# Program Guide for the 2006 ANNUAL MEETING OF THE PENNSYLVANIA GEOGRAPHICAL SOCIETY

OCTOBEŘ 27-28, 2006 SALISBURY, MARYLAND Hosted by Salisbury Úniversity

Salisbury University

Image courtesy of NASA/Earth observatory http://earthobservatory.nasa.gov/Newsroom/NewImages/Images/Chesapeake.A2003341\_Irg\_nc.jpg



#### Dear PGS Attendee,

Welcome Salisbury, Maryland! We are grateful that many of you took the time to make the long drive down from Pennsylvania to attend the conference. We are also happy to see some of our neighbors from Virginia, Delaware and the Western Shore of Maryland attending the conference. Although this meeting is a little smaller than in past years, you will still find a diverse range of topics being presented, including two computer-based workshops. This year's arrangement committee decided to take advantage of our working relationship with the School of Education at Salisbury and highlight K-12 geographical education. To this end, there are four K-12 education workshops scheduled and a panel discussion on K-12 teaching. We are also happy to be having Salisbury alum Mike Seidel speaking at the kick-off luncheon and climatologist Cort Wilmott, 2006 PGS Distinguished Geographer, speaking at the Friday night Banquet.

Since many of you are new to the Salisbury area, we have done our best to introduce you to some aspects of the local culture. Our annual banquet will be a traditional crab feast with all of the fixings (be sure to bring your complimentary crab mallet with you). Our Saturday field trip will cross from shore to shore. We will begin at Assateague Island State Park with its wild ponies and end at the fishing communities along the Chesapeake Bay. We will discuss the historical, cultural and physical nature of the Eastern Shore of Maryland along the way. For those of you staying through to Sunday, we have local maps and brochures available at the registration table.

The local arrangement committee hopes that this year's conference will be both educational and enjoyable. If there is anything that we forgot, or if you have any questions about PGS, Salisbury University or the area, please ask us for assistance. We look forward to an exciting meeting! Thanks again for attending.

Sincerely,

Brent Zaprowski, Conference Chair Salisbury University



#### PENNSYLVANIA GEOGRAPHICAL SOCIETY

ANNUAL MEETING OCTOBER 27<sup>th</sup> and 28<sup>th</sup>, 2006 SALISBURY UNIVERSITY SALISBURY, MD 21801

## **2005-06 Officers**

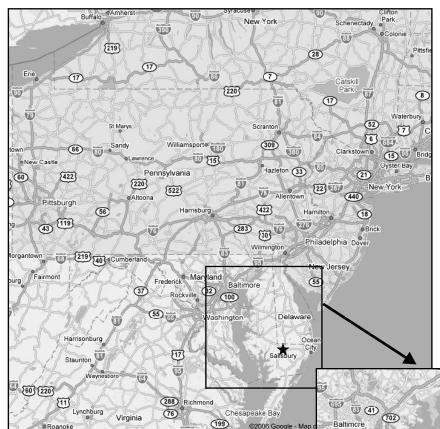
Mary Graham – President
Thomas R. Mueller – President-Elect
Jamie Mitchem – Secretary
Kay Wiliams – Treasurer
Chad Kauffman – Executive Director
Sue Lucas – Editor, Viewpoint
William Kory – Editor, Pennsylvania Geographer
Greg Faiers – Associate Editor, Pennsylvania Geographer
John Benhart, Sr. – Past President

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Mary Braccili – Publicity
Joseph Bencloski – Awards
Ola Johannson – Outreach to Students
Sue Lucas – Outreach to Public/Private Sector
Beverly Wagner & Tara Clopper – Outreach to Pre-Service Teachers
Ed Grode – Outreach to K-12 Teachers
Diane Stantiski & Timothy Hawkins – Membership
Brent Zaprowski – Technology

## **Local Arrangements Committee**

Brent Zaprowski – Meeting chair, Salisbury University Mara Chen - Salisbury University Brent Skeeter – Salisbury University Dan Harris - Salisbury University Mike Scott - Salisbury University Susan Parks - Salisbury University



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#### Directions to Salisbury, Maryland

#### From the north:

Take US Rt.1 south from Wilmington to Dover, DE. There, you will pick up U.S. Rt. 13 south (Exit 97). When you reach Salisbury, be sure to stay on U.S. Business Route 13. Business Rt. 13 passes northsouth through Salisbury. The SU campus is directly off Rt. 13. We are less than three hours south of the Philadelphia, Pennsylvania, area.

#### From the south:

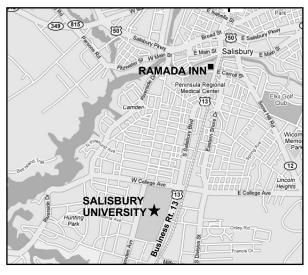
Take US Rt. 13 from the Bay bridge/Tunnel. When you reach Salisbury, be sure to stay on U.S. Business Route 13. Business Rt. 13 passes north-south through Salisbury. The SU campus is directly off Rt. 13. We are less than three hours north of the Norfolk, Virginia, area.

## From the west:

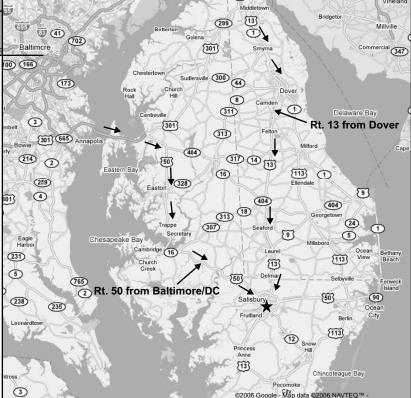
U.S. Route 50 is the major route between Washington, D.C., and Ocean City, Maryland. Follow Rt. 50 south towards Salisbury. On the outskirts of town, be sure to take the exit for business Rt. 13 south. Business Rt. 13 passes north-south through Salisbury. The SU campus is directly off Rt. 13. We are about two hours east of the Chesapeake Bay bridge at Annapolis, Maryland.

