International Interdisciplinary Conference on

Land Use and Water Quality

Agriculture and the Environment

Aarhus, Denmark, 3-6 June 2025

Download of presentations held at LuWQ2025

After the LuWQ2025 conference in Aarhus, Denmark, 3-6 June 2025, we gave the presenters the possibility to share their presentations. In the programme below, you can find clickable links of the presentations of which the author gave consent to share their presentation. This gives you the possibility to look back on interesting presentations and findings, and also provides the authors with an easy to share link for their own presentation. We hope this

Lærke Thorling – Geological Survey of Denmark and Greenland (GEUS), Denmark
Gitte Blicher-Mathiesen – Department of Ecoscience - Aarhus University, Denmark
Susanne Wuijts – RIVM National Institute for Public Health and the Environment/Utrecht University, the Netherlands
Richard van Duijnen – RIVM National Institute for Public Health and the Environment, the Netherlands
Björn Tetzlaff – Forschungszentrum Jülich (FZJ), Agrosphere Institute (IBG-3), Germany
Frank Wendland – Forschungszentrum Jülich (FZJ), Agrosphere Institute (IBG-3), Germany

Jointly convened by

Geological Survey of Denmark and Greenland (GEUS), Copenhagen, Denmark
Department of Ecoscience, Aarhus University, Denmark
DCE – Danish Centre for Environment and Energy, Aarhus University, Denmark
Forschungszentrum Jülich (FZJ), Agrosphere Institute (IBG-3), Jülich, Germany
RIVM National Institute for Public Health and the Environment, Centre for Environmental Quality, Bilthoven, the Netherland

Main organiser

DCE - Danish Centre for Environment and Energy, Aarhus University, Denmark

Geological Survey of Denmark and Greenland (GEUS)

