HydroPredict'2012

3rd International Interdisciplinary Conference on

Predictions for Hydrology, Ecology, and Water Resources Management:

Water Resources and Changing Global Environment

24–27 September 2012, Vienna, Austria

CONFERENCE PROGRAMME

The conference is jointly convened by:

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

UNESCO / IHP is an institutional scientific supporter of the conference.

The conference organizers are also grateful for the support received from City of Vienna (Stadt Wien), Water supply company of Vienna (Wiener Wasserwerke), and International Atomic Energy Agency (IAEA).

The organizers also thank the Water Partnership Program (WPP) of the World Bank for their support towards the conference Special Session S3.

The following sessions are distinguished for oral presentation:

Session A1: Water-related changes due to direct human interventions

Session A2A: Quantifying effect of climate change on water resources

Session A2B: Quantifying effect of climate change on hydrological extremes (floods, droughts)

Session A3: Joint impact of direct human interventions and climate change

Session B: Predicting effect of water-related changes in terms of economic, social and environmental impacts

Session C: Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems

Session M: Methodology, modelling, prediction and uncertainty

Session S1: Special Session on Risks of water supply systems originating from climate change and land use changes

Session S2: Special Session on Ensemble predictions in a decision making context

Session S3: Special Session on Choosing models for resilient water resources management

Poster Session Block 1 (max. 36 posters)

Monday-Tuesday, 24-25 September 2012

Posters to be installed during the morning of Monday, 24 September

Plenary visit to posters on Monday 24 September, 17:30-19:00

Session A1:
Water-related changes due to direct human interventions

Session A2A:
Quantifying effect of climate change on water resources

Session A2B:
Quantifying effect of climate change on hydrological extremes (floods, droughts)

Session B:
Predicting effect of water-related changes in terms of economic, social and environmental impacts

Poster Session Block 2 (max. 28 posters)

Wednesday-Thursday, 26-27 September 2012

Posters to be installed during the morning of Wednesday, 26 September

Plenary visit to posters on Wednesday 26 September, 17:45-19:00

Session C:
Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems

Session M:
Methodology, modelling, prediction and uncertainty

HydroPredict2012 Conference Programme

Overview: Monday-Thursday, 24-27 September 2012

Sun 23 Sep.		17.00-19.30 Registration
		18.00-20.00 Welcome, Get Together

Mon 24 Sep.	8.30 - 9.30	9.30 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30 - 14.00	14.00 - 15.30	15.30 - 16.00	16.00 - 17.30	17.30 - 19.00
	Opening	Session A1	☕	Session A1/A2A	🍽	Session A2A	☕	Session A2B	Plenary visit to posters: beer, wine, soft drinks, snacks
	Posters on display for poster sessions block 1:								

Tue 25 Sep.	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 - 17.00		19.30 - 22.30
	Session A3	☕	Session S1	🍽	Session B	☕	Session B/C		Conference Dinner
	Poster session block 1: continuation till the afternoon coffee break								

Wed 26 Sep.	! 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 - 17.45	17.45 - 19.00
	Session C/S2	☕	Session C	🍽	Session M	☕	Session M	Plenary visit to posters: beer, wine, soft drinks, snacks
			Session S2					
	Posters on display for poster sessions block 2:							

Thu 27 Sep.	! 9.00 ! - 10.30	10.30 - 11.00	11.00 - 13.00	13.00 - 13.15	13.15 - 14.30
	Session S3	☕	Session S3	Closure	🍽
	Poster session block 2: continuation				

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, 23 September 2012

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, 24 September 2012

Registration, from 07.30 hours

Posters to be installed during the morning of Monday, 24 September.

