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Evaluating the State of Water Management in the Rio Grande/Bravo Basin

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Water resource modeling tools have been developed for many different regions and sub-basins of the Rio Grande/Bravo (RGB). Each of these tools has specific objectives, whether it is to explore drought mitigation alternatives, conflict resolution, climate change evaluation, tradeoff and economic synergies, water allocation, reservoir operations, or collaborative planning. However, there has not been an effort to integrate different available tools, or to link models developed for specific reaches into a more holistic watershed decision-support tool. This project outlines promising next steps to meet long-term goals of improved decision support tools and modeling. We identify, describe, and synthesize water resources management practices in the RGB basin and available water resources models and decision support tools that represent the RGB and the distribution of water for human and environmental uses. The extent body of water resources modeling is examined from a perspective of environmental water needs and water resources management and thereby allows subsequent prioritization of future research and monitoring needs for the development of river system modeling tools. This work communicates the state of the RGB science to diverse stakeholders, researchers, and decision-makers. The products of this project represent a planning tool to support an integrated water resources management framework to maximize economic and social welfare without compromising vital ecosystems.