

Bologna IAHS 2014

**6th IAHS-EGU International
Symposium on Integrated Water
Resources Management**



Picture by: Massimo Fuligni

**Evolving Water Resources Systems -
Understanding, Predicting and Managing
Water - Society Interactions**

Bologna 4-6 June 2014

**Belmeloro Complex, Building A
via Belmeloro 14 - Rooms A and G**

Welcome

to the 6th IAHS-EGU International Symposium on Integrated Water Resources Management.

Events outline

Scientific events

The Conference will host the first **Peter Loucks Lecture** given by Peter Loucks (Thursday, 5 June 2014) and a Plenary Keynote Session, with solicited speakers (Thursday, 5 June 2014).

Social events

Gala dinner: the dinner will be held in Palazzo Grassi, "Circolo Ufficiale dell'Esercito of Bologna", located in Via Marsala 12 (in Bologna old town centre, green point on the map below), on Thursday, 5 June 2014 at 08:00 pm. Please note that for the gala dinner there is a dress code policy for men: jacket (compulsory), tie (facultative), no short pants and no slippers.

Hydraulic field trip: visit to an ancient weir located in Casalecchio di Reno on the Reno River, close to Bologna on Thursday, 5 June 2014. It is considered the most ancient hydraulic work still in activity in Europe and it was recently included in the UNESCO list of World Heritage Sites as Messengers of Peace. Meeting point at Porta Zamboni (blue point on the map below)

Cultural field trip: "The Best of Bologna – A HALF DAY IN TOWN" on Thursday, 5 June 2014. Meeting point at Belmeloro Complex, via Belmeloro 14



A detailed day-by-day program is reported below. Oral and poster presentations with a **(R)** represent contributions published on the Red Book.

Wednesday , 4 June, 2014

09:30 Registration

10:30 Opening

11:00 - 12:30 PARALLEL SESSIONS (Rooms A and G)

Theme 1 (Room A): Hydrological processes in a changing environment: Coping with uncertainties

11:00	Modeling the shrub encroachment in a grasslands with a Cellular Automata (R) <i>D. Caracciolo, L. V. Noto, E. Istanbuluoglu</i>
11:15	Land use impacts on stream ecosystems – studied using Distributed Temperature Sensing (DTS) and hydrological modelling <i>E. Boegh, G. Banta, K. Matheswaran, S. L. Nielsen, L. Seaby</i>
11:30	Sediment matters in hydrological watersheds <i>H. Aksoy</i>
11:45	Exploring hydrological model sensitivity to change by automatic differentiation <i>R. R. P. van Nooijen, A. G. Kolechkina</i>
12:00	Assessment of design flood characteristics for ungauged permafrost basin <i>O. Semenova, L. Lebedeva, A. Zhirkevich</i>
12:15	Future projections of extreme precipitation using Advanced Weather Generator (AWE-GEN) over Peninsular Malaysia (R) <i>A.H. Syafrina, M.D. Zalina, L. Juneng</i>

Theme 3 (Room G): Water resources: Monitoring, integrated assessment and management

11:00	Urban stormwater source control policies: why and how? (R) <i>G. Petrucci, J.-F. Deroubaix, B. Tassin</i>
11:15	Utility of the Priestley-Taylor expression in estimating actual evapotranspiration from satellite Landsat ETM + data (R) <i>A. Khaldi, A. Khaldi, A. Hamimed</i>
11:30	Hydrological modeling and data assimilation in water resources assessment <i>A. Agnetti, M. Del Longo, S. Pecora, R. Vezzoli, E. Zenoni</i>
11:45	Using SDP to optimize conjunctive use of surface and groundwater in China <i>C. Davidsen, X. Mo, S. Liu, D. Rosbjerg, P. Bauer-Gottwein</i>
12:00	Modeling irrigation behavior to inform management of integrated groundwater systems <i>T. Foster, N. Brozović, A.P. Butler</i>
12:15	Classical Karst hydrodynamics: a sheared aquifer within Italy and Slovenia (R) <i>L. Zini, C. Calligaris, E. Zavgno</i>

12:30 - 14:00 LUNCH BREAK & POSTER AUTHORS IN ATTENDANCE

14:00 - 15:30 PARALLEL SESSIONS (Rooms A and G)

Theme 1 (Room A): Hydrological processes in a changing environment: Coping with uncertainties

14:00	Adige river in Trento, 1892: a first flood risk map? <i>R. Ranzi</i>
14:15	Identification of low-flow parameters using hydrological model in selected mountainous basins in Japan (R) <i>K. Fujimura, Y. Iseri, K. Kanae, M. Murakami</i>
14:30	Climate change impact on flood hazard (R) <i>M. Brilly, K. Kavcic, M. Šraj, S. Rusjan, A. Vidmar</i>
14:45	Water budget comparison of global climate models and experimental data in Onça Creek basin, Brazil (R) <i>D. C. D. Melo, I. S. P. Marin, E. Wendland</i>
15:00	Where does blue water go in semi-arid area of northern China under changing environments? (R) <i>L. Ren, F. Yuan, B. Yong, S. Jiang, X. Yang, L. Gong, M. Ma, Y. Liu, H. Shen</i>
15:15	Estimation of hydrological response of a small Mediterranean watershed to fire by data analysis and modelling approach (R) <i>L. Lebedeva, O. Semenova, N. Folton</i>

