



Spatial and seasonal variability of mineral dust particles in an Antarctic snow pit study

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From mineral dust particles measured in Antarctic snow and ice it is possible to reconstruct transport characteristics from the dust source to its deposition site as well as climatic changes in the source area. Despite measurements from glacial times, the knowledge about source regions and seasonal variability of the dust concentration and its grain size is still poor for recently deposited dust particles in Antarctic snow.

For the interpretation of long ice core records like EPICA (European Project on Ice Coring in Antarctica) it is essential to know the present day sources and to understand the transport and deposition pattern.

In order to investigate these questions we took samples in snow pits from different sites in Antarctica. These samples were analysed regarding their dust particle content, their particle size distribution and their elemental composition.

A decrease in the mode of the particles from the coast to the inland plateau is visible. Different effects seem to play a role for the variability of the total particle concentration. The size distribution from a snowpit from Berkner Island is different to the size distribution on the plateau at Kohnen Station with more bigger particles, that suggests different sources.