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
08:30-9:00 hours Welcome
Welcome on behalf of the BOKU University, Vice Rector J. Glössl
Welcome on behalf of the Organizers, Hans-Peter Nachtnebel
Welcome on behalf of IAHS, Karel Kovar

Introductory lecture to the conference
09:00-09:45:00 **S.P. Simonovic (invited):**
What can we learn by integrating water resources with a global model of the social–economic–environmental system (abstract #346)

Session A1, Water-related changes due to direct human interventions
Chairpersons: J.Ch. Refsgaard (Denmark), H.-P. Nachtnebel (Austria)

09:45-10:00 L. Strömbäck, B. Arheimer, Ch. Donnelly, J. Dahne, J. Olsson, J. Andersson, L. Gidhangen:
Hydrological predictions for sustainable urban planning (SUDPLAN) (abstract #177)

10:00-10:30 Coffee break

Session A1, Water-related changes due to direct human interventions
Chairpersons: H.-P. Nachtnebel (Austria), J.Ch. Refsgaard (Denmark)

10:30-10:45 Ch. He, B. Fu, Y. Xu:
Assessing the hydrological impacts of "Grain for Green" policy in the Loess Plateau of Northern China (abstract #86)
10:45-11:00 E. Kubin, T. Murto, J. Kremsa:
Water related changes after intensive boreal forest harvesting (abstract #185)

11:00-11:15 S. Nepal, W.-A. Flügel, M. Fink, P. Krause:
Impact of land use change on Himalayan hydrology, a modelling approach (abstract #242)

Session A2A, Quantifying effect of climate change on water resources
Chairpersons: H.-P. Nachtnebel (Austria), J.Ch. Refsgaard (Denmark)

11:15-11:45 **O. Batelaan**, J. Dams, J. Nossent, T. Balaay **(invited):**
Assessing conceptual model uncertainty of hydrological impact of climate change (abstract #236)
11:45-12:00 Darshana Duhan, A. Pandey:
Stream flow trends and its associations to El Nino Southern Oscillation (ENSO) in the Tons River Basin (abstract #17)
12:00-12:15 D. Pulido-Velazquez, J.L García-Arostegui, J.L. Molina, M. Pulido-Velazquez:
Assessment of the influence of climate change on groundwater recharge in semiarid region (Serral-Salinas, SE Spain) (abstract #95)
←→ *15 minutes time, free to use by session chairs*

12:30-14:00 Lunch

Session A2A, Quantifying effect of climate change on water resources
Chairpersons: O. Batelaan (Belgium), J. Seibert (Switzerland)

14:00-14:30 Ch. Skoulikaris, **J. Ganoulis (invited)**:
Water regime vulnerability due to climate change impacts on snow cover budget at mountainous basins of the Mediterranean (abstract #237)
14:30-15:00 **P.S. Datta (invited)**:
Ensemble model to reconstruct palaeoclimate and predict India's groundwater challenge and the way forward (abstract #40)
15:00-15:15 D. Anghileri, F. Pianosi, R. Soncini-Sassa, E. Weber:
Linking climate change, hydrology and water resources systems in impact assessment studies (abstract #123)
15:15-15:30 I. Čanjevac:
The impacts of climate change on river regimes in the Croatian part of the Danube river basin (abstract #129)

15:30-16:00 Coffee break

Session A2B: Quantifying effect of climate change on hydrological extremes (floods, droughts)
Chairpersons: J. Seibert (Switzerland), O. Batelaan (Belgium)

16:00-16:30 **D. Lawrence (invited)**:
Climate change and flood frequency: The critical roles of process and seasonality (abstract #163)
16:30-16:45 S. Araghinejad, E. Meidani:
Probabilistic drought forecasting for a basin scale water resources operation (abstract #84)
16:45-17:00 L. Dias, F. Braunschweig, N. Grosso, R. Jacinto, P.A. Garrett:
Multi-criteria approach for flood risk mapping evaluation using depth-damage curves. The Algés stream case – Portugal (abstract #109)
17:00-17:15 Ch. Dobler:
Climate change impacts on the flood regime of an Alpine watershed (abstract #250)
17:15-17:30 L. Lebedeva, O. Semenova:
Assessment of possible change of design flood characteristics in mountainous permafrost basin caused by global warming (abstract #260)

Poster Session Block 1, plenary visit to posters, 17.30-19.00 hours
Beer-wine-soft drinks-snacks

Posters to be installed during the morning of Monday, 24 September.

