



Ocean - ice-sheet interaction and tephrastatigraphy from the SE Nordic Seas region between 50-150 ka.

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It is essential to understand the interactions between oceans, atmosphere and ice sheets when looking into variability of past, present and future climate. In order to assess this interaction it is necessary to study synchronized high resolution proxy records of same or different archives that is sensitive to the variability of these components. The limitation in studies of different archives is often the degree and precision of synchronization that is possible to obtain between them. Records of the different components found in the same archives is thus to prefer when assessing interactions such as leads and lags in the climate system. Here a 50-150 ka record of ocean - ice-sheet interaction correlated with the NGRIP ice core is presented from a SE Nordic seas core (MD99-2289). The core is obtained from a position sensitive to variation in both the inflow of warm Atlantic water to the Nordic seas and to Fennoscandian ice sheet variability. The record is tuned to the NGRIP ice core and to the Iberian margin alkenone sea surface temperature estimates of Martrat et al. (2007). This is done on the basis of XRF core scanning chemical profiles, magnetic susceptibility and foraminiferal biostratigraphy, which enables a link to both the detailed proxy records of the ice core and the records from the Iberian margin. A tephrastatigraphical record of the same core is presented, documenting the geochemistry and timing of deposition of Icelandic and Jan Mayen tephras. The tephra found in this core is providing a potential of detailed correlation between ice-core, terrestrial and marine records and will if found in other archives help justify the assumption of time-synchrony of events used in tuning approaches, or quantify possible leads and lags between the records in question.