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Upper Rio Grande Operations Model, A Reference Point for Problem Solving

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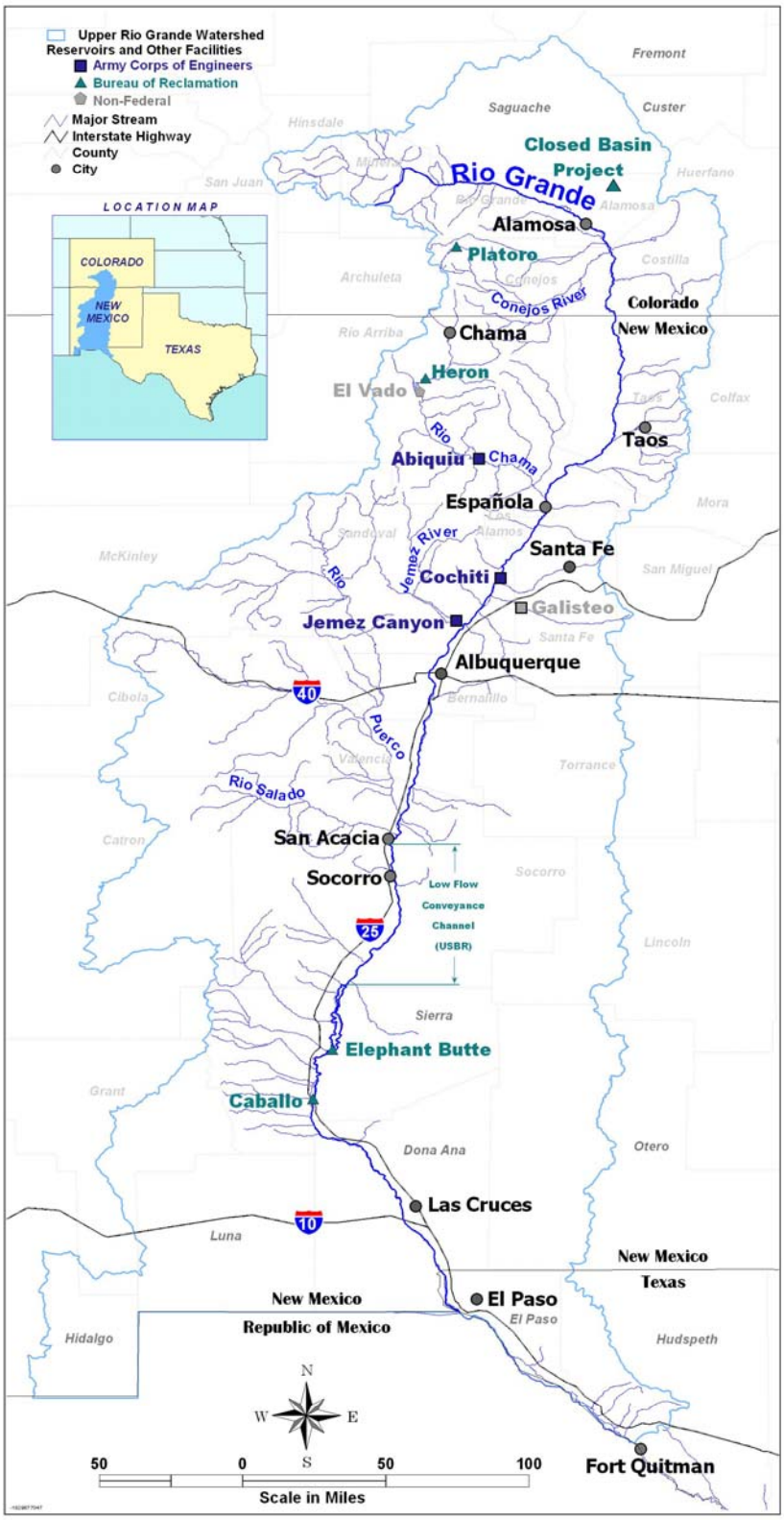
Abstract

Problem solving in a cooperative process improves when all the participants share valid information and the same analysis tools. The Upper Rio Grande Water Operations Model (URGWOM) can serve as such a reference point for problem solving. It was developed with historical hydrologic data and the capability to do "what if" scenarios for both short and long term planning. URGWOM is gradually replacing several historic spreadsheets and FORTRAN programs that are inadequate for taking a unified look at the Rio Grande water planning and management.

URGWOM is a set of daily time-step, river and reservoir models customized to the upper Rio Grande Basin utilizing a numerical computer modeling software (RiverWare®). From software selection to current applications, model development underwent many adjustments to the changing hydrologic conditions and variable regime of the Rio Grande. Each step of the technical development, review, testing, and documentation has been conscientiously undertaken to develop an effective tool for enhanced system management under continually changing conditions as development agencies expected. With URGWOM, as with all models, there are assumptions and limitations to its use. URGWOM information and documentation are available at http://www.spa.usace.army.mil/urgwom .

Figure 1 illustrates the location and extent of the upper Rio Grande Basin, an extremely complex basin. URGWOM has a great potential for collaboration to help solve problems on a basin-wide scale. There is an application of URGWOM for making decisions in a timely fashion to ameliorate drought impacts, answer scheduling and delivery questions for specific resources, including protection of endangered species, and illustrate management tradeoffs in a consistent and realistic manner. This presentation will specifically describe uses of URGWOM in short term management strategies for drought relief, in combination with other tools for selection of an integrated plan for basin water operations in the Upper Rio Grande Basin Water Operations Review and Environmental Impact Statement (http://www.spa.usace.army.mil/urgwops/), and in promoting understanding of other potential water management strategies.



Upper Rio Grande Basin
Water Operations Review and EIS

Figure 1

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