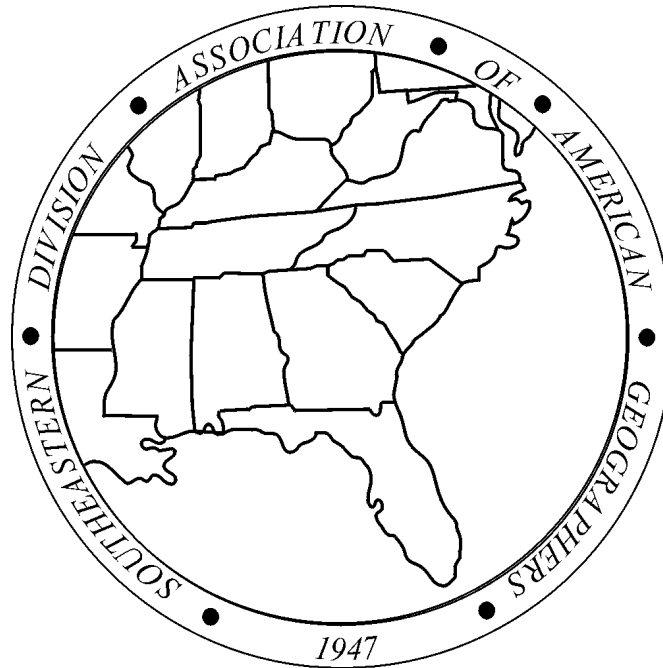


**SOUTHEASTERN DIVISION  
OF THE  
ASSOCIATION OF AMERICAN  
GEOGRAPHERS**

**ABSTRACTS**



**RICHMOND, VIRGINIA  
NOVEMBER, 2002**

## **SEDAAG PAPER & POSTER ABSTRACTS 2002 RICHMOND, VIRGINIA**

**Seela Aladuwaka, West Virginia University**

**“The Role of Micro-enterprise Credit Programs on Poverty Alleviation and Empowerment for Women: A Case Study from Sri Lanka”**

The provision of micro-credit, which supports and promotes micro-enterprise development, has been described as a “tool for decreasing poverty” and is seen as playing an important role in the alleviation and eradication of poverty. Some critics, however, claim that male family members often control the loans women receive from credit programs and that women are merely a means of getting money. Even though it is widely believed that these programs are highly effective, many scholars and practitioners question the extent that they empower women and reduce poverty in their families. This study attempts to provide more insight into this debate by examining the role of micro-enterprises credit programs on poverty alleviation and empowerment for women, using a case study from Samurdhi Banks in Sri Lanka's Kandy district. The qualitative study specifically explores the impact of micro-credit on women's empowerment both at the household and community levels. It also examines the effectiveness of the credit programs in reducing poverty in these families and provides some conclusion from the material gathered from the case study.

**Jochen Albrecht, University of Maryland**

**“Non-Parametric Empirical Bayes Modeling for Urban Indicator Analysis”**

Analog to applications in crime analysis and epidemiology, urban indicator analysis deals with a myriad of variables at a range of scales. Often the most appropriate scale is unknown, and even if it is known, the data is usually too sparse for detailed analysis. The goal of the research presented here is to develop a practicable set of indicators for sustainable development of cities in developing countries. Existing World Bank data for thousands of cities worldwide contains only summary information. An exhaustive large-scale survey on the other hand is beyond the financial means of most of the countries concerned. The author presents a nonparametric technique based on Markov chain Monte Carlo (MCMC) simulation that provides reasonable, though extremely computing-intensive estimates of missing large-scale data. This new approach addresses some of the shortcomings of parametric methods such as multi-level modeling, which are not able to deal with spatially autocorrelated, in other words any geographic data. This paper starts with an indepth analysis of these shortcomings, then introduces empirical Bayes modeling and its nonparametric complement Dirichlet process mixture models. A not too technical discussion of MCMC simulation to calculate posterior probabilities for missing urban indicator data concludes the paper.

**Katie Algeo, Western Kentucky University**

**“Mammoth Cave and the Making of Place”**

Occupation, use, and symbolic construction of landscape in the Mammoth Cave region of Kentucky has resulted in five distinct eras of place making over the past two hundred years. The connectedness of this place to the larger national stage is revealed through struggles over control and development that wrought successive transformations upon the cultural landscape. The symbolic import of the “world's largest” cave altered as, first, tourism and, then, environmentalism became the dominant ideology of influence in the Mammoth Cave region. This paper positions the process of place making at Mammoth Cave within the changing scene of American society and culture.

**Seth Appiah-Opoku, University of Alabama**

**“Geographical Perspectives on Economic Integration of West African States”**

Economic integration of West African countries was initiated in May 1975. The need for economic integration arose from the small size of West African countries and the unsatisfactory economic dependence of the region on former colonial powers which perpetuate the region in poverty. Economic integration was intended to promote cooperation and development in all fields of economic activity and to make the region highly competitive in the global market. Almost three decades later, the region remains in poverty and economic integration has had very little impact on development in the region. This paper discusses the theoretical basis for economic integration and the geographical perspectives on the failure of such integration among West African countries.

**Helen Ruth Aspaas, Virginia Commonwealth University**

**“Reflections on Africa: Conferences, Research and Travel”**

The International Geographical Union’s Regional meeting in Durban, South Africa, the Women’s Worlds Congress in Kampala, Uganda and a National Science Foundation workshop in Johannesburg provided the venues for a variety of African experiences and opportunities in 2001. Six members of SEDAAG who were able to participate in these proceedings will reflect on their African experiences. Topics to be discussed include post-conference adventure tourism, the diversity of perspectives encountered in the South African conference setting, new insights into global networking, research experiences in the Venda region of rural South Africa, interactions with women community organizers in Kenya and Uganda and the impressions of an African-American experiencing South Africa for the first time.

**Gavin Bailey, State University of West Georgia**

**“The Mandeville Mills: A Racial Transitional Zone in the Southeast United States”**

This paper explores the transition and evolution of a former white working class mill village in Carrollton, Georgia. The village housed white mill workers during the years that the mill was in operation. The houses were provided by the mill and were rented by the mill workers. However, when it closed in 1953, the mill liquidated its assets and sold the homes to the white labor force. Over a period of 20 years the white former mill workers moved out, selling their homes as they went. At the same time, African American residents, living just north of the village, began to move into the area. The demographic processes associated with the evolution of this transitional neighborhood demonstrate how the mill village became synonymous with the urban edge of Carrollton (the west side of Carrollton), and home to a large and highly segregated African American community. Today, the former mill village is in transition once more, as a small, yet growing, Hispanic influence moves into the neighborhood. By examining census tract data, Sanborn maps, court house deeds and records, essays, texts, and African American interviews, I have followed and written about the history and location of the mill, how the mill village transformed itself from a white to black neighborhood, and then more recently, to a somewhat mixed lower income neighborhood. This paper describes what characteristics influenced the transition.

**Keiron Bailey, Kentucky Transportation Center**

**“Community Design of a Light Rail Transit Oriented Development using CAVE (Casewise Visual Evaluation)”**

An urban transit authority in Louisville, Kentucky desires to improve community participation in the design of a transit development for a forthcoming light rail system. The project requires a powerful and flexible visual assessment methodology. A review of two visual assessment methodologies shows that these either cannot provide satisfactory design element guidance or are too resource-intensive to be useful in situations where many design elements are under consideration. A design principle called *elemental decomposition* is introduced and a Casewise Visual Assessment (CAVE) methodology is developed. Treating public preference as a complex non-linear system, CAVE employs fuzzy set theoretic

modeling techniques to generate a preference knowledge base that can be used to investigate and quantify public preference for specific design strategies. CAVE's robustness enables accurate modeling of public preferences even under conditions of partial knowledge. In collaboration with architectural experts, significant building design characteristics are identified and gauged and a set of sample images of transit developments selected. Using a combination of neighborhood focus group public involvement and an electronic scoring system to solicit rapid feedback, residents' preferences for these images are evaluated. A public preference knowledge base is built and interrogated and some preliminary findings are discussed.

**Lawrence Band, Stephen Kenworthy, David Tenenbaum, Neely Law, University of North Carolina - Chapel Hill**

**“A Tale of Two Catchments: Space/Time Soil Water Dynamics in the Baltimore Ecosystem Study”**

We investigate the space/time patterns of near surface soil moisture in a forested and suburban watershed in Baltimore County as part of the Baltimore Long Term Ecological Research site. These patterns are the result of the mix of natural water balance processes, lateral redistribution along topographic flowpaths, and human modified supply and drainage of water. The distribution of soil moisture has an important influence on the generation of runoff, biogeochemical transformations and the catchment retention of nutrients. As such, it is an important modification of the landscape by development with significant feedbacks to nonpoint source pollution. As human activity tends to produce sharp gradients in land cover and topographic structure (e.g. property lines, drainage infrastructure), the behavior of human dominated ecosystems may require higher resolution information to adequately characterize system structure and function. We make use of a 5m digital elevation model (DEM) to characterize topographic fields for flowpath information. One of the key features of the catchments we concentrate on is the nature of the land cover and topographic drainage right around the stream channel as these features often have an important role in modifying streamflow generation and water chemistry. We therefore compare and contrast the associations between natural and human modified topography and flowpaths with soil moisture patterns and the dynamics of streamflow and water quality in the two catchments.

**Holly Barcus, Morehead State University**

**“Residential Satisfaction and Urban to Rural Migration in the U.S.”**

The past thirty years have witnessed three major shifts in the direction of migration flows in the United States. During the 1970s and early 1990s, increased in-migration created growth in many rural areas, contrary to historical flows. Improvements in transportation and communication technologies and the lure of rural amenities have drawn urbanites to rural areas. Following a move, changes in the level of satisfaction of a household may occur. This study analyzes the changes in residential satisfaction experienced by recent urban to rural migrants using the 1991 American Housing Survey. Data for the United States are assessed using descriptive statistics and multinomial logit models. Overall, migrants had mixed ratings of their new location suggesting that an urban-rural move did not fully satisfy migrant expectations. The findings help us understand the link between migration and residential mobility in rural areas and suggest that urban-rural migrants may not ultimately find what they are looking for in a rural environment.

**Thomas L. Bell, Howard R. Pollio, Norris L. Smith, University of Tennessee**

**“What Does it Mean to Travel? Results of a Phenomenological Experiment”**

To gain an understanding of what it means to travel, ten participants were asked to “tell us about some times that you’ve traveled that stand out to you.” These non-structured interviews served as the data for our research concerning the lived experience of travel. Each interview was typed and subjected to hermeneutic analysis by a specially trained interpretative research group. Thematic analysis revealed that travel is best described as a movement away from “home”, a venturing out. Travel was a process of

movement from the background of one's home world encountering objects and events not of one's world. Five themes arose as figural for participants during these forays: 1) change in perspective; 2) challenge; 3) freedom; 4) connection; and 5) authenticity. Each of these themes was defined as a bipolar continuum. Each theme was contextualized against the background of the home world that was characterized as known, ordinary, predictable and familiar. The five themes that emerged were consistent with results of other studies and analyses of travel. The importance of one's home world emerged as necessary to fully understand the meaning of travel.

**Royal Berglee, Morehead State University**

**“Re-Created Heritage Villages and the Four Stages of Tourism Development”**

This study examines the four stages of development that are typical for re-created heritage villages to mature into fully operational and successful heritage tourism destinations. Re-created heritage villages consist of structures from the early settlement landscape that have been gathered from a surrounding community in modern times to form an artificial village. The structures are not on their original foundations and may consist of buildings from different locations and from different periods of time. The upper Midwest in the United States has a large grouping of these village sites. The four stages of development follow the metamorphosis of village dynamics from the initial push for preservation to a mature operational village fully accepted and integrated with its community.

**John D. Bies, University of South Carolina – Spartanburg**

**“Regional Dimensions of China's Economic Policies”**

In 1979 the Chinese Communist Party (CCP) began an economic reform program that was designed to bring their economy into the modern open market community. It was their belief that the only for China to modernize and successfully complete in the global marketplace was to learn and adopt from the West. By the end of the 1990s the country had exhibited significant and impressive economic growth, though problems continue to face the government, especially in the areas of regional differences in income, standard of living, production, and economic growth. One of the major goals of the Deng Xiaoping leadership was to eliminate regional economic disparity through economic modernization. The purpose of this presentation, therefore, is to take a look at the last decade and to ascertain whether or not that goal had been accomplished. The results of the analysis concludes that the PRC is far from achieving its primary goal of regional equality, though there are signs of positive economic shifts towards the poorer central and western regional provinces. Even with this shift, the wealthy coastal provinces persist in dominating the country's economy.

**Stephen S. Birdsall, Lawrence Band, Jesse Cleary, University of North Carolina – Chapel Hill**

**“Preliminary Analysis of Two Geographic Factors Affecting Tobacco Field Consolidation, 1985-1999”**

Changes in flue-cured tobacco farming toward the end of the twentieth century included a continuing downward trend in the acreage on which tobacco is grown and a sharp increase in the acreage of tobacco harvested per farm. Three questions regarding this apparent consolidation of tobacco farming were pursued in Wake County, North Carolina, for the period 1985-1999: (1) Is grower consolidation echoed spatially? (2) Has the use of soils most suited to tobacco production increased? (3) What is the spatial relation between tobacco production and suburban land conversion pressures? Data files for sample areas within the county were created from aerial photographs, satellite digital imagery and established GIS files. The results of the analysis were mixed.

**Barry Bitters, Florida State University**

**“Real-Time Simulation Using Readily Available GIS Data”**

Real-time simulation is the process of creating a realistic, synthetic cultural or natural landscape and then flying, driving or walking through that environment in real-time. Since the early 1960s, the U.S.

military, the airline industry and NASA have used advanced, real-time, simulation technology to create and interact with virtual environments in an effort to develop realistic training situations. Geographic information systems (GIS) technology has played an instrumental part in the real-time simulation arena. As a tool for creating realistic environments composed of both man-made and natural features, GIS and image processing technology has been widely used to generate real-time simulator databases for regions all over the world. This information is used as a source of data for developing both visual and non-visual (radar, infrared, night vision, etc) displays used in a variety of simulation systems. Over the past two years, the author's work group has developed procedures and software to allow the rapid generation of real-time simulator databases. This effort concentrated on the capability to reuse existing spatial GIS data in the creation of virtual environments. This paper reports the results of this research into low-cost, real-time database generation for the real-time simulation of the cultural and natural landscape.

**Bryan Boruff, University of South Carolina**

**“Social Vulnerability of United States Coastal Counties to Environmental Hazards”**

Throughout the last several decades, coastal populations of the United States have steadily increased. As coastal populations rise so do the risks of loss due to natural hazards. Until recently most research on coastal vulnerability has focused on the physical aspects of vulnerability (i.e., hurricane landfall probabilities, beach erosion, and sea-level rise). This paper however, focuses on the social and economic vulnerability of coastal counties in the United States. Using county level United States Census data this paper models coastal vulnerability (CoVI) based on forty-two social and economic variables such as ethnicity, income and education. CoVI spatially and temporally tracks how coastal vulnerability has changed over four decades. By focusing on the social aspects of vulnerability it is hoped that this research can later be combined with physical based vulnerability analyses. By combining physical and social based analyses we increase the dimensionality of vulnerability research. This is important for tailoring mitigation efforts and emergency preparedness to the needs of specific communities.

**Keith W. Bosak, University of Georgia**

**“GIS and Gender Research: Problems and Possibilities”**

With regard to studies of gender and development, the serious use of geographic information technologies is in its infancy. However, as large development agencies continue to “mainstream” gender, the use of GIS is inevitable. As practitioners of GIS it is our responsibility to inform our research with feminist theory (if our goal is to create a gendered GIS). This process starts with the research questions we ask, moves into the data we collect and is finalized in the graphic representations we produce. GIS does have characteristics inherent in its structure that make it possible to produce gendered knowledge. Our job is to be cognizant of these characteristics, inform ourselves with feminist theory and push the boundaries of what is called GIS. This paper provides insight into the usefulness of GIS for development planners addressing gender issues and raises important questions about the inherent problems and possibilities of using this technology for gender research.

**Michael Brewer, Jacksonville State University**

**“An Analysis of the Woolfolk Road Bridge Closing”**

Bridge closings have long been believed to create an increased burden on those who depend on them, and rightly so for most cases. Motorists must detour from their usual travel routes in order to get to their destinations. These detours can often cause serious and real hardships on commuters that depend on these routes for quick access to shopping, work, and schools. If a heavily traveled artery, such as an interstate or a state highway, is closed because of a dilapidated bridge, then every effort should be made to repair the bridge as fast as possible. But should every bridge be repaired? The first thought that comes to mind is absolutely. But what if the closed road in question didn't have a high traffic volume? Also, what if the closed road has a close and easily accessible detour route available for motorists? Should the politicians try to get funding for a situation like this? One such situation is the closing of a western section

of Woolfolk Road in Talladega County, Alabama. The crosstie wooden bridge that over passed a railroad fell victim to arson on December 2, 1995, leaving the road closed to through traffic. In March of 2002, the local governments agreed to provide the necessary funding to repair the bridge to open up the road again to through traffic. This agreement was made because of the outcry of the local citizens, even though a close by detour was in place for motorists to use. The purpose of this research is to determine if the detour, upon examining the extra time and money spent by motorists taking the detour while also taking into account the changes in habits incurred on them by the detour, has had enough of an impact on local citizens to justify the spending of tax dollars to replace the bridge. I propose that after studying the financial and psychological impact on local household motorists, this research will determine that the closing of this section of Woolfolk Road in Talladega County, due to the collapsed bridge, does not have enough of an adverse effect on local citizens to justify the rebuilding of the bridge. Issues that will be examined, in order to determine the bridge closing's effects on citizens, will be the increase in mileage driven by local motorists, changes in their driving and shopping tendencies, and the adequacy of alternate detours that are available.

