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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Forecasters priorities for improving probabilistic flood forecasts" *by* F. Wetterhall et al.

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A comment on:

"In how far is this discussion relevant to hydrology?"

"some of the stuff contained in the paper may not be interesting to the hydrological audience as it does not belong to hydrological science and technology"

I believe that work such as this is becoming more and more relevant to hydrology, or at least hydrological forecasting. There is a lot of work being undertaken in [other] various forecasting environments, e.g. UK Met Office National Severe Weather Warning Service (NSWWS), the EUPORIAS project and the Global Framework for Climate

Services (GFCS), to incorporate end-user feedback into their forecast models. I would argue that this feedback, when published, could help inform other forecast systems too.

Flood forecasting systems broadly fall into the category of 'weather and climate services', where a service is defined as "provision of ... information in such a way as to assist decision making" (Hewitt et al. 2012, p831). Some of the challenges to be addressed by the GFCS include a more effective interaction between users and providers, and service improvements to match user requirements (Hewitt et al. 2012), and arguably the NSWWS user-engagement and feedback into the post-processing system has been integral to its success (Demeritt et al. 2012). Increasingly it appears that the forecasting system is not enacted as a 'chain' with a linear flow of information, rather as a network with multiple interactions. Accordingly, the interaction between forecasters and end-users should not be viewed in isolation from the 'science'.

Hewitt et al. (2012) describe a 'User Interface Platform' for "users, climate researchers and information providers to interact" (p832), with a purpose "to involve users in identifying needs, developing appropriate products, defining capacity development requirements and influencing the direction of observational investments and research efforts". Such an endeavour for climate services seems in line with the work that is carried out as part of the European Flood Awareness system; while the feedback of end-user priorities into the improvement of forecasts may be something that is new to the hydrological literature*, it is certainly something that is being discussed elsewhere.

Further, I believe these discussions belong in the hydrological sciences literature, ensuring that the needs of the decision-maker are as accessible as possible to hydrological scientists, as with climate services, to "influence the direction of research efforts". This direction might not just be related to improving forecast skill at Day 3 rather than Day 1, but also, as with the discussion between myself, Massimiliano and Fredrik on forecast skill, ensuring that scientists carry out research in such a way that is relevant and can be understood by the end-user.

*although perhaps not completely given recent literature e.g. Wagener et al. 2010, Sivapalan et al. 2012.

References:

Demeritt, D, 2012. The Perception and Use of Public Weather Services by Emergency and Resilience Professionals in the UK. Available from: http://www.kcl.ac.uk/sspp/departments/geography/people/academic/demeritt/DemerittPWSC

EUPORIAS project, European Provision Of Regional Impacts Assessments on Seasonal and Decadal Timescales http://www.euporias.eu/

Hewitt, Chris, Simon Mason, and David Walland. "The Global Framework for Climate Services." Nature Clim. Change 2, no. 12 (December 2012): 831–832. doi:10.1038/nclimate1745.

Sivapalan, M; Saveniji, H and Blöschl, G (2012) "Socio-hydrology: a new science of people and water" Hydrological Processes 26(8) pp1270-1276 DOI:Âă10.1002/hyp.8426

Wagener, T., M. Sivapalan, P. A. Troch, B. L. McGlynn, C. J. Harman, H. V. Gupta, P. Kumar, P. S. C. Rao, N. B. Basu, and J. S. Wilson (2010), The future of hydrology: An evolving science for a changing world, Water Resour. Res., 46, W05301, doi:10.1029/2009WR008906.

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