



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.

Papers

See next page for the full list of our recent publications!

People



Associate Professor Matti Kumm, has risen to the 2021 Clarivate Analytics Highly Cited Researchers list, a remarkable merit that is awarded to just one scientist out of a thousand. Read more about the achievement and Matti's thoughts on his research [here](#).

In September, our post-doc Mia Pihlajamäki defended her thesis *Fishing for fit: exploring the effectiveness of Baltic Sea environmental and resource governance* in the University of Tampere (Doctoral Programme in Administrative Sciences, Business Studies and Politics).



Josias Láng-Ritter recently started working as a postdoc, initiating new collaboration between WDRG and the Geoinformatics research group. With his background in environmental engineering and flood risk management, and work experience in both developed and developing countries, he is now applying machine learning approaches to find good compromises between water-related interests in large international river basins.

Our new post-doc Daniel Chrisendo is a food and agricultural economist working in the ERC-funded project SOS.aquaterra. He is looking at the socio-economic feasibility of proposed solutions to create sustainable food systems. He is particularly interested in gender equality, nutrition and the well-being of people in rural areas. Daniel holds a PhD from the University of Göttingen, Germany.



Projects



University of Eastern Finland is strengthening its water-related research through its interdisciplinary UEF//Water research community, which also provides a platform for collaboration. Our Associate Professor Marko Keskinen is currently a visiting researcher at UEF//Water, facilitating collaboration with UEF and Aalto.

Our group has collaborated with science museum Heureka to help create their Facing Disaster exhibition. The exhibition will be open for two years from November 2021 to September 2023.



Latest blog post

[Our PhD journey so far: zero first-author articles in two years](#)

Vili Virkki, Johannes Piipponen & Anni Juvakoski discuss their PhD progress and related feelings after being in the process for two years.

Next newsletter in March!

[The Majakka project was recently awarded with Aalto Pioneering Excellence Award!](#)

Majakka is our 5-year project that focuses on co-creating practices, mechanisms and culture to improve doctoral education and water research, aiming to educate top-notch game changers and to strengthen our international research excellence.





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Want to help in increasing access to water, sanitation & hygiene in low-income countries? Donate through the [WaterFinns Christmas fundraiser](#).

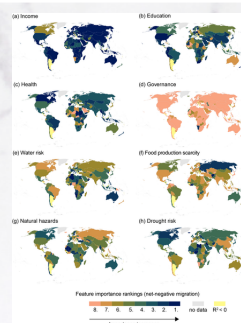
New publications See full list at [Aalto Research](#)

V. Niva et al. (2021)

Global migration is driven by the complex interplay between environmental and social factors

Environmental Research Letters. 16, 11, 114019.

Global migration is result of complex interplay between several environmental and social factors. In 1990-2000, nearly half of global in- and out-migration took place in areas characterized by low adaptive capacity and high environmental stress. Understanding the interplay between such factors is highly important, especially in a time when environmental stressors and risks are increasing rapidly.

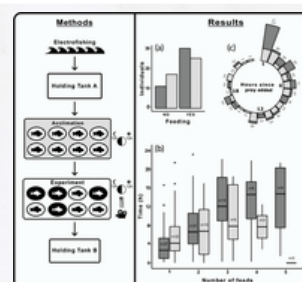


A. Chrysafi et al. (2021)

Effects of passive integrated transponder tags on short-term feeding patterns in European perch (*Perca fluviatilis*)

Journal of Fish Biology.

WPIT tags are commonly used to investigate fish behavior, therefore it is crucial to ensure that they minimally impact fish. We tested if the stress caused by handling and tagging European perch affects their feeding behavior. Our results indicate that tagged and untagged fish both feed quickly after tagging and any discrepancies in the amount of food consumed could be attributed to post-tagging effects or reduced space for food in the stomach.



M. Taka et al. (2021)

Making Waves: Joining forces for better doctoral education in water research

Water Research. 204, 5, 117650.

This short communication summarizes the recent literature on the challenges and needs of modern-day doctoral education, and presents our findings from Majakka doctoral education project as an answer to these needs. We provide a collection of the priority actions the supervisors and supervisees, the research groups, and the practitioners can make.

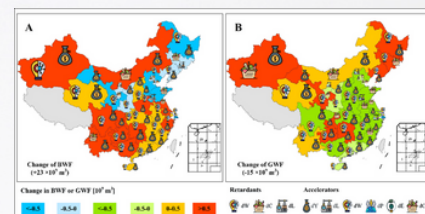


D. Zhao et al. (2021)

Socioeconomic drivers of provincial-level changes in the blue and green water footprints in China

Resources, Conservation and Recycling. 175, 15, 105834.

This paper quantified the spatial-temporal dynamics of the blue and green water footprints (BWF and GWF) and analyzed the key factors that drive the provincial-level changes in BWF and GWF from 2002 to 2012. Additionally, we developed a decoupling index to quantify the water-economy relation and substitution between green and blue water.



M. Keskinen et al. (2021)

Water diplomacy paths - An approach to recognise water diplomacy actions in shared waters

Journal of Hydrology. 602, 13, 126737.

A. Horton et al. (2021)

Identifying Key Drivers of Peatland Fires Across Kalimantan's Ex-Mega Rice Project Using Machine Learning

Earth and Space Science 8, 12.

Y. Liu et al. (2021)

Enhancing water and land efficiency in agricultural production and trade between Central Asia and China

Science of the Total Environment. 780, 10, 146584.

Potsdam Institute for Climate Research &

M. Kummu (2021)

Commentary: Feeding the world in a narrowing safe operating space

One Earth 4, 9, 1193-1196.

T. Björstig et al. (2021)

Is large-scale wind power a problem, solution, or victim? A frame analysis of the debate in Swedish media

Energy Research & Social Science 83, 102337.

Multiple authors (2021)

UNECE Water Allocation handbook for transboundary waters

United Nations Publications.