

Hydro Eco '2006

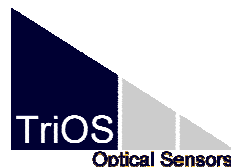
CONFERENCE PROGRAMME

International Conference

*Hydrology and Ecology:
The Groundwater/Ecology Connection*

11–14 September 2006

Karlovy Vary, Czech Republic



HydroEco2006 Conference Programme

Overview: Monday-Thursday, 11-14 September 2006

Sun 10 Sep		17.00-20.00 Registration
		18.00-20.00 Welcome, Get together

Mon 11 Sep	9.00 -	9.45 -	10.15 -	11.15 -	12.45 -	14.15 -	15.30 -
	9.45	10.15	10.45	12.30	14.15	15.30	17.30
	Opening	Session A	☉	Session A	☉	Session A and B	Snacks-beer-wine
	Posters on display for poster sessions block 1: A, B, C, D						Plenary visit to posters

Tue 12 Sep	9.00-10.15	10.15 -	10.45 -	12.45 -	14.15 -	15.30 -	16.00 -	18.00 (bus departure)
		10.45	12.30	14.15	15.30	16.00	16.45	22.30
	Session B and C	☉	Session C and D	☉	Session D	☉	Session D	Conference Dinner
	Poster session block 1: continuation till the afternoon coffee break							

Wed 13 Sep	9.00-10.15	10.15 -	10.45 -	12.45 -	14.15 -	15.30 -	16.00 -	16.30 -
		10.45	12.30	14.00	15.30	16.00	16.30	18.30
	Session D and E	☉	Session E	☉	Session G	☉	Session G	Snacks-beer-wine
	Posters on display for poster sessions block 2: E, F, G, H						Plenary visit to posters	

Thu 14 Sep	9.00-10.15	10.15 -	10.45- 12.15	12.30 -	14.00-15.30	15.30 -
		10.45	12.15	14.00		16.00
	Session F	☉	Session F	☉	Session F and H	Clos ure
	Poster session block 2: continuation					

Regular oral presentations: 15 minutes (suggested 11 + 4 min discussion/questions)

Invited oral presentations: 30 minutes (suggested 25 + 5 min discussion/questions)

Conference Programme

Sunday, September 10

Registration at the venue (Pupp Hotel), 17.00-20.00 hours

Welcome, Get together, at the venue (Pupp Hotel), 18.00-20.00 hours

Monday, September 11

Registration, from 7.30 hours

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

Opening of the Conference

Welcome on behalf of the Organizers, IAHS, and UNESCO

9.00-9.45 hours

Session A

Interactions between surface water, hyporheic zone, saturated and unsaturated groundwater

Chairpersons: Matthias Brunke (Germany) and Randy Hunt (USA), **chairs 1**

9.45-10.15 M. Brunke (**invited**)

River-groundwater interactions: questions concerning typology, spatial scales, and applied perspectives

10.15-10.45 Coffee break

10.45-11.15 R.G. Striegl, M.A. Walvoord (**invited**)

Groundwater, climate change, and dissolved organic material export from subarctic and arctic rivers

11.15-11.30 M. Rains, G. Fogg, T. Harter, R.A. Dahlgren, R.J. Williamson

Geological control of physical and chemical hydrology in vernal pool wetlands, Central Valley, California (p. 25)

11.30-11.45 J. Fleckenstein, R.G. Niswonger, G.E. Fogg

Geologic heterogeneity and river-aquifer interactions, implications for ecological management

11.45-12.00 V. Acuna, C. Dahm

The stabilizing significance of the hyporheic zone throughout a basin

12.00-12.15 A. Cabezas, B. Gallardo, E. Gonzales, M. García, F.A. Comin, M. Gonzales,

Relationship between groundwater connectivity, ecological status and carbon sequestration in the Middle Ebro floodplains (p. 3)

12.15-12.30 J. Costelloe, E. Irvine, A. Western, J. Powling, R. Shiel, P. Hudson

Influence of groundwater discharge on the chemistry and ecology of an arid zone river (p. 7)

12.45-14.15 Lunch

14.15-14.30 R. Hunt, J. Walker, M. Strand

Characterizing groundwater-surface water interactions for evaluating wetland stream benthic productivity, Trout Lake Watershed, northern Wisconsin, USA

14.30-14.45 M. Strand, R. Hunt, J. Walker

Groundwater-surface water exchange dynamics and benthic productivity in northern temperate wetland streams, USGS Trout Lake WEBB Site, USA

Session B

Connections between ecology and groundwater recharge and evapotranspiration

Chairpersons: Sjoerd van der Zee (Netherlands) and Josef Krecek (Czech Republic), **chairs 2**

14.45-15.15 K. Metselaar, R.A. Feddes, S.E.A.T.M. van der Zee (**invited**)

Importances of root depth distribution for modelling of the interaction between water, soil, vegetation and atmosphere (p. 77)

15.15-15.30 T. Tanaka, S. Iida, J. Kakubari, Y. Hamada

Effect of forest stands succession on groundwater recharge process due to the global warming (p. 87)

Optionally...

