



MODELLING AND SIMULATION OF HEAVY METALS TRANSPORT IN WATER AND SEDIMENTS

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Abstract

Heavy metals can be transported by rivers which flow through areas with industrial pollution, both as metal in solution and metal adsorbed to suspended solids. They can settle in lakes and accumulate in the sediment, exhibiting significant effects on wildlife and humans if they enter into the food chain.

In this work, heavy metals transport and sedimentation is simulated based on an analytical model proposed in literature, considering the material balance and complementary equations, under dynamic conditions. The model was validated previously, while the simulation was performed at various inflow water flow rates and inflow metal concentrations.

The simulation can be used as a tool for fast evaluation of metal transport in water and sediments, because it requires a minimal number of measurements.

Keywords: heavy metals, modelling, sediment, simulation, water column

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