## Objectives

Central to the science of hydrology is the localised nature of the medium through which water flows. This science demonstrator seeks to create a fully FAIR Hydrological forecasting system, combining local and global models.

» FAIR Output Forecast dataset

» Fair Software for Hydrological Modelling

» Fair Workflows for Hydrological modelling on EOSC

» Community and Outreach

Main achievements

» We have worked on the FAIR data part of the project by making an overview of the FAIR-ness of each dataset we use and produce.

» Making 3rd party data FAIR is proving to be a challenge, as most of the time it is simply not up to us to distribute and/or publish data, and a lot of metadata is missing that we need the actual data author for to create and/or find. Also, determining if a dataset is FAIR, and how much, is currently something for "FAIR experts".
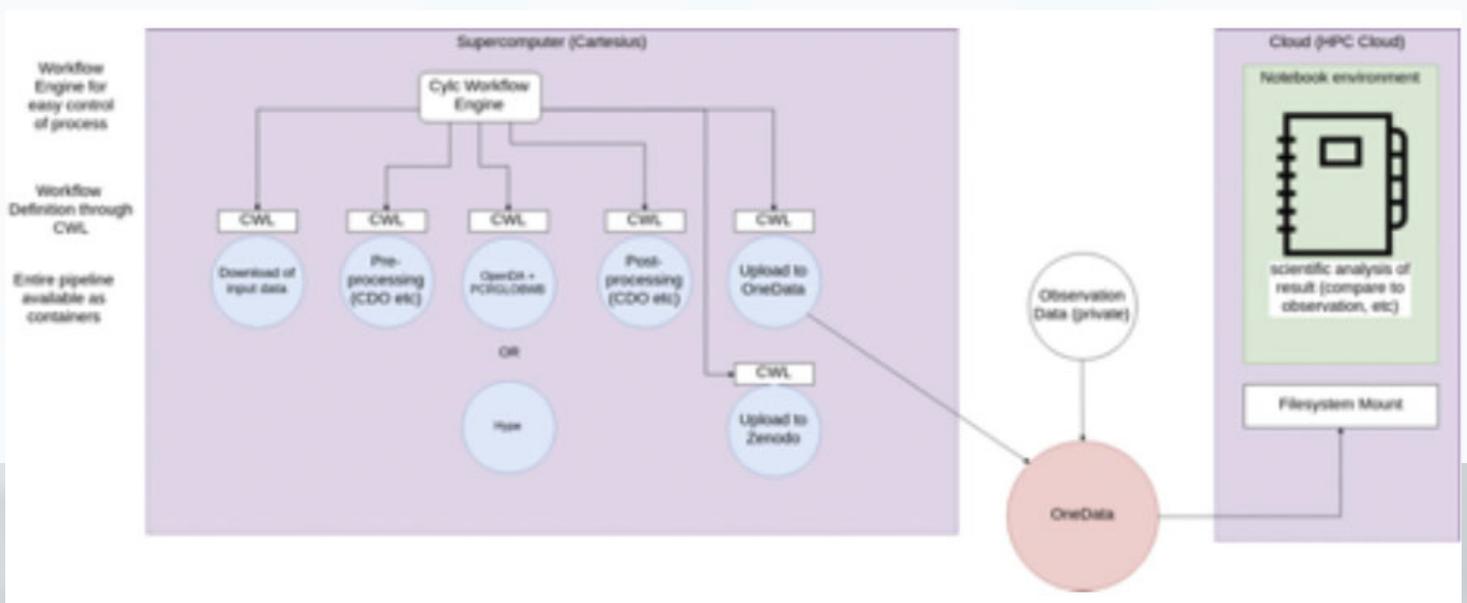
» We worked making containerised versions of tools, libraries and execution environment to support 3 hydrological models, as well as tools for pre- and post-processing and data assimilation

» All this software has been provided on GitHub repository

» Not being enough to have all tools and models available, we also enabled a reproducible way of stringing these together, we used the Common workflow Language (CWL).

» Data sharing solution between two model established to OneData a storage provider.

» Reach out to the Hydrological community at key international events and workshops, like FAIR science EGU and OpenHydro meeting.

Recommendations for the implementation

Provide a number of basic services (such as Authentication, Dataset storage, workflow execution, dataset publication (DOIs) applicable for all of science.

Partners of the SD

eWatercycle currently runs on the Cartesius National Supercomputer in the Netherlands together with a web presence hosted on Amazon EC2.

SWITCH-ON results are uploaded to the Zenodo data repository supported by DOI creation.

OneData through the EGI DataHub, storage provided by CNAF-INFN

Contacts
✉ r.w.hut@tudelft.nl