The model evaluation tool: guidance for applying benchmark criteria for models to be used in river basin management

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With 2 figures in the text and 3 appendices

Abstract: The need to provide water managers with advice regarding selection and use of models in the context of implementation of the EU Water Framework Directive (2000/60/EC) has been addressed by the Benchmark Models for the Water Framework Directive (BMW) project funded under the EC 5th Framework Programme. In this respect a Model Evaluation Tool (MET) has been developed to facilitate the selection and benchmarking of models. This generic tool consists of a series of questions structured so as to facilitate communication between modellers and water managers. Following clarification of the management task needing attention, issues of model code selection, performance assessment and a posteriori review are addressed. The effective dialogue necessary to answer the questions at each stage helps to ensure: (i) agreement on modelling objectives in advance of applications, (ii) mutual understanding of the capabilities of model codes and requirements of management tasks, (iii) selection of appropriate model codes, (iv) an appropriate assessment of performance to determine model credibility. Whilst successful applications can never be guaranteed, use of the MET should reduce the risk of selecting inappropriate models and conducting poorly-defined model applications. Resources saved in avoiding such mistakes will outweigh the efforts expended in using the MET.

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