THE BOTTOM SEDIMENTS OF THE LAKE UGII AND PALEOCLIMATE CHANGES

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This study is part of the Mongolian-American joint project of Interdisciplinary Paleoclimatic Studies of Late Quaternary Lacustrine Systems in Mongolia. In the report considered a results of studies of the bottom sediments of lake Ugiy. The core sediments UN99C1 of lake Ugiy was collected depth from 0-380 cm. The core is characterized, the content of diatom and ostracode are determined at each 2 cm. Smear-slide analyses of 380 samples was performed in order to quantity lithologic composition and mineral grain-size. X-ray analyses for clay minerals was performed on 80 samples using a Japanese RINT-2200 diffractometer at the Mongolian Geological Central Laboratory.

The bottom sediments of the lake Ugiy has been generated in the fine laminated interbeds, which migth be divided into three members. The age of the lake bottom sediments is 4450±30 years in depth 368 cm, and 'modern' on the depth 0.5 cm, by analyses of radiocarbon C^{14} isotope, indicating modern sediments and origining sedimentation in the present time. The mean sedimentation rate in the upper part of the sediments 0.6 mm per 1 year, in the lower part – 1.3 mm per 1 year. The result of X-ray shows, on the depth 380-310 cm with the age 4450±30 years and on the depth 200-160 cm with the age 2880±50 years was in warm period.

The clay mineral association in the warm period are illite+halloysite+ nontronite+clinochlore and illite+halloysite+nontronite+glauconite+clinochlore. The main paleoclimate proxy in the lake Ugiy record is diatom abundanse reflecting changes in climate. During the warm periods diatomaceous ooze was predominated. In a result of this article, it looks in the core sediments of lake Ugiy reveal a straigth relation between the content of diatom, composition clay mineral associations and paleoclimate conditions. The major clay minerals, which determine the paleoclimate changes of the bottom sediment in lakes are illite, halloysite, smectite, chlorite, and kaolinite. The climate changes were analyzed by the content of diatom. On the depth from 50-140 and 160-200 cm the content of diatom has increased which identifies that there are warm period.

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