

# **Recent advances and future directions in the evaluation of models and data in a world of uncertainty....**

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## **ABSTRACT**

Increasingly over the last IAHS-PUB decade the hydrological community has recognized the need to improve our understanding of the uncertainties in understanding and predicting hydrological systems. This has resulted in a range of techniques, each which have their set of underlying assumptions and limitations. None are perfect and quantifying uncertainty in itself will not be a complete roadmap to improving our scientific understanding of hydrological systems nor will it result in better predictive capability. Discussions of how to best deal with uncertainty are not without controversy, and arguments and counter arguments have been put forward. This paper considers some of the issues we are currently grappling with in this branch of our science asking how do we move forward and progress our science with these inherent uncertainties. What are the next steps to improve the quantification of uncertainties that challenge how we work together as a community and to improve our process understanding, conceptualization and prediction of hydrological systems? The paper will bring to together thoughts and comments from a number of colleagues and will hopefully generate some debate on the future for our science in this area.