

# ASSESSING THE IMPACT OF MASS MOVEMENTS ON ALPINE TRAILS AND HUTS USING EO DATA



Florian ALBRECHT<sup>1\*</sup>, Daniel HÖLBLING<sup>1</sup>, Lorena ABAD<sup>1</sup>, Zahra DABIRI<sup>1</sup>, Gerald REISCHENBÖCK<sup>2</sup>, Gabriela SCHEIERL<sup>3</sup>, Tobias HIPPE<sup>3</sup>, Hannes RESCH<sup>4</sup> & Gernot RESCH<sup>4</sup>

<sup>1</sup> Department of Geoinformatics – Z\_GIS, University of Salzburg, Austria; <sup>2</sup>MJP Ziviltechniker GmbH, Gmunden, Austria;

<sup>3</sup>Deutscher Alpenverein e.V., Munich, Germany; <sup>4</sup>Österreichischer Touristenklub, Vienna, Austria

(\*Corresponding author: [florian.albrecht@sbg.ac.at](mailto:florian.albrecht@sbg.ac.at))

## Problem & opportunity

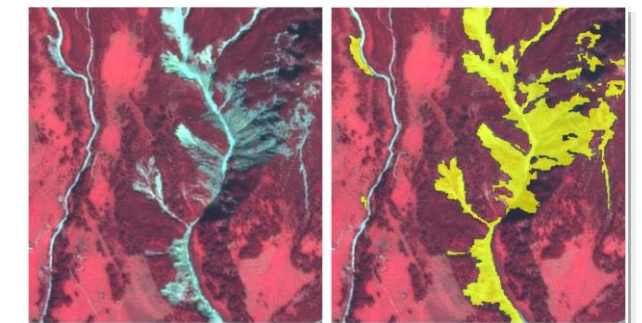
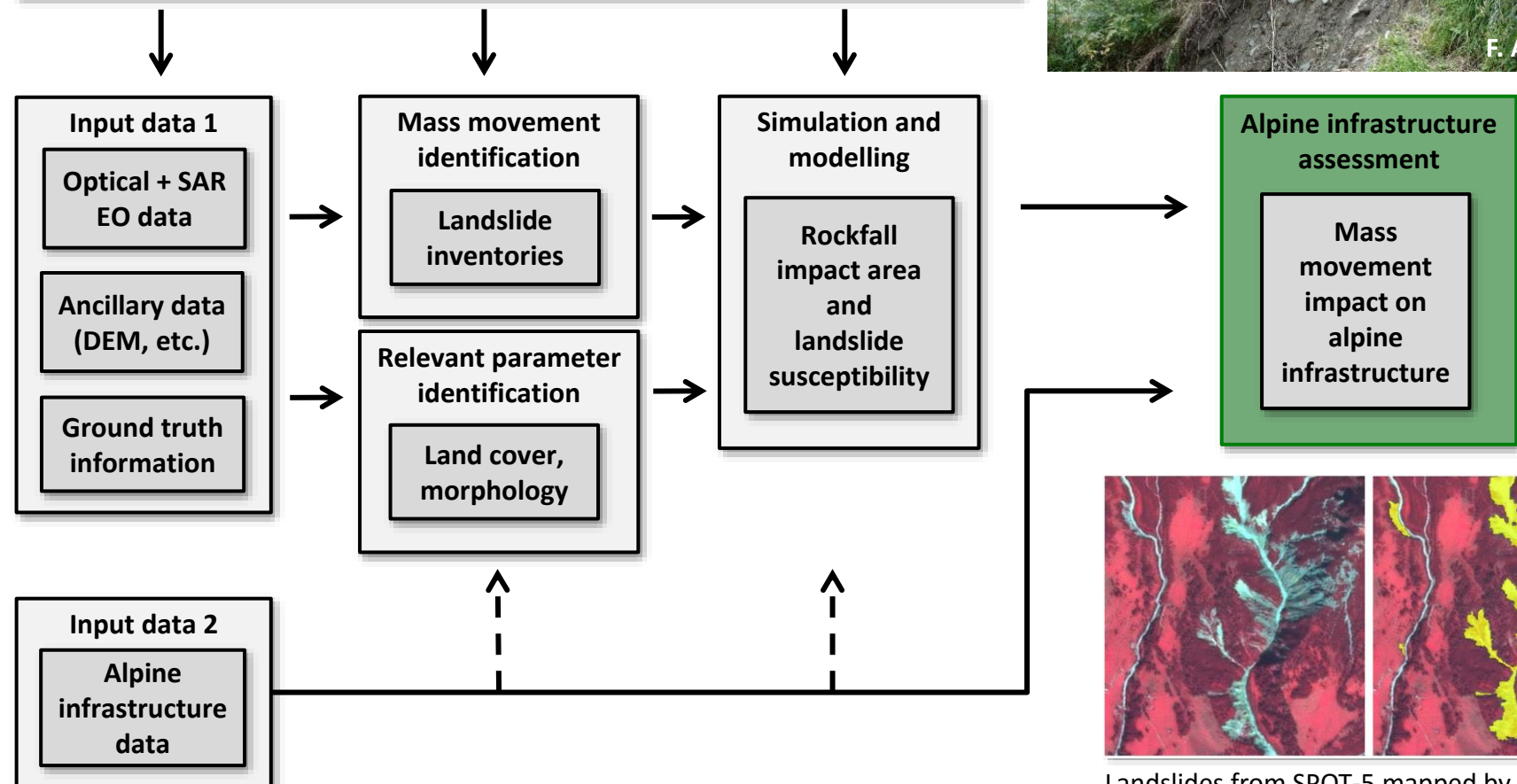
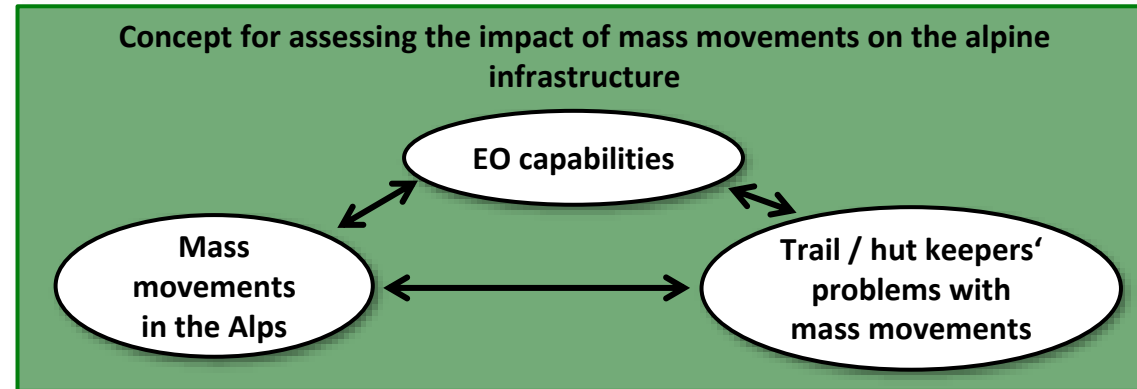
The alpine infrastructure of trails and huts is an essential asset for summer tourism. However, it gets damaged by more frequently occurring mass movements like landslides, debris flows and rockfalls. Therefore, alpine associations need information about these natural hazards to better manage their infrastructure.

Copernicus, the European programme for Earth observation (EO), provides a new generation of satellites with increased spatial and temporal resolution that benefits the monitoring of mass movements.

## Objectives & approach

The project *MontEO* (*The impact of mass movements on alpine trails and huts assessed by EO data*) investigates the opportunities for EO-based mass movement mapping and hazard impact assessment for alpine infrastructure.

We develop a multi-scale approach and combine optical and synthetic aperture radar (SAR) satellite data (e.g. Sentinel-1/2, Pléiades) to comprehensively map mass movements and to identify (potentially) affected trails and huts for an assessment of the impact on alpine infrastructure. We demonstrate the concept and methods for four study areas in the Austrian Alps of Salzburg, Tyrol, and Upper Austria.



Landslides from SPOT-5 mapped by D. Hölbling

## Acknowledgements

This research is supported by the Austrian Research Promotion Agency FFG in the Austrian Space Applications Program (ASAP 15) through the project *MontEO* (contract n° 873667).

## MontEO partners



<http://monteo.zgis.at>