**Angela Brink, University of Alabama**

**“Aesthetic Zoning and its Utilization in Two Southwest Cities: Palm Desert, California and Sedona, Arizona”**

The use of aesthetic zoning as a method to develop a community's sense of “place” has become increasingly popular throughout the past century. Today aesthetics are often seen as being tied to the economy of a community as well as its cultural character. This is especially evident in locations that rely on tourism and have a significant upper income population. The focus of this paper is to illustrate how the two communities of Palm Desert, California and Sedona, Arizona extensively use aesthetic regulations to shape their geographic landscapes and how they use them to achieve environmental harmony. Both communities rely on tourism and seasonal residents, and in both communities the environment plays an important role in drawing in visitors.

**Stanley D. Brunn, University of Kentucky**

**“Representing Florida's Role in the 2000 Presidential Election Through Political Cartoons: Maps, Chads, and Gators”**

In postmodern cultures visual representations are important in conveying meanings about places, peoples, and issues. Advertisements, television, WWW pages, photographs and cartoons are among those visual media growing in popularity. Geographers and others can utilize various methodologies to gain meanings into symbols, images, and other visual forms. Professional cartoonists with a minimum of words and familiar symbols often capture the essence of images about controversial and popular issues and personalities. Those messages conveyed may be overt or subtle. I conduct a content analysis of key words and images in 157 cartoons following the November 2000 presidential election. The seventy U.S. cartoonists used maps of Florida; familiar place images of the state; votes, ballot designs and flaws; and the words of Gore and Bush and others to convey messages of confusion, legal issues, and celebration of the Thanksgiving season. Suggestions for additional research are offered.

**Jennifer Call, Mississippi State University**

**“The Spatial and Temporal Distributions and Thermodynamic Characteristics of Tornadoes in Mississippi”**

The vast majority of severe storm and tornado research is conducted in the natural laboratory of the Great Plains region of the United States. As a result, much of the knowledge and technology applied to storm forecasting is developed in the Great Plains environment. However, it has been shown that there is a maximum of strong and violent tornadoes in the region extending from Arkansas eastward into Alabama. In addition, various researchers have found strong severe storm thermodynamic signatures unique to regions such as the Northeast and Mid-Atlantic. This study has analyzed five decades of

tornado data for the state of Mississippi. Initial results suggest that Mississippi has a tornado environment distinctly different than that of the Great Plains. The spatial distribution of the tornado events also suggests that mesoscale processes between the Earth's surface and the lower troposphere may play a significant role in determining the genesis location of violent tornadoes. It is anticipated that an understanding of environments unique to Mississippi tornadoes will lead to better forecasts and more comprehensive storm analysis, which will ultimately save lives and property.

**Greg Carbone, University of South Carolina**

**“Creating Drought Scenarios from Climate Forecasts”**

As part of the South Carolina Drought Response Act, the Department of Natural Resources uses a series of standard drought indices to monitor drought conditions in the state. The DNR as well as community water resource providers could benefit from forecasts of future values of these indices. This paper examines methods of integrating the historic record and seasonal forecasts to produce estimates of future drought indices. It uses a resampling scheme to exploit information from the climate record and incorporate NOAA's Climate Prediction Center long-lead forecasts. Results from recent droughts will be presented.

**Edward R. Carr, St. Louis University, Madrid, Spain**

**“The Role of Social Space in the Negotiation of Economic and Environmental Instability in Coastal Ghana”**

The human negotiation of economic and environmental instability is a continuing concern of those working in Geography, Development Studies and nature-society studies more generally. The examination of this negotiation generally focuses on economic and political practices, but far less often considers the role of social space in local efforts to deal with economic and environmental instability. This paper offers a brief illustration of the ways in which the household social spaces of two villages in coastal Ghana construct/are constructed by the different instabilities experienced by the residents of these villages, and the different means by which the negotiation of this instability takes place.

**Jason M. Cash, Virginia Tech**

**“Using Light Detecting and Ranging (LiDAR) Imagery for Predicting Line of Sight in Radio Wave Propagation”**

The purpose of this study is to determine how accurately light detecting and ranging (LiDAR) data can predict line of sight (LOS) for higher frequency radio wave propagation. High-speed wireless communication requires LOS between the location generating a radio wave signal and the target trying to be reached. USGS Digital Elevation Models (DEMs) commonly used in GIS programs to predict viewsheds represent the bare earth and do not account for surface features such as vegetation and building locations making them less suitable for LOS predictions. Light Detection and Ranging (LiDAR) data is one of the latest forms of radar imaging which records the earth's surface by actively emitting light and recording the time delay before the reflective signal returns. It is therefore important to determine if LiDAR data significantly provide more accurate viewsheds over DEMs. This study looks at varying resolutions of LiDAR created elevation models to determine at what point significant accuracy is lost with progressively more course resolutions.

**Elizabeth Chacko, Ivan Cheung, George Washington University**

**“Temporal and Spatial Patterns of Teenage Childbearing in the District of Columbia, 1990-1999”**

In this paper, we examine temporal trends and geographic patterns of teenage childbearing in the District of Columbia during the period 1990- 1999, paying attention to the racial and ethnic components of the phenomenon. Our study uses birth data at the level of the census tract for this period. These data were obtained from the District of Columbia Department of Health, State Center for Health Statistics. Our analyses showed that Washington, D.C. experienced sustained declines in teenage births and birth rates



during the 1990s. Over time, the areas where the highest teen birth rates occur have been shifting eastward. We also demonstrate that in spite of steady improvements, there is need for continued and focused attention on sub-populations (African Americans and Hispanics), and neighborhoods within the city, where relatively high teen birth rates persist.

**Ivan Cheung, George Washington University, Janet Tilly, USGS, and Terry Slonecker, USEPA**  
**“Linking Landcover Characteristics and Intra-Urban Variability in Ground Level Ozone Concentration”**

This study uses Landsat 7 ETM+ images to estimate vegetation cover and near-surface temperature of areas surrounding 18 ozone monitoring sites throughout the Washington DC ozone non-attainment area. Mean NDVI, percent area with high NDVI (>0.30), and change in NDVI between winter and summer were computed for areas within 0.5, 1.0, 1.5, and 2.0 km radii of each of the monitoring sites. Similarly at-satellite effective temperatures were also computed as estimates of near-surface temperatures. Correlation analysis shows that daily maximum ozone concentration level is positively associated with near-surface temperatures whereas it is negatively associated with the NDVI-based measures. However, the presence and strength of these relationships may depend upon specific regional, synoptic scale meteorological condition.

**Matt Constantino, University of South Carolina**  
**“Divided by a Border: A History of Wendover, Utah and West Wendover, Nevada”**

State borders in the United States, although thought of as unchanging and permeable, have given rise to some unique challenges in West Wendover, Nevada and Wendover, Utah. Although Wendover is several decades older than its Nevadan counterpart, it is the one that is currently struggling. Wendover was founded as a railroad supply stop in 1905. Potash mining and later the Wendover Air Base ensured a small, stable community for Wendover’s early years. With the completion of Interstate 80 through Wendover and the growth of gambling after World War Two, Wendover began to experience rapid growth. Casinos were built on the Nevada side and real estate developers encouraged retirees and wealthy families to take advantage of the lack of a personal or state income tax in Nevada and settle there. As a result, West Wendover, Nevada was incorporated in 1984 and its growth has far outstripped Wendover’s. Plans to unify the two towns are ongoing, but are hampered by the legal difficulties of potentially moving the state border to bring Wendover into Nevada, and also due to the social and economic disparities between the towns.

**Catherine W. Cooper, George Washington University**  
**“Ukraine: Borderland or Heartland: The Story in Maps”**

Ukraine is a country. It is no longer known as “the Ukraine,” as a region, or as republic of the Soviet Union. Through the ages, the area has been both heartland and borderland, both core and periphery. Illustrated with a series of maps, this paper examines the changing borders of Ukraine and the people who have traveled and settled across this land. Major periods of its history are considered, such as Scythian in the 7<sup>th</sup> century BC, Kievan Rus, Cossack, Polish Empire, Russian dominance, World War II, Soviet Union, and independence.

**David J. Cowen, University of South Carolina**  
**“Mapping Population Distribution from the 2000 Census”**

This paper describes a procedure for allocating population within census tabulation areas that can be used to generate population density and dot distribution maps from the 2000 Census. The GIS based procedure eliminates unpopulated census blocks from larger tabulation areas and provides a consistent method for measuring population distribution for any area or an entire state. The procedure has also been used to develop an automated dot distribution map that can be compared to manually produced maps for earlier census periods.

**Thomas W. Crawford, Gettysburg College**

**“Spectral Analysis of Forest Cover Patterns in Rondonia, Brazil: Evidence for Biocomplexity in a Coupled Natural-Human System”**

This research examines spatio-temporal dynamics of forest cover within a 49.5 km<sup>2</sup> region in Rondonia, Brazil using spectral analysis techniques applied to satellite-derived, categorical land cover grids. In-migration, land use decisions, and resulting land cover patterns are viewed as a prime example of a coupled natural-human system that contains many spatial degrees of freedom and local interactions associated with spatially distributed migrant households and their land use behaviors. Analysis of spatial series containing measures of forest cover composition and configuration reveals the presence of multiple spatial signals with strong bi-directional differences that indicate trends towards periodicities at specified spatial frequencies and  $1/f^B$  power spectra with  $B = 1$  and  $B = 2$ . These results suggest that the collective land use decisions of individual households result in a variety of emergent properties at the macro-level indicative of biocomplexity in the environment. Implications of these results for land use and land cover research are discussed.

**Greg Czerniak, Joshua Dixon, Clarence Inge, Jason O’Neal, Old Dominion University**

**“Three Dimensional Modeling Applied to Beach Management Issues In Virginia Beach, Virginia”**

Virginia Beach, VA recently voted to allow hotel developers the rights to build new hotels with heights in up to 200 feet in the resort area. This paper provides a detailed account of the creation and application of a three dimensional model that was created in order to better display the effects of this increase at the resort area. The effects of this change in height regulations were determined to be a decrease in the view for hotels located west of new 200 foot hotels, an increase in the amount of direct sun exposure to beaches east of new 200 foot hotels, and an increase in amount of visitors to the resort area.

**William Dakan, Dr. Isabelle Thomas Maret, University of Louisville**

**“Delineating Urban and Non-Urban Sprawl: A GIS Approach in the Southeastern US”**

Sprawl has been an elusive concept to define and to link to factors that accelerate its pace and determine its location. Most sprawl studies are distinctly “urban” and focus on large cities and metropolitan areas. This paper examines sprawl in a fuller context, noting that smaller urban places exhibit urban forms characteristic of sprawl. The data for this paper consists of the Census Blocks for 2000, which contain the populations for both 1990 and 2000. Using the density function for Spatial Analyst, population density was calculated for each of the ten million plus 300-meter grid squares in the Southeast US. By subtracting 1990 density from 2000, the change in density could be determined. A sprawl measure of above average growth and moderate 2000 population density (above average density for the region yet less than the urban area threshold) was calculated for each cell. Sprawl areas were found to be strongly influenced by proximity to interstates, proximity to small urban places and, thirdly, proximity to large urban places (50,000 and over).

**Keith Debbage, University of North Carolina – Greensboro**

**“Planes and Tourists: Strategic Alliance Networks and the Aftermath of September 11th”**

Despite the obvious synergies and interconnections that exist between international aviation and the international tourist industry, it is often the case that the air transport – tourism connection is not well-coordinated nor well-understood. Even though air transport frequently acts as the crucial link between tourist-generating and tourist-receiving countries, it is usually relegated to a minor place in tourism geography studies. This paper argues that one of the most significant contemporary influences on the geography of origin-destination tourist flows has been the rapid development of strategic alliance networks by the international airline industry. It is also suggested that strategic alliance networks such as the Star Alliance anchored by United Airlines and Lufthansa are strategic responses to both the on-going

restrictive, bilateral regulations that govern much international aviation, and the more general forces of globalization. It will also be argued that an under-appreciated geographical issue in international aviation revolves around the thorny issue of airport capacity constraints – even after the events of September 11<sup>th</sup> with the dramatic drop-off in airline traffic. Particular attention will be paid to the interrelated nature of these airline-airport management issues through a case study of recent negotiations involving the U.S.-U.K. aviation bilateral concerning access rights to Heathrow Airport, and its impact on the Oneworld alliance network anchored by American Airlines and British Airways.

**Jeremy E. Diem, Georgia State University**

**“Human Influences on Summer Precipitation in Central Arizona, USA”**

This paper explores the possibility of urbanization- and irrigation- induced increases in summer precipitation totals in central Arizona. Maximum precipitation impacts are hypothesized to occur downwind of the Phoenix area in the Lower Verde basin. Results from statistical tests indicate that summer precipitation totals in the Lower Verde basin typically are significantly greater than totals in nearby basins. Summer precipitation totals at a Lower Verde basin are also significantly greater than totals at more monsoon-influenced stations. While these results do not prove conclusively the existence of anthropogenically-enhanced summer precipitation totals in central Arizona, the results present encouraging evidence and will hopefully spur additional investigations.

**Jason Dittmer, Florida State University**

**“Assessing School Assessment: Geographic Implications of Florida’s “A+ Plan”**

In 1999 Florida instituted a performance-based school accountability program that tied state funds to a formula that was heavily weighted towards standardized test scores. These changes to the system were hotly contested and political rhetoric has surrounded the issue. This paper compares the stated goals with the actual money flows resulting from the program. This is accomplished by quantitatively studying the influence of geographic structures on the money flows. This paper finds that in a case study of the elementary schools in Jacksonville, Florida, the new system has allocated public funds with a bias against predominantly African-American and poor neighborhoods while not necessarily meeting its own objectives of encouraging better teaching. This is because the school grading formula does not account for socio-economic variables, a practice thrown in sharp relief when the “A+ Plan” is viewed through the prism of Jacksonville’s highly segregated structure.

**Roy Doyon, Michael Hawkins, Ball State University**

**“Constructing an Albanian Kosovar Identity: Heritage and Memory in the Landscape”**

Contested landscapes are evidence not only the physical atrocities committed in the name of national identity, but speak eloquently of the imposition and erasure of heritage and memory by rival groups. A survey of Albanian Kosovars was conducted in order to ascertain their attitudes toward memorialization of the landscape. A first person narrative account served to further document changes in the landscape. Results indicate that Kosovars regard these memorials as important symbols of their heritage, but are somewhat ambivalent about destroying those of their predecessors.

**Chris Drake, Old Dominion University**

**“Islamic Landscapes in Southeast Asia”**

This paper examines the impact of Islam on the landscapes of a relatively neglected part of the Islamic world – SE Asia, focusing on the three countries where Islam is the religion of the majority of the population, Indonesia, Malaysia, and Brunei. It analyzes first how mosques traditionally were adapted to the climate and to the available building materials. It then considers how the different types of mosques with their very different forms of architecture reflect the different indigenous cultures, the history of how Islam came to SE Asia, and how mosque design has been used politically in the post-independence period. Finally, it looks briefly at other impacts of Islam on the landscape, such as schools, other

buildings, place names, and even urban planning. The paper is illustrated with slides of the different architectural styles in SE Asia.

**Istvan Oliver Egresi, Appalachian State University**

**“Agri-Tourism Development in the New River Basin, Northwestern North Carolina”**

Rural areas are affected by many problems, such as depopulation, loss of farmland to development and loss of sense of community. The terms used to describe these situations are “agricultural crisis”, or even “rural community crisis”. Agri-tourism has been identified as an example of activity that could be performed on a farm or in a farming community for an additional income that would help the farms and the community to survive. This paper analyzes agri-tourism development in the New River Basin and its future potential. The main method to gather information was a self-administered questionnaires sent to all agri-tourism operators in the region. Generally, agri-tourism operations are placed on small farms. Agriculture occupies a secondary role, with tourism activities providing most of the operators’ income. In some cases operations are not placed on farms, but, instead are situated in a farming environment and can still be labeled as agri-tourism operations. Most of the operators seem to be satisfied with their income from tourism. However, there are operators who complained. Some of them had to close the operation. One of the causes was identified in the absence of any kind of agri-tourism organizations or associations in the region.

