

# 2015 CHaMP Camp Workshop

## Geomorphic & Network Context

June 2, 2015

1:00 p.m. – 4:00 p.m.

Lead Trainers Joe Wheaton & Carol Volk

**Objectives:** To help participants understand how broader scale geomorphic context across the entire drainage network can help us contextualize and up-scale site-specific CHaMP data to entire watersheds and make predictions at places we don't measure. Participants won't learn how to derive such products and run these tools, but they will gain an understanding of what they are, what inputs are fed into them and most importantly how they can be leveraged and interpreted.

**Software needs:** ArcGIS

### Additional

**Resources:** Trainer will provide sample datasets from the Lemhi and Middle Fork John Day Watersheds

### Abstract:

A host of methods and tools have been developed through CHaMP and ISEMP to provide network scale context to help understand patterns across and between every reach segment of the drainage network. In general, these network products fall into three categories: 1) reach typing, 2) condition, and 3) recovery potential. Many of these tools are being packaged in the Geomorphic and Network Assessment Tool (GNAT). The reach typing component aims to identify geomorphic reach types (or river styles) and requires information about the valley setting as an entry point. We show methods and tools we've developed for delineating valley bottoms, confinement, sinuosity and other geomorphic variables that help segregate reach types. We are ultimately interested in both habitat conditions and population conditions. The former is informed by things like geomorphic condition, riparian condition, temperature conditions, primary productivity, and the latter requires a framework like life-cycle modelling to assess the impact of these collective habitat conditions on populations. Here we focus on describing the ways by which we use geo-indicators to inform geomorphic condition and we use remotely sensed vegetation data to assess riparian condition. Finally, recovery potential refers to the likelihood that a specific reach can recover or be restored given the contemporary boundary conditions. We describe how we're assessing riparian recovery potential currently. We also show the Beaver Restoration Assessment Tool (BRAT: <http://brat.joewheaton.org>) as a specific example of assessing the potential feasibility for a specific restoration treatment (in this case using beaver as a restoration agent).

This workshop will intersperse each of the above topics, with hands on exploration of the preliminary network map products with examples from the Lemhi and Middle Fork John Day Watersheds. As many of these tools and methods are in active development, this will be an opportunity for participants to see where we have gotten to, provide critical feedback and help steer where future development and refinements go to make these products more useful to informing key management questions.