

2015 CHaMP Camp Workshop

Network Tools

June 2, 2015

2:30 p.m. – 4:30 p.m.

Lead Trainers Carol Volk and Kelly Whitehead, South Fork Research

Objectives: To understand the geomorphic metrics currently calculated along stream networks to support large-scale geomorphic reach characterization as well as the tools used to generate these metrics (Network Tools).

Software needs: GIS 10.1

**Additional
Resources:**

Abstract:

The Network Tools are a suite of GIS tools designed to generate metrics describing geomorphic reach characteristics of stream networks. Several network-related utilities used in the geomorphic metric calculation process that are also generally useful for stream network management are included in the Network Tool package. The Network Tools take the inputs of Valley Bottom polygons, Stream Channel (bankfull) polygons, and a stream network and step a user through preparing and processing these files for geomorphic metric generation. The geomorphic metrics currently calculated by the Network Tools are Valley Confinement, Channel Sinuosity, Valley Sinuosity, and Stream Planform (Channel Sinuosity:Valley Sinuosity). The general Network Tool Utilities include such functions as generating valley lines, identifying braids in stream networks, generating Strahler stream order, segmenting lines at user-defined intervals, checking network connectivity, dividing polygons by segments, and transferring attributes among stream networks. The utilities are used at various steps along the workflow, but can also be used as stand-alone tools to process network data. Additional tools to generate Network Tool Inputs, such as Valley Bottoms and Stream Channel Polygons are also available upon request.

The focus of the Network Tool development to date has been to support the classification of geomorphic reaches across large spatial scales in a consistent and continuous form through a largely automated process. Ultimately, geomorphic metric products packaged by the Network Tools will be used as input to a geomorphic reach classification tool that is currently in development.