**Kim Elmore, University of Arizona**

**“The Migratory Experiences of People with HIV/AIDS (PWH) in Wilmington, North Carolina”**

Much of the geography of AIDS in the US can be described as the geography of AIDS diagnoses. As part of the study this paper is based upon, Wilmington, North Carolina is examined from various perspectives of PWH in terms of their migration experiences. In this paper, I examine Wilmington as a place from the perspective of initial migrants and return migrants. I also examine push-pull factors related to the migration experience. I collected data for this paper in a series of open-ended interviews of PWH living in Wilmington. One of the topics to be discussed is whether the reasons for return migrants coming to Wilmington differ from those of initial migrants? For example, did return migrants move due to reasons of family and/or friends? Initial migrants, on the other hand, may be drawn to Wilmington because of the presence of the hospitals or for other reasons. Furthermore, do PWH face unique challenges when moving to a new place? For example: finding a new doctor that treats patients with HIV/AIDS (and one that accepts an individual’s insurance or lack thereof), choosing a new pharmacy that will handle the requests for medication with ease and confidentiality, establishing connections with the various HIV/AIDS service providers, and so on. Is their experience, therefore, more complicated than the “average” move to a new place?

**Marcia England, University of Kentucky**

**“Disrupting the Flow: Menstrual Geographies”**

Menstruation, a biological function that affects the majority of women for a significant portion of their lives, is a messy issue, both literally and figuratively. Many women feel that is a curse, others that it is a celebration of life and that which defines Woman. Others don’t know quite how to feel about it and wish it would go away or consider it a nuisance to be dealt with once a month. This paper deals with Muslim constructions and definitions of menstruation and therefore, women, using both Muslim and Western ideologies in the analysis. While I am not arguing that women should be defined by their biological functions, in many cases and in many societies, they are. Women, more so than men, are defined by their physical bodies.

**Christine M. Erlien, University of North Carolina – Chapel Hill**

**“Use of Neural Networks to Identify Clouds in Landsat TM Imagery of the Oriente, Ecuador”**

Neural nets were pursued as a cloud identification method for Landsat TM images of the Oriente, Ecuador after determining other methods of cloud masking did not perform up to expectations of accuracy, in the case of supervised and unsupervised imagery classification, or time required, as with manual cloud masking. A neural net module for IPW, produced by Weiguo Liu of Boston University, was employed to classify clouds in the TM imagery. The neural net method identified clouds almost as well as the manual method in a fraction of the time; producer’s accuracy for cloud/shadow class was 86.7%. The accuracy of this method may be improved by including a greater variety of cloud types and sizes as training areas. Recommendations for future research include determining whether 1) a neural net trained to classify clouds on one portion of an image classifies remaining portions of the image equally well, 2) a neural net trained to classify clouds in one image from a time series classifies clouds as well in other images in that time series, 3) combining the files used as training data for each subset of an image increase the accuracy of the neural net classifier within that image.

**Berry Farrington, University of North Carolina – Charlotte**

**“The Three Stages of Gentrification in a Charlotte, North Carolina Neighborhood”**

Experiencing the process of gentrification, the neighborhood North Charlotte has become Charlotte, North Carolina’s premier arts district. Once a textile mill village at the urban fringe, North Charlotte is today characterized by renovated houses, funky shops and art galleries. The neighborhood’s physical landscape, public image, demographic composition, and economic condition are transforming in a progression that clearly illustrates the nature of gentrification as a three-staged process. This paper explores the various stages of gentrification as they have occurred in North Charlotte, and ultimately suggests that as gentrifying neighborhoods make the transition from middle to late stages, there may be an opportunity to avoid the negative consequences of gentrification.

**Ronald Foresta, University of Tennessee, Roger Dendinger, South Dakota School of Mines and Technology**

**“The Aroostook Micmacs and the Challenge of Federal Acknowledgment”**

Federal acknowledgment that an Indian descent group is a living tribe brings the right and usually the resources to reestablish sovereign tribal territory. The lay of its ancient lands usually guides the tribe toward the creation of a compact neo-reservation. The Aroostook band of Micmacs was of fairly recent Canadian origin and thus had no such historical guidelines when it was acknowledged in 1991. Moreover, working and living over a wide area, the band had no strong centroid as the obvious site for a neo-reservation. It instead adopted an opportunistic strategy of discontinuous acquisitions, with different tracts aimed at meeting different community needs: housing, service provision, economic development, spiritual maintenance. The result was an archipelago of special-purpose places that may better help the band maintain both its distinct identity and its place in the wider community.

**James Fraser, Jonathan Lepofsky, University of North Carolina – Chapel Hill**

**“Opening Up the Meaning of Community”**

In this paper we examine the emergence of community-building as a strategy for alleviating inner city poverty by critically evaluating the conception and use of community itself. We argue that community-building can have both positive and negative impacts on neighborhood residents, and that this is, in part, affected by the discursive and material practices of community-building practitioners. The paper concludes with suggested methodological strategies for opening up the meaning of community in order to promote a process that resonates with the spatial practices that have been, and are, associated with creating favorable neighborhood conditions.

**Katie Freer, University of South Carolina**

**“Social Needs and ‘Squatter Settlements’: Neighborhood and Municipal Responses in Machala, Ecuador”**

The evolution of “squatter settlements” in and around the majority of Latin American cities has increased the demand upon local governments for basic public services, like sewage and water, while exposing vast numbers of people to precarious living conditions. In this case, the formation of a neighborhood committee is the local response to the inequitable distribution of government-provided basic services. This committee is responsible for petitioning services from municipal and non-governmental organizations. Related fieldwork from a July 2002 investigation of the “squatter settlement” Virgen del Cisne in the coastal city of Machala, Ecuador provides background information about the formation, living conditions, and principal needs of the neighborhood. Virgen del Cisne’s locally-based representative committee is weakened by a lack of trust in government, the fact that the committee does not have official power, the absence of leadership, and the locally cultural priority of the individual over the community. The social and political characteristics of Virgen del Cisne serve as an example of the multiscalar breakdown in political effectiveness and democratic participation that can result from the loss of public trust in a government perceived as unaccountable.

**Ava R. Fujimoto-Strait Barry D. Keim, University of New Hampshire**

**“Using GIS to Analyze Worldwide Trends in Extreme/Heavy Precipitation Events”**

Extreme precipitation events in a changing climate have become a prominent area of research for climatologists. This is an important area of scientific inquiry because little is known about extreme weather events and how their frequency and magnitude are altered as the overall climate fluctuates. In recent years, the literature has been rich with regard to regional-scale studies of extreme precipitation events and their temporal trends. Some countries, or portions of countries, have been highly investigated, while others have received virtually no attention at all. Furthermore, in areas where research has been conducted, the methods vary dramatically between studies. To date, there has been little attempt to aggregate the existing information on extreme rainfalls across the world. Hence, we are currently building a GIS database of all existing extreme precipitation analyses to synthesize and detect patterns of extreme/heavy rain events.

**Tara Futamura, University of Kentucky**

**“An Examination of the Relationship Between Residential Distribution and Language Acquisition by Language Minorities: Case Study of English Learning by ESL Students in San Francisco Bay Area”**

This paper examines the relationship between the residential distribution of language minorities, people who primarily speak a language other than English in the US, and their language acquisition process. Data was collected from interviews with high school English as a Second Language (ESL) students conducted in 1999 and the 1990 U.S. Census data. Three municipalities in the Southwestern part of the San Francisco Bay Area, California, were chosen as the study area. The examination of distribution of second language speaker especially showed that the concentration of Hispanic population matched the distribution of Spanish speaker with limited English ability. Additionally, microanalysis of interviews with ESL students were classified into three types; long-term assimilation type, accelerated assimilation type, and temporary stay type. When their distributions were examined, the residence of students in long-term assimilation type showed relative concentration, while the distribution of students in accelerated assimilation and temporary types were more dispersed. In summary, the language minorities’ language ability varies with changes in residential distribution. With the increase of incoming immigrants in recent decades, not only is the study of demographic characteristics of language minorities important to consider their spaces, but micro scale examination of their social conditions and language ability is also needed.

**Douglas W. Gamble, University of North Carolina – Wilmington, Eric Fournier, Samford University, Kenneth E. Foote, University of Colorado at Boulder, Luke J. Marzen, Auburn University**

**“New Geography Faculty Development: A Report on the First Annual Geography Faculty Development Alliance Workshops”**

The first annual Geography Faculty Development Alliance (GFDA) workshops were hosted on the campus of UC- Boulder during June 2002. The GFDA is a long-term, broad-based project funded by the National Science Foundation designed to improve the learning and teaching of geography in higher education. A total of eighteen new geography faculty and advanced doctoral students from SEDAAG participated in the two workshops. The aims of the workshops were to provide participants with the theoretical and practical knowledge needed to excel in the lecture hall, seminar room, and laboratory. Methods of active pedagogy, inquiry based learning, and teaching with technology was stressed by the GFDA. In addition, participants were given guidance in topics often overlooked in today's graduate curriculum--course planning, student assessment, discussion leadership, lecturing skills, field study, and evaluation methodologies. Overall, the workshops were rated a success by both participants and leaders alike. Products from workshop activities, references used in the workshop, and “the most important lesson” learned by the workshop participants are presented.

**Martha E. Geores, University of Maryland**

**“The Relationship Between Resource Definition and Scale: Considering the Forest”**

Forests are dynamic and are defined as resources on multiple scales, from an individual tree to a global scale tropical rain forest. Scale is a concept, which facilitates the organization of information by establishing a point of reference for observation of phenomena, both biophysical and social. It has a major impact on resource definition. On a fine scale, such as a tree and person scale, there are relatively few variables to be considered, and deciding whether a forest is present and what its form of management is, presents a relatively simple definitional problem. However, on a coarse scale, such as the Amazon Rainforest there are a myriad of variables to be considered in deciding the functional definition of the tree-covered landscape, and the possibilities of who might have an ownership interest, not to mention how it might be managed. The scale determines the variables, both physical and human related, which will be considered in the definitional process. This paper uses the allocative and authoritative aspects of the process of resource to demonstrate how definitions of the same forest at different scales cause conflict.

**Jamie Gillen, University of Kentucky**

**“Progressivism and Libertarianism in the Green Mountain State: The Case of Same-Sex Civil Unions”**

The residents of the state of Vermont have historically constructed their surroundings differently than most Americans. Their legislative record on individuals' rights has traditionally been one of progressivism, where landmark decisions against slavery and discrimination on the basis of sexual orientation were enacted well before the rest of the United States. The state's 1999 case, whereby legislation was passed granting same-sex couples the right to civil unions, has earned widespread attention throughout the United States. It has also served to reify Vermonter's individualistic perception of themselves. This embedded notion of 'isolated distinctiveness' is characterized by Jim Jeffords' switch from the Republican Party to Independent status in May 2001 and by Vermont's consistent promotion of the idyllic landscape to tourists and residents.

**David Greenland, University of North Carolina – Chapel Hill**

**“Climate Variability and Ecosystem Response at Long-Term Ecological Research Sites - A Cross-Site Study”**

Climate variability and ecosystem response was investigated at sites within the Long-Term Ecological Research (LTER) program. The study was guided by a set of questions. The first category of

questions deals with the dynamics of climate variability and ecosystem response. The second category of questions deals with the nature and characteristics of climate variability and ecosystem response. LTER investigators provided studies representing 14 different LTER sites. The study suggests there are two ways of viewing the topic. The first way views cascades or parts of cascades in the atmosphere and ecosystem acting as gateways, filters and catalysts to further ecosystem response. The second way suggests three broad classes of interaction between systems and climate namely: 1) the ecosystem buffers climate variability, 2) the ecosystem system simply responds to individual climate events and episodes that exceed some threshold for response, 3) the ecosystem gets into resonance with the climatic variability with positive and negative feedbacks that produce strong ecosystem response. Examples of ecosystem resonance to climatic variability are seen in the forest and grassland fire regime in New Mexico, the life histories of tabonuco forest in Puerto Rico, and the reproduction of white spruce in interior Alaska.

**Kelly D. Gregg, Jacksonville State University**

**“Soil Morphology Used as Evidence in a PCB-Contamination Lawsuit”**

Polychlorinated biphenyls present a significant risk to human health. In Anniston, Alabama, the Monsanto Corporation released some 600 tons of PCBs into surrounding neighborhoods. A survey conducted by residents indicated unusually high rates of disease within this community. This survey helped initiate a major lawsuit against Monsanto in early 2002. The defense maintained that Monsanto was not responsible and that these PCBs had been purchased by local industries for the formulation of casting sand. This contaminated sand was later used locally as fill dirt. To counter this argument, the plaintiffs requested a study to determine whether contaminated soils actually contained casting sands. Baseline morphologies for undisturbed soils were obtained by excavating profiles from around the roots of trees that pre-dated PCB production. Next, the physical properties of a variety of casting sand mixtures were determined. Soil profiles were then described for thirteen contaminated sites and compared to undisturbed soils and sands. Soil morphologies for ten sites were entirely consistent with natural soils, indicating that casting sands were not present in significant quantities. Three sites did contain fill, but analysis indicated that this material was not casting sand.

**Brandon S. Grieve, East Carolina University**

**“The Effects of Basin Morphology on Sediment Dispersal Patterns in High Alpine Lakes”**

This study examines how basin morphology can affect the spatial distribution of sediment and organic debris within high alpine lakes. The study looks at total organic content and grain-size of sediment from core samples taken from three alpine lakes in the Sawatch Range of central Colorado. Three sediment cores were extracted from each lake using a percussion corer. Cores provided evidence of circulation and sediment distribution patterns. The low relief basins were found to have high levels of organics that varied over time and space. A high relief basin was found to have low levels of organics that remained relatively homogeneous over time and space. Grain sizes were overall coarser in high relief basins, with little to no coarse sediments settling in the middle of the low relief basins. The patterns of sediment or organic debris found in the lake suggest that depositional patterns in alpine lakes are complex and variable from basin to basin, even when climatic, lithologic, and elevational variables are the same. These findings have implications for paleoecological studies using data from cores because it indicates that geomorphic factors must be considered when interpreting core stratigraphies.

**Katherine B. Hankins, University of Georgia**

**“Spatializing American Citizenship: Religion and Education Find Their Places”**

The rights associated with American citizenship are constantly negotiated with changing political and social landscapes. In particular, the seemingly contradictory rights of citizens to receive an education and to worship freely have come under scrutiny. This paper examines the “spatial fix” that legal frameworks allow to satisfy both rights. In particular, Released Time Programs, where students receive public school credit for off-campus religious instruction during public school hours, is an example of the



way in which the state uses geography to balance potentially conflicting rights. This paper examines the cause of Released Time programs, Christian Learning Centers, in Georgia, to examine the way in which the rights of citizens to education and worship are resolved by separating out the spaces (Bible Education programs) and the state (public schools).

**James Hanlon, University of Kentucky**

**“The Changing Face of Low-Income Housing in Louisville, Kentucky”**

Park DuValle is a new residential development located in Louisville, Kentucky’s, predominantly African American “West End.” With its winding streets and neotraditional-style detached housing, the development stands in stark contrast to what once stood here. In 1996, the Housing Authority of Louisville began demolishing the Cotter-Lang Homes public housing project to make way for Park DuValle. Cotter-Lang, a 1,116 unit complex of two-story, barracks-style structures, was built in the 1950s as part of a slum clearance and urban renewal project that entailed the demolition of a neighborhood known as “Little Africa.” The Park DuValle site has been the setting not only for two distinct eras of urban revitalization, but also for the entwined dynamics of racial residential segregation, urban economic decline, and federal low-income housing policy. Drawing upon this site and others in the city, and working my way back and forth between local and national contexts, this paper presents a sketch of these dynamics and of their unfolding in Louisville.

**Evan A. Hart, Tennessee Technological University**

**“Seasonal Timing of Annual Flood Peaks in the Appalachians”**

The timing of mean annual floods can shed light on relationships between climate and the physical properties of a drainage basin. In this paper, annual flood series from 28 gauging stations in the Appalachians are analyzed using directional statistics. Two measures of flood peak seasonality are utilized: 1) the vector mean date of the annual flood for each series; and 2) the mean vector magnitude, a measure of the strength of seasonality of the annual flood. These measures are compared with drainage area, altitude, relief ratio, latitude, and distance from the Blue Ridge escarpment using stepwise regression. Results show that the vector mean date of annual floods increases with latitude. The strength of seasonality (tendency for annual floods to be concentrated in one part of the year) tends to increase with increasing distance northwest from the Blue Ridge escarpment, while stations closer to the Blue Ridge have more evenly distributed flood series. This difference may be related to orographic enhancement along the Blue Ridge, delivering more consistent flood-producing rainfall to basins close to the escarpment and resulting in more seasonally distinct flood regimes with increasing distance northwest from the Blue Ridge.

**David Havlick, University of North Carolina – Chapel Hill**

**“From Luddism to Loud Machines: Democratic Technologies, Wilderness, and Off-Road Vehicles”**

The Luddite rebellions in nineteenth-century England provide a context from which to examine the role of common lands and democratic technologies contra privatization and mechanization. Working from this historical background, this paper explores the implications on democracy of certain machines and technological innovations. Specifically, I propose that the concept of Wilderness in the United States may represent a democratic response to the technological domination that pervades industrial society. By contrasting two modes of modern recreational experiences – the use of designated Wilderness and off-road motorized vehicles – I assert that the former represents and can promote democratic ideals, while the latter does not. Wilderness may constitute a liberating refuge from some technologies to which Americans now find themselves increasingly indentured. Many aspects of off-road vehicle use, meanwhile, fail to meet standards of democratic technologies.

