PALEOCLIMATE RECONSTRUCTION WITH USING GEOTHERMAL DATA IN SOUTH EAST SIBERIA AND MONGOLIA

DOROFEEVA, R. P., SHAPOVA M. V.

The geothermal regime in East Siberia of Russia and Mongolia has been studied in the sothern Siberian platform, Baikal rift zone, Trans-Baikal fold area, and Mongolia, four provinces differing by their geology and tectonics. The area is abundant in hot springs which are of great medical and industrial impotance. The hottest areas show good prospects for extraction of the thermal energy in Siberia. In the most territory of East Siberia and Mongolia the heat flow varies within the range of 30 to 50 mW/m2. Low flux (lower than 20 mW/m2) is typical of some localities in the Siberian platform. Thermal highs (above 60-90 mW/m2) are observed in the Baikal rift zone. GST history of the last millenium is currently being studied on the basis of thermal logging of boreholes in 250 sites in East Siberia and 32 sites in Mongolia. On the basis of meteorological and geological data, the main spells of heat and cold can be traced back to the beginning of the 18th centure. The six GST curves obtaned from borehole data sets show temperature varying from 0 to 4 oC and have clear low within 1850 to 1920 and high of +(2-3) oC chiefly within 60-70s of this centure. The temperature curve form the Irkutsk meteorological station data set (records available since the 30-s of the last centure) has a similar trend is shifted 2 oC down approximating the 0 oC axis.