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**MODELING OF CLIMATICALLY FORCED
SEDIMENTATION PATTERNS AND SEDIMENTARY
SEQUENCES IN THE NORTH ATLANTIC**

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The 3-D forward ocean general circulation model (OGCM) SCINNA (Sensitivity and Circulation in the Northern North Atlantic) and a sedimentation model SEDLOB (SEDimentation in Large Ocean Basins) are used to simulate the climatically driven Quaternary paleoceanography and sedimentation history of the North Atlantic. The sedimentation model is driven by the thermohaline oceanic circulation and coupled to SCINNA.

In view of numerical experiments in stratigraphy, an efficient model is aimed of simulation of sediment distribution patterns on the sea floor, especially accumulation and erosion of sediments integrated over time intervals long enough to represent the stratigraphic architecture. Based on the stratigraphic record, this architecture is composed of succeeding sequences in a chronostratigraphic time frame.

We use SCINNA and SEDLOB to generate basin-wide glacial and interglacial circulation and sedimentation patterns of the North Atlantic. Sediment accumulation is integrated over time spans covering succeeding cold and warm periods as defined by the high-resolution Plio/Pleistocene sedimentary record. Synthetic stratigraphic sections are obtained from this climatically forced basin fill. Examples with maps and synthetic cross sections are presented for the North Atlantic using stratigraphic data from sediment cores covering the last 2.62 million years.