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GIS-Based Stream Delineation Workshop & Lab

**August 1 - 3, 2006
Raleigh, NC**

Sponsored by
**Forestry and Environmental Outreach Program
Dept. of Forestry and Environmental Resources,
College of Natural Resources,
North Carolina State University**

About the Workshop

This is a computer-based workshop and lab designed to equip natural resource professionals with the knowledge and GIS experience necessary for the acquisition and manipulation of remotely sensed data as it pertains to stream mapping and wetland delineation. This workshop is limited to 24 participants. **Accreditation: 19 CFE credit hours, in Category 1 and PDHs for engineers/surveyors will also be offered.**

Topics Include

- ✓ Use of the Mobile Stream Identification Application and database.
- ✓ Spatial data acquisition related to stream and wetland mapping.
- ✓ Theories behind the use of Digital Elevation Models (DEMs) for stream network mapping.
- ✓ Use of Arc Hydro to generate stream maps and characterize watersheds.
- ✓ Use of TAUDem to generate stream maps and characterize watersheds.
- ✓ Methods for accurate assessment of generated stream maps and comparison to current cartographic products.

Who Should Attend

This course will be valuable to environmental and forestry consultants, engineers, landscape architects, appraisers, and regulatory professionals whose work involves the mapping, delineation, and characterization of watersheds, stream networks, and wetlands using Geographic Information Systems. GIS professionals wishing to expand their scope of technical knowledge will also benefit, as well as those involved in the use of spatial data in the creation of Runoff Analysis, TMDLs, and Erosion Studies. Attendees should have experience using ESRI products and strong computer familiarization. You will be provided the use of Windows XP computers in the Biltmore Hall computer lab. (All instruction takes place using these computers only.) *Please note that this class will not include GIS software training. You will be asked to indicate your GIS software familiarity on the registration form.*

About the Instructor

Thomas Colson is a research associate in the Department of Forestry and Environmental Resources at NC State University and has extensive experience in field identification of streams and wetlands in North Carolina and applying that expert knowledge to GIS models. His current research for the NCSU-NC Division of Water Quality stream mapping research project involves using LiDAR elevation models to generate stream networks with an accuracy never before attainable with stream extraction tools. As part of that research, Tom has developed a Mobile Stream Identification Application to complement the North Carolina Department of Water Quality stream origin identification protocol. Tom is also a Microsoft Certified Professional and a Cisco Certified Network Associate.

General Daily Agenda

(Subject to change)

Tuesday, August 1, 2006

Registration: 8:30 am

Introduction/Morning Session: 9:00 am -12:00 pm

- Using Arc Pad to conduct GPS surveys of stream networks in North Carolina
- Managing stream survey data

Lunch Break: (on your own)

Afternoon Session: 1:30 pm -5:00 pm

- Theories and concepts of Digital Elevation models and topographic characterization with GIS

Wednesday, August 2, 2006

Morning Session: 8:30 am - 12:00 pm

- Acquisition of spatial data to support stream and wetland mapping in NC

Lunch Break: (on your own)

Afternoon Session 1:30 pm -5:00 pm

- Delineation of Stream Networks using Arc Hydro

Thursday, August 3, 2006

Morning Session: 8:30 am -12:00 pm

- Characterization of watersheds using Arc Hydro

Lunch Break: (on your own)

Afternoon Session 1:30 pm -5:00 pm

- Delineation of Stream Networks using TAUDEM
- Characterization of watersheds using TAUDEM

Location and Lodging

The workshop will be held at the main campus on North Carolina State University, Raleigh, NC in the Biltmore Hall Computer Lab, room 3032. A block of rooms is being held at the Hampton Inn, RBC Center under "GIS Streams"; call before July 20, 2006 at 919-233-1798 for reservations. A map, directions and parking permit will be sent with your confirmation letter along with useful hotel accommodations information. *Please note that lodging is not included in the registration fee, and you must make your own reservations.*

Registration and Fees

Pre-registration is required. The registration fee is \$525.00 and includes instruction, course materials, refreshment breaks, parking, and use of NCSU computing resources in Biltmore Hall.

Registration deadline is July 24, 2006.

Enrollment in the workshop is limited to 24.

You will receive your registration confirmation by E-mail or fax - please be sure to enter this information on your registration form.

Cancellation Policy

If cancellations are made before the registration deadline, the registrant will receive a full refund less a \$50 service charge. Refunds will not be given for cancellations after the registration deadline - in this case it is recommended you send a substitute.

Registration Form

GIS-Based Stream Delineation Workshop & Lab
Registration Deadline is July 24, 2006.

Name _____

Organization _____

Address _____

City _____ State _____ Zip _____

Daytime Phone _____

Fax _____

E-Mail _____

Vegetarian Meal Required? ___ Yes ___ No

Version of GIS software that I currently use: _____

Continuing Education Credits needed:

___ Foresters

___ Landscape Architects

___ Engineers/Surveyors

___ Appraisers

Method of Payment

Registration Fee: \$525

___ Check (make payable to NC State University)

___ Credit Card (MasterCard or Visa **ONLY**)

Card #: _____ - _____ - _____ - _____

Expiration Date: _____

Name of Cardholder: _____

Address of Cardholder: _____

I agree to allow NC State University to charge this credit card for the workshop registration.

Cardholder Signature: _____

Send payment to FEOP, NC State University, Campus Box 8003, Raleigh, NC 27695; or FAX: 919-515-6883

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date rec'd _____ amt. _____ ck#: _____

V/MC chgd _____ conf. sent _____ dep. date _____

For upcoming workshops and more information on the Forestry and Environmental Outreach Program

visit the FEOP home page at www.ncsu.edu/feop

Questions, comments, contact Kelley Duffield McCarter at 919-515-9563, fax 919-515-6883 or forestry_outreach@ncsu.edu