Assessing the Role of Ground-water Models in a Politically Sensitive Water-Management Project

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Water management in Owens Valley, California, requires a balance between the conflicting goals of providing water for export to Los Angeles and water to support native vegetation in the valley. To achieve this difficult balance, water managers from Inyo County and the Los Angeles Department of Water and Power must be able to evaluate the likely results of different management options. In addition, because the balance is constantly shifting in response to hydrologic and political events, the water managers must be able to detect any significant change in the hydrologic system or vegetative communities and quickly reevaluate management strategies.

Various hydrologic tools have been developed cooperatively by the USGS, Inyo County, and Los Angeles to aid the water managers in making decisions and negotiating the balance of water use in the Owens Valley. Central to many of these politically sensitive decisions is the use of ground-water models that simulate the regional and local flow systems. Experience gained in developing and using the ground-water-flow models indicates that the models are important, but not always for the typical reasons that they are promoted. For example, the models may be more useful in unifying the conflicting hydro-political concepts of the ground-water system, than in actually simulating the system.

Additional topics to be presented and opened for group discussion include: 1) methods of integrating models at various scales using a simplified GIS system, 2) results of using preliminary models to investigate particular aspects of the ground-water flow system, 3) conflicts between boundary conditions for the regional and local flow models, and 4) a comparison of different methods of simulating evapotranspiration.

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