Department of Bioscience, Aarhus University, Denmark

Co-organisers

RIVM National Institute for Public Health and the Environment, the Netherlands

Forschungszentrum Jülich (FZJ), Agrosphere Institute (IBG-3), Jülich, Germany,

Tuesday 03-06-2025

7:30 - 8:30	**Registration. Posters to be installed. Ppt. sent by email to info@luwq2025.nl by 2 June 10 AM. Registration desk open all day. Organising Committee Contact:** ***Richard van Duijnen***		
	Per Kirkeby Auditorium (3. Floor – Room no. 304)		
8:30 - 10:00	**Welcome & Introduction (Plenary session P.1)** ***(Chairs: Gitte Blicher-Mathiesen/Lærke Thorling)***		
8:30 - 10:00	Welcome from Århus University. *Maria Sommer Holtze* Welcome from GEUS. *Claus Kjøller* Welcome from the Danish Minister of Green Transition. *Jeppe Bruus*		
	A new green deal for the Danish water management. *Peter Kaarup*		
	#1 Multidisciplinary capacity development to improve water quality affected by agricultural pollution: An introduction to the LuWQ2025 conference. *Lærke Thorling and Gitte Blicher-Mathiesen*		
	Practical issues during the conference. *Lærke Thorling*		
	Main Hall 2. Floor		
10:00 - 10:30	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
10:30 - 12:00	**Understanding of 'systems functioning' (B.1)** ***(Chairs: Katri Rankinen/Job Spijker)***	**Assessment of national or regional policy (E.1)** ***(Chairs: Wibke Christel/Dominika Krzeminska)***	**Improving water quality by farm management practices (G.1)** ***(Chairs: Gerard Velthof/Morten Graversgaard)***
10:30 - 10:45	**#7** Impact of transfer time on trends in nitrate concentrations in mainland France. *Nicolas Surdyk*	**#11** Effects of the tightened German Fertiliser Ordinance in practice - findings from model regions. *Burkhard Stever-Schoo*	**#3** Effect of catch crops after maize and potato on nitrate concentrations in groundwater: 3-4 years of measurements using various catch crops. *Rene Rietra*
10:45 - 11:00	**#33** How dynamic are flow contributions and mean water ages in a diverse group of regional rivers? *Roland Stenger*	**#21** Predicting the effects of fertilizer policy on the nutrient leaching and runoff in the Netherlands. *Piet Groenendijk*	**#68** The impact of crop rotations on fertiliser application rates in arable land-dominated agricultural area: a case study from Latvia. *Arturs Veinbergs*
11:00 - 11:15	**#52** National nitrogen model for national regulation of nitrogen. *Anker Lajer Højberg*	**#117** Options to achieve the good ecological state of the Wadden Sea: Scenario analyses for the river basins of Elbe and Rhine. *Andreas Gericke*	**#142** Assessment of the relationship between farm structure, farm management, and environmental quality on Dutch dairy and arable farms, and their impact on the nitrogen soil surplus. *Jamal Roskam*
11:15 - 11:30	**#53** Literature review and meta-analysis of denitrification rates for unconsolidated sedimentary aquifers. *Denitza Voutchkova*	**#160** Assessing nutrient hotspots in Denmark's agricultural fields: A focus on the livestock sector. *Raffaele Grieco*	**#153** Satellite imaging insights on autumn cover, catch crop establishment, and nitrogen load in Danish catchments. *Anastasia Kratschmer*
11:30 - 11:45	**#90** Exploring Trends and Travel Times: 30 years of Groundwater Quality Monitoring in the Netherlands. *Hans Peter Broers*	**#209** From 20 years of water quality and quantity monitoring at a river scale towards modelling in the future. *Ainis Lagzdins*	**#162** Effects of different drainage systems on subsurface runoff and nitrogen leaching. *Franziska Katharina Fischer*
11:45 - 12:00	**#136** Assessing groundwater nitrate reduction on a national scale in Denmark. *Birgitte Hansen*	**#232** Modelling nitrate transport at watershed outlets and identifying nitrate-vulnerable zones in agricultural areas using redoxcline and nitrate leaching data. *Abdul Hadi Al Nafi Khan*	*Discussion*
	Main Hall 2. Floor		
12:00 - 13:00	**Lunch break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
13:00 - 14:30	**Impact weather variability and climate change (D.1)** ***(Chairs: Thomas Harter/Tim Wolters)***	**Implementation, Evaluation and Adaptation of Programmes of Measures (J.1)** ***(Chairs: Berit Hasler/Denitza Voutchkova)***	**Water quality monitoring (impact, effectiveness) (C.1)** ***(Chairs: Job Spijker/Arno Hooijboer)***
13:00 - 13:15	**#85** From Rain to Runoff: Understanding Nutrient Dynamics in Dutch Agricultural Waters. *Kevin Ouwerkerk*	**#16** Mainstreaming Natural/Small Water Retention Measures in Europe – evaluation of drivers and hindrances with a dedicated SWOT framework. *Federica Monaco*	**#8** Untangling the relative importance of policy, soil moisture and land use variables on stream water quality. *Maelle Fresne*
13:15 - 13:30	**#124** Agricultural land lacks resistance to water erosion during the wettest winters of the past decade. Yusheng Zhang	**#54** Building value in environmental monitoring for more informed decision-making about trade-offs between ecosystem services and disservices from nature-based solutions. *Martyn Futter*	**#22** The use of high-frequency in-situ sensor measurements of nitrate concentrations for exploring the uncertainty of monthly and annual load calculations in two headwater Danish streams. *Sofie Gyritia Madsen van't Veen*
13:30 - 13:45	**#157** Flexible timing of agricultural practices depending on weather conditions. *Sophie Nawara*	**#69** Aligning policies and practice: Addressing governance and capacity gaps in the implementation of ponds and wetlands in Swedish municipalities. *Nairomi Eriksson*	**#25** A decision workflow for best practice in high-frequency water quality monitoring. *Joachim Rozemeijer*
13:45 - 14:00	**#180** Impacts of Climate Change on Nitrogen Use Efficiency in Germany. *Faranak Omidi Saravani*	**#129** Enhancing Water Quality in the Great Barrier Reef Catchments through Sustainable Agricultural Practices and Technological Innovation. *Mika Rowston*	**#64** Understanding and improving water quality on local catchment scale: an example of cooperative monitoring and research by farmers and a regional water authority. *Frank van Herpen*
14:00 - 14:15	**#188** Strategies for climate adaptation in water quality and quantity management across Nordic countries: The Danish Cases. *Lone Juul*	**#174** Agro-environmental measures – a catalogue framework for communication about efficiency and functionality. *Katarina Kyllmar*	**#93** Using turbidity sensors to assess uncertainty in mean suspended sediment and phosphorus concentrations from infrequent water sampling. *Eva Skarbovik*
14:15 - 14:30	**#219** Climate change effect jeopardizes the effectiveness of the natural small water retention measures in mitigating nitrate losses in an agricultural catchment in Poland. *Mikolaj Piniewski*	**#212** Effects of regulations and other drivers on nitrogen use in Germany. *Philipp Löw*	**#121** Experiences with high resolution UV/Vis-spectrometric sensors to detect peaks and hot spots in river nutrient inputs in the catchment of Füsinger Au (Schlei Fjord, Baltic Sea). *Kirsten Rücker*

