

LuWQ2015

International Interdisciplinary Conference

on

Land Use and Water Quality Agricultural Production and the Environment

Vienna, Austria,

21-24 September 2015

Conference Programme

**Version 5
(8 September 2015)**



International Interdisciplinary Conference on
Land Use and Water Quality
Agricultural Production and the Environment
Vienna, Austria, 21-24 September 2015

Jointly convened by

- Universität für Bodenkultur Wien (BOKU), University of Natural Resources and Life Sciences, Institute of Hydraulics and Rural Water Management (IHLW), Vienna, Austria
- RIVM National Institute for Public Health and the Environment, the Netherlands
- Department of Bioscience, Aarhus University, Denmark
- Umweltbundesamt, Environment Agency Austria
- Umweltbundesamt (UBA), Federal Environment Agency, Germany
- Faculty of Science, Charles University, Prague, Czech Republic



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

**Umwelt
Bundes
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ENVIRONMENT AGENCY AUSTRIA

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PBL Netherlands Environmental
Assessment Agency



GEUS

GEOLOGICAL SURVEY OF
DENMARK AND GREENLAND

European Environment Agency



Department
for Environment
Food & Rural Affairs

LuWQ2015 Conference Programme

(total 162 abstracts: 106 orals, 56 posters)

The following sessions are distinguished for oral presentation

A.i-A.vi Increasing system knowledge: research to increase understanding and improving modelling of the hydro(geo)logical, geochemical and biochemical reality
(Monday 21 September 10:30 till Wednesday 23 September 15:00)

B.i-B.ii Impact of climate change and hydrological/weather variability: assessment of effect on groundwater and surface water quality and distinguishing from manmade effects
(Wednesday 23 September 8:30 till Wednesday 23 September 15:00)

C.i-C.v Assessment of national policy: effectiveness of programmes of measures on water quality on a regional and national scale
(Monday 21 September 10:30 till Thursday 24 September 12:00)

D.i-D.iii Field research and data interpretation: research (monitoring and modelling) at plot and field scale for quantifying effects of farming practices and changes in land use
(Monday 21 September 13:30 till Tuesday 22 September 17:00)

E.i-E.iii Managing protected areas: risk assessment monitoring and modelling of water quality and quantity, for drinking water supply and ecosystem conservation within Habitat and Species Protection Areas
(Wednesday 23 September 10:30 till Thursday 24 September 12:00)


FG.i-FG.iv Decision-making on and implementation of Programmes of Measures: of policy, stakeholder and science in decision-making, and social and economic incentives and constraints for implementation (carrots and sticks)
(Wednesday 23 September 10:30 till Thursday 24 September 15:00)


Plenary poster session

(on display from Monday, 21 September till Thursday, 24 September 2015)

P.i **Tuesday 22 September 17:00-18:30, with drinks and snacks**
Poster authors should attend their posters, for technical discussions with interested attendees.

Legend

 = lunch

 = coffee break

Oral session

Poster display / session

Overview: Monday-Thursday, 21-24 September 2015

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

Monday 21 Sept	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 – 19:30	
	Registration. Posters to be installed. Upload ppt	Opening		Session A.i Session C.i		Session A.ii Session D.i		Session C.ii	Conference Dinner
Posters on display									
Tues- day 22 Sept	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. Posters to be installed. Upload ppt	Session A.iii		Session A.iv Session C.iii		Session A.v Session D.ii		Session C.iv / D.iii	Poster session P.i with drinks and snacks
Posters on display									
Wednes- -day 23 Sept	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	
	Registration. Posters to be installed. Upload ppt	Session B.i		Session E.i Session FG.i		Session A.vi / B.ii Session FG.ii		Session FG.iii	
Posters on display									
Thurs- -day 24 Sept	7:45 – 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 E.ii		Session E.iii / C.v		Session FG.iv	Closure		
Posters on display				Posters to be removed					

Sunday, 20 September 2015

Pre-registration at the venue (*BOKU University, Muthgasse 18, 1180 Vienna*),
Conference secretariat desk open 17.00-19.30 hours

Welcome / Icebreaker, at the BOKU University, 18:00-20:00 hours

We kindly request you to register first before joining Welcome / Icebreaker.

Monday, 21 September 2015

07:30 – 08:30 Posters can be installed by presenters in the Poster exhibition area
07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk
Lecture Hall A
Opening of the Conference <i>Chair: Willibald Loiskandl (Austria)</i>
8:30 – 9:00 hours Welcome Welcome on behalf of BOKU by vice rector Prof. Barbara Hinterstoisser Opening address of the Austrian Water Director Mr. W. Schimon Some practical issues, Organising Committee, Mr. Karel Kovar
09:00 – 09:30 <i>Dico Fraters</i> , Karel Kovar, Brian Kronvang, Roland Stenger: Farming within environmental boundary conditions: Developments and challenges (abstract #000)
09:30 – 10:00 <i>Nicholas Howden</i> , F. Worrall, T. Burt, T. Wagener, H. Jarvie, V. Noacco: Human impact on carbon, nitrogen and phosphorus export in the River Thames, UK, from 1867 to 2012 (abstract #181)

