

LuWQ2017

International Interdisciplinary Conference

on

**Land Use and Water Quality
Effect of Agriculture on the Environment**

The Hague, the Netherlands,

29 May - 1 June 2017

Conference Programme

Version 18 May 2017



International Interdisciplinary Conference on
Land Use and Water Quality
Effect of Agriculture on the Environment
The Hague, the Netherlands, 29 May-1 June 2017

Jointly convened by

- National Institute for Public Health and the Environment (RIVM), the Netherlands
- Department of Bioscience, Aarhus University, Denmark
- Geological Survey of Denmark and Greenland (GEUS), Denmark
- Umweltbundesamt (UBA), Federal Environment Agency, Germany
- DEFRA, Department for Environment, Food and Rural Affairs, United Kingdom



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport



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DEPARTMENT OF BIOSCIENCE



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Scientific sponsors and institutional supporters:

- EEA, European Environment Agency, Copenhagen, Denmark
- IAH, International Association of Hydrogeologists
- INRA, Science and Impact, France
- Von Thünen Institute, Germany

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Speaker / Poster Instructions

Speaker instructions

The programme also shows the time allotted for each presentation. When preparing your presentation, please keep in mind the following:

Regular oral presentations (15 minutes)

Maximum 12 minutes presentation, 2 minutes for discussion/questions

Extended regular oral presentations (20 minutes)

Maximum 17 minutes presentation, 2 minutes for discussion/questions

Invited oral presentations (30 minutes)

Maximum 24 minutes presentation, 5 minutes for discussion/questions

Note that we allocate 1 minute for change of speakers between presentations.

Suggestions for PowerPoint presentation

The key points for your care are:

- ✓ that you do not put too much information on a slide,
- ✓ that you use a big enough font to make your slides well readable, and, finally,
- ✓ that you do not use too many slides, in other words that you spend enough presentation time for each slide.

Poster instructions

- ✓ Size of posters: maximum size is A0 (width about 0.90 m, height about 1.20 m)
- ✓ Total space provision: space for one poster sheet for each allocated poster presentation
- ✓ How shall they be hung: in vertical (portrait) direction
- ✓ Format? No specific format for poster layout (structure, content) is prescribed

LuWQ2017 Conference Programme

(Total 182 abstracts: 130 oral, 52 poster)

The following regular sessions are distinguished for oral presentation

- A.i-A.v** Increasing our understanding of 'systems function': research to increase understanding and improving modelling of the hydro(geo)logical, geochemical and biochemical reality
(Monday 29 May 10:30 till Wednesday 31 May 15:00)
- B.i-B.iii** Water quality monitoring: improving monitoring and data management
(Tuesday 30 May 13:30 till Thursday 1 June 12:00)
- C.i** Impact of climate change on land use and water quality: assessment of impact on groundwater and surface water quality
(Tuesday 30 May 8:30 till 10:00)
- D.i-D.iii** Assessment of national or regional policy: effectiveness of programmes of measures on water quality on a regional and national scale
(Tuesday 30 May 8:30 till Wednesday 31 May 17:00)
- E.i-E.v** Quantifying the impacts of land management practices on water quality: research (monitoring and modelling) at plot, field and catchment scales to quantify the effects of farming practices and changes in land use
(Tuesday 30 May 10:45 till Thursday 1 June 12:00)
- F.i-F.ii** 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
(Thursday 1 June 8:30 till 12:00)
- GH.i-GH.iv** Decision-making on and implementation of Programmes of Measures: the role of stakeholder input and science in policy decision-making, and social and economic incentives and regulatory mandates that drive implementation (carrots and sticks)
(Wednesday 31 May 10:30 till Thursday 1 June 15:00)

The following special sessions are distinguished for oral presentation

- SS1.i-SS1.iv** Special Session on Multi-functionality of buffer strips for reducing edge of field losses of sediment, nutrients and pesticides and enhance biodiversity
Conveners: Brian Kronvang, Marc Stutter, and Joachim Rozemeijer
(Tuesday 30 May 10:30 till Wednesday 31 May 15:00)
- SS2.i-SS2.ii** Special Session on Achieving water quality through voluntary measures: Delivery in practice
Conveners: Bob Middleton and Stina Olofsson
(Monday 29 May 10:30 till 15:00)
- SS3.i-SS3.ii** Special Session on Spatial targeting for control of agricultural diffuse pollution of groundwater and surface water
Conveners: Ashar Aftab and Sim Reaney
(Monday 29 May 10:30 till 15:00)

P.i and P.ii Poster sessions

P.i: Introductory Poster session

Tuesday 30 May 10:00-10:45, combined with coffee

Participants take a quick glance at posters.



Poster authors should **not attend** their posters, technical discussions of posters to be in Poster session P.ii.

P.ii: Poster session

Wednesday 31 May 17:00-18:30, with drinks and snacks

Poster authors should (yes) attend their posters, for technical discussions with interested attendees.

Legend












-  = lunch
-  = coffee break

Oral session

Poster display / session

Overview: Sunday-Friday, 28 May - 2 June 2017

Sunday 28 May: Pre-registration / Conference secretariat desk open 17:00 – 19:30
Welcome / Icebreaker 18:00 – 20:00

Monday 29 May	7:30 – 8:30	8:30 – 10:00	10:00 – 10:30	10:30 – 12:00	12:00 – 13:30	13:30 – 15:00	15:00 – 15:30	15:30 – 17:00	18:30 – 21:00
	Registration Upload ppt	Opening Opening session		Session A.i Special S2.i Special S3.i		Session A.ii Special S2.ii Special S3.ii		Session A.iii	Posters can be installed
	Registration / Conference secretariat desk open (7:30 – 17:30)								
Tuesday 30 May	7:30 – 8:30	8:30 – 10:00	10:00 – 10:45	10:45 – 12:00	12:00 – 13:30	13:30 – 15:00	15:00 – 15:30	15:30 – 17:00	
Registration Posters to be installed Upload ppt	Session C.i & D.i	Introductory Poster session P.i 	Session A.iv Session E.i Special S1.i		Session B.i Session D.ii Special S1.ii		Session B.ii	-	Conference Dinner departure from Marriott
Posters on display									
Wednesday 31 May	7:30 – 8:30	8:30 – 10:00	10:00 – 10:30	10:30 – 12:00	12:00 – 13:30	13:30 – 15:00	15:00 – 15:30	15:30 – 17:00	17:00 – 18:30
Registration Upload ppt	Session E.ii		Session E.iii Session GH.i Special S1.iii		Session E.iv Session A.v Special S1.iv		Session GH.ii & D.iii	Poster session P.ii with drinks and snacks	
Posters on display									
Thursday 1 June	7:30 – 8:30	8:30 – 10:00	10:00 – 10:30	10:30 – 12:00	12:00 – 13:30	13:30 – 15:00	15:00 – 15:30		
Registration Upload ppt	Session GH.iii & F.i		Session B.iii Session E.v Session F.ii		Session GH.iv	Closure			
Posters on display					Posters to be removed				
								Friday	8:30 – 18:00
								2 June	Field excursions (optionally)

