



Spatial analysis of rock slope instabilities in Western Norway

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During the last century Norway has suffered several natural disasters with large losses of life due to rockslides and related tsunamis. A better understanding of present day rock-slope instabilities will optimise monitoring and further research on the susceptibility of possible future rock-slope failures. For this reason, the critical factors involved in the development of rockslides in certain regions of Western Norway are determined and quantitative spatial relationships between the occurrences of rockslides and their controlling parameters are established.

An integrated approach employing different methods and data sources including mainly remote sensing data, such as orthophotos, InSAR and Lidar data, is used to analyse rock-slope instabilities spatially. It has been recently shown that especially Lidar-derived DEMs have a high potential to detect current instabilities morphologically. In addition, fieldwork including integrated structural geology and geomorphology in parts of the investigation area yields an extensive amount of data and also provides ground checks of the results. This integrated approach aims to provide a better understanding of the spatial distribution of rockslide events and the underlying reasons for their development.