

Facing Water Problems Head-on with Real-Time Technologies

Water managers are faced with a variety of uncertainties. Short-term uncertainties include water supply (drought, flooding) and rapidly changing weather conditions. Longer-term concerns include climate change, future government regulations, and demand uncertainties. One of the most cost effective means for dealing with these uncertainties are real-time technologies. They are a necessity for enhanced water management. And a critical need for activities like water banking. Emery WCD, a small Utah water district) has installed a comprehensive real-time monitoring and control system on the San Rafael River (a tributary of the Green River). It extends from the watershed, through the water distribution system, to individual agricultural connections, and finally to water leaving the river basin. It includes automated cloud-seeding units, an early warning system on its major water storage dam and reservoir, a small micro-hydro unit, weather stations, and automated diversion and pond outlet structures. The Water Conservancy District manager finds the real-time system invaluable for efficiently operating the San Rafael River system. They allow him to operate the river 24/7. A study recently funded by the Utah Division of Water Resources found the system to be very cost effective. With real-time technologies advancing rapidly and costs continuing to decline, their future is limitless. We will speculate where they might be headed.