Geophysical Research Abstracts
Vol. 12, EGU2010-8379, 2010
EGU General Assembly 2010

Tornado-Like Structure Under a Barents Sea Iceberg

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Data on two out of 20 CTD stations performed in 1995 around a Barents Sea iceberg revealed a low-density zone at the closest distances below the iceberg draft. Release of sediments from the iceberg basal layer was incorporated into a simple plume model to explain observed displacement of the ambient water from 140 meters to the very sea floor due to thus enhanced density. This process seems to be a good analogue to the descent of a so-called reflectivity core pendant from an echo overhang prior to the tornado formation (in the radar data).
Subsequent fall out of the solid particles must inevitably lead to the ascent of the remaining light water providing mixing mechanism deep inside the water masses. Considering the annual amount of the debris transported by the Arctic iceberg and especially ice floes we obtain a great unexplored additional energy source for water transformation processes.