Monday-Tuesday, 24-25 September 2012, Poster session block 1 (total 36 posters)

Session A1: Water-related changes due to direct human interventions 13

Session A2A: Quantifying effect of climate change on water resources 6

Session A2B: Quantifying effect of climate change on hydrological extremes (floods, droughts) 2

Session B: Predicting effect of water-related changes in terms of economic, social and environmental impacts 15

Tuesday, 25 September 2012, plenary

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 A

Only plenary presentations during this entire day

Session A3: Joint impact of direct human interventions and climate change
Chairpersons: P.S. Datta (India), S. Simonovic (Canada)

08:30-09:00 **J. Seibert (invited)**:
Modelling the future – are our models fit for the purpose? (abstract #203)

09:00-09:15 G.N. Wijesekara, B. Farjad, J.-G. Hasbani, D.J. Marceau, A. Gupta, Y.Qiao, C. Valeo:
Investigating the impact of climate variability and land-use change on hydrological processes in the Elbow River watershed, Alberta, Canada (abstract #130)

09:15-09:30 Z. Macurová, K. Hlavčová, R. Výleta, J. Szolgay, S. Kohnová:
Joint effect of changes in climate and land use on runoff processes in selected basins in Slovakia (abstract #147)

09:30-09:45 H. Chang, R. Hoyer, A.M. Psaris, M. Steele, D. Ervin, T. Anthony, K. Lyons, J. Lambrions, T. Winfield, G. Daily, M. Sharma, E. Nelson:
Assessing the Impacts of climate change and urban development on water-related ecosystem services across multiple spatial scales (abstract #201)

09:45-10:00 C. Velluet, J. Demarty, B. Cappetaere, N. Boulain, G. Charvet, J.-P. Chazarin, M.Oi, N. Benarrosh, I. Mainassara, M. Ibrahim, H.B.-A. Issoufou, H. Yahou, M. Boucher, D. Ramier:
Predicting energy and water cycle response to changing climate and land cover conditions in the cultivated Sahel (abstract #262)

10:00-10:30 Coffee break

Special Session S1
"Risks of water supply systems originating from climate change and land use changes", organised by H.-P. Nachtnebel
Chairpersons: S. Simonovic (Canada), P.S. Datta (India)

10:30-11:00 **H.-P. Nachtnebel**, B. Kuschnig **(invited)**:
Risks of water supply schemes originating from climate change and land use changes: The CC-WaterS project (abstract # 345)

11:00-11:15 D.A. Post, R.J. Moran:
Incorporating climate change projections into water supply-demand planning in Victoria, Australia (abstract #88)

11:15-11:30 P.S. Yu, T.Ch. Yang, H.W. Tseng, Ch. Chen:
The impact of climate change on water supply (abstract #113)

11:30-11:45 D. Dimkić, D. Ljubisavljević, M. Milovanović:
Observed and future climate and hydrological trends in Serbia (abstract #110)

11:45-12:00 T. Senoner, H.-P. Nachtnebel:
Impacts of climate change on spring water availability: A case study about reliability of the water supply of city of Vienna (abstract #278)

12:00-12:15 R. Koeck, E. Hochbichler:
Land use changes in forestry in drinking water protection zones by adaptation to site conditions and to climate change (abstract #175)
12:15-12:30 N. Grosso, D. Avelar, T. Capela Lourenço, R. Jacinto, M.J. Cruz:
Developing an adaptation strategy to climate change: the example of a Portuguese water supply company (abstract #167)

