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What Should We Do This Year? Enlisting Santa Fe's Water Managing and Planning Simulation (Watermaps) Model to Help

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City of Santa Fe and CDM

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WHAT SHOULD WE DO THIS YEAR?: ENLISTING SANTA FE'S WATER MANAGING AND PLANNING SIMULATION (WATERMAPS) MODEL TO HELP

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Santa Fe's WaterMAPS model helps municipal policy-level decision-makers, water utility and resource managers, and operations staff make decisions on how to best manage and conserve water supplies. The City of Santa Fe, with CDM, has developed Santa Fe WaterMAPS (Water Management and Planning Simulation), a STELLA-based water system simulation model that characterizes the relationship between water resources attributes. By maximizing operational use of surface water, for example, the City conserves the groundwater resources for drought protection. The model allows for easy manipulation of highly-variable attributes (e.g., surface water supply, conservation, demand), so that the effects on the behavior on other integral parts of the system, like reservoir storage, groundwater supply, nearby stream systems, or water rights, can be assessed.

The model informs both daily operational and long-range planning decision and gives utility managers and operators the unique ability to test the implications of operations decisions before implementation. In daily operations, the model helps operators choose which source to prioritize for use – particularly in lower demand seasons – based on factors such as historical hydrology, operation and maintenance costs, resource availability, best use of imported water, and effects of groundwater pumping. The model is also a long-range planning tool and has been used to optimize the use of existing supplies and to evaluate which future water supply options will best meet often-conflicting objectives such as cost, reliability, and sustainability.

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