2015 CHaMP Camp Workshop

Geomorphic Change Detection (GCD)

June 3, 2015
1:00 p.m. – 4:00 p.m.

Lead Trainers: Joe Wheaton & Philip Bailey

Objectives:	Help participants understand how CHaMP uses GCD and how they can use it to look at geomorphic changes at their own sites. Specifically, participants will learn: i) how GCD techniques are applied to monitor rivers, ii) how we account for uncertainties in DEMs, and iii) how to interpret DoDs
Software needs:	ArcGIS 10.X and GCD Software (http://gcd.joewheaton.org)
Additional Resources:	Trainers will provide a host of examples (http://gcdworkshop.joewheaton.org/)

Abstract:

One of the key ways we leverage repeat CHaMP topographic surveys to look at trends is through geomorphic change detection (GCD). The application of the GCD software is fully automated within a CHaMP context and all repeat visits produce GCD projects, which users can download and explore. We focus on a cursory introduction to the basic principles behind change detection, how we account for uncertainties, and how we can get reliable estimates of geomorphic change. We are most interested in what processes (erosion, deposition, transport and storage of sediment), are responsible for creating, maintaining, shaping and destroying physical habitat for fish.

This workshop will walk participants through each of the above concepts with lectures that are followed by hand-son exercises in ArcGIS using the GCD software. Users will come away knowing how to download and open a GCD project, understand what they're looking at, and undertake additional analyses if they so choose. For a fuller training on these topics, participants are referred to the 2 and 3 day versions of this workshop: http://gcdworkshop.joewheaton.org/.