	Main Hall 2. Floor		
14:30 - 15:00	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
15:00 - 16:15	**Managing protected areas (F.1)** ***(Chairs: Cors van den Brink/Wibke Christel)***	**Improving water quality by eco-technological measures (H.1)** ***(Chairs: Katarina Kyllmar/ Ryan Turner)***	**Poster pitches** ***(Chairs: Simon Buijs/Tessa Rotscheid/ Charlotte Offringa)***
15:00 - 15:15	**#63** Large scale implementation of groundwater protection in Aarhus Municipality. *Ulla Lyngs Ladekarl*	**#24** Perspectives on available support motivating or demotivating adoption of agro-environmental measures. *Ingrid Nesheim*	**#140** Novel high resolution monitoring program iFOODis of surface waters in relation agricultural activities and environmental factors in Northern Germany (Baltic Sea). *Loky Stein* **#152** Farmers measuring their own on-farm water quality: experiences and outcomes. *Arno Hooijboer* **#175** Installation of a woodchip bioreactor as an area specific approach to reduce nitrate loads from agriculture. *Joachim Rozemeijer* **#235** Implementation of a climate-adapted water management in grasslands in North-West Germany – first effects on nutrient discharge and water availability. *Mareike Schloo* **#236** Impact of drought on nitrate concentrations in leaching water from agricultural areas in the Netherlands. *Harm Wismans* **#237** Anthropogenic Groundwater Contamination: A Case Study from the Nitra Region, Slovakia. *Katarína Tarabová* **#239** Irish stakeholder collaboration in developing Ireland's Nitrates Action Programme and beyond. *Noeleen McDonald* **#155** Model simulations for climate-robust manure spreading and sowing of catch crops, *Mia Tits* **#210** Water levels and dissolved organic carbon in deep-drained peatlands treated with subsurface irrigation. *Lydia Roesel*
15:15 - 15:30	**#82** Nitrate Mitigation in Drinking Water Supply Management Areas. *Reid Christianson*	**#38** Hydrological ecosystem services from constructed agricultural wetlands – now and in the future. *Alina Kuehn*	
15:30 - 15:45	**#150** Setting safe ecological boundaries for nutrients for rivers and lakes in the Nordic and Central-Baltic regions. *Jan-Erik Thrane*	**#206** Monitoring and Evaluating Targeted Mitigation Approaches to Improve Water Quality: Measures for Water. *Russell Adams*	
15:45 - 16:00	**#184** Integrated Water and Nature Parks: A Nature-based Solutions Strategy in Aarhus Municipality for Improving Water Quality and Climate Adaptation. *Morten Revsbæk*	*Discussion*	
16:00 - 16:15	**#159** Pesticides in Dutch sources for drinking water supply. *Arnaut van Loon*		
	Restaurant Varna Palæet (Ørneredevej 3, 8000 Aarhus, Denmark)		
Start 18:30	**Conference Dinner**		

Wednesday 04-06-2025

7:30 - 8:30	**Registration desk open all day. Organising Committee Contact: *Björn Tetzlaff***		
	Per Kirkeby Auditorium (3. Floor – Room no. 304)		
8:30 - 10:00	**EU water ambitions: Implementation challenges (Plenary session P.2) *(Chairs: Björn Tetzlaff/Gitte Blicher-Mathiesen)***		
8:30 - 9:00	**#207** Large-scale land use changes ahead: Reducing nitrogen loss to the aquatic environment, greenhouse gas emissions from the agricultural sector and restoring nature in “a green Denmark”. *Wibke Christel*		
9:00 - 9:30	**#17** Germany’s new impact monitoring on the effectiveness of the Nitrates Directive Action Program. *Maximilian Zinnbauer*		
9:30 - 10:00	**#241** The rocky road towards water quality ambitions: experiences from the Netherlands. *Susanne Wuijts and Richard van Duijnen*		
	Main Hall 2. Floor		
10:00 - 10:30	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
10:30 - 12:00	**Understanding of ‘systems functioning’ (B.2) *(Chairs: Roland Stenger/Nicolas Surdyk)***	**Assessment of national or regional policy (E.2) *(Chairs: Birgitte Hansen/Piet Groenendijk)***	**Development and Decision-making on Programmes of Measures (I.1) *(Chairs: Dominika Krzeminska/ Joachim Rozemeijer)***
10:30 - 10:45	**#14** Decreasing TN and TP concentrations and increasing TOC concentrations in Finnish rivers. *Katri Rankinen*	**#2** Understanding and Improving Institutional Arrangements for Nutrient Governance: Insights from the New Harmonica Project. *Nigel Watson*	**#41** OPTAIN - Optimal strategies to retain and reuse water and nutrients in small agricultural catchments. *Martin Volk*
10:45 - 11:00	**#55** Nitrous oxide emissions in agricultural streams: The critical influence of pH. *Mette Carstensen*	**#100** Change to more sustainable dairy and arable farming: an integrated approach with attention for water quality. *Co Daatselaar*	**#42** Locally Based River Basin Management Plan: An Integrated Modelling Framework for Ringkøbing Fjord. *Flemming Gertz*
11:00 - 11:15	**#87** Nitrogen and phosphorus food system flows in five European livestock intensive catchments. *Shane Rothwell*	**#49** Using Land Use to Predict the Risk Posed by Mixtures of Pesticide Active Ingredients in Waterways Entering the Great Barrier Reef Lagoon, Australia. *Cath Neelamraju*	**#60** Pesticide metabolites – a regulatory perspective on an emerging group of contaminants for groundwater and drinking water. *Helena Banning*
11:15 - 11:30	**#103** Sediment color as a predictor for subsurface redox conditions at large scale. *Hyojin Kim*	**#203** Addressing Phosphorus Pollution in Interconnected Danish Lakes: A Spatial Environmental-Economic Analysis. *Raphael Filippelli*	**#72** Eating the metaphorical elephant: Meeting nitrogen reduction goals in Upper Mississippi River Basin states. *Christopher Hay*
11:30 - 11:45	**#134** Identifying the source of anthropic pressures on in-stream benthic algae communities. *Maria Snell*	**#205** Impact of derogation from the Nitrates Directive on water quality: comparison of five European countries. *Simon Buijs*	**#167** The establishment and use of local coastal water boards is tested in Denmark to find bottom-up solutions for RBMP 2027. *Kristoffer Piil*
11:45 - 12:00	**#204** Spatially Differentiated Assessment of Denitrification Conditions in Groundwater across Germany. *Tim Wolters*	**#233** Leaching of unexpected cyazofamid degradation products into groundwater demonstrates gaps in current pesticide risk assessment. *Nora Badawi*	**#183** Identifying site-specific opportunities for implementing nutrient reduction measures in catchments. *Katrin Bieger*
10:30 - 12:00	William Scharff (3. Floor – Room no. 317) **Side Event 'Strategies for groundwater-friendly agriculture' *(Chairs: Inez de Leau-Kolkman and Martin de Jonge)*** Discussing strategies to enable 'groundwater-friendly agriculture'		
	Main Hall 2. Floor		
12:00 - 13:00	**Lunch break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
13:00 - 14:30	**Finding solutions for a good ecological and chemical quality in freshwater and marine water bodies in the Baltic Sea, North Sea and Irish Sea regions (S1.1) (#244) *(Chairs: Brian Kronvang/Gerard Velthof)***	**Special Session on the Water Framework Directive: challenges and pathways towards 2027 (S2.1) (#245) *(Chairs: Susanne Wuijts/Marleen van Rijswick)***	**Water quality monitoring (impact, effectiveness) (C.2) *(Chairs: Gunnar Lischeid/Hyojin Kim)***
13:00 - 13:15	Presentation of the main results from NAPSEA: Current challenges to reduce nutrient pollution, eutrophication and its negative impacts on inland and coastal waters are addressed by an integrated approach focusing on nutrient pollution from source to sea. *Luuk van der Heijden and Anouk Blauw*	**#18** Towards a Good Ecological Status? The Prospects for the Third Implementation Cycle of the EU Water Framework Directive in The Netherlands. *Carel Dieperink*	**#29** Identifying waterlogging on arable fields - combining high-resolution distributed modelling and satellite images. *Faruk Djodjic*
13:15 - 13:30		**#78** Policy entrepreneurs’ strategies leading to effective hydro morphological measures, Lessons learned from good practices in the Netherlands. *Charlotte Offringa*	**#59** Monitoring vegetated buffer strips by using remote sensing data: Chances and Challenges in Germany. *Patrick Merita*
13:30 - 13:45	Presentation of the main results from NEW-HARMONICA: Combining science and policy to maximize the uptake and effectiveness of best management practices to improve water quality in NW European river basins. *Gerard Velthof* Presentation of the main results from NORDBALT-ECOSAFE: Nitrogen and phosphorus load reduction approach within safe ecological boundaries for the Nordic-Baltic region. *Brian Kronvang* Interactive discussion on cross-cutting observations and key-messages (see questions in volume of abstracts (**#244**))	**#113** Can a sewage treatment plant expand even if it increases the phosphorus load to a recipient where it needs to decrease? A case study from Uppsala, Sweden. *Martin Erlandsson Lampa*	**#107** Application of cell-based bioassays to assess toxicity in agriculture catchments contaminated with mixtures of pesticides. *Reinier Mann*

