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ABSTRACT

Based on Tropical Rainfall Measuring Mission (TRMM) satellite precipitation features during boreal winters of 2001-02 to 2006-07 the present study investigates the influence of sea surface temperature (SST) on the organization, strength, and distribution of mesoscale convective systems (MCSs) over the Indo-Pacific region for understanding the El Niño Southern Oscillation (ENSO). MCSs are predominantly found clustered in the Maritime Continent (MC) and West Pacific Regions (WPRs), and are preferentially observed over ocean compared to land. The largest quantity of MCSs are observed to the south of the equator in January 2002, and the distribution of MCSs as a function of SST for this month peaked between 29-30° Celsius. Convective intensity proxies demonstrated a strong positive relationship with SST, but no relationship was noted between SST and median volumetric rainfall. This suggests that the area of rainfall decreases with increasing temperature. There was an increase in the proportion of MCSs over land in 2003-04, which may be due to the passive phase of the Madden-Julian Oscillation (MJO) and is currently being investigated.

No Choice but to leave: Filipino seafarers in the global cruise industry

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Department of Geography – University of South Carolina

Paper Title: No choice but to leave: The case of Filipino cruise workers

Cruise shipping has become one of the fastest growing, most profitable and most visible sectors of the tourism industry over the past few decades. The industry's success can be attributed in large measure to the employment of seafarers from economically disadvantaged countries throughout the world. This paper focuses specifically on Filipino seafarers as the group with the largest representation among all cruise ship workers. Interviews with workers and with hiring agencies in Manila clarify the context in which Filipinos come to be employed for months at a time on luxury vessels. This context is characterized by a cultural and economic framework that creates both a necessity and a desire on the part of Filipinos to sign on to jobs which make them subject to difficult working conditions. Workers characterize themselves as having "no choice" but to leave for months at a time to work on cruise ships, yet express an intense desire to do so. This contradictory attitude reveals the imbedded cultural attitudes of Filipinos toward working abroad, coupled with an economic situation that compels them to do so. Ultimately, this paper while focusing upon Filipino seafarers, illuminates how local conditions serve to drive the global economic processes.

Abstracts

Honors Posters

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Channel Morphologic Changes Documented by Two High-Resolution DEMs

Mary E. Megison
University of South Carolina

This study uses GI Science, to reconstruct past river positions and measure sediment deposition and erosion through time to assess impacts on the Feather River channel system. Hydraulic mining was the main process of extracting gold in 1850s Sierra Nevada, CA, and generated massive amounts of sediment that was delivered to the lower portions of the Sacramento River Valley, CA. This study focuses on the Lower Feather River and how the channels changed due to hydraulic mining sedimentation. Two high resolution DEMs (1909 and 1999) of an active section of the lower Feather River (Shanghai Bend) are compared by differencing in order to document volumetric channel and floodplain changes. In addition, planimetric analysis of historical aerial photographs, document post-1960 lateral channel activity that suggests on-going redistribution of mining sediment at Shanghai Bend.

Assessment and dynamics of the urban growth in the city of Kolkata, India

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Abstract:

The Kolkata megalopolis began with a population of 100,000 in 1735 and grown to the present the 7 million, reflecting largely uncontrolled growth over the past 300 years. This growth has stagnated the city's development. There is past empirical evidence to show that all over the world, increasing population in cities and adjoining suburbs has restricted the planned development of the burgeoning city. This is more prominent in the developing countries, where unplanned urban sprawl along with its unprecedented effects changes the overall environment, climatic pattern, and ethical character of the city.

This paper will assess the extent of urban sprawl of Kolkata over the years and characterize its growth pattern. The first objective is to conduct an analysis using historical maps and satellite images and delineate the extent of urban growth. The second objective is to place Kolkata's urban growth within the context of different factors that have contributed to this population explosion and molded its growth. The natural and political factors which have profoundly influenced the sprawl in the 20th century will be highlighted. The third objective is to pay particular attention to future studies as to how environmental factors such as the urban heat island and pollution will affect climatic patterns as Kolkata transforms itself from Dominique Lapierre's 'City of Joy' into a 'City of Concrete'.

Stories the Webmaster Shared: Mythologizing the Slave Experience through the Online Promotional Texts of NC Plantation House Museums

E. Arnold Modlin, Jr.
East Carolina University

As a medium for promotion, the internet is fairly new. Yet, there is a growing body of literature critically focusing on the use of the internet to promote place. Until now, little has been done to examine how historic plantations in North Carolina use their web presence to represent slavery. In about thirty-five percent of the cases this representation involves the ignoring of slavery. In other cases, it involves the use of the repetition of certain accepted themes, myths. These myths are not necessarily false, but they do guide the ones to whom they are communicated to certain conclusions. This poster examines how often slavery is mentioned on twenty sites that promote historic plantations in North Carolina, and how slavery is discussed when it is mentioned.

Agrodiversity loss and recovery: peanut management by a Tupian Amazonian tribe.

Geraldo Silva, Department of Geography, University of Florida

Indigenous crop varieties are cultural artifacts that play an essential role in ethnic identity. Although non-biological factors have been dismissed as residual explanations for crop diversity management, this paper's results demonstrate the opposite. The paper examines non-biological factors for diversity management and recovery. The study focuses on the Kaiabi people, who migrated during the last century and are now engaged in a process of cultural identity revival. In one village, a shaman is leading the initiative to rescue peanut varieties by connecting the pleasing of the spiritual realm with continued crop diversity. The research combined interviews and the use of a sample of 17 peanut varieties. The results show that knowledge of the varieties differ by specific social segments (i.e., women and elders are more likely to hold the knowledge). They are losing both their peanut varities and the mechanisms of knowledge transmission. With few exceptions, diversity in gardens is decreasing and so is the exchange of varieties and knowledge among families and villages. However, the work of the shaman in re-creating varieties and distributing them has counteract these trends.

Spatial & Temporal Analysis of Heavy & Extreme Precipitation in the Carolinas:

TRMM & Gauge Data 1998 – 2006

Sol X. Wuensch

East Carolina University

Extreme precipitation events are responsible for hazardous flooding, leading to economic losses, personal injury and even deaths. The vast economic and social impacts of extreme precipitation make it important to understand the seasonal characteristics of these events and the atmospheric conditions that cause them. This research seeks to analyze daily precipitation extremes from recent years (1998-2006) for North Carolina and South Carolina, examining how extreme precipitation varies both spatially and temporally, using both rain gauge and satellite data and comparing the results. One source of precipitation data that holds promise for high resolution analysis is TRMM (Tropical Rainfall Measuring Mission) satellite data. Extreme precipitation events were defined using two percentile thresholds, with a seasonal breakdown of extreme events for three elevation regions, and finally a unique manual synoptic classification of all extreme events with regional comparisons. Results show that TRMM data exhibits higher precipitation estimates in the wintertime, while gauge data demonstrate more summer and fall events. This difference is more evident in the mountains, where topography and precipitation type may be possible explanations.