

Science for Solutions decade: HELPING Hydrology Engaging Local People IN one Global world IAHS Scientific Decade 2023-2032

IAHS Scientific Decade

Details of the Working Group – Deep Explanation and Evaluation for Practices in Hydrological Changes (DEEPHY)

Describe the work and how your suggested working group will contribute to the goal(s):

Currently, to explore spatial and temporal pattern of hydrological elements is not a difficult job as there are so many easy-use models and more and more open-source datasets ready to be downloaded. Very often a person without a very strong hydrological background can do hydrological simulation very well. However, most research so far pays more attention to providing what it looks like. Less is for why. For those for why, there have been lots of attribution studies, but more mathematical results, few for guiding the practice. Deep explanation and evaluation of hydrological Changes for local solutions is yet the weak links in hydrological study. By working hard to monitor hydrological system long-termly, fully making use of large-sample data from multiple sources, careful designing the evaluation tools, focusing more on the practical applications, it is hopeful to help us to understand more about the hydrological changes, people at different conditions worldwide can collaborate better.

Describe the methods you will use to achieve the goal(s): Monitor hydrological system long-termly, fully making use of large-sample data from multiple sources, careful designing the evaluation tools, focusing more on the practical applications.

Describe the (a) short-term, (b) the long-term and (c) the ultimate results you hope to achieve:

- (a) Short term, more mechanisms and deep drivers will be explained and explored behind the spatial and temporal pattern of hydrological elements.
- (b) In the long-term, we will have more confidence to make a better decision to administrate the hydrological changes based on the casual relationship with mechanisms and drivers being well explained.
- (c) Ultimate results are for better administrating the hydrological change so that to guide people to better adapt to the change and is more resilient to the changes, to balances science and practice.

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