13:45 - 14:00		*Discussion*	**#118** Long-term monitoring indicates that land use and soil drainage interactions drive macroinvertebrates and diatoms composition but not diversity in Irish agricultural catchments. *Jean Carlo Gonçalves Ortega*
14:00 - 14:15			**#128** Hydrological and physico-chemical drivers of benthic diatom community dynamics in agricultural stream ecosystems. *Maria Snell*
14:15 - 14:30			**#226** Assessing Pesticide Trends in Groundwater: A Comparative Study of the Netherlands and Denmark. *Mariëlle van Vliet*
	Main Hall 2. Floor		
14:30 - 15:00	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	
15:00 - 16:15	**Finding solutions for a good ecological and chemical quality in freshwater and marine water bodies in the Baltic Sea, North Sea and Irish Sea regions (S1.2) (#244)** ***(Chairs: Brian Kronvang/Gerard Velthof)***	**Special Session on the Water Framework Directive: challenges and pathways towards 2027 (S2.2) (#245)** ***(Chairs: Susanne Wuijts/Marleen van Rijswick)***	
15:00 - 15:15	A final discussion and debate on the shared outcomes of the three projects and key messages. The discussion questions can be found in the volume of abstracts **(#244)**	**#148** Deficiencies and action perspectives for WFD objective achievement in the Netherlands. *Tessa Rotscheid*	
15:15 - 15:30		**#181** Closing the Gap: Are the Measures Achieving Water Quality Objectives in Ireland? *Eva Mockler*	
15:30 - 15:45		**#88** The necessity for and implementation of the right measures in the right places to combat eutrophication from agriculture. *Matilda Valman*	
15:45 - 16:00		*Discussion*	
16:00 - 16:15			
Start 16:30	**Guided walks through Aarhus**		

