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ABSTRACT BOOK

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Late Quaternary palaeoceanography and sea-ice history in the Kveithola Trough Mouth Fan (NW Barents Sea)

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The north-western continental margin of the Barents Sea represents an important gateway for the influx of the relative warm and saline Atlantic Water (AW) towards the Arctic Ocean. The AW influx into the Arctic Ocean varied considerably over the late Quaternary playing an important role on the climatic conditions of the Arctic (i.e. Werner et al., 2013). The western Barents Sea represents a key area to study the palaeoceanographic conditions, which occurred during the past. We present the high resolution (centennial scale) foraminiferal study of two cores collected from the Storfjorden-Kveithola depositional system (NW Barents Sea) during the EGLACOM and CORIBAR projects. The aim is to reconstruct the paleoceanographic and paleoenvironmental evolution after the Last Glacial Maximum, using expanded sedimentary sequences (over 6 m thick Holocene record in the core collected on the Kveithola Trough Mouth Fan, Carbonara et al., 2018; Caricchi et al., 2018).

The chronological framework defined by the paleomagnetism (Charicchi et al., 2018), evidences that the ecobioevents highlighted by the planktic microfauna occurred more or less synchronously throughout the studied area. The high diversity of the assemblage reveals an early Holocene Climatic Optimum terminating with the 8.2 Ka cold spell, characterised by a low diversity assemblage dominated by the high primary productivity indicator, *Turborotalita quinqueloba*.

The benthic foraminiferal assemblage indicates deglaciation conditions before the Holocene. In the glaciomarine sediments, the benthic assemblage mainly contains *Cassidulina reniforme*, *C. neoteretis*, *Islandiella helenae/norcrossi* and *Cibicides lobatulus*. The significant occurrence of very small taxa (> 63 μm), such as *Stetsonia horvathi* and *Seabrookia earlandi*, suggests conditions of low productivity related to permanent sea ice conditions during the medium-late Holocene. In the late Holocene, the increasing occurrence of *Epistominella arctica*, *E. exigua* and *Eilohedra nipponica*, phytodetritus feeders, records mostly seasonal sea ice conditions.

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