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Mitt innlegg, jeg foretrekker:

- Muntlig presentasjon

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Hvis flere medforfattere:

Fornavn Etternavn: Lars Olsen

Nøkkelord: (minst 5 nøkkelord, eks: geofarer, skred, erosjon, flom, ras)

1. Geofarer
2. Fjellskred
3. Tsunami
4. Vannkraftdam
5. Flom

Skriv sammendrag (Abstract) med minimum 200 ord, og maks 1 A4 side (2500 tegn, inkludert mellomrom) her:

Sammendrag / Abstract

Can an earthquake along the Stuoragurra Fault Complex trigger a rock avalanche and tsunami in the Alta hydropower reservoir, Finnmark, northern Norway?

The 90 km long Stuoragurra Fault Complex (SFC) constitutes the Norwegian part of the Lapland province of postglacial faults in northern Fennoscandia. The central part of SFC was formed in an earthquake with magnitude c. 7 less than 600 years ago. A curvilinear c. 700 m long and c. 100 m wide unstable mountain slope is located c. 120 m above the northwestern shore of the hydropower reservoir behind the Alta Dam. The distance from the rock slope to the Alta Dam and the SFC is 3

and 15 km, respectively. The vertical subsidence is in the order of c.15 m along the curvilinear fractures. Open fissures occur frequently in the unstable rock slope. The water level of the hydropower reservoir below the unstable rock slope is varying with c. 40 m during a year and is consequently contributing to further destabilization and to melting of permafrost that is acting as a 'glue' to the fractured bedrock. The unstable bedrock slope is covering an area of 120 000 m^2 along the Alta hydropower reservoir. If the unstable area reaches 25 m into the bedrock it will include a bedrock volume of c. 3 mill. m^3. C. 1.8 million m^3 of water will most likely be displaced if the unstable rock slope falls into the reservoir. About half of the water will go northwards in the direction of the Alta Dam and the Alta town located 40 km downstream. We recommend that a modelling of this scenario is carried out to predict the water flow. There is also a need to consider a potential damming of the Alta River and the Virdnejávri and Latnetjávri lakes causing an accompanying flooding of the Masi village located 30 km to the south. We further propose to carry out electrical resistivity profiling along three profiles across the unstable rock slope to estimate the rock volume more accurately.