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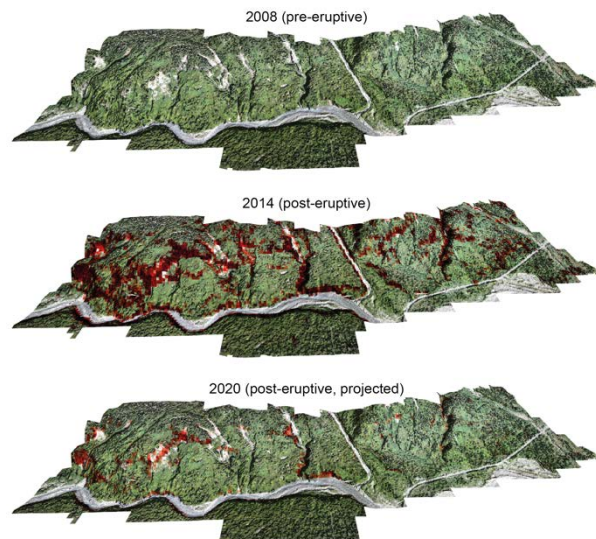
Dear All,

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 within the **Natural Hazards group** 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, preferably **MSc**, 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 (extended) **field work** is mandatory. If interested, please email me (cmohr@uni-potsdam.de, and include a **CV**, a **letter of motivation**, 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. Review of applications starts as soon as possible until a suitable candidate has been found.

Christian