12:30-14:00 Lunch

Session B: Predicting effect of water-related changes in terms of economic, social and environmental impacts
Chairpersons: J. Ganoulis (Greece), Z. Kundzewicz (Poland)

14:00-14:30 **B.J. Wagner**, M.W. Gannett **(invited)**:
Groundwater management in the Upper Klamath Basin, Oregon and California, USA: balancing the benefits of groundwater for agriculture and wildlife (abstract #72)
14:30-14:45 A.N. Menendez, M. Re, L. Kazimierski:
Implications of climate change on maintenance dredging for navigation channels (abstract #18)
14:45-15:00 M. Bonriposi, E. Reynard:
Future water use demand in the Crans-Montana-Sierre region (Switzerland) (abstract #116)
15:00-15:15 L. Kašpárek, M. Hanel, S. Horáček, J. Pavlásek:
Assessment of measures for adaptation to present changes in climatic conditions in a central Bohemia catchment (abstract #120)
15:15-15:30 I. Haddeland, H. Biemans, F. Ludwig, S. Eisner, M. Flörke, N. Hanasaki:
Global water use and availability: What might the future bring? (abstract #143)

15:30-16:00 Coffee break

Session B: Predicting effect of water-related changes in terms of economic, social and environmental impacts
Chairpersons: Z. Kundzewicz (Poland), J. Ganoulis (Greece)

16:00-16:15 F. Dyer, P. Lucena-Moya, S. El-Sawah, E. Harrison, T. Reynoldson, T. Jakeman, B. Croke:
Predicting ecological responses to a changing climate (abstract #258)
16:15-16:30 F. Delobel, A. Poortinga, O. Rojas, S. Peters, P.J. Ward:
MOSAICC: An inter-disciplinary system of models to evaluate the impact of climate change on agriculture (abstract #286)

Session C: Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems
16:30-17:00 **U. Shamir (invited)**:
Water resources management under uncertainty (abstract #344)

End of presentations of Tuesday, 25 September

19.30-22.30 Conference Dinner

The Conference Dinner will be held at the City Hall (Rathaus) of Vienna, Stadtsenatssitzungssaal, Entrance : 1010 Vienna, Lichtenfelsgasse 2, Feststiege I

Wednesday, 26 September 2012

Registration Desk open from 8.30 hours

Posters to be installed during the morning of Wednesday, 26 September.

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!

Lecture hall B	Lecture hall A
Put posters on display for Poster session block 2 **In this hall, no lectures between 08:30 – 10:30**	**Joint keynotes for sessions C and S2** Put posters on display for Poster session block 2 Chairpersons: D. Lawrence (Norway), A. Schumann (Germany) **Session C: Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems** **09:00**-09:30 **J.Ch. Refsgaard (invited)**: A new concept for identifying a scale of potential predictive capability of spatially distributed models (abstract #63) **Special Session S2** **"Ensemble predictions in a decision making context", organized by A. Schumann** 09:30-09:35 Introduction to S2, by A. Schumann 09:35-10:00 **E. Todini (invited)**: From data assimilation to multi-temporal uncertainty processors to improve real time flood forecasting and emergency management (abstract #240)
10:00-10:30 Coffee break	10:00-10:30 Coffee break
Special Session S2 (continued) **"Ensemble predictions in a decision making context", organized by A. Schumann** Chairpersons: A. Schumann (Germany), D. Lawrence (Norway) 10:30-10:45 O.C. Saavedra Valeriano, M. Ryo, T. Koike, T.D. Ngoc: Ensemble forecasts to support decision making at basin scale during heavy precipitation (abstract #136) 10:45-11:00 D.C. Garen: Ensemble streamflow prediction in western North America:	**Session C: Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems (continued)** Chairpersons: E. Todini (Italy), M. Mens (The Netherlands) 10:30-10:45 T. Tanaka: Appropriate adaptation and mitigation strategies for integrated water resources management: in case of Tsurumi River watershed, near Tokyo, Japan (abstract #12) 10:45-11:00 N. Van Steenbergen, P. Willems: Increasing flood preparedness by warnings based on modelled soil moisture conditions (abstract #55)

