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USING GIS AS A SUPPORT TOOL FOR ASSESSING THE REMEDATION METHODS APPLIED IN ACCIDENTAL OIL SPILLS

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Abstract

Accidental oil spills represent one of the environmental threats affecting the surface water in Romania, where their number has an increasing trend during the last decade, this type of events being registered mostly on the inner rivers, and not on the Black Sea. Because the inland rivers are used as drinking water sources for populated areas and raw water for industry, the response to accidental oil spills has to be rapid and tailored to their particular dynamic conditions. The contingency plan for such an accidental release needs an analysis of all variables involved, the geographic disposal of the information being of significant importance for protecting the areas at risk, and for choosing the right response measure. The paper presents an analysis model of the data necessary for the decision making process, the results being obtained in a study carried out on Prahova and Ialomița rivers along their total length of 300 km. The geographical information system (GIS) was used as an integrating assessment tool of parameters of a critical importance for all adequate clean-up techniques, taking into consideration the particularities of the spill into aquatic environment and the socio-economic context. The results of the study can be used as a technical support for the decisions in real-time, concerning accidental oil spills occurred on inland rivers, and for developing the contingency plan.

Key words: contingency plan, GIS, oil spill, remediation method

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