



The rock avalanche at Pragser Wildsee/Lago di Braies (Dolomites, Italy): Characteristics and Dating

Marc Ostermann (1,2), Susan Ivy-Ochs (3), Frowin Ruegenberg (2), and Christoph Vockenhuber (3)

(1) Geological Survey of Austria, Vienna, Austria, (marc.ostermann@geologie.ac.at), (2) Geology, University of Innsbruck, Austria, (3) Ion Beam Physics, ETH, Zurich Switzerland

Major gravitational slope deformations are widely disseminated in the Dolomite Mountains (NE-Italy), one of the world's most conspicuous landscapes and part of the UNESCO world heritage list. In the Prags Valley/Valle di Braies a rock avalanche still dams a backwater lake - the Pragser Wildsee/Lago di Braies. The volume of rock debris accumulations comprise approximately 30-40 Mm³ of limestone and the area covered with rock debris is about 3.5 km². The run-out distance of about 8.5 km and maximum vertical drop of 1150 m (H/L-ratio: 0.13) yield a runout travel angle (Fahrböschungswinkel) of 8°.

Especially in the surrounding of Schmieden/Ferrara a hummocky landscape with numerous hills and ridges is developed. Here some classical Toma hills are encountered, i.e. isolated cone- to pyramidal- or roof-shaped hills composed of landslide debris. Mainly because the origin of this hummocky landscape was related to glacial processes, the formation of Pragser Wildsee/Lago di Braies was previously thought to be of Lateglacial age.

We applied cosmogenic ³⁶Cl surface exposure dating of four boulders within the debris accumulations and clearly obtained an early Holocene age for the event. Our findings go along with the results of previous radiocarbon dates. Within drill cores that have been established to investigate the sediment infill of the backwater lake, wood samples have been found that indicated an early Holocene minimum age for the slope failure (Irmeler et al., 2006).

Irmeler R, Daut G, Mäusbacher R (2006): A debris flow calendar derived from sediments of lake Lago di Braies (N. Italy). *Geomorphology* 77(1): 69–78.