Monday, 29 May 2017

07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk		
Lecture Hall A.1		
Opening of the Conference <i>Chairs: Carl Bolster (USA) and Dico Fraters (the Netherlands)</i>		
08:30 – 09:00 Welcome Welcome on behalf of RIVM, by Director-General André van de Zande Some practical issues, Organising Committee, Karel Kovar		
09:00 – 09:30 <i>Dico Fraters</i> , K. Kovar, B. Kronvang, R. Stenger, C. Bolster: Agriculture and water quality, developments and challenges in science, management and policy in 2013-2017: Examples from a few countries (abstract #000)		
09:30 – 10:00 <i>Roland Stenger</i> , J. Clague, B. Moorhead, T. McKelvey: Nitrate assimilation capacity of shallow groundwater underlying dairy farms in the Reporoa Basin, New Zealand (abstract #186)		
10:00 – 10:30 Coffee break		
Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
Session A.i Increasing our understanding of 'systems function' <i>Chairs: Cors van den Brink (Netherlands) and Eke Buis (Netherlands)</i>	Special Session 2.i Achieving water quality through voluntary measures: Delivery in practice <i>Chairs: Bob Middleton (United Kingdom) and Stina Olofsson (Sweden)</i>	Special Session 3.i Spatial targeting for control of agricultural diffuse pollution of groundwater and surface water <i>Chairs: Ashar Aftab (United Kingdom) and Sim Reaney (United Kingdom)</i>

10:30 – 10:45 J.R. Poulsen, J. Windolf, H. Tornbjerg, N.B. Ovesen, <i>B. Kronvang</i> : Significant differences in nitrogen emission from three Danish agricultural catchments – how can emissions be most cost-effectively documented (abstract #127)	10:30 – 10:40 B. Middleton, S. Olofsson Introduction	10:30 – 11:00 <i>Sim M. Reaney</i> : Spatial targeting of diffuse pollution mitigation features: from landscapes to sub-catchments within the SCIMAP approach (abstract #217)
10:45 – 11:00 <i>R.W. McDowell</i> , T. Snelder, C. Rissmann, S. Larned: Using flow regimes to determine how well catchments buffer water quality contaminants (abstract #21)	10:40 – 11:00 <i>Bob Middleton</i> : Voluntary approaches really do work: An English example (abstract #221)	
11:00 – 11:15 <i>I. Retike</i> , A. Kalvans, A. Babre, A. Delina, K. Popovs, J. Bikse: Isotopic signatures of precipitation and surface water-groundwater interaction in Salaca river basin (Latvia) (abstract #128)	11:00 – 11:15 <i>P. Leendertse</i> : “Clean water approach”: 75% reduction of pesticide pollution in groundwater (abstract #155)	11:00 – 11:20 <i>Y. Zhang</i> , A.L. Collins, S.M. Reaney, A. Lovett, G. Sunnenberg: A risk matrix for informing the mitigation of agricultural diffuse water pollution across England and Wales (abstract #172)
11:15 – 11:30 <i>A.L. Højberg</i> , J.C. Refsgaard, A.L. Hansen, C. Kjærgaard, B. Vangso, P. Engesgaard, F. Gertz: Accounting for natural reduction of nitrogen (abstract #130)	11:15 – 11:30 B. Chamberlain, <i>G. Bedford</i> : Transforming the stream banks of Taranaki (abstract #36)	
11:30 – 11:45 <i>A. Bartosova</i> , B. Arheimer, R. Cappell, C. Donnelly, J. Strömqvist: Spatial patterns and trend analyses on pan-European scale: Modelling of riverine nutrient concentrations (abstract #114)	11:30 – 12:00 Discussion	11:20 – 11:40 <i>I.A. Thomas</i> , P. Jordan, P.-E. Mellander, O. Shine, N.T. McDonald, S. Leach, G. Shortle, P.N.C. Murphy, O. Fenton, D. Ó Huallacháin, R. Creamer, P. Dunlop, F. Djodjic: Delineating critical source areas of diffuse pollution at the sub-field scale using LiDAR DEMs (abstract #90)
11:45 – 12:00 <i>István Sisák</i> : Manipulation of digital elevation data to model human altered surfaces and hydrological uncertainties (abstract #203)		11:40 – 12:00 Discussion
12:00 – 13:30 Lunch		

Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
<p>Session A.ii Increasing our understanding of 'systems function'</p> <p><i>Chairs: Gunnar Lischeid (Germany) and Arno Hooijboer (Netherlands)</i></p>	<p>Special Session 2.ii Achieving water quality through voluntary measures: Delivery in practice</p> <p><i>Chairs: Bob Middleton (United Kingdom) and Stina Olofsson (Sweden)</i></p>	<p>Special Session 3.ii Spatial targeting for control of agricultural diffuse pollution of groundwater and surface water</p> <p><i>Chairs: Ashar Aftab (United Kingdom) and Sim Reaney (United Kingdom)</i></p>
<p>13:30 – 13:45 <i>M. McCrackin, B. Gustafsson, C. Humborg, B. Muller-Karulis, A. Svanbäck, D. Swaney, B. Hong:</i> Legacy phosphorus in the Baltic Sea catchment and implications for managing eutrophication (abstract #69)</p>	<p>13:30 – 13:50 Stina Olofsson: Focus on nutrients, a voluntary initiative for environment and economy (abstract #179)</p>	<p>13:30 – 13:50 Ashar Aftab, S.M. Reaney, S. Colombo, N. Hanley: Economics of incentivising spatially targeted policies based on SCIMAP risk mapping (abstract #211)</p>
<p>13:45 – 14:00 <i>B. van der Grift, L.A. Osté, P.P. Schot, M.J. Wassen, J. Griffioen:</i> Biogeochemical and hydrological controls on phosphorus transport in lowland catchments (abstract #208)</p>	<p>13:50 – 14:05 B. Hasler: Farm experimental survey of agri-environmental voluntary measures in countries around the Baltic Sea (abstract #227)</p>	<p>13:50 – 14:10 B. Goeller, C. Febria, H. Warburton, H. Devlin, J.S. Harding, A. McIntosh: Trialling stream rehabilitation tools to attenuate nitrate export and improve stream health in agricultural waterways (abstract #78)</p>
<p>14:00 – 14:15 <i>L. Pease, K. King, E. Duncan, M. Williams, N.R. Fausey:</i> Phosphorus export from artificially drained fields across the Eastern Corn Belt, USA (abstract #136)</p>	<p>14:05 – 14:20 B. Nilsson, A.L. Højberg: Understanding hydrogeology to guide optimal location of nitrogen mitigation measures in the landscape (abstract #39)</p>	<p>14:10 – 14:30 A.L. Hansen, J.C. Refsgaard, J.E. Olesen, C.D. Børgesen, I.B. Karlsson: Potential benefits of a spatially targeted regulation based on detailed N-reduction maps to reduce N-load from agriculture in groundwater dominated catchments (abstract #103)</p>
<p>14:15 – 14:30 <i>B. Tetzlaff, M. Trepel, F. Wendland:</i> Distributed modelling of phosphorus inputs from diffuse and point sources for the state of Schleswig-Holstein (Germany) to support river basin management according to EU-WFD (abstract #122)</p>	<p>14:20 – 14:35 C. van den Brink, K. Verloop, J. Gielen, W. Pasma, S. van Lienden, J. Paalhaar: Issues in extrapolating successful measures at farm scale to regional scale (abstract #100)</p>	

