

Groundwater Zoning in Vojvodina According to Criteria for and Irrigation Supplying

Dr. Dragica Stojiljkovic ¹ University of Novi Sad, Agricultural Faculty, Institute for Water Management, Place D.Obradovic 8, 21000 Novi Sad, Yugoslavia
E-mail: dragica@polj.ns.ac.yu

Hydrochemical zoning of groundwaters used for water supply and irrigation in Vojvodina and occurring at a depth of up to 220 m, is presented in this paper. Chemical composition has been analyzed according to the hydrogeological macro-units: Backa (northern and southern), Srem (northern and southern), northern Banat (northern and middle) and southern Banat. In vertical stratification four zones of aquifers, from which water for supplying of population and industry is exploited, can be distinguished: zone I, 0 - 60 m; zone II, 60 - 120 m; zone III, 120 - 220 m; zone IV, over 220 m. Four types of terrain can be distinguished in Vojvodina according to the geometry and aquifer number and their filtration characteristics and hydraulic mechanism. The first type, two-layer medium, is spread at a depth of 20 - 60 m in the "Varoska" loess plateau of southern Backa, a part of Srem and southern Banat, and along the alluvial terraces and plains of the rivers Danube, Tamiš, Tisa and Sava as well. The second type, three-layer medium, appears in northern Backa and southern Srem. The aquifer depth is 80 - 180 m. The third type of terrain, multi-layer medium, with weak connections between aquifers, is spread in northern Banat along the river Tisa from Horgoš to Novi Bečej, at a depth of 100 - 200 m. The fourth type of terrain with several mutually isolated aquifers can be found at a depth of 80 - 250 m along the right bank of the Danube from Nestin to Begej on the Srem loess plateau, and in northern, middle and south-eastern Banat. Two types of water can be distinguished acc. to the chemical composition and irrigation criteria. The first type of water is qualitatively suitable for irrigation and dominant in the first and second aquifer zones in northern and southern Backa, the Danube and Sava regions, northern and southern Srem and southern Banat. The second, qualitatively unsuitable for irrigation type is dominant in all zones in vertical stratification in the Tisa region, middle Backa, northern and middle Banat, south-eastern Srem and deeper zones of northern Srem.