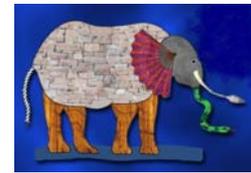




Prediction in Ungauged Basins (PUB)
The 'Top-Down modelling
Working Group (TDWG)



Newsletter #2

PUB is progressing well, with eight Working Groups now 'up and running'. These can be seen on the PUB website¹. The TDWG (as WG1) is top of the list!

TDWG website goes 'live'

This Newsletter coincides with the TDWG website² going 'live'. We thank Felix Andrews (ANU, Canberra) for preparing the website, which will provide a major means of communicating what the TDWG is about and for recording its activities and achievements. We encourage TDWG members to check the website from time to time for news, etc., and to suggest additions. If you have news of a relevant forthcoming meeting, or a new publication/report, that might usefully appear on the website do please let us know. The TDWG website has hyperlinks to the IAHS and PUB websites, and we will arrange for it to be linked from the PUB website (this may not be in place when our website goes 'live' but it will be soon thereafter).

Meetings/workshops with TDWG inputs...

... held in 2004

iEMSs2004, June 2004

A major TDWG achievement has been the PUB session on '*Modelling Hydrological Responses in Ungauged Basins*' at the International Environmental Modelling and Software Society (iEMSs) Biennial Conference held in Osnabrück, Germany in June 2004 – organised by Barry, David and Ian. The 18 papers in this session (and all the other iEMSs2004 papers under the theme of "Complexity and Integrated Resources Management") are listed as Appendix 1 and are downloadable from the iEMSs2004 website³. They will also be available soon in a formal CD output from the whole conference. In the spirit of PUB all of the TDWG session authors were encouraged to address the issue of uncertainty and how to reduce it in their work. Speakers' slideshows can be seen under 'Meetings' on the TDWG website.

The occasion marked the first time that more than three or four members of the WG had been able to meet together. The session concluded, therefore, with the first (albeit informal) meeting of the TDWG. A website was considered high priority (see above – and our thanks to Tony Jakeman for offering to host it at iCAM, ANU). Funding was an issue raised (see 'Projects' later in this Newsletter for what, effectively, was said). It was recognized that the TDWG would continue to evolve: as a group we should remain targeted and contribute to PUB; as individuals we should be proactive (e.g.

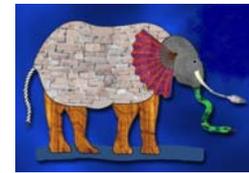
¹ <http://cee.uiuc.edu/research/pub/default.asp>

² <http://www.stars.net.au/tdwg/>

³ <http://www.iemss.org/iemss2004/>



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finding funds for projects); forming partnerships with other TDWG members; and as a group we should be inclusive, not exclusive.

TDWG membership subsequently grew as a direct result of the iEMSs conference session (thank you to those who afterwards sent Ian details of their colleagues who wanted to join – you clearly did a good job when you got back home!). There was considerable discussion about comparing methodologies using data from a wide range of hydroclimatic zones, with a view towards eventually being able to say which method(s) are 'best' for which zone(s). With only about one hour for the mini-workshop, it is not surprising that we did not arrive at an agreed 'master plan' on data and detailed modelling issues. Nevertheless, we did cover the scope for future TDWG work.

IAHS PUB Workshop, Perth, February 2004

David Post spoke about the TDWG at this most successful meeting (see <http://www2.cwr.uwa.edu.au/~pub2004/>). An IAHS 'red book' is in preparation.

IUFRO, July 2004

In July, a meeting of the International Union of Forest Research Organizations (IUFRO) Forest Hydrology Working Group was held in Kota Kinabalu, Malaysia. In order to encourage the inclusion of a wider climatic coverage in the TDWG, Barry presented a paper describing the working group (and PUB). As a result a number of new contacts have been made with hydrologists working in humid tropical catchments.

