



Use of GIS Technology in Surface Water Monitoring for Targeted Policy Intervention in a Mountainous Catchment in Romania

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USE OF GIS TECHNOLOGY IN SURFACE WATER MONITORING FOR TARGETED POLICY INTERVENTION IN A MOUNTAINOUS CATCHMENT IN ROMANIA

The collection of information on surface water quality is a specific activity that takes place systematically and regularly at regional and national scale, and it is important for the assessment of the water quality as well as for water management policy-making. A data base information management using a Geographical Information System (GIS) forms an important aspect of environmental management, which provides the frame for processing and visualisation of water monitoring data and information as well as for the optimisation of monitoring concepts. This paper presents an architecture performed by a GIS which provides a graphic database and attributes the necessary measurements of the water quality to different sections of the mountainous catchment of the Suceava river in the north of Romania. With this approach the location of the water sampling points can be optimised in terms of the selection and setting of the river sections. To facilitate the setting of the sampling locations in the various sections of water sampling in the river, the presented GIS system provides to the user different information layers with combined or isolated data according to the objectives.

In the frame of the research were created 5 layers of information in the basin under study, underlying the determination of a new information layer, namely the "Hydrographic Network Graded to Hydrographic Sections". Practically, in the studied basin were established 8 sections for water sampling locations, and the water quality characterization was done by the consideration of 15 quality indicators. The GIS system presented in this research is a valuable, useful and adaptable to land use changes data base that can be exploited by any number of combinations, its capabilities justify its role as "tool to support decision making." With this characteristics it supports the policy-making of the competent bodies to fulfil the requirements of EC Water Framework Directive on catchment scale and it serves as planning tool for hydroengineering and water resources management.