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# Linking numerical criteria and expert judgement: results from the Melbourne's experiment

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The performance evaluation of hydrological models is a difficult task. Various criteria exist, ranging from visual assessment (simulated and observed hydrographs, scatterplots, etc.) to a multitude of statistical measures (Nash-Sutcliffe efficiency, RMSE, bias, etc.). Do the statistics agree with the expert judgement? How people think when they evaluate a model? Which statistics capture the expert judgements?
At the IAHS conference in Melbourne in 2011, a survey was done to collect expert judgement. Participants to the workshop were invited to rank the quality of fit of two models using graphical illustrations for two main objectives (high-flow and low-flow simulation). Results were compared to the ranking of models obtained using a set of statistical measures. The aim was to test the hypothesis whether there is a link between the way expert thinks and statistical criteria that reflect the expert opinion.
This communication aims at presenting the main outcomes of this work, and to propose a set of evaluation metrics that seem to best match the way the expert evaluate models.