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## AN OVERVIEW OF DECISION SUPPORT SYSTEMS FOR INTEGRATED WATER RESOURCES MANAGEMENT

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### Abstract

Integrated water resources management requires planning and management activities, as well as adequate information and communication within a structure that groups different stakeholders (*industry, agriculture and other types of water users, civil society representatives, university and research institutions, water authorities and waterworks companies*), being thus characterized by a *high level of complexity*, and requiring the involvement of numerous decision-makers operating at different levels. The role and significance of water resources for sustainable development, as well as the water crisis experienced nowadays are influenced by water management, indicating the need for optimum management strategies and associated implementation alternatives. *Decision Support Systems* (DSS) have been developed for water resources management, in which sophisticated computerized systems integrate watershed processes at different spatial and temporal scale, simulation models and decision making approaches. This paper presents an overview of the decision support systems, as well as of other tools used for integrated water resources management at the river basin level, examples of their applications, while considering also the major particularities and challenges for their implementation in the Romanian context.

**Key words:** Integrated Water Resources Management (IWRM), Integrated River Basin Management (IRBM), Decision Support Systems (DSS)

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