HydroEco´2015

5thd International Multidisciplinary Conference
on
Hydrology and Ecology:
Advances in Monitoring, Predicting and Managing Hydroecological Processes

13–16 April 2015, Vienna, Austria

DRAFT 27 March 2015 (posters & session chairs included)

CONFERENCE PROGRAMME

The conference is jointly convened by:

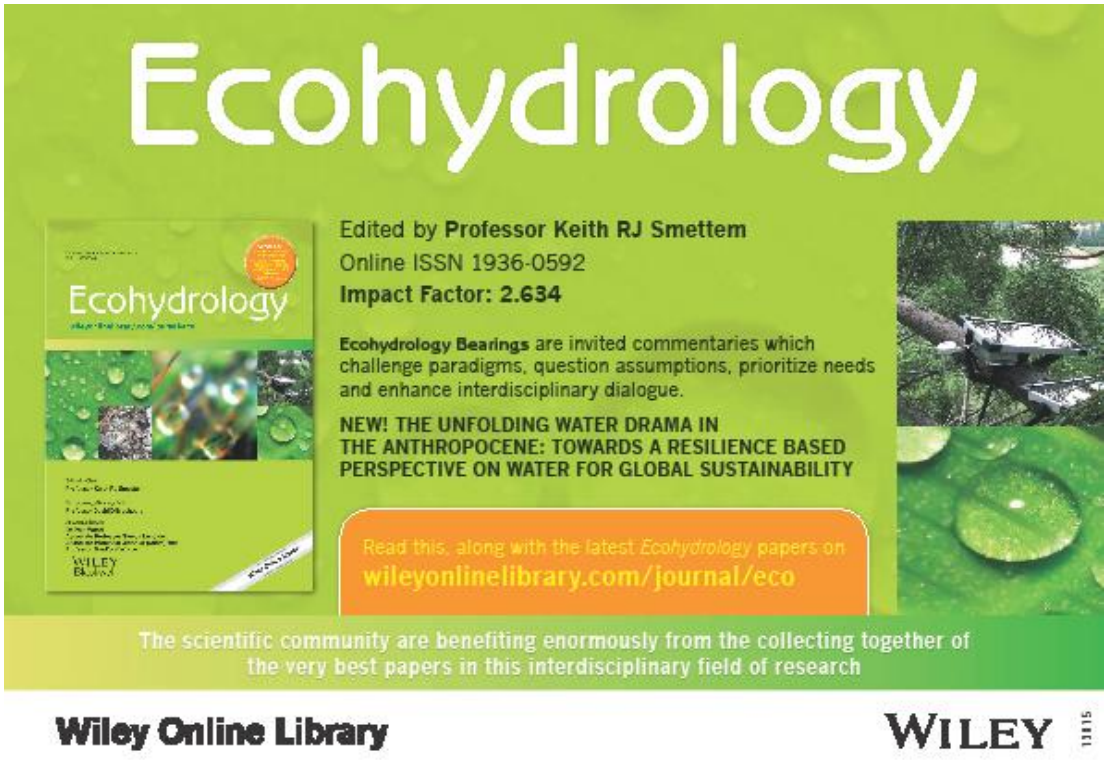
- Universität für Bodenkultur Wien (BOKU), University of Natural Resources and Life Sciences, Vienna
- International Association of Hydrological Sciences (IAHS)
- Faculty of Science, Charles University, Prague, Czech Republic

UNESCO / IHP is institutional scientific supporter of the conference.

The conference organizers are grateful for the support received from City of Vienna (Stadt Wien), water supply company of Vienna (Wiener Wasser).

- 1 -

The conference is supported by the following the commercial sponsor:



The following sessions are distinguished for <u>oral presentation</u>:

[S1] Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone

[S2] Interaction between plants, surface- and groundwater

[S4] Modelling interactions between hydrological and biological processes

[S6] Transferring hydroecological process knowledge across spatial and temporal scales

[S7] Ecosystem services: What do we know and what do we need?
A cross-cutting theme for engineers, hydrologists, ecologists, land managers and economists

[S8] Novel monitoring techniques and analytical approaches in hydroecology (including benefits from remote sensing and isotope analysis)

[S9] Ecosystem responses to global change (land use changes, climate change), including monitoring, modelling and forecasting approaches

[S11] Hydroecological processes and nutrient flows in wetlands (bogs, fens, mires, swamps, flood plains, etc.)

[S12] Engineering measures for ecosystem preservation and restoration

[S13] Urban hydroecology: objectives, tools and experiences

[S14] Hydroecological processes in semi-arid regions

Poster Session Block 1 (max. 36 posters)

Monday-Tuesday, 13-14 April 2015

Posters to be installed during the morning of Monday, 13 April

Plenary visit to posters on Monday 13 April, 17:15-18:45

[S1] Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone
[S2] Interaction between plants, surface- and groundwater
[S3] The role of evapotranspiration in the water cycle - how to better link SVAT and hydrological models?
[S4] Modelling interactions between hydrological and biological processes
[S5] Hydroecological tools for the assessment of aquatic and terrestrial ecosystem functions
[S6] Transferring hydroecological process knowledge across spatial and temporal scales
[S7] Ecosystem services: What do we know and what do we need?
A cross-cutting theme for engineers, hydrologists, ecologists, land managers and economists

Poster Session Block 2 (max. 28 posters)