Thursday 05-06-2025

7:30 - 8:30	**Registration desk open all day. Organising Committee Contact: *Lærke Thorling***		
	Per Kirkeby Auditorium (3. Floor – Room no. 304)		
8:30 - 10:00	**From policy to strategies leading to water quality improvement (Plenary session P.3)** ***(Chairs: Susanne Wuijts/Richard van Duijnen)***		
8:30 - 9:00	**#222** Phosphorus pollution in Germany: actual state and developments. *Björn Tetzlaff*		
9:00 - 9:30	**#168** Nutrients state and trend for the Danish water bodies from 35 years with national monitoring. *Mette Thorsen*		
9:30 - 10:00	**#97** Implementation of a National Scale Water-AGRI European Innovation Partnership in Ireland. *Mairead Shore*		
	Main Hall 2. Floor		
10:00 - 10:30	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
10:30 - 12:00	**Understanding of 'systems functioning' (B.3)** ***(Chairs: Hans Peter Broers/ António Guerreiro de Brito)***	**Assessment of national or regional policy (E.3)** ***(Chairs: Berit Hasler/Joachim Rozemeijer)***	**Improving water quality by farm management practices (G.2)** ***(Chairs: Piet Groenendijk/Cors van den Brink)***
10:30 - 10:45	**#225** Leaching of mineralized soil nitrogen is highly influenced by vegetation type. *Peter Sørensen*	**#91** A hydrologically informed agricultural land use intensity index to assess the agricultural impacts on streams and rivers. *Michael Kyei Agyekum*	**#45** The Effect of Nature-inspired Farming Systems on Soil Hydrological Functioning and Nutrient Leaching. *Cécile Alsbach*
10:45 - 11:00	**#161** A new approach for identifying catchment phosphorus impact risks and quantifying the underlying processes. *Per-Erik Mellander*	**#105** Nitrogen Use Efficiency in Nitrate Polluted Areas in Germany: How effective are regulatory measures? *Philipp Löw*	**#71** Optimising the spatial allocation of water and nutrient retention measures in small agricultural catchments. *Michael Strauch*
11:00 - 11:15	**#194** Mapping Nitrogen and Phosphorus Hotspots in Irish Agricultural Lands Using Raster Data and Geostatistical Techniques: Implications for Water Quality. *Fabiola Iasi de Barros Costa*	**#171** Watershed scenarios for implementation of the EU Water Framework Directive and the Danish Tripartite Agreement targets for green transition in agricultural landscapes. *Tommy Dalgaard*	**#77** Modelling the effectiveness of Natural/Small Water Retention Measures in Hungary and Lithuania: Similarities and differences. *Péter Braun*
11:15 - 11:30	**#102** Methods to quantify nutrient load reduction targets for surface water bodies to meet Nitrogen and Phosphorus targets for good ecological status. *Peter Schipper*	**#189** Towards an integrated view on Safe Ecological Limits from the Wadden Sea catchments to the Wadden Sea. *Justus van Beusekom*	**#216** Comparing of agricultural systems: sustainability vs. intensification in mountain farming using the ARMOSA Model. *Marco Acutis*
11:30 - 11:45	*Discussion*	**#202** Nitrogen-input into groundwater and surface waters in Germany. *Tim Wolters*	**#104** Effect of mitigation measures on nitrate in the agricultural lands of groundwater protection areas in the Netherlands: A modelling study. *Kevin Duan*
11:45 - 12:00		*Discussion*	*Discussion*
10:30 - 12:00	William Scharff (3. Floor – Room no. 317) **Side Event New Harmonica project *(Chair: Nigel Watson)*** *Facilitated discussion on: Improving institutional arrangements for nutrient governance*		
	Main Hall 2. Floor		
12:00 - 13:00	**Lunch break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
13:00 - 14:30	**Impact weather variability and climate change (D.2)** ***(Chairs: Tim Wolters/Hyojin Kim)***	**Water quality monitoring (impact, effectiveness) (C.3)** ***(Chairs: Gunnar Lischeid/Arno Hooijboer)***	**Improving water quality by eco-technological measures (H.2)** ***(Chairs: Ryan Turner/Simon Buijs)***
13:00 - 13:15	**#75** Investigating seasonal Nitrate and Orthophosphate Losses in Surface vs. Subsurface Drainage in Northwest Minnesota. *Murad Ellafi*	**#37** How to proceed with impact monitoring for groundwater quality protection in agricultural landscapes? *Gunnar Lischeid*	**#12** Denitrifying bioreactor monitoring network in Illinois, USA: Field-scale effectiveness assessment. *Laura Christianson*
13:15 - 13:30	**#130** Extreme weather effects on wetland nutrient retention and maintenance needs. *Pia Geranmayeh*	**#39** Unlocking the secrets of soil: Harnessing machine learning to predict autumn mineral nitrogen levels in Germany's agricultural fields. *Mona Dieser*	**#31** Decreased aqueous exports of nitrogen, phosphorus and carbon after rewetting of pump-drained fen. *Rasmus Jes Petersen*
13:30 - 13:45	**#132** Long-term evidence of nitrogen removal from four decades of wetland restoration in Denmark. *Joachim Audet*	**#131** Loss of organic nitrogen from agricultural fields and catchments. *Brian Kronvang*	**#43** Stream restoration reduces nitrate loads in agricultural landscapes. *Michael Rode*
13:45 - 14:00	**#135** Examination of flow, sediment and phosphorus relationships using monitored storm event data from a multiscale research platform. *Yusheng Zhang*	**#176** Assessing PFAS Contamination in Dutch Groundwater: Insights from Age-Dated Depth Profiles. *Tano Kivits*	**#47** Evaluating nitrogen removal efficiency in a constructed wetland dominated by diffuse agricultural groundwater inflows using an integrated catchment–wetland model. *Chris Tanner*
14:00 - 14:15	**#154** Field-level nitrogen leaching and crop yield under extreme climate events. *Emilie Lissner*	**#198** The Network for Monitoring Agricultural Loads and the Effects of Mitigation Measures in Finland. *Pasi Valkama*	**#145** Are woodchip denitrifying bioreactors a viable edge-of-field N-mitigation strategy for New Zealand farming?: Insights from field-trials and comparisons with constructed wetlands. *Lee Burbery*
14:15 - 14:30	*Discussion*	*Discussion*	*Discussion*

