



Five years database of landslides and floods affecting Swiss transportation networks

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Switzerland is a country threatened by a lot of natural hazards. Many events occur in built environment, affecting infrastructures, buildings or transportation networks and producing occasionally expensive damages. This is the reason why large landslides are generally well studied and monitored in Switzerland to reduce the financial and human risks. However, we have noticed a lack of data on small events which have impacted roads and railways these last years. This is why we have collect all the reported natural hazard events which have affected the Swiss transportation networks since 2012 in a database. More than 800 roads and railways closures have been recorded in five years from 2012 to 2016. These event are classified into six classes: earth flow, debris flow, rockfall, flood, avalanche and others.

Data come from Swiss online press articles sorted by Google Alerts. The search is based on more than thirty keywords, in three languages (Italian, French, German). After verifying that the article relates indeed an event which has affected a road or a railways track, it is studied in details. We get finally information on about sixty attributes by event about event date, event type, event localisation, meteorological conditions as well as impacts and damages on the track and human damages. From this database, many trends over the five years of data collection can be outlined: in particular, the spatial and temporal distributions of the events, as well as their consequences in term of traffic (closure duration, deviation, etc.).

Even if the database is imperfect (by the way it was built and because of the short time period considered), it highlights the not negligible impact of small natural hazard events on roads and railways in Switzerland at a national level. This database helps to better understand and quantify this events, to better integrate them in risk assessment.