Wednesday-Thursday, 15-16 April 2015

Posters to be installed during the morning of Wednesday, 15 April

Plenary visit to posters on Wednesday 15 April, 17:15-18:45

[S8] Novel monitoring techniques and analytical approaches in hydroecology (including benefits from remote sensing and isotope analysis)
[S9] Ecosystem responses to global change (land use changes, climate change), including monitoring, modelling and forecasting approaches
[S10] Hydroecological processes in mountain ecosystems
[S11] Hydroecological processes and nutrient flows in wetlands (bogs, fens, mires, swamps, flood plains, etc.)
[S12] Engineering measures for ecosystem preservation and restoration
[S13] Urban hydroecology: objectives, tools and experiences
[S14] Hydroecological processes in semi-arid regions

HydroEco2015 Conference Programme

Overview: Monday-Thursday, 13-16 April 2015

Sun 12 Apr.		17.00-19.30 Registration	
			18.00-20.00 Welcome, Get Together

Mon 13 Apr.	8.30 - 9.00	9.00 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30 - 14.00	14.00 - 15.30	15.30 - 16.00	16.00 - 17.15	17.15 - 18.45
	Opening	Session S1	☕	Session S1	🍽	Session S4	☕	Session S4	Plenary visit to posters: beer, wine, soft drinks, snacks
		Posters on display for poster sessions block 1:							

Tue 14 Apr.	8.30 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30 - 14.00	14.00 - 15.30	15.30 - 16.00	16.00 - 17.15		19.30 - 22.30
	Session S6	☕	Session S6/S7	🍽	Session S7	☕	Session S7		Conference Dinner
			Session S2						
	Poster session block 1: continuation till the afternoon coffee break								

Wed 15. Apr.	9.00 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30- 14.00	14.00 - 15.30	15.30 - 16.00	16.00 - 17.15	17.15 - 18.45
	Session S8	☕	Session S8/S9	🍽	Session S9/S14	☕	Session S14	Plenary visit to posters: beer, wine, soft drinks, snacks
			Session S11					
	Posters on display for poster sessions block 2:							

Thu 16 Apr.	9.00 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30 - 13.45	13.45 - 15.00	15.00 - 15.20
	Session S13	☕	Session S13/S12	🍽	Session S12	Closure of Conference
	Posters on display for poster sessions block 2:					

Regular oral presentations: 15 minutes (suggested **11 min** + 4 min discussion/questions)
Invited oral presentations: 30 minutes (suggested **25 min** + 5 min discussion/questions)

☕ is coffee break 🍽 is lunch

Conference Programme

Sunday, 12 April 2015

Registration at the venue (*BOKU University, Muthgasse 18, 1180 Vienna*), 17.00-19.30 hours

Welcome / Get Together, *at the BOKU University, 18:00-20:00 hours*

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

Monday, 13 April 2015

Registration, from 07:30 hours

Posters to be installed during the morning of Monday, 13 April.

Authors of the entire day are requested to hand in their USB memory stick with oral presentation at the registration desk before 8.30 hours, or, preferably, Sunday afternoon-evening. Thank you!

Lecture hall A

Only plenary presentations during this entire day

Opening of the Conference

08:30-09:00 hours Welcome

Welcome on behalf of the BOKU University, Vice Rector
Welcome on behalf of the Organizers, H. P. Nachtnebel
Some practical issues relating to the conference, K. Kovar (Organizers)

Session S1, Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone

Chairpersons: Okke Batelaan (Australia), Jan Fleckenstein (Germany)

09:00-09:30 **S. Krause,** A.S. Ward, J.P. Zarnetske, E. Martí Roca, S. Larned, A. Milner, T. Datry, J.H. Fleckenstein, Ch. Schmidt, P. Blaen, M.J. Kurz, M.J. Klaar, J.D. Drummond, J. Knapp, S. Folegot, D.M. Hannah, P. Romeijn, T. Blume, J. Lewandowski, A. Maruedo, M. Ledger, J.A. Cullin, M. O'Callaghan, T. Keller, M. Vieweg **(invited):**
Unraveling the drivers of spatial and temporal variability in biogeochemical cycling at aquifer-river interfaces - The LEVERHULME hyporheic zone research network (abstract #98)

09:30-9:45 R. Parsons:
Interactions between surface water, vegetation, the hyporheic zone and groundwater at Groenvlei, a shallow lacustrine wetland in the southern Cape, South Africa (abstract #17)

09:45-10:00 S. Arnon, A. Fox, N. De Falco, E. Eliani-Russak, E. Sivan, F. Boano:
The effect of losing and gaining flow conditions on nutrient cycling (abstract #22)

10:00-10:30 Coffee break

Session S1, Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone

Chairpersons: Okke Batelaan (Australia), Jan Fleckenstein (Germany)

10:30-10:45 K.S. McDonald, S. Krause, D.M. Hannah, L. Rose:
Quantifying the importance of biogeochemical hotspots on streambed nitrogen cycling in a lowland river (abstract #64)

10:45-11:00 M. Römer, H.J. Hahn, K. Karczewski, E.I. Meyer, H. Strauss, N. Weckwert, P. Göbel:
A multi-parameter approach to assess stressors of a local groundwater ecosystem (abstract #78)

11:00-11:15 M.A. Briggs, F.D. Day-Lewis, J.P. Zarnetske:
A mechanistic explanation for the development of hyporheic anoxic microzones (abstract #92)

11:15-11:30 E.M. Adar, S. Arnon, S. Masoth:
Identifying and quantifying the hidden sources of recharge and pollutants that deteriorate the water ecology along the lower Jordan River (abstract #113)

11:30-11:45 D.M. McKnight, L. Stanish, T. Kohler, J. Cullis:
Transport of microbial mat biomass and hyporheic storage in glacial meltwater streams in the McMurdo Dry Valleys, Antarctica (abstract #140)