10:00 – 10:30 Coffee break	
Lecture Hall A	Lecture Hall B
Session A.i Increasing system knowledge	Session C.i Assessment of national policy
<i>Chairs: Roland Stenger (New Zealand) and Pavel Rosendorf (Czech Republic)</i>	<i>Chairs: Jaap Schröder (NL) and Chantal Gascuel-Odoux (France)</i>
10:30 – 10:45 <i>H. Brielmann, F. Humer, J. Grath, O. Gabriel, C. Schilling:</i> Tile drainage monitoring – a complementary tool to assess agricultural measures aiming to reduce nitrate emissions to surface and groundwater? (abstract #093)	10:30 – 10:45 <i>Dalgaard, M. Graversgaard, N.J. Hutchings, I.S. Kristensen, J.E. Olesen, B. Hansen, B. Hasler, O. Hertel, M. Termansen, B.H. Jacobsen, B. Kronvang, J.K. Schjørring, H. Vejre:</i> Policy effects, challenges and future solution scenarios for improved N management and N efficiency in Denmark (abstract #090)
10:45 – 11:00 <i>A. Musolff, C. Schmidt, J.H. Fleckenstein:</i> A top down analysis of controls for catchment nutrient export (abstract #091)	10:45 – 11:00 <i>A.L. Højberg, L. Troldborg, H. Tornbjerg, J. Windolf, G. Blicher-Mathiesen, H. Thodsen, B. Kronvang, Ch.D. Børgensen:</i> Development of a Danish national nitrogen model – input to a new spatial differentiated regulation (abstract #187)
11:00 – 11:15 <i>J.R. Poulsen, N.B. Ovesen, H. Tornbjerg, S.E. Larsen, J. Windolf, S.K. Hvid, K. Piil, B. Kronvang:</i> A new monitoring approach in streams for detection of N emissions from agricultural areas to surface waters (abstract #127)	11:00 – 11:15 <i>M. Andjelov, R. Kunkel, J. Susin, J. Uhan, F. Wendland:</i> Modelling and management of nitrate inputs into groundwater and surface water in Slovenia (abstract #049)
11:15 – 11:30 <i>A. de Goffau, E. Buis, L.J.M. Boumans, D. Fraters:</i> Seasonal variation in leaching water quality in the Sand region of the Netherlands (abstract #062)	11:15 – 11:30 <i>M. Strokaj, C. Kroeze, M. Wang, L. Li, S. Luan, H. Wang, S. Yang, Y. Zhang:</i> Sub-basin scale modelling of nitrogen and phosphorus export by rivers to coastal waters of China (abstract #032)
11:30 – 11:45 <i>L. Buckthought, K. Meijer:</i> Addressing high nitrate concentrations in surface and groundwater in Auckland, New Zealand (abstract #055)	11:30 – 11:45 <i>T. D'heygere, M. Van Opstal, J. Diels, M. Tits, T. Coussement, A. Elsen:</i> Modelling scenarios in ArcNEMO in preparation for European legislation: A policy perspective (abstract #095)
11:45 – 12:00 <i>R. Singh, A. Rivas, A. Elwan, D.J Horne, L. Burkitt, J. Roygard, A. Matthews, B. Clothier, M. Hedley:</i> Assessment of nitrogen attenuation in the subsurface environment of Manawatu River catchment, New Zealand (abstract #246)	11:45 – 12:00 <i>P. Groenendijk, L. Renaud:</i> Distinguishing between the effects of fertilizer policy and weather variations on nitrate concentrations and loads to surface water in the Netherlands (abstract #167)
12:00 – 13:30 Lunch	

Lecture Hall A	Lecture Hall B
Session A.ii Increasing system knowledge <i>Chairs: Patricia Chambers (Canada) and István Sisák (Hungary)</i>	Session D.i Field research and data interpretation <i>Chairs: Miguel Quemada (Spain) and Gitte Blicher-Mathiesen (Denmark)</i>
13:30 – 13:45 <i>A.L. Hansen, D. Gunderman, X. He, J.Ch. Refsgaard:</i> Uncertainty assessment of spatially distributed nitrate reduction potential in groundwater using multiple geological realizations (abstract #039)	13:30 – 13:45 <i>H. Malherbe, M. Gebel, S. Pauleit, C. Lorz:</i> Potential impacts of land use on ecosystem services along the southern coast, South Africa (abstract #031)
13:45 – 14:00 <i>L.J.M. Boumans, D. Fraters, A. de Goffau:</i> Denitrification in shallow groundwater at dairy farms in the Sand region of the Netherlands; result of 20 years of monitoring (abstract #025)	13:45 – 14:00 <i>G. Fraser, K. Rohde, K. McDuffie, M. Silburn, B. Packett:</i> Using a climate forecast system to reduce dissolved inorganic nitrogen runoff to the Great Barrier Reef (abstract #122)
14:00 – 14:15 <i>A. Hooijboer, C. Daatselaar, D. Fraters, E. Buis, L.J.M. Boumans, C. de Jong:</i> Nitrate leaching from dairy farms in the Sand region in the Netherlands: Causes for higher nitrate leaching from maize land than from grassland (abstract #063)	14:00 – 14:15 <i>K. Bunzel, R. Schaefer, D. Thraen, M. Kattwinkel:</i> Aquatic ecosystems under increasing pressure? Energy crops and pesticide contamination of streams (abstract #184)
14:15 – 14:30 <i>B. Brauns, P.L. Bjerg, X. Song, R. Jakobsen:</i> Nutrient exchange between surface water and shallow groundwater and degradation pathways of nitrogen species in the North China Plain (abstract #203)	14:15 – 14:30 <i>M. Cetin, H. Ibrikci, M. Ucan, H. Sagir, M. Fink, E. Karnez, T. Nagano, S. Berberoglu, J. Kubota, M.S. Golpinar:</i> Quantifying temporal changes of nitrate loads in intensively used agricultural landscapes of the semiarid Mediterranean Turkey (abstract #142)
14:30 – 14:45 <i>P.L Carey, K.C. Cameron, D.H. Jie:</i> Crop recovery of labelled-15N urinary nitrogen following simulated winter forage grazing (abstract #158)	14:30 – 14:45 <i>M. Alonso-Ayuso, J.L. Gabriel, M. Quemada:</i> The kill date as a management tool to increase cover crops benefits in water quality and nitrogen recycling (abstract #076)
14:45 – 15:00 <i>N. Surdyk, L. Gourcy, N. Baran, J. Picot:</i> Study of nitrate transfer in the unsaturated zone of two agricultural plots (northern France) (abstract #141)	14:45 – 15:00 <void slot, to be used by session chairs>
15:00 – 15:30 Coffee break	

Lecture Hall A.1**Session C.ii Assessment of national policy*****Chairs: Brian Kronvang (Denmark) and Ralf Eppinger (Belgium)***15:30 – 16:00 *Frank Wendland, L. Keller, R. Kunkel, F. Koch, P. Kuhr, B. Tetzlaff:*

