NetMapping Watershed Environments I

Coupled Analysis of Channel and Road Networks for Creating Prioritization Strategies for Resource Management, including Restoration

Synopsis:
This 4-day workshop will cover the application of NetMap's analysis tools used for stratifying the characteristics of channel networks and road networks in any landscape. In addition to hands-on instruction of NetMap tools, the science underlying channel stratification of hydro-geomorphic and habitat processes will be covered. The goal is to create prioritization strategies involving roads based on their relationships to erosion potential (road erosion, drainage diversion, landslides and debris flows), habitat quality, habitat abundance, and channel sensitivity. The stream network component will include larger, fish-bearing and non fish-bearing headwater streams; headwater to mainstem connections will be highlighted. The workshop is divided into 8 ½-day sessions, with 60% computer lab time and 40% field time. Instructors are Drs. Lee Benda and Dan Miller, and Kevin Andras of Earth Systems Institute.

Where: Andrews Experimental Forest, Oregon Cascades (http://andrewsforest.oregonstate.edu/)

When: October 11-15, 2009 (early registration recommended, class size limited to 15)

Cost: $1200 per person for workshop + estimated $250 lodging/meals = $1450.00; sign up by contacting us via the "contact us" link on the website – we will provide additional details

Workshop Agenda and Topics
1) Overview of NetMap tools; the science and tools used to create channel networks.

2) Process-based stratification of fish-bearing streams: physical classification, habitat potential, habitat abundance, channel sensitivity, habitat diversity, subbasin classifications.

3) *Field validation* and interpretation of larger, fish bearing channel environments.

4) Process-based stratification of headwater streams: hydro-geomorphic processes and morphology, including landsliding and debris flows. Headwater to mainstem connectivity and confluence environments. Significance of headwater channels on mainstem channels.

5) *Field validation* and interpretation of headwater stream environments with a focus on headwater – mainstem connections and environments.

6) Stratification of road networks: road density (basin, stream segment scale), road erosion and drainage diversion potential, road stability, road-habitat intersections, road-mass wasting intersections, road crossing density, cumulative habitat above road crossings.

7) *Field validation* and scoping of road stratification.

8) Co-analysis of road and stream networks: creating prioritization strategies for natural resource management, including restoration (e.g., or how to get your proposals funded!)

Time will be allotted during the week for questions/answers/demos of other NetMap tools and uses

NetMapping Watershed Environments II and III (offered in 2010) will cover additional NetMap tools and functionality targeting spatially explicit riparian management, pre- and post-fire planning, and construction of sediment, wood and thermal budgets.