11:45-12:00 M.J. Kurz, Ch. Schmidt, J.H. Fleckenstein, T. Keller, S. Krause, P. Romeijn, P. Blaen, M.J. Klaar, D. Hannah, J. Knapp, A.S. Ward, S. Larned, J.P Zarnetske:
Spatial and temporal dynamics of hyporheic respiration under variable discharge conditions (abstract #153)

12:00-12:15 M. Sinreich:
Faunistic assemblages indicate surface water influence and vulnerability of hard rock aquifers (abstract #230)

12:15-12:30 B. Gumiero, B. Boz, F. Da Borso, F. Candoni, N. Colombani, M. Mastrocicco:
Organic fertilization and nitrogen dynamics in two short rotation forestry (abstract #132)

12:30-14:00 Lunch

Session S4, Modelling interactions between hydrological and biological processes

Chairpersons: Stefan Krause (UK), Gilles Pinay (France)

14:00-14:30 Y. Yang, **O. Batelaan,** H. Guan **(invited):**
Contrasting response of water use efficiency to drought in global ecosystems (abstract #58)

14:30-15:00 **M. Zalewski,** I. Wagner **(invited):**
Ecohydrology - the scientific framework for the use of the water/biota interplay for mitigation of intermediate and diffuse impacts at the freshwater ecosystems (abstract #162)

15:00-15:15 S.W. Hermanowicz:
Ecosystem restoration of Colorado River: Evidence from systems theory (abstract #13)

←→ *15 minutes time, free to use by session chairs*

15:30-16:00 Coffee break

Session S4, Modelling interactions between hydrological and biological processes

Chairpersons: Stefan Krause (UK), Gilles Pinay (France)

16:00-16:15 A. Mizuno, Y. Tanabe:
Mechanisms of nutrients enclosure inside microbial mat in Antarctic oligotrophic lakes by combination approach of observation data and theoretical study (abstract #37)

16:15-16:30 G. Garner, I.A. Malcolm, J.P. Sadler, D.M. Hannah:
The role of riparian vegetation density, channel orientation and water velocity in determining river water temperature dynamics (abstract #88)

16:30-16:45 A. Aubeneau, J.L. Tank, B. Hanrahan, D. Bolster:

Influence of substrate size and biofilm growth on anomalous solute transport in experimental streams (abstract #100)

16:45-17:00 F.O. Masese, K.G. Abrantes, G.M. Gettel, S. Bouillon, K. Irvine, M.E. McCrlain: Large herbivores as vectors of terrestrial subsidies for riverine food webs (abstract #134)

17:00-17:15 L.E. Stevens, J.D. Ledbetter, A.E. Springer, D.R. Sada, D. Kreamer: Springs ecosystem inventory, assessment, and systematic information management: A global approach (abstract #21)

Poster Session Block 1, plenary visit to posters, 17.15-18.45 hours

Beer-wine-soft drinks-snacks

Posters to be installed during the morning of Monday, 13 April.

Monday-Tuesday, 13-14 April 2015, Poster session block 1 (total 36 posters)

[S1] Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone

[S2] Interaction between plants, surface- and groundwater

[S3] The role of evapotranspiration in the water cycle - how to better link SVAT and hydrological models?

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[S6] Transferring hydroecological process knowledge across spatial and temporal scales

[S7] Ecosystem services: What do we know and what do we need?
A cross-cutting theme for engineers, hydrologists, ecologists, land managers and economists

Tuesday, 14 April 2015, combined parallel and plenary sessions

Registration Desk open from 8.00 hours

Poster session block 1 on display till end of day

Authors of the entire day are requested to hand in their USB memory stick with oral presentation at the registration desk during Monday. Thank you!

Lecture hall B	**Lecture hall A**
Put posters on display for Poster session block 1 **In this hall, no lectures between 08:30 – 10:30**	Put posters on display for Poster session block 1 **Session S6 Transferring hydroecological process knowledge across spatial and temporal scales** Chairpersons: Patrick Meire (Belgium), Flip Witte (the Netherlands) 08:30-09:00 **J. Krecek**, J. Vrtiska **(invited)**: Dendroclimatology in a mountain catchment: possibilities and limits (abstract #189) 09:00-09:30 J.L.J. Ledesma, T. Grabs, **K.H. Bishop**, S.L. Schiff, S.J. Köhler **(invited)**: Potential for long-term transfer of DOC from riparian zones to streams in boreal catchments (abstract #181) 09:30-09:45 T. Nakayama, S. Maksyutov: Development of multi-scaled eco-hydrology model toward improvement in biogeochemical cycles in aquatic ecosystem (abstract #35) 09:45-10:00 J. Hoyle, C. Kilroy, M. Hicks: Integrating understanding of hydrology, geomorphology and ecology to better predict periphyton abundance in New Zealand rivers (abstract #53)
10:00-10:30 Coffee break	10:00-10:30 Coffee break
Session S2 Interaction between plants, surface- and groundwater Chairpersons: Kevin Bishop (Sweden), Josef Krecek (Czech Republic) 10:30-10:45 M. Piniewski, L. Tylec, P. Oględzki, T. Okruszko, M. Acreman, Ch. Prudhomme: Quantifying responses of biota to floods and droughts in Europe: A systematic review from a	**Session S6 Transferring hydroecological process knowledge across spatial and temporal scales** Chairpersons: Patrick Meire (Belgium), Flip Witte (the Netherlands) 10:30-10:45 A. Beaufort, F. Moatar, F. Curie: Comparison of two approaches to account for riparian shading in order to simulate river temperature at a regional scale: Case of the Loire basin (France) (abstract #76)

hydrological perspective (abstract #51)

10:45-11:00 E. Kubin, J. Krecek, T. Murto: Effects of intensive forest harvesting on water phenomena in the boreal environment (abstract #67)

