



## Numerical Simulation of Groundwater Flow for the Yakima River Basin Aquifer System, Washington: Usgs Scientific Investigations Report 2011-5155

By D M Ely, M P Bachmann

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English. Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. A regional, three-dimensional, transient numerical model of groundwater flow was constructed for the Yakima River basin aquifer system to better understand the groundwater-flow system and its relation to surface-water resources. The model described in this report can be used as a tool by water-management agencies and other stakeholders to quantitatively evaluate proposed alternative management strategies that consider the interrelation between groundwater availability and surface-water resources. The model was constructed using the U.S. Geological Survey finite-difference model MODFLOW. The model uses 1,000-foot grid cells that subdivide the model domain by 600 rows and 600 columns. Forty-eight hydrogeologic units in the model are included in 24 model layers. The Yakima River, all major tributaries, and major agricultural drains are included in the model as either drain cells or streamflow-routing cells. Recharge was estimated from previous work using physical process models. Groundwater pumpage specified in the model is derived from monthly pumpage values previously estimated from another component of this study. The pumpage values include estimates for wells with standby/reserve rights that are used in drought years. The model was calibrated...



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