

Preliminary results on lithological changes in three depth transect cores recovered from the Bering Sea during cruise MR06-04

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The Bering Sea, though the third largest semi-enclosed sea on Earth and the only gateway between the Arctic and the Pacific Ocean, has until recently received comparably little attention in paleoceanographic studies. Yet, sediments recovered from its seafloor have shown great potential in unveiling past oceanic, climatic and biological conditions.

During Mirai cruise MR06-04 Leg2 six new Piston Cores, PC23A and B (water depth: 1002m), PC24A and B (water depth: 850m) and PC25A and B (water depth: 1170m) have been recovered along a transect at the Northeastern part of the Bering Sea continental slope. For these cores Visual Core Description, Soft X-Ray Images, physical sedimentary properties - such as magnetic susceptibility and GRA density - and color reflectance data have been produced onboard.

Our research presents preliminary results on lithological changes in the cores PC23A, PC24A and PC25A utilising above mentioned sedimentary information. An age model based on last occurrences of Radiolarian species designed onboard argues for core bottom ages of approximately 110ka (PC24B) and 60ka (PC23B and PC25B). Stratigraphic correlation and analysis supported by this age model suggests millennial scale variation, possibly linked to the Dansgaard Oeschger Cycles (DOC) first discovered in Greenland Ice Cores. A linkage of these variations to similar DOC correlated climate oscillations found along the California Margin and in the Okhotsk Sea area would support evidence of millennial scale switches of North Pacific Intermediate Water circulation indicating a profound impact of Northern Hemisphere ocean - atmosphere - biosphere interaction on climate during the last glacial interglacial cycle.