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# Comparing our results – a GML3-based application schema for the exchange of 3-dimensional geomorphic objects

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We present a GML-based application schema for the representation and exchange of true 3-dimensional geomorphologic landforms like rock slopes and their internal and interconnecting processes.

Worldwide researchers of very different disciplines work on the behaviour of steep rock slopes and free faces. This behaviour is determined by many factors e.g. the rock slope's geometry, its internal structures, and processes that work on and below the surface. Erosion rates are of interest in terms of both, the geomorphological sediment approach as well as natural risk assessment. The latter refers to buildings and infrastructure in the close vicinity of free faces. While these topics are multi disciplinary research areas an agreement of data description and data exchange is essential to compare results.

Geographical data can be shared over the Internet using Web Feature Services. The precondition is the development of a semantic model or ontology based on international standards like GML3 as an implementation of the ISO 109107 and others.

Here we propose such an application model for data exchange purposes that fulfils the following requirements: First, an object-oriented view of landforms with a true 3D geometric data format was established. Second, the internal structure and attributes of landforms can be stored. Third, the interaction of processes and landforms is represented. Fourth, the change of all these mentioned attributes over time was considered.