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Dynamic and timing of the Yermak/Hinlopen Slide, Arctic Ocean

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Based on integrated interpretation of acoustic (PARASOUND), detailed bathymetric and seismic data of the shelf north of Spitsbergen, the published extend of the submarine Yermak Slide (Cherkis et al., 1999) has been refined. Key profiles across the margins of the slide have been sampled for sedimentological characterisation and dating of the submarine slide. AMS radiocarbon dating on shells of N. Pachyderma sin. of carefully selected key-cores allowed a solid characterisation of the age of the Yermak Slide. The data gives evidence of one large scale failure event at the termination of the Hinlopen cross shelf trough during MIS 3. This first event was followed by repeated minor events. The submarine megaslide developed into a submarine debris avalanche with tens of megablocks reaching extensions of up to 5 km and a relief of more than 300 m above the surrounding debris. The slide's debris rushed into the semi-enclosed Sophia Basin and finally funneled out into Nansen Basin. First calculations on the slide's area of more than 10.000 km^2 and its volume of app. 2.400 km^3 puts the Yermak Slide among the largest exposed submarine slides worldwide.