Theme 3 (Room G): Water resources: Monitoring, integrated assessment and management

14:00	A prototype operational platform for water resources monitoring and early recognition of critical droughts in Switzerland (R) <i>M. Zappa, L. Bernhard, C. Spirig, M. Pfändler, K. Stahl, S. Kruse, I. Seidl, M. Stähli</i>
14:15	Monte Carlo forecast of groundwater level rise in Milano, Italy <i>V. Francani, G. Formentin, L. Colombo</i>
14:30	Establishing ecological and social continuities. New challenges to Optimize Urban Watershed Management (R) <i>V. Mitroi, A. De Coninck, B. Vinçon-Leite, J.F. Deroubaix</i>
14:45	Truth concealed behind “ Zero Increase of Total Water Use” and coordination approach of socio-economic and eco-environmental water uses in the Weihe River Basin of China (R) <i>Y. Jia, N. Wei, C. Hao, J. You, C. Niu, Y. Qiu</i>
15:00	A methodological framework for the expansion of multisource water supply systems <i>J. Vieira, M. C. Cunha</i>
15:15	Next stop: Implementation. Collaborative monitoring to inform adaptive policy-making and implementation (R) <i>L.M. Hermans, M. Haasnoot, J.H. Kwakkel</i>

15:30 - 16:00 COFFEE BREAK & POSTER AUTHORS IN ATTENDANCE

16:00 - 17:30 PARALLEL SESSIONS (Rooms A and G)

Theme 1 (Room A): Hydrological processes in a changing environment: Coping with uncertainties

16:00	Water Management and Productivity in Planted Forests (R) <i>J. Nettles</i>
16:15	Climate and socio-economic changes and their impacts on future water management at the regional scale. A case study in the dry inner-alpine zone of Switzerland <i>E. Reynard, R. Weingartner, O. Graefe, H. Liniger, S. Rist, B. Schaedler, F. Schneider</i>
16:30	Response of Tuzla Lake Ecosystem in Turkey to Irrigation and Climate Variability <i>S. T. Azgin, D.Celik</i>
16:45	A model of river bank deformations under simultaneous effect of the waves from hydropower plant and warming (R) <i>E. Debolskaya</i>
17:00	Uncertainty in hydrological signatures <i>J. K. Westerberg, H. K. McMillan</i>
17:15	Hydrological simulations driven by RCM climate scenarios at the basin scale in the Po river in Italy (R) <i>R. Vezzoli, M. Del Longo, P. Mercogliano, M. Montesarchio, S. Pecora, F. Tonelli, A. Zollo</i>

Theme 3 (Room G): Water resources: Monitoring, integrated assessment and management

16:00	Hydro-economic optimization under inflow uncertainty using the SDP_GAMS generalized optimization tool (R) <i>H. Macian-Sorribes, M. Pulido-Velazquez</i>
16:15	CombiPrecip: Radar-raingauge combination in the alpine terrain of Switzerland <i>I.V. Sideris, M. Gabella, M. Sassi, U. Germann</i>
16:30	Assessing and managing irrigation water deficit in the Red-Thai Binh River Delta, Vietnam <i>Q. Dinh, M. Micotti, R. Soncini-Sessa</i>
16:45	Management of water quality in a catchment-lake ecosystem with the use of modelling of mitigation measures and climate change <i>J. Hejzlar, M. Čtvrtlíková, J. Kopáček, M. Lapka, O. Vojáček</i>
17:00	Multi-criteria multi-stakeholder decision analysis using a fuzzy-stochastic approach for hydrosystem management (R) <i>Y.H.Subagadis, N.Schütze, J.Grundmann</i>
17:15	Along-the-net reconstruction of hydropower potential with consideration of anthropic alterations (R) <i>A. Masoero, P. Claps, E. Gallo, D. Ganora, F. Laio</i>

17:30 - 18:00 POSTER AUTHORS IN ATTENDANCE

18:00 - 19:00 ROUND TABLE

POSTER SESSION (No. Poster board - Poster title - Author)

Theme 1: Hydrological processes in a changing environment: Coping with uncertainties

1 - Trends in extreme temperature and precipitation in Muscat, Oman (L. Gunawardhana, G. Rawas) **(R)**

