installations. Furthermore, it revealed targets of potential archaeological interest. Finally, the study demonstrated that the use of remote sensing techniques in conjunction with detailed archaeological and topographical survey in shallow-water coastal sites could be an effective methodological approach for the study of submerged ancient ports and coastal installations in the eastern Mediterranean.

## Regional conceptual model of Upper Pliocene - Pleistocene aquifer formations from Dacian Basin in southern part of Romania

Palcu M.[1], Witek Gh.[1], Manta T.[2] and Fonoca Al.[3]

[1]*Geo Aqua Consult, Bucharest 030675, Romania, marin.palcu@geoaqua.ro*
[2]*Tectonics and Environmental Geology Centre, University of Bucharest, Bucharest 020956, Romania, tanislavmanta@yahoo.com*
[3]*Department of Hydrogeology, University of Bucharest, Bucharest 020956, Romania, alex.fonoca@gmail.com*

The conceptual models of main aquifer structures from Southern Romania were carried out by spatial bounding of porous media, recharge and discharge area contouring, ground water flow description and by taking in consideration geomorphologic, climatologic and hydrologic factors.

The conceptual model represents the base of groundwater flow numerical simulation. Accurate groundwater flow conditions assessment underlies by clarifying the models such as geomorphological, climatological, hydrological, geophysical, geological and structural – tectonic, hydro-geological, hydro-geochemical, etc.

In accordance with spatial bounding, three major aquifer structures have been set out. The first one with largest extension from Dacian Basin corresponds of Dacian granular deposits. The second aquifer structure occurs in Lower Romanian permeable deposits and Upper Romanian - Lower Pleistocene aquifer formation is in the upper part of Neogene sequence. The porous formations from Dacian and Romanian are at shallow depths on the border regions of Dacian Basin. The aquifer formation of Lower Pleistocene with small depths has large extension, so that is of great interest for drinking water.

Vastly, the aquifer structures follow the Dacic Basin tectonic profile. In the Getic Depression, Carpathian Foredeep and in the connection zone between cratonic areas of the Moesian Platform with depression zone, both the depths and thickness of permeable deposits substantially increase. On these lines, in the eastern part from Olt River, in the Getic Depression area, the permeable deposits of Dacian and Romanian are deeper than 1500 – 1700 m, respectively 800 – 1400 m. In these conditions, the groundwater mineralization is very high.

The conceptual models development involve aquifer structures, spatial bounding and also identification of recharges and discharge area. The recharge zones cover large surfaces in the northern part of Dacic Basin. The natural groundwater discharge by line of springs, in surface waters, or other aquifer transfer zone exists in the southern part of the Moesian Platform. In the aquifer deposit outcrops, the recharge is by direct percolation of rain water, water losses from surface water network, shallow aquifers, etc. The recharge elevations have large variation from 70 - 80 m in plain area up to 800 - 850 m in northern regions. An important quantity of water recharge from granular deposits of the Lower Pleistocene formation provides by leakage of water from Dambovita - Arges, Prahova - Teleajen, Buzau and Putna alluvial cones.

In case of mathematical simulation of groundwater flow and groundwater resources assessment, of great importance is to understand all the factors which influence the groundwater movement. For quantitative assessment of groundwater resources on the regional scale, from a multitude of factors only some elements have representation. By consequence, excepted recharge and discharge elevations, rainfall, evapotranspiration, surface and underground water flow, the great importance have porous knowledge, aquifers storage, conductivities, leakage factors and parameters distribution.



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