15.30-15.45 #25, K.E. Spaeth: Hydrology, erosion, plant, and soil interrelationships after rangeland wildfire

15.45-16.00 #177, G. Bernasconi, M. Brenga, G. Brusa, M. Tornaghi, A. Uggeri: The peat bog of Pralugano (VA, Italy): phytosociology, hydrogeology and management of the habitat (p. 49)

Poster Session Block 1, plenary visit to posters, 15.30-17.30 hours (+beer or wine)

Posters to be installed during the morning of Monday, September 11,

Posters Session A, Interactions between surface water, hyporheic zone, saturated and unsaturated groundwater

Posters Session B, Connections between ecology and groundwater recharge and evapotranspiration

Posters Session C, Plant groundwater interactions

Posters Session D, Links between hydrology and biogeochemistry in groundwater

The poster presentations for each of the sessions are listed further in this programme

Tuesday, September 12

Registration Desk open from 8.00 hours

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

Session B, continuation

Connections between ecology and groundwater recharge and evapotranspiration

Chairpersons: Sjoerd van der Zee (Netherlands) and Josef Krecek (Czech Republic), **chairs 2**

9.00-9.15 J. Křeček, Z. Hořická

Impact of acid rain and forest practices on runoff genesis in Jizera Mountains, Czech Republic (p. 73)

9.15-9.30 Z. Gribovszki, P. Kalicz, M. Kucsara

Interactions between riparian alder dominated ecosystems and groundwater sustained baseflow in a small catchment scale (p. 61)

Session C

Plant groundwater interactions

Chairpersons: Okke Batelaan (Belgium) and Flip Witte (Netherlands), **chairs 3**

9.30-10.00 O. Batelaan, P. de Becker, W. Huybrechts (**invited**)

Phreatophytes and groundwater

10.00-10.15 G. Hall, R. Cratchley, S. Johnson

A hydrological study of Waen y Griafofen blanket bog, North Wales (p. 107)

10.15-10.45 Coffee break

10.45-11.00 R. Bartholomeus

Water-vegetation interactions

11.00-11.15 D. van der Hoek, M.P.D. Heijmans

Effectiveness of turf stripping as a measure for restoring species-rich fen meadows in sub-optimal hydrological conditions (p. 121)

11.15-11.30 R. Gyselings, G. Spanoghe, E. van den Bergh, P. Meire

Ecohydrology of inland saline grasslands in a changing environment due to harbour expansion

11.30-11.45 J. van Wonderen, P. Rippon, M. MacDonald

Judging impact of groundwater abstraction on a wetland area in East Anglia, UK

Optionally...

11.45-12.00 #271, P. Drake, R. Froend, P. Franks

Plant water relations across a landscape where climate change has reduced rainfall recharge

or #068, J. Ma, Ch. Li, W.M. Edmunds

The groundwater evolution and its effects on the ecosystem in the arid area of NW China, A case study in the Minqin Basin, Lower Shiyang river of Gansu Province (is also a poster)

Session D

Links between hydrology and biogeochemistry in groundwater

Chairpersons: Ron Harvey (USA) and Dan Danielopol (Austria), **chairs 4**

- 12.00-12.15 L.S. Leonhart, D. Hargis, R. Gearheart
Biological denitrification of contaminated groundwater in a constructed wetland, Arizona, USA (p. 161)
- 12.15-12.30 T. Datry, S.T. Larned, G. Fenwick
Effects of varying surface discharge on biotic gradients in the hyporheic zone of a New Zealand gravel-bed river

12.45-14.15 Lunch

- 14.15-14.45 R. Harvey (**invited**)
Are ecosystem-level effects important to field-scale bacterial transport in groundwater?
- 14.45-15.00 Ch. Griebler, B. Anneser, C. Winderl, T. Lüders, C. Griebler
Fine-scale depth resolved analysis of the fringe of a petroleum hydrocarbon plume – Physico-chemical and microbiological gradients
- 15.00-15.15 D. Danielopol, G. Drozdowski, B. Mindl, W. Neudorfer, P. Pospisil, N. Reiff, R. Schabetsberger, W. Stichler, Ch. Griebler
Invertebrate animals and microbial assemblages as useful indicators for evaluation of the sustainability and optimisation of an artificial groundwater-recharge system (Stallingerfeld, Deutsch-Wagram, Lower Austria) (p. 149)
- 15.15-15.30 T. Lüders, S. Schaefer, C. Winderl
What can aquifer microbial communities tell us about groundwater ecosystem status?

