

# The RSSG Newsletter

Volume MMI, Issue 1

January 2001

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**AAG 2001 Annual Meeting  
New York, New York  
February 27 to March 3**

## “Ruminations” from the Chair:

### Thoughts on remote sensing outside of remote sensing...

In my “inaugural” pontification in the last issue of the *RSSG Newsletter*, I suggested that one of the things I would like to see is more interaction between the RSSG and other AAG Specialty Groups that we as remote sensing types don’t usually associate with much. I was recently made more aware of the possible, and even significant, benefits that can be realized in working with people in these other Groups, when I had the opportunity to give a talk on the thermal remote sensing and urban heat island research I’ve been engaged in, to the National Center for Environmental Health (NCEH) at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. Because the urban heat island effect has

implications on air quality, particularly in exacerbating the production of ground level ozone, the people at the NCEH wanted to know more about the research that my colleagues and I have been doing in the Atlanta metropolitan area for the last several years. Much to my surprise, I found the people whom I talked with at the NCEH were not remote sensing “neophytes” at all; they knew about remote sensing and were aware of the important role of remote sensing data and analysis in geographic information systems. Moreover, they really opened my eyes to the great possibilities of using remote sensing and GIS for human health applications. This is an idea that I wanted to explore further, since one of the researchers at the Global

Hydrology and Climate Center where I work, has been using remote sensing data on a continental scale, to evaluate landscape characteristics that may be precursors for vector-borne diseases, such as dengue fever. I had never really thought much, however, about how remote sensing data could be used at a local scale for human health applications. For example, one of the things that the NCEH is interested in is identifying any underlying factors that have contributed to the alarming increase in asthma cases in the U.S. They were wondering if the thermal infrared remote sensing data we’ve collected and analyzed for Atlanta could be used in conjunction with air quality data and information

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## Greetings from the New Editor: John D. Althausen, Jr.

I welcome all of you to my first issue as Editor of the *RSSG Newsletter*. I assumed these responsibilities from Jim Merchant, who has served as editor for two terms (1984 to 1986 and 1990 to 2000). I feel I have big shoes to fill

as Jim has done a terrific job in making the newsletter a significant part of the specialty group. I can only hope that everyone will show me patience and provide me with assistance as I mature in this role. I will do my

best to keep the newsletter in the same format that Jim provided, and over time I will try to add new features that I feel will benefit the readership. With that said, here is Issue MMI, Number 1. Enjoy!

## “Ruminations” from the Chair: Thoughts on remote sensing outside of remote sensing...

*(Continued from page 1)*

obtained from hospital admissions, to help identify any spatial patterns of asthma cases. After hearing what they had to say about the desperate need for spatial information to help them identify any correlations between asthma and possible environmental factors, I became really excited about the possibilities of using remote sensing data in working with these people. As it turns out, we identified a host of possible applications for remote sensing to local scale human health problems, and we're now in the process of formalizing a closer working relationship with each other so we can further explore these areas of mutual interest.

In short, I found my trip to the NCEH to be absolutely fascinating and it really brought home the fact that we as geographers doing remote sensing research, have a truly interdisciplinary tool that has vast applications outside of the “dominion” that we've all been working in for many years. I encourage all of us to think “outside of the box” and begin to visualize how remote sensing can be used for discovering new research opportunities by interacting with other areas of geographical research, for example, medical geography and cultural ecology, that we have not really taken full advantage of to date. In doing so as I learned, we will find intriguing possibilities for research

that will enrich the overall focus of remote sensing and enormously expand its horizon of science and applications opportunities.

See you in New York!

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## Program in the Spotlight: Remote Sensing at West Virginia University

Remote sensing is growing rapidly at West Virginia University (WVU). The Geography program has recently expanded to three faculty members specializing in remote sensing, and four in GIS. Duane Nellis, a recipient of the RSSG Outstanding Contributions Award, and nominee for the Vice-Presidency of the AAG, is Dean of the Eberly College of Arts and Sciences, and leader of the remote sensing group. Tomas Brandtberg, a recently hired research assistant professor, is a recent winner of the prestigious Linne' Prize from the Swedish Royal Society of Science for his dissertation on forest mapping with high spatial resolution imagery. Tim Warner is a recipient of a College Outstanding Teacher Award. The Geography remote sensing program also has strong links to the forest ecology program in the Department of Biology.

The remote sensing program recently graduated its first PhD student, Jong Yeol Lee. Dr. Lee's dissertation was

an investigation of object-based classification of high spatial resolution imagery. Seven students have been awarded Masters degrees in the last two years, and currently there are three PhD students and one MA student. Graduates of the remote sensing program have obtained employment with Federal agencies, private corporations, educational institutions and foreign research agencies.

The WVU remote sensing educational program is enriched by strong international links through the Earth Imaging Consortium ([www.earth.wvu.edu](http://www.earth.wvu.edu)), funded by a grant from the US Department of Education and the European Union. Under the auspices of this program, WVU is developing an international remote sensing curriculum, and in the last two years has sent five un-

dergraduates and graduate students to France for remote sensing courses.

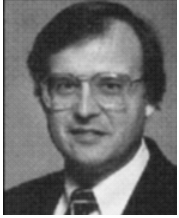
Three additional students will be attending the 2001 course in Greece. In addition, WVU has hosted seven students from the European Union in 1999, with a second group of students due to arrive in June of 2001.

“The WVU remote sensing educational program is enriched by strong international links through the Earth Imaging Consortium.”

Current research projects focus on the spatial aspects of imagery. In a project sponsored by the NSF and NASA EPSCoR, with assistance from Kam Lulla (NASA JSC), the WVU remote sensing group is assembling a high spatial resolution, multitemporal (ADAR, IKONOS, Landsat and Shuttle photography), and hyperspectral (AVIRIS and HyMAP) archive of imagery of a WVU Forest test site. The combined data set will allow us to investigate fundamental questions about the relative value of spatial, temporal and hyperspectral

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## Member in the Spotlight: Dr. James W. Merchant



Dr. Jim Merchant  
Director of CALMIT  
Univ. of Nebraska

Jim Merchant is Professor and Associate Director of the Center for Advanced Land Management Information Technologies (CALMIT) at the University of Nebraska-Lincoln (UNL). Jim's academic homes at

UNL include the School of Natural Resources, Conservation and Survey Division, and Institute of Agriculture and Natural Resources. In addition, he holds adjunct faculty appointments in UNL's Department of Forestry, Fisheries, & Wildlife, Department of Geography, Department of Agronomy, and

Department of Agricultural Meteorology. Jim received a B.A. in Geography from Towson State University and both his M.A. and Ph.D. in Geography from the University of Kansas.