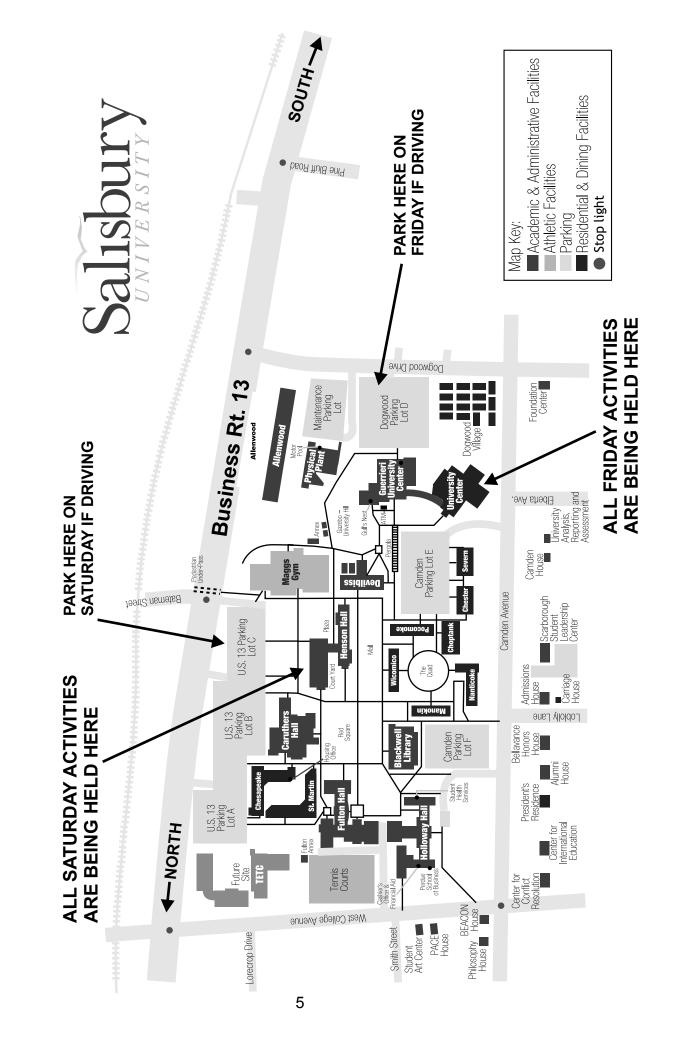
#### From the east:

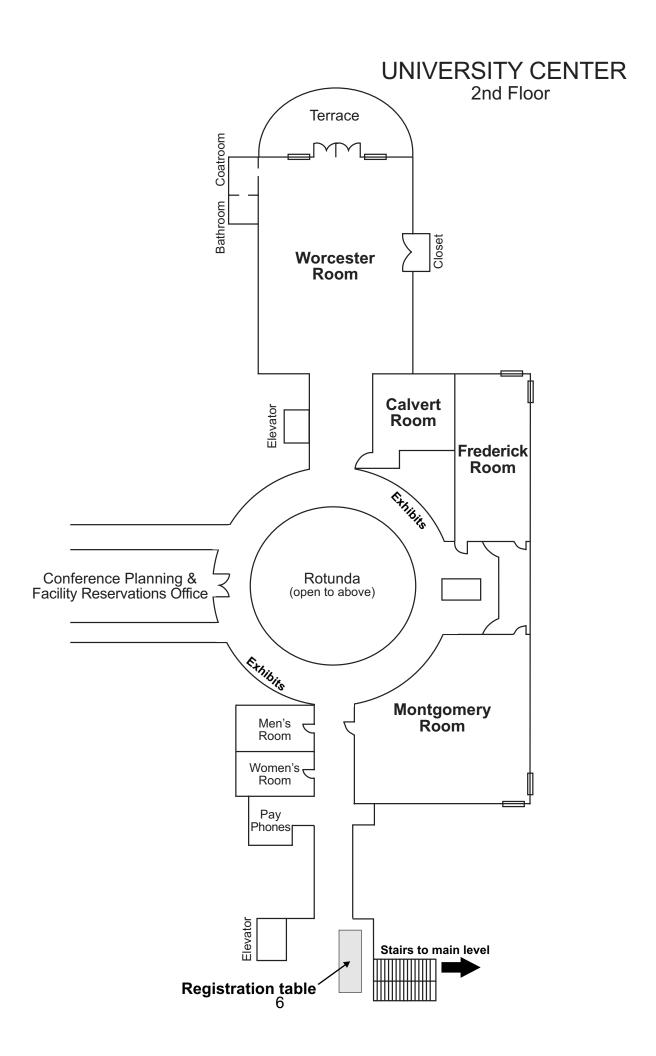
Park your submarine at the Ocean City public landing, then take U.S. Route 50 west to Salisbury. In Salisbury, follow the signs to campus.

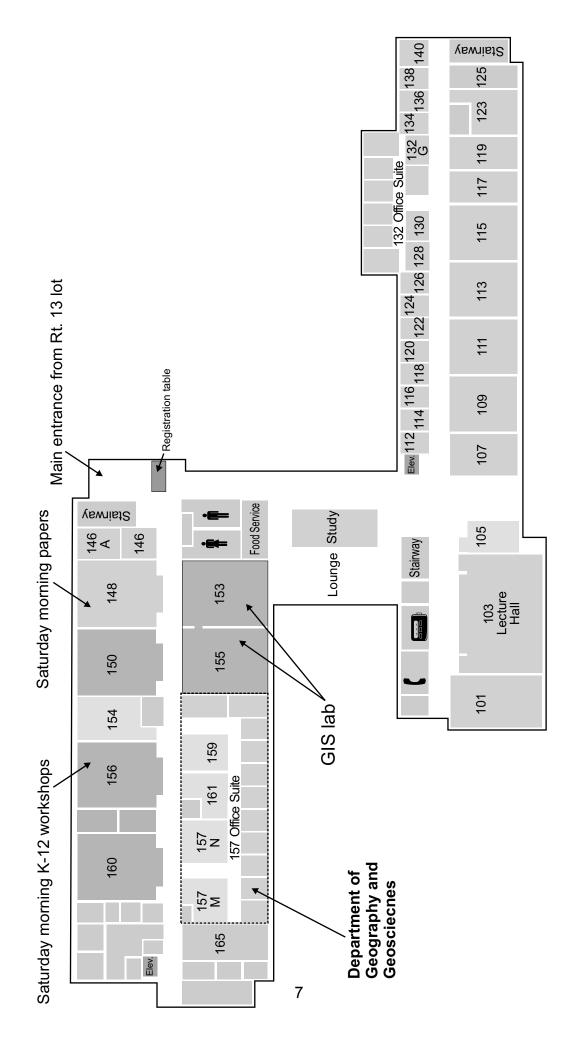


The Ramada Inn is approximately 1 mile north of Salisbury University. During the meeting, SU shuttles will run participants back and forth between the University and the Ramada Inn.









