



**FORTY-FOURTH  
ANNUAL MEETING  
FLORIDA SOCIETY OF  
GEOGRAPHERS  
(FSG)**

**PROGRAM**

**Miami, Florida ~ January 25-27, 2008  
River Park Hotel & Suites**

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*Planning for our Future.*

## About our Organization

The Florida Society of Geographers was chartered in 1964 as a non-profit organization for the purpose of furthering professionalism in geography through application of geographic techniques in all areas of education, government, and business. The Society supports these objectives by promoting acquaintance and discussion among its members and with scholars and practitioners in related fields by stimulating research and field investigation, by encouraging publication of scholarly studies, and by performing services to aid the advancement of its members and the field of geography in Florida. The Florida Geographer is the official publication of the FSG and is distributed free to members of the society.

### FSG Local Arrangements

- Barry University, Department of History and Political Science

**The FSG Board would like to thank the Department for their continuing support, which made the coordination of this year's meeting a success. A warm thank you is extended to Dr. Jesus Mendez for agreeing to organize and guide our field trip.**

**The FSG Executive Committee wishes to extend a special thank you to Dr. Russ Ivy, Chair of the Department of Geosciences at Florida Atlantic University, for the maintenance and hosting of the FSG website. Especially, a warm thank you is extended to the FSG webmaster Dr. Tobin K. Hindle for his continuing support. Our website <http://www.geosciences.fau.edu/fsg/index.html> is filled with valuable information and facts of our organization. You can access the current and past issues of *The Florida Geographer* as well as our past annual meetings to get a perspective of the research that our members are involved in.**

## Keynote Speaker



### **Jan Nijman, Ph.D.**

Department of Geography and Regional Studies  
University of Miami, Coral Gables, FL  
E-mail [nijman@miami.edu](mailto:nijman@miami.edu)

The Florida Society of Geographers is honored to have Dr. Nijman make the Keynote Address at our 2008 meeting. The title of his talk is "Florida's World City". Professor Nijman's interests are in urban and regional development, globalization, and comparative urbanism. His regional interests include metropolitan Miami and Mumbai, with over a decade of fieldwork experience in India. He is an elected member of the National Geographic Society's Committee for Research & Exploration of the NGS and Director of the University of Miami's Urban Studies program. He was a Guggenheim Fellow in 2003 and is a recipient of the Nystrom Award of the Association of American Geographers. His research has been published in *The Annals of the Association of American Geographers*, *Urban Geography*, the *Tijdschrift voor Economische en Sociale Geografie*, and *The Annals of the American Academy of Political and Social Science*, among other journals.

## FSG Distinguished Guest



### **Ms. Melanie Nicolau**

BA (Hons), MA (University of Pretoria, S.A.)  
Head: Geography Department  
University of South Africa, Pretoria.  
E-mail [nicolmd@unisa.ac.za](mailto:nicolmd@unisa.ac.za)

We are honored to welcome Ms. Melanie Nicolau who came all the way from South Africa to attend the 2008 FSG Annual Meeting in Miami. Ms. Nicolau completed her Bachelor Degree in Geography, History and Archaeology at the University of Pretoria, South Africa in 1984. After qualifying as a secondary school teacher in 1985, she continued her studies in Geography by completing her Honours Degree in 1987. In 1992 she completed her Masters dissertation at the University of Pretoria. She is presently working on her Doctoral thesis at the University of South Africa, and is nearing completion. In 1987 she was appointed junior lecturer in the Department of Geography at the University of South Africa. During the last two decades she has been responsible for the teaching of a number of undergraduate and post graduate modules in regional, human and environmental geography. Her research interests fall into the broad sub-disciplines of Regional Geography (Africa), Cultural and Population Geography.

# Field Trip

**Saturday January 26, 2008 4:15 p.m. – 5:45 p.m.**

The field trip is free and open to all meeting attendees. The field trip is an elevated walking tour along the Metromover loop of downtown Miami.



Metromover is a free automated people-mover system that serves downtown Miami and because of its elevated location allows a panoramic view of the historical sites of the city. Due to the time the sun sets, the tour must depart promptly at 4:15, please help us leave on time. Our tour guide is Dr. Jesus Mendez. Dr.

Mendez arrived in South Florida in 1960 and, except for periods of absences during graduate school and research overseas, has continuously resided in the Greater Miami area since that time. Although his doctorate is in Latin American history from the University of Texas at Austin, teaching responsibilities at Barry University and academic research have increasingly led to his interest in South Florida history. He has taught a History of South Florida course at Barry for the past twenty years and is currently researching and writing a book on Henry Flagler and his projects overseas beyond Florida in Cuba and the Bahamas.

**Please meet in the Front Lobby in front of the Hotel Registration Desk  
4:15 p.m.**

## **Some interesting statistics on Miami:**

- Cruise ship capital of the world: Almost 4 million passengers 2007.
- Third largest U.S. airport for international passengers.
- Financial Capital of Latin America and the Caribbean:
- 38 State licensed foreign bank agencies with \$12.5 billion in deposits
- 13 Edge Act banks with \$7 billion in deposits
- 59 Commercial banks and 11 thrift institutions with 38.8 billion in deposits
- More than 500 multinational corporations
- 61 foreign consulate offices
- 25 foreign trade offices
- 40 bi-national chambers of commerce
- Average daily winter temperature: 67 degrees (January)
- The coldest months are December through February (61 - 77 degrees)
- Average daily summer temperature: 82 degrees (July)



# PROGRAM AT A GLANCE

## FRIDAY, JANUARY 25, 2008

### *FSG Registration and Information*

4:00 p.m. – 8:00 p.m. Registration ..... Registration Kiosk –

### **Executive Board Meeting**

**5:30 R- TBA**

### Opening Session

8:00 p.m. ....  
Call to Order, Welcome to the 44<sup>th</sup> Annual Meeting of FSG:  
“Wines of the World” Activity

### *Paper Sessions*

6:30 p.m. – 7:45: p.m. Session 1: Teaching Methods.....

**R- 1**

## SATURDAY

## JANUARY 26, 2008

### *FSG Registration and Information*

8:00 a.m. – 12:00 p.m. Registration..... Registration Kiosk

### *Poster Session*

8:00 a.m. – 6:30 p.m. Poster Display.....

**Floor**

**Mezzanine**

### *Paper Sessions*

8:00 a.m. – 10:00 a.m. Session 2: Global/World #1  
8:00 a.m. – 10:00 a.m. Session 3: Methods/Techniques  
10:00 a.m. – 10:15 a.m. Break  
10:15 a.m. –12:15 a.m. Session 4: Florida Human Geography  
10:15 a.m. – 12:15 p.m. Session 5: Environmental Issues

**R- 1**

**R- 2**

**PLENARY LUNCH WITH OUR HONORED GUEST:**

**12:30- 1:30**

**Florencia Room**

**MELANIE NICOLAU**

*"Teaching Geography Distance at a distance: How it is approached at the University of South Africa"*

**PAPER SESSIONS**

2:00 p.m. – 4:00 p.m. Session 6: Global/World #2

**R-1**

2:00 p.m. – 4:00 p.m. Session 7: Florida Environment

**R-2**

**FIELD TRIP**

**4:15 p.m. – 5:45 p.m.**

An Elevated Guided Walking Tour of Historic Downtown Miami,  
*Dr. Jesus Mendez, Barry University History Professor*

**DINNER BANQUET AND KEYNOTE ADDRESS**

Florencia Room

7:00 p.m.-8:30 p.m.

*"Florida's World City."*

**Dr. Jan Nijman**, Department of Geography and Regional Studies,  
School of International Studies, University of Miami, Coral Gables, FL

**SUNDAY**

**JANUARY 27, 2008**

**BREAKFAST BUSINESS/AWARDS MEETING**

Florencia Room

**8:30 a.m. – 10:30 am.**

**FSG and Student Honors Competition Sponsors:**

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Supported by donations from FSG members.

# PAPER AND POSTER SESSIONS

## *Reminder to speakers:*

If using a digital projector, please bring your file to the room at least ten minutes prior to the beginning of your session. Someone should be there to help you upload it onto the PC. If not, proceed to upload your file so it will be ready to go at the allotted time.