He has been engaged in basic and applied research in remote sensing and GIS since 1971. Through his research, Jim has become well known in the remote sensing field. He is well published and, with his collaborators, has received over two million dollars in grant monies over the last five years. His research, funded by NSF, NASA, USBR, USDA, EPA, USGS, and various state agencies, is currently focused upon (1) development of strategies for large-area land cover classification of

digital multispectral satellite data, (2) spatial and contextual analysis of digital images, and (3) the design of spatial models that can be employed in geographic information systems to aid in management of natural resources.

Jim was been a recipient of many honors. In 1999, he received the "Outstanding Contributions Award" from the Nebraska GIS/LIS Association. This followed on the heels of his receiving the RSSG's "Outstanding Contributions Award" in 1998. In 1997, Jim received the prestigious "John Wesley Powell Award" that recognizes significant achievements in

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## Guest Speaker at AAG-NY Business Meeting: Tom Farr of NASA-JPL

Dr. Tom Farr, JPL-SRTM Deputy Project Scientist, will address the RSSG membership at the AAG-NY Business Meeting (Friday, March 2 at 7:00 PM). Tom will talk to the group about the SRTM (Shuttle Radar Topographic Mission) project and the types of data that will be made available.

Tom has an extensive background in radar and the use of digital topographic

data. His primary role is as NASA's civilian point of contact for SRTM, ensuring the data meet the needs of scientists and commercial interests.

Tom earned his Bachelors and Masters degrees in geology from Caltech, and his Ph.D. in Geology from the University of Washington. He has been in radar science at JPL for over 23 years, specializing in geologic remote sens-

ing. His research interests center on understanding the weathering and modification of geologic surfaces and how those processes affect remotely sensed and digital topographic data.

We are quite fortunate to have a person of Tom's standing at NASA come speak to the group and we hope this will provide you with even more impetus to attend the Business Meeting.

## Program in the Spotlight: Remote Sensing at West Virginia University

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data. Furthermore, we are developing algorithms for the identification and classification of individual trees.

In research projects sponsored by the National Imagery and Mapping Agency, Tim Warner



is developing methods for automated feature extraction for incorporation in an object-oriented GIS. Roads and rivers are the main features of interest. In a related NIMA and Pacific Northwest National

Laboratory project, orchards are being mapped by exploiting the spatial autocorrelation characteristics of planted trees.

Additional information about remote sensing at WVU can be obtained at <http://www.geo.wvu.edu>.

Submitted by Tim Warner, WVU

## Laboratory for Remote Sensing and Environmental Analysis Old Dominion University

The Laboratory for Remote Sensing and Environmental Analysis (LaRSEA) at Old Dominion University is a cross-disciplinary center cooperatively funded by the Geography and Oceanography programs of the university. Initially funded by NASA Mission to Planet Earth, the lab provides a focus for remote sensing research, instruction, and outreach activities. Located in Norfolk, Virginia, the lab and university are uniquely poised for coastal terrestrial and oceanographic education and research. The emphasis of the lab has been to sponsor student and faculty research projects in coastal locations, such as the Eastern Shore of Virginia, the Virginia Coast Reserve Long-Term

Ecological Research (LTER) station, the southern Chesapeake Bay, Outer Banks of North Carolina, and other hinterlands of the Norfolk/Hampton Roads metropolitan region.

The mission of LaRSEA is to foster remote sensing applications and their use in social and environmental research. The program offers an integrative educational curriculum for students in the field of remote sensing and coastal systems, and a training program for professionals and practitioners in software and practical use of remotely sensed data.

A popular certificate program in

“Coastal Remote Sensing Applications” is offered through the lab to both undergraduate and graduate students or professionals in the region. A four-course sequence, the certificate program is attractive to a variety of GIS-technical or physical geography students, planners, and environmental sciences students, particularly graduate students in ecology, geology, and oceanography.

The lab includes two dedicated spaces, an instructional lab with ten NT workstations and a research lab with four workstations. Recently, the lab has participated in testing software on Win-

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## Online Remote Sensing Discussion Lists

The Internet provides several remote sensing e-mail lists that provide a forum for exchanging ideas, posting of questions (and hopefully receiving answers), and alerting subscribers to new issues about the technology. To the right are several lists that can be joined by sending e-mail to the host computer or joining via the WWW. (Editor's Note: NASA's EO list and IMAGRS-L are pretty good ones for starters.)

**NASA's Earth Observatory:** send e-mail to [majordomo@eodomo.gsfc.nasa.gov](mailto:majordomo@eodomo.gsfc.nasa.gov) - in the message's body put “subscribe eo-announce <your email>”

**JPL News:** join online at <http://www.jpl.nasa.gov>

**Image Processing and Remote Sensing List:** send e-mail to [listserv@cesnet.cz](mailto:listserv@cesnet.cz) - in the message's body put “subscribe IMAGRS-L <your first name> <last name>”

**ERDAS List:** join online at <http://www.erdas.com>

**ERMAPPER List:** join online at <http://www.ermapper.com>

## Member in the Spotlight: Dr. James W. Merchant

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contributing to the research of the U.S. Geological Survey. He has also received numerous awards from the American Society for Photogrammetry and Remote Sensing (ASPRS) to recognize his career achievements in remote sensing and GIS.

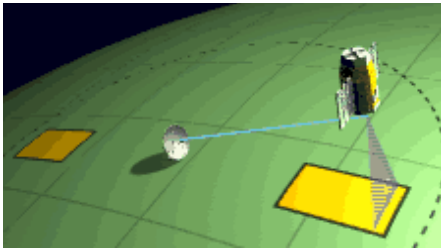
Jim has been an Associate Editor (for GIS) of Photogrammetric Engineering and Remote Sensing since 1986, and in 1996 was elected a Fellow of the ASPRS. He serves on the USGS EROS Data Center DAAC Science Review Panel. He was Chairman of the recent Nebraska GIS symposium and a member of the Executive Board of the

MidAmerica GIS Consortium.

Before he made Nebraska home in June 1989, Jim was affiliated with the University of Kansas Applied Remote Sensing Program (15 years) and was a faculty member in the Department of Geography at Kansas (3 years).

