Geophysical Research Abstracts
Vol. 13, EGU2011-9846, 2011
EGU General Assembly 2011

Nitrogen isotope measurements on POM amino acids of Lake Baikal

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Lake Baikal offers a unique opportunity to study water column processes in a freshwater system with conditions similar to oceanic systems. With a maximum water depth of ∼1640 m, Lake Baikal is the deepest lake on Earth and due to efficient vertical mixing, oxygen concentrations are high throughout the water column.
Furthermore, although Lake Baikal receives considerable input of suspended particles via rivers, primary production in the surface waters is the major source of carbon and energy for organisms in deeper water layers and in the sediments.
Sediment trap material from Lake Baikal, collected at 18 different water depths (50-1350 m), has been investigated for total hydrolysable amino acids (THAA) and amino acid D-and L-enantiomers. The THAA flux decreased by 50% in the upper 500 m and remained constant below this depth, indicating that organic matter (OM)degradation was mostly restricted to the upper water column.
We have measured nitrogen isotopes on THAA (POM) from different water depths that allowed for determination of source and food web changes.