**Amy Hill, Claire Jamieson, Jessica Tharpe, Jackie McDermott, Chris Sigler, Eric Meadows, Denise Robertson, University of Tennessee**  
**“A Glimpse of Sutherland: A Video Project”**

Knoxville’s Sutherland Ave neighborhood, just west of the University of Tennessee campus, has played a changing role in the city. At the turn of the twentieth century, the neighborhood was a small, residential community for rural Appalachian migrants working in the marble and textile industries. Today, it hosts a multicultural community of working class urban residences and businesses, factories, institutions, and university housing used primarily by international graduate students and their families. During the academic year, 2001, the advanced cultural geography class at the University of Tennessee (Lydia M. Pulsipher, professor), studied archival materials, maps, reports and videos prepared by previous geography student researchers in the neighborhood. They interviewed a diverse range of residents and entrepreneurs and mastered video-making techniques from script writing and filming, to editing and narrating. Their final class project is a short video that discusses the changes that have been wrought in the Sutherland neighborhood since World War II, focusing especially on the recent past when international (global) forces have become particularly evident.

**John Hintz, University of Kentucky**  
**“A Conceptual Framework for a Discourse Analysis of Grizzly Reintroduction in the Bitterroot Wilderness of Idaho”**

In this paper I explain how discourse analysis provides a productive methodological framework for researching the eco-political debates surrounding the efforts to reintroduce grizzly bears in the Bitterroot Wilderness of Idaho. More traditional analyses of the issue – whether ecological, historical, or policy analyses – have underlying objectives and epistemologies that differ from a discursive-constructivist reading of these debates. Constructivism, in this usage, is not a denial of the materiality or autonomy of non-human nature, but an insistence on interrogating the social context of the production of meaning within the various discourses (of nature, economy, and place, to name just a few) at work within these debates. A constructivist critique begins with the assumption that contested discourses are a large part of what is at stake in eco-political debates. Every discourse has a history that enables its present. Tying the contested discourses at work to networks, institutional sites, and techniques and technologies of representing nature and space creates a framework for assessing the social and political dimensions of the grizzly reintroduction debates.

**Amanda Huron, University of North Carolina – Chapel Hill**  
**“Accusations of Nostalgia: Anti-Gentrification Activism in Post-Communist Berlin”**

Activists working against gentrification are often accused of harboring a general resistance to change. Some activists, critics charge, are too personally identified with their particular neighborhoods, and thus take an approach that is narrowly focused and verges on the parochial: these activists are only concerned about *their* neighborhoods, *their* cities, *their* communities. This activism, the charge continues, is based less on critical analysis of larger questions of urban change and economics, and more on nostalgia and a longing for a lost era. This paper examines activists in Berlin in light of these concerns.

**Joshua F. J. Inwood, University of Georgia**  
**“Seeing the Blind: Geographic Humanism and the Experience of Place”**

Since much of our world is visually based, many researchers question how the “non-sighted” fit into this larger framework. Whereas many geographers have looked at blind navigation this paper will explore how the blind ascribe a practical understanding of the world constructed by and for those with sight. Because much of the relevant data involves perceptions not easily understood, this paper relies on qualitative methods, specifically the open-ended interview, to construct personal narratives. These narratives are analyzed using a humanistic perspective

**Claire A. Jantz, University of Maryland**

**“Analyzing Forest Change and Policy in Suburban Environments”**

As development pressures in western countries have continued to mount, the role of forest preservation has become a principal issue of debate. The Washington, DC metropolitan area has experienced rapid growth in recent decades and policies addressing forest preservation have proliferated. Since the metropolitan area encompasses two states, Maryland and Virginia, an opportunity to study the relationships between land use change and policy emerges. This paper will address how broad political structures can influence the institutionalization of land use policies at the local level using Montgomery County, MD and Fairfax County, VA as case studies. Furthermore, by studying the development of forest policies in light of the land use change that has occurred, links between policy and forest patterns can be made explicit. Trends in forest use and the development of policies related to forest preservation were traced using archival resources. General trends in policy were identified and comparisons in the approaches of each county toward forest preservation will be presented. Land use change patterns between 1937 and 1998 were quantified and the interaction of policy and land use change patterns was explored using a cellular automata model. Major policy factors influencing forest patterns were identified and will be presented.

**Matt Jennings, George Washington University**

**“A Decade of Rapid Environmental Change in a Suburban Watershed of the Washington Metropolitan Area”**

This research paper examines a rapidly growing suburban area, the Beaverdam Run sub-watershed of Loudoun County, Virginia, and compares two primary methods of measuring the changes - digitized information from aerial photography and surface classifications from satellite imagery. This paper is specifically concerned with the growth and spread of impervious surfaces. Although development in the Beaverdam Run sub-watershed was practically non-existent in 1988, in the last 13 years Beaverdam Run sub-watershed has sustained a high degree of suburban development. The 2001 digitized data reveals the extent of the change. The building footprint square footage now covers more than 4% of the total land area of Beaverdam Run. In addition, Beaverdam Run ranks first in the total length of Road Casings among Loudoun County’s sub-watersheds. Remote sensing classifications have also revealed the dramatic growth of the area and the results are compared to the digitized method.

**Barbara Kearney, University of Maryland**

**“Contrasting Approaches to Sustainable Development in Gateway Communities”**

The paper describes the relationship between two gateway communities to the Great Smoky Mountain National Park while considering how the cultural heritage and physical landscape of each community has helped to shape their cultural landscapes. Using an analysis of community employment and intertwining histories, a dependant relationship between Gatlinburg and Pittman Center, Tennessee is explored.

**Sara Beth Keough, Virginia Tech**

**“A Brief History of Water Pollution in the Adirondack Park, NY: Linking Human Activities to Lake Acidification”**

The lakes in the Adirondack Park, upstate New York, have become increasingly acidified over the last century. Lake acidity varies throughout the Park, and the most acidic lakes in the Park are concentrated in the southwestern region. The acidification is due to acid deposition through acid rain sometimes exacerbated by human modifications of the landscape through activities such as logging. Water bodies in the southwest region of the Park have been especially affected. This paper examines the history and causes (both human and natural) of lake acidification in the Park through a review of recent literature. It also discusses a possible solution and speculations about the future of Adirondack Lakes.

**Jim Kernan, West Virginia University**

**“A Multi-scale Analysis of Diversity in Suburban Forest Fragments: A Case Study in Morgantown, WV”**

This research was conducted for two purposes. First, I questioned a discussion in the literature regarding scale and diversity in the context of land management and conservation: can landscape scale diversity measurements produce results that are accurate at finer scales? Second, this research was intended as an educational instrument for undergraduate students studying forestry. In this regard, I emphasized the role of scale in research; I distinguished and visualized sensitivities of different diversity indices, and applied a geographic perspective in an ecological forum. Ecological analyses were performed for two sampling locations in Morgantown, West Virginia. These forest fragments represented tract scale patches, and were aggregated to simulate a broader, landscape scale. Vegetation at the two sites was compared in terms of structure, composition and diversity. Diversity indices calculated at different scales, and data were interpreted to demonstrate the relationship between succession, scale, and diversity. It was concluded that, within the narrow scope of this study, diversity indices at a landscape scale well-represented tract scale patterns, but that finer, stand scale indices were not accurate at broader scales.

**Paul Kingsbury, University of Kentucky**

**“‘Love is All You Need’ or Sandals Negril’s All-Inclusive Desire”**

Described as a new “paradigm for the 21<sup>st</sup> Century,” mass tourism corporations in the Caribbean and Latin America have begun to diversify their traditional ‘sea, sand, and sun products’ through the promotion of alternative tourism opportunities and the integration of sustainable practices that create new forms of “mass ecotourism” or “resort ecotourism.” Sandals Resorts International is the largest and most successful all-inclusive tourism corporation operating in the Caribbean. In 1998, Sandals, transformed its Negril facility in Jamaica by creating economic, cultural, and environmental programs that mimic those of alternative tourism developments. In so doing, Sandals Negril became the first all-inclusive hotel in the world to be certified to the Green Globe 21 Standard for its environmental policies and management. Drawing on my dissertation research this paper uses Lacanian psychoanalytic theory to examine these transformations in terms of the corporate desires (Sandals’ motto is “Love is All you need”) that traverse the resort’s built environment, training of employees, management strategies, and community relations with local craft vendors and hospital patients.

**Axel Kleidon, University of Maryland**

**“Using Model Simulations to Estimate the Impact of Global Warming on the Distribution of Plant Diversity”**

I investigate how elevated concentrations of atmospheric carbon dioxide and the accompanying climatic changes in temperature and precipitation affect the distribution of plant diversity. I use a process-based modeling approach to plant diversity, in which the range of plant growth strategies that lead to reproductive success is estimated by a Monte-Carlo simulation for different climates. This approach can reproduce the observed distribution of plant species richness very well. Simulated climatic differences for 2070-2099 are used to estimate how differences in precipitation, temperature, and differences in light use efficiency affect simulated plant diversity, in isolation and in combination. Differences in precipitation are closely reflected in the simulated differences in plant diversity. Increased temperatures lead to enhanced plant diversity in cold environments due to the enhanced growing season length, but it leads to a reduction in simulated plant diversity in the tropics, likely attributable to enhanced autotrophic respiration. An increase in light use efficiency leads to generally increased plant diversity. The differences in simulated plant diversity of all forcings combined is very close to the sum of the individual responses. What these results suggest is that if tropical plants do not acclimate to warmer temperatures, global warming may lead to a large-scale decline in tropical plant diversity.

**Paul A. Knapp, Georgia State University, Peter T. Soulé, Appalachian State University, Henri D. Grissino-Mayer, The University of Tennessee**  
**“Spatial Occurrence of Sustained Droughts and a Drought Zone in the Interior Pacific Northwest: 1733-1980”**

We mapped the occurrence of moderate and severe sustained droughts in the interior Pacific Northwest (PNW) from 1733-1980 using 18 western juniper (*Juniperus occidentalis* var. *occidentalis*) chronologies. The occurrence of moderate sustained droughts is widely distributed within the study region, but the presence of severe sustained droughts is principally confined to the northwest corner of the interior PNW. These droughts are chiefly attributed to the presence of a Pacific blocking high off the NW coast, with the northwest corner of the interior PNW most impacted. This impacted region lies within a transition zone between the fluxes of marine air flow during the cool season months and interior air during the warm season months. Western juniper trees growing in this region are particularly affected by the waxing and waning of the boundaries of this transition zone. During years where a blocking high is present, marine air flow is substantially reduced, exposing the trees in the transition zone to substantially drier springtime conditions that limit soil moisture and reduce radial growth. The high frequency of droughts in this transition zone compared to other sites within the interior PNW suggests this region should be identified as a drought zone.

**Robert J. Kruse II, Kent State University**  
**“Imagining Strawberry Fields as a Place of Pilgrimage”**

This paper examines the significance of Strawberry Fields, the memorial to John Lennon in Central Park, New York City as a place of secular pilgrimage. Situated within postmodern conceptualizations of secular pilgrimage, Strawberry Fields is shown to be the spatial focus of a variety of discourses related to John Lennon’s life and music. Furthermore, this paper illustrates how autobiography as a qualitative research method can reveal the sentiments that motivate particular pilgrims to places associated with major figures in popular music.

**Hilda E. Kurtz, University of Georgia**  
**“Environmental Justice Activism: Merging Liberal and Communitarian Citizenship?”**

Research has shown that different traditions of citizenship position individuals and groups in relation to a larger political community in different ways. Environmental justice activists draw from at least two traditions of citizenship to locate themselves socio-spatially within a political community. This paper outlines the ways in which environmental justice activists complicate the tradition of liberal citizenship that informs environmental regulation by combining a liberal discourse with a discourse of communitarian citizenship. Drawing on the empowering aspects of each, environmental justice activists appear to be in the process of forging hybrid practices of citizenship.

**Neely L. Law, University of North Carolina – Chapel Hill**  
**“Nitrogen Input from Residential Lawn Care Practices”**

A key to understanding nutrient dynamics within urban ecosystems, is to more fully account for the social and ecological drivers and factors of nutrient loading and retention, and how they interact and affect ecosystem processes and function. The Baltimore Ecosystem Study (BES) is one of two urban Long Term Ecological Research (LTER) sites that emphasize the need to address the human societal components of the ecosystem. To address how social behavior may affect nutrient budgets in urban watersheds, results of a household survey to determine the nitrogen input from lawn care practices is presented. Survey results indicate that nitrogen input from lawn care practices is a dominant source of nitrogen in the nitrogen budget, but loadings are spatially and temporally variable. Analyses of soil samples from the lawns suggest that soil properties and chemistry are a function of physical and lawn care management practices.

**Scott A. Lecce, Patrick Pease, Paul A. Gares, Jingyu Wang, East Carolina University**  
**“Suspended Sediment Transport in a Small, Coastal Plain Watershed”**

Recent studies have shown that the Coastal Plain experiences more soil erosion than previously believed. It is, however, not known how much of the eroded soil is transported to small stream systems and where it is stored before reaching larger rivers. The purpose of this paper is to examine how seasonal differences in vegetation and the hydrologic characteristics of runoff-generating events influenced suspended sediment transport during a 1½-year period in a small agricultural watershed on the Coastal Plain of North Carolina. Suspended sediment samples were collected during four storms that transported at least 80% of the total sediment load measured during the study period. The results suggest that lower vegetation densities in late winter and early spring allowed moderately intense rainfall and discharges to transport relatively large amounts of sediment. Intense thunderstorms in late spring and summer were able to overcome the stabilizing effect of denser vegetation and transport significant sediment loads. The largest runoff events produced substantially lower sediment concentrations, but still produced the highest sediment discharges. Sediment concentrations were inversely related to storm flow volume through the process of dilution.

**Michael Leitner, Louisiana State University**  
**“Introducing the Local Three-Firm Concentration Ratio: Measuring Spatially Differentiated Concentration Processes in the Vienna Food-Retailing Market”**

During the last 25 years Western European retailing has been experienced a rapid change, mostly through ownership and store size concentrations. The City of Vienna has been following this European trend. In addition, the Vienna food-retailing market was shaken by the exit of one major food-retailing chain - Julius Meinl - which could not withstand the pressure of its main competitors in the Austrian market. These changes are well documented with an increase in the three-firm concentration ratio by almost 5% from November 1998 to January 2001. The concentration ratio measures the degree of concentration within the whole market with one single value. The main purpose of this paper is to introduce the ,so-called, local three-firm concentration ratio using the dual kernel density estimation method. Such a local measurement provides a spatially differentiated picture of the concentration processes within the Vienna food-retailing market. The results show that the value of the local ratio varies greatly throughout the study region. Trends are best seen and are most accurate with the normal kernel function combined with a fixed bandwidth approach.

**Jonathan Leib, Florida State University**  
**“Robert E. Lee, Race, Representation and Redevelopment along Richmond’s Canal Walk”**

The past decade has witnessed numerous disputes in the American South over the placement of Civil Rights and Civil War iconography in the region’s public spaces. Many of these debates involved the introduction of Civil Rights iconography in areas that previously contained only Confederate iconography or attempts to remove Confederate symbols from the landscape. In contrast, a debate took place in Richmond, Virginia in 1999 over whether to add a new Confederate symbol to the landscape of this African American majority city. That year, the city opened its new Canal Walk development project, aimed at revitalizing the city’s downtown and focusing growth and activity along Richmond’s waterfront. Among the historical displays along the Canal Walk was a billboard-sized portrait of Confederate General Robert E. Lee. The debate centered on whether Lee, referred to by historian James McPherson as “the white South’s favorite icon,” should hang on the Canal Walk, or whether the portrait was an affront to African Americans as a reminder of the Civil War and slavery, and therefore should be removed. The resulting discussion over the Lee portrait forms part of the continuing evolution of Southern identity (identities) in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries.

**Jonathan Lepofsky, University of North Carolina – Chapel Hill**

**“Imagining Geographies of Singularization: Community Without Unity, Rights Without Citizenship”**

This paper presents an outline for thinking about community and citizenship in a contemporary manner. Drawing upon post-structuralist geographies, the argument posits that citizenship must be considered as a performative act—by which communication does something not only means something—that forms the basis of collective social life and community. Citizenship is a performative of belonging to community. The paper then outlines how this conceptual shift can be aligned with ways to study temporal-spatial constellations (timespace) that allow multiple and alternative performative acts of community and citizenship to be recognized, enacted and understood.

**Elizabeth Leppman, St. Cloud State University**

**“Religious Denominational Geography of Knott County, Kentucky: 1931-2002”**

The United States contains more than 2,000 Christian denominations, some tiny and confined to small areas and some containing millions of members spread over the entire country. The assortment in any one place reflects other aspects of human geography. In 1931 Elizabeth Hooker surveyed Knott County, Kentucky, with a view to providing background information to Protestant missionary organizations. Her field notes provide a historic base by which to examine the distribution of churches and denominations today. The number of churches has grown in the intervening seven decades, and newly arrived denominations challenge the former dominance of the Old Regular Baptists. Most churches are still located in rural areas.