## EROS A1 Satellite Launched December 5, 2000

December 5, 2000 - ImageSat International, N.V. announced today the successful launch of the EROS A1 satellite by a Start-1 launcher, from the Russian Cosmodrome in Svobodni, Siberia. The satellite was launched into a sun-synchronous (polar) orbit at 480 km above the earth. EROS A1, a 250-kg satellite, is the world's lightest commer-



Satellite Tracking System.

cial high resolution imaging satellite and is designed to provide imagery information for a wide range of commercial applications. EROS A1's low-weight ensures maximum agility and stability for optimum imaging capacity and quality at very competitive prices. Sun synchronous orbiting satellites are optimal for applications that involve detecting changes at the earth's surface since they always pass within imaging range of any given location at the same time of day. EROS A1 will cross the equatorial plane at 9:45AM. Future EROS satellite orbits will be staggered, i.e. "crossing times" will vary from mid morning to mid afternoon, to compensate for variable cloud cover conditions

at different earth latitudes. The unique ISI multiple satellite system, when fully deployed, will enable users to image any location on earth several times daily.

Source: Gitam Porter Novelli

EROS satellites are high performance, low cost, light, agile, and designed for low earth orbit (LEO). They embody the creative use of many state-of-the-art technologies, going beyond what conventional wisdom said could be achieved. For more information and early looks at imagery, see:

<http://www.imagesatintl.com>

## Laboratory for Remote Sensing and Environmental Analysis Old Dominion University

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dows 2000 Server and for Internet-delivery of GIS software to remote students. A variety of boat and field equipment also support the lab.

Numerous research projects have been undertaken in the lab focusing on remote sensing applications and integration. The funding sources for these projects include the NSF, NASA, and

USFWS. Results have been published in journals such as Remote Sensing of Environment, and Journal of Coastal Research, and a recent award for best paper-in-session at the ERIM Conference for Marine and Coastal Remote Sensing.

Opportunities for students to study and work in the laboratory are available at both the undergraduate and graduate

level. Graduate degree programs, leading to study in the lab, include Masters (in ecology, geology, oceanography, and civil/environmental engineering) and Doctoral (in the multidisciplinary Ecological Sciences program). Additional information about LaRSEA can be obtained at [http://web.odu.edu/al/larsea/larsea\\_home.html](http://web.odu.edu/al/larsea/larsea_home.html).

Submitted by Tom Allen, ODU

## Online Tutorials

There are numerous tutorials available on the WWW that can be utilized for brushing up your knowledge or for sending students to for additional information. To the right are just a few of the online tutorials that might be helpful. A more detailed listing is available at the RSSG website.

**The Remote Sensing Tutorial (NASA):** <http://rst.gsfc.nasa.gov/>

**The Remote Sensing Core Curriculum (ASPRS):** <http://research.umbc.edu/~tbenja1/>

**Geomorphology From Space (NASA):** [http://daac.gsfc.nasa.gov/DAAC\\_DOCS/geomorphology/GEO\\_HOME\\_PAGE.html](http://daac.gsfc.nasa.gov/DAAC_DOCS/geomorphology/GEO_HOME_PAGE.html)

**Introduction to Digital Images and Digital Analysis Techniques (CCRS):** <http://www.ccrs.nrcan.gc.ca/ccrs/eduref/exercise/digexece.html>

# RSSG Sponsored or Affiliated Sessions @ AAG-NY, 2001

Wednesday, February 28

## Session 3.1.07: RSSG Student Paper Competition

*Organizer: Joseph P. Messina, University of North Carolina at Chapel Hill*  
*Chair: Joseph P. Messina, University of North Carolina at Chapel Hill*

8:00 - Soe W. Myint, Louisiana State University, Comparisons Between Wavelet Transforms and Fractal Analysis Methods for discriminating classes of Urban Land Cover From High Resolution Image Data.

8:20 - Tarek Rashed, San Diego State University, Spectral Mixture Analysis of Urban Environmental Attributes in Central Cairo, Egypt.

8:40 - Genong Yu, Indiana State University, Land Cover Classification in the Amazon Using a Neural Network Classifier with Auxiliary GIS Data.

9:00 - Kin M. Ma, Michigan State University, Geospatial Analysis of Tropical Rainforest Remotely Sensed Images in Acre, Brazil and Effects on Biodiversity.

## Session 3.1.33: GIS and Image Processing Convergence

*Organizers: Qihao Weng, University of Alabama, Daniel G. Brown, University of Michigan*  
*Chair: Daniel G. Brown, University of Michigan*

8:00 - Victor Mesev, University of Ulster, Urban GIS Data for Urban Remote Sensing Classification.

8:20 - Josef Strobl, Salzburg University, Object-based Image Classification in a GIS Context.

8:40 - Goubin Zhu, Ben-Gurion University of the Negev, Dan G. Blumberg, Ben-Gurion University of the Negev, A Data Fusion Method for Remote Sensing Classification Based on Neural Networks.

Discussant: Qihao Weng, University of Alabama

## Session 3.2.32: GIS in Support of Marine Protected Areas, Reserves, and Sanctuaries

*Organizer: Dawn J. Wright, Oregon State University*  
*Chair: Dawn J. Wright, Oregon State University*

10:00 - Dawn J. Wright, Oregon State University, GIS Coordination at America's Remotest Marine Sanctuary (American Samoa).

10:20 - Darcee Killpack, National Oceanic and Atmospheric Administration, The Channel Islands - Spatial Support and Analysis Tool.

10:40 - Cindy Fowler, National Oceanic and Atmospheric Administration, The Creation of Digital Spatial Boundaries of Marine Protected Areas: Issues and Implications.

11:00 - Ron Stephenson, Southwest Texas State University, Visualization of the Underwater Environment - GIS and Other Media: Impediments to Data Gathering.

11:20 - Tom Allen, Old Dominion University,

Digital Benthic Landscape Analysis in Two Virginia Coast Preserves.

## Session 3.3.23: Remote Sensing of Urban Sprawl I

*Organizer: Xiaojun Yang, University of West Florida*

*Chair: Xiaojun Yang, University of West Florida*  
1:00 - Charles Laymon, USRA- Global Hydrology and Climate Center, Remote Sensing of Atlanta's Urban Sprawl and the Distribution of Land Cover and Surface Temperatures.

1:20 - Carol S. Mladinich, United States Geological Survey, Hyperspectral Signature Development for Urban Land Use and Land Cover Along the Colorado Front Range.

