

Zhydro 2023



An illustration of a [critical zone observatory](#)

www.zhydro.ch

ZHydro is a celebration of current hydrological research in Zürich. It is an annual day-long meeting in November of hydrologists working at the various departments and institutes in the Zürich area – mostly groups at ETH Zürich, University of Zürich, EAWAG and WSL. It is aimed mainly at PhD students and Postdocs, and in particular at new incoming scientists, who present their current research and network with peers. ZHydro is organized on a rotational basis by one of the participating chairs. In case of questions, please contact one of the organizers.

WHEN: 1 November 2023 (Wednesday) from 8:30-17:00

WHERE: ETH Zentrum, [MM C 78.1](#) (Alumni Pavillon) next to top station of Polybahn

FORM: 16 talks (10 & 20 mins), 13 posters

PLEASE REGISTER HERE:

<https://nuudel.ch/vfHyXjFiO5jbhopV>

ZHydro Contact Persons

Organizers 2023:

Swiss Federal Research Institute WSL
Mountain Hydrology and Mass Movements
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ZHydro 2023 SCHEDULE

1 November 2023, Alumni Pavillon, ETH Zürich

10+5 mins		
20+5 mins		
Introduction		
08:30	Welcome address	
Session 1		
08:35	Global potential groundwater recharge in response to climate variability and teleconnection	Christian Moeck (EAWAG)
08:50	Why are there so few treaties over internationally shared aquifers?	Marc Muller (EAWAG)
09:05	Inundation dynamics in floodplain forests in southeastern Brazil	Aline Meyer Oliveira (UZH)
09:30	Data availability and model complexity: modeling pluvial floods in data-scarce areas	Fabrizia Fappiano (EAWAG)
09:45	POSTER HEADLINES	
09:50-10:30	Coffee break (Posters)	
Session 2		
10:30	Enhancing sub-seasonal drought predictions in the European Alpine space using EFAS forecasts	Annie Chang (WSL)
10:55	Extreme water temperatures in mountain rivers	Amber van Hamel (SLF)
11:10	Effect of soil water dynamics on tree water use: The example of oak in the Valais	Julian Schoch (ETH)
11:25	Statistical emulation of soil moisture from climate models using MESMER-X	Yann Quilcaille (ETH)
11:50	Groundwater's fingerprint in stream network branching angles	Elham Freund (UZH)
12:05	Can I have your signature? Model evaluation using groundwater signatures	Raoul Collenteur (EAWAG)
12:20-13:30	Lunch break (Poster viewing possible), independent	
Session 3		
13:30	Comparison of high-resolution climate reanalyses datasets for hydro-climatic impact studies	Raul Wood (SLF)
13:45	A unified database for water-related modelling in Switzerland	Marvin Höeg (EAWAG)
14:00	High resolution, open-source sensors and their applications in Alpine rivers	Jessica Droujko (ETH)
14:25	Hysteretic soil moisture dynamics disentangled by Artificial Intelligence	Nedal Aqel (ETH)
14:40	Isotopic evidence for seasonal water sources in tree xylem and forest soils	Marius Floriancic (ETH)
14:55	Is soil the soul of hydrology?	Fabrizio Fenicia (EAWAG)
15:10	OUTLOOK 2024 and closing of the general presentations	
15:15-15:25	Short break	
Session 4: Farewell honors Christoph Schär & James Kirchner		
15:25	Introduction	Manfred Stähli
15:30	Some personal reflections about the development of hydrology in the context of climate change	Christoph Schär
15:50	Instructive surprises in the hydrological functioning of landscapes	James Kirchner
16:10	Closing	Manfred Stähli
16:15	Apero	

ZHydro 2023 POSTERS

1	Myriam Benkirane (EAWAG)	Analyzing stream network dynamics in a Swiss Alpine catchment
2	Harsh Beria (ETH)	Explaining drought paradox in the European Alps using remote sensing, stable water isotopes and plant growth models
3	Bianca Biess (ETH)	Assessing global and regional trends in spatially co-occurring hot or wet events under climate change
4	Andrea Carminati (ETH)	Evapotranspiration is controlled by the soil hydraulic properties: a successful case of upscaling
5	Yasser Haddad (ETH)	Dry me a river: investigating climate impacts on hydropower and energy systems planning in Switzerland
6	Joren Janzing (SLF)	Streamflow simulations in the Alps profit from improved snow and glacier routines
7	Marie-Sophie Maier (EAWAG)	Hydrology – the secret driver of CO ₂ and CH ₄ emissions from the Danube Delta freshwater system, Romania
8	Thiago Nascimento (EAWAG)	An Integrated Database of Hydro-meteorological and Landscape Descriptors for a large sample of European River Catchments
9	Nicolas Harrington Ruiz (ETH)	Distributional Predictions of Rain-Runoff using LSTMs trained with the Energy Score
10	Mirjam Scheller (UZH)	CrowdWater: Connecting citizens, science, and disconnected streams
11	Maurus Villiger (ETH)	Comparison of Water Extraction Techniques and Isotope Analyzing Methods to Study Tree Water Uptake Patterns at the Long-Term Drought Monitoring Site, Pfywald – Study Outlook
12	Mosisa Wakjira (ETH)	Climate change impacts on cropland suitability in the tropics: An example from Ethiopia
13	Bowen Yu (ETH, Wuhan Univeristy)	Study on the change of spawning habitat suitability of four major Chinese carps in the lower reaches of the dam