- 2 - Methodology to determine a storm water flow to support decision-making: case of the Ben Chaabane region (Blida, Algeria) (B. Touaibia, A. Tlili, P. Hubert)
- 3 - Assessment of the intrinsic vulnerability of agricultural land to water and nitrogen losses: case studies in Italy and Greece (V.G. Aschonitis, M. Mastrocicco, N. Colombani, E. Salemi, G. Castaldelli) **(R)**
- 4 - Parametric uncertainty or hydrological changes? (F. Viola, L.V. Noto, D. Pumo) **(R)**
- 5 - Evaluation of the effects of underlying surface change on catchment hydrological response using the HEC-HMS model (C. Yao, L. Chang, J. Ding, Z. Li, D. An, Y. Zhang) **(R)**
- 6 - A modeling framework to project future climate change impacts on streamflow variability and extremes in the West River basin, China (F. Yuan, Y-K. Tung, R. Liliang) **(R)**
- 7 - Reservoir siltation under a changing climate: a Mediterranean case study (G. Bussi, F. Francés)
- 8 - Variational Data Assimilation with YAO platform for hydrological forecasting (A. Abbaris, H. Dakhlaoui, S. Thyria, Z. Bargaoui) **(R)**
- 9 - Climate change scenarios and its impact on water resources of Langtang Khola basin, Nepal (T. R.Adhikari, L. P. Devkota, A. B. Shrestha) **(R)**
- 10 - Arid zones Floods in the South Western Algeria: study and protection with insufficient data (F. Dernouni)
- 11 - Hydrological Simulation of Future Climate Scenario of Ganga Basin using Dynamically Downscaled input from WRF model (S. P. Aggarwal, A. Goyal, P. Thakur)
- 12 - Modelling approach of the rainfall erosivity index in sub-humid urban areas in northern Algeria (I. Touaibia, N. A. Guenim, B.Touaibia) **(R)**
- 13 - Estimation of Discharge in Rivers using neural network and multiple regression approaches. Case of the "Algerian Coastal" basin (A. Zeroual, M. Meddi)
- 14 - SASSCAL research activities to assess land and climate change impacts on water resources in Southern Africa (J. Helmschrot)
- 15 - The potential and limits of different snow products for spatio-temporal snow cover assessments in Mediterranean high-altitude environments (K. Sturm, J. Helmschrot)
- 16 - Understanding and modelling hydrological dynamics for water resources management of the sub-arid Kara river basin (West Africa) (H.M. Badjana, J. Helmschrot, W.-A. Flügel)
- 17 - Vulnerability of two Mediterranean catchments to climatic and anthropogenic pressures – spatial and temporal evolution of water supply capacity over the past 40 years (J. Fabre, D. Ruelland, A. Dezetter, B. Grouillet)
- 18 - Data and model uncertainties in flood-frequency estimation for an urban Swedish catchment (I. K. Westerberg, T. Persson)
- 19 - Spatial Extension of Flood Event Data for Ungauged Small Watersheds (N.W. Kim, Y. Jung, J.E. Lee, C.G. Kim)
- 20 - Regionalization of Flood Frequency using Hydrological Flood Simulations (N.W. Kim, J.E. Lee, Y. Jung, C.G. Kim)
- 21 - Estimation of Water Resources Availability in High-Elevation Scarcely-Gauged Watersheds and Its Impact on Mini-Hydro. (A. Muhammad, F. Laio ,D. Poggi)
- 22 - Assessment of land use change on the streamflow using GIS, remote sensing and physically-based model (J. Y. G. dos Santos, R. M. da Silva, J. G. Carvalho Neto, S. M. G. L. Montenegro, C. A. G. Santos, A. M. Silva) **(R)**
- 23 - Discrete wavelet transform coupled with ANN for daily discharge forecasting into Três Marias reservoir (C. A. G. Santos, P. K. M. M. Freire, G. B. L. Silva, R. M. Silva) **(R)**
- 24 - River-bed erosion due to changing boundary conditions: performance of a protective measure (D. Termini) **(R)**
- 25 - Hydrodynamic characterization of soils within a representative watershed in Northeast of Brazil (E. G. Sales, C. N. Almeida, A. S. Farias, V. H. R. Coelho) **(R)**
- 26 - Modeling snowmelt stream with climate change effect in Juntanghu river basin , Xinjiang, China (X. Meng, Z. Liu)
- 27 - Regional methods of hydrological computations for ungauged sites (V.A. Lobanov, S. A. Lobanova)