15.30-16.00 Coffee break

Session D, continuation

Links between hydrology and biogeochemistry in groundwater

Chairpersons: Wolfgang Kinzelbach (Switzerland) and Christian Griebler (Germany), **chairs 5**

- 16.00-16.15 N. Borges, G. Strauch, M. Rode
A stable isotope study of nitrate input and turnover in a lowland agricultural drainage system (p. 145)
- 16.15-16.30 T. Struppe, S. Kühn, H. Kerndorff
Development of molecular-genetic methods for the identification of contamination effects on the micro-ecology of groundwater (p. 173)
- 16.30-16.45 J. Barker, A. Oiffer, P. Videla, G. Dixon, A. Farwell
A groundwater vector to surface waters in the oil sands industry; the pathway and impacts

Conference Dinner, 18.00-22.30 hours

The conference dinner will be held at... „a Middle Ages surprise“...

About a 25 minutes bus ride from Carlsbad...

The buses depart at 18:00 from from the Pupp Hotel.

Wednesday, September 13

Registration Desk open from 8.00 hours

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

Session D, continuation

Links between hydrology and biogeochemistry in groundwater

Chairpersons: Wolfgang Kinzelbach (Switzerland) and Christian Griebler (Germany), **chairs 5**

- 9.00-9.15 T. Deforet, D. Rieffel, N. Crini, C. Fritsch, D. Gilbert, P. Giraudoux
Quantification of nutrients removal by large gravel bars and their contribution to river water quality
- 9.15-9.30 E.B. Adema, M.J. Wassen, H.O. Venterink
Interactive effects of hydrological changes, atmospheric N-deposition, and SO₄-pollution on phosphorus release in wetlands

Session E

Modelling surface-water-groundwater systems

Chairpersons: Ed Sudicky (Canada) and Jan Fleckenstein (Germany, **chairs 6**)

- 9.30-10.00 E.A. Sudicky, A.E. Brookfield, J.P. Jones, D. Colautti, Y.-J. Park, R. Therrien, T. Graf
(invited)
Simulating flow, heat and contaminant transport in integrated surface-subsurface flow systems
- 10.00-10.15 J.F. Sykes, S.D. Normani, M.H. Brouwers, J.E. Randall
The analysis of the impact of aquatic fauna on a watershed in a crystalline rock setting using an integrated surface water and groundwater model (p. 233)

10.15-10.45 Coffee break

- 10.45-11.15 M.C. Hill, L. Foglia, G. Barth, S. Mehl, P. Burlando **(invited)**
Exploring models and data using sensitivity analysis (p. 207)
- 11.15-11.30 Ch.M. Mok, A. der Kiureghian, N. Wanakule, S. Gorelick, A. Daus
Protecting wetland ecology by integrated management of water resources
- 11.30-12.00 W. Kinzelbach **(invited talk, for session G, this afternoon)**
Water management and wetlands in Africa
- 12.00-12.15 W. Ruf, L. Foglia, M. Stuzenegger, M.V. Birsan, P. Molnar, P. Perona, P. Burlando
Modelling river-aquifer interactions and their ecological relevance in an alpine floodplain (p. 225)
- 12.15-12.30 I.C. Overton, I.D. Jolly, J.C. Rutherford, H. Middlemis, M.M. Lewis
Managing a regulated river floodplain with altered hydrology and surface-groundwater interactions, river Murray, Australia (p. 213)

12.45-14.15 Lunch

- 14.15-14.30 M. Rode, G. Wriedt, J. Spindler
Modelling nitrate export from lowland catchment systems – the role of seasonal factors and

hydrologic controls
14.30-14.45 M. Kuijper, P.G.B. de Louw
Brackish water ecosystem restoration based on integrated water system design

Session G

Management, legal and regulatory issues

Chairpersons: Jon Sykes (Canada) and Ingeborg Joris (Belgium), **chairs 7**

(W. Kinzelbach, **invited talk** “Water management and wetlands in Africa” was presented before lunch)

- 14.45-15.00 P. Nienhuis, K. Maas, Th. Olsthoorn, W. Beekman
Amsterdam Dune Area and its neighbours: Feasibility of monitoring the effects of wetting measures (p. 231)
- 15.00-15.15 T.H. van Wee
Re-establishment of groundwater-dependent species in the brook valley of the Vledder Aa (p. 329)
- 15.15-15.30 C. Overton, I.D. Jolly, K. Holland, H. Middlemis, J.C. Rutherford, I.C. Overton, M.M. Lewis
The floodplain risk methodology (FRM): Assessing the risk of salinisation from shallow saline groundwater on the floodplains of the lower River Murray at the regional scale

15.30-16.00 Coffee break

- 16.00-16.15 R. Köck, E. Hochbichler, B. Magagna, S. Kollarits, G. Kuschnig
Hydrotpe-based forest ecosystem stratification for improving drinking-water protection strategies
- 16.15-16.30 G. Jacks, A.-C. Norrström
Redox conditions in groundwater discharge areas

Poster Session Block 2, plenary visit to posters, 16.30-18.30 hours (+beer or wine)

Posters to be installed during the morning of Wednesday, September 13.