Nitrogen reduction requirements to reach quality targets for groundwater and the marginal Sea and the effectiveness of well-established agricultural nitrogen reduction measures in the Federal State of Mecklenburg-Vorpommern (Germany) (abstract #034)

16:00 – 16:20 *Marco Acutis, S. Motta, L. Alfieri, M.E. Chiodini, A. Giussani, A. Perego, M. Sanna, S. Brenna:*

Phosphorus monitoring and modelling in Lombardy region, Italy (abstract #186)

16:20 – 16:40 *Marianne Bechmann, G. Blicher-Mathiesen, K. Kyllmar, A. Iital, A. Lagzdins, T. Salo:*

Nitrogen application and its effect on water quality in small agricultural streams (abstract #052)

16:40 – 17:00 *Rüdiger Wolter:*

Review of the German EU-Nitrate-Monitoring-Network (abstract #199)

End of presentations of Monday, 21 September 2015

19.30-22.30 Conference Dinner

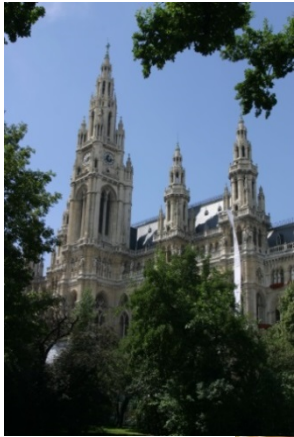
Vienna City Hall (Rathaus)

Entrance at Lichtenfelsgasse 2, Feststiege II, 2nd Floor

1010 Vienna

The hall (Wappensal) for the conference dinner (inside the Rathaus) will be open from 19:15 hours.

The dinner starts at 19:30 and will end at about 22:30 hours.



Tuesday, 22 September 2015

07:30 – 08:30 Posters can be installed by presenters in the Poster exhibition area
07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk
Lecture Hall A
Session A.iii Increasing system knowledge <i>Chairs: Ralf Eppinger (Belgium) and Frank Coale (USA)</i>
08:30 – 09:00 <i>Roland Stenger, J. Clague, S. Woodward, U. Morgenstern, T. Clough:</i> Multi-pronged approach to elucidate nitrate attenuation in shallow groundwater (abstract #067)
09:00 – 09:20 <i>Pavel Rosendorf, D. Fiala, L. Ansorge, T. Dostál, J. Krasa, V. Zahrádka:</i> Pollution sources apportionment by dissolved phosphorus emissions: An appropriate benchmark of their contribution to the reservoirs eutrophication (abstract #136)
09:20 – 09:40 <i>István Sisák:</i> GLM analyses of field and large laboratory plot experiments and their use to calibrate surface phosphorus load model for the watershed of Lake Balaton (abstract #152)
09:40 – 10:00 <i>Patricia Chambers, K. Rattan, J.M. Culp:</i> Seasonal variation in nutrient export from agriculturally-dominated watersheds in the northern Great Plains, Canada (abstract #145)
10:00 – 10:30 Coffee break

Lecture Hall A1	Lecture Hall B
Session A.iv Increasing system knowledge <i>Chairs: Esther Wattel (NL) and Lærke Thorling (Denmark)</i>	Session C.iii Assessment of national policy <i>Chairs: Rüdiger Wolter (Germany) and Miguel Quemada (Spain)</i>
10:30 – 10:45 <i>M. Samhaber, M. Kuderna, E. Klaghofer:</i> Identifying sources of phosphorus immission into the Lake Mondsee from the catchment of the Fuschler Ache (abstract #081)	10:30 – 10:45 <i>J. Rozemeijer, J. de Weert, J. Klein, E. Roex:</i> Two monitoring networks in agriculture dominated waters in the Netherlands for assessing the effectiveness of national and European legislation on nutrient and Plant Protection Product application (abstract #082)
10:45 – 11:00 <i>C.H. Bolster, P.A. Vadas, D. Boykin:</i> Model parameter uncertainty analysis for an annual field-scale P loss model (abstract #094)	10:45 – 11:00 <i>H. Kupfersberger, G. Klammler, G. Rock, J. Draxler:</i> Evaluation of measures to reduce groundwater nitrate concentrations by coupled regional groundwater modelling (abstract #123)
11:00 – 11:15 <i>B. van der Grift, J. Griffioen, L.A. Osté, P.P. Schot, M.J. Wassen, T. Behrends:</i> Building towards a conceptual model for phosphorus transport in lowland catchments (abstract #170)	11:00 – 11:15 <i>G.M.C.M. Janssen, T. Kroon, F. van der Bolt, P. Groenendijk:</i> A nationwide 3D groundwater solute transport model for policy evaluations in the Netherlands (abstract #192)
11:15 – 11:30 <i>S. Baken, E. Smolders:</i> Phosphorus sequestration by oxidizing iron in groundwater fed catchments (abstract #232)	11:15 – 11:30 <i>M. Tits, M. Van Opstal, T. D'heygere, J. Diels, A. Elsen:</i> Use of a fertiliser allocation model for the evaluation of impact of farm practices and policy measures on fertiliser use, nitrate residues and nitrate leaching (abstract #087)
11:30 – 11:45 <i>T. Mansfeldt:</i> Mobilization of nickel in a German aquifer induced by industrial agriculture? (abstract #153)	11:30 – 11:45 <i>H.H. Luesink, T.J. de Koeijer, P. Groenendijk, L.V. Renaud:</i> Assessment of the Fifth Nitrate Action Programme on the use of animal manure and the water quality (abstract #116)
11:45 – 12:00 <void slot, to be used by session chairs>	11:45 – 12:00 <void slot, to be used by session chairs>
12:00 – 13:30 Lunch	
Lecture Hall A	Lecture Hall B
Session A.v Increasing system knowledge <i>Chairs: Nicholas Howden (United Kindom) and Frank Wendland (Germany)</i>	Session D.ii Field research and data interpretation <i>Chairs: Chantal Gascuel-Oudoux (France) and Hans Peter Broers (NL)</i>
13:30 – 13:45 <i>M. Wang, C. Kroeze, L. Ma, X. Liu:</i> Nitrogen and phosphorus use efficiencies in agricultural	13:30 – 13:45 <i>M. Biddulph, A.L. Collins, I.D.L. Foster, N. Holmes:</i> Testing the efficacy of on-farm pollution mitigation measures in