- 28 - Analysis of flood downstream from the Nangbeto dam on the Mono River (Togo and Benin, West Africa) (E.E. Ago, F. Petit, P. Ozer)
- 29 - Determination of nonstationarity of applied hydrometeorological characteristics in Russia under modern climate change (V.A. Lobanov, A. Lobanova)
- 30 - Methods and software for planning and design in hydrology and water resources systems (V.A. Lobanov, A. Lobanova)
- 31 - Impact assessment on hydrologic conditions due to climate change over Asian regions (M-H. Lee, K-H. Sohn, D-H. Bae)
- 32 - Long term prediction of large rivers discharge based on helioclimatological data (B. Nurtaev)
- 33 - Climate change and its impacts on water resources in the Northwest China (C. Ya-ning)
- 34 - New characteristics of the maximal runoff in abandoned charcoal quarries. Case study: Motru's piedmont in Romania (I. Haidu, I.A. Crăciun)
- 35 - Probabilistic Runoff Simulations using Snow Cover Risk Maps in Middle Euphrates Basin, Turkey (G. Uysal, A. Şorman, A. Şensoy, C. Çoşkun)
- 36 - Determination of the homogeneous groups using different fuzzy logic systems (M. Golestani, M. Hedayatizadeh, M.R. Kavianpour)
- 37 - Potential impacts of climatic variations on water availability and implications in water management in wetland dominated Andean environments (F. Soria)
- 38 - The investigation of the biocenose in the Karchaghbyur river biotope affected by the small hydropower plants (G. A. Gevorgyan, T. V. Boshyan, A. S. Mamyan, A. H. Hayrapetyan)
- 39 - Performance comparison of ANN and a conceptual model in estimating runoff: A case study in Pavanje catchment, Karnataka, India (N. Baby, K. Varija)
- 40 - Modelling extreme streamflows under non-stationary conditions in Ouémé river basin, Benin, West Africa (J. Hounkpe, A. Afouda, B. Diekkrüger)
- 41 - Hydromorphological analysis of Sabarmati river (R. Hardik, D. Darshan, S. Nirav)
- 42 - Assessment of Bayesian method for accuracy improvement of real-time drought prediction (K-H. Sohn, D-H. Bae)
- 43 - Main factors for developing the time of concentration formula in Korean urban area (Y-J. Kim, M-H. Lee, D-H. Bae)
- 44 - Impact assessment of temperature rise on glacier and meltwater fluctuation: Andean tropical glaciers, Bolivia (Y. Asaoka, K. Yoshizawa, P. Fuchs)
- 45 - Hydrological Parameter Analysis Based on Similarity Theory and 3S Technology (S. Zheng, H. Hai-qian)
- 46 - Forty years of history of aridity in the Tensift Basin (Marrakech-Morocco) (N-E. Laftouhi, F. Fniguire, A. Fekri, Z. Zamrane)

Thursday, 5 June, 2014

08:30 - 10:30 PARALLEL SESSIONS (Rooms A and G)

Theme 2 (Room A): Floods, droughts and water risks in a changing socio-hydrological context: Feedbacks between water resources and social systems

08:30 Methodologies for hydraulic hazard mapping in alluvial fan areas (R)
L. Milanese, M. Pilotti, R. Ranzi, G. Valerio

08:45 Changes in flood vulnerability, focused on private precautionary measures
H. Kreibich

09:00	Feedback between societal change and hydrological response in Wadi Natuf, a karstic mountainous watershed in the occupied Palestinian Westbank (R) <i>C. Messerschmid</i>
09:15	Changing Glacial Lakes and Associated Outburst Floods Risks in Nanda Devi Biosphere Reserve, Indian Himalaya (R) <i>S. Mal, R. B.Singh</i>
09:30	Past and future water demand under the combined impacts of anthropogenic and climatic changes: case study on two Mediterranean catchments <i>B. Grouillet, J. Fabre, D. Ruelland, A. Dezetter</i>
09:45	How is climate science being used to inform water resource plans? <i>F. Dyer, L. Pearson, J. Christian-Smith</i>
10:00	An Integrated Water Resources Management Strategy for Al-Ain City, UAE (R) <i>M. Mohamed</i>
10:15	Socio-hydrology of water scarcity in the United States – Mexico borderlands <i>C. A. Scott, S. J. Buechler</i>

Theme 3 (Room G): Water resources: Monitoring, integrated assessment and management

08:30	Groundwater governance in Asia: Present state and barrier for implementation of a good governance (R) <i>T. Tanaka</i>
08:45	Hydrogeochemical Characterization of Shallow Groundwater System in the Weathered Basement Aquifer of Ilesha Area, South-western Nigeria (R) <i>M.N Tijani, S.A. Oke, A.T. Oloookere</i>
09:00	The effect of water supply uncertainty and policy change on integrated water resource systems <i>A. Elshorbagy, E. Hassanzadeh, H. Wheeler, P. Gober</i>
09:15	Simulation of blue and green water resources in the Wei River basin, China (R) <i>Z. Xu, D. Zuo</i>
09:30	Integrating Hydrology and Society Through the Concept of Ecological Infrastructure: An Inovative Approach to Water Resources Management in uMngeni Catchment, South Africa <i>G. Jewitt</i>
09:45	Evaluation of surface water dynamics for water-food security in seasonal wetlands, north-central Namibia (R) <i>T. Hiyama, T. Suzuki, M. Hanamura, H. Mizuochi, J. R. Kambatuku, J. N.Nniipele, Y. Fujioka, T. Ohta, M. Iijima</i>
10:00	Hydrological studies in experimental and representative basins in Pernambuco state - Brazil (R) <i>S. M. G. L. Montenegro, B. B. da Silva, A. C. D. Antonino, J. R. S. Lima, E. S. de Souza, L. M. M. de Oliveira, A. E. S. S. de Moura, R. M. S. Souza</i>
10:15	Marrying Hydrological Modelling and Integrated Assessment for the needs of Water Resource Management (R) <i>B. Croke, R. Blakers, S. El Sawah, B. Fu, J. Guillaume, R. Kelly, M. Patrick, A. Ross, J. Ticehurst, R. Barthel, A.J. Jakeman</i>