Posters Session E, Modelling surface-water-groundwater systems

Posters Session F, Modelling interactions between hydrology and ecology

Posters Session G, Management, legal and regulatory issues

Posters Session H, Bio-indicators of groundwater and surface water quality

The poster presentations for each of the sessions are listed further in this programme

Thursday, September 14

Registration Desk open from 8.00 hours

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

Session F

Modelling interactions between hydrology and ecology

Chairpersons: Marc Bierkens (Netherlands) and Mary Hill (USA), **chairs 8**

9.00-9.30 M.F.P. Bierkens, R. Broksma, S.C. Dekker, M. Rietkerk (**invited**)

Spatio-temporal dynamics of soil, water and vegetation in groundwater dependent ecosystems

9.30-9.45 P. Horchler, S. Rosenzweig

Refining the spatial input for hydro-ecological modelling by using plant indicator values for soil moisture: A case study in a lower Rhine flood plain

9.45-10.00 H.J. Runhaar, J.P.M. Witte, P.C. Jansen

Linking hydrology to ecology: a causal approach

10.00-10.15 J.P.M. Witte, P. Torfs

An eco-hydrological model to predict vegetation biodiversity

10.15-10.45 Coffee break

10.45-11.00 B. van der Wal, J. Velstra, H. de Mars

Module for ecohydrological effect forecasting of groundwater dependent ecosystems (p. 275)

11.00-11.15 P. de Becker, W. Huybrechts,

Hydro-ecological models: data requirement, application and restrictions

11.15-11.30 W. Mertens, W. Huybrechts, P. de Becker, E. Meert, F. Raymaekers

Groundwater and surface water monitoring and modelling as tools for the ecological evaluation of water management plans in the Demer floodplain (Flanders, Belgium)

11.30-11.45 S. Lorentz, E. Riddell, B. Koning, R. Grant

The influence of catena soil water dynamics on the vegetation patch structure in the northern plains, Kruger National Park, South Africa.

11.45-12.00 M. Rubarenzuya, J. Staes, P. Meire, J. Feyen, P. Willems, J. Berlamont

Terse on nonjunctive hydro-ecological modelling for rewetting studies in Flanders (p. 271)

12.00-12.15 J. Peters, N.E.C. Verhoest, R. Samson, B. de Baets, P. Boeckx

On the identification of important predictors in ecohydrological modelling

12.30-14.00 Lunch

Session F, continuation

Modelling interactions between hydrology and ecology

Chairpersons: Robert Striegl (USA) and Willy Huybrechts (Belgium), **chairs 9**

14.00-14.15 R.S. Palmer, R.G. Frizzell, R.E.J. Leech

Evaluating the effects of groundwater extraction on the natural environment – an Ontario, Canada perspective (p. 259)

14.15-14.30 I. Joris, J. Feyen

Is groundwater level the best indicator for plant available water: field and modelling study?

Session H

Bio-indicators of groundwater and surface water quality

Chairpersons: Robert Striegl (USA) and Willy Huybrechts (Belgium), **chairs 9**

14.30-14.45 P. Hancock, W.F. Humphreys

Spatial and temporal patterns in stygofaunal distribution in three groundwater-use areas of New South Wales, Australia (p. 343)

14.45-15.00 H. Brielmann, Ch. Griebler, T. Lüders

Investigating the impact of anthropogenically induced temperature changes on shallow groundwater ecosystems

15.00-15.15 V. Audorff, C. Beierkuhnlein

Monitoring groundwater acidification: Ecological, spatial and temporal patterns in the vegetation of Central European springs

15.15-15.30 R. Zorza, G. Oriolo, G. Honsell, P. Bonfanti, M. Sigura

Biological quality of the Natisone River, Italy: An integrated approach (p. 359)

15.30-16.00

Closure of the Conference

Poster sessions

Poster Session A, Monday, September 11, 15.30-17.30

Interactions between surface water, hyporheic zone, saturated and unsaturated groundwater (Posters on display during Monday and Tuesday, 11-12 September)

