

Paper #65036

HYDROGEOLOGIC AND WATER QUALITY PREDICTIVE MODELS AS POLITICAL RATHER THAN TECHNICAL TOOLS

[MORAN, Robert E.](#), Independent Hydrogeologic Consultant, Golden, CO 80401, remoran@aol.com.

Predictive models are utilized to shed light on numerous legitimate water and water quality-related technical questions. For example, investigators frequently wish to better estimate the extent to which a water table may decline as a result of sustained ground water pumping, or evaluate possible changes in the general chemistry of an aquifer after industrial processes occur. As long as the detailed assumptions, limitations, and uncertainties of the model are realistically presented and discussed, and if the approach reasonably represents the physical reality, such an approach may be useful as a technical planning tool. Unfortunately, in environmental impact studies, these seemingly boring details are often neglected and the predictions are presented as though they came from a divine oracle. Thus, the predictions become predominantly political tools to promote project approval, rather than tools useful for technical planning.

This is an especially vexing problem in developing countries due to increased competition for investment capital and often non-existent regulatory oversight and enforcement. The national government may be both a financial partner in the proposed operation and the oversight agency. To facilitate project approval, they often overlook the need for adequate data, allowing the substitution of inadequate modeling. How frank and revealing can predictions be when the predictors often suffer from a financial conflict of interest regarding their reported results? In such settings, consultants seldom experience any significant negative consequences from producing biased and unrealistic simulations.

Abstract ID#: 65036

Password: 870145

Meeting: 2003 Seattle Annual Meeting (November 2–5, 2003)

Session Type: Topical/Theme

Selection: Mathematical Modeling of Earth Surface Processes: The Good, the Bad, and the Ugly

Title: HYDROGEOLOGIC AND WATER QUALITY PREDICTIVE MODELS AS POLITICAL RATHER THAN TECHNICAL TOOLS

Key Words: predictions, hydrogeology, political, international, uncertainty

Presentation Format: Oral

Discipline Categories: Environmental Geoscience, Public Policy (Ungraded), Hydrogeology (Ungraded)