1:40 - Xiaojun Yang, University of West Florida, Satellite Monitoring of Urban Spatial Growth in the Atlanta Metropolitan Region.

## Session 3.3.39: Remote Sensing: Image Classification & Accuracy

*Chair: Michael E. Hodgson, University of South Carolina*

1:00 - Goubin Zhu, Ben-Gurion University of the Negev, A Data Fusion Method for Remote Sensing Classification Based on Neural Networks.

1:20 - Dongmei Chen, San Diego State University, A Multi-Resolution Classification Framework for Improving Land Use/Land Cover Mapping Using High Resolution Images.

1:40 - Jonathan H. Smith, U.S. Environmental Protection Agency, Impacts of Patch Size and Landscape Heterogeneity on Thematic Image Classification Accuracy.

2:00 - Daniel Getman, Purdue University, Enhancing Precision and Accuracy in the Classification of Historic Satellite Data.

2:20 - Michael E. Hodgson, University of South Carolina, The Order of Image Classification: A Cognitive Perspective.

## Session 3.4.23: Remote Sensing of Urban Sprawl II

*Organizer: Xiaojun Yang, University of West Florida*

*Chair: Xiaojun Yang, University of West Florida*

3:00 - Yushuang Zhou, Monitoring and Modeling of Land Use/ Land Cover Change in Shanghai, China.

3:20 - Virginia L. Harris, University of Illinois Urbana-Champaign, Using Remote Sensing Data to Estimate the Value of Open Space in the Chicago Metropolitan Area.

3:40 - W. B. Clapham Jr., Cleveland State University, A Remote-sensed-based Model for Urban Sprawl on a Watershed Scale.

4:00 - R. Douglas Ramsey, Utah State University, A Historical Remote Sensing-based Environmental Monitoring Protocol for Military Sites.

4:20 - Martin A. Lowenfish, San Diego State University, An Exploratory Investigation into the

Relationship Between Rangeland Health and Patterns of Bare Soil as Detected Using High Spatial Resolution Image Data.

## Session 3.5.23: Pyrogeography: The Geography of Fire

*Organizers: Stephen R. Yool, University of Arizona, Michael J. Medler, Rutgers University*  
*Chair: Stephen R. Yool, University of Arizona, Michael Medler, Rutgers University*

5:00 - Calvin Farris, University of Arizona, A Comparison of Grid-based GIS Modeling Approaches for Predicting Potential Fire Occurrence.

5:20 - Dar A. Roberts, University of California-Santa Barbara, Integrated Assessment of Fire Hazard in Southern California Using Remote Sensing, GIS, and Wind Models.

5:40 - Michael J. Medler, Rutgers University, A Remote Sensing Approach Using Historical Analogue Fires to Model Spatial Patterns of Future Wildfire Severity.

6:00 - John Rogan and Janet Franklin, San Diego State University, Mapping Fire Severity in southern California Using Spectral Mixture Analysis Techniques.

6:20 - Stephen R. Yool, University of Arizona, Mapping the Cerro Grande (Los Alamos) Fire.

## Session 3.5.36: Illustrated Paper Session: Gateway to the Earth: OhioView Pilot

*Organizer: Kevin Czajkowski, University of Toledo*

*Chair: Kevin Czajkowski, University of Toledo*

5:00 - Richard Beck, University of Cincinnati, Gateway to the Earth: OhioView Pilot, Can Remote Sensing Parallel the Growth of GIS?

5:03 - John L. Faundeen, U.S. Geological Survey, OhioView Data Access Requirements: An Interface We Can All Benefit From.

5:06 - Robert C. Frohn, University of Cincinnati, Native American Remote Sensing Outreach Project.

5:09 - Aziza Parveen, University of Akron, Integrating Land Cover Mapping and Urban Growth Modeling in Northeast Ohio.

5:12 - James K. Lein, Ohio University, Applying Remote Sensing Technology in Appalachian Ohio.

5:15 - Kevin P. Czajkowski, University of Toledo, Dissemination of Remote Sensing Technology in Northwest Ohio.

5:18 - Stephen V. Mather, University of Toledo, OhioView: Near Real-time Acquisition and Use of Satellite Imagery.

5:21 - Teresa M. Benko, University of Toledo, Educational Outreach at the University of Toledo: Global Change and Remote Sensing Summer Teacher Workshop.

5:24 - James Coss, University of Toledo, Using Landsat 7 Imagery to Remotely Measure the Percentage of Impervious Surface.

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# RSSG Sponsored or Affiliated Sessions @ AAG-NY, 2001

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5:27 - William A. Wetherholt, Kent State University, Land Use Change in Streetsboro, Portage County Ohio Over a 30-year Time Span.

5:30 - Chaoping Yu, Kent State University, Farmland Loss and Accuracy Evaluation Using Satellite Images in Portage County, Ohio.

5:33 - J. Raul Ramirez, Ohio State University, OhioView Research at the Ohio State University Center for Mapping.

5:36 - Elaine A. Moebius, University of Toledo, Monitoring of the Scioto Marsh Organic Soils Using Remotely Sensed Data.

Thursday, March 1

## Session 4.3.04: Remote Sensing/GIS Integration and Environmental Applications

Organizers: Qihao Weng, University of Alabama, Daniel G. Brown, University of Michigan  
Chair: Qihao Weng, University of Alabama

1:00 - Sharolyn Anderson, Arizona State University, Land Cover Identification Through Discriminant Analysis.

1:20 - Byong-Woon Jun, University of Georgia, Effects of Alternative Areal Interpolations on Environmental Equity Analysis.

1:40 - Qihao Weng, University of Alabama, Spatial Analysis of Urban Growth Impacts on Biomass With Landsat TM Data.

Friday, March 2

## Session 5.1.36: Student Illustrated Paper Competition I

Organizer: Joseph P. Messina, University of North Carolina-Chapel Hill  
Chair: Joseph P. Messina, University of North Carolina at Chapel Hill

8:00 - Michael Stoddard, Middlebury College, Exploring the Role of Interactive GIS Software in Community Planning.

8:05 - Dan Lund, Salem State College, The Application of Remote Sensing as a Management Tool to Aid in the Protection of Fragile Ecosystems.

8:10 - Michael J. DeLuca, Salem State College, Temporal Analysis of Vegetation Change in North America.

8:15 - Amber J. Neibarger, Central Michigan University, GIS Makes Hiking Easier on Isle Royale.

