Participatory Modelling of the Howard East Aquifer

PROJECT NEWS

TRaCK groundwater model of the Howard East aquifer is now 60% complete!

The project team is pleased to report that the groundwater visualization model of the Howard East aquifer is on the way to completion.

The model will be made available to the public through a community meeting and workshop to be held in early September. Here, Queensland University of Technology hydrogeologist Dr Malcolm Cox, invited local hydrological experts and CSIRO researcher Sharna Nolan (CSIRO) will be presenting the model to the public and demonstrating how to install and use it on home computers. They will also answer questions about how the Howard East aquifer works.

The model is designed to enable a wide range of stakeholders to gain an understanding of the groundwater systems, the aquifers, water level variations and connections to the ground surface. This is important considering the recent growth in local residential and horticultural development and the need for a local water strategy to be developed. To support the latter, the aim of this model is to be a decision support tool for both policy makers and the community in the lead up to water allocation planning.

This final meeting is anticipated to be held between the 9th and 11th of September 2009 at a local venue. All will be welcome to attend.

Project team hydrologists and modellers visit the Howard area to 'road test' findings – mid-August

As can be seen in Image #2 (next page) there are well over 3000 bores in the Howard East study area. These have been located in the model, but a major challenge is standardizing the descriptions of borehole geology. This must be done to develop the hydrogeological model. The team would therefore like to 'road test' the model, both the geology and the hydrological processes, and obtain feedback from technical experts and stakeholders from the Howard East community. This can ensure the model best reflects local observations.

CSIRO researcher, Sharna Nolan, is organizing meetings between Dr Malcolm Cox and Amy Hawke, from the Groundwater Visualization Unit of the Queensland University of Technology, and local modellers, hydrologists, geographers and

community education experts from NRETAS, CSIRO and Charles Darwin University. Together, they aim to find ways to maximize the usefulness and utility of the model. The model design, construction and limitations will be explained to the local experts who will be given a chance to interrogate the model, discuss its findings and give feedback on the model's outputs and potential as a management tool.

A second meeting will involve a number of stakeholders within the Howard East community. Representatives from the Litchfield Shire Council, Goyder electorate, Nelson electorate, Northern Territory Horticultural Association, local bore drillers association and others have been invited to test the model and ensure that its findings reflect local observations and trends. In this meeting, we hope to gain insight into which features of the model are most useful to community members and how best to teach a range of people how to use the final product.

If you would like more information about the project or future meetings please contact Sharna Nolan on 08 8944 8420 or Sharna.nolan@csiro.au.

Model's first images

Image #1: Groundwater levels and logged observation bores

This image shows the average standing water levels (for January 2000) in the upper (Cretaceous) aquifer looking west to east. The right hand side is coloured a very light green indicating that the average value rose from the previous month.

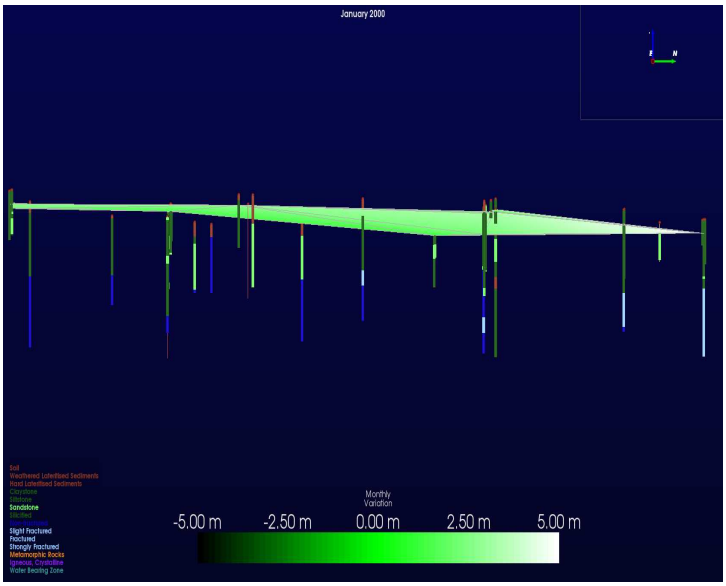
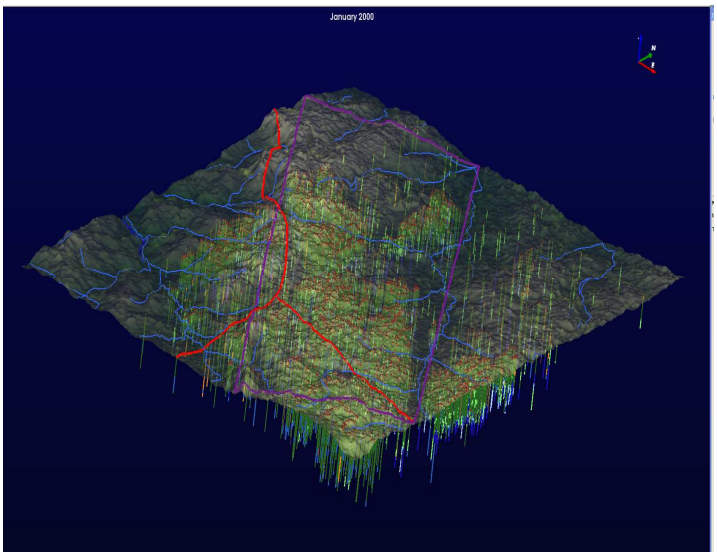


Image #2: Topography and number of bores in the Howard East study area

Here, the topography is coloured according to elevation and all bores in the area are shown. The initial project area is outlined in purple and also shown are watercourses (blue) and the highways (red). The project area has now extended toward the Howard River to capture extra data.



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