PUB-MOPEX Workshop, July 2004

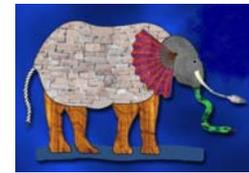
As PUB evolves collaboration between WGs with overlapping areas of interest might be mutually beneficial. For example, the TDWG could interact with the PUB-MOPEX⁴ Working Group (WG2). Ian participated in the Fourth MOPEX Workshop, details of which should become available from WG2 shortly. Short presentations were made on the TDWG by Ian, and on the Uncertainty Estimation for Hydrological Modelling Working Group (PUB WG7) by Thorsten Wagener.

... future meetings

VIIIth IAHS Scientific Assembly, Foz do Iguaçu, Brazil, 3-9 April 2005

See S#7 "Prediction in Ungauged Basins : Promises and Progress (PUB WG)" on the IAHS website. The overall convenor for S#7 is Murugesu Sivapalan. The closing date for contributions to S#7 and its sub-sessions is 31st December 2004. Progress in

⁴ <http://www.nws.noaa.gov/oh/mopex/>



getting the TDWG 'up and running' will be reported in S#7-7. TDWG members wishing to make a contribution to any sub-session should contact the appropriate conveners (see the IAHS website for these).

VIIth IAHS Scientific Assembly Symposium S#7

- S#7-1. Model improvements through detailed process studies
- S#7-2. Model evaluation and comparison: uncertainty analysis and diagnostics
- S#7-3. New data collection approaches and model development
- S#7-4. Complex Systems and Ecohydrology
- S#7-5. Nonlinearity, Complexity, Scaling and PUB
- S#7-6. New Distributed Modelling Approaches and Methods for Testing Models Against Observations
- S#7-7. Progress in PUB Implementation (PUB WG)

MODSIM05, Melbourne Australia, 12 – 15 December, 2005

The next meeting of the Modelling and Simulation Society of Australia and New Zealand will be held in Melbourne in December 2005. The society is based in Australia and New Zealand but has members in 50 countries, including Canada, China, France, Germany, Japan, The Netherlands, South Africa, Spain, Switzerland, the United Kingdom and the United States. A session is being organised by the TDWG, and all members are encouraged to attend. While the session abstract is deliberately broad, the primary focus will be to facilitate communication between members of the TDWG. The conference website is <http://www.mssanz.org.au/modsim05/>.

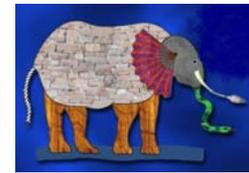
TDWG Membership

Membership has grown to 35 (from 19 in December 2003). For a list of current members see "TDWG membership and contact points" on the website. Would members please let the organisers know if their details are incomplete or incorrect. It was decided to not show email addresses, initially at least. Would members who wish their email addresses to appear in the List of Members please email Ian to give permission for this. Your email address will not appear in the website List of Members unless you give your permission explicitly. Since an important objective of the TDWG is networking we hope that most members will agree to their email addresses appearing on the website.

As the TDWG develops further we envisage that individual members will be willing to be associated with particular tasks or functions. We are very grateful, therefore, to Dr Asaad Shamseldin for offering to take on a 'developing countries' role for the TDWG. Asaad is in the Department of Civil Engineering, University of Birmingham,



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UK; his experience of hydrology in developing countries will be very useful to the TDWG.

Projects

It is still early days in the evolution of PUB generally and the TDWG specifically. We encourage TDWG members to work together to formulate project proposals for submission to appropriate funding agencies (national and international). Currently there is no project funding available from PUB directly but we believe that relevant project proposals to existing sources of funding can be made more attractive by including details of how the work fits in with the Aims and Objectives of PUB generally and the TDWG specifically. A project proposal showing that methods and mechanisms for disseminating results have been carefully considered may score more highly during the review process than one that does not. Please consider mentioning in your proposals that your project will target future PUB/TDWG-organised meetings/workshops, and the PUB/TDWG websites, as important routes for disseminating outputs, deliverables and results. We would be happy to see the TDWG written-in to project proposals in this way but ask that you keep us informed of any such developments.