production and their effects on water pollution in China (abstract #037)	agricultural catchments of the Hampshire Avon Demonstration Test Catchment (abstract #026)
13:45 – 14:00 <i>V. Roubeix</i> , P.-A. Danis: Identifying ecological thresholds for lake physico-chemical parameters influenced by land use (abstract #183)	13:45 – 14:00 <i>B.F. Quin</i> , G. Bates, A.G. Gillingham: New technologies to reduce nitrate leaching from grazed pastures (abstract #077)
14:00 – 14:15 <i>R. Della Peruta</i> , A. Keller: Spatially explicit modelling of nutrient and trace element inputs to agricultural soils (abstract #228)	14:00 – 14:15 <i>R.B. Bryant</i> , A.R. Buda, S.S. Tzilkowski, E.W. Boyer, M.D. King, L.C. Kibet, A.L. Allen, E.B. May: Terrestrial sources of urea to water in a mixed land use watershed: Implications for nitrogen management (abstract #106)
14:15 – 14:30 <i>S. Klatt</i> , <i>E. Haas</i> , D. Kraus, R. Kiese, K. Butterbach-Bahl, P. Kraft, L. Breuer: Modelling nutrient transport and greenhouse gas emissions in managed arable soils with a fully coupled hydrology-biogeochemical modelling system at catchment scale (abstract #176)	14:15 – 14:30 <i>G. Klammler</i> , J. Fank, H. Kupfersberger, D. Eberdorfer, H. Köstenbauer: Lysimeter site Wagna: Comparative assessment between conventional and organic farming regarding water balance, nitrate leaching, crop yield and economic profit (abstract #118)
14:30 – 14:45 <i>T. Nakayama</i> , S. Maksyutov: How does eutrophication affect biogeochemical cycle change in inland waters? (abstract #029)	14:30 – 14:45 <i>Ch. Weinberger</i> , M. Kuderna, M. Szerencsits, F. Feichtinger: Biogas production from cover crops: Assessing effects on water quality in five field experiments in Austria (abstract #088)
14:45 – 15:00 <i>P. Stadler</i> , W. Vogl, J. Koschelnik, M. Epp, M. Lackner, M. Oismüller, M. Kumpan, P. Strauss, R. Sommer, G. Ryzinska-Paier, A.H. Farnleitner, <i>M. Zessner</i> : Dynamics of faecal pollution indicators in surface water draining an agricultural catchment (abstract #117)	14:45 – 15:00 <i>M. Zaman</i> , L.K. Heng: The impact of land use changes on soil erosion and the role of nuclear techniques (abstract #280)
15:00 – 15:30 Coffee break	
Lecture Hall A	
Session C.iv / D.iii Assessment of national policy & Field research and data interpretation	
<i>Chairs: Johannes Grath (Austria) and Marianne Bechmann (Norway)</i>	
15:30 – 16:00 <i>Brian Kronvang</i> , C.Chr. Hoffmann, A. Baattrup-Pedersen, S. Hille, G. Rubæk, G. Heckrath, F. Gertz, H. Jensen, P. Feuerbach, J. Strand, M. Stutter: How can we enhance the ecosystem services provided by buffer strips? (abstract #121)	

16:00 – 16:20 <i>Miguel Quemada</i> , J.L. Gabriel: Cover crops versus fallow: Water, nitrogen and salinity integrated for a more sustainable irrigated system (abstract #074)
16:20 – 16:40 <i>Jaap Schröder</i> , D. Fraters, J.W. Reijs, H.F.M. Aarts, G.L. Velthof: Implementation of the European Nitrates Directive via soil N surplus-based application standards (abstract #023)
16:40 – 17:00 <i>Claudia Heidecke</i> , P. Kreins, A. Wagner, M. Venohr, J. Mahnkopf, P. Kuhr, R. Kunkel, B. Tetzlaff, F. Wendland: Agricultural production and water quality in the Weser River Basin – challenges for the implementation of the Water Framework Directive (abstract #066)
17:00 – 18:30 Session P.i Poster session (with drinks and snacks) (authors should attend their posters for technical discussions with interested attendees)
End of presentations of Tuesday, 22 September 2015

Wednesday, 23 September 2015

07:30 – 08:30 Posters can be installed by presenters in the Poster exhibition area
07:30-17:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk
Lecture Hall A
Session B.i Impact of climate change and hydrological/weather variability <i>Chairs: Frank Coale (USA) and Jaap Schröder (the Netherlands)</i>
08:30 – 09:00 <i>Gunnar Lischeid, C. Lehr, J. Steidl, C. Merz, T. Kalettka, S. Gliege:</i> Will climate change solve the eutrophication problem? (abstract #030)
09:00 – 09:20 <i>A. Eder, F. Feichtinger, G. Blöschl, Peter Strauss:</i> Indirect nitrogen losses of managed soils contributing to greenhouse emissions of agricultural areas in Austria: Results from lysimeter studies (abstract #197)
09:20 – 09:40 <i>W. Towers, S.M. Dunn, J. Sample, J. McDonald:</i> A pragmatic methodology for horizon scanning of water quality linked to future climate and land use scenarios (abstract #164)
09:40 – 10:00 <i>H.P. Nachtnebel, T. Senoner, J. Wesemann, M. Herrnegger:</i> Vulnerability of drinking water resources in a changing environment (abstract #276)
10:00 – 10:30 Coffee break