Main Hall 2. Floor			
14:30 - 15:00	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	
15:00 - 16:15	**Understanding of 'systems functioning' (B.4)** ***(Chairs: António Guerreiro de Brito/ Marco Acutis)***	**Implementation, Evaluation and Adaptation of Programmes of Measures (J.2)** ***(Chairs: Katarina Kyllmar/Birgitte Hansen)***	
15:00 - 15:15	**#57** Managing the trade-off between agricultural productivity and groundwater protection in Switzerland – a model-based approach. *Annelie Holzkämper*	**#15** Nitrate challenge in vulnerable groundwater protection areas. *Cors van den Brink*	
15:15 - 15:30	**#70** Linking pesticide use data and water quality. *Alexandra Müller*	**#144** Water quality improvements for the Great Barrier Reef catchments: Can we achieve change through Carrots and Sticks, or do we also need Golden Nuggets? *Ryan Turner*	
15:30 - 15:45	**#156** The challenges with reconciling field-based measurements into balanced sediment budgets on a national scale. *Simon Pulley*	**#214** Approaches in climate adaptation for water quality and quantity management: A Nordic comparison of farm level action towards water resilience. *Jennie Barron*	
15:45 - 16:00	**#173** A Source: Pathway Prioritisation Index for diffuse P mitigation in agricultural catchments. *Rachel Cassidy*	*Discussion*	
16:00 - 16:15	*Discussion*		
Main Hall 2. Floor			
16:15 - 18:15	**Poster session with drinks and snacks**		

Friday 06-06-2025

7:30 - 8:30	**Registration. Registration desk open all day. Organising Committee Contact:** ***Susanne Wuijts***		
	Per Kirkeby Auditorium (3. Floor – Room no. 304)		
8:30 - 10:00	**Land use and water quality management from continents other than Europe (Plenary session P.4)** ***(Chairs: Lærke Thorling/Björn Tetzlaff)***		
8:30 - 9:00	**#114/#115** Constructed wetlands intercepting mixed agricultural runoff across diverse landscapes. *Brandon Goeller and Chris Tanner*		
9:00 - 9:30	**#211** Long-term Salinization of Production Aquifers in Irrigated Agricultural Landscapes. *Thomas Harter*		
9:30 - 10:00	**#166** Navigating Human Dimensions in Agricultural Practice Adoption: From Individual Perceptions to Collective Water Quality Improvements in the Great Barrier Reef catchment, Australia. *Katerina Kanakis*		
	Main Hall 2. Floor		
10:00 - 10:30	**Coffee break**		
	Eduard Biermann Auditorium (2. Floor – room no. 204)	Merete Baker Auditorium (2. Floor – Room no. 211)	Jeppe Vontilius Auditorium (3. Floor - Room no. 310)
10:30 - 12:00	**Understanding of 'systems functioning' (B.5)** ***(Chairs: Hans Peter Broers/Denitza Voutchkova)***	**Impact weather variability and climate change (D.3)** ***(Chairs: Katri Rankinen/Chris Tanner)***	**Improving water quality by farm management practices (G.3)** ***(Chairs: Marco Acutis/Susanne Wuijts)***
10:30 - 10:45	**#81** Effect of uncertainties in manure and fertilizer application on modelled N losses to surface and groundwater. *Hans Kros*	**#28** Tracing the factors controlling the climate-induced migration and role of floating farming as adaptive measure in Southwest coastal region of Bangladesh. *Pankaj Kumar*	**#111** Mitigation measures for phosphorus and nitrogen under changing climate: conflicts and synergies. *Jian Liu*
10:45 - 11:00	**#98** Modelling Annual Total Organic Nitrogen Concentrations in Streams using Machine Learning at National Scale. *Rasmus Rumph Frederiksen*	**#65** Impacts of annual weather conditions and available soil data on modelling nitrate leaching from farmland at regional and national scale. *Christen Duus Børgesen*	**#182** Prioritising investment in nutrient management reform for farms in the catchments of the Great Barrier Reef. *Melanie Shaw*
11:00 - 11:15	**#99** Evaluating Nature-Based Solutions for Nitrogen and Phosphorus Reduction: A comprehensive modelling approach in agricultural catchment. *Joy Bhattacharjee*	**#76** Towards climate-resilient intensive farming with minimal environmental impact; preventing unnecessary losses of fresh water and nutrients at an arable farm in Anna Paulowna, The Netherlands. *Kim Gommans*	**#185** Impact of various management measures on soil water regime in three European biogeographical regions. *Csilla Farkas*
11:15 - 11:30	**#158** A Machine Learning approach for modeling Nitrate Leaching from Agricultural Land in Denmark. *Jian Wienke*	**#79** National flow-dependent and local through-time source apportionment to help manage diffuse / point source pollution using the CSF-HYPE model for England. *Barry Hankin*	**#192** Best management practices to deliver load reduction targets in NW Europe under a changing climate – findings from the New-Harmonica project. *Hywel Lloyd*
11:30 - 11:45	**#186** Nitrogen retention in Danish surface waters – a new model. *Hans Thodsen*	**#96** Impact of climate-change on nutrient dynamics in agricultural catchments: An empirical modelling approach. *Golnaz Ezzati*	*Discussion*
11:45 - 12:00	**#187** Predicting nitrate leaching using Nmin soil measurements on farm parcels. *Job Spijker*	**#165** Extreme Weather Impacts on Nitrate Leaching to Groundwater: A Field Scale Assessment in the Central Valley. *Isaya Kisekka*	
	Main Hall 2. Floor		
12:00 - 13:00	**Lunch break. Poster to be removed**		
	Per Kirkeby Auditorium (3. Floor – Room no. 304)		
13:00 - 14:00	**Wrap up, key messages and Closure (Plenary session P.5)** ***(Chairs: Gitte Blicher-Mathiesen/Susanne Wuijts)***		
	A summary, key messages and outlook to next edition LuWQ. *Lærke Thorling and Richard van Duijnen*		

