

## **ModelCARE 2005: From Uncertainty to Decision Making**

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ModelCARE2005 was the fifth international conference on Calibration and Reliability in Groundwater Modelling. The series is organized by ICGW. The local conference organizers in 2005 were from the Netherlands Institute of Applied Geoscience TNO - National Geological Survey. The conference web site is at <http://modelcare2005.nitg.tno.nl/>.

The conference addressed the uncertainty that plagues groundwater model predictions. The presentations illustrated how reducing prediction uncertainty requires improving all steps of a system investigation. There were talks about field methods, conceptual models, numerical methods, statistical methods and policy issues. The presentations showed that all of these areas are seeing rapid advances. For example,

- Ed Sudicky (U. of Waterloo) used recent integrated surface-subsurface modeling capabilities to investigate tracer-based hydrograph separation techniques.
- A. Chaudhuri (Indian Institute of Science) used both unstructured and structured random hydraulic-conductivity fields to show that adding data-based geologic structure produced a significantly different solution and reduced uncertainty.
- H.J.W.M. Hendricks (ETH) demonstrated how satellite information on the spatial distribution of the water balance reduced uncertainty.

One of most obvious needs is better communication between scientists and policy makers. Policies are based on many concerns; scientists need to work with decision makers to ensure that the best possible science is appropriately considered in societal decisions. An example from the conference was:

- Paul Davis (EnviroLogic) presented a risk-informed decision process that suggested focusing field and analysis efforts on system characteristics for which improved knowledge would be most likely to change decisions.

ModelCARE2005 was held 6-9 June 2005 at the seashore in Scheveningen, the Netherlands, and was organized by Johannes (Hans) C. Gehrels, Marc F.P. Bierkens, Karel Kovar, and Johannes (Hans) C. Hooghart. The conference was sponsored by UNESCO, (as part of the International Hydrological Programme IHP-VI; 2002-2007), IAH, IGWMC, Utrecht University, and NOW. Affiliations and acronyms are explained on the ModelCARE2005 web site.

As for all ModelCARE conferences, there was one plenary oral session and a well-integrated poster location to maximize the communication and sense of community among the participants. There were 13 keynote, 49 other oral and 111 poster presentations. The conference drew about 180 participants from 32 countries. The countries with the most participants were the Netherlands (30), Germany (22), USA (16), Canada, Japan, Spain, Italy (7 each), and Belgium, Denmark, Switzerland, and South Korea (6 each). Four people came from Africa, six from the Middle East and Turkey, and three from Australia and New Zealand.

### **Coming Up!**

ModelCARE2005 Red Book.

ModelCARE meetings: September 2007, Copenhagen, organized by Jens Christian Refsgaard and associates; 2009, Wuhan, China, organized by Yanxin Wang and associates. Check the ICGW website for more information: [http://host.uniroma3.it/associazioni/iahs\\_icgw/](http://host.uniroma3.it/associazioni/iahs_icgw/)