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In the eWaterCycle II project we took up the challenge to "do Open Hydrology right". I challenge that we ourselves suggested in our commentary paper "Let hydrologists learn the latest computer science by working with Research Software Engineers (RSEs) and not reinvent the waterwheel ourselves" [Hut 2017]. For computational hydrology to be reproducible and re-usable, merely making data and software openly available will not be enough. Models and model-components will have to communicate through well defined open interfaces to allow reusability by other scientist without forcing those scientists to become an expert in the code that they are trying to build on. The goals we have for the eWaterCycle II project is to provide the hydrological community with tools that:

- Allow the use of a wide variety of models, written in different programming languages, without having to learn those languages.

- Run models needing large amounts of memory and CPUs.

- Have access to all the relevant datasets from the community (forcing, observations)

- Allow advanced use cases such as data assimilation and model coupling studies.

- Allow the sharing of models with the entire community, both for citing (DOIs) and re-use.

Ultimately providing hydrologists with a toolset that allows them to run each other models, but also adept, couple, and in general tinker with models without the headache of having to delve into each others detailed code.

Currently one year into this three year project, at the General Assembly we will demonstrate, and make accessible to fellow hydrologist the first version of our system where scientists can:

- Get started with modelling without installing a single piece of software.

- Run any of the available models within minutes.

- Add their own model with minimal effort.

- Compare output of their model, as well as that of colleagues to standard observations like discharge from the Global River Data Centre.

- Develop code quickly in a notebook environment.

At the PICO screen we will have a life demonstration of this system.