11:00-11:15 A.J.M. Jansen, W. Bleuten, J.H. Bouwman, J.R.K. Leidekker, J. Sevink: Hydroecology of a drift sand landscape (abstract #71)

11:15-11:30 U. Somorowska: Interactions between vegetation and subsurface water storage: Signals of drought propagation (abstract #139)

11:30-11:45 V. Wawrzyniak, H. Piegay, P. Allemand, S. Gaur, D. Graillot, S. Bailly, J. Lejot: Modelling the effects of riparian vegetation and groundwater inputs on river temperature (abstract #141)

11:45-12:00 C.L.R. Laize, M.C. Acreman: Predicting physical habitat sensitivity to abstraction (abstract #118)

12:30-14:00 Lunch

In this hall, no lectures after 14:00

10:45-11:00 W.H. McDowell: Aquatic sensor networks: Is there regional coherence in the response of stream chemistry to seasonal and hydrologic drivers? (abstract #90)

11:00-11:15 A. Magnuszewski, I. Wagner, M. Zalewski: Hydrological control of the eutrophication at Sulejów Reservoir, Poland (abstract #117)

11:15-11:30 N. Tagashira, M. Denda, Y. Kayaba: Quantification on the calculation procedure for a new landscape index "plant community cluster" for riparian vegetation management (abstract #120)

11:30-11:45 M. Grygoruk, T. Okruszko: Understanding evapotranspiration of wetlands: From vegetation patch to the catchment scale facing environmental change (abstract #136)

11:45-12:00 C. Oldham, S. Peiffer, J. Fleckenstein, Ch. Blodau, Ch. Neumann, L. Jones, J. Beer: A novel framework to assess vulnerability of aquatic systems to biogeochemical disturbances (abstract #177)

Session S7 Ecosystem services: What do we know and what do we need?
Chairpersons: Patrick Meire (Belgium), Flip Witte (the Netherlands)

12:00-12:30 **H.P. Nachtnebel**, J. Wesemann, T. Senoner, M. Herrnegger **(invited)**: Ecosystem services and vulnerability of drinking water resources (abstract #263)

12:30-14:00 Lunch

Session S7 Ecosystem services: What do we know and what do we need?
Chairpersons: Hans Peter Nachtnebel (Austria), Thomas Hein (Austria)

14:00-14:30 P. Marcinkowski, R. Grabowski, A. Gurnell, **T. Okruszko (invited)**: Conservation of anabranching river system of Narew National Park (abstract #138)

14:30-15:00 **P. Meire**, L. Tylec, T. Okruszko, M. Grygoruk **(invited)**: Can incorporation of the concept of ecosystem services change

	management priorities in a large wetland? (abstract #150) 15:00-15:30 **J.P.M. Witte**, B.R. Voortman, M. Spek, R.P. Bartholomeus **(invited)**: Combining historical evidence and ecohydrological processes to harvest and store fresh groundwater in the Netherlands (abstract #197) 15:30-16:00 Coffee break **Session S7 Ecosystem services: What do we know and what do we need?** Chairpersons: Hans Peter Nachtnebel (Austria), Thomas Hein (Austria) 16:00-16:30 **N. Nakagoshi (invited)**: Ecosystem services of a created wetland in Japan (abstract#186) 16:30-16:45 A. Guyot, M.J. Riesenkamp D.A. Lockington, M.L. Gray, H. Mcgowan: Coastal wetland energy and water balances for a better understanding of ecohydrological processes: A case study in a sensitive socio-economic context in Australia (abstract #145) 16:45-17:00 Á. Kertész, A. Orsi, A. Toth: The effect of soil erosion on ecosystem services, with examples of Lake Balaton subcatchments (abstract #196) 17:00-17:15 J. Hack: Taking advantage of spatial interdependencies between providers and beneficiaries of ecosystem services in Integrated Water Resources Management (abstract #207)

17:15 End of presentations of Tuesday, 14 April 2015

19.30-22.30 Conference Dinner

For details see the next page.

19.30-22.30 Conference Dinner

Vienna City Hall (Rathaus)
Entrance at Lichtenfelsgasse 2, Feststiege I, 1st Floor
1010 Vienna

The hall 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.

As regards the dress code… unlike one can see on the picture below, we do not expect a formal business style dress code.

Wednesday, 15 April 2015

Registration Desk open from 8:30 hours

Posters to be installed during the morning of Wednesday, 14 April.

Authors of the entire day are requested to hand in their USB memory stick with oral presentation at the registration desk during Tuesday. Thank you!

We start at **9:00** to give you a little more time to recover ☺ from the conference dinner

Lecture hall B

Put posters on display for Poster session block 2

In this hall, no lectures between 09:00 – 10:30

10:00-10:30 Coffee break

Session S11 Hydroecological processes and nutrient flows in wetlands (bogs, fens, mires, swamps, flood plains, etc.)
Chairpersons: Sergi Sabater (Spain), Nobukazu Nakagoshi (Japan)

10:30-10:45 G. Farr, M. Whiteman, N. Philips, J. Hall:
A combined assessment of atmospheric and terrestrial nutrient pressure at groundwater dependent terrestrial ecosystems in England

Lecture hall A

Put posters on display for Poster session block 2

Session S8 Novel monitoring techniques and analytical approaches in hydroecology
Chairpersons: Nancy Grimm (USA), Tomasz Okruszko (Poland)

09:00-09:30 **J.H. Fleckenstein**, M. Oosterwoud, T. Keller, S. Frei, J. Liggett, D. Partington **(invited)**:
Combining high frequency monitoring and numerical modelling to unravel DOC export dynamics in small-catchments (abstract #168)