Lecture Hall A	Lecture Hall B
Session E.i Managing protected areas <i>Chairs: Hans Peter Broers (NL) and Gunnar Lischeid (Austria)</i>	Session FG.i Decision-making on Programmes of Measures <i>Chairs: Ken Taylor (New Zealand) and Frank Wendland (Germany)</i>
10:30 – 10:45 T. Constant, A. Lioeddine, S. Charrière, Y. Emsellem: Use of modelling to protect, plan and manage water resources catchment areas (abstract #080)	10:30 – 10:45 K. Piil, S.K. Hvid, H.S. Østergaard, F. Gertz, L. Knudsen, B. Kronvang, J.B. Poulsen, G. Blicher-Mathiesen, J. Windolf, C.D. Børgesen, C. Kjærgaard, B.V. Iversen, A.L. Højbjerg, H. de Jonge, P. Mortensen: An emission-based approach for regulation of nitrogen loss from agricultural land to surface waters (abstract #124)
10:45 – 11:00 J. Farlin, T. Galle, M. Bayerle, D. Pittois, T. Schaul: Predicting the evolution of pesticide metabolite in spring water by combining laboratory tests, field sampling and numerical simulations (abstract #083)	10:45 – 11:00 F. Amery, D. Doody, D.P. Wall, P.J. A. Withers, O. Schoumans: Towards effective legislation to mitigate the impact of soil P on waterbodies in NW European agriculture (abstract #098)
11:00 – 11:15 T. Diez, S. Six, A. Vandenbohede, B. Van Limbergen: Intensive land use and protection of drinking water sources in Flanders: A bridge over troubled water (abstract #053)	11:00 – 11:15 B. Osterburg, S. Klages: Evaluation of the German Fertilization Ordinance and recommendations for better implementation (abstract #202)
11:15 – 11:30 F. Vernier, O. Leccia, J.-M. Lescot, S. Minette, A. Miralles, G. Molla, C. Scordia, K. Tinland: Organizing the information for the management of protected areas at embedded scales: An approach by scenario using data warehousing (abstract #104)	11:15 – 11:30 M.C. Robson, K.J.W. Taylor, R. Ford, I. Brown, V.O. Snow, R. Williams, H. Brown, L. Lilburne, I. Pinxterhuis: The matrix of good management project: Co-produced science for policy (abstract #160)
11:30 – 11:45 J. Bloodworth, I. Holman, P. Burgess, S. Gillman, P. Brown, Z. Frogbrook: Selecting and targeting best management practices for multiple pollutants in a drinking water supply catchment using the CaRPoW modelling framework (abstract #101)	11:30 – 11:45 A. de Goffau, D. Fraters, P.A.I. Ehlert, W.J. Chardon: Sulphate, a new potential threat to surface water and groundwater quality (abstract #060)
11:45 – 12:00 Y. Li, Z. Zhang, Y. Fei, S. Meng: Study on the quality and pollution characteristics of groundwater in Hutuo River alluvial plain in North China Plain (abstract #017)	11:45 – 12:00 R. Koeck, H.P. Nachtnebel, E. Hochbichler, H. Siegel: Strategic policy development for the protection of drinking water in Austria (abstract #277)
12:00 – 13:30 Lunch	

Lecture Hall A	Lecture Hall B
<p>Session A.vi/B.ii Increasing system knowledge and Impact of climate change and hydrological/weather variability</p> <p><i>Chairs: Roland Stenger (New Zealand) and Johannes Grath (Austria)</i></p>	<p>Session FG.ii Implementation of Programmes of Measures</p> <p><i>Chairs: Marianne Bechmann (Norway) and Esther Wattel (NL)</i></p>
<p>13:30 – 13:45 <i>C. de Jong</i>, L.J.M. Boumans: Comparing two approaches for estimating nitrate levels in upper groundwater in Dutch sandy soils (abstract #177)</p>	<p>13:30 – 13:45 <i>E.L. Vrain</i>, A. Lovett: Factors influencing the adoption of diffuse pollution mitigation measures by farmers in England (abstract #014)</p>
<p>13:45 – 14:00 <i>A. Meyer</i>, C. Klein, H.P. Beck: Real-time-monitoring of nutrients and physico-chemical parameters for detection and differentiation of impacts in small and middle scale catchments (abstract #249)</p>	<p>13:45 – 14:00 <i>C. van den Brink</i>, K. Verloop, J. Gielen, W. Pasman, S. van Lienden: On track in harmonizing agriculture and vulnerable drinking water abstractions in Overijssel, the Netherlands (abstract #043)</p>
<p>14:00 – 14:15 <i>H. Ibrikci</i>, M. Cetin, H. Sagir, M. Fink, E. Karnez, T. Nagano, S. Berberoglu, J. Kubota, Y. Karaomerlioglu: Temporal and spatial distribution of nitrate leaching in Mediterranean irrigated agricultural ecosystems (abstract #045)</p>	<p>14:00 – 14:15 <i>T. Meadows</i>, C. Lorenc: Managing metaldehyde in the River Wid – improving water quality through voluntary changes to slug control practices (abstract #099)</p>
<p>14:15 – 14:30 <i>M. Schönhart</i>, M. Zessner, G. Hepp, B. Strenn, H. Trautvetter, A.P. Blaschke, J. Parajka, E. Feusthuber, M. Kirchner, H. Mitter, E. Schmid: An integrated impact assessment of climate change, land use, and adaptation policies on water resources in Austria (abstract #211)</p>	<p>14:15 – 14:30 <i>J. Rolighed</i>, N. Ludvigsen, H. Kjær, C.Å. Pedersen, S. Kolind, I.A. Wiborg, G. Blicher-Mathiesen: Targeted regulation of agricultural N load to Danish marine waters (abstract #139)</p>
<p>14:30 – 14:45 <i>B. Mehdi</i>, R. Ludwig, B. Lehner: Impacts of climate change alone and with agricultural land use change on surface water quality (abstract #004)</p>	<p>14:30 – 14:45 <i>J.-M. Lescot</i>, O. Leccia, F. Vernier: Challenging issues about spatial heterogeneity and uncertainty in cost-effectiveness analysis when assessing measures for water quality improvement (abstract #051)</p>
<p>14:45 – 15:00 <i>M.J. Hollaway</i>, M.C. Ockenden, K.J. Beven, K.J. Ross, C. Wearing, P.M. Haygarth, A.L. Collins, R. Evans, P.D. Falloon, R. Kahana, K.M. Hiscock, C.J.A. Macleod, P.J.A. Withers, J.G. Zhou: Modelling the effect of climate, land use and land management changes on water quality in a headwater agricultural catchment (abstract #102)</p>	<p>14:45 – 15:00 <i>F. Sinabell</i>, M. Schönhart, E. Schmid: Effects of the Austrian agri-environmental programme on regional nutrient flows and nutrient balances (abstract #210)</p>
<p>15:00 – 15:30 Coffee break</p>	