- L. Korytny, B.I. Pisarsky: Surface and groundwater flow into Lake Baikal under current technogenic stress conditions
- A. Vandenbohede, L. Lebbe: Groundwater discharge along the western Belgian coast (p. 37)
- T. Tsuchihara, S. Ishida, M. Imaizumi: Field investigation of morphological and hydrochemical aspects of springs in Chiruwatsunai River Watershed of Kushiro wetland, Japan
- E. de Roeck, M. Miya, N.E.C. Verhoest, O. Batelaan, Y. Xu, L. Brendonck: Characterisation, hydrology, and ecology of temporary wetlands in the Western Cape, South Africa
- L. Globevnik, M. Kaligarić, M. Povz: Analysis of historical changes of the ecological character of the Mura river in Slovenia
- M. Lubczynski, O.T. Obakeng: Long term monitoring of tree transpiration on Kalahari
- Y. Kiyosu, H. Okuno: Variation in CH₄ flux from a small temperature wetland in central Japan: assessing the contribution of groundwater (p. 15)
- M. Sunaguchi, M. Tsuchiya : Evaluation of the flood mitigation of the forest basin using saturation and unsaturated permeability coefficient (p. 29)
- M. Tsuchiya, K. Hagiwara : Fluctuation of groundwater level and phenomenon of spring water flow on river channel in an alluvial fan (p. 33)
- T. Dmytrenko, V. Yakovlev: Features of monitoring procedure and methods of spring waters in urban areas
- A.R. Melland, S.R. Aarons: A snapshot assessment paints a picture of water health in a dairy sub-catchment
- A. Lajczak: High-altitude differentiation of water resources within the mountain ridge
- T. Prasad: Wetland ecology and the groundwater: A study of Down Kafue River Basin Zambia
- M. Rouai: Scaling laws of fracture networks in the fissured Al Hajeb Lias aquifer (Morocco)
- S.Y. Han, D. Hansen: Analytical solution of groundwater flow under pool-riffle sequences
- P. Punčochář, J. Křeček, Y. Fukushima: Modelling groundwater recharge in a small mountain basin (p. 19)
- K. Ha. D.-Ch. Koh, K.-K. Lee: Assessment of hydraulic connectivity between groundwater and stream in a floodplain aquifer, Korea (p. 11)
- N. Rajmohan, A. Al-Futaisi, A. Jamrah: Factors regulating long-term groundwater level fluctuation, Barka, Sultanate of Oman

Poster Session B, Monday, September 11, 15.30-17.30

Connections between ecology and groundwater recharge and evapotranspiration (Posters on display during Monday and Tuesday, 11-12 September)

- A. Ratushnyak: Ecological and physiological aspects of water biosystem investigation
- #25, K.E. Spaeth: Hydrology, erosion, plant, and soil interrelationships after rangeland wildfire
- T. Hars: Effect of carbon cycle to the thermal water basis
- V. Wieme, J. Peters, N.E.C. Verhoest, P. Boeckx, R. Samson: Ecohydrological monitoring along a transect in the wetland 'Bourgoyen-Ossemeersen' (Ghent, Belgium)
- S. Iida, T. Tanaka, M. Sugita: Change of water balance during the succession from Japanese red pine to evergreen oak (p. 65)
- E. Dimitriou, N. Skoulikidis, I. Zacharias: Groundwater vulnerability and risk mapping for the protection of a priority habitat (p. 53)
- G. Pappalardo, V. Ferrara, F. Rapisarda, R. Termine: Groundwater interaction with endoreic lake: effects on the ecological system of the Pergusa lake, central-eastern Sicily, Italy
- M. Kawai, M. Tsuchiya: Analysis of the hydraulic regime and diversity of benthic organisms for the optimal flow using IFIM (p. 69)
- #177, G. Bernasconi, M. Brenga, G. Brusa, M. Tornaghi, A. Uggeri: The peat bog of Pralugano (VA, Italy): phytosociology, hydrogeology and management of the habitat (p. 49)
- K.M. McDowell, S.G. Ellis: Integration of groundwater and surface water models in assessing water withdrawals on instream habitat
- S. Dakova: An approach to use base flow as a required flow for biodiversity protection

- S. Maričić, J. Petraš, Z. Tadić: Water balance analysis of Kopački rit – analysis of its basic ecological characteristic
- M. Šperac, L. Tadić: Analysis of groundwater monitoring data in Drava River basin in Croatia
- F.J. Fallah, M. M. Hashemi Rahbar: Survey on primary production variations trend on ecological structure of Amir Kelayeh wetland (p. 57)
- S.N. Benger: Groundwater effects on the wetlands of the Tonle Sap (Great Lake) of Cambodia (p. 45)
- I. Joris, J. Feyen: Processes responsible for the base-richness gradient in an alluvial fen meadow
- M. Mohammad: Review of the karst features within the limestone exposures of the Western Desert, Egypt

Poster Session C, Monday, September 11, 15.30-17.30

Plant groundwater interactions

(Posters on display during Monday and Tuesday, 11-12 September)

