A new conceptual water integrated model for the Seybouse basin, Annaba region

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Received 29 November 2012; Accepted 12 September 2013

ABSTRACT

A new conceptual water integrated management model is proposed for the Annaba region water management. The effective variables of water sector management are characterized and the geographical areas under water stress within AR are defined. The aim of the study is to find out how to establish the prediction relationships to be used as decision support tools. The Conceptual Water Integrated Model in Semi-Arid Mediterranean (CWIMSAM model) concept integrates socioeconomic, pollution pressures, water quality, public health and ecological impacts, and institutional responses. It shifts water resources from supply management side to demand management side. The integrated, preventive, and ecosystem approaches have been introduced. We apply the research methodology development and the validation of CWIMSAM to achieve sustainable water resources management. We discuss on the driver-pressure-state-impact-response (DPSIR) framework to develop the possible variables based on cause–effect relationship. We analyze the expert opinion and judgment methods for the development and validation of model and variables and we make the comparison with well-established water management models.

Keywords: ANN; Annaba region; Integrated water management model; Pollution pressures; Public health and ecological impacts; Socioeconomic driving forces; State of water quality

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Presented at the 6th International Conference on Water Resources in Mediterranean Basin (WATMED6), 10–12 October 2012, Sousse, Tunisia

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