



Association Report 2021

June 2022

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International association for natural hazard risk management
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Activities 2021

Tool development

We still continued working on SlideforMAP, a distributed stochastic limit equilibrium landslide susceptibility model, which can be used for a regional analysis of shallow landslide disposition. In addition, we made improvements in SlideForce, the ecorisQ tool for simulating the runout of shallow landslides and resulting hillslope debris flows. Also, we improved the capabilities of SlideforNET behind the screens and will report after its release about the new capabilities. Lastly, a lot of work has been done on the development of BankforMAP, the future spatially explicit tool for assessing bank erosion at catchment scale, as well as on the development of a model for the calculation of root reinforcement in forests at stand scale.



The highway A79 in Heerlen, the Netherlands is closed due to flooding on 14 July 2021 (photo: OrangeMedia)

General assembly, symposium, excursion and training courses



From 19-25 June 2021, we co-organised the 5th International Conference on Soil, Bio- and Eco-Engineering in hybrid format (in presence in Bern and online), in parallel to our seventh general assembly. About 25 participants were present in Bern and another 30 online. In addition to the conference itself, this included an excursion (see Massimiliano Schwarz explaining the situation concerning landslides in the canton of Fribourg, Switzerland, on the photo to the left) and training courses on Rockyfor3D and SOSlope at the BFH-HAFL in the region of Bern.

Communication and representation

Communication with the members concerns mainly questions on the ecorisQ tools, always represents our major activity. In 2021, we also started the writing and co-production of a handbook on the use of wood to counter / mitigate natural hazards, in collaboration with Lignum, timber industry - Switzerland. The book will be published in English, German and French and will be available at our website.

Future activities

In 2022, we envisage to release a revised version of SlideforNET, as well as the first version SlideforMAP and BankforMAP, although we are aware that these are ambitious plans. In addition, we are still working on the improvement of SlideForce – the runout model for shallow landslides. After release of the first official version in the beginning of 2023, the feedback on the performance of the model from practitioners will help to further improve the model.

The planned extension of the rockfall trajectory model Rockyfor3D which allows integrating a specific modelling tool for rockfall dams will be postponed to 2023. Another activity which continues is the Root Bundle Model (RBM++; a user-friendly tool with an intuitive graphical user interface that allows to visualise and calculate the root reinforcement of nine tree-species at stand scale. The revision of FINT has been done in Python and now needs to be translated into C++.

In collaboration with INRAE, the University of Savoie and BFH-HAFL, we started and continue working on a rock mass fall runout modelling tool called RockavELA, based on a topography dependent energy line angle approach. First tests are currently being done in the Mont-Blanc massif and in several sites in Switzerland.

Finally, at the time of writing, we are 5 days away from the 8th general assembly focused on flood and integrated catchment management in hilly medium-size catchments (100 - 1000 km²). This will take place in Valkenburg aan de Geul in the province of Limburg in the Netherlands on 22 & 23 June 2022. This event follows the catastrophic floods of July 2021 in the area covering NW-Germany, the province of Liège in Belgium and the most southern part of the Netherlands. It has been organised in close collaboration with the Waterschap Limburg (provincial water board) and the municipality of Valkenburg aan de Geul, with support from the BFH-HAFL. The event starts with an excursion in the region. On the second day, we organise a technical symposium on flood and integrated catchment management with presentations from local and international experts.

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