Experience, development, and questions (abstract #180)	11:00-11:15 P. Kovář, D. Vassová: Modelling surface runoff to mitigate impact on soil erosion. Case study Trebsin (abstract #144)
11:00-11:30 S. Das, **S.P. Simonovic (invited)**: Assessment of uncertainty in flood flows under climate change - the Upper Thames River basin (Ontario, Canada) (abstract #57)	11:15-11:30 Ch.P. Tung, T.M. Liu, W.Y. Lien, Ch.Y. Lin, W.-T. Liao: Distributed adaptive capacity building to reduce climate change impacts on water supply systems (abstract #156)
11:30-11:45 S. Bergström, J. Andréasson: Ensemble simulations for climate change adaptation of the Swedish guidelines for design floods for dams (abstract #32) [presented by L. Strömbäck]	11:30-11:45 D. Nijssen, A. Schumann: Coping with sparse data in evaluating a multitude of water saving measures for drought management in a coastal watershed in North-Eastern China (abstract #159)
11:45-12:00 G.M. Midttømme, E. Holmquist, D. Lawrence: Climate change and design flood calculation for dams in Norway (abstract #79)	11:45-12:00 D. Vanham: How a more conscious European consumption can influence global water flows (abstract #176)
	12:00-12:15 M. Mens, E. Van Beek, F. Klijn: Quantifying the robustness of coastal polder areas to meteorological droughts: a case in Holland (abstract #197)
	12:15-12:30 K.W. Wang, F.J. Chang: Intelligent water allocation strategy: a case study in northern Taiwan (abstract #25)
12:30-14:00 Lunch	12:30-14:00 Lunch
In this hall, no lectures after 14:00	**Session M: Methodology, modelling, prediction and uncertainty**
	Chairpersons: L. Araguas (Austria), B. Wagner (USA)
	14:00-14:30 S. Jiang, **L. Ren**, Y. Hong, B. Yong, M. Ma **(invited):** Multi-model hydrologic prediction uncertainties analysis using parameter optimizing and Bayesian model averaging (abstract #29)
	14:30- 15:00 M.-J. Tsai, **F.J. Chang (invited)**: Multi-step-ahead inflow forecasting for reservoir operation and management in mountainous areas (abstract #34)
	15:00-15:15 Z. Kalantari, P.-E. Jansson, H.K. French, L. Folkeson, M. Sassner, J. Stolte: Evaluating the effects of simulated land use measures on peak discharge of a catchment adjoining a road (abstract #15)
	15:15-15:30 M. Hrachowitz, H.H.G. Savenije, T.A. Bogaard: Temporal dynamics of water ages and

	what these reveal catchment integrated processes (abstract #16) 15:30-16:00 Coffee break **Session M: Methodology, modelling, prediction and uncertainty** Chairpersons: F.J. Chang (Taiwan), L. Ren (China) 16:00-16:30 **L. Araguas**, P.K. Aggarwal, B. Newman **(invited)**: Models of tritium behaviour in hydrological systems (abstract #296) 16:30-16:45 H. Bormann: Treating an artificial catchment as ungauged: Increasing the plausibility of an uncalibrated, process-based SVAT scheme by using additional soft and hard data (abstract #103) 16:45-17:00 Ch.M. Donnelly: Quantifying uncertainty at different catchment scales arising from the inputs to large-domain hydrological models (abstract #218) 17:00-17:15 M. Herrnegger, H.-P. Nachtnebel: Runoff-rainfall modelling: Predicting areal precipitation from runoff observations (abstract #280) 17:15-17:30 V. Kuzmin, A. Surkov, S. Eryomina, I. Gavrilov, K. Shemanaev: Stream flow modelling under global change: on stability and spatio-temporal continuity of multidimensional response surfaces (abstract #226) 17:30-17:45 B. Blagojevic, J. Plavsic: Change presence detection using a regional model for ungauged basin (abstract #235)

Poster Session Block 2, plenary visit to posters, 17.45-19.00 hours

Beer-wine-soft drinks-snacks

Posters to be installed during the morning of Wednesday, 26 September.