Lecture Hall A
Session FG.iii Decision-making on and implementation of Programmes of Measures
<i>Chairs: Lærke Thorling (Denmark) and Gitte Blicher-Mathiesen (Denmark)</i>
15:30 – 15:50 <i>Chantal Gascuel-Odoux, M. Menard:</i> Protecting drinking water supply: An analysis of action plans and stakeholder networks (abstract #194)
15:50 – 16:10 <i>Dico Fraters, L.J.M. Boumans, A.W.F. Veldstra, F.M.J. Vaessen, J.W.A.M. Crijns:</i> Water quality compliance checking for the Nitrates Directive – a discussion in the Netherlands with scientific, managerial and political dimensions (abstract #021)
16:10 – 16:30 <i>E. Momo, G. Hansen De Chapman, J. Bossart, D. Rainey, C. Lewis:</i> Florida-friendly landscaping: A grass-roots water quality program (abstract #097)
16:30 – 16:45 <i>D. Osmond, C. O’Connell, D. Hoag, M. Motallebi, M. Arabi, A. Tasdighi:</i> Science meets policy: A case study from a regulated watershed, Jordan Lake, North Carolina (abstract #020)
16:45 – 17:00 <i>C. Merfield, M. Sautier, K. Legun:</i> The New Zealand Sustainability Dashboard: Online sustainability assessment and reporting tools to achieve quality water outcomes in a low regulation political environment (abstract #271)
End of presentations of Wednesday, 23 September 2015

Thursday, 24 September 2015

<p>07:45-15:30 Registration / Conference secretariat desk open PowerPoint presentations to be uploaded at the conference secretariat desk</p>
<p>Lecture Hall A</p>
<p>Session E.ii Managing protected areas</p> <p><i>Chairs: Nicholas Howden (United Kingdom) and Gunnar Lischeid (Germany)</i></p>
<p>08:30 – 09:00 <i>Frank Coale, N.M. Fiorellino, J.M. McGrath, P. Vadas:</i> Evolution of agricultural P-loss risk assessment tools (abstract #155)</p>
<p>09:00 – 09:20 <i>Ralf Eppinger, D. D'hont, G. Heuvelmans, K. Van den Belt, S. Vanderwaeren:</i> Source file approach for the protection of Flemish groundwater reserves for drinking water supply (abstract #096)</p>
<p>09:20 – 09:40 <i>Lærke Thorling, W. Brüsche, N. Tuxen, S. Roost, A. Aisopou, P.J. Binning, P.L. Bjerg, T. Svendsen, I.H. Olesen:</i> Indicators to identify the source of pesticide contamination to groundwater (abstract #221)</p>
<p>09:40 – 10:00 <i>Hans Peter Broers, B. van de Grift, M. van der Aa, J. Rozemeijer, Y. van der Velde, A. Visser:</i> Thirty years after the Manure Law in the Netherlands: Did we succeed to protect our groundwater and surface water resources? (abstract #208)</p>
<p>10:00 – 10:30 Coffee break</p>
<p>Lecture Hall A</p>
<p>Session C.v / E.iii Assessment of national policy & Managing protected areas</p> <p><i>Chairs: Claudia Heidecke (Germany) and Eke Buis (the Netherlands)</i></p>
<p>10:30 – 10:45 <i>O. Leccia, F. Vernier, J.-M. Lescot, S. Minette, S. Tinland, C. Scordia:</i> Modelling long term mitigation measure scenarios for assessing impacts of non-point source pollution: Application on two surface source water protection areas, Coulonge and Saint Hippolyte (France) (abstract #110)</p>
<p>10:45 – 11:00 <i>B. Hansen, J. Schullehner, L. Thorling, T. Dalgaard, M. Erlandsen:</i> Long term trends in nitrate in Danish groundwater and drinking water (abstract #151)</p>

11:00 – 11:15 <i>F. Barrez, J.-F. Vernoux:</i> Action plans against non-point source pollution for the protection of drinking water catchment areas (abstract #105)
11:15 – 11:30 <i>O. Gabriel, G. Hepp, H. Loishandl-Weisz, M. Kuderna, Ch. Weinberger, M. Zessner:</i> Assessment of cost-effectiveness of measures to reduce N and P emissions to surface waters in Upper Austria – a catchment scale approach (abstract #064)
11:30 – 11:45 <i>P. Schipper, P. Groenendijk, R. Hendriks, H. Massop, C. van der Salm:</i> A quick scan to reduce P emissions from agricultural soils to surface water (abstract #185)
11:45 – 12:00 <i>A.J.A. Vinten, J. Sample, B.B. Balana, A. Ibiyemi, G. Diggins:</i> Development of impact indicators for agri-environment rural payment measures on water quality in Scotland (abstract #267)
12:00 – 13:30 Lunch
Lecture Hall A
Session FG.iv Decision-making on and implementation of Programmes of Measures
<i>Chairs: Willibald Loiskandl (Austria) and Dico Fraters (the Netherlands)</i>
13:30 – 14:00 <i>Bob Middleton:</i> Sustainable catchment management? Making progress in established programmes (abstract #161)
14:00 – 14:20 <i>Gitte Blicher-Mathiesen, J. Windolf, H. Tornbjerg, B. Kronvang, B. Hansen, L. Thorling, J. Carstensen:</i> Evaluation of the N effect of the Danish Action Plans: 25 years results of monitoring (abstract #166)
14:20 – 14:40 <i>K.J.W. Taylor, M.C. Robson:</i> Community-led collaborative water quality limit setting in Canterbury, New Zealand (abstract #159)
14:40 – 15:00 <i>J. Deakin, M. Archbold, D. Daly, E. Mockler, I. Packham:</i> Where should we put our resources? The Irish approach to characterising catchments and targeting programmes of measures (abstract #182)
Closure
15:00 – 15:30 Closure session: Brian Kronvang (University of Aarhus, Denmark)
End of Conference

