The 7280 $^{14}$C yr BP event (Storegga Slide) of regional mass failure deposits in Mid- and Western Norwegian fjord basins

Haflidason, H. 1, Hjelstuen, B.O. 1, Kristensen, D.K 2 and Sejrup, H.P. 1

(1) Department of Earth Science, University of Bergen, Allegt. 41, 5007 Bergen

(2) Norwegian Polar Institute, Polar Environmental Centre NO-9296 Tromsø

Abstract

Acoustic technological development during the last decade has made it possible to map the upper 100 m of the fjord basin sediments in Norway with a ten times better vertical resolution than previously available. Systematic compilation of seismic data has unravelled that the fjord basins in western Norway have been exposed for repeated mass movement events since the early Holocene. Recently dated cores have made it possible to improve the chronostratigraphical framework of the fjord basins and to date a number of the mass movement events more accurately. The most pronounced seismic reflector identified in the basins is associated with the 7280 14C years BP (8200 cal yrs) Storegga Slide failure. Commonly 10 %, in some cases up to 25 %, of the Holocene stratigraphical unit are estimated to consist of sediments associated with this specific event. The magnitude and the extent of these synchronized mass movements indicate however that the triggering mechanism must be related both to impact from the Storegga Slide tsunami and from an earthquake. We infer that the mass movements have the potential to create local tsunamis in some of the fjords.