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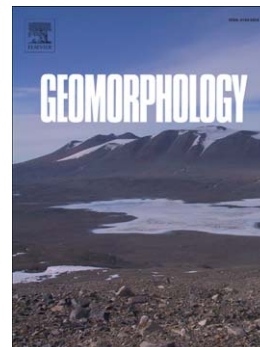
A spatial database for landslides in northern Bavaria: A methodological approach

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A spatial database for landslides in northern Bavaria: a methodological approach

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Abstract

Landslide databases provide essential information for hazard modelling, damages on buildings and infrastructure, mitigation, and research needs. This study presents the development of a landslide database system named *WISL* (*Würzburg Information System on Landslides*), currently storing detailed landslide data for northern Bavaria, Germany, in order to enable scientific queries as well as comparisons with other regional landslide inventories. *WISL* is based on free open source software solutions (PostgreSQL, PostGIS) assuring good correspondence of the various softwares and to enable further extensions with specific adaptations of self-developed software. Apart from that, *WISL* was designed to be particularly compatible for easy communication with other databases.

As a central pre-requisite for standardized, homogeneous data acquisition in the field, a customized data sheet for landslide description was compiled. This sheet also serves as an input mask for all data registration procedures in *WISL*. A variety of “in-database” solutions for landslide analysis provides the necessary scalability for the database, enabling operations at the local server.

In its current state, *WISL* already enables extensive analysis and queries. This paper presents an example analysis of landslides in Oxfordian Limestones in the northeastern Franconian Alb, northern Bavaria. The results reveal widely differing landslides in terms of geometry and size. Further queries related to landslide activity classifies the majority of the landslides as currently inactive, however, they clearly possess a certain potential for remobilization. Along with some active mass movements, a significant percentage of landslides potentially endangers residential areas or infrastructure.

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