

eWaterCycle: Putting the Public in Charge is Only FAIR

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What makes a model FAIR?

Principles to ensure models and data are: Findable, Accessible, Interoperable, Reproducible

Why does this matter?

Transparent and understandable science that can then be used for responsible decision-making.

What's missing in hydrological models?

Easy to use models to gain insight from without high barriers to entry. Even experts are struggling to adapt complex, field- and application-specific models.



Community-driven platform to predict floods, droughts, and the effect of land-use change and climate change impacts on the hydrological cycle that is 'FAIR by Design'.

FAIR scientific workflow: transparant from input to conclusion

FAIR
input
data



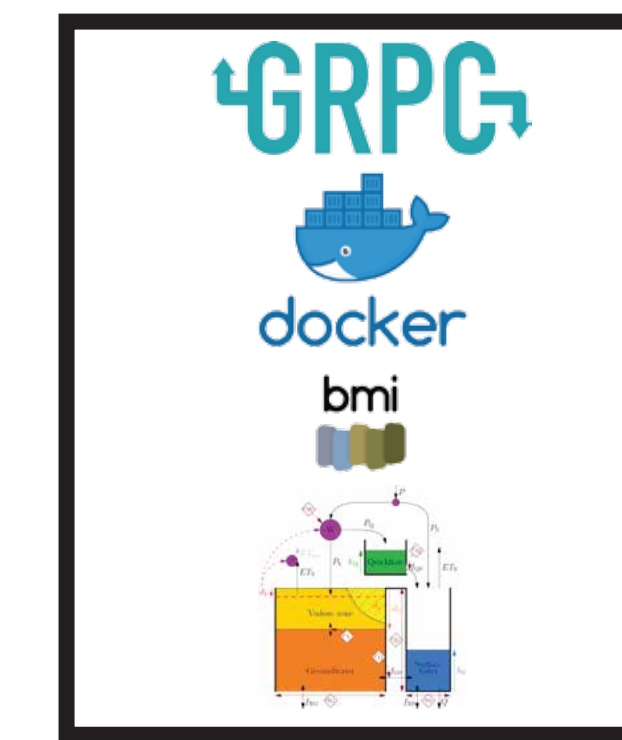
The input hydrological data should be FAIR. eWaterCycle provides out-of-the-box access to ERA5 and ERA-Interim

FAIR
pre-
processing



Pre-processing to make input data compatible for running experiments with FAIR hydrological models should be FAIR. eWaterCycle provides hydrologists with a Jupyter environment to construct and execute 'FAIR by Design' experiments. Both the pre-processed data, as well as popular hydrological models included in eWaterCycle, regardless of programming language, can be easily accessed from the experiment environment.

FAIR
hydrological
models



FAIR
experi-
ments



FAIR
conclusions



FAIR hydrological studies output (data, figures) are stored in Open Access repositories so anyone can reap the benefits of the scientific efforts.

FAIR
decision
making



This FAIR scientific workflow leads to transparent conclusions as input for responsible decision making.

FAIR
hydrology!



A screencast of the system is available at:

qrco.de/ewatercycle

The Team

The eWatercycle framework is being developed with potential end-users. eWaterCycle is a tool that can be used to inform policy decisions on water management or risk management strategies for extreme weather events.

Users don't have to learn new programming languages or overcome significant barriers to begin using the framework. This allows eWaterCycle to answer time-sensitive and region-specific problems considering output from different hydrological models. This FAIR tool gives users confidence because uncertainty in the model and data is known.



Participants of the eWaterCycle Lorentz workshop.

Risks of FAIR

Complete openness makes the decision making process vulnerable to trolling.

However, fear of trolls should not lead to closed decision making. The old internet adage goes: ignore the trolls.

