



Visual interpretation of LiDAR-based DEM as landslide mapping method – most common mistakes and difficulties.

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Precise terrain models are very readable and often used in geomorphology nowadays. Their analysis sometimes seems to be an alternative to costly and time-consuming field research. Visual interpretation of models, which does not require the use of advanced GIS analysis or complex algorithms, is becoming the primary tool used by practitioners and spatial planners. However, a comparison of field mapping with DEM analysis shows that interpretation of terrain models for landslides identification is not unequivocal. The most common mistakes or difficulties in landslide mapping on DEM include marking only the most active fragments, delineating too large polygons, interpreting a visible geological structure as a manifestation of mass processes, omitting barely visible forms and combining multiple landslides into one form. In order to avoid interpretation errors, it is recommended to perform analysis on different derivatives of DEM (e.g. slope, hillshade from different angles, SVF, TPI) and perform field verification of analysed area.