14:30 – 14:45 <i>E. Duncan</i> , K. King, L. Pease: Soil test phosphorus: A proxy for P risk in tile drained landscapes (abstract #139)	14:35 – 15:00 Discussion	14:30 – 14:50 <i>J. Dams</i> , I. Joris, J. Bronders, S. Van Looy, D. Vanden Boer, G. Heuvelmans: Groundwater vulnerability maps for pesticides for Flanders (abstract #59)
14:45 – 15:00 <i>R. Dupas</i> , P.-E. Mellander, C. Gascuel-Oudou, O. Fovet, E. McAleer, N.T. McDonald, M. Shore, P. Jordan: The role of mobilisation and delivery processes on contrasting nitrogen and phosphorus exports in groundwater fed catchments (abstract #86)		14:50 – 15:00 Discussion
15:00 – 15:30 Coffee break		
Lecture Hall A.1		
Session A.iii Increasing our understanding of 'systems function' <i>Chairs: Patricia Chambers (Canada) and Marianne Bechmann (Norway)</i>		
15:30 – 16:00 <i>Lærke Thorling</i> , B. Nilsson: P in groundwater and groundwater dependent ecosystems (abstract #28)		
16:00 – 16:20 <i>Carl H. Bolster</i> , K. Blombäck: Improving models for describing phosphorus cycling in agricultural soils (abstract #34)		
16:20 – 16:40 <i>Chantal Gascuel-Oudou</i> , R. Dupas, M. Faucheux, O. Fovet, G. Gruau, S. Gu, P.L. Legeay, B. Lemerrier, C. Minaudo, F. Moatar, M. Moreira: Storage and fluxes of phosphorus in soils, riparian wetlands and surface water: The case of Brittany, a hotspot of P input due to intensive animal breeding (abstract #76)		
16:40 – 17:00 <i>Marc Stutter</i> , S. Richards, H. Watson: Relationships between soil test P and drain water P leaching: An initiative combining science and farmer knowledge (abstract #29)		
End of presentations of Monday, 29 May 2017		
18:30 – 21:00 Posters can be installed by presenters in the Poster exhibition room		

Tuesday, 30 May 2017

07:30 – 08:30 Posters can be installed by presenters in the Poster exhibition room
07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk
Lecture Hall A.1
Session C.i Impact of climate change on land use and water quality & D.i Assessment of national or regional policy <i>Chairs: Gunnar Lischeid (Germany) and Chantal Gascuel-Odeux (France)</i>
08:30 – 09:00 <i>Patricia A. Chambers, K.J. Rattan, J.M. Culp, A.G. Yates:</i> Nutrient export from Canadian prairie watersheds in relation to land use and a changing climate (abstract #22)
09:00 – 09:20 <i>Marianne Bechmann:</i> Impact of climate change on land use and surface water quality: Results from long term monitoring in Norway (abstract #229)
09:20 – 09:40 <i>M. Schönhart, M. Zessner, G. Hepp, B. Strenn, H. Trautvetter, A.P. Blaschke, J. Parajka, E. Schmid:</i> Scenario results from an integrated impact assessment of climate change, land use, and adaptation policies on water resources in Austria (abstract #110)
09:40 – 10:00 <i>R.C. Helliwell, D. Donnelly, J. Bowes, L.A. Jackson-Blake, J. Sample, M. Hallard:</i> A preliminary assessment of the performance of the PLUS+ (Phosphorus Land Use and Slope) model to evaluate WFD compliance in Scottish standing waters (abstract #164)
10:00 – 10:45 Introductory Session P.i and Coffee break Poster session; participants take a quick glance at posters (poster authors should not attend their posters)

Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
<p>Session A.iv Increasing our understanding of 'systems function'</p> <p><i>Chairs: István Sisák (Hungary) and Esther Wattel (Netherlands)</i></p>	<p>Session E.i Quantifying the impacts of land management practices on water quality</p> <p><i>Chairs: Marco Acutis (Italy) and Deanna Osmond (USA)</i></p>	<p>Special Session 1.i Multi-functionality of buffer strips for reducing edge of field losses of sediment, nutrients and pesticides and enhance biodiversity</p> <p><i>Chairs: Brian Kronvang (Denmark), Marc Stutter (United Kingdom), Joachim Rozemeijer (NL)</i></p>
<p>10:45 – 11:00 A. Vrijhoef, J. Spijker: Mapping nitrate concentrations in water leaching from the root zone for agricultural areas in the Netherlands (2007-2010) (abstract #177)</p>	<p>10:45 – 11:00 M.W. Hoogeveen, G.J. Doornewaard, A.E.J. Hooijboer, F.W.J.M. Weijs [C. Daatselaar]: Mineral management, economic performance and water quality: A comparison of two groups of dairy farms (abstract #149)</p>	<p>10:45 – 11:00 Brian Kronvang, Marc Stutter, Joachim Rozemeijer Introduction</p>
<p>11:00 – 11:15 M. Tits, F. Elsen, J. Bonnast, A. Elsen: Is 50 mg nitrate per litre a realistic limit value in all surface waters? A case study in Limburg (Belgium) (abstract #102)</p>	<p>11:00 – 11:15 C. Merz, G. Lischeid Multivariate analysis to assess the impact of irrigation on groundwater quality (abstract #43)</p>	<p>11:00 – 11:20 H.S. Jensen, B. Dalby, C.A. Jorgensen, S. Egemose, C.C. Hoffmann, B. Kronvang, D. Zak: Increased P retention but decreased N retention in filter bed soil amended with ferric oxyhydroxide: An experimental study (abstract #89)</p>
<p>11:15 – 11:30 J. Deelstra, C. Farkas, E. Skarbøvik, R. Barneveld, S.H. Kværnø, T. Starkloff, J. Stolte: Where does the water go? And the nutrients – and soil particles (abstract #202)</p>	<p>11:15 – 11:30 J.R. Williams, D.G. Munro, L. Sagoo, F.A. Nicholson: Nutrient losses from solid manures stored in temporary field heaps (abstract #247)</p>	<p>11:20 – 11:40 S. Jansen: Organic substrate dosing strategies to nitrate removing bioreactors (abstract #209)</p>
<p>11:30 – 11:45 N. Surdyk, L. Gourcy, S. Pinson: Estimating pressure and impact of nitrates on groundwater at national level: New methodological developments (abstract #35)</p>	<p>11:30 – 11:45 O. Leccia-Phelpin: Effectiveness of buffer strips for reducing pesticides and nitrogen transfers to water streams (abstract #93)</p>	<p>11:40 – 12:00 L.F. Burbery, T.S. Sarris, C.C. Tanner, M.E. Close, M. Finnemore, P. Abraham: Tailoring denitrifying bioreactor technologies to alluvial gravel aquifers in New Zealand (abstract #243)</p>
<p>11:45 – 12:00 L. Boumans, M. Hoogsteen, C. Daatselaar, L. Ge, H. Prins, W. van de Berg, W. van Geel: Contrasting outcomes of statistical methods to assess if animal manure and mineral fertilizer have different effects on nitrate leaching (abstract #153)</p>	<p>11:45 – 12:00 E. Valkama, R. Lemola, E. Turtola, H. Känkänen, A. Miettinen, K. Rankinen: Catch crops: Current results and future perspectives on environmental potential and cost-effectiveness (abstract #46)</p>	