## **FRIDAY, JANUARY 25, 2008**

**Session Number 1 – Teaching Methods** **6:30 p.m. - 7:45 p.m. R-1**

**Mary Ellen Adlam**, Florida Geographic Alliance

*“Cross Asia in a hop, skip and a jump”*

**Denny Dawson**, Social Studies Program Specialist St. Lucie County School District

*The Impact of the Irish Potato Famine on Baltinglas, Ireland.*

## **SATURDAY, JANUARY 26, 2008**

### **Poster Session**

**Saturday 8:00 a.m. - 6:30 p.m. – Mezzanine Floor**

**Nicholas Campiz**, Graduate Student University of Florida

*The political ecology of the economic recession and recovery on peripheral islands: A comparative study of Newfoundland and the Faroe Islands.*

**Mario Cartaya**, Undergraduate Department of Geography University of Florida

**Kristina Kell**, Undergraduate Department of Geography university of Florida

*Rainfall Comparison for Hurricanes Frances and Jeanne*

**Krista Church** Undergraduate Student University of Florida

*Spatial-temporal analysis of grave marker distribution and inferred social status between Victorian cemeteries in St. Augustine, Florida*

**Amy Cohen**, Graduate Student University of Miami

*Multi-resolution analysis of land cover and seasonality in northern hardwood forests.*

**Ursula Garfield**, Graduate Student University of Florida

*A Decade After In-stream Mining: The Leaf River, Mississippi and two mined tributaries*

**Luke Rostant** - Graduate Student, University of Florida.

*Does community-based monitoring lead to adaptive management in the Mudumu North Complex, Namibia?*

**Sam Schramski**, Graduate Student Department of Geography University of Florida

*Interdisciplinary Rapid Assessment Research Southeastern Mexico poster for Hurricane Dean Rapid Assessment Team*

**Geraldo Silva**, Graduate Student Department of Geography University of Florida

*Peanut diversity, history and management by the Ka iabi (Tupi Guarani) indigenous people in the Brazilian Amazon.*

**Drake Sprague**, Graduate Student Department of Geography Florida Atlantic University

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

**Andrea Wolf**, Graduate Student Department of Geography University of Florida

*Vegetation differences between Botswana and Namibia*

## **SATURDAY, JANUARY 26, 2008**

### **Session Number 2 – Global/World #1      8:00 a.m. - 10:00 a.m. – R-1**

**Chair: Jeff Martin**

**Carlos M. Cañas**, Graduate Student Department of Geography University of Florida  
*Temporal and Spatial Patterns of Dispersion of Catfish Larvae in Madre de Dios River, Peru*

**Carlos Valério A. Gomes**, Graduate Student Department of Geography, University of Florida

**Marianne Schmink**, Graduate Student Department of Anthropology/Center for Latin American Studies, University of Florida

**Christopher Baraloto**, Graduate Student Department of Botany, University of Florida  
*Evolution of Extractive Reserves as a conservation and development strategy in Amazonia*

**K. Reth**, Graduate Student Department of Geography University of Florida

**D.J. Fredericks**, Consultant, WHO Philippine

**M. Leithfield**, Consultant, Unicef Cambodia

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

### **Session Number 3 – Methods/Techniques      8:00 a.m. - 10:00 a.m. – R-2**

**Chair: Ruiliang Pu**

**Erin L. Bunting** Graduate Student Department of Geography University of Florida  
*Convection Pattern Analysis of Three Landfalling Tropical Cyclones in Northwest Florida*

**Nathan L McKinney** Graduate Student Department of Geography University of West Florida

**Klaus J Meyer-Arendt** Department of Geography University of West Florida  
*Evidence of significant indirect deaths following four hurricane: Florida 2004*

**Ruiliang Pu**, Department of Geography, University of South Florida  
*Wild Fire Detection and Mapping with Satellite Remote Sensing Technology*

**Faizal Asumda**, Miller School of Medicine, University of Miami.

**Lisa Jordan** Department of Geography, Florida State University  
*Minority Youth Access to Tobacco: A Neighborhood Analysis of Underage Tobacco Sales in Florida*

**E.SpencerFleury** Department of Geography, University of South Florida  
*Karst land use regulations and strategic behavior: Is free riding worthwhile?*

**Bruce E. Marti**, Department of Marine Affairs University of Rhode Island  
*Caribbean Ports-Of-Call: Competitive Trends in Cruise Destination Popularity from Florida Embarkation Ports*

<b>Morning Break 10:00 a.m. – 10:15 a.m.</b>
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**Session Number 4 – Florida Human Geography 10:15 a.m. –12:15 a.m. – R-1**

**Chair: Ron Schultz**

**Sandra Kling** Graduate Student Department of Geography University of South Florida

*Climate Change Policy at the Local Government Level: A Case Study*

**John W. McEwen**, Graduate Student, Dept. of Geography, Florida State University

*The Vernacular Regions of Florida: Do They Exist on the Political Landscape?*

**William B. Stronge** Professor Emeritus of Economics Florida Atlantic University

*The Transformation of the Florida Economy during the 20<sup>th</sup> Century*

**Ira M. Sheskin**, Department of Geography, University of Miami.

*The Jews of Florida: Geographic and Demographic Perspectives.*

**Boswell Thomas** Department of Geography, University of Miami.

*A Comparative Study of Blacks Living In New York City and Metropolitan Miami*

**Kristine Bezdecny**, Graduate Student Department of Geography University of South Florida

*Celebration, Florida: A Historical Geographical Perspective*

**Session Number 5 – Environmental**

**10:15 a.m. –12:15 a.m. – R-2**

**Chair: Corene Matyas**

**Kamal Alsharif**, Department of Geography University of South Florida

*Construction and Storm Water Pollution, Violations and Penalties: A Minnesota Case Study*

**Jeffrey L. Cooley**, Undergraduate Department of Geography University of Florida  
Geography

*Tropical Cyclone Frequency in South Carolina*

**Jeff Martin**, Geography Department University of Jacksonville

*Climate, Weather, and Baseball Stadiums in St. Petersburg, Florida*

**Corene J. Matyas**, Department of Geography University of Florida

*An examination of rainfall rates using radar estimates and rain gauge data during the passage of a hurricane*

**Peter Waylen**, Department of Geography University of Florida.

**Youliang Qiu**, Department of Geography University of Florida.

*The Changing Importance of Winter Rains to Annual Rainfall Totals in Florida.*

**PLENARY LUNCH WITH OUR HONORED GUEST: 12:30- 1:30**

**MELANIE NICOLAU**

*“Teaching Geography Distance at a distance:*

*How it is approached at the University of South Africa”*

**Session Number 6 Global/World #2** **2:00-3:20** **R1**  
**Chair: Peter Waylen**

**Daniel Godwin** Undergraduate Student Department of Geography University of Florida  
*Advanced Classification Techniques in the Semi-Arid Caprivi Region of Namibia*

**Jaclyn M Hall**, Graduate Student Department of Geography University of Florida  
*Remote Sensing of Humid Forests: Connecting Canopy Complexity to Image Texture*

**Kiara Winans**, Graduate Student Environmental Engineer Department University of Florida

*Carbon accounting for soils of Mali, West Africa: Comparing ISRIC, Mass Spectrometer, and US Geological Survey Data*

**Anna Szyniszewska**, Graduate Student University of Florida  
 Analysis design for the likelihood of climate shock occurrence in Central Thailand

**More Learning Methods** **3:25-3:45** **R1**  
**Ray Oldakowski**, Department of Geography, Jacksonville University  
*Alternative Spring Break: An Opportunity for On-Site Learning in Regional Geography*

**Session Number 7 Florida Environment** **2:00-4:00** **R2**  
**Chair: Peter Muller**

**Larissa Gata** Graduate Student Department of Sociology University of Florida  
*Proximity Analysis of the Superfund Sites in Florida*

**Wendy Francesconi**, Graduate Student School of Forest Resources and Conservation, University of Florida  
*Designing Biological Corridors in the State of Florida: A GIS Analysis Approach*

**Alisa W. Coffin** Graduate Student Department of Geography, University of Florida  
*Road networks and landscape change in the Santa Fe River watershed of North Central Florida*

**C.M. Knickerbocker**, Department of Biology, University of Central Florida

**S. Leitholf**, Department of Biology, University of Central Florida

**E.L. Stephens**, Department of Biology, University of Central Florida

**D. J. Keellings**, Graduate Student Department of Biology, University of Central Florida

**H. Laird**, Department of Biology, University of Central Florida

**C.J.R. Anderson**, Department of Biology, University of Central Florida and

**P.F. Quintana-Ascencio** Department of Biology, University of Central Florida  
*Tree Encroachment of Sawgrass (*Cladium jamaicense*) Marshes within an Anthropogenic Dominated Ecosystem*

