

## **Biogeochemical controls on the Mn distribution in Arctic Ocean sediments**

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Paleoceanographic and paleoenvironmental studies in the Arctic Ocean are hampered by the scarcity of calcareous nanno- and microfossils, making age modeling complicated. In order to construct a chronostratigraphic framework for late Quaternary cores from the Arctic Ocean, alternative stratigraphic tools have been developed. One promising avenue for the correlation between cores is the use of glacial-interglacial swings in the Mn content that allows cores to be correlated over large distances. However, Mn is a redox sensitive element easily influenced by biogeochemical process, both in the water column and in the sediment. An improved understanding of the biogeochemical processes that control the incorporation of Mn in the stratigraphic record is therefore crucial for the use of Mn as a chronostratigraphic tool. In this study, the diagenetic processes responsible for the dissolution and reprecipitation of Mn are explored, and independent ways of identifying hiatuses in the records are tested.