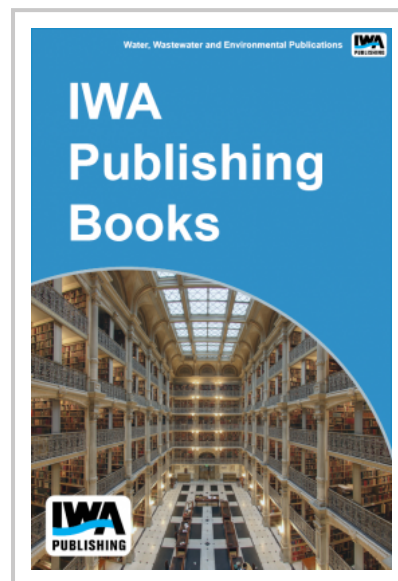


Development of the Integrated Urban Water Model

The challenges of addressing the needs of aging water and wastewater infrastructure require new management approaches. Traditional municipal water management practices may not be the most cost effective solutions. Savings may be realized through the adoption of new integrated water management concepts such as treated wastewater effluent and/or graywater reuse, rainfall harvesting, etc. Determining which water management practices are best suited to a particular urban area can be a difficult task as costs, climate, and population characteristics vary across regions.

The Integrated Urban Water Model (IUWM) has been developed by the Urban Water Center at Colorado State University to aid urban planners and utility managers in the assessment of which water management practices may prove most beneficial to their communities. These practices include: indoor conservation, irrigation conservation, wastewater treatment plant (WWTP) reuse for irrigation, graywater reuse for toilet flushing and irrigation, and stormwater capture reuse for irrigation. The model is native to the Windows operating environment and includes a graphical user interface through which the user can easily add information about their region and assess the potential benefits of the included water management practices.

A case study application of the model to five cities in different climatological regions of the United States is included in the report. The case study serves as both an example of how the application may be used and demonstrates its capabilities. The results of the case study reveal that hydrologic conditions impact the effectiveness of selected water management practices.



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