

Physical properties of glacial sediments from the Landsort Deep

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Landsort Deep, located in the Baltic Sea proper, is the deepest basin in the Baltic Sea. It displays a high-resolution late-Weichselian and Holocene sediment record.

Samples between ca. 50 and 80 mbsf. from one hole, M0063C, will be studied. These cores were recovered during the IODP Expedition 347 “Baltic Sea Paleoenvironment” from the water depth of 437 m.. At this stage, sediment analyses will include grain-size and LOI. The IODP 347 physical properties dataset will be utilised too. The relative age determination for analysed cores is based on knowledge on certain geological events in the Baltic Sea Basin history.

Preliminary interpretation of sedimentary environment for units V and VI is based on the Expedition 347 report (Andrén et al. 2015) and will be complemented with ongoing grain-size analysis.

Unit V (48–53 mbsf) is laminated, partly contorted, convolute bedded clay possibly of glaciolacustrine origin. Clay unit has possibly been remobilised by a slump event.

Unit VI (53–93 mbsf) is finely laminated varved clay with a down-core increase in the content of silt and sand. These are glacial lake deposits, recording a transition from ice-distal (upper part) to ice-proximal (lower part).

This work is a part of the CISU project funded by Academy of Finland and Russian Foundation for Basic Research.

References:

Andrén, T., Jørgensen, B.B., Cotterill, C., Green, S., and the Expedition 347 Scientists, 2015. Proc. IODP, 347: College Station, TX (Integrated Ocean Drilling Program). doi:10.2204/iodp.proc.347.102.2015