**Charles Roberts** Department of Geography Florida Atlantic University  
*Reconstructing Past Geographies: The Development of the Florida Peninsula: an Animated Space Shuttle image over the last 32 Million Years*

**Sarah Conlin**, Undergraduate Student Department of Geography University of Florida  
*South Florida eco-passage recommendation using black bear and panther point datum.*

**FIELD TRIP**

*4:15-5:45p.m.*

**GUIDED DOWNTOWN MIAMI TOUR**

*Dr. Jesus Mendez, Barry University*

**DINNER BANQUET AND KEYNOTE SPEAKER**

**7:00 P.M.-8:30 P.M.**

**FLORENCIA**

*Dr. Jan Nijman, University of Miami*

**SUNDAY**

**JANUARY 27, 2008**

**BREAKFAST BUSINESS/AWARDS MEETING**

**Sunday 8:30 a.m. – 10:30 am.**

Welcome

Mary Caravelis (President)

Approval of Minutes from Jacksonville meeting  
(Secretary)

Maria Fadiman,

President's Report

Mary Caravelis

Treasure's Report

Maria Fadiman

Report from Editor of *The Florida Geographer*

Kevin Archer, Editor

Elections

Old Business

New Business

*Adjournment Have a safe trip back home.....*

## ABSTRACTS

### Abstracts listed in order of paper presentation.

#### DAY 1, FRIDAY, JANUARY 25, 2008

##### *Paper Sessions*

7:00 p.m. – 7:45: p.m.

Session 1: Teaching Methods

R1

**Mary Ellen Adlam**, Florida Geographic Alliance

*“Cross Asia in a hop, skip and a jump”*

Learn about National Geographic Society’s newest learning tool. Student,s can walk on a colossal map that measures 41 feet by 31 feet. It is designed by National Geographic as a geo-game board, which invites Student,s to explore and discover the diverse geography of Asia. The map is part of a five-year National-Geographic-led campaign to improve geographic literacy so Student,s can become more informed global citizens

**Denny Dawson**, Social Studies Program Specialist St. Lucie County School District

*The Impact of the Irish Potato Famine on Baltinglas, Ireland.*

This session will present a summary of the research that went into producing a 30 minute DVD on The Irish Potato Famine from the perspective of a mid-sized community located along the Slaney River, in the Wicklow Mountains of southeastern Ireland. Baltinglas is used to represent The DVD is divided into:

1. political control of Ireland pre 1845 and land ownership patterns
2. description of social/economic classes and reliance on potatoes for sustenance
3. impact of the potato blight and early efforts at mediation
4. English responses to the failure of a crop that resulted in tremendous loss of life
5. long term effects of the famine on population distribution, land ownership and land use patterns, and "shoveling out" emigration

Early 19th Century photos, extant graphic images from newspapers and journals, modern photographs are used to support the narrative. Each attendee will receive a copy of the DVD.

## **SATURDAY, JANUARY 26, 2008**

**Session Number 2 – Global/World #1**

**8:00 a.m. - 10:00 a.m. –**

**Carlos M. Cañas**, Graduate Student, University of Florida

*Temporal and Spatial Patterns of Dispersion of Catfish Larvae in Madre de Dios River, Peru*

Catfish larva production was evaluated in the Madre de Dios River channel (southeastern Peru) along five cross sectional transects established within a 12 km-section of the river and sampled on a weekly basis during 2006. Two years of river stage records were used to characterize the annual hydrologic regime of the river. Larval catches were used to determine the influence of seasonal floods on larval drift patterns, and thus indirectly on spawning times. Within the channel, larval drift occurred mostly along the banks of the river, however no significant spatial differences in the numbers of fish larvae moving downstream were found along the sampled section, which indicated that spawning habitats were located near this Andean foothill region. The permanent flood pulses during the periods of larval peaks and the limited availability of floodplain areas in the channel indicated that larvae do not stay in this region. This research highlights the importance of understanding temporal and spatial patterns of catfish larval drift in this Amazon headwater region, introduces the key role of river channels on catfish spawning and migrations, and emphasizes the significant ecological role of this region for conservation and fishery management of migratory catfishes in the Amazon Basin.

**Carlos Valério A. Gomes**, Graduate Student, Department of Geography, University of Florida,

**Marianne Schmink** Graduate Student, Department of Anthropology/Center for Latin American Studies, University of Florida,

**Christopher Baraloto** Graduate Student, Department of Botany, University of Florida  
*Evolution of Extractive Reserves as a conservation and development strategy in Amazonia*

The Brazilian Amazon holds the largest remaining contiguous forest in the tropics, yet also faces strong development pressures and high rates of deforestation. In the nearly 20 years since the murder of rubber tapper leader Chico Mendes and subsequent creation of Extractive Reserves (ERs), ERs are alive as a conservation and development strategy that strives to both secure lands for forest-dependent smallholders and stem the advance of large-scale deforestation. To date, 64 federal and state extractive reserves have been created in the Brazilian Amazon, spanning nearly 11.8 million hectares. Despite two decades of ER implementation and the centrality of this model in people-based conservation, there has yet to be a region-wide analysis of this model. In order to fill this gap, we synthesize the Brazilian extractive reserve experience showing the growth of extractive reserves over time through a state-level approach. We emphasize the first and second waves of ER policies in the Brazilian Amazon, documenting the land area of each state under ER protection, and focusing on varying political and institutional dynamics

that may have favored or limited the growth of the ER model. Although ERs have an impressive history and are still in the spotlight of environmental policy debates in Brazil, challenges remain for this model particularly in facing continued pressure at development frontiers. This paper is essential for understanding the current condition of the ER model and provides lessons for future implementation of Extractive Reserves in the Brazilian Amazon.

Keywords: Extractive Reserve, Brazilian Amazon, Chico Mendes, rubber tappers, conservation, development

**K. Reth**, Graduate Student, Department of Geography University of Florida

**D.J. Fredericks**, Consultant, WHO Philippine

**M. Leithfield**, Consultant, Unicef Cambodia

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

Cambodia is now known to have a large area where arsenic concentrations in groundwater exceed the National Guideline value of 50ug/L. Social Fund of the Kingdom of Cambodia (SFKC) supported some 1181 village water supply projects over all 23 provinces of Cambodia between 1995 and 2003 and these were not tested for arsenic contamination before commissioning. The objective of this program was to locate and test all SFKC community wells for arsenic levels, inform the affected communities of the arsenic contamination at the time of testing, and undertake a follow-up community awareness campaign. Of the 696 wells which were working at the time of testing 347 wells (50%) were contaminated with arsenic, and 349 wells (50%) were safe. At least 17% of the wells were not used for drinking water because of poor quality. Awareness teams which visited each contaminated well informed the villagers of alternative safe water sources that they should use in place of the contaminated wells. Unfortunately, experience showed that there were limited alternative water sources, all of which had drawbacks. In essence, none of the affected villages had an acceptable, sustainable, year round alternative source of safe drinking water.

### **Session Number 3 – Methods/Techniques**

**8:00 a.m. - 10:00 a.m. –**

**Erin L. Bunting** Graduate Student, University of Florida

*Convection Pattern Analysis of Three Landfalling Tropical Cyclones in Northwest Florida*

From 1995 to 2005, three tropical cyclones made landfall within 10km of each other in Northwest Florida. These hurricanes are Dennis (2005) (category 3), Erin (1995) (category 1), and Opal (1995) (category 3). This study seeks to determine if similar convection patterns occur with each tropical cyclone at the time of landfall. As landfall occurred near the same location, the land surface should exert a similar influence on the development of convection in each case. The hurricanes had similar storm speed and

heading, but were different in size. A GIS is utilized to scale the rainbands of each storm according to the radius of hurricane-force winds. Long range composite reflectivity radar data are analyzed within the GIS, and radar reflectivity returns equal to or greater than 40 dbZ were used to define areas of intense convection. Scaling the radar data according to storm size increased the percentage of area occupied by the convective regions that was common to all three storms. Verification of rainfall accumulations using ground-based data indicated that maximum precipitation totals occurred in the same region 100 km inland in all three cases. Future work will examine the extent of radar reflectivity returns as compared with the radius of gale-force winds.

