

The future of global is local. eWaterCycle II

Bridging the gap between catchment hydrologists and global hydrologists

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The future of global is local. eWaterCycle II: bridging the gap between catchment hydrologists and global hydrologists.

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It is a common joke that every single hydrologist has her/his own personally made hydrological model and it is always the best model in the world. As long as the model is only applied to the catchment in which it was thought up.

As with most jokes, it is only funny because it is partly true. Hydrology suffers from the curse of locality: every field, every catchment is unique in the way it routes water. Processes dominant in one area are insignificant in another. Yet, in global hydrological modelling generally a single mathematical form is chosen to represent the hydrology of every single gridcell. Parameters may vary, but the model-form is identical.

In the recently funded eWaterCycle II project we will not be fighting, but embracing the curse of locality. We will build infrastructure to seamlessly incorporate local models in global models, even if models are written in different programming languages. In this presentation we will outline how we are going to achieve this: presenting the computer science tools required to allow hydrologist to incorporate vastly different models into a coherent whole.

In eWaterCycle I we demonstrated that anyone can make an operational global hydrological forecasting system from available Open Source components. In eWaterCycle II we will provide the tools so that every hydrologist can add their personal Open Source hydrological model to that system and improve both our hydrological understanding as well as our predictions.