



## **Veslemannen - a rockslide in development**

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During the fall of 2014 and 2015 large deformation rates has been measured in parts of the unstable rock slope Mannen in Norway, creating national headlines. Mannen is a permanently monitored rock slope, and it was during a periodic campaign with a ground based radar (InSAR) in September 2014 that movements in an area that formerly had not been covered by the permanent monitoring system, was discovered. Measurements with ground based radar and extensometers show that 120 000 m<sup>3</sup> to 180 000 m<sup>3</sup> of the rock slope has moved up to 1.5 m since the 21<sup>th</sup> of September 2014. There have been several phases of acceleration with speeds exceeding 15 cm/day. In rock slope monitoring acceleration is used to predict when rock slope failures will occur, and a rock avalanche from this area, located 1200 m above the valley floor, would pose a potential risk for houses, farms and other infrastructure such as roads, power supplies and a railroad. Because of this, a part of the underlying area has been evacuated in periods. The movement of the unstable rock slope is clearly linked to the supply of water, and during the winter when precipitation falls as snow, the movement slows down. This case illustrates the importance and value of monitoring unstable rock-slopes, making it possible to detect deformations, follow the movement and evacuate people in case of high avalanche risk.