



## **Communicating Earth Observation (EO)-based landslide mapping capabilities to practitioners**

Florian Albrecht (1), Daniel Hölbling (1), Clemens Eisank (2), Elisabeth Weinke (1), Filippo Vecchiotti (3), and Arben Kociu (3)

(1) Department of Geoinformatics - Z\_GIS, Salzburg University, Austria (florian.albrecht@sbg.ac.at), (2) GRID-IT - Gesellschaft für angewandte Geoinformatik mbH, Austria, (3) Geologische Bundesanstalt, Austria

Current remote sensing methods and the available Earth Observation (EO) data for landslide mapping already can support practitioners in their processes for gathering and for using landslide information. Information derived from EO data can support emergency services and authorities in rapid mapping after landslide-triggering events, in landslide monitoring and can serve as a relevant basis for hazard and risk mapping. These applications also concern owners, maintainers and insurers of infrastructure. Most often practitioners have a rough overview of the potential and limits of EO-based methods for landslide mapping. However, semi-automated image analysis techniques are still rarely used in practice. This limits the opportunity for user feedback, which would contribute to improve the methods for delivering fully adequate results in terms of accuracy, applicability and reliability. Moreover, practitioners miss information on the best way of integrating the methods in their daily processes. Practitioners require easy-to-grasp interfaces for testing new methods, which in turn would provide researchers with valuable user feedback.

We introduce ongoing work towards an innovative web service which will allow for fast and efficient provision of EO-based landslide information products and that supports online processing. We investigate the applicability of various very high resolution (VHR), e.g. WorldView-2/3, Pleiades, and high resolution (HR), e.g. Landsat, Sentinel-2, optical EO data for semi-automated mapping based on object-based image analysis (OBIA). The methods, i.e. knowledge-based and statistical OBIA routines, are evaluated regarding their suitability for inclusion in a web service that is easy to use with the least amount of necessary training. The pre-operational web service will be implemented for selected study areas in the Alps (Austria, Italy), where weather-induced landslides have happened in the past. We will test the service on its usability together with potential users from the Geological Survey of Austria (GBA), various geological services of provinces of Austria, Germany and Italy, the Austrian Service for Torrent and Avalanche Control (WLV), the Austrian Federal Forestry Office (ÖBf), the Austrian Mountaineering Club (ÖAV) and infrastructure owners like the Austrian Road Maintenance Agency (ASFİNAG). The results will show how EO-based landslide information products can be made accessible to responsible authorities in an innovative and easy manner and how new analysis methods can be promoted among a broad audience. Thus, the communication and knowledge exchange between researchers, the public, stakeholders and practitioners can be improved.