- Model Update

  UNSAT variably-saturated flow model. Initially, the UNSAT program structure was defined based on the Coupled Flow, Energy and Solute Transport model (CFEST), which is for saturated flow. Due to the complexity of CFEST, data manipulation is done using File-Q disk files, and the program code is bulky. It was decided to use a simple finite-element model as the basis for the head predictions. As the complexity of UNSAT grows, the useful sub-routines from CFEST can be included.

  The first subprogram, UNPROG1, has been completed. This program reads the input parameters and opens the binary files for the other subprogram. An auxilliary program, MAKUP1, has also been completed which interactively generates the input file for UNPROG1. By using an input-file generating program, format errors and missing input are eliminated.

  The time parameters are read in, and the actual head estimation is done in the second subprogram, WNSAT1. Presently included are the facilities to calculate the unsaturated hydraulic conductivity and capacity term. Verifying the code using analytical problems should begin by the end of the week.

  Serious effort is being made to keep the model documentation up to date with the code development. The documentation so far includes a brief literature review and discussion of the needed unsaturated hydraulic properties, flow charts of program structure and input requirements, and a directory of the internal binary file storage scheme used.

- DOE Credit Card Calls

  Nothing to report.

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