

## NUMERICAL MODELING OF THE OCEAN-SEDIMENT SYSTEM IN LARGE BASINS: THE LATE QUATERNARY IN THE NORTHERN NORTH ATLANTIC

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Oceanic general circulation models and sedimentation models are used to simulate the climatically induced complex interactions of the ocean-sediment system in the late Quaternary North Atlantic.

The prognostic sedimentation models SENNA (SEdimentation in the Northern North Atlantic) and PATRINNA (PARTicle TRacing In the Northern North Atlantic) are driven by the thermohaline oceanic circulation and coupled to the oceanic circulation models which provide the paleoceanography of the Greenland, Iceland and Norwegian (GIN) Seas.

Modeling the Last Glacial Maximum on the 21600 calendar years timeslice, the most probable scenario for the glacial summer resembles closely the modern winter with ice-free GIN seas in contrast to the CLIMAP scenario with ice-covered GIN seas. The simulated sedimentation patterns and particle paths fit very well the observed sediment distributions, e. g. the large sediment drifts south of the Greenland-Scotland Ridge. Particle paths and accumulation of fine grained sediments depend strongly on deep convection and vertical mixing-depth.