

## **Application of mathematical modelling methods in the protection of groundwater environment**

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**Abstract:** In the projects of protection of soil-water environment there is a need to combine and process large amount of information from various disciplines to estimate parameters of phenomena and to determine the range and time table of necessary undertakings.

Due to complex assessment of processes taking place in aquifers, mathematical modeling is the best tool supporting evaluation of pollution in the ground water environment. It is also an effective method of forecasting the risk associated with the harmful impact of objects polluting grounds and groundwaters.

Significant application of mathematical modeling is the use for the enlargement of information gathered in the process of recognition and assessment of conditions that prevail in soil-water environment. Results of modeling, if appropriately presented, could be an important element of decision support system in environmental management.

This paper describes procedures for developing an environmental remediation decision support system by linking CAD and GIS software with the hydro geological flow and transport models.

**Key words:** contamination transport, environment protection, groundwater, mathematical modelling