09:30-09:45 E. Lalot, F. Curie, F. Moatar, S. Rodrigues, V. Wawrzyniak, H. Piegay:
Airborne thermal infrared imaging to characterize spatial pattern in water temperature of rivers influenced by vegetation, morphological changes and groundwater (abstract #75)

09:45-10:00 M.L. Larsson:
A multisensory approach to schooling behaviour (abstract #107)

10:00-10:30 Coffee break

Session S8 Novel monitoring techniques and analytical approaches in hydroecology
Chairpersons: Nancy Grimm (USA), Tomasz Okruszko (Poland)

10:30-10:45 J. Fawcett, C.D.M. Smith:
Developing spring typologies (linking hydrogeological setting to ecosystem types) to improve monitoring approaches for springs in the Surat CMA, eastern Australia (abstract #124)

10:45-11:00 S. Loiselle, Ch. Hall, N. Bailey:

and Wales (UK) (abstract #19) 10:45-11:00 N. Welti, G. Singer, J. Larsen, M. Hayes, D. Lockington: Nutrient flux hot spots resulting from subsurface mixing zones in a subtropical estuarine (abstract #38) 11:00-11:15 H. Osman, P. Johnston, L. Gill: Hydrological model to analyse the impacts of a road widening scheme on a blanket bog in western Ireland (abstract #60) 11:15-11:30. S. Preiner, T. Hein: Modelling of nutrient availability and aquatic primary production patterns in the Danube floodplain Lobau (abstract #109) 11:30-11:45 W.J Emsens, C.A. Aggenbach, R. van Diggelen, A.J.P. Smolders, B. Ware: Iron accumulation as a bottleneck in rich fen restoration (abstract #155) 11:45-12:00 S. Frei, K.H. Knorr, S. Peiffer, J.H. Fleckenstein: Hydrologically controlled reactivity hot spots within a riparian wetland: A modelling approach (abstract #175) 12:00-12:15 M. Soons, A. de Groot, T. Cuesta Ramirez, J. Verhoeven, M. de Jager: Adaptations in seed buoyancy facilitate directed dispersal in wetland plants (abstract #265) ←→ *15 minutes time, free to use by session chairs*	Fresh Water Watch: Citizen Scientists contributing to understanding the hydroecological processes (abstract #159) **Session S9 Ecosystem responses to global change (land use changes, climate change) , including monitoring, modelling and forecasting approaches** Chairpersons: Nancy Grimm (USA), Tomasz Okruszko (Poland) 11:00-11:30 **X. Deng**, Q. Zhang, W. Song, J. Zhan, F. Wu, Z. Sun, H. Yan, C. Shi, G. Jing, Z. Li, Q. Jiang **(invited):** Identifications of both water scarcity and solutions for adapting to climate changes in the Heihe River Basin of China (abstract #69) 11:30- 12:00 **I.F. Creed (invited)**: Climate change effects on catchment variable redox areas create conditions for the promotion of toxic algal blooms (abstract #111) 12:00-12:15 T. Asaeda, K. Sanjaya, M.D. Harun Rashid: Does sedimentation or erosion trigger river forestation? A numerical modelling approach (abstract #32) 12:15-12:30 A. House, M. Acreman, J. Thompson: Modelling the hydroecological implications of climate change for a lowland UK wetland (abstract #33)
12:30-14:00 Lunch	12:30-14:00 Lunch
In this hall, no lectures after 14:00	**Session S9 Ecosystem responses to global change (land use changes, climate change) , including monitoring, modelling and forecasting approaches** Chairpersons: Irena Creed (Canada), Xiangzheng Deng (China) 14:00-14:15 D. Stratford, C. Pollino, A. Brown, S. Nepal, D. Penton: A hydroecological assessment of water resource development in a data poor basin in South Asia (abstract #59) 14:15-14:30 J. Wallace, N. Waltham, D. Burrows, D. McJannet: Potential impacts of climate change and irrigation development on fish refugia in the ephemeral rivers of Northern Australia (abstract #156)

	14:30-14:45 B.W. Abbott, J.B. Jones Jr., J.R. Larouche, W.B. Bowden, S.E. Godsey: Patterns and persistence of hydrological carbon and nutrient export from collapsing permafrost (abstract #169) **Session S14 Hydroecological processes in semi-arid regions** Chairpersons: Irena Creed (Canada), Xiangzheng Deng (China 14:45-15:15 **N.B. Grimm**, J.L. Sabo, X. Dong, A. Ruhi **(invited):** Spatial and temporal variation in responses of ecosystem structure and processes to short- and long-term hydrological regime shifts in a semi-arid watershed (abstract #125) ←→ *15 minutes time, free to use by session chairs* 15:30-16:00 Coffee break **Session S14 Hydroecological processes in semi-arid regions** Chairpersons: Irena Creed (Canada), Xiangzheng Deng (China 16:00-16:30 **S. Sabater**, X. Timoner, V. Acuña, M. Casellas, N. Corcoll, L. Ponsati, D. von Schiller **(invited):** Flow intermittency under multiple stress situations: Impacts and responses in biota (abstract #129) 16:30-16:45 A. Garcia-Arias, F. Francés: Modelling hydroecological processes to determine riparian vegetation dynamics (abstract #41) 16:45-17:00 E.V. Wehncke, X. López-Medellín, E. Ezcurra: The impact of a water pulse in the dynamic of Bajacalifornian blue fan palm desert oases remnants (abstract #137) **Session S12 Engineering measures for ecosystem preservation and restoration** 17:00-17:15 N. Werdenberg, M. Mende, Ch. Sindelar *(as cannot present Thursday 16 April)*: Instream river training – Fundamentals and practical example (abstract #184)

Poster Session Block 2, plenary visit to posters, 17:15-18:45 hours

Beer-wine-soft drinks-snacks

Posters to be installed during the morning of Wednesday, 15 April 2015

Wednesday-Thursday, 14-15 April 2015, Poster session block 2 (total 28 posters)

[S8] Novel monitoring techniques and analytical approaches in hydroecology (including benefits from remote sensing and isotope analysis)

[S9] Ecosystem responses to global change (land use changes, climate change), including monitoring, modelling and forecasting approaches

[S10] Hydroecological processes in mountain ecosystems

[S11] Hydroecological processes and nutrient flows in wetlands (bogs, fens, mires, swamps, flood plains, etc.)