Henson Science Hall - First Floor

Geography and Geosciences, Math and Computer Science



|                    | SCHEDU   | JLE OF EVENTS  |  |  |  |  |
|--------------------|--|--|--|--|--|--|
| Thursday, October  | 26   |  |  |  |  |  |
| 5:00-8:00 pm       | Conference registration - Lobby Ramada Inn   |  |  |  |  |  |
| 8:00-10:00 pm      | PGS Executive Board Meeting  | - Ramada Inn Conference Room   | 1  |  |  |  |
| Friday, October 27 |  |  |  |  |  |  |
| 8:00 am - 5:00 pm  | Conference registration - Rotu   | nda, University Conference Cente   | er   |  |  |  |
| 9:00 am - 3:00 pm  | *New! Student Map Contest - Rotunda, University Conference Center  |  |  |  |  |  |
|                    | Fredrick Room  | Montgomery Room  | Worchester Room  |  |  |  |
| 8:30-9:40 am       | Climate and Weather  | GIS and Planning   |  |  |  |  |
|                    | Chair: Chad M. Kauffman  | Chair: Thomas R. Mueller   |  |  |  |  |
|                    | 8:30: Chris W. Gilson*, California University of PA, "The Effects of Terrain on CASA Radars"   | 8:30: Jamie Mitchem and<br>Thomas R. Mueller, California<br>University of PA, "Crime<br>Mapping and HAZUS: Issues in<br>Public Safety Data"        |  |  |  |  |
|                    | 8:50: Jonathan A. Jennings* and Chad M. Kauffman, California University of PA, "A Synoptic Climatology of Tornadoes Events in Eastern Ohio and Western Pennsylvania using the Miller's Guide Technical Report 200" | 8:50: X. Mara Chen and Karin E. Johnson, Salisbury University, "GIS for rural emergency and public health planning: challenges and lessons"        |  |  |  |  |
|                    | <b>9:10</b> : Greg Burzynski*,<br>Salisbury University, "Floral<br>Composition of the Delmarva<br>Peninsula during the Holocene:<br>A Palynological Approach"  | 9:10: Glen D. Sine, Salisbury<br>University,<br>"Landcover/Landuse Internship<br>with Worcester County<br>Department of Comprehensive<br>Planning" |  |  |  |  |
|                    | 9:30-9:40 Questions  | 9:30-9:40 Questions  |  |  |  |  |
| 9:45-10:00 am      |  |  | Coffee Break Sponsored by<br>Eastern Shore Regional GIS<br>Cooperative |  |  |  |

<sup>\*</sup> Student paper contest



|                   | Fredrick Room   | Montgomery Room   | Worchester Room   |
|-------------------|---|---|---|
| 10:00-11:10 am    | Regional Geography  | Environmental Issues  |   |
|                   | Chair: Mary M. Graham   | Chair: X. Mara Chen   |   |
|                   | 10:00: Paul D. McDermott,<br>Montgomery College, and<br>Philip M.Mobley, George<br>Mason University, "Landscapes<br>from the Washington Territory<br>– Review and Comparison of<br>Selected Drawings from the<br>Isaac Stevens Northern Pacific<br>Railroad Survey 1853-55" | 10:00: John E. Benhart,<br>Shippensburg University and<br>York College of Pennsylvania,<br>"Ave Maria: A Planned<br>Community In Collier County,<br>Florida"                  |   |
|                   | 10:20: Sherman E. Silverman,<br>Prince George's Community<br>College, "A Study of Central<br>Places on Maryland's Lower<br>Delmarva Peninsula"  | 10:20: Chuck Geiger,<br>Millersville University, "Solid<br>Waste Disposal in<br>Pennsylvania"   |   |
|                   | 10:40: Mary M. Graham, York<br>College, and Richard D. Stone,<br>Shippensburg University,<br>"Kremlin: A Fortress not a<br>Government"  | 10:40: Zachary Baccala, Post,<br>Buckley, Schuh & Jernigan,<br>Inc., "A Comparative Study on<br>the Perception and<br>Application of Fertilizers along<br>the Wicomico River" |   |
|                   | 11:00-11:10 Questions   | 11:00-11:10 Questions   |   |
| 11:15 am-12:00 pm | Student Pizza Lunch sponsored by<br>the Geographic Society of Salisbury<br>University   |   | Italian Buffet Lunch (pre-<br>registration required by 10/20)                                 |
| 12:00 - 12:30 pm  |   |   | PGS Annual Meeting Kick-Off<br>Speaker: Mike Seidel,<br>Meteorologist, The Weather<br>Channel |
| 12:30 - 12:45 pm  |   |   | PGS Annual Business<br>Meeting  |