**Zhi-Jun Liu, University of North Carolina – Greensboro, Donald E. Weller, Thomas E. Jordan, David L. Correll, Smithsonian Environmental Research Center**

**“Integrated Modeling of Water and Nutrients from Point and Nonpoint Sources in a Watershed, Part I: Model Development”**

We developed a landscape simulation model to predict the discharge of water, sediment, organic carbon, silicate, and forms of nitrogen and phosphorus from a watershed. The model integrates point and non-point sources of water and nutrients within a watershed, and routes them through the stream network in the watershed. The landscape model includes a rainfall-runoff model (TOPMODEL) for runoff generation, a statistical model for estimation of nutrients from non-point sources, and a stream network model for routing flow and nutrients through a stream network. The stream network model generates stream networks using data from the EPA’s Reach File. Point sources and sub-watersheds are anchored to stream reaches. Contributions of water and nutrients from point and non-point sources are integrated in the routing process. This paper describes the design and structure of the model. Part II of the paper presents the application of the model in simulation of discharges of water and selected plant nutrients from the watershed of the Patuxent River in Maryland to its estuary.

**Robert Lloyd, University of South Carolina, Rick L. Bunch, Central Michigan University**

**“Computation and Visualization of Learning Processes: GIS Functions and Users”**

This paper investigates the cognitive processes used by learners (*adults and young adolescents*) for tasks that require the integration of geographical information across space, hierarchies, and geographic scales. An experiment simulated basic GIS functions and contained four experimental conditions (*Chunk, Layer, Scale, and Whole*). The map used in the experiment had *point, line, and area* symbols. Reaction time, accuracy, and confidence were recorded as dependent variables related to the success of the integration process. The data were used as input for a Back-propagation Neural Network model. The neural network model was successful in learning patterns in the input patterns that could be used to predict the confidence, reaction time, and accuracy for combinations of learners, experimental conditions, and map feature categories. The results of the analysis generally indicated young adolescent learners were slower, less accurate, but more confident than adult learners for all experimental conditions. Learners had the most success recalling information related to area symbols and the least success recalling information

related to point symbols. Overall subjects were more accurate and confident in tasks that require less integration of geographical information. This suggests that cognitive maps can be encoded most successfully from standard cartographic maps.

**Mark Long, College of Charleston**

**“Anti-Americanism in post 9/11 Editorial Cartoons in the US and Spain?”**

Billed as the first great crisis of the XXI century, terrorist attacks on the United States have led to unprecedented newspaper attention and a record number of publications. What was initially seen as unqualified worldwide support for the US, however, has long since given way to claims in the United States of growing anti-Americanism around the world, certainly in Europe. This paper contrasts editorial cartoons in premier newspapers in Spain and the US to investigate purported anti-Americanism. A series of themes are tracked across cartoons growing from 9/11 itself, and through developments in Afghanistan and in the United States. The paper concludes that great care must be taken to distinguish between critical perspectives and anti-Americanism.

**Jose Javier Lopez, Minnesota State University**

**“The Geography of police malpractice: Regional Patterns of Law Enforcement Misconduct in the United States, 1989-1999”**

As a criminal justice issue, police misconduct is a problem rarely examined by social scientists that use geographic research techniques to study human interaction. Although significant progress in the social sciences has been made analyzing law enforcement misconduct, most studies concerning police malpractice have been non-geographical. The majority of these investigations contain little information regarding regional differences in police abuse within the U.S. While the media has focused on the seriousness of the problem in heavily populated states such as California and New York, the majority of the cases investigated by the U.S. Department of Justice occur in different sections of the nation. In fact, the frequency of police malpractice cases is much greater in smaller states such as those of the Deep South and states with a significant minority population. The objective of this paper is to use thematic maps and multivariate statistical analysis to examine inter-state patterns of police malpractice cases prosecuted in federal court. Particular attention will be given to Southern states that the national news media rarely mention when police brutality is suspected.

**Robert D. Lopez, Old Dominion University**

**“Remote Sensing Techniques for Studying the Arenal Volcano Region of Costa Rica: Potential Applications in a Tropical and Volcanic Landscape”**

The combined strengths of remote sensing, geographic information systems, and the global positioning system provide valuable research tools to monitor unique, tropical environments where physical and human dynamics often conflict. The research focus site in north-central Costa Rica encompasses the geography of La Fortuna, a town quickly developing an eco-tourism industry and Arenal, an active, composite volcano situated just five kilometers (3 miles) west of the town. This local geography is itself situated within a large expanse of rare, tropical montane and cloud forest. Field data collected at the study site was used along with Landsat satellite imagery in order to prepare a comprehensive database of spatial features, including past lava flow routes and geo-referenced buildings, roads, and trailheads. A GIS was built to overlay these features in order to map the area for hazard potential and to monitor local environmental change. This GIS would assist local land use planners and emergency response personnel in spatial decision-making. The research achieved a means of analyzing field data in conjunction with remote sensing data to better understand the geographic dynamics of the *Arenal* region.



**J. Dennis Lord, University of North Carolina – Charlotte**

**“End of the Nation-State Postponed: Agricultural Policy and the Global Sugar Industry”**

This paper uses the sugar industry to illustrate that nation-states still have an important impact on the global economic map. Protectionist policies by nation-states prevent the geographies of sugar production and trade one might otherwise expect if comparative advantage was permitted to operate. The paper begins by examining current geographic patterns of production and trade and the export and import dependency levels of the leading sugar trading nations. Next, the sugar policies in the U.S. and EU are reviewed because of their pervasive impact on patterns of production and trade. Following a brief consideration of the politics of U.S. sugar, the paper examines how patterns of production and trade would shift if the protectionist policies of nation-states were removed. High production cost areas such as the U.S., EU, and Japan would experience declines in their shares of global output while low cost production areas such as Australia, Thailand, Brazil, and Cuba would experience increases. The net result would be significant gains in global welfare.

**Rezaul Mahmood, Western Kentucky University**

**“An Analysis of Simulated Point Soil Moisture for Three Land Uses Under Contrasting Hydroclimatic Conditions in the Northern Great Plains”**

In this paper we have developed and provided a quantitative assessment of SM climatology by using a water balance model for three crops, namely, irrigated corn, rainfed corn, and grass, grown under three hydroclimatic regimes in Nebraska, USA. These regimes represent east-west decreasing precipitation gradient of the Great Plains. The SM climatological assessment is provided for the root zone as a whole and for the 5 layers of the soil profile up to a depth of 1.2 meter. The study finds increased soil water content in the root zone throughout the year under irrigated farming. Soil water depletes to its lowest level under rainfed corn cultivation due to its complete reliance on naturally available SM. It is found that annual total evapotranspiration (ET) can be up to 34% and 36% higher under irrigated corn compared to rainfed corn and grass, respectively. The study reports that over long time period SM variability is higher at higher depths compared to near surface. SM depletion and prevailing soil water content during growing season at various depths of the soil profile varies with crops and their physiological growth, and soils, and prevailing hydroclimatic conditions. This study reports that at daily and monthly time-scale SM variability is much greater under rainfed land use than irrigated land use. SM variability increases with the progression of growing season and reduces after the harvesting. At annual time scale SM variability is predominantly a function of large-scale atmospheric modulation. It appears that excessively wet and dry condition reduces and enhances the forcings of land use, respectively.

**Scott H. Markwith, University of Georgia**

**“Regenerative Response of a Southern Appalachian Forest to Surface Wildfire and Canopy Gap Disturbances”**

Tree regenerative response after surface wildfire and within canopy gaps was examined in second-growth stands on sub-mesic slopes along the Blue Ridge in northeast Georgia. The understory was sampled in burned and unburned plots, where species diversity, density, the mean height of understory stems, and species composition differed significantly between burned and unburned plots. Species diversity and the mean height of understory stems were lower in burned plots, although density was higher in burned plots relative to unburned plots. Shade-intolerant species, *Liriodendron tulipifera* L., *Robinia pseudo-acacia* L., and *Sassafras albidum* (Nuttall) Nees., had much greater abundance in the burned understory, while moderately shade-tolerant species exhibited mixed responses to burning. Neither the gap-partitioning nor the density hypothesis were supported by evidence collected for this research, and the effect of burning did not influence the rejection of these hypotheses. However, the existence of canopy gaps in burned areas may provide favorable environments for the abundant post-burn cohort of shade-intolerant species to compete for future canopy representation.

**Brent McCusker, West Virginia University**

**“Land Use Change on Recently Redistributed Farms in the Limpopo Province, South Africa”**

This paper assesses the impact of South Africa’s land reform program on land use change in rural areas of the Limpopo Province. Land use change was examined on five Communal Property Associations using remotely sensed images and quantitative and qualitative survey techniques. Land use change was found to be extensive in nature, rather than intensive, as was expected by members of the associations and government planners. The paper concludes by relating the relevant themes to the findings.

**Christopher F. Meindl, Georgia College & State University, Derek H. Alderman, East Carolina University**

**“Wetlands: Science, Politics, and Policy”**

Wetland protection has risen near the top of the environmental agenda in recent years and the federal government has developed a series of acquisition and easement programs as well as land use regulations in an effort to achieve a policy of “no-net-loss of wetlands.” Meanwhile, private property advocates have fought back, complaining that the government is attempting to protect more than just wetlands. Congress ultimately called upon the National Academy of Science in the middle 1990s to help resolve the dispute. Accordingly, we use the wetland delineation battle of the 1980s and 1990s as a prism through which we consider science, the use of science, and the process of environmental claims-making. Influential social actors such as scientists, politicians, policy makers and others all engage in claims-making activities. Unfortunately, wetlands are difficult to describe and delineate precisely. This is a serious problem because land judged to be a wetland is likely to be subject to some sort of land use restriction, while land that is not may have no restrictions on its use. Although science can help inform decision makers, there are very clear limits to what science can accomplish in resolving natural resource controversies.

**Carlos F. Mena, University of North Carolina – Chapel Hill, Richard Bilsborrow, University of North Carolina – Chapel Hill, Michael McClain, Florida International University**

**“Socioeconomic Drivers of Deforestation in the Northern Ecuadorian Amazon”**

The objectives of this research are to quantify deforestation in the Napo basin of Ecuador and determine the significance and magnitude of socioeconomic factors on deforestation rates at the Parroquia and Finca levels. Annual deforestation rates were obtained via satellite image processing and geographic information systems (GIS). Linear regression methods were used to establish correlations between socioeconomic factors and deforestation rates. The research results show that the average annual deforestation rate was 1.24 % in the study area. Population density was the most important factor linked to deforestation at the finca and Parroquia levels. Other important socioeconomic factors were access to drinking water, wealth, and distance traveled on primary roads. These findings demonstrate the severity of deforestation in the Northern Ecuadorian Amazon and serves as an exploratory analysis of the complex problem of deforestation in the tropics.

**Jacqueline W. Mills, Louisiana State University, W. T. Meador, Jr., The University of Memphis**

**“Discarded, Not Disproved: A Contemporary Application of Sequent Occupance”**

Approximately 40 years ago Merle Prunty published a series of articles based upon his seminal research on southern plantations. One of these was entitled “Deltapine: Field Laboratory for the Neoplantation Occupance Type,” published in *Festschrift: Clarence F. Jones*, (Evanston, IL: Northwestern University Press, Studies in Geography, Number 6 (Evanston, IL, (1962), 151-172). In this study, Prunty addressed the morphologic and functional evolution of the Deltapine Plantation, a 38,000 acre landholding in Bolivar and Washington counties, Mississippi, from its inception in the early 20th Century through the late 1950s. The authors revisited Deltapine, seeking to identify the morphological changes and operational evolution of the land holding from 1960 through the present. In both studies the methodology of sequent occupance was employed to investigate land use change. This paper critically

examines the theoretical framework of sequent occupance while asserting its viability through the case of Deltapine.

**Lisle S. Mitchell, Graham Drayton, Jeffrey Vincent, University of South Carolina**  
**“Business Tourism Activity Space and Travel Gradients”**

An examination of the business tourism activity spaces and travel gradients of one individual’s excursions to academic conferences is the purpose of this presentation. Even though these journeys are primarily taken for professional reasons, participation in a large number of activities classified as traveling for pleasure are part and parcel of the entire experience. Since 1966 the author has presented papers at 87 educational conferences of the South Carolina Academy of Science, the Southeastern Division of the Association of American Geographers and the Association of American Geographers. The destinations of the meetings are circumscribed to create the three activity spaces. These activity spaces are described as seven-, 14- and 16-sided polygons with increasing larger areas for each of the three sets of destinations. The one-dimensional travel gradients like the activity spaces are distinct. A check mark describes the travel gradient of the SCAS model, the SEDAAG profile has a bimodal distribution, and the distance accretion model describes travel to AAG destinations. It is concluded that the activity spaces and travel gradients of these three sets of business tourism journeys are now known but the ability to adequately explain them is lacking.

**Preston Mitchell, Jeff Webb, and Dustin Stancil, East Carolina University**  
**“When Wal-Mart Doesn’t Come to Town: Competitive Responses of Established Retail Merchants in Edenton, North Carolina”**

Wal-Mart can generate changes in the retail practices of local businesses even when it does not come to town. This was the case in Edenton, a small town in eastern North Carolina. In the late 1990s, a coalition composed of city officials, private citizens, and area business and property owners successfully contested the expansion of a Wal-Mart facility into the city. One of the key products of this opposition movement was the organization of local businesses into a merchant guild. The guild, which still operates today, devised several initiatives to increase the competitiveness, efficiency, and image of established retail merchants in Edenton. Guild members envisioned these measures as a means of protecting the local commercial sector from another possible Wal-Mart entry as well as satisfying and servicing consumers who originally supported the arrival of the large discount retailer. Specifically, the merchant guild implemented five major competitive responses that we discuss in the paper: (1) pooling of advertising revenue; (2) redefining of market area; (3) coordinating of special discount sales opportunities; (4) coalition building with non-downtown businesses; and (5) coalition building with existing retail chains. Each of these initiatives allowed businesses in the guild to think and act as a large unified retail entity or shopping district rather than simply individual entrepreneurs.

**Toby Moore, Civil Rights Division, U.S. Department of Justice**  
**“District Compactness after Shaw v. Reno: Evidence from the 108th Congress”**

The 1993 Supreme Court decision in *Shaw v. Reno*, in which the Court condemned an extremely non-compact Congressional district in North Carolina, prompted renewed interest in the shapes of electoral districts. In addition, the voting public continues to view oddly-shaped districts with distrust. With the first post-Shaw round of redistricting just completed for the November 2002 elections to the 108<sup>th</sup> Congress, we can look for the first time at trends in compactness after Shaw. This paper compares the compactness of districts of the 103<sup>rd</sup> Congress, the last drawn before Shaw, with those of the 108<sup>th</sup> Congress, using two popular compactness measures. The study area is the nine states of the South covered at least in part by Section 5 of the Voting Rights Act. The compactness scores, calculated for more than 100 districts in each set, are compared at the plan level and the region level in an attempt to determine whether the compactness of Congressional districts increased or decreased in the decade between the two Congresses.

**Ray Nafziger, Georgia State University**

**“A Supervised Classification and Change Detection Analysis of North Georgia Using ERDAS Imagine 8.5”**

The rapid growth of metropolitan Atlanta over the last decades has spawned issues such as urban sprawl, loss of natural habitats to commercial/residential development trends and the growing need for water resources. The presence of these concerns has created a need to study the changes in the physical landscape of the Atlanta area. The northern portion of Georgia – specifically the areas north of city of Atlanta – has shown the greatest amount of growth in the region in terms of urbanization and suburbanization. This paper discusses this rapid growth using change detection and land use/land cover classification techniques. Using ERDAS Imagine 8.5 software, Landsat TM (Thematic Mapper) images acquired during the early 1990’s to 2000 were processed using both supervised and unsupervised classification methods. The analysis and interpretation of the spectral reflectance variations of local features through time are crucial in determining the extent and patterns of land use/land cover alterations in the north Georgia area during the 1990’s.

**Sally Nash, University of North Carolina – Chapel Hill**

**“When Does the Community Have the Right to Decide? Debates over the Implementation of Public Water Fluoridation”**

In 1961, the citizens of Allentown, Pennsylvania, voted down a proposal that would implement water fluoridation in their city. There were numerous reasons why there was opposition to fluoridation. Forty years later, those opposed to fluoridation in Allentown attacked the most recent proposal to fluoridate the water with some of the same arguments. However, this time, there was no public referendum on the issue. The City Council of Allentown made the decision for everyone. In this paper, I will use a fluid understanding of place to look at Allentown, Pennsylvania and how local residents explained how water fluoridation was implemented in their town in January of 2000. I will also look at public referendums and the ways it is decided what issues the public can and cannot vote on.