[S12] Engineering measures for ecosystem preservation and restoration

[S13] Urban hydroecology: objectives, tools and experiences

[S14] Hydroecological processes in semi-arid regions

Thursday, 16 April 2015

Registration Desk open from 8:30 hours.

Poster session block 2 on display till end of day

Authors of the entire day are requested to hand in their USB memory stick with oral presentation at the registration desk during Wednesday. Thank you!

Lecture hall A

Only plenary presentations during this entire day

We start at **9:00** to give a little more time to those who have to check out from their hotel…

Session S13 Urban hydroecology: objectives, tools and experiences
Chairpersons: William Mitsch (USA), Iwona Wagner (Poland)

09:00-09:30 **Th. Hein,** E. Bondar-Kunze, E. Feldbacher, A. Funk, E.M. Poelz, S. Preiner, W. Reckendorfer, D. Trauner, G. Weigelhofer **(invited)**:
Effects of management options on ecosystem functions in an urban floodplain (abstract #166)

09:30-09:45 H. Schreier:
Changing the stormwater management paradigm in view of increased climatic variability and land use intensification (abstract #2)

09:45-10:00 K. Khamis, Ch. Bradley, D.M. Hannah, R. Stevens:
Monitoring dissolved organic matter quality and quantity during storm events: improving insights using in-situ and laboratory optical measurements (abstract #94)

10:00-10:30 Coffee break

Session S13 Urban hydroecology: objectives, tools and experiences
Chairpersons: William Mitsch (USA), Iwona Wagner (Poland)

10:30-10:45 M.M. Palta, N.B. Grimm, H. Hartnett:
Pathogen and nutrient pulsing and attenuation in "accidental" urban wetland networks along the Salt River in Phoenix, AZ, USA (abstract #146)

10:45-11:00 S. Maassen, D. Balla, R. Dannowski:
Fate of xenobiotics in restored fen peatlands – a case study with treated waste water application (abstract #174)

11:00-11:15 S. Gaskill, J. Fawcett, S. Heard:
GDEs Matter; Understanding the role that groundwater plays in urban ecosystems in the Melbourne region (abstract #123)

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Session S12 Engineering measures for ecosystem preservation and restoration
Chairpersons: Hans Peter Nachtnebel (Austria), Klement Tockner (Germany)

11:15-11:45 **W.J. Mitsch (invited)**:
Dealing with downstream effects of excessive agricultural fertilizer use at a watershed scale: How ecologically engineered wetlands can help (abstract #185)

11:45-12:30 K. Lapin, K.G. Bernhardt:
Challenges and risks of river restorations for the biodiversity of riparian ecosystems (abstract #15)

12:30-12:15 A.V. Pastor, F. Ludwig, H. Biemans, P. Kabat:
Including environmental flow requirements in large river basins (abstract #20)
12:15-12:30 B. Marteau, R.J. Batalla, Ch.N. Gibbins, D.R. Green, D. Vericat:
Geomorphological evolution of a newly restored upland temporary stream (abstract #40)

12:30-13:45 Lunch

Session S8 Novel monitoring techniques and analytical approaches in hydroecology
13:45-14:15 **K. Tockner**, J. Lewandowski **(invited)** *(as could not present Wednesday 15 April)*:
Real-time hydroecology (abstract #191)

Session S12 Engineering measures for ecosystem preservation and restoration
Chairpersons: Hans Peter Nachtnebel (Austria), Klement Tockner (Germany)

14:15-14:30 G. Kruitwagen, H. Meuwese, S. Zeyniyev, O. Mammadov:
Lake Boyuk Shor: Ecohydrology as fast track to engineering solutions for lake restoration in Azerbaijan (abstract #214)
14:30-14:45 M. Denda, T. Iwamoto, Y. Kayaba:
Study on hydraulic process of debris formation on river terraces for river ecosystem on middle reach of Kita River, Japan (abstract #149)
14:45-15:00 R. Wessels, H. Plachter, A. Sundermann:
Effects of restoration measures on the ripicol invertebrate fauna of braided rivers in the Northern Alps (abstract #198)

15:00 -15:20 Closure of conference

Poster sessions

Session S1: Interactions between surface water, hyporheic zone, groundwater and unsaturated soil zone

#30 V.V. Kulakov: Interaction of surface water and groundwater in the period catastrophic flooding in the Amur River in 2013 (Russian Far East).

#43 H. Brielmann, F. Humer, H. Lindinger, J. Grath, O. Gabriel, Ch. Schilling: Does tile drainage monitoring provide a useful instrument to assess the effectiveness of agricultural measures to reduce nitrate emissions to surface waters?

#114 A.M. Salih, N. Sarlak: Water balance modelling of Van Lake in Turkey.

#119 A. Jarocińska, A. Magnuszewski, Ł. Sławik: Hyperspectral image a new tool for water quality evaluation – Zegrze Reservoir, Poland.

#170 G. Bier, P. Torfs, S. Debele: Feedback models for hydrological systems.

#180 F. Fernandes, C. Poleto, A. Manzoli, A.E. Santos: Morphological and morphometric analysis of lakes in eastern zone in Ribeirão Preto city, Brazil.

