



Miocene environmental changes along the Wilkes Land margin, Antarctica (IODP 318): preliminary results

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Integrated Ocean Drilling Program (IODP) Expedition 318 accomplished successful drilling of the Wilkes Land margin (East Antarctica) in early 2010. Understanding the development and the dynamics of the cryosphere during the Cenozoic and obtaining high-resolution records of climate variability during the Neogene and the Quaternary were among the main targets.

Samples from Site U1356 Hole A, between ~400 (just above unconformity U5) and ~100 mbsf are analysed for dinoflagellate assemblages and TEX86 in order to unravel climate variability during the early to middle-late Miocene. Preliminary results show that dinoflagellate assemblages are typically dominated by heterotrophic species, taken to indicate the occurrence of (permanent) sea-ice conditions. However, some samples contain abundant autotrophic polar to sub-polar species, which would indicate relatively warmer conditions and likely only seasonal sea-ice coverage. Dinoflagellate results will be presented together with TEX86-derived Sea Surface Temperatures. A comparison with ANDRILL Southern McMurdo Sound (SMS) TEX86 data obtained from the same time interval from the Ross Sea will be also discussed.