

Agenda

Thursday, March 16, 2006

Introduction to

Conservation Modeling Using GIS AND REMOTE SENSING

1:30-2:30pm Introduction to Conservation Modeling using GIS (Dr. George Raber)

This session will introduce basic fundamental principles of GIS and how these tools are being used to answer general conservation-related questions.

2:30-3:30pm Remote Sensing Data and Methods for Conservation (Dr. Matt Clark)

This session will present basic remote sensing concepts and data useful for conservation mapping and monitoring within a GIS environment.

Both

conventional and emerging remote sensing technology will be discussed.

3:30-3:45pm BREAK

3:45-4:30pm Overview of Jamaica GIS Data Layers and Introduction to Arc Internet Map Server (ArcIMS) (Dr. Steve Schill)

This session will review the many Jamaican GIS and image data layers that TNC has assembled over the past two years and provide a brief introduction to ArcIMS and how it can be used.

4:30 -5:00pm New GIS-Based Tools for Conservation Modeling and Preliminary Model Results for Jamaica (Dr. Steve Schill)

This session will introduce several new GIS-based tools that have been developed as part of the Greater Caribbean Ecoregional Assessment. As we discuss each tool, we will present preliminary model results for Jamaica.

Trainers: Steve Schill, The Nature Conservancy
Dr. George Raber, University of Southern Mississippi
Dr. Matt Clark, The Nature Conservancy

Dr. Schill directs all geospatial mapping and modeling for The Nature Conservancy's Mesoamerica and Caribbean Region. He has twelve years of professional experience using GIS and remote sensing techniques for natural resource management. He received

his doctorate in remote sensing from the University of South Carolina where he managed 25 NASA research projects and was adjunct faculty teaching graduate remote sensing coursework in the Department of Geography. He has co-authored 40 journal articles and conference proceedings and presented over 60 professional papers. His research interests include conservation decision-support systems, tropical vegetation mapping, GIS-based hydrological modeling, and data visualization. He is currently working with local governments to identify high priority conservation areas in order to complete national gap assessments of protected areas in Jamaica, the Dominican Republic, Grenada, and St. Vincent and the Grenadines.

Dr. George Raber has been primarily responsible for the programming of the new GIS Modeling Tools for MesoAmerica and the Caribbean. He holds a PhD and Masters from USC and an undergraduate degree from BYU. His research interests are primarily focused on land cover analysis and terrain modeling using Remote Sensing. He is also interested in GIS modeling methods and applications.

Dr. Matt Clark recently joined TNC's MAC Regional Science Team as a Geospatial Scientist. He has nine years of experience working with GIS and remote sensing technology in temperate and tropical regions. He holds Bachelors degrees in Biology and Environmental Science, an MS in Ecosystem Analysis and Conservation, and a Ph.D in Physical Geography from UC Santa Barbara. Matt has worked extensively in Central America, including three years at La Selva Biological Station in Costa Rica. He has specialized training and research skills in GIS programming and the use/application of satellite imagery (optical and RADAR) for habitat modeling. He is one of a few scientists in the world to have used hyperspectral and LIDAR remotely sensed data for mapping tropical forest structure and species composition.

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Friday, March 17

Advanced GIS AND REMOTE SENSING Conservation Tools

Practitioners Only

In-Depth Training on Using the GIS-Based Conservation Tools

These sessions will permit users to get first hand training on the new GIS tools using example datasets for Jamaica. Tools to be covered include Human Activity Surface (HAS) modeling, Relative Biodiversity Index (RBI), and MARXAN goal setting and optimization modeling.

9:00-11:00am Human Activity Surface (HAS) Generator ArcGIS Tool

The Human Activity Surface (HAS) Generator ArcGIS Tool will be presented and users will be taught how to create their own cost surfaces based on intensity and distance buffer scaling for use in optimization models and measuring habitat intactness.

11:00-12:30pm Relative Biodiversity Index (RBI) ArcGIS Tool

An overview of the Relative Biodiversity Index (RBI) ArcGIS Tool will be presented and users will be able to process sample datasets for modeling and locating unique biodiversity habitats across a landscape.

12:30-2:00pm LUNCH

2:00-5:00pm MARXAN – A Tool for Optimizing Conservation Goals

This session will present the theory behind optimization modeling and the basic steps for setting up a MARXAN run including targets, goal setting, and threats. Users will be able to use the new MARXAN Processor ArcGIS Tool to create the necessary input files, execute a sample optimization routine, and analyze model results.

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