

THE LAKE BAIKAL SEDIMENTS – ARCHIVE OF CLIMATIC RECORDS OF CONTINENTAL INTERIOR OF ASIA (DATA FROM BAIKAL DRILLING PROJECT)

1,2 KARABANOV, E., 1 KUZMIN, M., 2 WILLIAMS, D., 2 PROKOPENKO, A., 3 KHURSEVICH, G., 4 BEZRUKOVA, E., 1 GVOZDKOV, A., 5 PECK, J., 5 KING, J., 1 KRAVCHINSKIY, V., 6 KAWAI, T. 1 Inst. of Geochem. Russ. Acad. Sci., Irkutsk, 664033, Russia, karabane@mail.ru; 2 Dept. of Geol. Sci. Univ. South Carolina, Columbia, SC, USA; 3 Inst. of Geol. Sci. Minsk, Belarus; 4 Limnol. Inst. Russ. Acad. Sci. Irkutsk, Russia; 5 Grad. School of Oceanogr. Univ. Rhode Island, Narragansett, RI, USA; 6 JABIRP, Tsukuba, Japan.

During 1996 the “Baikal Drilling Project” has obtained new continuous high-resolution pollen, diatoms and biogenic silica records from Lake Baikal sediments. The records cover the age from Holocene to Early Pliocene. The age control of records is based on paleomagnetic investigations of cores. The cores were sampled every 2 cm, which provide 500 year resolution. High resolution of Baikal records and good age control permit to correlate continental climate events with marine and ice cores records and refine age boundaries of continental climatic events of Central Asia during the Plio-Pleistocene.

Our report provides a paleoclimatic records for 5 MA based on the pollen data and variation of diatom frustules abundant in the sediments of 200m core obtained from Baikal. The data represent a long continuous continental record of climate changes in Central Asia in the Late Cenozoic. The data show the tendency of climatic cooling which was traced beginning from Pleistocene amidst a background of short-term cyclic variations of climate caused by the changes in orbital parameters of the Earth. The record also contains long-term (300 Ka) cold episodes within the range 2.82-2.48 and 1.75-1.45 Ma accompanied by glaciation at maximum phases. These cold periods coincide with global cooling of the Earth as shown by paleoclimatic records of the Northern Hemisphere. The Baikal records showed continental regions of Asia to follow global changes of climate on the Earth synchronous with the Oceans and those continental records of Lake Baikal contain the major climatic events found in marine records.