12:00 – 13:30 Lunch		
Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
Session B.i Water quality monitoring: improving monitoring and data management <i>Chairs: Hans Peter Broers (Netherlands) and Patricia Chambers (Canada)</i>	Session D.i Assessment of national or regional policy. effectiveness of programmes of measures on water quality on a regional and national scale <i>Chairs: Ken Taylor (New Zealand) and Mia Tits (Belgium)</i>	Special Session 1.ii Multi-functionality of buffer strips for reducing edge of field losses of sediment, nutrients and pesticides and enhance biodiversity <i>Chairs: Brian Kronvang (Denmark), Marc Stutter (United Kingdom), Joachim Rozemeijer (NL)</i>
13:30 – 13:45 <i>K. Kyllmar, L. Stjernman Forsberg, S. Andersson, L. Maxe:</i> Agricultural impact on groundwater quality – Long-term monitoring at field and catchment scale (abstract #138)	13:30 – 13:45 <i>A. Tiktak, F. van Gaalen:</i> Evaluation of the Water Framework Directive in the Netherlands (abstract #7)	13:30 – 13:50 <i>D. Zak, B. Kronvang, C.C. Hoffmann, J. Audet, P. Feuerbach, F. Gertz, S. Egemose, C.A. Jorgensen, H.S. Jensen:</i> Nitrogen removal in intelligent buffer zones: A first evaluation of novel constructed wetlands (abstract #119)
13:45 – 14:00 <i>T. Jadczyzyn, M. Pastuszak, B. Jurga:</i> Nitrogen and phosphorus in shallow groundwater and major rivers in Poland (abstract #112)	13:45 – 14:00 <i>A. Bleeker, H. van Grinsven:</i> Evaluating the Dutch fertilizer and manure policies: How successful were they in reaching the targets of the Nitrate Directive and Water Framework Directive? (abstract #51)	13:50 – 14:10 <i>P. Feuerbach, L. Feuerbach-Wengel, J.A. Strand:</i> Removing a wetland migration barrier while increasing nutrient retention and biodiversity – a case study from LIFE-GOODSTREAM (abstract #173)
14:00 – 14:15 <i>M. Hoogsteen, E. Buis, D. Fraters:</i> Water quality of springs in southern Limburg, the Netherlands: Does sampling period matter? (abstract #154)	14:00 – 14:15 <i>K. Koopmans, D. Bylemans, D. Coomans [J. de Niese]:</i> A concerted action within the flanking policy supports Flemish farmers in sustainable fertilizer use and helps to improve water quality (abstract #55)	14:10 – 14:30 <i>C.C. Hoffmann, C. Kjærgaard:</i> Nutrient retention in a subsurface flow constructed wetland with a matrix of woodchips combined with a pond for peak flow reduction (abstract #85)
14:15 – 14:30 <i>E. Skarbøvik, I. Greipsland, R. Pedersen, G. Tveiti:</i> Use of sensor data to assess the uncertainty of different water sampling methods in an agricultural stream (abstract #183)	14:15 – 14:30 <i>B. Hansen, L. Thorling, T. Dalgaard, M. Termansen:</i> Groundwater nitrate response to sustainable nitrogen management (abstract #60)	
14:30 – 14:45 <i>C. Külls, M. von Grafenstein:</i> Land use impact archives in soil profiles (abstract #17)	14:30 – 14:45 <i>E.M. Mockler, S. Ní Longphuirt, S. O'Boyle, J. Deakin:</i> Trends in nutrients pressures and emissions to water in Ireland: Are mitigation measures having an impact? (abstract #120)	14:30 – 15:00 Discussion

14:45 – 15:00 <void slot, to be used by session chairs>	14:45 – 15:00 A. Svanbäck, M.L. McCrackin, D.P. Swaney, B. Hong, C. Humborg, B.G. Gustafsson: Increased nutrient recycling in agriculture around the Baltic Sea: Implications for eutrophication (abstract #40)	
15:00 – 15:30 Coffee break		
Lecture Hall A.1		
Session B.ii Water quality monitoring: improving monitoring and data management <i>Chairs: Frank Wendland (Germany) and Claudia Heidecke (Germany)</i>		
15:30 – 16:00 <i>Nicholas J K Howden:</i> Planning and policy for water quality: Where do we start, what do we aim for, and how long will we wait? (abstract #210)		
16:00 – 16:20 <i>Gunnar Lischeid, J. Steidl, T. Kalettka, R. Dannowski, C. Merz:</i> What surface water tells about land use effects on groundwater quality – and what it does not (abstract #24)		
16:20 – 16:40 <i>Esther J.W. Wattel, Gitte Blicher-Mathiesen, T. van Leeuwen, A. Rasmussen:</i> How to evaluate your monitoring programmes: Examples of do's and don'ts from Denmark and the Netherlands (abstract #190)		
16:40 – 17:00 <i>O. Dahan:</i> In-situ monitoring of agricultural return flow impact on groundwater quality (abstract #250)		
End of presentations of Tuesday, 30 May 2017		
17:00 – 18:00 Time to freshen up, the buses to the beach leave at 18:00		
18:00 Departure of buses (in front of the hotel) to beach club De Waterreus		
18:00 – 22:00 Conference Dinner		
22:00 Departure of buses to the Marriott Hotel		

Wednesday, 31 May 2017

07:30 – 08:30 Posters can be installed by presenters in the Poster exhibition room		
07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk		
Lecture Hall A.1		
Session E.ii Quantifying the impacts of land management practices on water quality		
<i>Chairs: Ken Taylor (New Zealand) and Piet Groenendijk (Netherlands)</i>		
08:30 – 09:00 <i>Frank Wendland, F. Ahrens, P. Kreins, R. Kunkel, B. Tetzlaff:</i> Nitrogen pollution of groundwater and surface waters in Thuringia, Germany: Status quo and management options (abstract #6)		
09:00 – 09:20 <i>Marco Acutis, M. Chiodini, C. Schillaci, S. Brenna, C. Tieghi, A. Perego:</i> Effect of conservative agriculture on nitrate and phosphate leaching: The Lombardy case study (northern Italy) (abstract #216)		
09:20 – 09:40 <i>Claudia Heidecke, A. Gocht:</i> Towards a consistent and high resolution regional nitrogen balance for municipalities in Germany (abstract #174)		
09:40 – 10:00 <i>M.V. Carstensen, J.R. Poulsen, N.B. Ovesen, B. Kronvang, S.K. Hvid, C.D. Børgesen:</i> Can controlled drainage control agricultural nutrient emissions? (abstract #212)		
10:00 – 10:30 Coffee break		
Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
Session E.iii Quantifying the impacts of land management practices on water quality	Session GH.i Decision-making on and implementation of Programmes of Measures	Special Session 1.iii Multi-functionality of buffer strips for reducing edge of field losses of sediment, nutrients and pesticides and enhance biodiversity
<i>Chairs: Birgitte Hansen (Denmark) and Roland Stenger (New Zealand)</i>	<i>Chairs: Andy Pearce (New Zealand) and Wibke Christel (Denmark)</i>	<i>Chairs: Brian Kronvang (Denmark), Marc Stutter (United Kingdom)</i>

