



## **Diatomic reconstructions of the Middle Miocene – Early Pliocene tectonic paleo-lakes in Barguzin Valley: Correlations with paleo-Baikal and paleo-lakes on Vitim Plateau, Baikal Rift Zone**

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A subsequent formation of oligotrophic tectonic paleo-lakes Bodon-1 and Bodon-2 is reconstructed through study of fossil diatom flora in sediments of the upper stratum of Tankhoy Formation in the south of Barguzin Valley. The first lake is characterized by the development of Middle – Late Miocene planktonic species-markers *Aulacoseira* sp. 1 and 2 (diatom zones 1 and 2), and then – of the species *Pseudoaulacoseira moisseeviae* (diatom zone 3), the second one is identified due to expansions of Middle – Late Miocene and Early Pliocene species-markers *A. italica* (diatom zone 4), *A. krasskei* and *Ellerbekia kochii* (Pantocsek) Moisseeva (diatom zone 5), *A. islandica* (Müller) Simonsen (diatom zone 6) and *A. anadensis* (diatom zone 7). The diatom flora of zone 4 from paleo-lake Bodon-2 and zone 3 of paleo-lake Bodon-1 is similar to the one from paleo-lakes in Vitim Plateau, whereas the diatom flora of zone 6 from paleo-lake Bodon-2 is similar to those from sediments of paleo-Baikal. It is suggested that oligotrophic Miocene paleo-lakes originated due to motions of tectonic blocks in humid environment first resulted in filling and drying of paleo-lake Bodon-1 in Barguzin Valley contemporaneously with paleo-lake Mukhal on Vitim Plateau ca. 13–12 Ma ago and in afterward filling and drying of paleo-lake Bodon-2 contemporaneously with paleo-lake Yuzhnoe ca. 10–9 Ma ago and later on.

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