



Database on unstable rock slopes in Norway

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Several large rockslides have occurred in historic times in Norway causing many casualties. Most of these casualties are due to displacement waves triggered by a rock avalanche and affecting coast lines of entire lakes and fjords. The Geological Survey of Norway performs systematic mapping of unstable rock slopes in Norway and has detected up to now more than 230 unstable slopes with significant postglacial deformation. This systematic mapping aims to detect future rock avalanches before they occur.

The registered unstable rock slopes are stored in a database on unstable rock slopes developed and maintained by the Geological Survey of Norway. The main aims of this database are (1) to serve as a national archive for unstable rock slopes in Norway; (2) to serve for data collection and storage during field mapping; (3) to provide decision-makers with hazard zones and other necessary information on unstable rock slopes for land-use planning and mitigation; and (4) to inform the public through an online map service.

The database is organized hierarchically with a main point for each unstable rock slope to which several feature classes and tables are linked. This main point feature class includes several general attributes of the unstable rock slopes, such as site name, general and geological descriptions, executed works, recommendations, technical parameters (volume, lithology, mechanism and others), displacement rates, possible consequences, hazard and risk classification and so on. Feature classes and tables linked to the main feature class include the run-out area, the area effected by secondary effects, the hazard and risk classification, subareas and scenarios of an unstable rock slope, field observation points, displacement measurement stations, URL links for further documentation and references. The database on unstable rock slopes in Norway will be publicly consultable through the online map service on www.skrednett.no in 2014. Only publicly relevant parts of the database will be shown in the online map service (e.g. processed results of displacement measurements), while more detailed data will not (e.g. raw data of displacement measurements). Factsheets with key information on unstable rock slopes can be automatically generated and downloaded for each site, a municipality, a county or the entire country. Selected data will also be downloadable free of charge.

The present database on unstable rock slopes in Norway will further evolve in the coming years as the systematic mapping conducted by the Geological Survey of Norway progresses and as available techniques and tools evolve.