10:30 – 10:45 <i>D.S. Ross, B.C. Wemple, V.L. Perillo:</i> The potential contribution of streambanks to phosphorus-driven eutrophication in a mixed land-use basin, Lake Champlain (Vermont, USA) (abstract #124)	10:30 – 10:45 <i>M. Graversgaard, T. Dalgaard, B.S. Kaspersen, A. Bleeker:</i> Policy processes behind the implementation of nitrogen mitigation measures in EU – with examples from Denmark and Netherlands (abstract #141)	10:30 – 10:40 Brian Kronvang, Mark Stutter: Introduction
10:45 – 11:00 <i>N.T. McDonald, P.-E. Mellander, S. Leach, O. Shine, E. Burgess, T. O’Connell, G. Shortle, M. Shore, C. Buckley, P. Jordan:</i> Assessment of diffuse phosphorus mitigation measures in two contrasting arable catchments over a four year period across the nutrient cascade (abstract #134)	10:45 – 11:00 <i>T. Fidélis, C. Rodrigues, P. Roebeling:</i> Challenging land-use through water resources planning – assessing the formulation of the programs of measures under the WFD first and second planning cycles in Portugal (abstract #245)	10:40 – 11:00 <i>P.A. Moore, C. Pilon, D.H. Pote, J.W. Martin, J.H. Pennington, D.K. Brauer, R.L. Raper, S.M. Dabney, J. Lee:</i> Effects of buffer strips and grazing management on soil loss from pastures (abstract #30)
11:00 – 11:15 <i>H.E. Andersen, L. Thorling:</i> Land use and the concentration of dissolved phosphorus in soil- and groundwater (abstract #144)	11:00 – 11:15 <i>I. Maxwell, A. Newman:</i> Stakeholder processes used to develop a Regional Land & Water Strategy, and a Catchment Plan for Tukituki River, by Hawke’s Bay Regional Council, New Zealand (abstract #31)	11:00 – 11:20 <i>M. Janssen, J. Frings, B. Lennartz:</i> Effect of grass buffer strips on nitrate export from a drained lowland field site (abstract #74)
11:15 – 11:30 <i>E. Kruisdijk, M. Waterloo, J. Velstra:</i> Reactive transport modelling of nutrient fate during managed aquifer recharge of agricultural drain water (abstract #123)	11:15 – 11:30 <i>J.-M. Lescot, J.-P. Terreaux:</i> Eutrophication: Where do we stand with economics? (abstract #41)	11:20 – 11:40 <i>J. Uusi-Kämpä:</i> A long-term field experiment: Effect of buffer strips on erosion and nutrient losses in boreal conditions (abstract #88)
11:30 – 11:45 <i>D.R. Smith, H.P. Jarvie:</i> Coupled C/N/P stoichiometric shifts as influenced by land-use and hydrological pathway (abstract #54)	11:30 – 11:45 <i>A. Rasmussen, J. Rolighed, G. Blicher-Mathiesen:</i> Adaptation by farmers to mandatory reduction of fertilizer application rates to crops in Denmark (abstract #195)	11:40 – 12:00 <i>J.A. Stockan, M. Stutter, H. Watson, G.R. Iason, J. Baird, M. Young, D. McNicoll, D. Humes, R. Van de Weyer, N. Friberg, J. Bergfur, S. Langan:</i> Buffers for biodiversity: Trade-offs and interactions (abstract #84)
11:45 – 12:00 <i>P. Schipper, W. Twisk, R. Hendriks, E. van Boekel:</i> Diffuse nutrient loads – perspectives to improve water quality in peatland polders with intensive livestock (abstract #169)	11:45 – 12:00 <void slot, to be used by session chairs>	
12:00 – 13:30 Lunch		

Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
<p>Session E.iv Quantifying the impacts of land management practices on water quality</p> <p><i>Chairs: Marianne Bechmann (Norway) and Carl Bolster (USA)</i></p>	<p>Session A.v Increasing our understanding of 'systems function'</p> <p><i>Chairs: Gitte Blicher-Mathiesen (Denmark) and Lærke Thorling (Denmark)</i></p>	<p>Special Session 1.iv Multi-functionality of buffer strips for reducing edge of field losses of sediment, nutrients and pesticides and enhance biodiversity</p> <p><i>Chairs: Brian Kronvang (Denmark), Marc Stutter (United Kingdom)</i></p>
<p>13:30 – 13:45 <i>Y. Jiang, J. Nyiraneza, B.J. Muray, K. Fuller, M. Khakbazan:</i> Effects of delayed plowing forages within potato rotation on nitrate loadings to receiving estuary (abstract #199)</p>	<p>13:30 – 13:45 <i>M. Gros, M. Boy-Roura, I. Geli, F. Domingo, J. Mas-Pla, M. Petrovic:</i> Persistence and fate of veterinary antibiotics and pharmaceuticals in agricultural soils following manure amendment and evaluation of their potential to migrate to groundwater bodies (abstract #107)</p>	<p>13:30 – 13:45 <i>S. Hille, G.H. Rubæk, B. Kronvang, A. Baattrup-Pedersen:</i> Harvesting effects on buffer strip plant communities depend on vegetation type (abstract #151)</p>
<p>13:45 – 14:00 <i>J.A. Howes, C.L. Christensen, J.A. Hanly, D.J. Horne, M.J. Hedley:</i> Duration controlled grazing to reduce nitrate leaching from grazed dairy pastures in New Zealand – An eight-year field study (abstract #63)</p>	<p>13:45 – 14:00 <i>T. Kivits, H.P. Broers, J. Griffioen, M. van Vliet, H. Beeltje:</i> Veterinary antibiotics in young Dutch groundwater under intensive livestock farming (abstract #99)</p>	<p>13:45 – 14:00 <i>T. Dalgaard, M. Graversgaard, C. Kjeldsen, K. Uggeldahl, S.B. Olsen:</i> A planning tool for multifunctional buffer strips – examples and scenario studies from Danish landscapes (abstract #135)</p>
<p>14:00 – 14:15 <i>S. Lötjönen, M. Ollikainen:</i> Does crop rotation with legumes provide an efficient means to reduce nutrient loads and GHG emissions? (abstract #197)</p>	<p>14:00 – 14:15 <i>J. Farlin, T. Gallé, M. Bayerle:</i> A pesticide screening tool to set monitoring priorities and guide management measures (abstract #148)</p>	<p>14:00 – 14:15 <i>D. Krzeminska, A.-G. Buseth-Blankenberg, E. Skarbøvik, S.H. Kværnø:</i> Buffer zones along Norwegian agricultural streams: From phosphorus traps to multifunctional mitigation measures (abstract #163)</p>
<p>14:15 – 14:30 <i>A.E.J. Hooijboer, M. Hoogsteen, E. Buis:</i> Effects of crop rotation on water quality in the Netherlands: Combining the Minerals Policy Monitoring Programme and Nationwide survey of crop data of the sandy regions of the Netherlands (abstract #234)</p>	<p>14:15 – 14:30 <i>L. Gourcy, N. Baran, N. Surdyk, J.J. Seguin, M. Rousseau, P. Sidoli, L. Cadilhac:</i> Estimating nitrate and pesticide transfer mode within the unsaturated zone of a fluvioglacial aquifer and its implication on spatial and temporal concentration variability (abstract #26)</p>	<p>14:15 – 14:30 <i>K. Izydorczyk, W. Frątczak, M. Zalewski:</i> Effectiveness of enhanced buffer zone during 4 years after construction (abstract #266)</p>

