

“Obtaining Useful Answers from Groundwater Models”

Hosted During NWRA Annual Conference Week



Tuesday, January 27th, 2015

8:30 am – 12:15 pm

**Peppermill Resort Spa & Casino
2707 South Virginia Street, Reno, NV
89502**



Groundwater models are developed because questions need to be answered. Regional effects of developing groundwater resources on sensitive ecosystems, existing water rights, and contaminant transport are typical questions, where water managers and society at large expect useful answers. Hydrologists address these questions by developing calibrated groundwater models because problems are often too complex for simple analytical approaches. The lack of alternatives has been noted succinctly by John Bredehoeft, "... if you want to make predictions about how these systems are going to behave, this is the only tool you've got. This is it.

You don't have anything else." Predictive utility depends on agreement between actual and estimated hydraulic properties at scales that are defined by posed questions. The “Obtaining Useful Answers from Groundwater Models” seminar will address necessary elements for developing and reporting useful groundwater models. Topics will follow steps for developing a groundwater-flow model. These include developing a conceptual model, numerically approximating observed features, identifying measured quantities for calibration, distributing hydraulic properties, minimizing differences between measured and simulated quantities through calibration, testing alternative models, and answering original and ancillary questions. Effects of distributing recharge with modified Maxey-Eakin, explicitly simulating mountain blocks, MODFLOW packages, and discretization on model development will be discussed specifically. Relative merits of imposing hydrologic wishes on hydraulic property distributions with zones or pilot points and Tikhonov regularization will be demonstrated. Reporting groundwater-model results also will be discussed with an emphasis on clearly presenting simulated hydraulic properties and keeping model results relevant. Presented material will be appropriate for hydrologists, engineers, managers, lawyers, and all parties affected by groundwater-model results.

The cost for this workshop is \$25.

Coffee and a mid-morning break will be served.

Mr./Ms./Mrs. First Name _____ Last Name _____
Title _____ Degree/Suffix _____
Organization _____
Phone _____ Email _____

Please Mail This Registration Form with Payment to:
NWRA ,c/o Tina Triplett, NWRA Executive Director, P.O. Box 8064, Reno, NV 89507
Or Fax to: **(775) 473-5473**