Project proposal in preparation

A team made up of TDWG members from the UK (CEH and Lancaster University), Australia (ANU and CSIRO) and France (Cemagref) is currently working-up a proposal for submission to the UK Natural Environment Research Council (NERC). At the time of writing the specification is evolving rapidly. We will post details on the TDWG website in due course.

Best regards

Ian Littlewood, TDWG Organiser, CEH, Wallingford, UK (igl@ceh.ac.uk)

Barry Croke, TDWG Co-organiser, ANU, Australia (barry.croke@anu.edu.au)

David Post, TDWG Co-organiser, CSIRO, Australia (David.Post@csiro.au)

October 2004



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Appendix 1

'Modelling Hydrological Responses in Ungauged Basins' at the International Environmental Modelling and Software Society (iEMSs) Biennial Conference, Osnabrück, Germany, June 2004

- PUB and data-based mechanistic modelling: the importance of parsimonious continuous-time models
Regionalisation of rainfall-runoff models
- Simulation of flow hydrographs at an ungauged site in Taiwan using a distributed rainfall-runoff model
Flood frequency quantification for ungauged sites using continuous simulation: a UK approach
Evaluation of a hydrologic model applied to a headwater basin in the Rio Grande (USA) using observed and modelled land surface fluxes and states
A new method for estimating flow duration curves : an application to the Burdekin River catchment, North Queensland, Australia
Parameter estimation of a conceptual rainfall runoff model and application to Mediterranean catchments
Unit hydrographs and regionalisation of United Kingdom river flows: comments on some estimation uncertainties
Monitoring of severe floods in the Upper Mosel Basin: the need for a high spatio-temporal density experimental network
Simulation of stream flow in the Yantra River basin, Bulgaria via a GIS-based modeling approach
- A regional methodology for deriving flood frequency curves (FFC) in partially gauged catchments with uncertain knowledge of soil moisture conditions
River flow simulation within ungauged catchments; the utility of regionalised models
A proposed rule-discovery scheme for regionalisation of rainfall-runoff characteristics in New South Wales, Australia
Uncertainty in quali-quantitative response of a natural catchment on a daily basis
Comparison of hydrologic simulations using regionalised and catchment-calibrated parameter sets for three catchments in England
Modelling sediment delivery ratio based on physical principles
Tools and approaches for evaluating uncertainty in streamflow predictions in ungauged UK catchments
Water quality modelling in rivers with limited observational data: rive Elbe case study
- Peter Young and Renata Romanowicz, *Lancaster University, UK*
Barry Croke and John Norton, *The Australian National University, Canberra*
Pao-Shan Yu *et al.*, *National Chenk Kung University, Taiwan*
Ann Calver *et al.*, *Centre for Ecology and Hydrology, UK*
Doug Boyle *et al.*, *Desert Research Institute Nevada, USA*
David Post, *CSIRO Land and Water, Townsville, Australia*
Antoine Hreiche *et al.*, *Université Saint Joseph, Lebanon*
Ian Littlewood, *Centre for Ecology and Hydrology, UK*
Gilles Drogue *et al.*, *Centre de Recherche Gabriel Lippmann, Luxembourg*
Todor Hristov, Barry Evans and Vania Ioncheva, *Penn State, USA & Institute of Water Problems, Bulgaria*
Guiseppe Aronica and Angela Candela, *Università di Messina, Italy*
Andy Young and Nick Reynard, *Centre for Ecology and Hydrology, UK*
Jessica Spate *et al.*, *The Australian National University, Canberra*
Angela Candela *et al.*, *Università di Messina, Italy*
David Maréchal and Ian Holman, *Cranfield University, UK*
Hua Lu *et al.* *University of Cambridge, UK*
Neil McIntyre *et al.*, *Imperial College London, UK*
Renata Romanowicz, *Lancaster University, UK*