14:30 – 14:45 <i>M. Cetin</i> , H. Ibrici, E. Karnez, M. Ucan: Quantifying the impacts of crop types on groundwater nitrate loads in an irrigation scheme of southern Turkey (abstract #228)	14:30 – 14:45 <i>J. Tournebize</i> , C. Chaumont, F. Birmant, Ü. Mander: Three years monitoring of nitrate and pesticides mitigation with an artificial wetland receiving agricultural drained flow at catchment scale (abstract #171)	14:30 – 15:00 Discussion
14:45 – 15:00 <i>C.M. Thornton</i> , A.E. Elledge, K. Shrestha, S. Wallace, B. Bosomworth: The Brigalow Catchment Study: The impacts of developing <i>Acacia harpophylla</i> woodland for cropping or grazing on hydrology, soil fertility and water quality in the Brigalow Belt bioregion of Australia (abstract #49)	14:45 – 15:00 R. Keyikoglu, Y. Azzi, <i>A. Muhammetoğlu</i> , A. Essahlaoui, A. El Hmaid, A. El Ouali, H. Muhammetoğlu: Assessment of environmental impacts of pesticides using risk indicators: Altinova-Turkey and El-Hajeb-Morocco case studies (abstract #259)	
15:00 – 15:30 Coffee break		
Lecture Hall A.1		
<p align="center">Session GH.ii Decision-making on and implementation of Programmes of Measures and D.iii Assessment of national or regional policy. effectiveness of programmes of measures on water quality on a regional and national scale</p> <p align="center"><i>Chairs: Nicholas Howden (United Kingdom) and Marco Acutis (Italy)</i></p>		
15:30 – 16:00 <i>Ken Taylor</i> : Our Land and Water National Science Challenge: Science to transform our agricultural landscapes (abstract #156)		
16:00 – 16:20 <i>D.L. Osmond</i> , D. Hoag: The limits of science discovery in policy: A case study from North Carolina and Colorado (abstract #10)		
16:20 – 16:40 <i>P. Groenvald</i> , P.S. Jakobsen: Groundwater protection – a story of success from northern Denmark (abstract #52)		
16:40 – 17:00 <i>Piet Groenendijk</i> , E. van Boekel, L. Renaud: Reduction goals for the nitrogen and phosphorous load on regional surface waters from agricultural land in the Netherlands (abstract #180)		
17:00 – 18:30 Session P.ii Poster session (with drinks and snacks) (authors should attend their posters for technical discussions with interested attendees)		

End of presentations of Wednesday, 31 May 2017

Thursday, 1 June 2017

07:30-15:30 Registration / Conference secretariat desk open

PowerPoint presentations to be uploaded at the conference secretariat desk

Lecture Hall A.1

**Session GH.iii Decision-making on and implementation of Programmes of Measures, and
F.i Managing protected areas for water supply and nature conservation**

Chairs: Lærke Thorling (Denmark) and Gitte Blicher-Mathiesen (Denmark)

08:30 – 09:00 *Wibke Christel*, H.P. Olsen:

Standardization of complexity: The challenge of transferring conditions given in individually issued environmental permits to general rules, while securing the level of environmental protection (abstract #72)

09:00 – 09:20 *J. Deakin*, M. Archbold, D. Daly, E.M. Mockler:

'The right measure in the right place' – Targeting measures to implement the WFD in Ireland (abstract #125)

09:20 – 09:40 *R.D.R. Turner*, R. Mann, R. Wallace, R. Gardiner, R.A. Smith, R. Huggins, B. Ferguson, D. Orr, B. Thomson, O. King, C. Taylor, S. Preston, M.St.J. Warne:

Pressure in a world heritage area: Water quality in the Great Barrier Reef catchments (abstract #94)

09:40 – 10:00 *Hans Peter Broers*, B. van der Grift, M. van Vliet, W. Berendrecht, R. Vernes:

Protecting the groundwater resources in the Netherlands: Strategies and challenges (abstract #62)

10:00 – 10:30 Coffee break

Lecture Hall A.1	Lecture Hall Rembrandt	Lecture Hall Van Gogh
Session B.iii Water quality monitoring: improving monitoring and data management <i>Chairs: Chantal Gascuel-Odeux (France) and Esther Wattel (Netherlands)</i>	Session E.v Quantifying the impacts of land management practices on water quality <i>Chairs: Nicholas Howden (United Kingdom) and Roland Stenger (New Zealand)</i>	Session F.ii Managing protected areas for water supply and nature conservation <i>Chairs: Claudia Heidecke (Germany) and Piet Groenendijk (Netherlands)</i>
10:30 – 10:45 <i>J. Rolighed, A. Rasmussen, G. Blicher-Mathiesen:</i> Monitoring of nitrogen leaching on Danish derogation farms (abstract #223)	10:30 – 10:45 <i>K. Blombäck, H.r Johnsson, A. Lindsjö, K. Mårtensson, K. Persson:</i> The agricultural share of eutrophication: Calculations of leaching loads of nitrogen and phosphorus from Swedish arable soils (abstract #137)	10:30 – 10:45 <i>A. van Loon, M. de Jonge, G. Cirkel, D. Fraters:</i> Impact of nitrogen fertilization on raw water quality across the Netherlands: Signatures, patterns and trends (2000-2015) (abstract #143)
10:45 – 11:00 <i>S. Lukács, T.J. de Koeijer:</i> Ten years of derogation in the Netherlands (2007-2016) (abstract #178)	10:45 – 11:00 <i>N. Phillips, G. Bryan:</i> Field scale modelling of agricultural nitrate losses to groundwater using the Nitrate Leaching Tool (abstract #176)	10:45 – 11:00 <i>M. van der Aa, J. Claessens, P. Groenendijk, L. Renaud:</i> Consequences of Dutch manure policy 1990-2030 on groundwater quality in drinking water protection areas (abstract #237)
11:00 – 11:15 <i>W. Odeurs, D. Vandervelpen, A. Elsen, J. Bries, H. Vandendriessche, A. De Vliegheer, G. Ruyschaert, T. D'Hose, V. Verguts:</i> Monitoring of Flemish farms benefiting from derogation: Design and organisation of a well-balanced and simplified monitoring network (abstract #104)	11:00 – 11:15 <i>G.-J. Noij, K. Verloop, J. Oenema, J. Schröder:</i> From annual nutrient cycling assessment to water management assessment in dairy farming (abstract #47)	11:00 – 11:15 <i>C. Thirup:</i> Groundwater protection in Denmark – from a practical view (abstract #150)

