

Organic Matter and Groundwater Quality of Lithuania

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Lithuania is situated in the area of the Baltic Artesian Basin formed of Quaternary glacial deposits and Mesozoic and Palaeozoic sedimentary rocks. Average thickness of the fresh groundwater zone ranges from 100 to 300 m. Prognostic safe yield resources make up 3.2 million m³ per day; they can absolutely satisfy the demand of Lithuanian population in drinking and household water. However, there is a significant human impact on water quality. A major part of water quality deterioration issues are related to inflow of organic matter into aquifers and changes of geochemical environment there. In co-operation with the Geological Survey of Lithuania, Vilnius University carries on the project "Dispersion of Anthropogenic Organic Matter in the Hydrosphere and Changes in Potable Water Quality".

The report prepared for the international congress contains the following data: * about regional distribution regularities of organic matter in the aquifers used for a centralised water supply, on the basis of chemical oxygen demand and organic carbon; * about dispersion of pesticides and their metabolites, chlorinated ethylenes, volatile aromatic and polycyclic aromatic hydrocarbons in fresh groundwater; * about impact of organic matter of natural and anthropogenic origin on drinking water quality in the water-works of Lithuanian towns.