Wednesday-Thursday, 26-27 September 2012, Poster session block 2 (total 28 posters)

Session C: Adaptation and mitigation strategies to reduce vulnerability and to increase resilience of water resources systems 2

Session M: Methodology, modelling, prediction and uncertainty 26

Thursday, 27 September 2012

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

"Choosing models for resilient water resources management", organised by L. Garcia, D. Rodriguez, M. Wijnen
Chairpersons: L. Garcia (USA), H.-P. Nachtnebel (Austria)

09:00-09:30 **G.F. Mendoza**, K.L. Gilroy **(invited)**:
Guidance model for resilient water resources planning and design (abstract #288)
09:30-09:50 J.B. Valdes, A. Serrat-Capdevila, E. Demaria:
Sampling variability vs. climate change: How does it affect hydrologic design? (abstract #285)
09:50-10:10 J.R. Olsen:
Risk-informed decision making with a changing climate (abstract #289)
10:10-10:30 Discussion

10:30-11:00 Coffee break

Special Session S3 (continued)
"Choosing models for resilient water resources management", organised by L. Garcia, D. Rodriguez, M. Wijnen
Chairpersons: H.-P. Nachtnebel (Austria), L. Garcia (USA)

11:00-11:20 E.Z. Stakhiv:
Transforming climate vulnerability assessments into operational water management decisions, planning and updated engineering design standards (abstract #287)
11:20-11:40 C. Brown, J.G. Grijsen, A. Tarhule, Y.B. Ghile:
Climate risk assessment for water resources development in the Niger river basin (abstract #290)
11:40-12:10 **Z.W. Kundzewicz**, V. Krysanova **(invited)**:
SWIM model for resilient water resources management under scarce data (abstract #283)
12:10-12:30 P.V. Caldwell, G. Sun, S.G. Mcnulty, E.C. Cohen, J.M. Myers:
Modelling the individual and cumulative impacts of anthropogenic activities and climate change on water resources in data-rich and data-poor regions (abstract #291)
12:30-13:00 Discussion

13:00-13:15 Closure of conference (by U. Shamir)

13:15-14:30 Lunch

Poster sessions

Session A1: Water-related changes due to direct human interventions

#3 H.H. Elewa, A.A. Qaddah, A.M. Nousir: GIS based hydrogeochemical vulnerability mapping of Quaternary aquifer in Northeast costal zone of Nile delta, Egypt

#38 N. Zair: Vulnerability the aquifer of the Oum El Bouaghi (North –Est Algeria)

#111 A. Bartnik, P. Moniewski: Spatial differentiation and seasonal variability of basic physico-chemical water characteristics of small urban catchment (Sokolovka river case)

#118 P. Moniewski, A. Bartnik: The impact of A2 motorway on basic physical and chemical water characteristics of a small suburban catchment in central Poland

#162 J. Wang, H. Ishidaira: Development and interpretation of new sediment rating curves considering the effect of vegetation change in the Da River Basin

#172 M. Arroita, I. Aristi, L. Flores, J. Díez, A. Elosegi: Impact of water abstraction on storage and breakdown of coarse organic matter in mountain streams

#181 I. Grinfelde, D. Lauva: Autocalibration feasibility and urbanization dimension integration in regional hydrological model METQUL

#190 O. Budac, K. Dzubakova, H. Piegay, J. Riquier,M. Trizna: Application of inundation model to identify the inundation characters affecting the sedimentation processes in the floodplain