8:20 - Jaclyn Burke, Central Michigan University, Students Mapping Students.

8:25 - Danielle Davis-Madsen, University of Idaho, Interactive Mapping in Applied Meteorology.

8:30 - Paul Delamater, Central Michigan University, Design Guidelines for Authoring Dynamic Atlases.

8:35 - Douglas Wespiser, Central Michigan University, Developing a Cost-effective Remote Sensing System to Map Vegetation in mid-

Michigan.

8:40 - Darcia Little, Central Michigan University, Orthorectified Base Map Mosaic of Union Township, Michigan.

8:45 - Paul Delamater, Central Michigan University, Development of a Bathymetric Model for the Khor Al Bazam, United Arab Emirates.

## Session 5.2.36: Student Illustrated Paper Competition II

Organizer: Joseph P. Messina, University of North Carolina-Chapel Hill  
Chair: Joseph P. Messina, University of North Carolina at Chapel Hill

10:00 - Justin A. Saarinen, University of Florida, Lake Fringe Wetland Restoration: Simulating Active and Passive Management Scenarios in the Lake Griffin Flow-way.

10:05 - Theresa Burcsu, Indiana University, Using Semivariance and Sub-pixel Classification of Landsat TM Imagery to Identify Edge Effects Penetration Distance.

10:10 - Michael Cooper, University of Oregon, Interface Development for Geographic Visualization of Large Spatio-temporal Data Sets.

10:15 - Cynthia Croissant, Indiana University, Spatial Analysis of Forest Cover in Urban, Suburban, and Rural Southern Indiana.

10:20 - Pey-Yi Lee, University of California-Riverside, Identifying Hotspots and Coldspots for Multiple Species Conservation Plan of Western Riverside County.

10:25 - Jennifer A. Miller, San Diego State University, Mapping the Distribution of Vegetation Alliances in the Mojave Desert Region.

10:30 - Ludmilla Monika Moskal, University of Kansas, Applying Image Texture to Geostatistically Estimate Forest Inventory Attributes in the Greater Yellowstone Area.

10:35 - Randolph E. Pullen, University of North Carolina-Chapel Hill, Linkages of Scale in the Study of Thai Landuse/Landcover.

10:40 - Xun Shi, University of Wisconsin-Madison, Case-based Reasoning Approach to Incorporating Updated Information for Improving Soil Map Quality.

10:45 - Laura Schmidt, University of South Carolina, Evaluation of the Utility and Accuracy of LIDAR and IFSAR Derived DEMs for Flood Plain Mapping.

## Session 5.3.04: Climate Applications of Satellite-derived Vegetation Indices

Organizer: Jimmy O. Adegoke, U.S. Geological Survey  
Chair: Bradley C. Reed, U.S. Geological Survey

1:00 - Jimmy O. Adegoke, U.S. Geological Survey, Relations Between Soil Moisture and Satellite Vegetation Indices Under Varying Land Cover Conditions, for the U.S. "Corn Belt."

1:20 - David J. Travis, University of Wisconsin-Whitewater, A Satellite-based Identification of Vegetation Boundaries in the Midwest U.S.

1:40 - Jesslyn F. Brown, U.S. Geological Survey, Monitoring Regional Drought with Satellite Data.

2:00 - Abigail Amissah-Arthur, Columbia University, Reliability of ENSO Based NDVI Signatures.

2:20 - Tamara G. Creech, National Oceanic and Atmospheric Administration, Precipitation vs. NDVI Relation for Global Applications.

Saturday, March 3

## Session 6.2.02: Bambi Meets Godzilla: Human Environment Concerns and Remote Sensing/GIS

Organizer: B.L. Turner II, Clark University  
Chair: B.L. Turner II, Clark University

10:00 - Paul Laris, Clark University, Missing Good Fires and Detecting Bad Ones: The Problems and Promises for Using Coarse-Resolution Imagery to Map Fires in the West African Savanna-Woodlands.

10:20 - Davison Gumbo, Clark University, Resource Allocation and the Changing Miombo Woodlands of Zimbabwe.

10:40 - Emma R.M. Archer, The Pennsylvania State University, Towards Critical Integration: Use of Remote Sensing and GIS in Community Research/Dialogue Regarding Climate Variability and Rangeland Farming in the Karoo, South Africa.

11:00 - Nicholas Haan, Clark University, The Role of Increasing Market Production in Deforestation of Miombo Woodlands.

## Session 6.2.35: Land Use Assessments Using Remote Sensing

Chair: Douglas Stow, San Diego State University

10:00 - John E. Truchan, Western Michigan University, Assessing Lake Shoreline Residential Landscapes with Aerial Photography.

10:20 - Rolland Fraser, Western Michigan University, Oblique Photographic Survey of Shoreline Residence Landscapes of Michigan Lakes.

10:40 - Andrew A. Millward, University of Waterloo, Landscape Analysis Using Remotely Sensed Data of the Coastal Zone of Sanya, Hainan Province, China.

11:00 - Jonathan Bascom, Calvin College, Yong Wang, East Carolina University, An Analysis of Landuse Patterns in War-Torn Sudan.

11:20 - Douglas Stow, San Diego State University, Land Cover Changes Within Habitat Reserves Observed With High Spatial Resolution Image Data.

## Session 6.3.24: Remote Sensing Methods

Chair: Barry Haack, George Mason University

2:00 - Timothy Warner, West Virginia University, Delineation of Individual Deciduous Trees in High Resolution Imagery.

2:20 - Doug Goodin, Kansas State University,

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## RSSG Sponsored or Affiliated Sessions @ AAG-NY, 2001

(Continued from page 7)

Spatial Dynamics of Fine-Scale Images Under Rescaling: Analysis Using Simulated Scene Models and Real Digital Images.

2:40 - Mark D. Schwartz, University of Wisconsin Milwaukee, Satellite-Surface Phenology: Development of Comparative Measurement Guidelines.

3:00 - Barry Haack, George Mason University, Sensor Fusion of Radar and Optical Data for Information Extraction.

3:20 - Raymond J. Dezzani, Boston University, Analysis of the Kuwait Tarcrete Layer Using Markov Dependence and Entropy Measures.

### Session 6.3.36: Illustrated Paper Session: Remote Sensing

Chair: Tom Farr, Jet Propulsion Laboratory

2:00 - Paula Ann Dzuroff, The Ohio State University, Eyewall Convection Characteristics of Hurricane Lenny.

