Performance analysis of regional landslide early warning based on soil moisture simulations

- 35 soil moisture measurement sites
- 452 landslide events
- Scope: All Switzerland, 2008 – 2018

Characterization of infiltration events. Classification as landslide-triggering or non-triggering.

We find a similar forecast goodness between early warnings based on measured and modelled soil moisture.

Forecast goodness validation by ROC analysis (Wicki et al. 2020, in Landslides, https://doi.org/10.1007/s10346-020-01400-y)

Application of a logistic regression function to model landslide triggering probability.

Next steps:
- Generalize soil properties information to assess the performance with limited soil information.
- Simulate additional sites to test the use of models to complement a measurements-based LEWS.
- Site-specific calibration to assess performance limits.

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