

The origin of sulfate in landslides

Contact persons: Marc-Henri Derron (with J. Peña)

Context

Many landslides in the Alps are associated with high sulfate contents in water. This sulfate comes from gypsum dissolution or pyrite oxidation and is an indicator of underground flows, but it is also important for mitigation measures (degradation of concrete).

Objectives and Methods

The objective is to determine the source(s) of sulfate, using trace elements in solution and stable isotopes, in water of several alpine landslides. Rock lixiviation experiments will also be conducted, and kinetic modelling of dissolution used to constrain the water-rock interaction context.

Literature

Derron M.-H., Pfeifer H.-R (2017) : Caractérisation hydrogéochimique des eaux de source alpines. Bull. Soc :Vaud. Sc.Nat, 96, 5-29.

<https://www.e-periodica.ch/digbib/view?pid=bsv-002:2017:96#10>