

## EVOLUTION OF KNOWLEDGE OF GROUNDWATER GENESIS IN THE CURRENT MILLENNIUM (1001-2000 YEARS)

PINNEKER E.V., ALEXEEV S.V. Institute of the  
Earth's Crust, Irkutsk, Russia

Interesting data on the groundwater nature were obtained by scientists even in the first years of the current millennium (XI-XII centuries). The Central-Asian scientist A.al.Biruny (973-1050) has explained the nature of hydrostatic pressure. The Persian scientist M.Karady (died in 1016) was the first who systematized the knowledges of groundwaters.

After a long period of stagnation in scientific research in Middle Ages, the French scientists E.Mariotte and P.Perro have based the theory of infiltrational genesis of groundwaters.

Hydrogeology as the original knowledge of the groundwaters was distinguished in late XIX century. At the turn of XX century first monographs on hydrogeology appeared, as well as new hypotheses on the genesis of groundwaters: juvenile and sedimentogenic. In the last years concept of the groundwater genesis is supported by isotopic data.

In the second half of XX century new fields of science such as paleohydrogeology, hydrogeochemistry etc. were developed on the basis of the wide scope of hydrogeological knowledge. The scientific findings in these fields are the subject of the paper which deals not only with free (gravity) waters, but also with  $H_2O$  in the ice, vaporous, physically and chemically combined and supracritical states, i.e. the underground hydrosphere is the subject of investigation.