- J. Ma, Ch. Li, W.M. Edmunds: The groundwater evolution and its effects on the ecosystem in the arid area of NW China, A case study in the Minqin Basin, Lower Shiyang river of Gansu Province
- J. Peters, N.E.C. Verhoest, B. DeBaets, R. Samson, P. Boeckx: 'Random forests' as a distribution modelling technique in ecohydrology
- T. Molenda, D. Chmura: Anthropogenic saline water reservoirs – limnological and vegetative characteristic
- C. Overton, I.D. Jolly, M.M. Lewis: A spatial model of riparian vegetation health based on surface and groundwater interaction (p. 111)
- T. Eslamzadeh, Kh. Zaeri, M. Zare: Study of bioremediation effect of some wetland plants in saline soils (p. 101)
- D.C. Chavarro, M.W. Lubczynski: Tree transpiration mapping on Kalahari
- G. Brusa, M. Tornaghi, A. Uggeri: Hydrogeological and vegetation studies supporting environmental management of petrifying springs (Cratoneurion) in Natura 2000 network sites (Northern Italy) (p. 93)
- T. Yamamoto, T. Inoute, T. Nagasawa: Effectiveness of constructed small pools 'Wando' on purification of agricultural drain (p. 125)
- R. Dannowski, D. Ottfried: Regional hydrologic implications of black alder afforestation in rewetted fen lowlands of Mecklenburg-Western Pomerania, Germany (p. 97)
- #271, P. Drake, R. Froend, P. Franks: Plant water relations across a landscape where climate change has reduced rainfall recharge
- R. Brolsma, M. Bierkens: Vegetation dynamics in a groundwater controlled ecosystem

Poster Session D, Monday, September 11, 15.30-17.30

Links between hydrology and biogeochemistry in groundwater

(Posters on display during Monday and Tuesday, 11-12 September)

- K. Erg: Sulphate content of undergroundwater pools in closed oil shale mines, Estonia
- B. Blank, R. Meissner, T. Neef, M. Rode, G. Strauch, G. Nuetzmann: Investigating heterotrophic denitrification in shallow groundwater of the Schaugraben catchment, NE Germany (p. 137)
- A. Fischer, C. Vogt, S. Herrmann, N. Stelzer, K. Theuerkorn, I. Herklotz, H.-H. Richnow, M. Thullner: Characterization and assessment of BTEX biodegradation within aquifers using compound-specific stable isotope analysis (CSIA)
- K. Huzarska: Autumn deposition of macrodetritus as a source of EPS carbohydrates on shore
- K. Huzarska: Autumn deposition of macrodetritus in a sandy beach system (Puck Bay, Baltic Sea)
- A.A. Sharafi, M. Zare, H. Sharafi: An investigation on the effect of Sarab-Bahram sulfur thermal spring on its flowing bed environment (p. 165)
- M. Zare, Sh. Farjadian, E. Raeisi: Hydrochemical evolution of North-West Coastal Plain of Maharlou Lake (p. 177)
- A.D. Daus, Ch.M. Mok, I. Polenghi-Gross: Degradation of methyl-tert butyl ether in the surface water/groundwater interaction zone at a Louisiana Stream: A case study
- K. Bojarska, Z. Bzowski, V. Dombek, A. Dawidowski, M. Gwozdziwicz: Underground water monitoring on the area of waste dumps for the forecast of water contamination (p. 141)
- R.U.K. Piyadasa, K.D.N. Weerasinghe, J.A. Liyanage: Distribution and hydrogeochemical characteristics of groundwater in tsunami affected Weligama area Sri Lanka
- J. Rwetabula, F. De Smedt: Estimation of runoff and pesticide loading for the Simiyu catchment (tributary of Lake Victoria), Tanzania
- B. Kronvang, J. Bøgestrand, N.B. Ovesen, P. Nyegaard, L. Trolldborg: Establishing background nutrient concentrations in Denmark
- I. David, C. Achim, A. Garbaciuc, A. Chelutiu: Methodology to evaluate the performance of the in-situ treatment

- of groundwater containing high iron concentration (p. 157)
- J. Spindler, J. Seeger, T. Neef, M. Rode: Impacts of groundwater level fluctuations on stream nitrogen loads in a small lowland catchment (p. 169)
- S.R. Aarons, A.R. Melland, R.J. Eckard, D.M. Gibson: An assessment of the effect of shallow groundwater activity on nitrous oxide emission from a dairy pasture
- K. Arouya, B. Driss: Physicochemical typology and the impact of wastewater about the quality the surface water
- J.M. Ndambuki, C.B.M te Stroet, E.J.M Veling: Groundwater pollution control through multi-objective optimisation: a stochastic approach
- D. Balla, O. Gabriel, T. Kalettka: Estimating phosphorus fluxes in wetland groundwater-surface water environments with respect to eutrophication (p. 133)
- R. Hendriks, J.J.H. van den Akker: Effects of water management measures on nutrient leaching to surface waters in peat pastures
- H.R. Nassery: Eco-hydrogeology and groundwater contamination of Izeh Alluvial Aquifer, South-West of Iran
- J.-H. Heo, H.-W. Chang, D.-H. Lee, D.-Ch. Koh: The effect of ionic strength and hardness of trichloroethylene contaminated groundwater in remediation using granular activated carbon
- S. Young, A. Pitawala, J. Gunatilake: Environmental assessment on the geochemistry of some essential elements in the waters of the Kala Oya Basin, Sri Lanka
- H. Vysoká, J. Bruthans, O. Zeman: Long residence time of water in unsaturated zone of Moravian Karst: Consequences for temporal behavior of nitrate content in seepage waters and karst springs (^{18}O , ^3H).
- V.M. Reddy: Effects of changed catchment ecology on the surface water quality of Hussain Sagar lake (Hyderabad, India) vis-a-vis some parameters of the groundwater
- K. Hadi, F. Al-Ruwaih: Impact of the environmental deposition on water quality of the limestone aquifer, Kuwait
- F. Triska, J.H. Duff, R.J. Avanzino, K. Carpenter: Seasonal phosphorus and nitrogen trends during restoration of the Wood River Wetland, Klamath Falls, Oregon