Posters

A. **Driving forces for trends in agriculture and water quality:** UN sustainable development goals (SDGs), food-energy-water nexus, Green Deal, climate change and strategies, trade-offs from other developments (e.g. urbanization, water reuse.., climate migration, population growth).

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

#10 Mapping alkalinity in Danish streams, *Albert Rosenkrantz Conradsen*

#19 Introduction of a river basin nutrient source apportionment modeling tool, ECHO, and an example of its application, *Yan Gegotek*

#34 How will rapidly rising atmospheric CO2 concentrations affect freshwater systems?, *Roland Stenger*

#56 From Literature to Lab: Transformation and Sorption Behaviors of Nitrification and Urease Inhibitors, *Eva Weidemann*

#84 Hydrochemical Processes and Groundwater Quality in the Basement-Sediment Aquifer of Lapai, Central Nigeria, *Kolawole Aweda*

#110 Can local data strengthen assessments of groundwater extraction permits for field irrigation?, *Rikke Krogshave Laursen*

#116 Spatial Data Preparation for SWAT+ Model: A Case Study of the Berze River in Latvia, *Ainis Lagzdins*

#164 Monitoring and Assessment of Nitrogen Leaching in an Irrigated Orchard Farm under Semi-Arid Climate, *Thomas Harter*

#177 Interaction of steady state flow and geochemical processes controlling the phosphorus release in anaerobic soil columns, *Nimisha Krishnankutty*

#234 Dissolved Organic Nitrogen Leaching from Cropland: Factors and transformations in soil, *Shristi Khanal*

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

#23 Soil water dynamics in the vadose (soil) zone under real environmental conditions, *Anja Koroša*

#40 Current phophorus status of agricultural fields in Germany, *Steffen Zieseniß*

#66 Comparing soil hydraulic properties of an agricultural field to non-invasive remote sensing and GPR data, *Marjana Zajc*

#109 Storage ponds as a multifunctional tool for irrigation and nutrient removal., *Lone Juul*

#112 Using turbidity sensors to assess retention of particles and phosphorus in a small Norwegian constructed wetland, *Anastasija Isidorova*

#140 Novel high resolution monitoring program iFOODis of surface waters in relation agricultural activities and environmental factors in Northern Germany (Baltic Sea), *Loky Stein*

#149 Monitoring nitrate leaching under vegetable crops in the Netherlands, *Richard van Duijnen*

#152 Farmers measuring their own on-farm water quality: experiences and outcomes, *Hooijboer Arno*

#172 Dynamic Water Quality Monitoring in the Kielstau Catchment: Optimization of High-Frequency UV Sensor Performance and Nutrient Hysteresis Analysis, *Kirsten Rücker*

#199 Detection of nutrient input pathways along the shores of a shallow lake with optical sensors, *Kirsten Rücker*

#221 Effect of microalgal biostimulants used in agriculture: An ecotoxicological assessment, *Mishal Antony*

#237 Anthropogenic Groundwater Contamination: A Case Study from the Nitra Region, Slovakia, *Katarína Tarabová*

#240 High-frequency water quality monitoring to support a spatial targeting approach for nutrients in two agricultural catchments, *Joachim Rozemeijer*

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

#236 Impact of drought on nitrate concentrations in leaching water from agricultural areas in the Netherlands, *Harm Wismans*

E. **Assessment of national or regional policy:** effectiveness of programs of measures on water quality on a regional and national scale.