10:30 - 11:00 COFFEE BREAK & POSTER AUTHORS IN ATTENDANCE

11:00 - 13:00 KEYNOTE SESSION (Room A)

11:00	The Role of Predictive Uncertainty in the Operational Management of Reservoirs (R) <i>E. Todini</i>
11:20	Shortage and surplus of water in the socio-hydrological context (R) <i>A. Schumann, D. Nijssen</i>
11:40	On conceptual models describing the interactions between hydro-techno-socio systems <i>P. van der Zaag</i>
12:00	Electricity vs Ecosystems - understanding and predicting hydropower impact on Swedish river flow (R) <i>B. Arheimer, G. Lindström</i>
12:20	Governance, Learning and Complexity in Water Systems <i>T. P. Evans</i>
12:40	Urban water in transition: Optimal pricing, supply augmentation and consumer welfare <i>R. Q. Grafton</i>

13:00 - 14:00 LUNCH BREAK & POSTER AUTHORS IN ATTENDANCE

14:00 - 15:15 PARALLEL SESSIONS (Rooms A and G)

Theme 2 (Room A): Floods, droughts and water risks in a changing socio-hydrological context: Feedbacks between water resources and social systems

14:00	Irrigation beneficiary selection through Analytical Hierarchy Process <i>H. Lafontaine, R. Balasubramaniam, T. Bolisetti</i>
14:15	Upping the social in socio-hydrology <i>T. Krueger, A. Bruns</i>
14:30	Conceptual analysis of water scarcity: towards an integrated approach crossing hydrology and social sciences <i>M. Milano, A. Buchs</i>
14:45	The ensemble scenarios projecting runoff changes in the large Russian river basins in the 21st century (R) <i>A. Georgiadi, N.I. Koronkevich, I.P. Milyukova, E.A. Barabanova</i>
15:00	Developing tools to link environmental flows science and its practice in Sri Lanka (R) <i>N. Eriyagama, K. Jinapala</i>

Theme 3 (Room G): Water resources: Monitoring, integrated assessment and management

14:00	The impact of poor governance on water and sediment quality: A case study in the Pitimbu River, Brazil (R) <i>L.F.F. Moreira, J.F. Adamowski, S. Gaskin, A. Saraiva</i>
-------	---

14:15	Monitoring surface water velocity using a camera: a case study on the Tiber River <i>F. Tauro, M. Porfiri, A. Petroselli, G. Olivieri, S. Grimaldi</i>
14:30	Impacts of the dryness on water quality: case of some aquifers of east Algerian (R) <i>L. Djabri, S. Bouhsina, A. Hani, A. Pulido Bosch, J. Mudry, M.C Djouamaa</i>
14:45	Local Decision-making for Adaptation to the Urban Heat Island: Governance Responses to Climate Change in the U.S. Southwest <i>S. J. Buechler, C. A. Scott</i>
15:00	Developing a dynamic framework to examine the interplay between environmental stress, stakeholder participation processes and hydrological systems (R) <i>G. Carr, G. Blöschl, D.P. Loucks</i>

15:15 - 15:30 COFFEE BREAK & POSTER AUTHORS IN ATTENDANCE

15:30 - 16:00 **PETER LOUCKS LECTURE (Room A): Predicting Human - Hydrologic Interactions by D.P. Loucks**

POSTER SESSION (No. Poster board - Poster title - Author)

Theme 3: Water resources: Monitoring, integrated assessment and management

- 1 - Hydrogeological characterization of peculiar Apenninic springs (F. Cervi, M. Marcaccio, F. Petronici, L. Borgatti) **(R)**
- 2 - Three methods comparison for recover the missing hydrometric record (E. S. Camacho)
- 3 - Influence of climatic factors and the overexploitation of aquifers on the equilibrium of the freshwater and saltwater interface: case of Annaba region (north-east of Algeria) (N. Guezgouz, L. Djabri, A. Hani, S. Bouhsina, J. Mudry)
- 4 - The investigation of sediment processes in rivers by means of the Acoustic Doppler Profiler (M. Guerrero) **(R)**
- 5 - Contribution of hydrochemistry to the characterization and assessment of the water resources: The case of Tebessa Alluvial Aquifer (Algeria). (N. Sedrati, L. Djabri) **(R)**
- 6 - Analysis of drought characteristics for improved understanding of a water resource system (A.T. Lennard, N. Macdonald, J. Hooke) **(R)**
- 7 - Coupling hydrology, geochemistry and hydrodynamic towards rational management of discontinuous aquifers. Application to the Ursuya massif (Basque Country, France) (J.Jaunat, F.Huneau, A.Dupuy, H.Celle-Jeanton, P. Le Coustumer) **(R)**
- 8 - The origins of water-sources in the region of Annaba: confirmation by the isotopic tools (L. Ghrieb, L. Djabri, H. Zerrouki, A. Hani, A. Pulido Bosch) **(R)**
- 9 - Phenomenon of denitrification associated with the mobility of chromium and tin case of Meboudja plain (N. Bougherira, A. Hani, L. Djabri, D. Necher)
- 10 - Groundwater Contaminant Transport 1-D FDM Approach (A. Landage)
- 11 - Geostatistical modeling of nitrate pollution of groundwater in the Mitidja (D. Djoudar Hallal, A.C. Toubal, M.S. Benhafid, M.K Mihoubi)
- 12 - Study of surface water quality in the Wadi El Harrach for its use in the artificial groundwater recharge of the Mitidja (North Algeria) (M. Meddi, A. Boufekane)
- 13 - Evaluation on Sustainable Groundwater Resources in Feng-Lin Area by Conjunctive Use with Surface Water in the Whole Basin (S. M. Hsu, C-F. Ni, C-J. Liu)
- 14 - Streamflow depletion by well using the program Glover (P. Scarpelli, A. Montanari)
- 15 - Towards a specific definition of alpine water uses for accurate quantification (M. Caliano)