2:05 - Akira Hirano, The University of Georgia, Empirical Approach to Using Standard Handheld Global Positioning System Measurements for Controlling Satellite Stereo Models.

2:10 - Christopher C. Hennon, The Ohio State University, Representation of Incipient Tropical Cyclone Cloud Clusters in the NCEP/NCAR Reanalysis.

2:15 - Mary C. Henry, University of Arizona, Characterizing Fire Related Spatial Patterns in Conifer Forest Using Optical Remote Sensing.

2:20 - Cynthia Berlin, University of Wisconsin La Crosse, Investigation of Remote Sensing Technology for Land Cover Assessment of Upper Mississippi River System Floodplains.

2:25 - James Suero, Pacific Meridian Resources,

Mapping Patterns of Urbanization Using Multi-Temporal Remotely Sensed Imagery, Change Detection Techniques and Sub-pixel Classification.

2:30 - Jennifer Jeffus, Hunter College, Using Remote Sensing to Detect Land Use Changes Near the Urban Fringe: The New York City Metropolitan Area.

2:45 - Bradley C. Rundquist, University of North Dakota, Close-Range Remote Sensing for Estimating Vegetation Fraction Over a Native Tallgrass Prairie Canopy.

2:50 - Tom Farr, Jet Propulsion Laboratory, The Shuttle Radar Topography Mission.

2:55 - Basil G. Savitsky, Florida State University, Case Study on Presenting Raster Data Characteristics within Vector Facets.

## Other Remote Sensing Sessions @ AAG-NY, 2001

Wednesday, February 28

### Session 3.1.06: Land Use and Land Cover Change: Remote Sensing and GIS Applications (Sponsored by Basic Science and Remote Sensing Initiative)

Organizer: Jiaguo Qi, Michigan State University, Robert Walker, Michigan State University

Chair: Jiaguo Qi, Michigan State University

8:00 - Robert Walker, Michigan State University, Land Use and Land Cover Change: A Forest Dynamics Model for Low Intensity Agriculture and Forest Fragmentation.

8:15 - Jiaguo Qi, Michigan State University, Biophysical Attributes of Tropical Forests From Remotely Sensed Imagery.

8:30 - Marcellus Caldas, Michigan State University, Spatial Evolution of Farm Properties: A Histogram Analysis.

8:45 - Catherine Lindell, Michigan State University, Landscape Characteristics as Predictors of Avian Biodiversity at Mid-Elevation Sites in Costa Rica.

9:00 - David Skole, Michigan State University, Global Change at Scales That Matter.

### Session 3.3.08: Critical Perspectives on the Use of GIS/Remote Sensing Techniques in People-and-Environment Research (Sponsored by Cultural Ecology Specialty Group)

Organizer: Matthew Turner, University of Wisconsin-Milwaukee

Chair: Matthew Turner, University of Wisconsin-Milwaukee

1:00 - Lynne Heasley, Western Michigan University, The Transformation of Twentieth-Century Rural Wisconsin: Can GIS Help Environmental Historians Tell a Complex Story?

1:20 - Alexis Zubrow, University of Wisconsin-Madison, Scanning Darkly: Remote Sensing Science Studies, and the Production of Nature.

1:40 - Hong Jiang, University of Wisconsin-Madison, Stories Remote Sensing Images Tell: Integrating GIS/Remote Sensing Techniques into Ethnographic Research.

2:00 - Matthew Turner, University of Wisconsin-Madison, Socioecological Subtleties Through Coarse Filters: Methodological Reflections on the Use of GIS in Political/Cultural Ecology.

Discussant: Peter Taylor, University of Massachusetts

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Discussant: Peter Taylor, University of Massachusetts

Thursday, March 1

### Session 4.3.24: AGS Sesquicentennial Session: The Future of Digital Earth Exploration (Sponsored by: AGS Sesquicentennial Committee)

Organizer: Jerome E. Dobson, Oak Ridge National Laboratory

Chair: Jerome E. Dobson, Oak Ridge National Laboratory

1:00 - John A. Kelmelis, U.S. Geological Survey, Seeing Things Differently: Advantages of Exploring the Earth Digitally.

1:20 - Kamlesh P. Lulla, NASA Johnson Space Center, Space Shuttle Photography Global Database for Geographic Research.

1:40 - Cynthia A. Evans, NASA Johnson Space Center, Dynamic Earth Environments: Remote Sensing Observations from Shuttle-Mir Earth Imagery Acquired by Astronauts and Cosmonauts.

Discussant: Jerome E. Dobson, Oak Ridge National Laboratory

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# Other Remote Sensing Sessions @ AAG-NY, 2001

(Continued from page 8)  
tional Laboratory

## Session 4.4.04: Population-Environment Interactions and GIS/Remote Sensing Applications (Sponsored by: GIS and Human Dimension of Global Change Specialty Groups)

Organizer: Tom Evans, Indiana University, Bill McConnell, Indiana University  
Chair: Tom Evans, Indiana University

3:00 - Nate Currit, The Pennsylvania State University, Emerging Scales of Land Transformation Dependence: The Case of Northwestern Chihuahua, Mexico.

3:20 - Daniel G. Brown, University of Michigan, Relationships Between Parcelization, Land Use, and Forest Cover Change in Upper Midwest, USA.

3:40 - Nina M. Kelly, University of California Berkeley, Monitoring and Modeling Sudden Oak Death in California: Linkages Between Environment and Human Use of Wildlands.

4:00 - William J. McConnell, Clark University, Human-Environment Relations in Madagascar: The Importance of Spatial and Temporal Perspectives.

4:20 - Stephen J. Walsh, University of North Carolina, Assessing Landscape Dynamics in the Ecuadorian Amazon.

Friday, March 2

## Session 5.1.15: Land-use and Land-cover change in the Mid-Atlantic Region I

Organizers: Doug Fuller, George Washington University, Scott J. Goetz, University of Maryland

Chairs: Doug Fuller, George Washington University, Scott J. Goetz, University of Maryland

8:00 - Scott Goetz, University of Maryland, Land Cover of the Mid-Atlantic Region: Results from the Mid-Atlantic Regional Earth Science Applications Center (RESAC).

8:20 - John Morgan, Towson State University, Developing Impervious Surface Maps for the Chesapeake Bay and Maryland Coastal Bay Watersheds.

