

## **Piceance Basin surface water resource assessment for oil shale development**

*Cathy J Wilson, Jean Foster, Los Alamos National Laboratory, Los Alamos NM; Carl Chen, Joel Herr, Laura Weintraub, Systech Engineering; Robert Goldstein, Electric Power Research Institute*

The WARMF basin-wide water balance model was applied to the White River basin to examine the spatial and temporal impacts of projected oil shale development on surface water supply. Oil shale development scenarios were coupled with existing and projected water demand in the basin, to examine options for basin water management to ensure flows for historical diversions and in stream flow requirements. Time series analyses were also performed using the 100 yearlong record of flow at Meeker, CO. These analyses show the duration and frequency of drought on the White River, and the additional reservoir storage volumes that will mitigate drought for different oil shale production rates