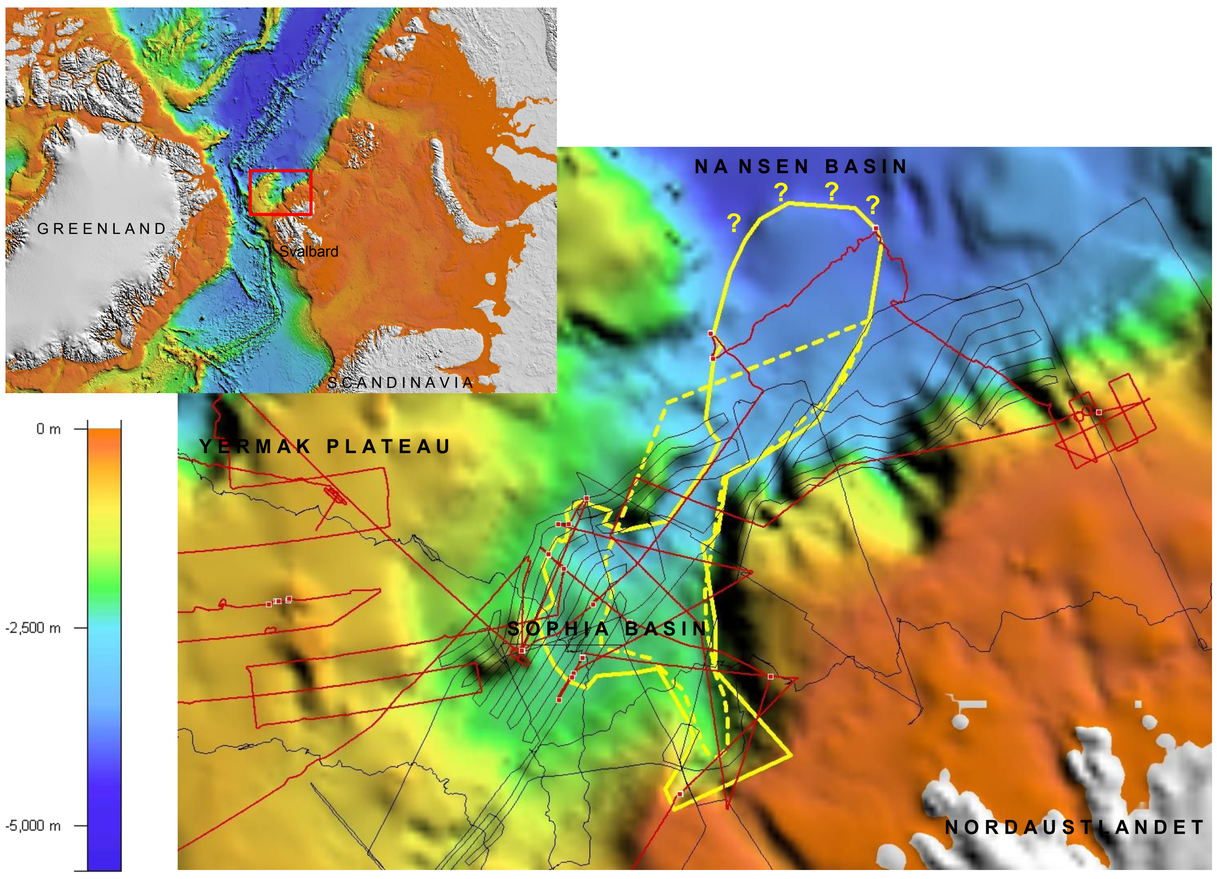
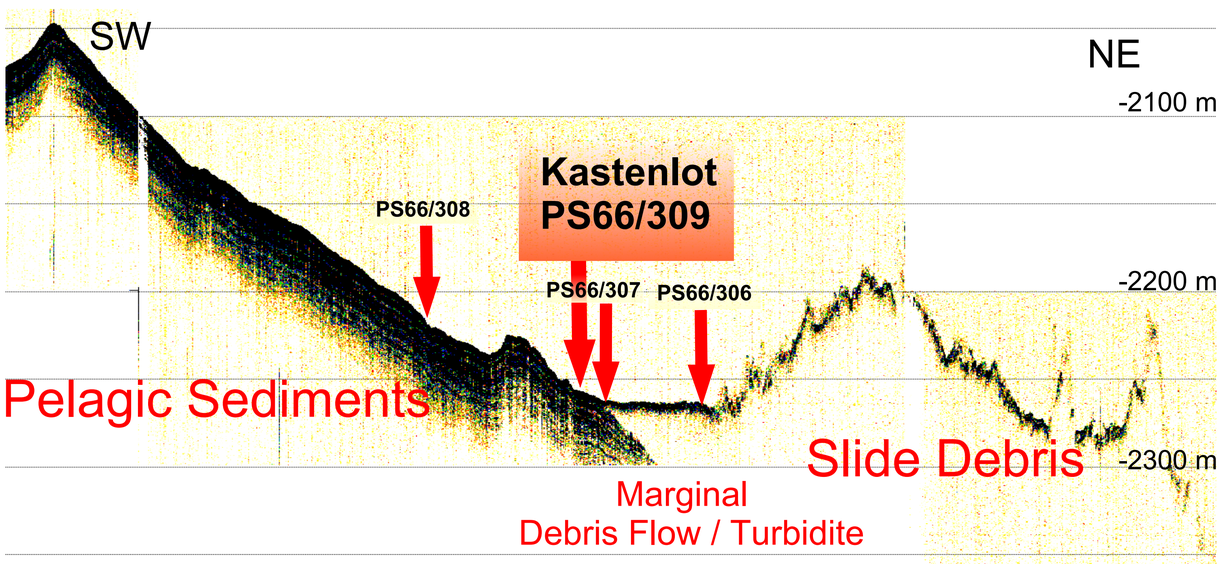
The Yermak Slide north of Svalbard (Arctic Ocean)
Preliminary Results

D. Winkelmann, R. Stein, F. Niessen and the scientific shipboard party of ARKXX/3





Based on interpretation of acoustic (PARASOUND) and detailed bathymetric data as well as sidescan sonar images and seismic data from the adjacent shelf, the published extend of the submarine Yermak Slide (Cherkis et al., 1999) has been revised.

According to PARASOUND the slide displays features with pronounced and consistent facies. Along its western margin in the Sophia Basin the slide debris (characterised by rough topography) developed into a marginal debris flow and a sequence of turbidites resting on acoustically layered "normal" pelagic sediments. The marginal turbidite has successfully been cored through resulting in a sequence of pelagic sediments beneath and on top. Due to the higher amount of sedimentary material this Kastenlot will be the key core for AMS radiocarbon dating and - in concert with correlation to other cores - for the stratigraphic frame.
The inner part of the basin hosts the main slide debris with hummocky surface and younger sediments accumulated in topographic lows as well as large blocks of the presumably collapsed shelf part. Single blocks were found to reach extensions of more than four kilometres.
The distal part of the slide displays a hummocky topography as well though it appears to smoothing with runout distance. Due to heavy sea ice conditions coverage and quality of the acoustic data is unbalanced compared to the inner part of the Yermak Slide.

References

Cherkis, N. Z., Max, M. D., Vogt, P. R., Crane, K., Midthassel, A., Sundvor, E., (1999): "Large-scale mass wasting on the north Spitsbergen continental margin, Arctic Ocean", Geo-Marine Letters 19, 131-142