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Results and further investigations based on the LAMOND Landslide Monitoring Network.

Case study Bagnaschino Monitoring site: Soil water flow model based on Geoelectric Monitoring inversion results.

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The LAMOND Monitoring Network is the continuation of the Landslide monitoring activities from the last 8 years (EC FP-7 project SAFELAND, FWF project TEMPEL). Within the LAMOND project additional Monitoring sites had been deployed, namely Navis (Tyrol) and Gresten (Upper Austria). Hence, the network consists of 5 sites where Geoelectric monitoring and additional geotechnical methods (Inclinometers, Photo monitoring, soil moisture, eg) are applied.

At the Bagnaschino site geoelectric monitoring results are available from 2011 on. During and after heavy rainfall events the infiltration of rainwater is clearly visible in the geoelectric profiles. Numerical modeling is applied for estimation of underground hydraulic properties, the resistivity pattern and its change in time is used for calibration of the numerical model. High-impedence areas are generally interpreted as regions with low-water content. At the present stage of the project, the comparison between modelled saturation and measured resistivity is only done quantitatively on a visual basis. Implementation of parameter estimation using the COMSOL Optimization module is planned in a later project stage.

Another application of numerical modelling is the implication of heat transport for assessment of the temperature dependency of the resistivity.