Poster session P.i (57 posters)

Session P.i :

- Posters are on display from Monday, 21 September till Thursday, 24 September 2015
- Plenary session on Tuesday, 22 September 2015, 17:00-18:30, with snacks and drinks.
- Themes A (15) , C (10), D (22) and E (6), FG (4)

Theme A Increasing system knowledge: research to increase understanding and improving modelling of the hydro(geo)logical, geochemical and biochemical reality (15 posters)

#058 S. Lukács, J. Rozemeijer, F. Weijts, A. Hooijboer, E. Buis:

Flowcap – load assessment with passive sampling in drainage effluent: Field experiment in the Minerals Policy Monitoring Programme (LMM)

#078 F. Amery, G. Ruysschaert, B. Vandecasteele, A. Elsen, W. Odeurs, S. Nawara, S. Baken, R. Merckx, E. Smolders:

Evidence-based sustainable phosphorus use in agriculture in Flanders (Belgium)

#115 A.L. Vendelboe, H. de Jonge, L.W. de Jonge:

Continuous passive flux sampling in groundwater: Results from a field study in northern Denmark

#125 S.R. Gari, C.O. Guerrero, B.A. Uribe, J.D. Icely, A. Newton:

A DPSIR analysis of water use and related water quality issues in the Colombian Alto and Medio Dagua (AMDA) and Bajo Calima community councils

#168 H. Tornbjerg, J. Windolf, G. Blicher-Mathiesen, B. Kronvang, A. Højbjerg, L. Trolldborg, C.D. Børgensen:

Modelling nitrogen from soil to sea in Denmark: Concept and major results using a new national Nitrogen model

#179 S. Manos, Ch. Nannou, V. Boti, Ch. Tsoutsis, T. Albanis, G. Patakioutas, G. Karras, I. Konstantinou:

Passive sampling for the monitoring of emerging pesticides in the aquatic environment

#180 V. Boti, Ch. Nannou, Ch. Tsoutsis, S. Manos, T. Albanis, G. Patakioutas, G. Karras, I. Konstantinou:

Emerging pesticides occurrence in fresh waters and sediments in a catchment area dominated by agriculture

#190 B. Lopez, J.-F. Vernoux, A. Brugeron, F. Barrez:

Research of possible sources of perchlorates in agricultural land use groundwater

#198 H. Schuster, T. Schöbel:

Assessing groundwater vulnerability to contamination using the 'Höfing method'

#206 M. Albek, E. Albek:

Diurnal and seasonal variations in epilimnion and hypolimnion temperatures in a small pond

#207 *E. Albek*, B. Simsek Uygun, M. Kaya:

The eutrophication status of a small pond located in an agricultural watershed

#230 *M. Hvězdová*, E. Čechová, B. Vrana, Z. Šimek:

Analytical extraction of estrogens from soil/water system

#243 *R.E. Abdelrauf*:

Effect of fertigation time on the movement of nutrients inside root zone and fertilizers use efficiency under sandy soil conditions

#259 *H. Berthold*, A. Bruckner, H. Formayer, F. Hadacek, J. Hösch, K. Michel, A. Baumgarten:

Consequences of climate change on PFLAs (Phospholipid Fatty Acids) in lysimeters of agricultural soils in the Pannonian area

#278 *A.L. Højberg*, J.Ch. Refsgaard, L.F. Jørgensen, C. Kjærgaard, B. Vangsø, P. Engesgaard, F. Gertz:

Towards spatially differentiated regulation of nitrogen

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

(10 posters)

#001 *E. Rodríguez Jiménez*:

Pressures of nitrates in the groundwater bodies of the Spanish Douro Basin

#061 *M.W. Hoogeveen*, A.E.J. Hooijboer, T.J. de Koeijer, T.C. van Leeuwen:

Derogation monitoring in the Netherlands (2006-2012)

#075 *A. Vrijhoef*, L.J.M. Boumans, D. Fraters:

Statistical trend analysis of nitrate concentration in root zone leaching – the challenges at lower concentrations

#109 *O. Salazar*, F. Corradini, F. Nájera, Y. Tapia, R. Cabeza, M. Casanova:

Impacts of irrigated-maize fields on water quality in Mediterranean central Chile

#128 *H. Loishandl*, O. Gabriel, G. Zethner, U. Wemhöner, I. Zieritz, *J. Grath*:

Gross nitrogen balances for groundwater bodies in Austria

#173 *E.J.W. Wattel-Koekkoek*, L.J.M. Boumans:

Changes over the past 25 years in rainwater and groundwater quality in nature areas in the Netherlands as a result of emission reduction policy

#195 *C. Gascuel-Oudoux*, R. Dupas, P. Durand, O. Fovet, L. Ruiz, J. Salmon-Monviola:

Modelling nutrient emissions in fresh water at different scales and for different objectives

#235 *S. Nawara*, S. Baken, E. Smolders:

Filtration procedures influence environmental monitoring of orthophosphate

#245 *V. Huber García*, S. Meyer, D. Gampe, R. Ludwig:

Modelling integrated scenarios of changes in climate, land use and water management for the development of anticipatory Programmes of Measures in European river basins

#266 *A. Vinten*, M. Stutter, J. Sample:
Catchment scale comparison of effectiveness of sediment fences and buffer strips

Theme D Field research and data interpretation: research (monitoring and modelling) at plot and field scale for quantifying effects of farming practices and changes in land use

(22 posters)

#048 *N. Loutfy*, T. Abdelmeniem:
Land use change impacts on biodiversity and water quality: A dryland case study

#057 *L. Buckthought*, T. Clough, M. Shepherd, K. Cameron, H. Di:
What is the 'effective area' of a urine patch?

