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# GLOBALIZATION AND WATER MANAGEMENT: THE CHANGING VALUE OF WATER

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## A DECISION SUPPORT SYSTEM FOR DROUGHT PREDICTION AND WATER RESOURCES MANAGEMENT IN SEMIARID REGIONS

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**ABSTRACT:** Drought prediction for water resources management in semiarid regions has long been recognized as a major problem. Both statistical and neural network models, using the patterns of atmospheric and oceanic conditions of the tropical Atlantic and Pacific, have been used. Several drought indices have been adjusted to the State of Ceará, Brazil to analyze the characteristics, duration, severity and magnitude of historical droughts. Another important problem is the design and optimization of multipurpose reservoirs systems. In this study, several stream flow generation models for intermittent rivers are presented. They were evaluated by statistical parameters and require reservoir capacity and drought characteristics. These methods and models have been incorporated into a Decision Support System towards the regional analysis of the droughts and water management in Northeast Brazil.

**KEY TERMS:** Drought, water resources management, semi-arid regions

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