- 16 - A review of impact studies of hydraulic fracturing on water resources (G. Sisca, R. Ricci, I. Soligno, A. Montanari)
- 17 - Hydrogeological modeling of a fractured aquifer (F. Petronici, L. Borgatti, D. Errigo, F. Cervi)
- 18 - MaWaR (Management of Water Resources): a Simulation Game Focused on Drought Management (M. Martínková, M. Kuráž)
- 19 - Sensitivity of simulated groundwater recharge to multiple projections of climate change and scenarios of groundwater abstraction (L. Seaby, E. Boegh)
- 20 - Management of water quality in a catchment-lake ecosystem with the use of modelling of mitigation measures and climate change (J. Hejzlar, M. Čtvrtlíková, J. Kopáček, M. Lapka, O. Vojáček)
- 21 - Electrical conductivity monitoring in a Mediterranean river system: the case of the Llobregat River basin (J. Farguell)
- 22 - Application of isotope Techniques in Verifying Groundwater Recharge Processes in Bulacan Province, Philippines (S. Castañeda, N. Mendoza, R. Sugang, R. Almoneda, A. Laguitan, A. Dela Rosa)
- 23 - Characterization of sub-daily rainfall properties in three rainfall gauges located in Northeast of Brazil (J. V. Coutinho, C. N. Almeida, A. M. F. Leal, L. R. Barbosa) **(R)**
- 24 - New monitoring technique for rapid investigation of nitrates pollution in aquatic system (M. C. Trifu, V. Daradici) **(R)**
- 25 - Assessing basin heterogeneities for rainfall-runoff modelling of the Okavango River and its transboundary management (V. Baumberg, J. Helmschrot, T. Steudel, H. Göhmann, C. Fischer, W.-A. Flügel) **(R)**
- 26 - Risk management frameworks: supporting the next generation of Murray-Darling Basin water sharing plans (G.M. Podger, S.M. Cuddy, J. Peeters, T. Smith, R. Bark, D.C. Black, P. Wallbrink) **(R)**
- 27 - Hydrogeochemistry of some Selected Springs' waters in Ekiti Basement Complex Area, Southwestern Nigeria (A. Talabi, L. O. Afolagboye, M. N. Tijani, J. A. Aladejana, A. K. Ogundana)
- 28 - Runoff production on hill slopes under conservation practices – A micro level study (K. K. Satapathy)
- 29 - The Problem of Storage of Surface Water in Arid Regions Case Garagar Dam (Algeria) (H. Benfetta, A. Khaldi, A. Ouadja)
- 30 - The assessment of heavy rains in the region of Annaba (NE Algeria) to improve extreme flood forecasting. Use of Depth-Duration-Frequency curves. (L. Beloulou, S. Guechi, G. Moguedet)
- 31 - Modeling hydraulic regime and water quality of Sebou river (Morocco): Understanding interactions for a better management (M. Igouzal, A. Maslouhi)
- 32 - Operational Hydrologic/Reservoir Application with EPS Driven Inflow Forecasts (G. Uysal, A. Şensoy, A. Şorman, E. Roulin, C. Ertaş, B. Akkol)
- 33 - Use of treated Waste water for the development of drylands-possible hazards (D. K. Fobi, K. A. Gyamfi, L. Nuamah, D. A. Asamoah Guy, J. Levy)
- 34 - Making management decisions on environment protection based on the assessment of a danger level of subsurface contamination (N. S. Ognianik, N. K. Paramonova, A. L. Bricks, E. N. Shpak)
- 35 - Evaluation of Climate Change Impact on Blue Nile Basin Cascade Reservoir operation (Case Study of proposed reservoirs on the Main Blue Nile River Basin, Ethiopia) (D. Wondimagednehu, K. Tadele)
- 36 - Water quality in Mining Basin – Gafsa Tunisia (A. Elaoud, L. Dhaouadi, M. Tlili, M. Kefi, M. Ben Amor)
- 37 - Geophysical investigation of the fresh-saline water interface in the Coastal area of Abergwyngregyn (I. Obikoya, J. Bennell)
- 38 - Dissolved Oxygen modelling using Artificial Neural Networks (S. R. Silva, F. Schmidt)
- 39 - Efficacy of Communication in Water Resource Management and Sustainability (I. Obikoya)
- 40 - Natural Capital Accounting for Water: Measuring and mapping water quality accounts, evidence from small island developing Caribbean states. (N. Tang Kai)
- 41 - Adapting to Climate Change: Water distribution in BBA City: Algeria (A. Zeroual, M. Meddi, M. Benhafidh)
- 42 - An introduction to the database supported Distributed Hydrological modeling Tool: EasyDHM version 2.0 (W. Liao, X. Lei)

