

RESEARCH SEMINAR SERIES

Water, Earth, and Fire: runoff, erosion, and landslides after wildfire in southern British Columbia



Peter Jordan, Research Geomorphologist, Kootenay-Boundary Region

Abstract

Following severe wildfire, the likelihood of floods, erosion, and landslides can increase significantly. However, in British Columbia, post-wildfire flood and mass wasting events had seldom been reported until the extreme fire season of 2003. Beginning in 2007, Forest Service researchers in Nelson conducted a study of post-wildfire runoff, erosion, and mass wasting processes. Field sites were established on the 2007 Springer, Sitkum, and Pend d'Oreille fires in the West Kootenays, and the 2009 Terrace Mountain fire in the Okanagan. At all sites, plot-scale measurements were made of erosion using a rainfall simulator and silt-fence traps. Watershed-scale measurements of runoff and sediment yield were made on one fire. Also, significant mass wasting events were investigated as they occurred. Results showed that localized surface erosion increased in severe burns, but sediment yield did not significantly increase, as most eroded sediment is redistributed on slopes rather than reaching stream channels. Post-wildfire landslides occurred in the spring, summer, and fall seasons, in response to three types of weather event. Old roads, trails, and landings were significant factors in some events, suggesting that road engineering treatments may be at least as important as broadcast treatments in reducing post-wildfire risks.

Bio

Peter Jordan is a professional geoscientist with a Ph.D. in geomorphology. He has been the Research Geomorphologist in Nelson since 1991. Ongoing research includes studies of landslide processes and watershed sediment budgets. His applied work includes landslide investigations, and risk analyses of post-wildfire natural hazards.



When: Tuesday, March 15th, 2011, 1:30 pm to 2:30 pm

Location: Kootenay Room, Kootenay Lake Forestry Centre, Nelson

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

Common meeting rooms have been reserved in the following locations:

Kamloops: Juniper room, Southern Interior Regional MFR Office

Victoria: Room 502, 727 Fisgard Street

Prince George: Heritage Room, Northern Interior Regional MFR Office

Smithers: Driftwood Room, Skeena-Stikine Forest District Office

Nanaimo: Birch Room at 2100 Labieux Rd.

Williams Lake: Williams Lake Room, Williams Lake Forestry Centre

A PowerPoint presentation will be available at http://www.for.gov.bc.ca/hre/research_seminars on the day of the presentation. For further information, contact Ken Soneff at: Ken.Soneff@gov.bc.ca or 250-828-4164.