**Nathan L McKinney** Graduate Student, University of West Florida and  
**Klaus J Meyer-Arendt** University of West Florida

*Evidence of significant indirect deaths following four hurricane: Florida 2004*

A review of death statistics following the four 2004 Florida hurricanes suggests the presence of a much larger effect on human mortality than can be explained by official post-storm death counts. Discernable changes in death rate were observed in impacted counties not only in the month of storm landfall, but persisting or even increasing in the following month. These results suggest the presence of a greater amount of indirect storm related deaths than is estimated using conventional methods.

**Ruiliang Pu**, Department of Geography, University of South Florida

*Wild Fire Detection and Mapping with Satellite Remote Sensing Technology*

Considering the remoteness and vast extent of distribution of biomass in wildland, satellite remote sensing is particularly suited for monitoring fire activity. Many different satellite sensors, with complementary capabilities, have been employed for fire detection and mapping at global, regional and local scales. They are (1) the MODerate resolution Imaging Spectroradiometer (MODIS) that possesses the most useful channels for fire monitoring and mapping but has the shortest history and has insufficient temporal sampling, (2) the Geostationary Operational Environmental Satellite (GOES) that provides the most frequent observations but has the least channels at a coarser resolution and poor coverage at high-latitudes, and (3) the Advanced Very High Resolution Radiometer (AVHRR) on board the National Oceanic and Atmospheric Administration's (NOAA) polar orbiting satellites that has been most widely used due to its long history and acceptable capability but this instrument also suffers from numerous inherent limitations. In this presentation, the characteristics of three satellite sensors/systems for fire detection and mapping, band setting, algorithm principles will be briefly reviewed. The conceptual algorithms, including NOAA's FIMMA (The Fire Identification, Mapping, and Monitoring Algorithm), HANDS (Hotspot and NDVI Differencing Synergy), a dynamic fire algorithm, MODIS fire algorithm, and WF\_ABBA (The Wildfire Automated Biomass Burning Algorithm), will be presented. The three sensors/systems' fire products at continental (North America) and state (California) levels will also be evaluated and demonstrated. With the satellite remote sensing technology

including Landsat sensors, finally, some suggestions and thoughts for monitoring and mapping wildfires in Florida State will be addressed.

**Faizal Asumda**, University of Miami Miller School of Medicine.

**Lisa Jordan** Department of Geography ,Florida State University

*Minority Youth Access to Tobacco: A Neighborhood Analysis of Underage Tobacco Sales in Florida*

**Objective:** To investigate the demographic characteristics, in terms of race, ethnicity, and income, of neighborhoods where tobacco was sold to underage youth decoys.

**Methods :** A GIS analysis of neighborhoods where businesses sold tobacco to minors was conducted with 2005 Florida Department of Health, and US census data. The street addresses and phone numbers of merchants were resolved, geocoded, and mapped. A neighborhood level GIS analysis was conducted to determine if these merchants were primarily located in ethnic or racial minority neighborhoods.

**Results:** Stores that sold tobacco to underage youth were in neighborhoods with a smaller proportion of black residents than the average Florida neighborhood; however, particularly in Miami, it was found that underage tobacco sales were higher in neighborhoods with a higher proportion of Hispanics. In Miami, the neighborhoods where violators were located were 54% Hispanic, on average, and neighborhoods without violators were 37% Hispanic. Furthermore, 62 percent of all underage tobacco sales, captured in this dataset, were within one mile of a school.

**Conclusions :** GIS techniques offer a valuable way to assess local characteristics, which may differ considerably from national or even state-level assessments. As was found here, the neighborhood contexts for which tobacco was sold to minors differed significantly across the state. Local analysis suggests that public health solutions must also be local. The lessons for Tampa are different than lessons for Miami, and by extension, lessons from other major cities across the U.S. may not be appropriate for the public health landscape of cities in Florida.

**E.SpencerFleury**, Department of Geography, University of South Florida

*Karst land use regulations and strategic behavior: Is free riding worthwhile?*

In karstic areas of the United States, municipalities often use zoning and subdivision ordinances to regulate and control development near karst landforms. Economic theory suggests that the additional direct and indirect costs imposed by these regulations would have a negative impact on economic growth and development relative to nearby communities without these regulations; therefore, planners and policymakers may have an incentive to engage in strategic behavior and free ride on the backs of neighboring municipalities that have already implemented karst land use regulations. This paper uses multiple regression techniques to examine the case of karstic southeastern Pennsylvania, where such regulations are common, and to determine whether engaging in strategic behavior is in the best interest of planners and policymakers there. The model finds no evidence to support the hypothesis that the presence of karst land use regulations has an

effect on development and economic growth in municipalities where such regulations are employed; therefore, engaging in strategic behavior is not beneficial in this situation.

**Bruce E. Marti**, University of Rhode Island

*Caribbean Ports-Of-Call: Competitive Trends in Cruise Destination Popularity from Florida Embarkation Ports*

This study analyzes and interprets both spatial and economic data regarding the Caribbean cruise market between 2000 and 2005. A first goal of the research is twofold: (1) to document and measure total change in passenger landings at 59 Caribbean ports-of-call, and (2) to highlight change in total passenger landings by the 18 cruise lines embarking passengers, from six Florida ports. A second goal of the research is to assess inter-port competition among the Caribbean destinations. A shift-share analysis is employed to separate observed change into three components. The results indicate that both exogenous and endogenous factors contribute to either growth or decline in passenger landings.

#### **Session Number 4 – Florida Human Geography**

**10:15–12:15**

**Sandra Kling** Graduate Student, University of South Florida

*Climate Change Policy at the Local Government Level: A Case Study*

In the absence of federal leadership in climate change policy, many state and local governments have taken a proactive approach to address climate change. By the end of November 2007, Mayor's from 740 cities across America have signed the United States Mayor's Climate Protection Agreement. Of these, 66 cities are located in Florida. By signing the agreement, cities are agreeing to urge federal and state government to meet or exceed the goals of the Kyoto Protocol and to urge Congress to enact greenhouse gas legislation. In addition, the cities agree to meet or exceed the Kyoto Protocol by taking specific action to reduce greenhouse gas emissions, including reducing greenhouse gas emissions, promoting land use policies to reduce sprawl, and increasing energy efficiency. This presentation will present an overview of the Climate Protection Agreement and how Florida cities are responding to the agreement. The presentation will focus on a case study, the City of Clearwater.

**John W. McEwen**, Graduate Student, Dept. of Geography, Florida State University

*The Vernacular Regions of Florida: Do They Exist on the Political Landscape?*

Past studies have shown that there are distinct vernacular regions throughout the state of Florida. Some of these studies have also associated certain social, economic and political characteristics with these regions. It has been suggested that the voting habits of the northern and panhandle regions tend to be more conservative than other parts of the state such as the more urbanized southeast portion of Florida. The Bible Belt and Dixie are two well-known regions of the state which are logical choices for examining differing political views by vernacular region and will be the focus of this research. This study will examine the election results for the 2000 and 2004 presidential elections in an effort

to determine to what degree these regions are apparent not just on the cultural landscape but on the political landscape as well. The reason for choosing the presidential race in these two election cycles is for the fact that they were both highly contested elections with great differences between the candidates and their political views.

**William B. Stronge** Professor Emeritus of Economics Florida Atlantic University  
*The Transformation of the Florida Economy during the 20<sup>th</sup> Century*

In 1900, sparsely populated Florida resembled a western state. The major exports came from “frontier” industries, forestry products, open range cattle herding and phosphate mining. The state was in the process of developing “sunshine” industries, including tourism, citrus and winter vegetables. Tourism was a relatively small industry primarily catering to wealthy northerners and the development of sunshine agriculture was severely retarded by catastrophic freezes an 1895-96. The story of the Florida economy in the twentieth century is dominated by the decline of the frontier industries and the growth of the sunshine industries. The invention of orange juice concentrate made Florida the dominant producer of orange juice in the world, until the freezes of the 1980s enabled Brazil to take the top spot. Developments in trucking and rail transportation made Florida the dominant domestic producer of vegetables in the winter season. Tourism began to serve the mass market with the decline in automobile prices in the second decade of the century. After World War II retirees, who have similar economic characteristics to tourists, moved to Florida in large numbers. This influx was stimulated by the wartime growth of household savings, the growth of private and public pensions, and developments in air conditioning and mosquito control. The extension of mortgages to condominium housing in the early 1960s and the development of gated communities at the end of the decade further increased the retiree influx. As the twentieth century ended, tourism-retirement was the dominant component of the state’s economic base.