Poster Session E, Wednesday, September 13, 16.30-18.30

Modelling surface-water-groundwater systems

(Posters on display during Wednesday and Thursday, 13-14 September)

- R.D. Bauer, R.U. Meckenstock, Ch. Griebler: Investigation of contaminant plumes in a two-dimensional model aquifer – degradation of toluene at the fringe of anoxic plumes by bacterial communities
- D. Peyrard, S. Sauvage, M. Quintard, J.M. Sanchez Perez, P. Vervier: Modelling surface/subsurface flow interactions using coupled Saint Venant/Dupuit: application to a large river (p. 217)
- A. van Braeckel, B. Vandevoorde, E. van den Bergh: Groundwater monitoring and modelling as a tool to design flood control areas along the River Scheldt
- E. Hamann, G. Nuetzmann: Conceptual reactive transport modelling of a sewage water based contamination in an urban groundwater system (p. 203)
- J. Carmona, D. Puigserver, M. Arce, X. Font, M. Viladevall: Using numerical modelling and SIG to construct a water management program in the Arbúcies River alluvial aquifer (Spain) (p. 191)
- E. Bojilova: Integrated river basin modelling, Bulgarian case study (p. 187)
- I.M. Chung, N.-W. Kim, J. Lee, Y.-S. Won: Integrated modelling of surface water and groundwater by using combined SWAT-MODFLOW model (p. 199)
- O. Batelaan, J. Chormanski, T. Okruszko: Coupling of surface and groundwater modelling for upper Biebrza basin
- N.R. Pradhan, F.L. Ogden, Y. Tachikawa, K. Takara: Developing a method to reduce the uncertainty in TOPMODEL prediction of saturation condition for an ungauged basin
- A. Pandele, C. Trifu, J. Garnier, G. Billen, E. Ledoux: Utilisation of a coupled surface groundwater Hydrodynamic model for the Bistrita River basin, Romania
- J. Bielecka, W. Mioduszewski: Groundwater levels fluctuations in the area of the watershed of Narew and Suprasl rivers – integrated hydrological modelling (p. 183)
- N. Rapantova, A. Grmela, D. Vojtek: Groundwater recharge modelling in urban area (p. 221)
- P.Y. Chou, G.C.L. Wyseure: Indoor simulation of hyporheic saturated-unsaturated boundary (p. 195)
- F. Hoxhaj: Numerical simulation of the seawater intrusion between the Rivers Drini and Mat along the Albanian coastal area

Poster Session F, Wednesday, September 13, 16.30-18.30

Modelling interactions between hydrology and ecology

(Posters on display during Wednesday and Thursday, 13-14 September)

- Ch.S. Matli, D. Sreenivaslu: Modelling nutrients contributed by overland flow from the Krishna river basin

- A. Nawahda, A. Tokai: Integration of ecoinformatics and hydroinformatics in spatial and temporal hydrological modelling (STHM) (p. 255)
- P. Veselý, J. Křeček, L. Marchi: Time and space compressing of debris flow events in north Italian Alps – Dolomites (p. 287)
- J.R. Christiansen, B. Elberling, P.-E. Jansson, I. Callesen, L. Vesterdal: Modelling water balance and nitrate leaching in temperate Norway spruce and beech forests located on the same soil types (p. 239)
- J. Callebaut, E. de Bie, J. Bellon, P. de Becker, W. Huybrechts: Predicting vegetation in groundwater related wetland Hydro-ecological model NICHE-Vlaanderen
- S. Kühn, H. Kerndorff, T. Struppe: PCR/DGGE - A simple method to determine the ecological condition of groundwater-microbiocenosis (p. 247)
- H. Lind, A. Västriik, I. Valgma: Oil shale mining development and its influence to the environment. The modelling of hydrogeological conditions
- B. Maiolini, R. Raschioni, M. C. Bruno, V. Cottarelli: Where do harpacticoids come from? (p. 251)
- J. Velstra, T.W. Kleinendorst: Using a groundwater model to identify groundwater systems associated with ecosystems: application for risk assessment, monitoring and evaluating effectiveness of measures (p. 281)
- N.-W. Kim, J.-E. Lee, B.-J. Lee, I.-M. Chung: Long-term runoff simulation with or without dams in Han River basin, Korea (p. 243)
- M. Pancescu: Phreatic aquifers vulnerability for Mostistea Plain using GIS technology (p. 267)

Poster Session G, Wednesday, September 13, 16.30-18.30

Management, legal and regulatory issues

(Posters on display during Wednesday and Thursday, 13-14 September)