8:40 - Douglas Fuller, George Washington University, Landsat-based Study of Land-use and Land-cover change in Loudoun County, Virginia.

9:00 - Dorn C. McGrath, Jr., George Washington University, Loudoun County, Virginia-Indicators of Environmental Change.

## Session 5.2.15: Land-use and Land-cover Change in the Mid-Atlantic Region II

Organizers: Doug Fuller, George Washington University, Scott Goetz, University of Maryland  
Chairs: Doug Fuller, George Washington University, Scott Goetz, University of Maryland

10:00 - Andy Johnston, Smithsonian Institution, Remote Sensing of Urban Land-cover Types in

the Washington D.C. Area.

10:20 - Todd Schroeder, Canaan Valley Institute, Characterization of Wetland Plant Communities of the mid-Atlantic Highlands Using Landsat Enhanced Thematic Mapper Data.

10:40 - Philip A. Townsend, University of Maryland, Modeling Forest Composition and Disturbance in the Mid-Atlantic Highlands: Causes and Effects.

11:00 - Jeffrey G. Masek, University of Maryland, Automated Strategies for Regional Land-cover Studies: The Mid-Atlantic Example.

## Session 5.2.37: Development and Environmental Hazards (Sponsored by Department of Geography and Urban Analysis at California State University-Los Angeles)

Organizer: Killian Ying, California State University-Los Angeles

Chair: Christopher Boone, Ohio University

10:00 - Lawrence McGlenn, Valdosta State University, The Historical Roots of Industrial Hazards in Fulton County, Georgia.

10:20 - Dafna Kohn, California State University-Los Angeles, Detecting Stand Age in the Santa Monica Mountains Using Hyperspectral Remote Sensing.

10:40 - Bob Kirby, California State University-Los Angeles, Mapping Irrigated Croplands in the Western Mojave Desert in California: Using Remote Sensing Technology.

11:00 - Natalie Jolly, California State University-Los Angeles, Development and the Santa Clara River.

11:20 - Steve LaDochy, California State University-Los Angeles, Microscale Particulate Air Pollution Sampling in Suburban East Los Angeles.

## Session 5.3.22: Remote Sensing of River Environments I (Sponsored by Geomorphology Specialty Group)

Organizer: W. Andrew Marcus, Montana State University

Chair: W. Andrew Marcus, Montana State University

1:00 - Stuart N. Lane, University of Leeds, Monitoring Active Be Level Change in Laboratory Flumes Using Close Range Digital Photogrammetry.

1:20 - Jim H. Chandler, Loughborough University, Monitoring River Channel Change Using Terrestrial Oblique Digital Imagery and Automated Digital Photogrammetry.

1:40 - Patrice E. Carbonneau, University of Quebec, Cost Effective Non-metric Close Range Digital Photogrammetry and Its Application to a Study of Coarse Gravel Riverbeds.

2:00 - Richard Westaway, University of Cambridge, The Evolving Anatomy of a Gravel - Bed River.

2:20 - Christian E. Torgersen, Oregon State University, Airborne Remote Sensing of Spatial Pat-

terns of stream Temperature and Riparian Condition in Oregon Rivers.

## Session 5.4.01: GIS and Remote Sensing for Transportation Applications (Sponsored by Transportation Geography Specialty Group)

Organizer: Shih-Lung Shaw, University of Tennessee

Chair: Demin Xiong, Oak Ridge National Laboratory

3:00 - Demin Xiong, Oak Ridge National Laboratory, Integrating Road Network Data with Ortho-Images.

3:20 - David Ralston, University of Tennessee, Extensible Markup Language for Web-based Intelligent Transportation System Applications.

3:40 - Moinak Chatterjee, University of Tennessee, Spatial-temporal Visualization for Intelligent Transportation System Applications.

4:00 - Shih-Lung Shaw, University of Tennessee, Spatiotemporal GIS Model of Transportation and Land Use Interactions.

## Session 5.4.22: Remote Sensing of River Environments II (Sponsored by Geomorphology Specialty Group)

Organizer: W. Andrew Marcus, Montana State University

Chair: W. Andrew Marcus, Montana State University

3:00 - W. Andrew Marcus, Montana State University, Evaluation of High Spatial Resolution Hyperspectral Imagery for Stream Mapping.

3:20 - Geoffrey H. Jacquez, BioMedware Inc., High Resolution Hyperspectral Imagery: The Identification of Pattern and Process in a Fluvial System.

3:40 - Carl J. Legleiter, Montana State University, Hyperspectral Stream Classification.

4:00 - Richard Aspinall, Montana State University, GIS Modeling of Rivers and Riparian Areas with Remotely Sensed Imagery.

4:20 - Barbara Rumsby, University of Hull, Quantifying Reach-Scale Morphological Change in a Braided River Using Global Positioning System (GPS) Survey and Airborne Remote Sensing Imagery.

## Session 5.5.22: Remote Sensing of River Environments III (Sponsored by Geomorphology Specialty Group)

Organizer: W. Andrew Marcus, Montana State University

Chair: W. Andrew Marcus, Montana State University

5:00 - Basil Gomez, Indiana State University, Topographic Controls on Meltwater Dispersal During Outburst Floods: Skeioarsandur, Iceland.

5:20 - David C. Finnegan, Indiana State University, Using Laser Altimetry to Quantify Geomor-

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## Other Remote Sensing Sessions @ AAG-NY, 2001

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phic Change Effected by Large-scale Flooding.  
5:40 - Laurence C. Smith, University of California-Los Angeles, Net Topographic Impact of the 1996 Jokulhlaup, Iceland, from Synthetic Aperture Radar Interferometry.

Saturday, March 3

### Session 6.2.27: Cryosphere and Climate (Sponsored by: Climate and Cryosphere Specialty Group)

Organizer: Anne W. Nolin, University of Colorado, Allan Frei, University of Colorado-Boulder  
Chair: Anne W. Nolin, University of Colorado

10:00 - Anne W. Nolin, University of Colorado, Assessment of Snow Cover in Global Climate Models Using Passive Microwave Satellite Data.  
10:20 - James A. Miller, University of Colorado, Evaluation of Snow Cover in the Atmospheric Model Intercomparison Project (AMIP-II) Using Visible Satellite Data.

10:40 - Andrew Klein, Texas A&M University, Developing an Environmental Monitoring System for McMurdo Station, Antarctica Using GIS and Remote Sensing.

