



## **The distribution, stratigraphy and morphology of rock-avalanche deposits in the Storfjorden area, Norway.**

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The 3 million m<sup>3</sup> 1934 rock avalanche from Heggurda in Taffjord is the last in a series of disastrous rock avalanches in the inner part of Storfjorden, Møre og Romsdal county. Swath bathymetry and a dense net of high-resolution seismics has been interpreted to map slide deposits on the fjord bottom and in the sediment succession to establish a slide frequency for the area. Over a distance of 80 km, a minimum of 60 different events have been mapped. The distribution of the slides can be used in the identification of especially slide-prone slopes and to relate bedrock structures and slide hazard. The slides are more or less evenly distributed over the area, but the number of events is highest in the tributaries Taffjord and Geirangerfjord. The slides are spread in time from the deglaciation until the present with a slightly higher frequency of events the last 5000 years. The largest registered slides are found beneath Blåhornet (c. 400 million m<sup>3</sup>) and Heggurdaksla (c. 25 million m<sup>3</sup>). Both these slides happened shortly after the deglaciation and are characterized of huge rock blocks and little disintegration of the failed rock masses.

At the moment, a rock massif of at least 30 million m<sup>3</sup> at Åkneset, is moving downslope and may be the next huge slide in the fjord system. During the Holocene, only minor slides have been released from the southwest fringe of this massif, forming an avalanche cone in the fjord. The slide scar of the Blåhornet slide indicates a failure plane c. 100 m below the rock surface, similar to the situation demonstrated at Åkneset. This indicates that if Åkneset slides as one unit, the disintegration of the rock will be restricted and this may affect the resulting tsunami.

The study of fjord morphology/sediments has proven to be important for both estab-

lishing slide frequencies, understanding slide mechanisms and for identifying areas especially prone to sliding.