- Th. Olsthoorn, L. Geelen: Amsterdam Water Supply and its neighbours: Dealing with spatially sharply bounded conflicting interests; water recovery, nature and agriculture
- A. Mironova: Transboundary groundwater problems between the Russian Federation and the Republic of Estonia on the example of the Lomonosovsko-Voronkovskiy Aquifer
- N. Kathijotes: Wastewater reuse for irrigation: Ecological concerns and constraints (p. 313)
- G.R. Zehtabian, F. Amiraslani: Restoration and management of wetlands in desert ecosystems of Iran (Case studies: Kashan and Yazd)
- Z. Jozwiak: Assessment of the implementation of 2000/60/EC Directive assumptions on Poland's territory in the aspect of groundwater protection (p. 309)
- I.D. Jolly, K.L. Holland, K.L. McEwan, I.C. Overton, M. White, V. Berens, L.J. Mensforth: The 'Bookpurnong Experiment': Will groundwater management and flooding improve the health of the floodplain vegetation? (p. 305)
- K.B. Mfundisi, Ch. van der Schaaf: Management of international groundwater: Hydrological, legal and political challenges. The case of the Qa Disi aquifer & the Nubian Sandstone aquifer (p. 317)
- M. Rubarenzya, J. Feyen, P. Willems, J. Berlamont, J. Staes, P. Meire: Synopsis on ecosystem based hydrological management: realisation and challenges (p. 325)
- M. Whiteman, A. Skinner, P. Jose, J. McNish: Eco-hydrological guidelines for wetland management (p. 337)
- A. Sytnik, A. Bahadziyazh: Environmental solution when designing the detailed town plans
- A. Gargini, A. Pontin: Sustainable use of groundwater resources in Alpine wetlands: multi-depth hydraulic head monitoring in relationship to direct recharge and spring exploitation (p. 301)
- I. Normatov: Measures, taken for preparing underground water sources to be used in case of emergency
- P. Villar, O. Nepomuceno: Challenges and strategies for the protection of the Guarani Aquifer in the city of Ribeirão Preto-SP, Brazil (p. 333)
- A.D. Baratelli, M. Soldarini, M. Tornaghi, A.A. Uggeri, L. Zarini: Varese Lake and Marsh of Brabbia ecosystem: studies and management (p. 293)
- M. Pakalne: Raised bog studies, management and monitoring in Latvia
- K. Donevska: An EAI study as a tool for integrated approach in project design

Poster Session H, Wednesday, September 13, 16.30-18.30

Bio-indicators of groundwater and surface water quality

(Posters on display during Wednesday and Thursday, 13-14 September)

- M. Messouli: Ecological aspects and resilience of groundwater ecosystem in reaction to anthropogenic disturbances: Case study in Ziz oasis, Morocco.
- B.S. Nandan: Eco-biology of the backwater ecosystems on the south-west coast of India with special references to groundwater changes in tsunami impacted zones

- Y.J. Lee, M.H. Jang, J.M. Jung, H.G. Park, M.E. Jeong, E.Y. Yung, G.W. Ji, P.J. Yu, G.J. Joo: Annual variations of water quality and phytoplankton community in the lower Nakdong River, South Korea (1995-2005) (p. 355)
- E.Y. Jung, H. K. Park, M.E. Jung, Y.J. Lee, J.M. Jung, K.W. Ji: PCR method for detection of the pathogenic bacteria in the lower Nakdong River, S. Korea
- C. Paulo, J. Pratas, N. Rodrigues: Prototype of a phyto-system to remove uranium from contaminated waters
- R. Zorza, G. Oriolo, G. Honsell, P. Bonfanti, M. Sigura: Biological quality of the Natisone River, Italy: An integrated approach (p. 359)
- L. Driss, D. Belghyti: Bioindicators and biologic quality of Moulouya River
- I. Koizumi: A “tributary-mainstream” system function like a “river-ocean” system: seasonal migration of stream-dwelling salmonid in a unique river system in central Hokkaido, Japan (p. 351)
- J. Kim, D.-Ch. Koh, K.-S. Ko, S.-D. Lee, K.-S. Cho: Analysis of bacterial community structures using DGGE in contaminated groundwater with landfill leachate (p. 347)
- S. Schmidt, H.J. Hahn, T. J. Hatton: Groundwater fauna discriminates between recharge and discharge aquifer zones
- K.-G. An, J.-H. Kim: A diagnosis of ecological health using a physical habitat assessment and multimetric fish model in an urban stream
- K.-G. An, J.-Y. Lee: Ecological health assessments and water quality patterns in Youdeung Stream
- K.-G. An, J.-Y. Lee, J.-H. Kim, D.-Y. Bae: Algal bioassay as a key tool identifying limiting nutrient in various lentic ecosystems
- K.-G. An, D.-Y. Bae: Nationwide stream health assessments in major Korean watersheds