|                | Fredrick Room   | Montgomery Room  | Worchester Room   |  |
|----------------|---|--|---|--|
| 1:00 - 2:10 pm | K-12 workshop   | Environmental Modeling   |   |  |
|                | Ed Grode, Mercyhurst College  | Chair: Claire A. Jantz   |   |  |
|                | project, (b) Geography awareness week, (c)  | A. Jantz, Shippensburg<br>University, "Urban Growth<br>Modeling in Northeast<br>Pennsylvania"  |   |  |
|                | Intergrating geography into K- 12 curriculum, and (d) hands- on activities for teaching geography concepts. Each participant will receive handouts and a copy of the  | 1:20: Toni Belsky and Claire<br>Jantz, Shippensburg<br>University, "Developing a<br>Modeling System for the Upper<br>Delaware Watershed"                                   |   |  |
|                | Geography Teacher magazine.   | 1:40: Timothy W. Hawkins,<br>Shippensburg University, "A<br>Case Study of Hydrologic<br>Applications used for Judicial<br>Proceedings"                                     |   |  |
|                |   | 2:00-2:10 Questions  |   |  |
| 2:15 - 3:25 pm | K-12 workshop  Ed Robeck, Salisbury University  "From Screaming Skies to Dragon Slayers: An Introduction to Inquiry-based Instruction in the Earth Sciences " Come to this interactive workshop to gain a basic introduction to a variety of inquiry-based teaching techniques in Earth science that can be used in K-12 schools and on college campuses. | Panel discussion: Careers in Broadcast Meteorology Chair: Brent Skeeter Local and national broadcast meteorologists will be available to field questions from the audience |   |  |
| 3:30 - 4:40 pm | Panel discussion: Careers in  | Panel discussion: Careers  |   |  |
|                | K-12 geoscience education Chair: Brent J. Zaprowski   | in Geography<br><u>Chairs</u> : Diane Stanitski and<br>William Kory  |   |  |
|                | Local K-12 educators will share<br>their experiences and field<br>questions from the audience   | Career geographers will share their experiences and field questions from the audience  |   |  |
| 4:45 - 5:30 pm |   |  | Pre-Banquet reception<br>sponsored by the Henson School of<br>Science and Technology (cash bar) |  |
| 5:45 - 9:00 pm | PGS Banquet to be held at the Red Roost crab house (pre-registration by 10/20)  Busses depart from the Salisbury University Center at 5:45  Annual PGS awards: Recognition of 2006 Award winners and the 2006  PGS Distinguished Geographer Cort Wilmott, Professor, University of Delaware   |  |   |  |

| Saturday, October 28 |   |   |  |  |  |  |  |
|----------------------|---|---|--|--|--|--|--|
| 8:00 - 9:30 am       | Conference registration - Lobby, Henson Hall  |   |  |  |  |  |  |
|                      | Henson Hall, Room 148   | Henson Hall, Room 156   | Henson Hall, Room 153  |  |  |  |  |
| 8:00 - 9:00 am       | Chairs breakfast  | K-12 breakfast: Guest<br>speaker, John Katana, Indiana<br>Jr. High School, "Teaching<br>Opportunities in China"   |  |  |  |  |  |
| 9:00 - 10:10 am      | Travel and Tourism  | K-12 workshop   | Remote Sensing Workshop  |  |  |  |  |
|                      | Chair: George M. Pomeroy  | Don Zeigler, Old Dominion<br>University - Virginia Beach  | Joe Bencloski, Indiana<br>University of Pennsylvania   |  |  |  |  |
|                      | 9:00: George M. Pomeroy,<br>Shippensburg University,<br>"Policies and Best Practices for<br>Short Term Study Abroad: An<br>Instructor's Experiences"<br>9:20: Margaret Foraker,<br>Salisbury University, "Fostering<br>Geographic Engagement: | "Pattern Probing State and Local Welcome Signs" Using state and local welcome signs, participants will learn to (a) think thematically about the cultural landscape, (b) build and refine generalizations, (c) quantify qualitative information, and (d) interpret the symbols of place-making.                               | "Estimating the Extent of Tropical Deforestation in Amozonia Using Digital Image Processing"  Participants in this remote sensing workshop will use the MicroMSI digita image processing software package and a subscene of a Landsat image of Rondonia, Brazil, to study the problem        |  |  |  |  |
|                      | Reflections From a Puerto Rico<br>Field-Based Course"   |   | of tropical deforestation.  Workshop participants will receive a free copy of MicroMSI as well as the Rondonia image.  |  |  |  |  |
|                      | <b>9:40</b> : Michael T Applegarth,<br>Shippensburg University,<br>"Geography of Las Vegas and<br>Northwestern Arizona"   |   |  |  |  |  |  |
|                      | 10:00-10:10 Questions   |   |  |  |  |  |  |
| 10:15 - 11:25 am     | Teaching College Geography  | K-12 workshop   | GIS Hazus Workshop   |  |  |  |  |
|                      | Chair: Brent J. Zaprowski   | Laura L. Marasco, Salisbury<br>University   | Michael S. Scott, Salisbury<br>University  |  |  |  |  |
|                      | 10:15: Chad M. Kauffman, California University of Pennsylvania, "The Use of the Integrated Data Viewer (IDV) in an Educational Setting for Diagnostic Understanding of the Atmosphere"  | "Geography: A Discipline of Diversity, From Maps to Music" This workshop is designed to give K-12 educators ideas for integrating geography into other content areas to improve student geographic literacy through active learning. Participants will have the opportunity to experience some of these activities during the | "Using GIS to Uncover Vulnerability to Natural Hazards: HAZUS-MH MR2" HAZUS-MH is a powerful risk assessment software program for analyzing potential losses from floods, hurricane winds and earthquakes. This workshop will present practical advice on how to install, launch, undertake, |  |  |  |  |
|                      | 10:35: Diane Stanitski,<br>Shippensburg University,<br>"Tracking Global Ocean<br>Currents with NOAA's Adopt a<br>Drifter Program"   | session. Handouts and resource information will be provided.  | and analyze the results of a HAZUS-MH project. Projects related to the recent Maryland Flood Vulnerability Assessment will be utilized as an example.  |  |  |  |  |
|                      | 10:55: Gary W. Coutu, West<br>Chester University, "Using GIS-<br>Based Planning and<br>Environmental Models in the<br>Classroom"  |   |  |  |  |  |  |
|                      | 11:15-11:25 Questions   |   |  |  |  |  |  |
| 11:45 am - 4:00 pm   | • •   | I geography of the Lower Eastern  | •  |  |  |  |  |
|                      | Box-lunches and beverages will be provided, registration required by 10/20  |   |  |  |  |  |  |