**Ira M. Sheskin**, Department of Geography, University of Miami.  
*The Jews of Florida: Geographic and Demographic Perspectives.*

Between 1990 and 2007, more than fifty American Jewish communities, including Miami, Broward, South Palm Beach, West Palm Beach, Martin-St. Lucie, Sarasota, St. Petersburg, Orlando, and Jacksonville, have completed one or more random digit dialing telephone surveys of the Jewish population in these communities. These studies collectively include more than 85% of American Jews and cover a wide range of topics, including population size, population growth, population distribution, migration, demographic characteristics, religiosity, memberships, Jewish education, familiarity with and perceptions of Jewish agencies, social service needs, anti-Semitism, Israel, the media, and philanthropy. First, this paper describes the size and growth of the Jewish population of Florida within a national context. This population has increased from 112,000 in 1960 to more than 650,000 in 2007 and now represents at least 10% of American Jews. Second, the paper examines the geographic distribution of Jews within Florida and examines increases and decreases in this population for those Jewish communities for which data are available. Third, this paper presents the major geographic and demographic results of these studies in a comparative context, documenting the

significant diversity among American Jewish communities and the manner in which Jewish communities in Florida differ from those in other parts of the country.

**Boswell Thomas** Department of Geography, University of Miami.

*A Comparative Study of Blacks Living In New York City and Metropolitan Miami*

New York City and Miami offer interesting comparisons and contrasts when their populations are studied. Both are large cities, although New York City is an order of magnitude larger (9.3 million vs. 2.2 million). New York City is one of the United States' older cities, having been originally settled by Europeans in the 1600s, whereas Miami is a much newer Sunbelt city, having been incorporated only in 1896. Both cities are among the American cities that have been most impacted by immigration. In 2000, 50.9 percent of Miami's population was comprised of immigrants, the highest for any major city in the Western Hemisphere. At the same time, over one-third of New York City's population was made-up of immigrants. Miami's Blacks comprised 20.3 percent of its population; whereas African Americans made-up 24.6 percent of New York City's population. In 2000, New York City had the largest Black population among cities in the United States. As has been the case for these two cities total population, immigration has played a major role in configuring the characteristics of their Black populations. The purpose of this paper is to compare and contrast the two Black populations in New York City and Miami in terms of the following four characteristics: (1) where (in which types of neighborhoods) they live in these two metropolitan areas; (2) how their Black populations compare in socioeconomic terms to Whites, and Hispanics in their respective cities; (3) how Blacks in Miami compare to Blacks living in New York City in terms of their respective socioeconomic status, and (4) the role immigration has played in establishing the characteristics of Blacks living in New York City, and Miami.

**Kristine Bezdecny**, Graduate Student, University of South Florida

*Celebration, Florida: A Historical Geographical Perspective*

This paper will examine the history and development of Celebration, a new urbanist community built by Walt Disney World, and its overall relation to Osceola County, Florida and Orlando, Florida as an intersection between urban revitalization, tourism, and the urban space as the nexus between the global and the local, within the framework of uneven geographical development. Using historical methods, archival data, and observations recorded using photographs, Celebration's relational place within the Orlando region as a mirror for revitalization practices across the urban space is qualitatively explored, as well as examining the shifts within the space of Celebration over the period of its build-out. Focus will be placed on the dynamics involved in the conception and development of Celebration, Florida by an entertainment conglomerate, on land reserved for tourist purposes, utilizing a form associated with one of the most popular contemporary urban revitalization processes, in a county with demographics that mirror the inverse of this new community.

**Session Number 5 – Environmental**

**10:15 a.m. –12:15 a.m. – R-2**

**Chair: Corene Matyas**

**Kamal Alsharif**, Department of Geography University of South Florida

*Construction and Storm Water Pollution, Violations and Penalties: A Minnesota Case Study*

The Minnesota Pollution Control Agency is the lead agency in charge of enforcement of the General National Pollutant Discharge Elimination System (NPDES) for the construction storm water permit activities. In Minnesota the disposal of storm water is regulated through State Disposal System (SDS) permit which is combined with the NPDES permit. The type of penalties ranged from Administrative Penalty Order (APO) to Stipulation Agreement (STIP). The purpose of the study was to examine the types of penalties and nature of enforcement from 2001 to 2007. This study focused on the violations that went beyond warning to actual enforcement action. Twenty three percent of the violations were committed by public entities, such as, townships, cities, and the State Highway Department. The increase of resources and managers/contractors education about storm water management will improve the effectiveness of the program and will lead to fewer violations.

**Jeffrey L. Cooley**, Undergraduate Department of Geography University of Florida  
Geography

*Tropical Cyclone Frequency in South Carolina*

The active 2004 and 2005 North Atlantic hurricane seasons have sparked questions about warming trends and increases in tropical cyclone (TC) prevalence and intensities. South Carolina serves as a good case study since it receives many TCs during the hurricane season. The aim of this project is to conduct a frequency analysis of TC tracks through the state and hypothesize about factors contributing to possible trends. The Atlantic hurricane track dataset used spans 1851-2006 and includes 105 systems of tropical origin affecting South Carolina, including subtropical and extra-tropical storms. ArcGIS was used to conduct analysis on three spatial scales – the entire state, climate divisions, and counties. Figures produced by the initial frequency analysis clearly indicate specific zones within the state where TC prevalence is highest. On the state scale, the highest track densities (80-90 tracks per km<sup>2</sup>) occurred in Clarendon and Jasper counties. This scale also illustrated linear corridors through which track prevalence is highest. A state scale temporal analysis, divided into 50 year blocks, suggests shifting of track corridors over time. Analysis shows that incidence probability is not necessarily a function of proximity to the coast. At the climate division scale, the two coastal divisions contain the greatest number of tracks. However, the county level analysis illuminates Orangeburg County, a central county, as having the greatest track prevalence. Future work will examine other coastal states for comparative purposes.

**Jeff Martin**, Department of Geography, University of Jacksonville  
*Climate, Weather, and Baseball Stadiums in St. Petersburg, Florida.*

Early in the 1990's the city of St. Petersburg, Florida built what was then a state of the art domed stadium in an effort to encourage the establishment of a major league baseball team in the Tampa Bay area. The initiative was successful, and the Tampa Bay Devil Rays franchise began in 1998. At the time of construction the necessity for a covered stadium in St. Petersburg was questioned. The frequency of air mass thunderstorms could interfere with play, but it was believed that the economic impact would not be sufficient to warrant a domed venue. An unpublished analysis of precipitation events in the Tampa Bay area was conducted. Included in the study was the cost of game cancellation and postponement. That study concluded that there are sufficiently frequent and intense rain events at the time of competition to justify the covered park. Now St. Petersburg is examining the construction of a new baseball stadium in the same vicinity in an effort to keep the franchise in the city. This time the proposed stadium is uncovered. This research examines the actual weather for the period of time that the Tampa Bay Devil Rays have been playing in St. Petersburg to determine if the original conclusion supporting the domed stadium was correct. (Keywords: sports geography, applied climatology, air mass thunderstorms and precipitation.)

**Corene J. Matyas**, Department of Geography, University of Florida  
*An examination of rainfall rates using radar estimates and rain gauge data during the passage of a hurricane*

Researchers agree that 30 (40) dBZ radar reflectivity regions belong to stratiform (convective) clouds that produce light (heavy) rain rates. However, agreement has not been reached concerning whether regions of 35 dBZ radar reflectivity values can produce high rain rates. As convective clouds produce rain rates of  $10 \text{ mm h}^{-1}$  or greater, this study examines regions of 35 dBZ reflectivity returns embedded within Hurricane Charley to determine if they can produce rainfall that meets this threshold. Radar reflectivity returns, radar-estimated rainfall totals, and rain gauge data are analyzed within a GIS. First, the GIS identifies the value of radar-estimated rainfall for the portion of the atmosphere above each rain gauge. Then, rain gauge and radar-estimated rain rates are evaluated to determine which registers higher values during the passage of the hurricane's outer rain bands and inner core region. Results show that that 32% of the 35 dBZ regions produce rain rates equal to or greater than  $2.5 \text{ mm in 15 minutes}$  ( $10 \text{ mm h}^{-1}$ ). All 21 cases occur as the interior region of Charley passes over the rain gauges located closest to the storm track. The radar underestimates the rain rates during the passage of this interior region. Therefore, rainfall rates produced by regions of 35 dBZ reflectivity returns may be underestimated, and these regions may produce flooding rainfall if embedded within a slow-moving tropical cyclone. Future analysis will examine these regions in additional landfalling tropical cyclones.

