DATED – A dating Database and GIS-based Reconstruction of the Eurasian Deglaciation

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The timing and pattern of the deglaciation of the Eurasian ice sheet is of key importance for Late Quaternary environments, on a local scale as well as globally. The increasing resolution of glacier and climate models demand detailed information about the deglaciation on a calendar year time scale. This is the rationale for the ongoing project DATED, which is aimed to serve as a primary source of information about the ice growth towards LGM and the deglaciation of Eurasia. Data compiled from the literature is presented as a Geographical Information System (GIS) containing digitized ice margins and other features relevant for the deglaciation reconstruction. The area comprised in DATED includes all areas covered by the NW-Eurasian ice sheets. The GIS is coupled to a Microsoft Access™ database containing deglaciation dates with stratigraphic information. The dating database and the GIS will be available on the web and successively updated. The dating database is referred to as the Database on Eurasian Deglaciation Dates (DATED 1) and the GIS as the Digital Atlas of the Eurasian Deglaciation (DATED 2).

The database is aimed to cover all available dates of the Eurasian deglaciation, based on radiocarbon (14C), optically stimulated luminescence (OSL), thermoluminescence (TL), cosmogenic exposure (e.g. 10Be, 36Cl), and clay varve records. The database will include ice growth towards the LGM, and therefore start with dates of the Ålesund Interstadial, c. 35-38 cal kyr BP (Mangerud et al., 2003). All dates in the database are (also) given in a format considered to represent calendar years, using INTCAL04 where applicable.

The main purpose with DATED is to serve as an updated source of interpreted ice margins and dates for the deglaciation of the Eurasian ice sheet, in order to provide accurate digital maps with calendar year isochrones to modelers and other researchers. It will also show where data is lacking, and facilitate re-interpretation of the deglaciation pattern. The first version of DATED will be published and made available on the internet in August 2007, in a format readable with ordinary web-browsers. This task is a part of the British-Dutch-Norwegian co-operative project Ocean Reconstruction and Modelling of the European deglaciation (ORMEN) led by Sandy Harrison, University of Bristol. Information about the DATED project can be found at http://www.gyllencreutz.se.

References

Mangerud, J., Løvlie, R., Gulliksen, S., Hufthammer, A-K., Larsen, E. & Valen, V., 2003. Paleomagnetic correlations between Scandinavian Ice-Sheet fluctuations and Greenland Dansgaard–Oeschger events, 45,000 –25,000 yr B.P. *Quaternary Research* 59, 213–222.