

RESEARCH SEMINAR SERIES

Material recharge following shallow landslides

Matt Sakals, Research Geomorphologist, Skeena Region, MFLNRO



Abstract: Following shallow landslides, the recharge of soil material is one of the fundamental controls on the recurrence of further hillslope instability from that site. After failure, hydrogeomorphic processes in the initiation zone respond to the discontinuities of soil depth, topographic expression, and hydrologic and forest conditions and restore the hydrogeomorphic hazard of shallow landslide. Shallow landslides are the most important mechanism of sediment transport in areas of steep relief and high precipitation and often trigger debris flows; damage to infrastructure and natural resources as well as loss of human life can result from these events. The shallow landslides occurring at the study sites are episodic erosion processes punctuating periods of deposition. Recovery of soil depth and topographic expression occurs through small-scale processes that infill the failure area. The rate of small-scale redistribution of hillslope material declines with time and is attributable to both vegetation re-establishment and diminished surface topographic variability. The central tendency of soil accumulation approximates a sigmoid curve with the majority of accumulation occurring within 100 years of failure; however, stochastic elements of the surrounding forests strongly affect soil accumulation rates. The hydrology of recharging landslide sites may differ from adjacent hillslopes as suggested by the presence of preferential flow pathways. Such a difference could negatively influence future slope stability.

Bio: Matt Sakals has been conducting research on hydrogeomorphology issues in Northwest BC and around the province for > 10 years. His areas of specialization include shallow landslides, root reinforcement, alluvial fans, and risk. Matt completed his doctorate in 2010, has been a Professional Geoscientist since 2005 and is currently the Research Geomorphologist with the BC Government in Smithers, BC.

When: Tuesday, November 15, 2011. 1:30 pm to 2:30 pm

Location: Smithers: Caribou Room, 3726 Alfred Ave.

Conference call: 1-877-353-9184 **Conference ID:** 7190434

Common meeting rooms have been reserved in the following locations:

Victoria: Room 502, 727 Fisgard Street

Prince George: Heritage Room, Northern Interior Regional Office, 1011 4th Ave.

Kamloops: Juniper Room, Thompson-Okanagan Regional Office

Nanaimo: Birch Room at 2100 Labieux Rd.

Williams Lake: Williams Lake Room, Williams Lake Forestry Centre

PowerPoint presentation will be available at http://www.for.gov.bc.ca/hre/research_seminars on the day of the presentation.

For further information, please contact Ken Soneff at: Ken.Soneff@gov.bc.ca or 250-828-4164.