**Peter Waylen**, Department of Geography, University of Florida.

**Youliang Qiu**, Department of Geography, University of Florida.

*The Changing Importance of Winter Rains to Annual Rainfall Totals in Florida.*

The most pronounced geographic aspect of monthly precipitation regimes in Florida is the shift from northwestern bimodality to southern unimodality. Cold season (November – April) rains are generally frontal, and fairly evenly distributed across the northern part of the state, declining throughout the peninsular portions. Warm season (May-October) rains are often convective and occasionally associated with tropical disturbances. Although cold season rains are on average smaller than the warm, they display considerable interannual variability due to have a disproportionately great hydrologic effect upon streamflow because of lower contemporary evapo-transpiration. Long-term characteristics of cold rains in the state, employing 11 stations with monthly records from 1900-2000, reveal that, although there is no statewide pattern of increasing or decreasing seasonal rainfall, regardless of position in the state, the proportion of annual rainfall contributed in the winter is increasing. Such point observations are notoriously “noisy”, prone to local effects, and susceptible to changes in the surrounding environment (although not to the extent of temperatures). A data set of estimated monthly precipitation (1950-2000), gridded at 0.125° intervals is examined, for comparative purposes, to determine how representative the point records are, and to determine the varying spatial extent of the changes over the state. Both historic data sets clearly indicate the importance of ENSO in influencing rainfall totals, but there are also clear indications of longer term lower frequency changes which may be responsible for the noted shift towards greater winter rainfalls.

***Session Number 6 Global/World #2***

***2:00-3:20***

***R1***

**Daniel Godwin** Undergraduate Department of Geography University of Florida

*Advanced Classification Techniques in the Semi-Arid Caprivi Region of Namibia*

This presentation reports on the investigation on the use of advanced techniques to classify semi-arid landscapes in the Caprivi region of Namibia, with comparisons drawn between these and traditional methods. Semi-arid environments have been fairly resistant to traditional remote sensing methods: many analyses or indices directly or indirectly rely on the water-content of the environment under observation. Likewise, semi-arid savanna environments tend to lack discrete, quantifiable features; rather, they are characterized by a gradual change between different vegetative communities. To address these challenges, this project compares different methods for classifying the landscape: decision tree classification, linear unmixing, and traditional classification. The traditional classifications, along with aerial photography, are used to check the accuracy of the more advanced methods.

**Jaclyn M Hall**, Graduate Student, Department of Geography University of Florida  
*Remote Sensing of Humid Forests: Connecting Canopy Complexity to Image Texture*

This study identifies new methods to link species level data with Landsat image data using canopy organization as an intermediate scale. In the 60 m tall montane rain forests of Tanzania, NDVI does not correlate highly with vegetation attributes such as basal area, stem density, or species richness. Simple visual inspection of images, combined with expert knowledge of forest patches, reveals that image texture and spectral reflectance may correlate with both disturbed forest areas, and with mature older growth forest. The relationship between image texture and species richness is complex, including mature growth, phases of disturbance, clearing, and regrowth of plantations and abandoned fallows. Models of upper canopy complexity are created using field data (height, DBH, position in quadrant), representing variation in upper canopy structure that can then be related up to the satellite and down to species composition. Ordination, a method useful in revealing patterns in ecological data, is shown to be useful in describing this “disturbance continuum” using field data.

**Kiara Winans**, Graduate Student, Environmental Engineer Department University of Florida  
*Carbon accounting for soils of Mali, West Africa: Comparing ISRIC, Mass Spectrometer, and US Geological Survey Data*

Soil data for Mali, West Africa is scarce and sometimes non-existent. As such, the availability of accurate data can be a pitfall for detailed soil analysis. In doing detailed soil analysis, accurate data is needed. In this research I compare soil carbon content data at different scales in order to assess issues of scale between data sets. I then utilize various scaled data to create a soil erodibility factor (or k factor) map for soils types of Mali, West Africa. Maps at different scales can be easily combined in a model so that the resulting map appears to have high information content, and seems to be suitable for use at a much finer scale than is actually appropriate (Lilburne and Hewitt, 2007). In addressing issues of map scale detailed data descriptions (e.g. data content and source) are provided for all the driving variables (i.e. soil-forming factors) or the natural environmental limits of the scale of interest, which correlate with the study objective/s. Results indicate that the scale at which the map is utilized for decision making should be matched to the driving variables appropriate to that resolution. The final product of this research is a map of the soil erodibility factor (or the k factor) for soil types in Mali, West Africa. The map is used to address hypothetical tree planting schemes for potential agroforestry projects for soil erosion reduction in Mali, West Africa.

**Anna Szyniszewska**, Graduate Student, University of Florida

*Analysis design for the likelihood of climate shock occurrence in Central Thailand*

Marked rainfall seasonality and interannual variation represent the main constraints for agricultural activity in Thailand. The aim of this research is to find the probability of climate shocks occurrence in four Thai provinces, on the basis of extracted periods of damaging excess or paucity of rain. The analysis covers four provinces in the country's central region: Lop Buri, Chachoengsao, Sisaket and Buriram, sampled by a comprehensive socio-economic survey, which provide traces of damaging climate conditions from the past. Each of those provinces has four villages containing eight years of rainfall records (1998-2006). This data is compared with the 30 year of daily rainfall records of the neighboring national network stations. A two-state Markov chain analysis is applied seasonally in survey villages and national network stations in order to estimate the transitional probabilities of the state rain/no rain. The probability of wet/wet or dry/dry transition during selected seasons and parameters for rainfall magnitudes is estimated. Pertinent relationships between the parameters of the daily rainfall probability models are then compared to the observed monthly rainfall totals, which are more abundant temporally and at stations across the country. On the basis of this analysis, a probability surface is drawn which allows the assessment of climate shock occurrence in reference to chosen climatic parameters.

### **More Learning Methods**

**3:25-3:45 R1**

**Ray Oldakowski**, Department of Geography, Jacksonville University.

*Alternative Spring Break: An Opportunity for On-Site Learning in Regional Geography.*

The Alternative Spring Break phenomena has become extremely popular among today's college Students. An alternative spring break is a brief study abroad excursion that offers the chance for Students to learn about a place and perform community service. Many universities offer alternative spring break programs. Students may also design these trips themselves working with nonprofit organizations that focus on international community service. This paper examines the opportunities available for geographers to promote on-site learning in regional geography as part of an alternative spring break program. These opportunities include utilizing spring break travel for field trips, travel journals, landscape analysis, field work and data collection. The activities can be combined with traditional classroom sessions as well.

**Session Number 7 Florida Environment**

**2:00-4:00**

**R2**

**Larissa Gata**, Graduate Student, Department of Sociology University of Florida

*Proximity Analysis of the Superfund Sites in Florida*

This research project examines the racial composition of the population surrounding the superfund sites in the state of Florida using the Geographic Information System (GIS) Proximity Analysis Tools. With 71 Superfund sites as units of analysis, this research attempted to duplicate the research methods used by Bullard et al (2007) in their research on environmental justice in the state of Michigan. In turn, the 2000 Census Tracts demographics were utilized to characterize the population within the 1-, 3- and 5-kilometer buffers. Similar to the environmental justice thesis, this research found that there is a statistical significance on the differences in the racial composition of the population as proximity to the superfund sites decreases. This finding supports the claims of environmental justice literature which asserts that there is a disproportionate siting of hazardous facilities among minority and poor communities in the United States.

Keywords: Environmental Justice, Florida, Proximity Analysis

**Wendy Francesconi**, School of Forest Resources and Conservation, University of Florida

*Designing Biological Corridors in the State of Florida: A GIS Analysis Approach*

Florida's rapid urban sprawl is a threat to the preservation of the state's natural areas. However, maintaining connectivity between state parks through biological corridors may be a landscape ecology strategy that can help conserve healthy forest communities. With the help of Geographic Information Systems, a corridor suitability landscape design was developed for the purpose of connecting two Florida State Parks. The urban/agricultural area between San Felasco Hammock Reserve State Park and O'Leno State Park was classified and quantified to determine the most suitable pathway for the endorsement of a biological corridor. Three different data layers of the study area were used for the analysis: a satellite digital image, a land use classification shapefile, and a roads map shapefile. The results from the analysis showed that among the potential corridors, the route that contained the largest combined area of primary and secondary suitable sites, in addition to avoiding major highways and urban centers, was the most suitable biological corridor design. This analysis is an innovative practical approach on how to make use of GIS analytical tools for conservation objectives involving landscape ecology concepts.

