



Excursion of the Swiss Young Geomorphologists (SGmS)

Management of natural risks in Fribourg

Bridging science and society

11 February 2022

The young geomorphologists' 2022 winter excursion took place in Fribourg on a one-day trip. The aim of the excursion was to give some insight on the application of the fields of geomorphology and geology for society from the perspective of different stakeholders.

Three geologists and engineers from the company Geotest AG (Nina Backman, Kaspar Graf and Pierre Dalban) and the project manager for natural hazards of the City of Fribourg (Dario Carrea) accompanied us during the day and gave numerous explanations on the monitoring and management of unstable slopes in an urban and peri-urban context.

The excursion started in the old town of Fribourg ("basse-ville"), where the 14 participants met with the four guest speakers. We then walked through the Gottéron Valley, a valley wedged between high molasse rock faces and affected by landslides, mudslides and rockfalls. Kaspar Graf gave some explanation about a rockfall event that destroyed a house and partially blocked the riverbed in April 2016 (photo above). Since then, the footpath leading up the valley has not been reopened to the public.

The second stop was at a recreational area also located at the bottom of the valley where small debris-flow hazards are threatening buildings and facilities. Dario Carrea explained how the risk is assessed

and where public funds can be used to implement protective measures. He also explained that because of the risk, the recreational activity was suspended.

In the third stop, under the Gottéron Bridge, at the entry of the valley, Pierre Dalban showed how the arch of the bridge rests on a very steep slope of molasse, without anchors. The stability of the slope, and therefore the solidity of the bridge, were assessed and different strengthening measures were discussed.

The fourth and final stop was related to the collapse of a part of the retaining wall of the terrace of the café Le Belvédère, located in the old town of Fribourg, above a subvertical rockwall. Nina Backman explained the challenges of renovating unstable areas of the walls, which are part of the city's cultural and archeological heritage.

The excursion ended on the terrace of the café Le Belvédère, which offers a spectacular view of the medieval town of Fribourg and the molasse walls that dominate the meanders of the Sarine River.

The excursion was documented by Adrian Scherzinger, who will use the footage to make a promotional video for the SGmS. Several participants were interviewed for the video.



Figure 1: Buildings and facilities located under the unstable slopes of the Gottéron Valley are subject to various protection measures, including a ban on the use of a recreational area.



Figure 2: The arch of the Gottéron Bridge rests on a subvertical slope of molasse, without anchors.



Figure 3: The wall retaining the terrace of the café Le Belvédère partly collapsed.

Organisers

Julie Wee and Jonathan Bussard

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