#213 L. Scheere, B. van Limbergen, T. Diez, P. Orban, A. Dassargues: Tracer tests and solute transport modelling associated for safety assessment of drinking water production wells in an alluvial aquifer.

#218 G. Lamparter, A. Collins, A. Nicholas: Multi-scale investigation of fine-sediment ingress in gravel-bed rivers using experiments and numerical modelling.

#235 N.W. Kim, Y.J. Kim, I.M. Chung: Estimation of transmissivity using parameters in Water Table Fluctuation model.

#255 S.S. Gharbia, L. Gill, P. Johnston, F. Pilla: GEO-CWB: A dynamic water balance tool for catchment water management.

#256 X. Weihua, W. Jianhua, Z. Haitao, W. Di, Y. Guiyu, S. Jingshi: Research on the method of optimal distribution of the total water pollutant emission for urban lake basin and a case study.

#262 M. Grygoruk, D. Miroslaw-Swiatek, S. Szporak-Wasilewska: Groundwater-surface water interactions in a lowland floodplain during flood: Implications of various boundary conditions for modelling results.

#264 N.W. Kim, Y. Jung, J.E. Lee: Analysis of dam effects on spatial extension of flood data in Han River, South Korea.

#268 J. Lee, N.W. Kim, I.M. Chung, J.E. Lee: Estimation of the potential groundwater recharge rate for Hancheon and Kangjeongcheon Watersheds in Jeju Island, South Korea.

#269 I.M. Chung, S.W. Chang, Y.J. Kim, S. Park: Correlation analysis between hydrologic components according to annual rainfall pattern.

Session S2: Interaction between plants, surface- and groundwater

#16 T. Ziembowicz, R.B. Nóbrega, R.S.S. Amorim, G. Gerold: The role of the riparian zones as an ecohydrological control of the environment quality in the Amazonian agricultural frontier.

#44 Y. Tanabe: Light quality mediated by terrestrial material cycling changes primary production in Antarctic oligotrophic lakes.

#112 V. Campos, L.C. Morais, R.L. Ramos, M.C. Shinzato: Evaluation of Cr (III) and (VI) in soil before and after phytotechnology.

#178 S.H.H. Shah, A. Ben-Gal, A. Munir, H.P. Weikard, S.E.A.T.M. van der Zee: Management of irrigation with saline water: Accounting for externalities by considering soil-water-plant feedback mechanisms.

#232 C.S. Mosquera-Vivas, G. García-Santos, R.E. Celis-Ossa, S. Hellweg, R. Juraske, C.A. González-Murillo, J.A. Guerrero-Dallos: How does ecology (organic matter and microbial activity) affect vertical movement of pesticides in a tropical Colombian agricultural soil profile?

Session S3: The role of evapotranspiration in the water cycle - how to better link SVAT and hydrological models

#48 B.B. da Silva, S.M.G.L. Montenegro, L.M.M. de Oliveira, B. Barbosa Júnior, A.C. Braga: Assessment of evapotranspiration and gross primary production in an irrigated area of Brazil using remote sensing.

#148 Y. Sato, N. Ebisu, K. Takase, Y. Fujihara: Analysis of water balance in a small watersheds in Japan using SVAT and hydrological model.
#236 I.M. Chung, J. Lee, N.W. Kim: Estimation of interception loss in Cheonmi watershed, Jeju Island.

Session S4: Modelling interactions between hydrological and biological processes

#14 D. Dequidt, D. Patriarche, B. Brefort, R. Nabil: Numerical modelling of aromatic compounds biodegradation in a natural gas storage aquifer.
#26 K.E. Spaeth, Ch.J. Williams, F.B. Pierson, M.A. Weltz, J.R. Brown: Ecohydrology in the ecological site description concept.
#171 M. Neruda, I. Machová, K. Kubát, L. Filipová, J. Říhová Ambrožová, M. Holec, D. Holcová, V. Pilařová: Restoration of the lignite mine Most by flooding – a good way for ecosystem.
#205 T. Yamamoto, K. Harada: Modelling the algal blooms triggered by oxygen depletion in a dam reservoir.
#226 J. Hoyle, D. Plew: Quantifying the effects of macrophyte growth on stage-discharge relationships in New Zealand lowland streams.
#250 M. Speich, M. Scherstjanoi, H. Lischke, M. Zappa: Partitioning of evapotranspiration in a semi-conceptual ecohydrological model applied to an Alpine valley.

Session S5: Hydroecological tools for the assessment of aquatic and terrestrial ecosystem functions

#83 D.J. Trigg, S. Shunmugasundaram: Development of a method for deriving a measure of confidence for classifications made by the River Pollution Diagnostic System (RPDS).

Session S6: Transferring hydroecological process knowledge across spatial and temporal scales

#54 B.Z. Zhang, Y. Liu, D. Xu: Water-carbon coupling modelling of summer maize at the leaf and canopy scales.
#62 A. Sugiyama, K. Nagaosa, T. Nakano, K. Kato: Groundwater driven by an order of magnitude great rainfall runs surface of land; a possible trigger of landslide.
#115 A. Beaufort, F. Curie, R. Cardot, F. Moatar: Spatial variability of river temperature metrics at the regional level: Example of the Loire River basin, France.

Session S7: Ecosystem services: What do we know and what do we need? A cross-cutting theme for engineers, hydrologists, ecologists, land managers and economists

#144 P. Meire: Restoring a heavily impacted estuary: The crucial role of ecosystem services.
#203 A. Kertész, A. Örsi, A. Tóth: Ecological capability assessment and conflicts between present and optimal land use.
#261 B. Hu, H. Sun, B. Cui: Ecological effect assessment of Manwan dam construction in the Lancang River, China.