#194 I. Godyn: Neuro-fuzzy modelling of land-use changes

#217 V. Grekov: Impact of human activity on agricultural land in Ukraine: soil degradation, water and erosion-hydrological processes in catchment areas

#230 M. El Kashouty, E. El Sayed, A.A. Kamel: The hydrochemical characteristics and evolution of water resources in the western part of the River Nile, El Minia governorate, Egypt

#271 J.C.Q. Basagoitia: Hydrological analysis of water resources reduction as arising of deforestation processes in the north zone and east zone of El Salvador, Central America

#272 A.M.E. Chica: Impacts of land use changes on surface runoff in the Arenal Montserrat catchment, San Salvador city - El Salvador

Session A2A: Quantifying effect of climate change on water resources

#36 Gh. Jeelani: Impact of warming climate on the runoff components of a mountainous catchment of the Kashmir Himalaya in India

#65 F. Perzl, K. Klebinder, B. Kohl, G. Markart, B. Sotier: Potential impacts of climate change on forest development and forest water balances in the Waidhofen a.d. Ybbs region (Lower Austria)

#101 L.-Ch. Chang: Investigation of the effect of climate change on water resources using Hilbert-Huang Transform

#140 O. Gorelits I. Zemlyanov, V. Kryjov: Onega River water resources in conditions of modern climate changes

#191 J. Hall, C. Murphy, S. Harrigan: HydroDetect: Assessment of hydrological climate change indictors for the Irish Reference Network (IRN)

#320 A.E. El Sheikh, M.M. El Osta, M.A. El Sabri: Study of the phenomenon of groundwater level rise in South El Qantara Shark area, Ismailia, Egypt

Session A2B: Quantifying effect of climate change on hydrological extremes (floods, droughts)

#33 A. Benaoudj, B. Touaibia, P. Hubert: Floods in the M´Zab Valley (South Algeria): Genesis and prediction

#76 A.M. Subyani: Flood hazards analysis of Jeddah City, western Saudi Arabia

Session B: Predicting effect of water-related changes in terms of economic, social and environmental impacts

#43 A. Perez: Stochastic operation and management of dams on Peru

#47 L.M. Kondrayeva, A.G. Zhukov, V.L. Raport: The ecosystem approach to prediction of spill effects.

#68 T. Gomez, X. Vargas: Climate change projected impacts in the hydro-electrical potential generation in Run of the River power plants in a Chilean central-located basin.
#96 V.V. Kulakov: Groundwater quality and its use for drinking water supplies
#107 S. Jun, J.-H. Park, Ch.K. Park: Estimation of appropriate instream flow for the urbanized Namcheon watershed in Korea
#112 H. Boyacioglu, V. Gundoglu: Use of water quality index method for river classification
#125 L. Feyen, R. Rojas, P. Watkiss: Economic costs of river floods and benefits of adaptation in the European Union in a changing climate
#184 E. De Bie: Does water storage coincide with nature objectives? A fast evaluation tool.
#209 R.H. AL-Dabbagh: Contribution of dams in UAE to the recharge of surface aquifers
#210 D. Merchan, J. Causape: Analysis of impacts of irrigation implementation on the hydrology of Lerma gully (Zaragoza, Spain)
#241 R.L. Manzione, E.C. Wendland: Modelling time series of water table depths to predict extreme levels in a watershed located in outcrop area of Guarani aquifer system (GAS)
#253 G. Gabitsinashvili: River inflow forecasting for reservoir regulations: The case of Namakhvani HPPC on r. Rioni, Georgia
#261 O. Semenova, D. Sazonova, L. Lebedeva: Modelling experiments in reservoir operation management: estimation of possible climate pressure on the Kama reservoir, Russia
#303 H. Solomon: Concept: The use of Red Sea as a natural dam for Eritrea
#316 N.T. Shiraz, G.H. Akbari: Virtual water trade inside Iran, saving water policies

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