## **PGS Award Recipients for 2006:**

## 1. Distinguished Teacher Awards:

Martin F. Schmidt, Jr., McDonogh School, Owings Mills, Maryland

and

**Dr. Chad M. Kauffman**, Dept. of Earth Sciences, California University of Pennsylvania

## 2. Distinguished Service Awards:

*Dr. George M. Pomeroy*, Dept. of Geography and Earth Science, Shippensburg University of Pennsylvania

and

Dr. William B. Kory, Dept. of Geography, University of Pittsburgh at Johnstown

## 3. Ruby S. and E. Willard Miller Lifetime Achievement Award:

*Dr. Calvin R. Thomas*, Dept. of Geography and Geosciences, Salisbury University

# 4. Distinguished Geographer Award (not evaluated by the PGS Awards Committee):

Dr. Cort J. Wilmott, Dept. of Geography, University of Delaware

#### **PROGRAM ABSTRACTS**

## Geography of Las Vegas and Northwestern Arizona

Michael T Applegarth, Shippensburg University

Las Vegas has been one of the fastest growing major cities in the country. The present tour will take us through northwestern Arizona to Las Vegas. Along the way we will see physical features of the area including Lake Mead, Hoover Dam, and the desert landscape of the Basin and Range region of the western United States. In Las Vegas we will see some of the attractions that make this city a popular tourist destination.

## A Comparative Study on the Perception and Application of Fertilizers along the Wicomico River

Zachary Baccala, PBS&J Inc.

Excessive amounts of nutrients in the waterways have caused many problems for the creatures that live in the water and for those people whose lively-hood depends on it. Often, agriculture practices are targeted first for applying excessive amount of nutrients, which run-off into our waterways; while residential lawn care practices are hardly noted. Agricultural lands adjacent to water are subject to numerous regulations which control and restrict how chemicals and fertilizers are used. Residential properties located adjacent to bodies of water have little or no regulations that govern the lawn care activities. This project conducted a comparative study by surveying both agricultural and residential property owners along the Wicomico River. The results help formulate recommendations to the property owners about the proper amount of the necessary fertilizers required as well as the preferred methods of application on land adjacent to the Wicomico River. The research methodology can also be applied to other areas where water quality is declining due to nutrient problems.

### Developing a Modeling System for the Upper Delaware Watershed

Toni Belsky and Claire Jantz, Shippensburg University

The Upper Delaware Watershed, which includes Delaware and Sullivan counties in New York and Pike and Wayne counties in Pennsylvania, has a variety of quiet, scenic rural attributes, such as the Delaware River, national parks, and state parks and game lands. These natural and recreational resources have attracted visitors and residents from the nearby New York metropolitan region. The Upper Delaware Watershed has therefore had a significant increase in development and population over the past 30 years. We are using a GIS to map specific characteristics and growth trends for each county. The GIS database will then be used to create a projected growth model for the future Upper Delaware Watershed. In this presentation, we will give a preliminary report on growth trends and discuss the use of GIS analyses for land cover change modeling.

# **Estimating the Extent of Tropical Deforestation** in Amazonia Using Digital Image Processing

Joseph W. Bencloski, Indiana University of Pennsylvania

Participants in this remote sensing workshop will use the MicroMSI digital image processing software package and a subscene of a Landsat image of Rondonia, Brazil, to study the problem of tropical deforestation. Unsupervised image classification and the Normalized Difference Vegetation Index will be used to determine the extent and characteristics of deforestation on the image subscene. Workshop participants will receive a free copy of MicroMSI as well as the Rondonia image.

# Ave Maria: A Planned Community in Collier County, Florida

John E. Benhart, Shippensburg University and York College of Pennsylvania

The paper will review the environmental planning design and geographic location of the developing planned town Ave Maria in Collier County, Florida. Stewardship areas, transfer of development rights, conservation by design, and comprehensive planning and zoning will be reviewed. The cultural and economic impacts on the surrounding agricultural land and town of Immakalee will be related to Ave Maria planning.

## Floral Composition of the Delmarva Peninsula during the Holocene: A Palynological Approach

Greg Burzynski, Carrie Tragert, Scott Baker, and Brent J. Zaprowski, Salisbury University

Using palynological techniques, the ecological history of an area can be determined. Although a few studies of the Chesapeake region have been done, none were focused on the Eastern Shore of Maryland prior to European colonization. This study is attempting to systematically identify and count pollen grains and their respective concentrations spanning back to the early to mid Holocene. This should help determine climactic changes in the region, and will be of use to archaeological surveys being conducted in the central peninsula. Our findings thus far have coincided floral composition change with known climatic change during relatively recent (less than 1000ya) events.

# GIS For Rural Emergency and Public Health Planning: Challenges and Lessons

X. Mara Chen and Karin E. Johnson, Salisbury University

Emergency planning offices and health departments are increasingly accountable to be prepared for natural emergency and health risks as well as potential terrorism. A comprehensive database focusing on time, place, and resources is critical to rational emergency planning. GIS can analyze and display a wide array of information effectively and efficiently to assist a variety mitigation and emergency management processes. The usefulness of this technology depends largely upon the quality and availability of the digital database consisting of real-time and historical observations and records. Small rural counties may have difficulty accessing the data, technologies and expertise to incorporate GIS applications into emergency preparedness. The proposed presentation highlights challenges in dealing with data sources, data accuracy and consistency issues, and project implementation. It concludes with lessons learned from a community-university GIS partnership in public health and emergency planning.

# Using GIS-Based Planning and Environmental Models in the Classroom

Gary W. Coutu, West Chester University

The GIS program in the Department of Geography and Planning at West Chester University of Pennsylvania has been using CommunityViz Scenario 360 software to introduce planning and modeling techniques to undergraduate and graduate students. Students have completed semester-long modeling projects with the goal of integrating policy analysis with advanced GIS tools. These projects have included work between various courses and with community partners. This included urban planning, environmental sensitivity planning, emergency response planning and 3-D modeling. Results were presented as part of GIS day and to local partners and the University. Some of these projects have been incorporated into Master's Thesis work. This presentation describes the tools and models (in addition to CommunityViz) used in the class as well as presentation and assignment modules.