**Samuel N. Ndiritu, University of Memphis**

**“Syphilis in Shelby County, Tennessee”**

In the last two decades, Shelby County has had significant changes in the pattern of sexually transmitted diseases particularly syphilis. Like several isolated cases in the US, the county has continued to experience a high rate of cases compared to the rest of the state. There has been a shift in the etiological spectra, race composition, and sex of new cases as well as emergence of new diseases such as human immunodeficiency virus (HIV). There is an increased focus on the living environment as an important factor in determining individual susceptibility to infectious diseases. Powerful macro environmental forces that include the socioeconomic status, demographic characteristics and educational attainment affect the living environment. Residential segregation affects the pattern of housing based on ones income and race. Older people are more likely to be using medication for other ailments affecting the way individuals may detect syphilis.

**Heather Nicol, State University of West Georgia**

**“Changing Maritime Borders? Challenging the Status Quo in the Caribbean Sea”**

This paper explores the concept of a regionally-organized Caribbean maritime conservation regime which relies upon an emerging integrated institutional capacity for implementation (ACS and CARICOM) versus a fragmented application which cross-cuts the region and relies upon extra-territorial organizations for implementation (UN/UNEP approach). To appreciate the nature of the difference and the basis of debate, it is necessary to define both the legal instruments and conventions, which define the regulatory regime under customary law (i.e. the current UNCLOS regime with its associated conventions and protocols) as well as to identify the alternative frameworks advocated by regional decision-makers. Moreover, it is important to realize that this is clearly this is area of interest which has broader

significance than the Caribbean: the debate concerning restructuring of environmental law in sensitive maritime contexts, while specific to the Caribbean region, is not unique to it. Indeed, the experience of the Caribbean is instructive in highlighting weaknesses of existing environmental law and policy frameworks within developing regions, particularly those with overlapping maritime zones. It contributes to the ongoing analysis of the important role of legal instruments in promoting sustainable development, identifies important areas of weakness, and evaluates alternative frameworks and instruments. At the heart of the analysis is consideration of the efficacy of existing international law to promote the type of integrated coastal management regimes currently favored by international lawmakers. Achieving a post-UNCLOS world really means changing the logic of the spatial relationships which currently inform maritime environmental law.

**Kathleen O'Reilly, University of Kentucky**

**“ ‘Some Talks in a Corner’ or Back-Talk?: Women’s Participation as a Site of Struggle in an Indian Development Project”**

Despite considerable attention given to the problems and promises of women’s integration into development projects, few studies have undertaken an examination of women’s participation as a site of struggle *inside* the organizations doing the implementing. My ethnographic research shows that women fieldworkers adroitly use operating discourses of women’s participation to make claims for increasing equality and consideration within an Indian development project. In this paper I demonstrate how the Women’s Participation component of the project has become counter-hegemonic (Williams 1977), by creating opportunities for women fieldworkers to contest and define how women will be involved in the project itself.

**Darren B. Parnell, University of South Carolina**

**“A PCA Regionalization of Caribbean Rainfall, 1960-1985”**

Previous studies of Caribbean climate have been single station genetic climate classifications that are useful in general climate descriptions, but do not address the relationships in variability of climate variables across the Caribbean. The purpose of this study is to analyze the covariance in precipitation across the Caribbean through a Principal Components Analysis. Map analysis of component loadings displayed seven distinct precipitation regions in the Caribbean: Subtropical Caribbean, Southern Bahamas, Southern Cuba, Dominican Republic, Windward Antilles, Southern Caribbean, and the Southern Lesser Antilles. In particular, a bimodal distribution of rainfall exists for five of the regions, corresponding to transitional season frontal activity and tropical systems respectively. Variations in this bimodal structure can be linked to the proximity to North America (the source region of many fronts), proximity to the Trade Winds and tropical systems dominated areas, and island mass. The spatial variation in these regional climate controls indicates the utility of this study to planning for climate change. The shift in the mean position of frontal activity, Trade Winds, or tropical systems can have a profound impact upon the distribution of rainfall throughout the Caribbean.

**Michael Parris, Jacksonville State University**

**“Geographic Changes in Recruiting of Athletes at Jacksonville State University”**

This research and paper was written by compiled by Michael Parris, a Senior Geography Major at Jacksonville State University minoring in Computer Science. This research seeks to study the geographical changes in recruiting of athletes here at JSU. The main factor studied in this research is JSU’s move from Division II athletics to Division I athletics in 1994. This change in Division has affected every sport uniquely. It is the purpose of this research to study the effects of this change in Division and to determine its influences on JSU athletics, particularly recruiting, and to study the drastic differences in changes between sports. This research required the analysis of numerous rosters of athletic teams from the years 1988 through 2000. The hometowns of the players were mapped and distance

calculations were made to determine the areas of recruiting for each specific team. There have been significant changes that will be discussed in the following paper.

**Sipra Pati, University of Georgia**

**“Of Home and Safe Space: Perspectives of Abused Wives”**

Although there is an abundance of literature on abused women in the United States and the UK, there has not been an adequate investigation of the role of space in the experiences of abused immigrant women. This research examines one pertinent spatial aspect of wife abuse, notions of home and safe space, in the South Asian diaspora in Atlanta. I conducted a survey of abused South Asian immigrant wives, identifying them through a South Asian network, Raksha. And, I found that for this cohort a safe space is often a place that is not their home. I also found that, as opposed to the ‘safeness’ so often associated with home, many found public spaces to be safe.

**Jeff Patterson, Jacksonville State University**

**“Commuting Students: A Study of Commuting Students at Jacksonville State University”**

At Jacksonville State University in Northeast Alabama, many of the attending students commute to school. What factors influence the decision to commute versus moving closer to campus? A survey was given to a random sample of students, and the results of this survey were examined to see if any insights into this question might be gained. Factors such as age, marital status, and length of commute were important factors that were found to influence the decision to commute. Distinctive spatial patterns in commuting were also observed.

**Patrick Pease, Paul Gares, Scott Lecce, East Carolina University**

**“Aeolian Dust Erosion from an Agricultural Field on the North Carolina Coastal Plain”**

Aeolian erosion typically has not been considered a significant process on the humid southeastern coastal plain. A preliminary study of aeolian erosion from an agricultural field was undertaken during the late winter of 2002. During those times local agricultural practices leave fields bare and frontal systems produce frequent high wind events. Dust emissions were measured moving off of a study field with modified Wilson and Cooke passive dust traps mounted on towers and high-volume air samplers. Results of the study indicate that wind erosion is a significant process on agricultural fields of the North Carolina Coastal plain. Eroded dust flux off of the field during the largest measured event was estimated as high as 126 kg/m with average losses of 3,070 kg/hectare. Atmospheric concentrations of suspended material were measured at 58,815  $\text{gm}^{-3}$ . Sediment erosion was not evenly distributed across the field, being focused on central areas of the field. Soil moisture and topography appear to be the primary controls on spatial erosion differences and soil characteristics likely play a secondary role.

**Ana Perry, Ball State University**

**“Changing Perception of the Sacred Landscape at Mounds State Park, Indiana”**

Three thousand year old earthen mounds scattered throughout the landscape of Central Indiana speak to us of the existence of an ancient indigenous culture, the Adena. The people who built the earthworks created a landscape perceived as sacred, a perception that would continue for centuries. I traced the evolution of this sacred landscape at Mounds State Park, Anderson, Indiana, through the perceptions of Native American groups, early settlers, and on into the twentieth century demonstrating perceptions vary with ownership and usage. I further demonstrated that while perceptions changed over time, the perpetuation of a sacred landscape continued into the present with New Age religions, including neopagans, who use the ancient earthworks as the Adena may have, bringing to full circle the sacredness of the place. I used ethnographic methods to aid in the interpretation of the relationship between New Age religions and sacred landscapes. The earthworks at Mounds State Park were originally constructed to represent a worldview that reflected an ideology connecting people to the land and the

cosmos. New Age groups continue to reflect that ideology through the revival of the spirituality inherent in the earthworks.

**Shivaji Prasad, Francis Precht, Frostburg State University**

**“Planning Coastal Water Management Strategies Using Integrated Remote Sensing-Geographic Information System (GIS)”**

Coastal plains near the Gulf of Mexico (GOM) region are highly populated. Also, due to the close proximity to the coasts, the anthropogenic activities in urban, agricultural and industrial areas of the region impact coastal waters and degrade whole aquatic ecosystem. As the estuarine channels and coastal wetlands provide important habitats for fisheries, there is an urgent need for an effective tool that could be utilized for planning and management of coastal waters. In view of this, the aim of this research was to create coastal water management zones for the GOM region. In developing this procedure, extensive image processing was performed. To identify unique coastal zones, zonal signatures were developed as well as Principal Component Analysis (PCA) and Minimum Noise Fraction (MNF) analyses were conducted. In addition to other analyses, map vectorization for creating management zones, map overlays and unsupervised classification using ArcView GIS were undertaken. Based on the spectral signatures, six distinct coastal zones were identified. Results showed that the management of the first three zones which were closer to the coastal waters was critical. Thus, the integrated methodology developed in this study could be useful in strategic planning and management of coastal waters in this and other coastal regions.

**Lisa Rainey, University of Kentucky**

**“Discovering Kentucky’s Abandoned Railways”**

This paper describes the challenges of designing an assessment system to determine trail suitability as part of an inventory of the abandoned railroad network in the state of Kentucky. The state commissioned research into Kentucky’s abandoned railroads for archival purposes and as a base from which to work on future rails to trails initiatives. The challenge of this project has been to design a system of criteria that is both descriptive and useful to future planners and community groups wishing to carry out rails to trails conversions. We must consider such things as railbed integrity, vegetation density, connectivity, property ownership issues, recreational transportation networks, and historical and cultural significance, while evaluating overall trail potential. Through a combination of archival research, extensive field checking, and trial and error we have designed a sensible set of descriptors that will enable us to design an effective archive of and guide to the abandoned rail networks of Kentucky.

**Kevin Nathaniel Raleigh, University of South Carolina**

**“Exploring Hierarchical Diffusion”**

The goal of this research is to educate the reader about the geographic concept of hierarchical diffusion, so that he/she may possess a simple yet thorough understanding of both its theory and its applications. This goal will be accomplished by examining the theory of diffusion of innovation across many disciplines, including geography, by citing the research of Everett Rogers and Torsten Hägerstrand. The classes of diffusion will be distinguished. To further supplement the reader’s understanding of hierarchical diffusion, literature items will be briefly discussed, and several examples are included of actual phenomena that have diffused hierarchically, including language and disease, along with some intentions for future research.

**Michael Rice, Jacksonville State University**

**“Determination and Measurement of Areas Not Safe for Hunting in Calhoun County, Alabama”**

Hunting accidents occur in almost every state, almost every year, but how many of these accidental shootings occur in the victim’s own back yard, or on their local public roads? Due to factors such as urban sprawl, increases in population and housing developments and outdated laws, these

accidents are an ever-growing threat. There are very few legal restrictions on hunting around residential areas, roads, or trails in Alabama. The purpose of this research was to identify and measure which areas of Calhoun County, Alabama are not safe for the purpose of hunting. The average maximum effective ranges of the most commonly used firearms in hunting were determined using ballistics. ArcView GIS software was used to map these ranges as a buffer around all Calhoun County highways, roads, and trails. Any area that fell within the buffer would be considered not safe for the purpose of hunting. This area was then measured to determine the percentage of Calhoun County that is not safe for hunting. It is hoped that the results may be used in the future as the basis for legislative or social change. However, simple awareness of this situation may, in and of itself, significantly lessen such possible dangers.

**Peter J Robinson, University of North Carolina – Chapel Hill**  
**“Painting the Little Ice Age”**

Two sets of landscape paintings, the snow scenes of Bruegel late in the 16<sup>th</sup> century and the Dutch ice scenes of the 17<sup>th</sup> century, are commonly used as illustrations for the Little Ice Age. However, a broader examination of winter landscape art for the period 1400 - 1900 in northwest Europe indicates that there were four distinct artistic phases, possibly linked to climatic phases. Before 1585 scenes showing deep snow were common, indicative of periods with intense, albeit cold, wave cyclone activity. After 1585 snow scenes were replaced, rather abruptly, by views of frozen rivers with light dustings of snow. These support the paleoclimatological view of the Little Ice Age as a time of negative North Atlantic Oscillation Indices, with cold, dry northerly airflow dominant. Around 1680 changes in society and fashion, and perhaps climate, made winter paintings rather rare, although available ones suggest an ice-dominated landscape with occasional snow. The final period, starting after 1800, shows a return to deep snow. Here some paintings can be dated, and linked directly to cyclone passages within winters dominated by northerly airflow.

**John C. Rodgers III, Mississippi State University**  
**“Human Disturbance and Dune Soils of the Georgia Sea Islands”**

This research investigates the effects of human disturbance on the dune soils of the Georgia Sea Islands. Soil properties (organic matter content and concentrations of boron, calcium, iron, potassium, magnesium, phosphorus, zinc, copper, lead, and sodium) were examined from two developed islands and from two protected islands. On each island, samples were stratified such that half were from areas that had higher levels of human disturbance and the other half were from areas that were less disturbed. All soil cations listed above were significantly different among islands, however, there was no apparent distinction between developed and less developed islands. Within each island, disturbed dune soils had significantly greater concentrations of boron, potassium, phosphorus, copper and lead. Copper cations in particular are known to antagonize the uptake of plant nutrients for certain dune grass species. In this study, copper concentrations were negatively correlated with the cover of *Uniola paniculata*. Because dune grasses are vitally important in building and stabilizing coastal dunes, human disturbance may be indirectly harming dune habitats by elevating the abundance of copper concentrations.

**George Roedl, University of Southern Mississippi**  
**“Spatial Relationships between LULC Changes and Known Environmentally Sensitive Areas within Harrison County, Mississippi”**

The research presented in this paper builds upon previous research. Changes in Land Use/Land Cover that were identified within the study area were used to determine the proximity of environmentally sensitive areas to areas of change. Changes in LULC were derived from Landsat images and exported into a GIS layer. Environmentally sensitive areas were identified and compiled by the Mississippi Natural Heritage Program. The research used GIS to identify environmentally sensitive areas within areas of change as well as environmentally sensitive areas within specified distances of areas that experienced



changes in LULC. The environmentally sensitive areas were further classified into types and ranks, allowing further analysis of the impact of LULC changes on those specific classes.

**Dan Royall, University of Alabama**

**“A Comparison of Two Methods for Distributed Assessment of Cumulative Soil Loss”**

Distributed assessments of soil loss on cultivated land are useful for informing agricultural and water resources management and for validating and refining models of soil loss and hillslope denudation. In this paper, two methods, one a field approach based on soil magnetism measurements and the other a spatial implementation of the Revised Universal Soil Loss Equation (RUSLE) in a GIS, are compared. Assessments are made using both techniques for a long-cultivated agricultural field in the Tennessee Valley of northwestern Alabama. Results from the two methods were more similar than anticipated given the lack of refinement of the magnetism approach and the rate extrapolation required for the RUSLE estimate. Maximum values of denudation estimated by both techniques were similar to those found in earlier studies of the Carolina Piedmont. The RUSLE underpredicted denudation values relative to the magnetism approach for upper hillslope positions, and overpredicted denudation for steep midslope hillslope segments. Overall, the results favor the combined use of field evaluation and distributed modeling for the assessment of erosional history and prediction in cultivated lands.

**Maxwell Ruckdeschel, Laura Vacherlon, George Washington University**

**“An Integrative Approach to the Derivation of Landcover Parameters for Urban Environmental Analysis”**

This paper looks at the viability of using high-resolution aerial photography as well as Landsat imagery in an integrated method of deriving landcover characteristics relevant to urban climate research. In this paper, the methods used to digitize roads, general impervious surfaces, and vegetation from high-resolution aerial photography in an urban setting are discussed. Various considerations such as the definition of a minimum mapping unit are also examined. Also discussed are the calculations of NDVI and at-satellite temperature from the Landsat imagery as well as the comparisons between those calculations and the digitized products. The research presented in this paper is part of a larger body of research relating to the study of urban climate, specifically ozone, at a local scale. This paper examines the relevance and feasibility of using this integrated method toward the goals of that larger body of research and the better understanding of urban climate at a local scale.

**James C. Saku, Frostburg State University**

**“Modern Treaties and Economic Development in the Western Arctic of Canada”**

One of the significant events that had occurred in northern Canadian Aboriginal communities within the past four decades is the settlement of comprehensive land claim agreements. These agreements began another approach to addressing the economic and social issues confronting Aboriginal communities in northern Canada. The settlement of these agreements for example has led to the creation of Aboriginal Regional Development Corporations. With elaborate institutional structures, these corporations are designed to promote regional economic development within Aboriginal communities. While limited success has been achieved by these corporations, several institutional and structural bottlenecks are hindering the attainment of a strong economic base in these communities. Using the Inuvialuit Regional Corporation as a case example, this paper examines the structures and functions of Aboriginal Regional Development Corporations.