- 43 - Groundwater resources in Moroccan oasis: challenges and opportunities (A. Fekri, N. Laftouhi)
- 44 - Hydrological processes modeling using advanced hydroinformatic tools (E. Beilicci, R. Beilicci)
- 45 - Improved DRASTIC model and its applying for the assessment of phreatic groundwater vulnerability (J. Hao, Y. Zhang, Y. Jia, N. Wei)
- 46 - Characterisation of the main karst aquifers of the Tezbent Plateau, Tebessa region, Northeast of Algeria, using a hydrogeochemical approach (C. Fehdi, D. Belfar, F. Baali, E. Salameh)
- 47 - Using Pyomo for Optimizing Groundwater Reservoir Operation in Tailan River Basin, China (W. Xin-Yu, J. Yan-Dong, S. Long-Cang, Z. Ping-An)
- 48 - Research on the Comprehensive Effect of Ecological Regulation (J. You, N. Wei, Y. Jia, C. Hao)
- 49 - Establishing Strategies for Sustainable Groundwater Management Plan for Typical Granitic Aquifers-A Pilot Study near Hyderabad, India (P. Madhnure, P.N.Rao, G.Sudarshan)

16:00 - 19:00 **FIELD TRIP (either HYDRAULIC or CULTURAL)** - see meeting point on the map

20:00 - 23:00 **GALA DINNER** at Circolo degli Ufficiali, Palazzo Grassi, Via Marsala 12, Bologna

Friday, 6 June, 2014

08:30 - 09:45 **PARALLEL SESSIONS (Rooms A and G)**

Theme 2 (Room A): Floods, droughts and water risks in a changing socio-hydrological context: Feedbacks between water resources and social systems

08:30	Analysis of flash flood scenarios in an urbanized catchment using a 2D hydraulic model (R) <i>F. Dottori, F. Grazzini, M. Di Lorenzo, A. Spisni, F. Tomei</i>
08:45	Individuation of rainfall triggering damaging hydrogeological events: a methodological approach applied to Calabria (Italy) (R) <i>L. Aceto, O. Petrucci</i>
09:00	Panta Rhei and the Hydrological Dilettante <i>G. Jewitt, S. Uhlenbrook</i>
09:15	Floods hazards maps in Matucana Village under climate change scenarios (R) <i>J. W. Cabrera, L. F. C. Navarro</i>
09:30	Assessing risks for integrated water resource management: coping with uncertainty and the human factor (R) <i>M. J. Polo, C. Aguilar, A. Millares, J. Herrero, R. Gómez-Beas, E. Contreras, M.A. Losada</i>

Theme 4 (Room G): Hydro-economics and optimization of water resources systems: changing boundary conditions, targets and criteria of water management

08:30	Indicators for consumers' willingness to pay to improve water supply services in Kazakhstan <i>K. Tussupova, R. Berndtsson, T. Bramryd</i>
08:45	Genetic Algorithms Optimization of Hedging Rules for Operation of the multi-purpose Ubonratana reservoir in Thailand (R) <i>C. Chiamsathit, A. J. Adeloye, S. Bankaru-Swamy</i>

09:00	Environmental equity as a criterion for water management (R) <i>M. Grande, C. Galvão, L. Miranda, I. Rufino</i>
09:15	Model to assess the impacts of external drivers on the hydrology of the Ganges River Basin (R) <i>L. Muthuwatta, A. Sood, B. Sharma</i>
09:30	Investigation of Sustainable Development Potential for Ulubey Aquifer System, Turkey (R) <i>U. Burcu, H. Yazicigil</i>

09:45 - 10:30 COFFEE BREAK & POSTER AUTHORS IN ATTENDANCE

10:30 - 12:00 PARALLEL SESSIONS (Rooms A and G)

Theme 2 (Room A): Floods, droughts and water risks in a changing socio-hydrological context: Feedbacks between water resources and social systems

10:30	Human managed landscapes in transformation: potential water resource boundaries in a semiarid agricultural catchment of Burkina Faso <i>J. Barron, H.M. Cambridge</i>
10:45	The Interplay between Human Population Dynamics and Flooding in Bangladesh: A Spatial Analysis (R) <i>G. Di Baldassarre, K. Yan, R. Ferdous, L. Brandimarte</i>
11:00	Understanding and improving water-society interactions under environmental change in a digital world <i>C.J.A Macleod</i>
11:15	Variability of irrigation water use in a data-scarce region of North India <i>J. O'Keefe, A. Mijic, N. Brozović, W. Buytaert</i>
11:30	Optimal integrated management of groundwater resources and irrigated agriculture in arid coastal regions (R) <i>J. Grundmann, N. Schütze, V. Heck</i>
11:45	Small watershed management as a tool of flood risk prevention (R) <i>J. Jakubinsky, R. Bacova, E. Svobodova, P. Kubicek, V. Herber</i>