# Fostering Geographic Engagement: Reflections from a Puerto Rico Field-Based Course

Molly Foraker, Salisbury University

Study abroad programs emphasize student engagement in a particular place and foster greater interaction among students and faculty. Geography students gain many benefits from a field-based course including increased awareness of different world views, new understanding of the exploratory nature of geography, and new modes of analyzing economic, cultural, and physical landscapes. Puerto Rico provides an excellent case study for discussing the role of study abroad in the geographic education of university students. In addition to its great diversity of physical landscapes, Puerto Rico offers a uniquely diverse local, regional, and global human dynamic. These characteristics perfectly position the island within the context of current socio-economic restructuring and political debates. Experiences from a recently conducted field-based course in Puerto Rico serve to methodologically inform the process of geographic education.

### Solid Waste Disposal in Pennsylvania

Chuck Geiger, Millersville University

Solid waste disposal in Pennsylvania has an interesting history, some of which has put us at odds with neighboring states or created intense disagreements within the state. Current issues range from land use and acquisition questions, to the pollution of adjacent and downstream areas, to the use of solid waste as a source of energy. A particularly geographical issue concerning the disposal of solid waste within Pennsylvania is our state's status as the nation's number one "importer" of interstate waste. Economic benefits and costs will be described, and regional differences will be highlighted.

#### The Effects of Terrain on CASA Radars

Chris W. Gilson, California University of Pennsylvania

High terrain features located within the range of radar can have a major impact on the radar's ability to accurately measure the intensity of precipitation. Terrain presents its own reflectivity and also inhibits the radar's ability to observe weather features beyond the barrier. This beam blockage is of great concern for the CASA radars which are to be deployed in Puerto Rico. This study is designed to test the beam blockage logic added to the CAPS radar emulator program and to determine the optimum setting for the student test-bed. The software was tested by developing an idealized ridge, comparing simulations to actual reflectivity data, and analyzing data from Tropical Storm Jeanne (2004) at potential radar sites. The radar emulator performed adequately throughout the serious of experiments. A number of potential radar locations have been tested for Puerto Rico and the locations may aid in identifying the ideal setting for the student test-bed.

#### Kremlin: A Fortress, Not a Government

Mary M. Graham, York College of Pennsylvania, and Richard D. Stone, Shippensburg University

When most Americans think of the word Kremlin, they equate it with Russia's national government in Moscow. In the Russian language the word kremlin, however, means a fortified place or fortress. Hence, many kremlins may be found in Russia. This presentation will examine four different kremlins: the well known Kremlin at Moscow and three more kremlins located on the Volga River at Kazan, Nizhniy-Novgorod, and Yaroslavl. It will discuss characteristics that all four kremlins have in common as well as what makes each of the four kremlins unique.

## **Topics in K-12 Geography Education**

Ed Grode, Mercyhurst College

The workshop will focus on: (a) The new National Geographic-led MY WONDERFUL WORLD project, (b) Geography awareness week, (c) Intergrating geography into K-12 curriculum, and (d) hands-on activities for teaching geography concepts. Each participant will receive handouts and a copy of the Geography Teacher magazine.

# A Case Study of Hydrologic Applications used for Judicial Proceedings

Timothy W Hawkins, Shippensburg University

A hydrologic analysis for a new home construction was performed in order to assess potential fault associated with basement flooding at the residence. Field surveys of the property, subdivision, and storm water management field (SWMF) indicated that the SWMF was slightly higher in elevation than the property basement. Tr-55 modeling of surface runoff indicated that 22% and 6% of the two rainfall events in question was converted to surface runoff and would therefore discharge into the SWMF. The majority of the remaining rainfall infiltrated into the soil where it followed the gradient towards the property in question. Analysis of the soils present in the area and the physical damage to the property suggest that 25 times more water entered the property basement due to subsurface storm flow from the subdivision rather than from flow from the SWMF.

## A Synoptic Climatology of Tornadoes Events in Eastern Ohio and Western Pennsylvania using the Miller's Guide Technical Report 200

Jonathan A. Jennings, California University of Pennsylvania

Thirty-six years of data from 1970-2005 were analyzed describing the relationship between tornadoes and the overlying atmosphere on the days in which tornadoes occurred. The area of study includes fifty-five counties in eastern Ohio, western Pennsylvania, and the northern most counties of West Virginia.

The Miller's Guide Technical Report-200 was used to classify each day that experienced a tornado into one of the five severe weather synoptic patterns identified by Miller. This analysis will result in the identification of the upper-level patterns that provide support for tornado development, tornado outbreaks (more then one tornado), weak tornadoes (F-0 - F-1), moderate tornadoes (F-2 – F-3) and strong tornadoes (F-4-F-5). A strong relationship has been found which involved deep upper-level troughs and a more southerly flow at the surface. This pattern has been found to produce stronger tornadoes. However, a greater number of tornadoes occurred on days when zonal flow was found to occur in the upper-levels.

## The Use of the Integrated Data Viewer (IDV) in an Educational Setting for Diagnostic Understanding of the Atmosphere

Chad M Kauffman, California University of Pennsylvania

Study of the atmosphere relies upon an accurate representation of a large number of data sets in a spatial setting. For students who are just being introduced to the atmosphere and its understanding, this learning process can be overwhelming. Diagnostic software tools such as IDV can assist in a students' perception of the atmosphere and its various representations. This is accomplished by organizing data in such a manner that the map upon which the data are plotted can be manipulated to change perspectives. Ouite succinctly, atmospheric (or Geologic/Oceanographic) data can be viewed from a profile, plan, 3-D, cross-section, and/or vertical views. The benefits of these options are that the student can manipulate real-time or archival data to gain a greater understanding of the spatial context in which the data truly exist. Various product examples of IDV will be presented and will describe the context in which they are utilized in an atmospheric sciences course.

## Geography: A Discipline of Diversity, From Maps to Music

Laura L. Marasco, Salisbury University

This workshop is designed to give K-12 educators ideas for integrating geography into other content areas to improve student geographic literacy through active learning. Participants will have the opportunity to experience some of these activities during the session. Handouts and resource information will be provided.