11:15 – 11:30 <i>M.W. Hoogeveen, T.C. van Leeuwen, T.J. de Koeijer, E. Buis, E.J.W. Wattel, A.E.J. Hooijboer:</i> Exploring the design of the Dutch Minerals Policy Monitoring Programme (LMM) under the 6th Nitrate Action Programme (abstract #213)	11:15 – 11:30 <i>J. Windolf, S. Larsen, G. Blicher-Mathiesen, H. Tornbjerg, B. Kronvang:</i> Spatial and time variations in agricultural loss of nitrogen to 44 small Danish streams (1990-2015) (abstract #188)	11:15 – 11:30 <i>A. Leggatt:</i> Utilising catchment management techniques to address the impacts of metaldehyde on drinking water quality: A case study from a UK water company (abstract #225)
11:30 – 11:45 <i>W.H. Renwick, M.J. Vanni, T.J. Fisher, E.L. Morris:</i> A 21-year record of changing agricultural land management and water quality in the Midwestern USA (abstract #25)	11:30 – 11:45 <i>L. Casal, F. Laurent, P. Leterme, F. Vertes, J. Salmon-Monviola, N. Akkal-Corfini, C. Benhamou, P. Durand:</i> Evaluating scenarios of land management practices using a nitrogen landscape model: Comparing the effectiveness on mitigation nitrogen fluxes of optimizing agricultural practices versus landscaping (abstract #61)	11:30 – 11:45 <i>L. Rodríguez-Gallego, L. Aubriot, M. Nin, C. Cabrera, C. Lescano, M. Ruibal, C. Chreties, D. De Alaba, X. Lagos, N. Verrastro, A. Mauttone, A. Barletta, C. Kruk, F. López, H. Caymaris, J. Vitancurt, D. Conde:</i> 30 years of monitoring and modelling to support the collaborative management of a coastal lagoon protected area: Are we preventing eutrophication? (abstract #67)
11:45 – 12:00 <i>K. Rohde, S. Donaldson, C.M. Thornton, D. Rogusz, M. Silburn:</i> Paddock to Reef program: Monitoring runoff and water quality from improved agricultural land management practices in catchments draining to the Great Barrier Reef, north-eastern Australia (abstract #37)	11:45 – 12:00 <i>D.F. Burger, M. Weeber, E. Meijers, J. van den Roovaart, N. Goorden, D. Tollenaar:</i> Integrated catchment modelling to quantify and manage nutrient loads from agricultural catchments in New Zealand (abstract #185)	11:45 – 12:00 <void slot, to be used by session chairs>
12:00 – 13:30 Lunch		
Lecture Hall A.1		
Session GH.iv Decision-making on and implementation of Programmes of Measures <i>Chairs: Wibke Christel (Denmark) and Hans Peter Broers (Netherlands)</i>		
13:30 – 14:00 <i>D.T. van der Molen, R. van der Veeren, W. van Zeventer:</i> How to stimulate the water and agriculture nexus? (abstract #232)		
14:00 – 14:20 <i>Gitte Blicher-Mathiesen, A. Rasmussen, H.E. Andersen, J. Rolighed, B. Kronvang:</i> The plan for a new targeted regulation of agriculture in Denmark (abstract #189)		

14:20 – 14:40 <i>A.L. Collins, Y. Zhang, M. Winter, A. Inman, I. Jones, P.J. Johnes, W. Cleasby, E. Vrain, A. Lovett, L. Noble:</i> Projected impacts of a bottom-up approach to mitigating diffuse pollution from agriculture: Experience from Demonstration Test Catchments, UK (abstract #167)
14:40 – 15:00 <i>A. Pearce, A. Newman:</i> Implementation of Ruataniwha Water Storage Scheme (RWSS) to achieve combined environmental, economic and social objectives – Carrots and Sticks! (abstract #82)
Closure
15:00 – 15:30 Closure session: Brian Kronvang Department of Bioscience - Catchment Science and Environmental Management, Aarhus University, Silkeborg, Denmark
End of official conference programme

Friday, 2 June 2017

Field Excursions (optionally)	
07:45 Gathering in hotel lobby	
Excursion 1	Excursion 2
Amsterdam Water Supply Dunes, agriculture related problems in flower-growing (bulb) region, city of Amsterdam	Waterland (nature and agriculture in a typical Dutch landscape of pasture on peat soils), visit to biological dairy farm and boat tour, city of Amsterdam
Excursion leader: Arno Hooijboer (Netherlands)	Excursion leader: Esther Wattel (Netherlands)
08:00 Departure of bus to Amsterdam Water Supply Dunes	08:00 Departure of bus to Waterland
18:00-19:00 Return to Marriott Hotel	18:00-19:00 Return to Marriott Hotel

Poster sessions Pi and P.ii (52 posters)

Introductory Session P.i :

Tuesday, 30 May 2017, 10:00-10:45, combined with coffee

Participants take a quick glance at posters (poster authors should not attend their posters)

Session P.ii :

Wednesday, 31 May 2017, 17:00-18:30, combined with snacks and drinks

Authors should attend their posters for technical discussions with interested attendees

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

W. Hennen, T. van Leeuwen:

Assessing nitrogen surplus for individual farms based on comparable farms: A genetic algorithms approach (abstract #48)

S. Egemose, M.R. Flindt, H.S. Jensen:

Phosphorous composition and mobility in retention ponds (abstract #87)

X. Yang, S. Jomaa, M. Rode:

A newly developed grid-based water quality model: Nitrate leaching and transport analysis at catchment scale (abstract #98)

R. Dupas, M. Rode, S. Jomaa, C. Jäger, D. Borchardt, A. Musolff, J. Fleckenstein:

C, N, P export regimes in rivers from headwater to downstream catchments (abstract #106)

J. Spijker, A. Vrijhoef:

Spatial prediction of nitrate concentrations in groundwater using a machine learning approach (abstract #162)

D. Zak, S. Hille, G.H. Rubæk, B. Kronvang, J. Hinger, G.J. Heckrath:

Soil phosphorus storage in riparian landscapes depends on local landform (abstract #166)

R. Stenger, G. Barkle, B. Moorhead, T. McKelvey:

Nitrogen and phosphorus exports from artificially drained dairy pastures in the Hauraki Plains, New Zealand (abstract #187)

A. Castellano-Hinojosa, J. González-López, E.J. Bedmar:

Nitrous oxide emission and abundance of nitrifying and denitrifying populations as affected by fertilization type and soil depth (abstract #242)

M. Kraft, L. Menzel:

Influences of drought events on soil moisture and nitrate concentration under different land use conditions in south-western Germany (abstract #253)

A. Cil, A. Amil, F. Yenilmez, N.N. Ozyurt, A. Muhammetoğlu, H. Muhammetoğlu:

Assessment of groundwater vulnerability in a karstic aquifer using index-based methods: Altinova-Turkey case study (abstract #258)

O. Ursache, R. Dupas, P.L. Legeay, F. Moatar, C. Gascuel-Oudou:
A framework and a set of tools called NUTTING models to estimate retention capacities and loads of nitrogen and phosphorus in rivers at catchment and national level (France) (abstract #267)

Theme B Water quality monitoring: improving monitoring and data management

J. Jabro, W. Stevens, W. Iversen, B. Allen, U. Sainju:
Suction cup samplers for estimating nitrate-nitrogen in soil water in irrigated sugarbeet production (abstract #20)

J. Rozemeijer, D. DeGeus, R. Ekkelenkamp, B. van der Zaan:
Smartphone based water quality monitoring: Enhancing nutrient loss reduction practices via instantaneous on-farm nitrate data (abstract #42)

