

Masterarbeit FS 2016



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Remote methods for debris flow early warning at Illgraben, VS

Debris flows are a serious natural hazard in Alpine terrain. These events form as eroded material slides into torrents and mobilize a mixture of water and entrained debris of various grain sizes (Fig.1). The Swiss Federal Institute for Forest, Snow and Landscape Research WSL maintains a debris flow monitoring site at the Illgraben, VS, including check dams, geophone and force plate sensors and laser altimeters to measure the depth profiles of debris flow events. A recently installed seismometer network furthermore showed that slope erosion processes and debris flows generate a seismic signal and can thus be detected remotely and in some cases be located.



Fig. 1: 1 Juli 2008 debris flow event at Illgraben (Courtesy Brian McArdell, WSL).

<u>Goal</u>: Combine data from a seismometer test installation and an infrasound antenna to test if either or both signals are suitable for early warning systems of debris flow events.

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Single MSc-thesis

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