

Oligocene to Recent North Atlantic biostratigraphy and calcareous nannofossil assemblages (IODP Expedition 395)

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Low-latitude biozonation schemes of calcareous nannoplankton and planktonic foraminifera are hard to implement in higher latitudes due to the absence of warm-water species in temperate to cold water masses. Continuous records with well-preserved fossils are therefore crucial to build robust biostratigraphic schemes and explore calcareous nannofossil assemblage changes within the Cenozoic. International Ocean Discovery Program (IODP) Expeditions 384, 395C, and 395 drilled six sites in the North Atlantic at a latitude of ~60°N, recovering sedimentary sequences from the Irminger and Iceland Basins that date back to the early Oligocene. Five Expedition 395 sites (U1554, U1555, U1562, U1563, and U1564) are located on a transect to the east of the North Atlantic mid-ocean ridge, and one site (U1602) is located to the west of the ridge. Integrated calcareous nannofossil, planktonic foraminiferal, and bolboform occurrences allowed for a robust reconstruction of biohorizons that are well correlated across sites.

Calcareous nannofossils are present to abundant in most samples, and their preservation is moderate to good, whereas intervals of very good preservation also occurred, primarily for the Pliocene and Pleistocene. Species that belong to the genera *Reticulofenestra* and *Coccolithus* are the most dominant across all sites and geological time intervals, whereas *Gephyrocapsa* species commonly dominate the Upper Pleistocene assemblages. Higher abundances of species affiliated with warmer waters, such as *Sphenolithus* sp., were observed in samples dated to the Early and Late Miocene, both to the east and west of the Mid-Atlantic Ridge.