



HYDROGEOLOGICAL CONSIDERATIONS ON THE WESTERN SECTOR OF THE DANUBE DELTA – A CASE STUDY FOR THE CARAORMAN AND SARATURILE FLUVIAL-MARINE LEVEES (WITH SIMILARITIES FOR THE LETEA LEVEE)

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Abstract

During the sampling period between 1996 and 2006, one tried to cover almost all the sectors that had been studied in the period 1959 - 1960 and 1966, results never published, especially for Caraorman levee and Saraturile levee. After the analyses had been done and the results had been obtained, one compared the obtained data and the following conclusions have been drawn up: the level of the ground water in the Caraorman levee has remained almost constant, slightly rising in its eastern sectors; the chemistry also maintains close values, and consequently these waters can be included in the category of undrinkable waters; the eastern, northern and southern sectors are influenced by the marine waters, which cause an increase in the quantity of chlorine; in the sectors between the dunes, the ground waters produced by rainfall are installed over the salt waters: these ground waters do not have a zonal character but they are the only with high drinking qualities, they have a floating character and their amount is reduced; the ground waters in the Caraorman levee are among the most mineralized waters within the delta; the ground waters in the western sector are directly influenced by the river waters but they have a higher index of fixed residuum and they are usually bicarbonate; the movement direction is from north-west to south-east similarly to the direction of the Danube river water, but the speed is very low due to the reduced slopes. The underground waters from the Saraturile levee are directly influenced by those of the Black Sea, and less by those of the Danube River. These waters enter the category of the chloride and undrinkable ones. The positioning of the water table near the topographic surface and the tropical temperatures during the summer determines an accentuated salinization of the nearby soils.

Key words: Danube Delta, fluvial-marine levees, ground water

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