# Crime Mapping and HAZUS: Issues in Public Safety Data

Jamie Mitchem and Thomas R. Mueller, California University of Pennsylvania

This presentation will examine data issues in two ongoing projects – The Cal U Crime Mapping Center and The 3 Rivers HAZUS User Group. California University of Pennsylvania plays a role in integrating GIS and rural-community police work by assuming the responsibility for regional crime mapping in conjunction with local police departments through the newly established Cal U Crime Mapping Center. The 3Rivers HAZUS Users Group (3RiversHUG) includes members from the public sector (government), private sector, and academia. Its goal is to use HAZUS and GIS software to improve flood mitigation activities in southwestern Pennsylvania. We will discuss common problems encountered with public safety data sets, including privacy, availability and accuracy. Since September 11th data security and privacy have become concerns for many organizations, and this makes it difficult for third party organizations (like Cal U) to assist in certain geospatial applications. The data necessary for comprehensive planning in rural settings is often outdated, incomplete or does not exist. Even the most complete datasets may not be at an optimal scale for the types of analysis essential in the public safety sector.

## Landscapes from the Washington Territory – Review and Comparison of Selected Drawings from the Isaac Stevens Northern Pacific Railroad Survey 1853-55

Paul D. McDermott, Montgomery College and Philip M. Mobley, George Mason University

This presentation will provide a glimpse of the artwork created during the northern most Pacific Railroad survey during the early to mid 1850's and compare it to the present day landscapes that generally follow the early route of Meriwether Lewis and William Clark in 1805-06 and the military wagon road carved across the territory by Captain John Mullan from 1859 to 1862.

The purpose of the survey by Major Isaac Stevens was to collect data required for determining the most practical route for a transcontinental railroad. This was the most successful of the five government ordered surveys from both a scientific and geographic perspective including a systematic collection of data on weather, topography, flora, and fauna. Two artists, John Mix Stanley and Gustavas Sohon, were engaged as part of the Stevens Survey and created 70 illustrations that documented the regional landscape views.

The authors will provide a selection of the illustrations and discuss the significant geographic features that can be matched very closely with current day physiography.

## Policies and Best Practices for Short Term Study Abroad: An Instructor's Experiences

George M Pomeroy, Shippensburg University

Teaching an international field studies course is among the most challenging of teaching assignments. With the demands of teaching come the tasks and pleasures of guide, accountant, publicist, meal planner, goodwill ambassador, and chaperon. A short term study abroad program demands considerable planning across a lengthy time span, as well as a considerable resource investment.

This presentation will outline a set of recommended policies and practices that may be useful in directing a short term study abroad program. Policies are recommended for university or school district wide use and the best practices consist of a set of "common sense" precautions organized in systematic fashion. Anecdotal evidence illustrating the value of the policies and practices comes from a short term study abroad course to China taught during the summer of 2005.

## From Screaming Skies to Dragon Slayers: An Introduction to Inquiry-based Instruction in the Earth Sciences

Ed Robeck, Salisbury University

For some educators, the reaction to hearing they'll be teaching Earth Science brings to mind images similar to Edward Munch's painting "The Scream". Of course, that's not a bad thing at all, since the painting tells a story that begins with the greatest volcanic event in human experience. What are the connections between popular images such as "The Scream", mythical creatures such as dragons and our everyday experiences on planet Earth? How can those connections be used to energize instruction and build useful knowledge of the Earth's interacting systems? How can those interacting Earth systems be investigated through simple hands on classroom activities, basic computer-based techniques and web-based resources? All of these goals can be achieved through inquirybased instruction. Come to this interactive workshop to gain an introduction to a variety of inquiry-based teaching techniques in Earth science that can be used in K-12 schools and on college campuses. We'll also see how inquiry-based teaching models the nature of science while helping learners grasp fundamental Earth science concepts.

# Using GIS to Uncover Vulnerability to Natural Hazards: HAZUS-MH MR2 (Workshop)

Michael S Scott, Salisbury University

HAZUS-MH is a powerful risk assessment software program for analyzing potential losses from floods, hurricane winds and earthquakes. In HAZUS-MH, current scientific and engineering knowledge is coupled with the latest geographic information systems (GIS) technology to produce estimates of hazard-related damage before, or after a disaster occurs. This workshop will present practical advice on how to install, launch, undertake, and analyze the results of a HAZUS-MH project. Projects related to the recent Maryland Flood Vulnerability Assessment will be utilized as an example.

## Urban Growth Modeling in Northeast Pennsylvania

Kyle Shenk and Claire Jantz, Shippensburg University

Northeast Pennsylvania has experienced changes in urban land cover between 1990 and 2000. This increase in impervious surface has the potential to greatly affect local and regional hydrologic systems. This work demonstrates a technique that employs the SLEUTH computer model to predict future urban growth. The model is calibrated using coefficient variables of dispersion, breed, spread, slope, and road gravity. The appropriate coefficient values for the study area are established by training the model to simulate historic development patterns. Calibration accuracy is evaluated by comparing the amount of developed pixels predicted by the model to the true amount of development for a given year. The model can then be used to predict development under various growth management strategies. This work, undertaken in conjunction with the Chesapeake Bay Program, is intended to provide a resource for local and regional planning agencies to properly manage urban growth.

## Eine Studie von Zentralgebiet en auf Maryland's Niederer Delmarva Halbinesel: A Study of Central Places on Maryland's Lower Delmarva Peninsula

Sherman E. Silverman, Prince George's Community College

Accessibility and centrality were dominant and exciting geographic constructs when I entered the profession in the early 1960s. Having had abundant regional courses as a geography student at a state teachers college, I was unfamiliar with Christaller's Central Place Theory. Selected to participate in a federally funded institute for high school geography teachers in 1965, I was able to add Christaller's theory to my teaching repertoire. I focused on the centrality of Salisbury within the Lower Delmarva Peninsula. This paper will reflect on the evolution of Salisbury and its relevance to centrality with respect to trade and retailing. Key concepts: quantification, centrality and functional region.

