



Model choice for decision making under uncertainty

Andr s B rdossy

University of Stuttgart, Institute for Hydraulic Engineering, Stuttgart, Germany (bardossy@iws.uni-stuttgart.de)

Present and future water management decisions are often supported by modelling. The choice of the appropriate model and model parameters depend on the decision related question, the quality of the model and the available information. While spatially detailed physics based models might seem very transferable, the uncertainty of the parametrization and of the input may lead to highly diverging results, which are of no use for decision making. The optimal model choice requires a quantification of the input/natural parameter uncertainty. As a next step the influence of this uncertainty on predictions using models with different complexity has to be quantified. Finally the influence of this prediction uncertainty on the decisions to be taken has to be assessed. Different data/information availability and modelling questions thus might require different modelling approaches.

A framework for this model choice and parametrization problem will be presented together with examples from regions with very different data availability and data quality.