**Keywords:** *Landscape connectivity, cost-weighted distance, corridor simulation model.*

**Alisa W. Coffin** Graduate Student, Department of Geography, University of Florida

*Road networks and landscape change in the Santa Fe River watershed of North Central Florida*

Road networks and their associated landscapes are complex coupled social-ecological systems. Roads are functional human networks that vary in space, change over time and

have differential effects on the surrounding landscape because of their network properties and human use potential. Roads and their traffic cause ecological changes to the surrounding landscape, affecting ecosystem function and structure at various scales. In Florida, extensive road development was undertaken in the 20th century and continues as urban and coastal populations expand. This study examined the changes to the road network in the Santa Fe River watershed of north central Florida from 1975 through 2005 coupled with changes to land cover, and in particular, measures of landscape connectivity. Preliminary results show that over this time period, the road network has increased in length and become more highly connected. Measures of network structure, and node accessibility were analyzed globally for the entire watershed, and locally for partitioned regions. While overall changes have occurred across the landscape, locally, some regions are developing faster than others. The network development corresponds to land use intensification particularly in regions near urban centers such as Gainesville, Alachua, Lake City and Starke. Subsequent analyses will delve into the correspondence between these network measures of the road systems and changes to landscape structure including measures of connectivity, roadless space and forest patches.

**C.M. Knickerbocker**, Graduate Student, Department of Biology, University of Central Florida

**S. Leitholf**, Graduate Student, Department of Biology, University of Central Florida

**E.L. Stephens**, Graduate Student, Graduate Student, Department of Biology, University of Central Florida

**H. Laird**, Graduate Student, Department of Biology, University of Central Florida

**C.J.R. Anderson**, Graduate Student, Department of Biology, University of Central Florida and

**P.F. Quintana-Ascencio** Graduate Student, Department of Biology, University of Central Florida

**D. J. Keellings**,\* Graduate Student, Department of Biology, University of Central Florida

*Tree Encroachment of Sawgrass (Cladium jamaicense) Marshes within an Anthropogenic Dominated Ecosystem*

Human induced fire suppression and altered water drainage in natural ecosystems can change community structure and species composition. We describe the reduction in sawgrass marshes between 1940 and 2002, and assess the current condition of remnant marshes within the MacKay Tract, an isolated wetland embedded in Orlando, Florida. We test the correlation between live sawgrass and the presence of hardwood adult trees and seedlings, primarily of red maple. Vegetation in plots with different levels of tree encroachment is described. There was a dramatic reduction in the total area occupied by open sawgrass in the MacKay Tract during the last 60 years. Current open sawgrass vegetation accounts for only 12 % of the area covered in 1940. Tree basal cover was negatively associated with live sawgrass and positively related to red maple seedling density, but it was not associated with dead sawgrass tussocks. A two dimensional plant community NMS ordination was also constructed to show correlations between understory plants, red maple seedlings, sawgrass, and tree basal cover. We suggest that

further colonization by woody species of what is left of the sawgrass marsh is ongoing. The sawgrass area within the marsh will continue to be colonized by woody species and exotic species without intervention involving the restoration of hydrologic flow and fire in the marsh.

**Charles Roberts** Department of Geography Florida Atlantic University  
*Reconstructing Past Geographies: The Development of the Florida Peninsula: an Animated Space Shuttle image over the last 32 Million Years*

Working with Paleoscientist Edward J. Petuch, a series of 13 Paleo Space Shuttle scenes were developed. While these depicted critical stages in the development of the Florida peninsula, they did not reflect the transgressions and regressions of the sea. Therefore an animated map was developed, and a feedback loop was created; as the maps were drafted, the Paleoscientist was stimulated to rethink the past, and the original 13 maps were updated. The final result is the first book on the Geology of the Everglades and Adjacent Areas, including this 3 minute animated map.

**Sarah Conlin**, Undergraduate Student Department of Geography University of Florida  
*South Florida eco-passage recommendation using black bear and panther point datum.*

The Florida Fish and Wildlife Conservation Commission have documented a statewide increasing trend in the number of roadkill panthers and bears in Florida. Limited research and analysis has been conducted and been used in integrating wildlife crossing and right-of-way fencing into future highway design to mitigate mortalities. However, these structures are very expensive and should thus only be recommended when there is a guarantee of efficiency. In order to properly recommend for the location of future wildlife crossing sites, more encompassing analysis needs to be performed combining the species distribution and roadkill deaths of two species of large Florida mammals. A point locality density analysis with Spatial Analyst in ArcGIS combining black bear and panther telemetry data and road kill deaths evaluated which roadway areas should receive extensive conservation efforts. This point density analysis combined with locations of pre-existing wildlife crossing structures helped determine that Interstate 75 mile marker 86 (Everglades Boulevard) and 99 see a high frequency of large mammal road kill deaths and similarly have high species density, and would be best suited for the construction of new wildlife crossings. The outcome of this analysis will provide useful recommendations for land use managers, wildlife officials, and the Florida Department of Transportation.

\* Presenter

## POSTER ABSTRACTS

**Nicholas Campiz**, Graduate Student, University of Florida

*The political ecology of the economic recession and recovery on peripheral islands: A comparative study of Newfoundland and the Faroe Islands.*

With unique environments and distinctive cultures, islands proudly boast some of the most distinctive places on Earth. Island communities can also face erratic economies and can exist on the periphery of society. This study will focus on the marginal situation many island communities find themselves in, in particular ones that are part of a larger mainland state. This comparative study examines two island entities on either side of the North Atlantic: Newfoundland and the Faroe Islands. Both island entities share similar characteristics such as a distinct culture from the mainland and a centuries-long relationship with the North Atlantic fishery – a reliance leading to similar deep recessions in the early 1990s following the mismanagement of marine resources.

This research investigates differences between the two case studies, focusing on jurisdictional arrangements throughout the recession and recovery. Both de jure and de facto power structures will be charted and analyzed, along with the effects on the economy, the environment, and society as a whole. Using current literature as well as archives at the Centre for Newfoundland Studies at Memorial University of Newfoundland, a picture emerges of environmental regulation getting lost not only between gaps in government, but in differing environmental discourses between the islands and the mainland. In the future, interviews and other qualitative analysis will be included, in particular from the rural areas hardest hit by the collapse of the fishery industry. The study will add to our understanding of people on the geographic and economic periphery, especially those reliant on the primary sector for their livelihood.

**Mario Cartaya**, Undergraduate Department of Geography University of Florida

**Kristina Kell**, Undergraduate Student, Department of Geography university of Florida

*Rainfall Comparison for Hurricanes Frances and Jeanne*

In this study, we compare the amounts and locations of highest storm total rainfall accumulations from Hurricanes Frances and Jeanne of the 2004 hurricane season. Storm speed is known to affect rainfall accumulations as faster-moving storms spend less time over a single point. Hurricane Jeanne produced less overall precipitation and moved at a faster speed over the state of Florida. Using six hourly data collected by researchers utilizing the SHIPS models for prediction of hurricane intensity, we also examined additional factors that can contribute towards hurricane rainfall production such as storm size, the amount and direction of wind shear, and relative humidity values at low and mid-tropospheric levels. Both storms were similar in size, but Jeanne experienced higher wind shear values and was located within an environment of lower relative humidity values in comparison to that of Frances. Therefore, we find that wind shear, relative humidity, and storm speed contributed to increased rainfall accumulations for Hurricane Frances, and decreased rainfall accumulations for Hurricane Jeanne.

**Krista Church** Undergraduate Student, University of Florida

*Spatial-temporal analysis of grave marker distribution and inferred social status between Victorian cemeteries in St. Augustine, Florida*

This poster looks at spatial distribution patterns and social class markers present within three nearby cemeteries that were active during 19<sup>th</sup> century in the St. Augustine area. The three cemeteries, all within a mile of each other, were instated for 3 distinct “classes” of people: Native Americans under mission guidance (Tolomato), Catholic parishioners (Nombre de Dios), and yellow fever victims of Anglo descent (Huguenot). This project addresses what correlations are present regarding the spatial placement of graves and the inferred status of the deceased based on funerary marking typology, the variation within these correlations between the cemeteries, and furthermore an attempt to quantify the difference in the status of the interred as a larger social category in 19<sup>th</sup> century Florida.