J. Klein, A.E.J. Hooijboer, J. Rozemeijer:
Bridging the gap between farms and catchments: Combined nutrient data analysis for 450 farms and 200 agriculture specific headwaters in the Netherlands (abstract #57)

M. Boy-Roura, J. Mas-Pla, M. Petrovic, M. Gros, M. Villagrasa, C.M. Borrego, I. Lekunberri, M. Fillol, A. Menció, D. Soler, D. Brusi: [presented by *Meritxell Gros-Calvo*]
Spatio-temporal variability of antibiotic pollution and multi-resistant bacteria in an agricultural area: The Baix Fluvia alluvial aquifer, northeastern Spain (abstract #92)

N. Henry, C. Mitchell, M. Gongora, K. McCosker, M. Silburn, D. Tindall, D. Waters, K. Martin, R.D.R. Turner:
Measuring and reporting on the Great Barrier Reef, through the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program (abstract #101)

B. Tetzlaff, F. Wendland, D. Steffen:
Identification of surface waters in Lower Saxony polluted by human pharmaceuticals (abstract #121)

M. Waterloo, E. Kruisdijk, J. Velstra:
Monitoring salinity in surface water systems by voluntary participants (abstract #161)

L. Burkitt, P. Jordan, R. Singh, M. Patterson, P. Peters:
High resolution monitoring of nitrate in rivers and streams in agricultural catchments: A case study of the Manawatu River, New Zealand (abstract #244)

P. van Beelen:
How to deal with measurements below the detection limit? (abstract #248)

Theme C Impact of climate change on land use and water quality: assessment of impact on groundwater and surface water quality

V. Hrekov:

Moisture control in steppe soil under conditions of climate change and desertification (abstract #132)

A. Sperotto, S. Torresan, J.L. Molina, M. Pulido-Velazquez, A. Critto, A. Marcomini:
Multi-risk assessment of climate and land use changes on water resources: A Bayesian Network approach (abstract #256)

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

O. Ursache, F. Moatar, R. Dupas, P.L. Legeay, C. Gascuel-Odoux:

A framework and a set of tools called Nutting models to estimate retention capacities, loads of nitrogen and phosphorus, and their uncertainties in rivers at catchment and national level (France) (abstract #77)

C.M.d S. Cordovil, G.C. Gonçalves, A.G. Brito, M.R. Cameira, B. Silva, J.R. Poulsen, H. Thodsen, B. Kronvang:

Aquatic ecosystems under agricultural nitrogen pressures in Portugal and Denmark (abstract #152)

G.C. Gonçalves, C.M.d S. Cordovil, B. Silva, A.G. Brito, J.R. Poulsen, H. Thodsen, B. Kronvang:

Addressing water resources protection and agriculture development in a transboundary river basin: The nitrogen factor in Tagus River (Portugal/Spain) (abstract #198)

T.J. de Koeijer, M.W. Hoogeveen, H. Prins, T. van Leeuwen:

Assessment of manure application on intensive livestock farms (abstract #224)

Theme E Quantifying the impacts of land management practices on water quality: research (monitoring and modelling) at plot, field and catchment scales to quantify the effects of farming practices and changes in land use

D.L. Osmond, W. Childres, D.E. Line:

Nutrient losses and reductions: A comparison of physiographical regions and conservation practice in North Carolina (abstract #9)

N. Kehdy:

The influence of the river water quality on irrigated crops: Case of the Berdawni River, Beqaa, Lebanon (abstract #27)

R.D.R. Turner, L.A. Dawes, M.St.J. Warne, R. Mann, G.D. Will:

The environmental fate of micro-pollutants from greywater irrigation (abstract#71)

V. Panasenko:

Modern transformation of crop rotation in Ukraine as a factor of soil erosion resistance and quality safety of surface waters (abstract #73)

K. Collins, C. Febria, H. Warburton, H. Devlin, A. McIntosh, J.S. Harding:

Testing and developing tools for weed macrophyte control in Canterbury agricultural waterways (abstract #79)

N. Watkins, D. Wheeler, C. Read:

OVERSEER® Nutrient Budgets – New Zealand's leading nutrient management tool (abstract #80)

J.S. Harding, C. Febria, H. Warburton, K. Hogsden, H. Devlin, K. Collins, B. Goeller, A. McIntosh:

Optimising both scale and objectives of agricultural stream restoration activities to increase likelihood of success (abstract #81)

S. Jomaa, X. Yang, M. Rode:

Impact of agricultural measures on stream water quality in lower mountain region in eastern Germany (abstract #95)

C. Karlsen, M.R. Flindt, M.J. Sønderup, M.H. Madsen, S. Egemose:

Runoff from catchments with varying land-use has different impact on stream quality: A GIS-study (abstract #105)

A. Pacholski, M. Westerschulte, C.-P. Federolf, H.-W. Olf, T. Mannheim:

Effects of DMP based nitrification inhibitors on water quality by reduced nutrient leaching and increased nutrient efficiency (abstract #118)

T. Dalgaard:

Land use and landscape management practices for reduced nitrogen pollution (abstract #131)

E. Molina-Navarro, D. Trolle, H.E. Andersen:

Modelling the hydrological and water quality impacts of plausible land use change scenarios in a lowland catchment (abstract #145)

J. Jadczyzyn:

Impact of soil conservation tillage systems on quantity and quality of run-off (abstract #192)

H. Tornbjerg, J. Windolf, C.C. Hoffmann, J.R. Poulsen, G. Blicher-Mathiesen,

B. Kronvang:

Successful reduction of diffuse nitrogen emissions at catchment scale: Example from pilot River Odense, Denmark (abstract #193)

H. Ibrikci, H. Sagir, M. Glavan, M. Cetin, E. Karnez, M. Said Golpinar, M. Pintar:

SWAT modelling approach to irrigated land management for mitigation of nitrogen loss (abstract #201)

M. Bock, O. Conrad, C. Geck, T. Kawohl, L. Landschreiber, S. Wendland, J. Böhner:

Modular decision support tool for precision agriculture application based on a free GIS software environment: Risk assessment of runoff driven onsite and offsite effects (abstract #255)

Theme 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

A. van Loon, N. Hartog, J. van Sijl:

Probabilistic groundwater travel time modelling as a risk-management approach for protection of drinking water production sites in a changing and uncertain world (abstract #146)

Themes GH Decision-making and implementation: role of policy, stakeholder and science in decision-making, and social and economic incentives and regulatory mandates that drive implementation (carrots and sticks)

I. Maxwell, A. Newman, L. Lambert:

Board of Inquiry – a quasi-judicial adversarial process with extensive stakeholder input: Legal decision-making on a Catchment Plan for Tukituki River and the Ruataniwha Water Storage Scheme, New Zealand (abstract #32)

P. Wilson:

Pollution In Paradise – New Zealand's challenge to handle non-point and diffuse source pollution (abstract #83)

K. Uggeldahl, S.B. Olsen [presented by T. Dalgaard]:

Public preferences for buffer strips in Denmark: An economic valuation study (abstract #91)

I. Akoumianaki, A. Baggio, A. Gimona, J. MacDonald, J. Potts:

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