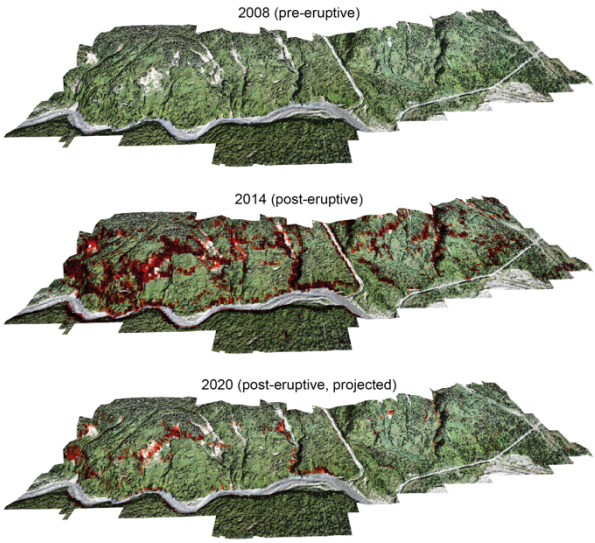
Trees Trigger Trouble – Landsliding by Biomass Surcharge and Wind Disturbance in Patagonian Rainforests (RETROGRESS)

Dear All,

I have a 3-year PhD-position for a DFG-funded ecogeomorphology project in the Patagonian Andes of Chile (75% TVöD 13). The PhD student role will be on the integration of theory with field data. The PhD student will be the lead on (1) estimating biomass and soil organic carbon contents along disturbance gradients, (2) quantifying wind effects on hillslope stability using environmental seismology, and (3) develop a Landlab model to implement forest dynamics into a landslide probability model. The study area comprises parts the Pumalín National Park within the Coastal rainforests of Chilean Patagonia, one of the global biomass and biodiversity hotspots. At the same time, these forests are home to a particularly diverse landscape disturbance portfolio, including windstorms, earthquake, or volcanic eruptions. We seek to understand how forests control landslides and vice versa. A major focus of this project is to develop a Landlab-model that integrates forest dynamics, landscape disturbances with landsliding. This project includes field trips to Chilean Patagonia, physical experiments using state-of-the-art environmental seismology, and numerical modeling. The project will be headquartered at the Department of Environmental Sciences and Geography at Potsdam University, but may also include the possibility for (extended) stays at UW Seattle, CU Denver and UACh, Valdivia. For more information about the project please email me and/or check the webpage:



Landlab-modelled, post-eruptive landslide exposure in red (0-1) for a hillslope of Chaitén volcano, Chile, draped over UAV-derived post-landslide orthophoto.

https://www.uni-potsdam.de/de/umwelt/forschung/ag-naturgefahren

Students with a background in one or more of the following: Geoecology, Physical Geography, Ecology with strong quantitative skills are encouraged to apply. The project involves Landlab modeling, thus programming skills in Python are definitely a plus. Also, Spanish skills are a plus, while the willingness for field work is mandatory. If interested, please email me, and include a CV, and details on specific research interests, skills, and background applicable to the project, and the names and contact information of two references. Start can be as soon as possible.

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