

12 – 15 September 2022 – Maastricht, The Netherlands

LuWQ2022

5th International Interdisciplinary Conference on LAND USE and WATER QUALITY: Agriculture and the Environment



International Interdisciplinary Conference on
Land Use and Water Quality
Agriculture and the Environment
Maastricht, the Netherlands, 12–15 September 2022

Conference website: <https://www.luwq2022.nl/>

Abstract submission deadline: Monday 7 February 2022

Please mark your calendar – LuWQ2022, 12–15 September 2022, Maastricht – and plan to submit an abstract to the conference.

LuWQ2022 is an interdisciplinary conference on the cutting edge of science, management and policy to minimise effects of agriculture and land use changes on the quality of groundwater and surface waters. The conference aims to discuss the entire 'policy cycle' to enable enhancing the quality of the water environment, which includes problem recognition, formulation of technical options, policy formulation, interaction between policy makers and stakeholders (i.e. pressure groups), policy implementation, monitoring and research. The conference also aims to facilitate networking opportunities and to intensify contacts (a) between soil/water related scientists, agro related scientists, social scientists, ecological scientists and economists, and (b) between scientists, water managers and policy makers.

Organised by RIVM National Institute for Public Health and the Environment, the Netherlands (principle organiser); Aarhus University (DCE and Department of Bioscience), Denmark; Geological Survey of Denmark and Greenland (GEUS); and Umweltbundesamt (UBA), German Environment Agency, Germany.

To give you a feeling for the essence of Land Use and Water Quality (LuWQ) conferences... The key strength of the conference is twofold. On the one side, LuWQ has a well-defined narrow focus on 'agriculture and water quality'. On the other side, the conference is broadly oriented with regard to the various professional disciplines related to the conference topics. Based on the experience from previous Land Use and Water Quality conferences, it is just the diversity in professional background of participants which results in a multi-faceted conference programme. Consequently, LUWQ offers sessions on a broad variety of topics, all of them however dedicated exclusively to agriculture and water quality. In this sense, the conference topics range – to illustrate by a few randomly chosen examples – from scientific research on denitrification and travel time, ..., challenges in monitoring and modelling at different scale (parcels, field, region), ..., practice-oriented and technical measures to limit leaching of nutrients and agrochemicals, ..., development of management options to mitigate effects on water quality in drinking-water protection areas, including cooperation between local governments, water supply companies and farmers, ..., to policy development, and lessons to be learned from policy implementation, e.g. comparison of farmers' behaviour between top-down and bottom-up implementation of agri-environmental measures.

KEYWORDS – The conference deals with themes and topics characterised by the following keywords:

- **Keywords for fields of expertise and scientific disciplines:** agronomy, agro-economics, agro-sociology, water management, water policy, action plan, river basin management plan, hydrology, soil science, drinking water supply, data analyses (including data sharing)
- **Keywords for system description:** aquatic ecosystems, terrestrial ecosystems, unsaturated zone, groundwater, surface waters, monitoring, modelling, chemical water quality, biological water quality, nitrate vulnerable zones, river basins, catchments

- **Keywords for best management practices:** buffer zones, sedimentation ponds, constructed wetlands, incorporation of fertilisers, catch crops, erosion control, cost effectiveness
- **Keywords for policies and implementation:** voluntary measures, laws and regulations, participatory governance, top down versus bottom up, building relationships, gaining trust, raising awareness, evidence based approach
- **Keywords for substances:** nutrients, nitrate, phosphorus, pesticides and other organic agrochemicals, heavy metals

CONFERENCE THEMES

A.. Increasing our understanding of 'systems function': research, tools and methodologies to increase understanding and improving modelling of the hydro(geo)logical, geochemical and biochemical processes

B.. Water quality monitoring: improving the effectiveness and increasing the added value of monitoring – use of new sensor techniques, remote sensing, improved (meta)data management, analysis and interpretation, modelling and generalisation of observations, and assessment of status and trends

C.. Impact of weather variability and climate change on water quality: assessment of impact on land use, groundwater and surface water quality

D.. Assessment of national or regional policy: effectiveness of programmes of measures on water quality on a regional and national scale

E.. Improving water quality by farm management practices: research (monitoring and modelling) at plot, field and catchment scales to quantify the effects of farming practices and changes in land use

F.. Improving water quality by establishing eco-technological mitigation measures: development, testing, implementation and operation at plot, field and catchment scales to quantify the effects of structural measures

G.. Managing protected areas for water supply and nature conservation: risk assessment techniques, monitoring and modelling of water quality and quantity for the protection of (a) water resources for drinking water supply, and (b) groundwater dependent terrestrial ecosystems

H.. Decision-making on Programmes of Measures: the role of stakeholder input and science in policy decision-making

I.. Implementation of Programmes of Measures: social and economic incentives and regulatory mandates that drive implementation (carrots and sticks), catchment officers, etc.

SPECIAL SESSIONS – in addition to Themes A through I, it is also possible to submit abstracts to:

Session S1.. Special Session on Real-time water quality monitoring: From scientific play tool to applications in real-life world of water quality management

Session S2.. Special Session on protection of drinking water resources against nitrate and pesticide pollution

LuWQ2022 ORGANISING COMMITTEE

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