



## Surface conditions and evolution of the Norwegian Sea during MIS 5e, based on dinoflagellate cyst assemblages

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Sediments from the last interglacial, Marine Isotope Stage (MIS) 5e, have been studied for their dinoflagellate cyst content in a core retrieved from the Vøring Plateau, Norwegian Sea. Qualitative and quantitative analyses of the data, and comparison with Holocene data, reveal distinct differences in hydrological surface conditions between the Holocene and MIS 5e. A higher number of co-dominant, subordinate species in the last interglacial samples suggest a more pronounced seasonality. This is supported by high relative abundances of *Bitectatodinium tepikiense*, a species as good as absent from the area for most of the Holocene. Together with further statistical analysis of the assemblages, it would indicate a strong stratification of the upper water column. Moreover, the assemblage data clearly show that optimal, fully marine interglacial conditions prevailed only late in MIS 5e, which is in contrast with the early Holocene climatic optimum. Planktic stable oxygen isotope values for this MIS 5e optimum are comparable to the average Holocene values. This suggests that the  $\sim 0.3\%$  higher values of the preceding, largest part of the last interglacial (*sensu stricto*) likely resulted from enhanced and prolonged influence of Saalian deglacial meltwater, thus corroborating the existence of a quite differently structured sea surface as suggested by the dinocyst data.