



Amundsen Sea sediment drifts: Archives of modifications in oceanographic and climatic conditions

Gabriele Uenzelmann-Neben and Karsten Gohl

Alfred-Wegener-Institut, Geophysics, Bremerhaven, Germany (gabriele.uenzelmann-neben@awi.de),

Drift deposits document stages of particular dynamic bottom-currents and associated sedimentary transport activities. The analysis of seismic reflection data from the Amundsen Sea, southern Pacific Ocean, reveals sediment drift formation already in Eocene/Oligocene times. This observation indicates bottom current activity and hence a cold climate for the late Palaeogene in an area, which today lies under the influence of Antarctic Bottom Water (AABW) originating in the Ross Sea. The generation of sediment drifts is accompanied by the occurrence of debris flows leading to the identification of a phase of strong ice sheet expansion (15-4 Ma), which then was followed by minor ice-sheet advances during the last 4 Ma.