Session S8: Novel monitoring techniques and analytical approaches in hydroecology (including benefits from remote sensing and isotope analysis)

#50 S.A. Abood: Mapping variable width riparian areas in the Hiawatha National Forest.
#73 M. Bueche, L. Sauvain, S. Ganesan, N. Sieber, P. Junier: New insights in the bioremediation of metals in run-off water.
#84 M.F. Hussein: Nile water management assisted by isotope hydrogeochemical data.
#103 S.A. Al-Gamal, M.A. Sadik: An assessment of water resources for Sinai Peninsula, Egypt, using conventional and isotopic techniques.
#229 G. Romanescu, C. Stoleriu: Morpho-bathymetry and GIS-processed mapping in delimiting lacustrine wetlands: the Red Lake (Romania).
#257 I.C. Perez Hoyos, N.Y. Krakauer, R.K. Vardi: Using remote sensing and GIS to identify groundwater dependent ecosystems in the United States.

Session S9: Ecosystem responses to global change (land use changes, climate change), incluiding monitoring, modelling and forecasting approaches

#63 W. Song, X. Deng: Forecasting responses of valued ecosystem service to land use change in North China Plain.

#65 Y. Ito, J. Ando, K. Momii: Thermal responses to regional changes in climate and water clarity in Lake Ikeda, Japan.

#77 M. Muerth, D. Dogaru, I. Stubauer, S. Kohnova, J. Stibinger, S. Szalai, M. Nikolova, T. Krimly, N. Bilandzjia, A. Frank, H. Formayer, I. Waltner, M. Sima, C. Lippert, P. Kovar, J. Szolgay, D. Balteanu, W. Mauser: GLOCAD – A transdisciplinary research network in the Danube Region for a Global Change Atlas on water resources, agriculture and ecosystems.

#80 C.L.R. Laize, I. Overton, M.C. Acreman: Projected alterations in patterns of environmental flow at pan-European scale.

#82 L. Buisson, H. Pontalier, A. Beaufort, F. Curie, F. Moatar: Do simulated water temperatures give more accurate predictions than air temperature when modelling stream fish distribution?

#217 G. Lamparter, K. Kovacs, R. Nobrega, G. Gerold: Parameterisation of the Soil and Water Assessment Tool (SWAT) for three micro-catchments under different land use in West Brazil.

#243 Z. Wang, L. Li: The spatio-temporal dynamic of saline land and its possible drivers in the lower reach of Taoer River Basin from 1983 to 2013.

#252 Z. Jiaqi, Z. Yong, L. Haihong, Ch. Kangning, W. Qingming: The influence research of the ecological protection measure for water conservation capacity in Sanjiangyuan region.

#253 J. Zhai, Y. Zhao, H. Li, K. Chen, Q. Wang: The influence research of the ecological protection measure for water conservation capacity in Sanjiangyuan region.

#266 T. Kolbe, B.W. Abbott, Z. Thomas, J.-R. de Dreuzy, C. Vautier, T. Labasque, L. Aquilina, G. Pinay: Coupling 3D groundwater modelling with CFC-based age dating to evaluate Residence Time Distribution (RTD) in the aquifer of an agricultural catchment.

Session S10: Hydroecological processes in mountain ecosystems

#52 P. Chifflard, M. Reiss: Impacts of climate change on the export of dissolved organic carbon and nitrate in a forested catchment (Hesse, Germany).

#190 P. Punčochář, J. Křeček: Design of rain-gauge network and spatial interpolation of precipitation data for ecological studies in mountain catchments.

#209 H. Bačinová: Flood and water erosion function of stone hedgerows in mountainous area.

#212 M. Hynštová, J. Řeřicha, E. Stuchlík: Influence of catchment characteristics on lake water chemistry in the Tatra Mountains (Slovakia).

Session S11: Hydroecological processes and nutrient flows in wetlands (bogs, fens, mires, swamps, flood plains, etc.)

#199 I.-K. Kiivit, E. Lode, R. Tuvikene: Water chemistry dynamics of non-disturbed and drained Estonian bog catchments: Traditional questions under the new umbrella.

#227 K. Mezga, M. Janža, D. Šram, K. Koren: How groundwater dependent ecosystems (GDEs) depend on groundwater status in Slovenia?

Session S12: Engineering measures for ecosystem preservation and restoration

#85 G.S. Chonde: Study of effect of Dairy industrial effluent on growth and biochemical parameter of selected plants (Cymopsis Tetragoniloba, Abelomoschus Esculentus, Abelomoschus Esculentus, Vigna Unguiculata, Trigonella Foenumgraecum).

#143 P. Meire, T. Maris: A controlled reduced tide: A new technique for restoring tidal habitats.

#165 K. Hayashida, H. Nii, T. Miyazaki, K. Watanabe: Evaluation of a fishway and diversion facility during downstream migration of masu salmon smolt at the Pirika Dam, Hokkaido, Japan.

#220 C. Iglesias: A hydro-socioecological approach to restore Mediterranean temporary streams.

Session S13: Urban hydroecology: objectives, tools and experiences

#24 Y. Zhu: Urban hydroecology: Objectives, experiences and suggestions for the Mega-city Xi'an.

Session S14: Hydroecological processes in semi-arid regions

#95 Y. Qu, X. Deng: Scenario-based simulation on changes of ecosystem services induced by both land-use and climate changes – A case study in the Heihe River Basin of China.

#221 J. Wang: Parameter sensitivity analysis of crop growth models based on the extended Fourier Amplitude Sensitivity Test method.

#225 M.M. Abubakar, M.M. Ahmad: Limnology and plankton composition of the Hadejia Nguru wetlands.