# Tracking Global Ocean Currents with NOAA's Adopt a Drifter Program

Diane Stanitski, Shippensburg University

NOAA's Office of Climate Observation (OCO) recently launched the Adopt a Drifter Program (ADP: http://osmc.noaa.gov/OSMC/adopt\_a\_drifter.html) to provide an educational opportunity for K-12 teachers and university professors to infuse ocean observing system data into their curriculum. The ADP promotes a partnership between a school from the United States and a school abroad where students from both schools mutually adopt a drifting buoy to be deployed from a ship at sea. An educational sticker from each school is adhered to the drifter before deployment and teachers and their students access sea surface temperature and/or sea surface pressure data from the drifter online. Participating teachers develop lesson plans to encourage their students to plot the coordinates of the drifter on a tracking chart as it moves freely across the ocean and to make connections between the data accessed on line and other maps and concepts focused on ocean currents, winds, and climate.

Drifter data are used to track major ocean currents and eddies globally, ground truth data from satellites, assist with hurricane path prediction, build models of climate and weather patterns, and predict the movement of pollutants. In order to appreciate these applications, it is important for teachers and students to understand how the data are measured, how often data are downloaded, and the types of data that are available for schools and the general public to access. Teachers participating in the Adopt a Drifter Program will be better able to describe these and other observing system projects after learning about drifter operations.

#### The Heroic Feats of Beowulf\*

Diana Todd, Montgomery College

Beowulf is the oldest work of literature known to exist in the English language. While the manuscript is believed to be a tenth century copy of a 7th century poem, the actions portrayed apparently took place in the 6th century in what is now Denmark and Sweden. Creating a map depicting the locations of the key events offered an opportunity to creatively explore modern cartographic conventions in the context of an ancient culture. How could the routes taken by Beowulf and his warriors be depicted in a landscape that did not include roads? How could a civilization that did not have magnetic compasses show orientation? How could a sense of scale be conveyed when measures of distance had not been standardized? And most challenging of all, in modern maps as well as in Beowulf's time, how could activities that took place underwater and underground be cartographically depicted?

\*Note: This abstract goes with one of the maps entered in the student map contest

# Pattern Probing State and Local Welcome Signs

Don Zeigler, Old Dominion University - Virginia Beach

Using state and local welcome signs, participants will learn to (a) think thematically about the cultural landscape, (b) build and refine generalizations, (c) quantify qualitative information, and (d) interpret the symbols of place-making.

# 2006 Evaluation form for the PENNSYLVANIA GEOGRAPHICAL SOCIETY (PGS) ANNUAL MEETING 27-28 October, 2006, Salisbury University, Salisbury, MD

Your input is most important for future annual meetings and other PGS programs. Please complete this form and return it to the PGS Registration table before you leave the meeting or mail it to: Brent Zaprowski, Department of Geography and Geosciences, 1101 Camden Ave, Salisbury University, Salisbury, MD 21801

| 1. I attended: Annual Meeting: Or                                     | Al        | 1()      |           |          |             |
|---|-----------|----------|-----------|----------|-------------|
| Geographical Workshop(s) GIS/remote sensing K-12 Educators Field Trip |           | ()       |           |          |             |
| 2. How would you rate this meeting?                                   | Poor<br>1 | 2        | Neutral 3 | 4        | Excellent 5 |
| a. Overall  | ( )       | ( )      | ( )       | ( )      | ()          |
| b. Site/Location  | ( )       | ()       | ()        | ()       |             |
| c. Program  | ()        | ()       | ()        | ()       | ( )         |
| d. Hotel Rooms  | ()        | ( )      | ( )       | ()       | ( )         |
| e. Meeting Rooms  | ( )       | ( )      | ( )       | ()       | ()          |
| 3. Friday Presentations:  | Poor<br>1 | 2        | Neutral 3 | 4        | Excellent 5 |
| a. AM before break  | ( )       | ( )      | ( )       | ( )      | ( )         |
| b. AM after break   | $\dot{}$  | ( )      |           | $\dot{}$ | ( )         |
| c. Lunch Presentation   | ( )       | $\dot{}$ | ( )       | ( )      | ( )         |
| d. PM after lunch   | $\dot{}$  | ( )      | ()        | ( )      | ( )         |
| e. Panel Discussion(s)  | ( )       | ( )      |           | ( )      |             |
| Comments:   |           |          |           |          |             |
| 4. Saturday Sessions:   | Poor      | 2        | Neutral   | 4        | Excellent   |
| On online Development   | 1         | 2        | 3         | 4        | 5           |
| a. Opening Breakfasts   | ( )       | ( )      | ( )       | ()       | ( )         |
| b. AM Presentations   | ( )       | ( )      | ( )       | ()       | ( )         |
| c. Teaching College Geography   | ( )       | ( )      |           | ()       | ( )         |
| d GIS/remote sensing Workshops  |           | ( )      | ( )       | ()       | ( )         |
| e. Field trip Comments:   | ( )       | ( )      | ( )       |          | ( )         |
| COMMENIS.   |           |          |           |          |             |

| 5. Vendors/Displays  | Poor<br>1 | 2      | Neutral 3   |       | Excellent 5 ( ) |         |
|--|-----------|--------|-------------|-------|-----------------|---------|
| 6. PGS Annual Awards Luncheon  | ( )       | ( )    | ( )         | ( )   | ( )             |         |
| 7. PGS Annual Banquet Banquet Speaker                                      | ()        | ( )    | ( )         | ()    | ( )             |         |
| 8. My expectations of the meeting were:                                    |           |        | Neutral ( ) |       |                 |         |
| Why?   |           |        |             |       |                 |         |
| Best feature(s) of Annual Meeting:   |           |        |             |       |                 |         |
| Limitation(s) of Annual Meeting:   |           |        |             |       |                 |         |
| Key take-home benefit(s):  |           |        |             |       |                 |         |
| 9. What would make the annual Meeting                                      |           |        |             |       |                 |         |
| 10. Would you like to serve on the Progra                                  | am Com    | mittee | e for the n | ext a | nnual meeting?  |         |
| If yes, please provide you name:  Local Arrangements Committee via Brent 2 |           |        |             |       |                 | the PGS |
| 11. Additional Comments:   |           |        |             |       |                 |         |