**Elizabeth L. Salter, Jacksonville State University**

**“Toponyms of Little River Canyon National Preserve, Alabama”**

Little River Canyon National Preserve is a 10,338-acre preserve located in northeast Alabama. It was established in 1992. The preserve is utilized for a variety of outdoor activities, and each person that comes to the canyon has their own niche, or set of places that they regularly visit. These locations create a

highly individualistic "mental map" in the mind of each visitor. People label their unique mental maps with toponyms. Through written records and oral interviews, it can be shown that features within Little River Canyon National Preserve have often been labeled with multiple names. This can and does lead to confusion in creating traditional maps of the preserve. Oral interviews, historical and modern maps, and a questionnaire were used to collect individual mental maps and various toponyms. Results of the study were portrayed as map layers in ArcView 3.2. The comprehensive map produced from this study contains a total of 177 place names. It is hoped that the composite map generated by this research will be foundation of an archiving project, to amass and preserve toponyms of the area.

**David Shankman, University of Alabama, Barry Keim, Louisiana State University**  
**“Floods in China’s Poyang Lake Region: Trends and Teleconnections”**

Jiangxi province in southeastern China contains Poyang Lake, the largest freshwater lake in China. Poyang Lake and the lower sections of the major Jiangxi rivers flowing into the lake often flood during the early summer months. Floodwater can be several meters above the surrounding lowlands during the most severe flood events. The number of severe floods in this region has increased rapidly during the past few decades resulting in catastrophic levee failures. The factors likely responsible for the increasing frequency of severe floods are (1) land reclamation and levee construction and (2) lake sedimentation, both of which reduce lake volume, and to a lesser extent (3) increasing Changjiang stage that slows Poyang Lake drainage. Since 1950, extreme floods have occurred seven times; in 1954, 1973, 1977, 1980, 1983, 1995, and 1998, or about once every 7 years on average. Six of these seven floods are associated with moderate or strong El Nino.

**Rebecca Sheehan, Louisiana State University**  
**“Rethinking the Tourist and Tourism through Performances in the Crescent City Classic Road Race”**

In this paper, I investigate the interactions of active individual and group bodies within space and place. My aim is to consider the role particular facets of tourism connected with New Orleans, which often includes intemperance and gender-play, shape how some individuals and groups, participate in the Crescent City Classic road race. I explore the significance that road races play in a practice of tourism and how participants not only consume the attractions and character of New Orleans but also actively constitute tourist production and appeal. How does conceptualizing tourists and tourism as active, spatial performances of self and selves and of space and place refashion traditional, stricter definitions of tourists and tourist practices? I argue that emphasis on the tourist gaze has disembodied the tourist, and resulted in an ignorance of active social practices of tourism. First, I consider literature on tourism and performance and how the idea of performance necessitates embodied identities. Then, through vignettes based on informal interviews and participatory observation, I discuss how touring in this context is performative, informing and constructing embodied and dynamic identities of tourists through the destabilization of the dichotomy of discipline/indulgence.

**Brendan Sheehy, University of South Carolina**  
**“Rethinking Electoral Geography with a Kohonen Neural Network”**

Both factor analysis and neural networks are techniques that identify groupings in complex data sets. Previous research in electoral geography primarily utilized the analytic technique of factor analysis (Shelley et al., 1996) when studying state-level U.S presidential election returns. Kohonen neural networks provide an alternative analytic technique to factor analysis in classifying groupings of spatial and temporal patterns of election returns, without the inherent assumptions in factor analysis. This research compares spatial and temporal patterns of election returns from a factor analysis and a Kohonen neural network. Similarities between the outputs of the Kohonen neural network and the factor analysis of Shelley et al. (1996) demonstrate that a Kohonen neural network can be successful when attempting to

replicate the findings of a factor analysis. The results of this research demonstrate the utility of neural networks to geographic research, especially within electoral geography.

**Bradley A. Shellito, Old Dominion University**  
**“Civil War Battlefield Preservation – A GIS Approach”**

Civil War battlefields represent living monuments to our nation’s heritage and the soldiers who died upon them. 384 battlefields have been declared historically significant from the Civil War, yet many are unprotected from development. Growing urbanization in the Fredericksburg region of Virginia has led to a variety of development pressures upon the landscape of the four battlefields in the area. This paper examines the preservation efforts and historical character of each of the four battlefields (Fredericksburg, Spotsylvania, Chancellorsville, and The Wilderness). Geographic information systems are then used to examine the preserved park property to broad estimates of battlefield land.

**Christopher Mitchell Smith, University of Georgia**  
**“Putting New York City Community Garden-Related Land-Use Conflict in Place”**

New York City residents began building community gardens in the early 1970s as a means of beautifying the blighted city and providing fresh foods for citizens. As property values have drastically increased in the 1990s, many community gardens have been threatened and hundreds have been destroyed. In December 1998, the City of New York announced plans for an auction in May 1999 that included 114 community gardens. As the debate between city officials and garden advocates unfolded, city officials argued that market-based strategies provided the only solution to the conflict, pushing forth its intentions to privatize the lands via the open market. Conversely, community garden advocates articulated the debate in terms of the use values of the lands, that the best use of these lands is in their current use as gardens. This paper illustrates how land-use conflict is articulated in an era of neoliberalism and provides insight into the discursive strategies that political actors use in regard to land-based political conflict.

**Heather A. Smith, Owen J. Furuseth, University of North Carolina – Charlotte**  
**“Exploring the Geography of Hispanic Settlement in Charlotte, North Carolina, 1990-2000”**

Between 1990 and 2000, the Hispanic proportion of Charlotte’s population jumped from 1.3 to 6.9 percent qualifying it as one of eighteen Hispanic hyper-growth cities in the nation. This poster begins to examine the intra-urban pattern of Hispanic settlement during this period of rapid immigration into a Southeastern once non-Latino city. The research uses local planning derived neighborhood boundaries and a combination of census and local data, to map and carry an exploratory analysis. In keeping with the findings of other analysts, this research shows a suburbanizing trend in Hispanic settlement geography. Charlotte’s new Hispanic residents are clustered in two districts, one in East Charlotte and a second in South Charlotte. These districts are both older, suburban neighborhoods undergoing demographic and racial transition. The concentration of large, affordable rental housing complexes is common to both areas. In contrast to research at broader scales of analysis, statistical analyses suggest that the location of 2000 Latino growth within Charlotte could not be spatially predicted by the presence of Hispanics in 1990. Our analysis also shows the over the 1990-2000 decade while Whites and Hispanics grew more segregated from one another, Blacks and Hispanics became more integrated. The poster points to the necessity of further research to illuminate the processes that lie behind these patterns.

**James M. Smith, Department of Geography**  
**“Okinawa: Symbolic Landscapes of a Resistance Identity”**

Recent scholarship in political geography and resistance identities provides theoretical frameworks key to a deeper understanding of the role of symbolic and memorial landscapes in resistance to dominant discourses and power relationships. I seek to elucidate how these landscapes are used to strengthen national identity and advance political goals. Issues of contested war memories and the social

and ecological consequences of the presence of U.S. military bases have inspired the creation of politicized memorial landscapes that visually enunciate the views of actors engaged in resistance politics in Okinawa. Five sites are of particular interest to this paper: Shuri Castle, the political epicenter of the traditional Okinawan kingdom of centuries past, a symbol of what the Ryukyu Islands once had and could presumably recover; the Himeyuri Memorial, set in a sculpted landscape dedicated to Okinawan women who died while serving as nurses in a Japanese Army Field Hospital; the Cornerstone of Peace, a gravesite in which the names of all who died in the Battle of Okinawa are engraved, and the location of a pacifist research center; and the Sakima Art Museum in the city of Ginowan, built next to a U.S. Marine Corps helicopter base. Collectively, these sites represent landscapes of social change, pacifism and resistance identity, and are relevant to the study of identity, social movements and political geography.

Key Words: political geography, symbolic landscapes, Okinawa

**Janet S. Smith, Slippery Rock University**

**“Visualizing Patterns of Urban Residential Segregation in the ‘New South’ and the ‘Northern Manufacturing Belt’”**

The 20<sup>th</sup> Century witnessed two significant migration streams by African Americans within the United States: from the rural South to the urban, industrial North (1910-1970); and from the “Northern Manufacturing Belt” to urban areas in the “New South” (1970-present). The urban landscape of American cities experienced significant transformation due to both of these migrations. Visible patterns of residential segregation by race created distinct geographies. Historically, attitudes about race have differed between the “North” and the “South.” Additionally, the cultural-social milieu at the time of each of the two migrations is distinct. Five key dimensions of residential segregation have been identified in the literature and are widely accepted as manifestations of the phenomena (evenness, concentration, clustering, centralization, and exposure). Two questions guide this study. First, do regional patterns of urban residential segregation exist between the “New South” and “Northern Manufacturing Belt?” Secondly, if patterns do exist, are they consistent along each of the five dimensions of residential segregation? Maps of each dimension are constructed and analyzed for the 70 cities in the study area. Several clear regional patterns are evident between northern and southern cities. However, patterns of residential segregation are not consistent along the five dimensions.

**Jennifer Speights-Binet, Louisiana State University**

**“‘These are the Things Your Momma and Daddy Did Well!’ Using Nostalgia to Sell the City”**

Nostalgia isn’t dismissible just as an inevitable part of the modern human condition. Rather, it can be encouraged, promoted, and even manufactured. Most importantly for geographers, nostalgia can be a powerful force in the production of place. The nostalgic continually asks, “Is the past irrevocably lost? Can we recapture it? Can we relive it?” And maybe, “Can we rebuild it?” The purpose of this paper is to illustrate how nostalgia can be incorporated into the planning process and ultimately, into the built environment.

**J. Anthony Stallins, Florida State University**

**“Complex Controls on the Distribution of Urban Lightning Hazards for Atlanta, Georgia (1992-2000)”**

Weather-related losses are the result of interactions between the physical environment and the demographic characteristics of the community that experience them. Lightning flash characteristics and demographic variables for twenty-five counties encompassing Atlanta, Georgia were examined over the interval 1992-2000 to assess the potential additive lightning hazards that emerge when urban heat island (UHI)-augmented cloud-to-ground (CG) flash densities are superimposed upon densely populated landscapes. Principal coordinates analysis and choropleth time series indicated that outlying densely populated suburban counties to the south and east of downtown Atlanta (Gwinnett and Dekalb counties) have higher CG flash densities, averaging five flashes/km<sup>2</sup>/yr<sup>-1</sup>. While many counties experienced upward

trends in flash density over the study interval, their greater variability in demographics may better define potential risks for lightning property losses. Lightning hazards were assigned into four county-level categories of risk (emergent, existing, population density-enhanced, and low risk) based on demographic trends and changes in lightning exposure.

**Philip E. Steinberg, Florida State University and New York Public Library**  
**“Politics and Portolans: Islands, Oceans, and the Cartographic Origins of State Territoriality”**

Geographers and historians studying the rise of the modern territorial state and its representation/operationalization in cartographic practice typically locate the origins of state territoriality in the advent of modern land surveying. These scholars hold that the political norm of a sovereign claiming exclusive control over a bounded swath of land emerged with scientific technologies for cataloguing and controlling land and people. In contrast to this explanation, I suggest here that early concepts of abstract space and political control over bounded swaths of land were held by Early Modern-era sailors. Through their maps, makers (and users) of 13<sup>th</sup> through 17<sup>th</sup>-century portolan charts asserted that islands were organically occurring physical-social units, existing in contrast to an ocean-space consisting solely of vectors and a mainland-space consisting solely of points of society. Thus, adherents of this navigational tradition began to promulgate a nascent concept of state territoriality, long before the concept was applied by land-based rulers seeking order and control. These preliminary findings, developed from a survey of portolan charts and other Early Modern era maps, suggest a revision in the historiography of the relationships between state and society, stasis and movement, and land and sea.

**Suzan Stickle, University of Memphis**  
**“A Study of Non-Circumcision Rates and HIV Prevalence in Africa”**

This study examines the rate of HIV/AIDS and then determines if this spread of HIV/AIDS across the continent is correlated with the percentage of males not circumcised. In this instance the Pearson’s Correlation Coefficient is used to determine if lack of male circumcision is correlated to the rate of HIV/AIDS in Africa. This study hypothesizes that there is a direct correlation between the rate of HIV/AIDS infection and the percentage of males not circumcised. When the null hypothesis is rejected it establishes that this relationship between HIV/AIDS and male circumcision is not due to chance. From the analysis, the AIDS Belt establishes a direct correlation between non-circumcision and HIV/AIDS rates. Cultures can have an influence on whether or not circumcisions are performed and therefore one’s culture could be a potential risk factor in contracting the virus/disease. Cultures can also impact the spread of disease by accepting and advocating certain sets of sexual behaviors. Establishing a direct correlation between male non-circumcision and HIV/AIDS could potentially change cultural perceptions regarding circumcision. If more circumcisions are encouraged through educational efforts and governmental policies, the number of new HIV/AIDS infections might be reduced.

**Gina Storey, Michael Brown, John Rodgers, Mississippi State University**  
**“An Analysis of Meteorological Variability Associated with Regional Heat-Related Deaths ‘A Killer Hot Topic’”**

With no universal criteria to determine a heat-related death, mortality due to extreme heat is grossly underestimated in the United States. This study will compare the total daily death count in the selected cities during an extreme heat event to the daily death count on days with average climatic conditions. The study period will include the months of June, July, and August for the years 1990 - 1999. The selected cities are New Orleans, LA; Little Rock, AR; St. Louis, MO; Milwaukee, WI; and Philadelphia, PA. Meteorological variables such as maximum temperature, minimum temperature, and average dew point two standard deviations equal to or above the computed ten year mean will be correlated with daily death count for each city. With a better understanding of the scope of heat-related mortality, preventative measures can be implemented so that future deaths can be averted.

**John B. Strait, University of New Hampshire**

**“An Epidemiology of Neighborhood Poverty: Causal Factors of Infant Mortality Among Blacks and Whites in the Metropolitan U.S.”**

Despite overall declines in infant mortality over the last few decades, racial disparities between blacks and whites have persisted in the US. This paper considers the argument that the racial differences in infant mortality are partially the result of the disproportionate concentration of blacks within extremely poor neighborhoods relative to whites. Using race-specific measures of neighborhood-level poverty, combined with metropolitan-wide measures of infant mortality, it was determined that trends in infant mortality for both blacks and whites reflect the impact of an “intergenerational” effect associated with prolonged exposure to extremely poor neighborhoods. Racial disparities in infant mortality in the early 1980s can be accounted for by black-white differences in neighborhood poverty exposure. Results suggest, however, that black infant mortality during the early 1990s was more strongly influenced by high-risk natality behaviors among black women than by neighborhood influences or economic status.

**Selima Sultana, Auburn University**

**“Commuting Constraints of Black Female Workers in Atlanta: An Examination of Spatial Mismatch Hypothesis from Married-Couple Dual-Earner Households”**

Using 5% Public-Use Microdata Samples (PUMS) of 1990, this paper examines the extent of racial variations of females’ commuting time in the Atlanta metropolitan area in the context of spatial mismatch hypothesis. Much of the research in the past portrayed, based on old industrial cities, racial variations of males’ commuting times; the study of female commuting times, especially based on a post-industrial city is yet under-examined. To ensure comparison between matched groups, the analysis controls for auto users, marital status, household types, parental status, occupation status, and locations of residential and workplaces. This study confirms many past studies that regardless of matched socio-economic status of both races, Black females continue to face significant spatial barriers, especially in the service economy, when commuting within central cities, time that is therefore unavailable for other purposes. Unlike other studies, this research finds, regardless of professional status, shorter reverse commuting by the central city’s Black females (except professional workers), which may imply that Blacks severely suffer from hiring discrimination, especially in service jobs, or that Blacks may be uncomfortable working in predominantly White suburban work locations. The situation with Blacks living and working in the suburbs differs slightly, with slight evidence of an explicit spatial mismatch reflected by their longer commuting.

**Lee Templeton, University of North Carolina – Greensboro**

**“The Geography of Zoo Attendance in the United States: Factors that Influence Visitation”**

With zoos occupying a tourism market niche that attracts a substantial number of visitors, a better understanding of the geography of U. S. zoo attendance is needed. This study was designed to investigate 36 independent variables that influenced people’s decisions to visit zoos. The zoos under study included 118 American Zoo and Aquarium Association accredited zoos that had visitation levels of more than 100,000 people. The study found that: 1) four states had 24% of the zoos and 34% of the visitor attendance; 2) the amount of species diversity at zoos appeared to be the most crucial factor for higher levels of attendance; 3) the zoo’s budget, number of species, cost of admission, and median household income of its home area were most likely to affect visitation rates at the nation’s zoos; and, 4) 82% of the variation in visitor attendance can be explained by the variation in budget, number of species, cost of admission, and median household income based on a stepwise regression model.

**Sharon Lynn Trotter, University of Georgia**

**“A Climatic Analysis of Lyme Disease in the United States”**

This research demonstrates that climatic variables in the three months of April, May, June (AMJ) prior to the summer peak have strong relationships with disease reports/rates. Ninety percent of all cases

occur in counties with an average temperature in AMJ between 10.99 and 17.92°C, soil moisture surplus values of 3.43 to 11.00 centimeters, and precipitation values of 23.57 to 33.45 centimeters. The disease system appears to be constrained more by moisture than temperature. The predictive “climatic envelope” model was used to produce a risk map for Lyme disease.