#74 Does the exception prove the rule? How well are small surface waters in Germany actually protected from agricultural pesticide inputs caused by erosion?, *Alexandra Müller*

#101 Nitrogen use in the Netherlands in relation to nitrogen use standards, *Co Daatselaar*

#122 The evolution of the nitrate nitrogen residues measured in autumn in Flemish grassland soils since 2004, *Karoline D'Haene*

#197 Harmonized approaches for transboundary groundwater vulnerability assessment in the Estonian-Latvian region, *Magdaleena Männik*

#208 Historical and Future Nitrogen Sources, Retention, and Exports in the Hunze and Rhine River Basins, *Xiaochen Liu*

F. **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.

#50 Impact of Pesticide Mixtures on Aquatic Ecosystems: A Risk-Based Approach, *Cath Neelamraju*

#51 The Temporal Response Surface: Assessing the delayed and cumulative impacts of imidacloprid on aquatic ecosystems, *Cath Neelamraju*

#125 Protection of drinking water resources from agricultural pressures: embracing interdisciplinary cooperation to enhance governance approaches, *Susanne Wuijts*

#137 Nitrate in drinking water and health studies in Denmark, *Birgitte Hansen*

#243 PROTECT – Groundwater Protection in a Changing Landscape, *Birgitte Hansen*

G. **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.

#6 Minimal tillage as a farming practice to improve soil water retention and reduce soil erosion, an example from Slovenia, *Matjaž Glavan*

#61 Modelling of soil mineral nitrogen in leachate using APSIM, *Michel Willgerodt*

#80 Evaluating Agricultural Strategies for Groundwater Protection: Impact of Crop Rotations on Nitrate Leaching on Field Scale in Denmark, *Maryam Dastranj*

#92 Nutrient input changes in grassland-dominated agricultural lands: effects of crop rotations and land transformations in Latvia, *Arturs Veinbergs*

#95 Assessing the effects of conservation tillage practices on water, nutrient, and sediment retention in six European case studies using SWAT+, *Piroska Kassai*

#123 Testing gypsum amendment for reducing the agricultural phosphorus load to the Baltic Sea, *Petri Ekholm*

#155 Model simulations for climate-robust manure spreading and sowing of catch crops, *Mia Tits*

#190 Effectiveness of Natural/Small Water Retention Measures in the Boreal biogeographical region, *Csilla Farkas*

#191 Linking Crop Rotations and Nitrate Leaching Potential: A Multiyear Study of Agricultural Land Use Effects on Groundwater Nitrate Levels, *Max Eysholdt*

#210 Water levels and dissolved organic carbon in deep-drained peatlands treated with subsurface irrigation, *Lydia Roesel*

#218 Optimising Agronomic Practices for Nitrogen and Carbon Management in Intensive Livestock Farming: A modelling analysis on the Lombardy Plain., *Marco Acutis*

H. 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.

#35 First-year performance of a pumped, cold-climate woodchip bioreactor, *Lindsay Pease*

#46 Amending Water Quality through Nature-inspired Principles – an Overview, *Cécile Alsbach*

#58 Exploring intensified catalytic role of biochar in facilitating advanced oxidation of tebuconazole in agriculture drainage, *Shubiao Wu*

#67 Soil rehabilitation and protection by fungi from polyaromatic hydrocarbons contamination, *Teresa Tavares*

#106 Assessment of Rare Earth Element Accumulation by Willow (Salix spp.) in Floating Treatment Wetlands., *Muhammad Ramzan*

#120 Willow Growth Potential and Nitrogen and Phosphorus Accumulation Under Processed Municipal Wastewater, *Muhammad Mohsin*

#139 In-stream sand traps as a measure to reduce transport of phosphorus, *Hans Estrup Andersen*

#141 Leaky dams as a mitigation option for nutrient losses via agricultural drainage ditches, *Demi Ryan*

#169 Looking into buffer zones with different vegetation cover – monitoring subsurface runoff - results from TOTBUFFER project, *Dominika Krzeminska*

#170 Looking into buffer zones with different vegetation cover – monitoring of the surface runoff - results from TOTBUFFER project, *Anne-Grete Buseth Blankenberg*

#175 Installation of a woodchip bioreactor as an area specific approach to reduce nitrate loads from agriculture, *Joachim Rozemeijer*

#201 Particulate and dissolved phosphorus removal in agricultural drainage waters with a compact filter system, *Lorenzo Pugliese*

#217 Catchments as the first stage of treatment, *Andre Frota*

#235 Implementation of a climate-adapted water management in grasslands in North-West Germany – first effects on nutrient discharge and water availability*, Mareike Schloo*

#242 Can we save our waterbodies from excessive dissolved phosphorus?, *Karolina Andrioti*

I. Development and Decision-making on Programs of Measures: the role of stakeholder input and science in policy decision-making.

#9 Locally Based River Basin Management Plans: Advancing Co-Governance to Accelerate Nitrogen Reductions in Denmark, *Flemming Gertz*

#239 Irish stakeholder collaboration in developing Ireland's Nitrates Action Programme and beyond, *Noeleen McDonald*

J. Implementation, Evaluation and Adaptation of Programs of Measures: social and economic incentives and regulatory mandates that drive implementation (carrots and sticks), catchment officers, etc.

#62 Exploring the role of structural and financial factors to implement Natural Small Water Retention Measures in agriculture: insights from a survey to practitioners, *Federica Monaco*

#195 Cooperating in agricultural transition and emission reduction by regional deals, *Martin de Jonge*