11:00 - Richard R. Forster, University of Utah, Detecting Arctic Melt and Freeze Processes with Microwave Remote Sensing.

### Session 6.3.35: Remote Sensing: Modeling & Mapping Environmental Change

Chair: Dan G. Blumberg, Ben Gurion University of the Negev

2:00 - Tyrus A. Cohan, University of Southern Mississippi, Modeling Fire Effects in Central Florida Using Remotely Sensed Data.

2:20 - Marilyne Jollineau, University of Waterloo, High-Resolution Imagery for Mapping and Monitoring Wetland Ecosystems in Southern Ontario, Canada.

2:40 - Jiali Shang, University of Waterloo, Use of Cadi to Evaluate Oxidation of Mine Tailings at Copper Cliff, Northern Ontario, Canada.

3:00 - Dan G. Blumberg, Ben Gurion University of the Negev, The Potential Use of Remote Sensing to Monitor Water Quality in Israel.

### Session 6.4.35: Using Remote Sensing and GIS Regionally

Chair: Mark Wiljanen, SUNY-New Paltz

4:00 - Saeed A.K. Alizai, Valdosta State University, Remote Sensing and Field Perspectives of a Great Inland Sabkha Environment of Oman, Arabian Gulf.

4:20 - Robert R. Gillies, Utah State University, Radar Image Classification Using Wavelet Analysis and a Neural Network Configuration.

4:40 - Renee M. Gluch, University of Utah, Mapping Urban Thermal Pattern in the Salt Lake Valley Using ATLAS Remotely Sensed Data.

5:00 - Mark Wiljanen, SUNY-New Paltz, the Delineation of North American Regions: A GIS Implementation.

## EO-1 Update

EO-1 continues to operate nominally. EO-1 is in formation with Landsat 7 and is currently taking about 6 to 8 concurrent images a day from its three instruments. Some problems still exist in obtaining completely trouble free X-band downlinks of the image data. Although there has been no impact to imaging operations (a current work-around is to schedule additional X-band contacts), a Tiger Team has been

formed to better understand these problems. Instrument characterization continues on schedule with the full transition to the Science Validation Team still scheduled for the end of January. Overall, the imaging and spacecraft technologies are operating as planned and EO-1 is delivering excellent technology results.

Three instruments are flown on the EO-

1 spacecraft. Each instrument incorporates revolutionary land imaging technologies which will enable future Landsat and Earth observing missions to more accurately classify and map land utilization globally. The instruments are the Advanced Land Imager, Atmospheric Corrector, and Hyperion (Hyperspectral Imager).

Source: <http://eo1.gsfc.nasa.gov>

## RADARSAT-2 3-meter Radar in 2003

RADARSAT-2 will provide the most advanced commercially available radar imagery in the world. The design of RADARSAT-2 has been driven by the needs of the global Earth Observation market, providing users with high-quality data products. RADARSAT-2 will be able to image at spatial resolutions ranging from 3 m to 100 m with

nominal swath widths ranging from 10 to 500 km. In addition, RADARSAT-2 will be the first commercial radar satellite to offer multi-polarization, a capability that aids in identifying a wide variety of surface features and targets. It is scheduled for launch in 2003.

Source: Canadian Space Agency



## NIMA Announces Earth-info Web Site

In December 2000, the National Imagery and Mapping Agency (NIMA) introduced <http://www.earth-info.org>. Earth-info provides easy Internet access to imagery of the Earth, maps, and other geographic information produced by the U.S. Government and commercial providers. The web site will benefit private citizens, educators, local governments, and public media that require ready access to visual data, maps, and imagery.

The project was initiated by Senator Robert Kerrey (D-NE) in 1996 when he became interested in making U.S. Government imagery derived data available to the general public. The earth-info

web site was developed by the National Technology Alliance (NTA), for which NIMA serves as the Executive Agent. The NTA worked with the Virginia-based National Center for Applied Technology (NCAT) and the National Information Display Lab (NIDL) in Princeton, NJ to create the and provide content for the earth-info web site and to establish partnerships with government, academic, and commercial providers of geospatial information and imagery.

"One NIMA product on the site that the public has eagerly awaited is 10-meter resolution Digital Orthorectified Imagery or DOI 10" explained Kathy

Buono, a NIMA spokesperson.

In addition, the site features the CIA World Fact Book. With the combination of these information sources, a user can click on a country and instantly have access to an extensive amount of political, economic, and geographical information.

NIMA is a Department of Defense and National Intelligence Community agency providing imagery, imagery intelligence and geospatial information in support of national security objectives.

Source: NIMA Release PA-001-02

## Remote Sensing Workshops @ AAG-NY, 2001

### Building GIS Inventories from Multisensor Digital Imagery (\$65)

Instructors: John Althausen (Central Michigan University) and Sara Johnson (ERDAS, Inc.)

Tuesday, February 27, 2001, 9:00 am - 5:00 pm

Hunter College Computer Lab

Limit: 20 Participants

### Introducing Remote Sensing with Micro MSI (\$30)

Instructor: Scott Loomer (US Military Academy)

Wednesday, February 28, 2001, 1:00 pm - 4:30 pm

Hunter College Computer Lab

Limit: 24 Participants

## RSSG Website & Discussion List

RSSG maintains a website for its membership. We hope that everyone is finding the site and is taking advantage of the information there. The site's URL is <http://www.earthsensing.com/rssg>. If you have any suggestions or comments please let us know. The site is maintained by John Althausen and some of his CMU students. His stu-

dents think you will find the "Web Resources" link of use if you are looking for web-based information on remote sensing or digital image processing. They have provided many of the links and check them periodically.

The RSSG Discussion List is also a feature that we hope the membership

will utilize. The list is a good place to exchange ideas, post job announcements, etc. Subscribing is easy! Just send an e-mail to [listserv@calmit.unl.edu](mailto:listserv@calmit.unl.edu). In the body of the message, type: subscribe RSSG. That is all it takes! If you want to post an item, send it to: [rsgg@calmit.unl.edu](mailto:rsgg@calmit.unl.edu).

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*We're on the Web*

*<http://www.earthsensing.com/rssg>*

## It's Your Newsletter!

The RSSG Newsletter is your vehicle for communicating with colleagues interested in remote sensing. You are invited to send news regarding research activities, students, publications, awards, honors, academic programs, projects, commercial ventures, jobs, and other announcements to the editor, John Althausen. If possible please submit contributions by e-mail in MS Word or RTF format.

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