**James A. Tyner, Kent State University**

**“The Geographical Imperative of Revolutionary Thought: The Means of Malcolm X”**

The purpose of this paper is to engage in a geographic examination of revolutionary theory through an engagement with Malcolm X. Specifically, through the use of a Fanonian-inspired state-constructionist perspective of revolutionary movements, I examine the ideological and materialist basis of Malcolm X’s revolutionary thought. I conclude that, although his theorization of revolutions remains unfinished, at the time of Malcolm X’s death he was articulating, to the masses, a racialized political consciousness directed toward the overturning of state economic, political, and social systems.

**Jeff Ueland, Barney Warf, Florida State University**

**“Racialized Topographies: Altitude and Race in Southern Cities”**

This paper examines altitudinal zonation by race among 146 Southern cities. It begins by embedding the topic in recent theorizations of the social construction of nature, the geography of race, and environmental justice. Second, it focuses upon the ways in which housing markets tend to segregate minorities in urban areas most vulnerable to natural hazards, particularly low-lying flood-prone segments. Third, it tests empirically the hypothesis that blacks are disproportionately concentrated in lower altitude areas using a GIS to correlate race and elevation by DEM block group within each city. A map of coefficients indicates strong positive associations in cities in the interior South, i.e., where the hypothesis is confirmed and an inverse relation near the coast, where whites dominate higher-valued coastal properties. Fourth, it offers several brief case studies of cities that demonstrate this relationship and its converse particularly well, relating the broad dynamics of racial segregation to the unique particularities of individual places.

**Ryan Wade, Michael Brown, Mississippi State University**

**“A Preliminary Survey And Squall Line Climatology for NWSFOs Jackson, MS and Memphis, TN County Warning Areas”**

The squall line is generally accepted to be the most commonly observed mesoscale convective system (MCS). The squall line can be made up of a series of relatively benign cells oriented in an almost unbroken, linear fashion or made up of a series of supercell thunderstorms. Squall lines in the Southeastern United States account for a significant amount of the total severe weather observed in this region, including the production of localized severe wind events (known as Bow Echoes and Downbursts), long-lived severe wind events (known as Derechoes), as well as tornadoes. This study is an attempt to identify a basic squall line climatology of the county warning areas (CWA) for the National Weather Service Forecast Offices (NWSFO) located in Jackson, MS and Memphis, TN. This squall line climatology will focus on the seasonal distribution of severe weather events associated with squall lines, as well as the dynamic vs. thermodynamic forcing associated with the initiation and life spans of squall lines in Mississippi and West Tennessee.

**Susan M. Walcott, Georgia State University, Clifton W. Pannell, University of Georgia**

**“Metropolitan Spatial Dynamics: Shanghai”**

As China’s largest and wealthiest city, Shanghai’s dynamic growth over the last decade indicates the spatial form of new metropolitan expansion patterns. This research deals with mechanisms shaping emerging patterns, including the rise of a land market, settlement of inner suburbs by urban core and “floating” populations, and peri-urban in-filling. Growth drivers flow from planning targeting high technology manufacturing based on domestic R&D, foreign companies, and joint ventures. Evidence

comes from the 2000 Census, remotely sensed photography, and interviews with city planners. The match between new residential and occupational spaces and transportation infrastructure connections for a more mobile and spatially diffuse population is of concern for future policy considerations.

**David Walker, University of Kentucky**

**“Negotiating with the State: Ejidatarios' Resistance, Negotiation and Interpretation to Neoliberalism and the 1992 Agrarian Reform”**

Ejididos have played an important role in the urban growth process in Mexico and along the U.S.-Mexico border. Many ejidos were formed near urban areas. As the population of the cities grew, urban sprawl began to encroach upon the ejidos, resulting in as much as 65% of the urban growth in Mexico occurring through the illegal urbanization of ejido lands. In addition to land invasions and government expropriation, migration to cities coupled with rapid urbanization has led to the creation of a clandestine real estate market. SEDESOL (Mexico's ministry of social development) predicts that these traditional forms of land expropriation, structured through amendments to Article 27 of the Mexican Constitution, will be supplemented by an increase in ejido land acquisition through legal purchases by individuals and development companies. In this paper I discuss ejidatarios' methods of negotiation and interpretation to the changes in the Ejido sector implemented by the Salinas de Gotari administration in 1992. I focus on how the ejidatarios of Ejido Lazaro Cardenas, in Tijuana, Mexico employed discourses of post-colonialism, development and globalization to do the following: enrich themselves, build infrastructure on the ejido, and change the socio-spatial texture of Ejido Lazaro Cardenas. I argue that the neoliberal economic changes to the ejido sector in Mexican border cities have led neither to the impoverishment of the ejidatarios nor to the elimination of an escape valve for the working poor.

**Andy Walter, Florida State University**

**“Investigating the Geographic Dimensions of Hunger in the United States: A Spatially-Varying Parameter Model of Hunger”**

This analysis is part of a larger study of the changing geographic dimensions of U.S. hunger since the mid-1970s. First, I present the most recent data on hunger in the United States and discuss the survey instrument by which the data were obtained. Second, I discuss the analytical framework, showing how entitlement research can be used to explain American food insecurity and hunger. The framework was produced by Michael Watts based on his and others' efforts to extend and modify Sen's entitlement approach beyond its initial restrictive formulations. Third, I present the results of a regression analysis, in which I used the expansion method to examine the place-specific effects of different explanatory factors. The rate of female unemployment and the percent of Hispanics employed in agriculture, forestry, and fishing were found to have the strongest effect on the rate of hunger. The analysis also revealed that the effect of female unemployment spatially varies as a function of the degree to which states have implemented aggressive workfare programs. The findings offer clues as to the strikingly high rates of hunger in Washington and Oregon, two states with strong anti-hunger movements and historically liberal safety nets.

**Linda Wang, University of South Carolina – Aiken**

**“Bi-lateral Cultural Assimilation?”**

The changing social attitudes towards ethnic cultures and the increasing cosmopolitanism among ordinary Americans since WW II have engendered a growing multi-cultural awareness. Improved understanding between people of different cultural traditions has made Americans more susceptible to cultural infusion. The rising visibility of ethnic foods is a case that represents an important part of the immigrants' contribution to the American culture. Ethnic Chinese restaurants are especially prominent. In South Carolina, ethnic Chinese restaurants represent an overwhelmingly large percentage of the sampled international cuisine restaurants. Preliminary research shows that their locational characteristics strongly



correlate to the social, economic, and demographic characteristics in the local areas. Could this be an indication of bi-lateral cultural assimilation?

**Qingfang Wang, University of Georgia**

**“Ethnic Segmentation of Atlanta’s Labor Market, 1980-1990”**

The traditional black-white dualism of Atlanta’s ethnic labor market has been transformed by recent waves of foreign-born residents. Using 1980 and 1990 PUMS data on Atlanta Metropolitan Area this paper examines the ethnic division of labor market and occupational niches occupied by different ethnic groups. The findings reveal a sharp segmentation of the labor force along the line of ethnicity. While whites dominated the executive, managerial, and other skilled occupations requiring substantial human capital investment, blacks and Mexicans occupied niches in the “secondary” labor market, viz., manual, blue-collar jobs and low-end service occupations such as domestic and food service. The Chinese and Indians concentrated in information technology sectors, health professions, and retail sales. The Koreans’ picture was a bit more ambiguous; their ethnic niches were located in both skilled professions as well as in low-end services. The observed labor market segmentation bears interesting resemblance to Logan et al.’s (2000) tripartite division of the labor market into the “core” (niches occupied by whites), the “periphery” (niches occupied by blacks and Mexicans), and the “semiperiphery” (niches occupied by Chinese, Indians, and Koreans who over the 1980-1990 period took over jobs formerly held by whites).

**Yong Wang, Stephen A. White, Tao Zheng, East Carolina University**

**“Using JERS-1 SAR Data to Map Temporal Changes of inundation Extent: A Case Study on the Floodplains of North Carolina”**

Inundation extents and variations on the floodplains of North Carolina were studied by using SAR (synthetic aperture radar) data. The study area was about 18,916 km<sup>2</sup>, covering areas between Halifax County on the north and Brunswick County on the south of North Carolina. Portions of the Roanoke, Tar-Pamlico, Neuse, Cape Fear, and Lumber river basins were within the study area. The SAR data were from the JERS-1 (Japanese Earth Resource Satellite –1) acquired on 29 March 1994 and 8 August 1994. Among five land cover categories used, the inundation extents were, from March to August, water, 912.5 to 694.6 km<sup>2</sup>, marsh 1,496.2 to 1,365.1 km<sup>2</sup>, field, 7,263.5 to 8,157.1 km<sup>2</sup>, nonflooded forest, 8,333.3 to 8,356.3 km<sup>2</sup>, and flooded forest, 910.7 to 343.1 km<sup>2</sup>. The decreases of water, marsh, and flooded forest categories and the increase of the field and nonflooded forest areas were mainly due to the decreases in water surface heights and discharges of the rivers and their tributaries on the floodplains from March to August. A partial leaf-on stage in March (c.f. a full leaf-on stage in August) of deciduous leafy trees helped in identifying flooded/nonflooded boundaries underneath tree canopies and in delineating the inundation extent in forested environments.

**Timothy Warner, James McGraw, Rick Landenberger, Tomas Brandtberg, West Virginia University**

**“Spatial Analysis of Ultra High Resolution Digital Imagery for Aerial Census of Haleakala Silverswords”**

The Haleakala silversword is a rare and endangered plant, endemic to Maui, Hawaii. Monitoring the silversword using traditional methods may have a high degree of error, is manually tedious, and disturbs the fragile environment in which the plants grow. Ultra high resolution images (4-5 cm pixels) of silverswords on Haleakaka crater were collected using a helicopter-mounted ADAR digital camera system. The images were analyzed using a spatial approach, in order to identify individuals and estimate the size of each plant. For the image processing, the image brightness is first normalized to reduce the effect of an off-nadir darkening. After a slight smoothing of the image, the mean curvature at each pixel is calculated, and used to identify bright blobs in the image associated with smoothly curving intensity values. An average of the mean curvature values is calculated for each group of contiguous pixels, and a histogram of the average group mean curvatures is used to develop an automated threshold for

identification of potential silversword objects in the image. A comparison with field data indicates increasing reliability of the method for larger silverswords (10 cm and larger), both in terms of detection and reliability of size estimates.

**Joe Weber, University of Alabama**

**“Evaluating the Effects of Geographic Contexts on Individual Accessibility”**

Centrality within a city and neighborhood characteristics have often been used as indicators of access to employment and services in statements about urban form and accessibility, but there are reasons to question the appropriateness of doing so. This paper evaluates the importance of geographic context within the urban environment (both location within cities as well as neighborhoods characteristics) for individuals in Portland, Oregon. Because conventional accessibility measures cannot incorporate individual characteristics, space-time individual accessibility measures were used with regression and multilevel modeling to isolate the effects of individual level variations from that of geographical context. The results show the influence of context on individual accessibility is weak, as accessibility tends to reflect individual and household characteristics rather than the local urban environment. Accessibility cannot be determined from location within cities, or from land uses around an individual’s home, implying that the use of urban design to influence accessibility is inappropriate.

**Gerald R. Webster, Chad E. Landgraf, University of Alabama**

**“Measuring ‘District Core’ Preservation in the Redistricting Process”**

The number of court recognized criteria that might be utilized to evaluate redistricting plans has grown in the past decade. One of the criteria to receive recent affirmation by the legal system and the U.S. Supreme Court in 1997 is the goal of preserving the cores of prior districts. The purpose of this paper is to examine the conceptual basis for this criterion and to suggest methods for its evaluation. The paper first notes that this criterion is aligned with the traditions of incumbent protection and least-changed plans. It then discusses the various methods that can be utilized to evaluate compliance with this criterion. The paper argues that “constituency-to-constituency” origin core analysis is the most conceptually sound format for evaluating redistricting plans with this criterion. The paper then discusses various technical issues pertinent to measuring district core preservation. The final section of the paper provides an example of the calculations necessary to complete a core analysis using data based on the recently enacted districts for the Florida State Senate.

**Bobby M. Wilson, University of Alabama**

**“Race and Consumption: The Structural Imperative Behind Plessey vs Ferguson”**

One of the prime mechanisms that makes the endless accumulation of capital possible is the commodification of everything. While American sovereignty produced racial and class divisions, there was a powerful counter-tendency within the commodity to diminish these differences, reducing and elevating various segments of the population to the common level of consumer. Rising mass consumption altered race relations, subverting the ideology of absolute white supremacy. With mass merchandising, places of consumption within growing towns and cities of the postbellum South became places of racial mixing. This tendency within the commodity to diminish differences conflicted with American sovereignty’s demand for racial separation. The 1896 Plessey vs Ferguson Supreme Court decision satisfied, on the one hand, the structural imperative of capital to expand the of sphere consumption, and on the other hand, the demand for racial separation.

**Robert A. Yarbrough, University of Georgia**

**“Latino/White Segregation in the Southeastern United States: Findings from Census 2000”**

Examining the spatial dispersion of immigrant and ethnic groups in urban settings can provide insight into the social and political relations between these groups and the majority populations with which they share urban space. Geographers and other social scientists examining spatial segregation in

the southeastern United States have traditionally concentrated their efforts on segregation between blacks and whites, paying little or no attention to Hispanic/Latino populations. With the recognition from Census 2000 that Latinos and blacks comprise nearly the same proportion of the country's total population, issues surrounding Latino/White segregation demand greater attention from geographers. Utilizing the dissimilarity index as a measure of residential segregation, this paper investigates the changes from 1990 to 2000 in Latino/White segregation for seventy-four metropolitan statistical areas (MSAs) in the southeastern United States. In addition to concluding that Latino/White segregation has increased on average in the southeast during the inter-census period, positive associations between overall population growth as well as Latino population growth and the dissimilarity indices emerge. These two clear patterns suggest that both of these forces are contributing to the extant urban geographies of Latinos in the southeast, while the continued growth of this ethnic group in the region begets questions concerning whether or not we can expect this trend to endure.

**Donald J. Zeigler, Old Dominion University**

**“Triangular Views of the Middle East’s Urban Geography”**

The Middle East began the 21<sup>st</sup> century as a predominantly urban region. It will be the purpose of this paper to offer two synoptic views of the urban geography of the Middle East, one at the macro-scale and one at the micro-scale. These synoptic views are designed to help us generalize about (1) the large urban regions evolving in the Middle East and (2) the landscapes of individual cities. Each synoptic view is represented graphically by a triangle. The first represents a model of the Triangular Urban Core of the Middle East as it might be abstracted from a map. The second represents a model of the Urban Landscapes of the Middle East and they are grounded in three essential characteristics of history and geography – a three-legged stool on which urban landscapes are balanced.

**Tao Zheng, East Carolina University**

**“Using JERS-1 and DEM Data to Detect Temporal Change of Inundation Extent on Floodplain of North Carolina”**

Both radar data and DEM data are to be used in studying inundation extent and temporal change of floodplain. Study area covers Wilson and Rocky Mount, North Carolina. Two approaches are implemented to delineate the inundation and detect the temporal change: First approach is based on analysis of JERS-1 (Japanese Earth Resource Satellite-1) SAR data, and second approach is based on USGS DEM and river gauge data. JERS-1 data are acquired on December 1 1992, January 14 1993, July 9 1993 and August 9 1994. 0.3 m elevation interval DEM are downloaded from USGS website. An integration of the SAR and DEM data will be implemented to further improve the accuracy.

**Mila Zlatic, Tinuade O. Adeboya, Shaun T. Foggo, Keisha L. Harrison, Erin P. Medina, Megan B. Peguero, University of Maryland at College Park**

**“Knowledge about Our Shrinking World”**

How well do we know the world was a class exercise performed at the UMD College Park campus in September, 2002? A survey of “What do we know about the world?” was undertaken and a total of 254 randomly chosen persons were surveyed. Twelve questions about world geography and world politics were asked, as well as age, sex, class level, region of birth, experience in a foreign country, self-assessment on knowledge about the world, and from where information about the world was obtained. Of the total persons surveyed, 13 percent answered one question or none incorrectly, and almost 20 percent answered more than half questions incorrectly. There was no significant difference either in knowledge among men and women, or among age groups, and there was no correlation between students’ positive self-assessment of their knowledge (from good to excellent) and factual knowledge about the world. The preliminary results of the research lead us to a conclusion that the students, who on average have higher education than the general US population, have rather weak knowledge about our shrinking world.

**Matthew A. Zook, University of Kentucky**

**“The Electronic Agora: eBay and the Shaping of E-Commerce Geography”**

A phenomenon with a large potential on shaping economic geography are changes in the buying and selling habits of individuals and small business through eBay. Especially intriguing for geographers is that by using eBay, individuals who would have faced considerable difficulties in marketing their products, can easily gain access to a worldwide market. This paper is exploratory in nature and reports the initial findings of a larger research project. As such it lays out some of the theoretical issues surrounding eBay, briefly introduces the methodology for creating the data set used in this research, and presents some preliminary findings.