The Baikal Rift (Siberia, Russia): Pliocene and Pleistocene "Ecosystems" Mirroring Geodynamics and Palaeoclimate

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The Baikal Rift is extending along the southeastern margin of the Siberian platform and filled by the deepest and most voluminous freshwater body on Earth, which is supposed to exist permanently since the Late Oligocene.

Lake Baikal represents a hotspot of endemic radiations, but neither the evolutionary origin of most corresponding lineages and the biogeographical context respectively nor geodynamics, which have created the ecosystem and its habitats, are really understood.

In order to gain new insights in the abiotic controll mechanisms of biological evolution, Pliocene and Pleistocene outcrops located in the vicinity of the tectonic suture between the northern and the southern basin of Baikal have been investigated sedimentologically and palaeontologically. The analyses of palaeoenvironments have focussed i.e. the sedimentation regime as a mirror of tectonic activity, and ecological parameter, which have been translated into a climate proxi.

The studied sediments accumulated under aerial and fluvial conditions respectively and thus are strongly contrasting the about isochronously deposited pelagic lacustrine sediments obtained within the framework of the Baikal Drilling Project. Onshore and offshore sediments are compared in particular with regard to geochemistry and palynology and implications for the development of the ecosystem Baikal are discussed.