**Amy Cohen**, Graduate Student, University of Miami

*Multi-resolution analysis of land cover and seasonality in northern hardwood forests*

Sup-pixel land cover in hardwood forests in the north-eastern United States was assessed through soft-classification of satellite imagery from three different sensors (Landsat ETM+, ASTER, and SPOT). The soft classification method utilized a neural network algorithm implemented as a multi-layer perceptron (MLP) that assigns to each pixel a degree of class membership for five endmembers: deciduous forest, evergreen forest, water, built features, and cleared land. The classified images from different sensors were then compared to each other using correlation coefficients and to a 1-ft resolution orthophotograph of the study area using two different methods of cross-tabulation, composite and multiplication, at multiple resolutions as implemented in Idrisi software. Correlation coefficients showed the strongest relationship between the ASTER and SPOT classified images with  $r = 0.84$  for the deciduous class and  $r = 0.97$  for the water class. The overall agreement between the classified images and a set of validation polygons was highest for the Landsat ETM+ classified imagery (0.85 at the highest resolution and 0.87 at the 100 x 100 pixel resolution), which suggests that the MLP applied to coarser resolution observations with five or more spectral bands produces more accurate soft classification of land cover in the study region. The results are being analyzed in light of the seasonality of different land cover types as tracked by multitemporal satellite imagery provided by AVHRR and MODIS.

**Ursula Garfield**, Graduate Student, University of Florida

*A Decade After In-stream Mining: The Leaf River, Mississippi and two mined tributaries*

Instability in the Pascagoula River in Mississippi (Figure 1) and its tributaries, due to in-stream and floodplain mining has been studied for the 1950s to the 1990s (Mossa, Coley and Rasmussen, 2007). Following a 1995 law in Mississippi prohibiting in-stream mining but allowing floodplain mining, this research examines if the mined rivers of the Pascagoula Basin have recovered in the decade since this law has been enacted. The Leaf River channel stability is influenced by tributary recovery from in-stream mining activity.

Infilling of mining ponds on the Bowie River is causing instability on the Leaf River due to a lack of sediment flowing into the Leaf. Addition of rip-rap is stabilizing migration of the Leaf River channel downstream of the Bowie River confluence but is only a temporary measure to prevent flood inundation and stream capture. Thompson Creek in-stream mining pit infilling is causing shifts in channel location and may change location if river avulses into the pits.

**Luke Rostant** - Graduate Student,, University of Florida.

*Does community-based monitoring lead to adaptive management in the Mudumu North Complex, Namibia?*

Community-based monitoring in Namibia came about due to the combined efforts of communities, Non-governmental organisations, and the Namibian government. When the government devolved power to communal conservancies in 1996 to manage themselves, people realised that any monitoring system put in place in these conservancies would only be successful if it too was managed by the conservancies. The main objective of the research on the community based monitoring system (the Event Book System – EBS) in Namibia is to develop a better understanding of how the system works, and its position in the adaptive management cycle. This poster/presentation summarizes the results of semi-structured interviews carried out in the communal conservancies of Kwandu, Mayuni and Mashi, and discusses some of the main findings of some key informant interviews with the Ministry of Environment and Tourism, and NGO's assisting communal conservancies in Namibia. While there was evidence that the EBS has developed a sense of pride and ownership within these communal conservancies, the majority of respondents did not think they would be able to carry on without NGO support, be it monetary or otherwise. There also appeared to be a disconnect between the conservancy management feeding information down to its membership, and a lack of understanding on the part of the conservancy management regarding the use of the data to make management decisions. The clearest examples of how the system is used to make management decisions were derived from the key informant interviews, who also believe that the EBS has a lot more potential, and that ideally the EBS could be developed to holistically look at adaptive management from many different fields. Future research will include additional semi-structured interviews, using the data to model human-animal conflict, and using simple vegetation transects to compare resilience across the Mudumu North Complex.

**Sam Schramski**, Graduate Student, University of Florida

*Interdisciplinary Rapid Assessment Research Southeastern Mexico poster for Hurricane Dean Rapid Assessment Team*

On August 21, 2007, Hurricane Dean made landfall as a Category 5 storm and moved across the southern Yucatan peninsula. While media coverage focused on damage to beaches and tourist areas, less attention was given to subsequent reports that estimated near total crop loss and large-scale forest damage for region's economically disadvantaged rural interior as a result of the massive storm. Resilience determines the vulnerability of coupled social-ecological systems to unexpected disturbances such as

hurricanes (Holling 2001). Resilience has been defined as the capacity of a system to experience shocks while retaining its function, structure, and feedbacks (Walker et al. 2006). Much current scholarship focuses on developing metrics for resilience (Cumming et al. 2005) and vulnerability (Adger 2006). This project lays groundwork for comparison of the post-hurricane social-ecological system to a 30-year record developed by the south Yucatan peninsular region project, and to test proposed measures of resilience.

**Geraldo Silva**, Graduate Student, University of Florida

*Peanut diversity, history and management by the Kaiabi (Tupi Guarani) indigenous people in the Brazilian Amazon.*

By the mid 20th century, the Kaiabi indigenous people migrated from their former territory in Brazil, because of invasion of their land by rubber tappers. During this movement, a Kaiabi shaman and political leader met the Villas Boas brothers and accepted their invitation to visit the Xingu area of the Brazilian Amazon. There, this shaman observed a very different crop system based on manioc cultivation and realized that his people would not adapt to the new place without their diversified gardens. He requested that a cousin bring samples of each crop variety from his old village and then multiplied them for three consecutive years in the Xingu, providing seeds for the families arriving to the new location. However, today, the Kaiabi are facing changes in their social organization and in their economic activities. Many are engaged in paid jobs and industrialized food is not uncommon in the villages. Crop diversity has reportedly decreased in their gardens. The shaman passed away in 2001, and since, his sons are committed to honor his memory and promote the recovery of crop diversity, particularly of peanut, which holds a great cultural importance for the Kaiabi. Based on the shaman's lessons, his younger son, who is also a shaman, directs the work through his connections with the spiritual world. Old peanut varieties were multiplied and new ones are created every year, which are delivered to families in other villages. The present goal and challenge of the Kaiabi is to recover crop diversity and keep their history alive.

**Drake Sprague**, Graduate Student, Florida Atlantic University

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

Remotely sensed data offer resource-limited governments and non-government agencies alike a low-cost means of deriving useful information about the intensity of urban land cover and population density. A regression model is proposed for predicting the percentage of total built-up area based on normalized differentiated vegetation index (NDVI) data in the city of Pucallpa, Peru. 110 random sample locations of the area were visited in 2007. For each point a per-hectare population density was also estimated by authorities of Peru's national census bureau. NDVI values for each point were extracted using a Landsat enhanced thematic mapper (ETM+) image of 2000. The total built-up land cover was then extracted around a 30-meter radius of each point using a high-resolution Google Earth image of 2004 after being registered to the Landsat ETM+ image. The regression model is then assessed by how closely it relates the percentage of

built-up area to NDVI, and by its usefulness in estimating urban population density per hectare.

**Andrea Wolf**, Graduate Student, Department of Geography University of Florida  
*Vegetation differences between Botswana and Namibia*

The transboundary area between northern Botswana and the Caprivi Strip in Namibia is a contiguous environment, but the vegetation has different structure and composition, especially along the riverfronts. The extremely high density of elephants in Botswana as compared to Namibia is often cited as one important driver of vegetation change in Botswana, and could have important implications for future management in the Caprivi Strip as elephant numbers increase in this area. This paper describes the differences in vegetation along the Chobe riverfront in Botswana, which has had high elephant densities for at least 50 years, and the Kwando riverfront in Namibia, where elephant populations are growing, by analyzing variation in grass cover, shrub and tree density and diversity, and extent of damage to trees and shrubs with special attention to elephant damage. Twenty-seven Walker transects and 27 Riney transects were carried out in Chobe National Park in Botswana as well as 27 of each type of transect in Bwabwata National Park in Namibia. The transect data demonstrated higher levels of grass cover and abundance in Bwabwata, as well as a greater diversity of shrub and tree species (particularly Acacias) in Namibia with less damage and in higher densities. The results imply a loss of flora diversity and a downward trend in vegetation health in Botswana which could preview what will happen along the Kwando River in Namibia with comparable management particularly regarding elephants.

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