Session III - Panel On

HOW TO GET PEOPLE TO USE MODELS

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Tucson, Arizona

Seminar on Colorado River Basin

Modeling Studies

at

Utah State University

Logan, Utah

July 17, 1975

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The topic that I will relate to in my part of the panel discussion concerns patterns of group instruction in the use of models.

Patterns of Group Instruction

A Hydrologist at the University of Arizona became convinced that models using the finite element method were required to predict the movement of artificially recharged ground water. To fully understand the application of this method, he used a year to obtain the necessary background in mathematics, and then attended a one-week summer course with about 30 others on the finite element method presented by Pinder and Gray at Princeton University.

Workshops conducted by University of Arizona faculty have been used for training dispensers and users of computerized hydrologic data provided from models when questioned at various technical levels.

Modes of Technology Transfer

The University of Arizona serves most of the Western Region from its RECON terminal - RECON being a computerized information retriveal system located at the Oak Ridge National Laboratory. For example, presently using the key words, mathematical models and Colorado River, abstracts of seven research projects recently completed or underway are provided.

In Arizona, News Bulletins, Project Information Bulletins, and tapes carry information regarding research results and availability of models to over 1,000 researchers and users. There is also a Technical Briefing Note series, which provides the Governor and his staff with research results in simple understandable language.

Successful Conferences, Workshops, Seminars

With regard to successful conferences, workshops, and seminars, one can point to an Evaluation Workshop held in Ft. Collins, Colorado in March of this year wherein it was concluded that a digital computer model can satisfactorily be used to simulate irrigation return flows if sufficient data are available. Researchers and decision makers from universities, U.S. Bureau of Reclamation, and the U.S. Environmental Protection Agency were involved in the development and evaluation processes.

Then, of course, one can point to this seminar with regard to information exchange concerning use of models.

Elimination of Difficulty

One real difficulty in successfully developing and using models for solving problems has been the lack of communications between the groups that gather data, conceive models, and make decisions. In at least one case, this difficulty is being alleviated by having all three groups cooperating in the regional U.S. Office of Water Resources Research and Technology project dealing with salinity management options for the Colorado River; six Universities, the U.S. Bureau of Reclamation, and a Technical Advisory Board from the U.S. Pacific Southwest Inter-Agency

Committee are closely involved in the project.

Digital models in particular may be frightening to many people - such models require the learning or understanding of appropriate computer languages, and the output may be staggering and difficult to understand. However, recently with the advent of computer graphics, the output from digital models may be presented in a form readily understandable and intuitive, even to the layman.