



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!

Projects



AgriSCALE is a new joint initiative for reforming agri-entrepreneurship education in Sub-Saharan Africa: teacher training, localised problem-based learning, and digital learning platforms. [Read how African students will be equipped with relevant and entrepreneurial competences.](#) Collaboration with six African and three European universities. More information: Prof. Olli Varis



EDUCase Platform is a Ministry of Education and Culture Global Programme pilot (2021-2024) coordinated by Matleena Muhonen at WDRG and will operate closely together with the Sustainable Global technologies Programme. It builds a platform for collaborative teaching activities between Finnish, Asian and African partners.

People



Distinguished Professor, head of WDRG, **Olli Varis** signed a new two-year contract (2021-2023) with the University of Hong Kong, as an Advisor for the Centre for Water Technology and Policy.

Read Olli's interview from the IWRA's 50th anniversary issue of [Water International journal](#)

Gabriel Cramer is working in the SOS.aquaterra project, building and improving the Optofood model and helping with coding in the project. He has a background in human geography and geoinformatics, as well as field work experience in East/central Africa.



Podcasts



Future-led learning

[Marko Keskinen](#) talking about the widely recognized WAT master programme

[Maija Taka](#) summarizing Majakka project on future-oriented doctoral education

The Best Thing Today

Several episodes on time management, recovery, academic workload and supervision, hosted by psychologist Maria Törnroos & Maija Taka



Latest blog post

[Zooming into development challenges: Co-learning with partners in Tanzania, Bhutan & Mexico](#)

Matleena Muhonen discusses some of the challenges Aalto's multidisciplinary master's level SGT Studio course has encountered during the pandemic.

Next WDRG Newsletter in November

Greetings from Water and Environmental Engineering Summer Day in Lapinlahti!





Water and Development Research Group

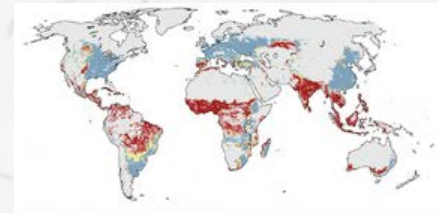
WDRG is a multi- and interdisciplinary research group, working rigorously on various aspects of water. Our research themes vary from “water for food” to the “role of power and politics in water management”. WDRG has a strong modeling knowledge on big data and spatial analysis from local to global scale.

New publications

See full list at [Aalto Research](#)

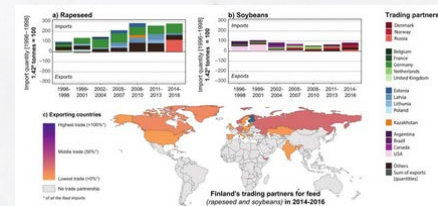
M. Kummu et al. (2021)
Climate change risks pushing one-third of global food production outside the safe climatic space
 One Earth 4:5, 720-729

Rapid, out-of-control growth of greenhouse gas emissions may, by the end of the century, lead to more than a third of current global food production falling into conditions in which no food is produced today. More on [Aalto news](#), [uutinen suomeksi](#).



E. Lehtikoinen et al. (2021)
Importance of trade dependencies for agricultural inputs: a case study of Finland
 Environmental Research Communications 3:6, 061003

Finland's dependency of agricultural inputs (energy, fertilisers, feed and agricultural machinery) has increased after joining the EU. Importantly, while Finland is a net exporter of food stuff to Russia, it is heavily dependent on agricultural input imports from its Eastern neighbour, which hasn't been documented thus far.



A. Fallon et al. (2021)
Navigating wicked water governance in the “solutionscape” of science, policy, practice, and participation
 Ecology and Society 26(2):37

This paper develops a concept of the *solutionscape* to identify different types of solutions for so-called wicked water problems, thus improving sustainability. Case study from South Africa illustrates the use of solutionscape across four major dimensions: science, policy, practice, and participation.



J. Cai et al. (2021)
Match words with deeds: Curbing water risk with the Sustainable Development Goal 6 index
 Journal of Cleaner Production 318, 128509

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, 105834

M. Kallio et al. (2021)
Hydrostreamer v1.0 - Improved streamflow predictions for local applications from an ensemble of downscaled global runoff products
 Geosci. Model Dev., 14, 5155–5181

C. Raymond et al. (2021)
Exploring Senses of Place Through Narratives of Tourism Growth and Place Change
 Chapter in C. Raymond et al. (eds.) Changing Senses of Place. Navigating Global Challenges. Cambridge University Press.

E. Angulo et al. (2021)
Non-English languages enrich scientific knowledge: The example of economic costs of biological invasion
 Science of The Total Environment 775, 144441

M. Kallio & M. Kummu (2021)
Comment on 'Changes of inundation area and water turbidity of Tonle Sap Lake: responses to climate changes or upstream dam construction?'
 Environmental Research Letters 16, 0580001

P.J. Haubrock et al. (2021)
Economic costs of invasive alien species across Europe
 NeoBiota 67, 153-190

C. Raymond et al. (2021)
Exploring Senses of Place Through Narratives of Tourism Growth and Place Change
 Journal of Cleaner Production 309, 127341

A.Y. Battamo et al. (2021)
Mapping socio-ecological resilience along the seven economic corridors of the Belt and Road Initiative
 Journal of Cleaner Production 309, 127341