

Calcium carbonate fluctuations during Quaternary Period in the western equatorial Indian Ocean

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Ocean Drilling Program (ODP) Sites 711 and 709, which were raised from below and above the present day regional lysocline depth respectively, in the western equatorial Indian Ocean.

At ODP Site 711 CaCO₃ content varies from 21 to 79%, whereas at Site 709 it ranges from 84 to 95%. Site 711 documents higher CaCO₃% during glacial intervals and lower CaCO₃% during interglacials. Further more at Site 711 the coarse fraction (>150mm) generally increases during glacials and decreased during interglacials indicating increased dissolution during glacials. By contrast, CaCO₃ profile from the Site 709 do not show any clear relationship to glacial and interglacial cycles derived from δ18O

Scientific consensus exist that calcium carbonate content in deep-sea sediments respond to climatic changes during Quaternary Period. In the Pacific Ocean CaCO₃ content is higher during glacials and lower during interglacials, on the contrary, in the Atlantic Ocean higher and lower CaCO₃ were noticed during interglacials and glacials respectively. Hitherto, no solid evidences exist whether carbonate variations related to climatic changes in the Indian Ocean or not. In this context, we have examined Ocean Drilling Program (ODP) Sites 711 and 709, which were raised from below and above the present day regional lysocline depth respectively, in the western equatorial Indian Ocean.

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