



Water and Development Research Group

WDRG is a multi- and interdisciplinary research group, working rigorously on various aspects of water. Our research themes vary from “water for food” to the “role of power and politics in water management”. WDRG has a strong modeling knowledge on big data and spatial analysis from local to global scale.

Publications

Sandström, V., ..., Kummu, M. (2024). [The potential to increase food system resilience by replacing feed imports with domestic food system byproducts.](#) Environmental Research Letters, 19(8), 084018

Resare Sahlin, K.,..., R., Piipponen, J... (2024). [An exploration of biodiversity limits to grazing ruminant milk and meat production.](#) Nature Sustainability, 1-11.

Liu, J.,... Kummu, M., ... (2024). [Timing the first emergence and disappearance of global water scarcity.](#) Nature Communications, 15(1), 7129.

Peng, X.,...Zhao D.D.,... (2024). [Extent of global decarbonization of the power sector through energy policies and governance capacity.](#) Communications Earth & Environment, 5(1), 321.

de Bruin, S.,... Kummu, M.,...(2024). [Scenario projections of South Asian migration patterns amidst environmental and socioeconomic change.](#) Global Environmental Change, 88, 102920.

Webb, M., Feng, X.,... Sundman, J.,... Taka, M., ... & Keskinen, M. (2024). [Finding Common Ground: Comparing Finnish and US Engineering Design Graduate Students' Conceptualizations of Interdisciplinary Education.](#) In 2024 ASEE Annual Conference & Exposition.

People

Vilma Ristikangas, is a doctoral researcher at the Sustainability Transformations doctoral education pilot, working with Prof. [Marko Keskinen](#). She studies street-level implementation of EU water policies. Her academic background is in European studies from the Universities of Amsterdam and Helsinki.



Venla Isomäki, is a doctoral researcher studying in the SusTra educational pilot, supervised by Prof. [Marko Keskinen](#). From the point of view of multispecies justice, her research will be focusing on water governance, sustainability transformations and their intersections in Finland.

Announcements

Our PhD researcher [Vili Virkki](#) will have his doctoral defence on Friday, October 4th at noon. The defence will be held in the hall M1 in Otakaari 1, Otaniemi. His dissertation title is “Freshwater change in the Earth system – a qualitative-quantitative outlook and implications for planetary boundaries”.

Sustainable Global Technologies Programme’s open lecture series “**State of the World and Development**” runs from 9 Sep to 9 Oct, and is available for everyone without registration. More information on guest speakers and schedule: <https://mycourses.aalto.fi/course/view.php?id=42951>



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News

Our Prof. [Matti Kummu](#) has been appointed as full professor in Aalto since 1st June, 2024.



Our Prof. [Olli Varis](#) was invited as panelist in the two sessions of the **Sustainability Research and Innovation 2024 Congress**, 10-14 June.

- Belmont Leadership Forum: Defining New Leadership Pathways
- Resilient Futures: Empowering Communities on the Frontlines of Change



[Meeri Karvinen](#) started as a university lecturer in WAT group from September. This is a 5-year position, which is based on the [donation from the MVTT ry](#). Her work will be related to sustainability and to improving the connections between our teaching and working life.



PhD researcher [Qiankun Niu](#) completed a three-month Young Scientists Summer Program (YSSP) at the International Institute for Applied Systems Analysis. Her research focused on the impact of climate change on double cropping systems.

WDRG group participated actively in this World Water Week in Stockholm, Sweden. Olli Varis acted as a member of Stockholm Water Prize Jury and Marko Keskinen participated in the Scientific Programme Committee and helped to organise a seminar series on “The art of water diplomacy”. More information [here](#).

“New Aalto University Magazine features a story about water diplomacy and the role that Aalto University and WDRG plays in that. For more information, see [here](#).”

Awards

The Digital Waters DIWA Flagship was awarded this year’s **Aalto Research Impact Award** as a part of Aalto Day One celebrations: find more information [here](#).

Conferences

- **Natural Capital Symposium in Stanford University, 4th-7th June 2024**
Postdoc researcher [Dandan Zhao](#): Water consumption and biodiversity: Responses to global emergency events.
- **131st ASEE (American Society for Engineering Education) Annual Conference, June 23-26, 2024**
Doctoral researcher [Xiaoqi Feng](#), [Hanna Aarnio](#): Comparative analysis on interdisciplinary education between Virginia Tech, USA, and Aalto University, Finland
- **12th International Congress on Environmental Modelling and Software, June 23–27, 2024**
Postdoc researcher [Marko Kallio](#): On weighted ensembles and hydrological signatures.

Next newsletter in December!