#068 *R. Stenger*, S. Woodward, R. Hill:
N and P concentration-discharge relationships in streams: What can they tell us about nutrient flow paths?

#069 *A. Wan*, M. Zhong, Z. Liu, S. An, X. Zhang, R. Zhu, Y. Yan:
The influencing factors of the Fish Index of Biotic Integrity (F-IBI) in health assessment of headwater streams

#085 *T.C. van Leeuwen*, L.J.M. Boumans, G. Kruseman:
Effects of dairy farms livestock grazing on nitrate leaching in the Sand region of the Netherlands

#089 *V. Panasenko*, L. Kuritsyna, L. Karabuta:
Influence of agriculture on the quantity of nitrates in drinking water in rural areas in Ukraine

#103 *L. Gourcy*, N. Devau, N. Surdyk, L. Cadilhac:
Zone in understanding nitrate and pesticides trends in a fluvio-glacial aquifer of the eastern part of Lyon, France

#126 *M.V. Carstensen*, J.R. Poulsen, N.B. Ovesen, Ch.D. Børgesen, S.K. Hvid, B. Kronvang:
A dual isotope approach to assess controlled drainage as a new mitigation measure

#132 *M. Avilés*, R. Soto, V. Cárdenas, I. Escobosa, J. Román, Á. Faz:
Greenhouse gases: Nitrogen fertilization and CO₂ emissions in a soil cultivated with wheat (*Triticum aestivum* L.) under conventional farming in Mexicali Valley, Baja California, Mexico

#143 *Y. Huangfu*, S. Hawkins, A. Layton, *F. Walker*:
Sediment-microbial source tracking (MST) for Oostanaula Creek Watershed

#165 *B. Kronvang*, J.B. Poulsen, C.Ch. Hoffmann:
Phosphorus wetlands as targeted mitigation option in Denmark for reducing P-loadings to lakes

#193 *A. Rasmussen*, H.E. Andersen, G. Blicher-Mathiesen, B. Hansen:
Highlight of 25 years with the Danish Agricultural Monitoring Programme

#196 *R. Mailhot*:

Are some perforated risers better than others?

#204 *G. Bodner, A. Bohner, M.L. Himmelbauer, W. Loiskandl, M. Sobotik*:

Exploring the role of roots in sustainable agriculture and land management

#216 *C. Zang*:

Land use change and water quality during the last 25 years in northern Chile – the arid Huasco valley and its land use conflicts

#218 *E.D.P. Perera, Y. Iwami, Y. Chida*:

River runoff and nitrate loading simulation for the land use changes in the Takasaki River basin in Chiba, Japan

#219 *A.R. Melland, E. Fillols, D.M. Silburn, A.D.J. McHugh, S. Rojas-Ponce, C. Baillie, S. Lewis*:

Spot spraying reduces runoff of herbicides

#236 *S. Nawara, F. Amery, E. Smolders*:

A soil P-test to predict the threshold for yield decrease in a depletion scenario

#241 *P. Thanomsup, N. Tonanon*:

Biosorption of iron and nickel ions from wastewater using algae that thrive in the industrial cooling water system

#252 *Z. Liu, A. Wan, M. Zhong, L. Ren, S. An*:

Effects of anthropogenic disturbances on the sediment pollution across multiple spatial scales in Taihu Basin

#256 *H. Liu, S. Blagodatskiy, G. Cadisch*:

Impact of land cover change on soil erosion and water yield at plot and watershed level in rubber dominated landscape

#263 *Z. Anagnostou, Ch. Avdikou, S. Bletsas, T. Bochlos, A. Bousis, I. Evangelou, I. Flouris, N. Manthos, E. Paradas, L. Tsoulanas, T. Albanis, V. Boti, M. Kalampoka, M. Kapsi, C. Tsoutsis, T. Koykoylis, G. Rantoglou, I. Rizos, I. Skopoulis, S. Kane, P. Kotori, M. Muco, A. Hyso, E. Tsipi*:

A simple wireless system for remote water quality monitoring in rural area rivers

Theme E Managing protected areas: risk assessment monitoring and modelling of water quality and quantity, for drinking water supply and ecosystem conservation within Habitat and Species Protection Areas

(6 posters)

#035 *F. Wendland, G. Berthold, H.-G. Fritsche, F. Herrmann, A. Thomas, R. Kunkel*:

Development of a conceptual hydrogeological model for the temporal evaluation of programme of measures in the Federal State of Hessen

#065 *V. Grekov*:

Irrigation waters quality ecological assessment and their impact on subsoil waters

#162 *J. Urbanc, A. Koroša, T. Ferjan Stanič, D. Šram, J. Krivic, A. Jamšek, S. Lojen, M. Glavan, M. Pintar*:

Influence of agricultural pollution on very sensitive groundwater bodies

#178 *N. Sarani, S.A. Moasheri, A. Kardoush, S.H. Eslami Mahdiabadi:*
Assessment of geostatistics – Artificial Neural Network optimized by genetic algorithm in spatial estimation of some groundwater quality indices, case study Bakhtar Plain, Iran

#223 *L. Thorling, B.L. Sørensen:*
Danish groundwater bodies and their chemical state

#240 *M. Uludağ, H. Turoğlu, Y. Türkmenoğlu:*
Land use change and impacts on wetland ecosystem in east part of Meriç River delta (Turkey)

Theme FG Decision-making and implementation: role of policy, stakeholder and science in decision-making, and social and economic incentives and constraints for implementation (carrots and sticks)
(4 posters)

#079 *T.J. de Koeijer, W. Hennen, T. van Leeuwen, C. Daatselaar:*
Measurement of agronomic efficiency of nitrogen input

#149 *F. Walker:*
Experiences with developing and implementing watershed scale projects in East Tennessee

#157 *G. Bedford:*
Investing in our stream banks: The riparian programme in Taranaki, New Zealand

#175 *G. Hansen, S. Hu, E. Momol:*
Optimizing shoreline planting design for urban storm water systems: Aligning visual quality and water quality