Theme 4 (Room G): Hydro-economics and optimization of water resources systems: changing boundary conditions, targets and criteria of water management

10:30	Strategic decision making under climate change: a case study on Lake Maggiore water system (R) <i>M. Micotti, R. Soncini Sessa, E. Weber</i>
10:45	Green roof as a solution to solve stormwater management issues? Assessment on a long time period at the parcet scale (R) <i>P. A. Versini, G. Petrucci, B. De Gouvello</i>
11:00	Probabilistic assessment of the rainwater harvesting potential of schools in South Africa (R) <i>J.G. Ndiritu, S. McCarthy, N. Tshirangwana</i>
11:15	Economic impact assessment of river flood risk under current and future climate <i>L.Carrera, G.Standardi, E. Koks, J.Mysiak, J.Aerts, F.Bosello</i>

11:30	Trading off the costs and benefits of planned hydropower and irrigation investment in Kenya's Tana Basin <i>A.P. Hurford, J.J. Harou</i>
11:45	Social and ecological aspects of the water resources management of the Transboundary Rivers of the Central Asia (R) <i>P. Normatov</i>

12:00 - 13:00 POSTER AUTHORS IN ATTENDANCE

POSTER SESSION (No. Poster board - Poster title - Author)

Theme 1: Hydrological processes in a changing environment: Coping with uncertainties

Theme 2: Floods, droughts and water risks in a changing socio-hydrological context: Feedbacks between water resources and social systems

Theme 4: Hydro-economics and optimization of water resources systems: changing boundary conditions, targets and criteria of water management

- 1 - Remediated Urbanism. How to make an environmentally and socially responsive waterfront through the minimization and remediation of contaminated stormwater. (M. Bradbury)
- 2 - Regional prediction of basin-scale brown trout habitat suitability (S. Ceola, A. Pugliese) (R)
- 3 - Analysis of the impact of gravel mining activities on the flood flow profile of the Po River (E. Selli, A. Montanari)
- 4 - Application of the TOPKAPI model to Santerno and Senio catchments (S. Persiano, A. Montanari)
- 5 - Comparative application of HyMOD and HBV rainfall-runoff models to two Italian catchments (F. Minzi, E. Baratti, A. Montanari)
- 6 - Generation of synthetic river flow data by using stochastic models (L. Cacciamani, A. Montanari)
- 7 - Assessment of the impact of hypothetical extreme floods in the Secchia River (Italy) (P. Leoni, A. Montanari)
- 8 - Is the frequency of severe rainstorms increasing in Emilia-Romagna (Italy)? (L. Ruggeri, A. Castellarin, A. Domeneghetti)
- 9 - On the flood risk evolution along the Po River: simplified tools for a large scale and temporal analysis (F. Carisi, A. Domeneghetti, A. Castellarin)
- 10 - Quantifying the effects of storage thresholds on step changes in the flood frequency curve (M. Rogger, A. Viglione, J. Derx, G. Bloeschl)
- 11 - May flood-poor periods be more dangerous than flood-rich periods? (A. Viglione, G. Di Baldassarre, J.L. Salinas, L. Brandimarte, G. Blöschl)
- 12 - Socio-economic Effect on Socially Deprived Communities by Developing Drinking Water Quality Problems in Arid and Semi-arid Area of Central Rajasthan (I. Husain, J. Hussain, M. Arif) (R)
- 13 - Water Resources Management: A Traditional Technology and Communities are parts of Solution (J. Hussain, I. Husain, M. Arif) (R)
- 14 - A probabilistic model for predicting seasonal rainfall in semi-arid lands of Northeast Brazil (B. da Silva, C.C. Braga, S.M.G.L. Montenegro, V.P.R.Silva, L.M.M.de Oliveira, F.A.S.de Sousa) (R)
- 15 - Evaluation of the best fit distribution for partial duration series of daily rainfall in Madinah, West of Saudi Arabia (F. Alahmadi, N. A. Rahman, M. Abdulrazzak) (R)
- 16 - Effects of minor drainage networks on flood hazard evaluation (A. Domeneghetti) (R)
- 17 - Panta Rhei: an evolving scientific decade with a focus on water systems (A. Montanari, S. Ceola, E. Baratti) (R)
- 18 - Understanding the dynamics of an agricultural community under water stress: The socio-hydrological system of the Ancient Maya (L. Kuil, A. Viglione, A. Fürnkranz-Prskawetz, G. Bloeschl)

- 19 - Evaluation of the vulnerability from the methods DRASTIC and SYNTACS: Case study of the tablecloth Bazer GueltZerga (Algerian North East) (H. Bendadouche, K. Khemmoudj, S. Merabet)
- 20 - Do subtle eco-hydrological human abilities have a place in water resources planning? (J. G. Ndiritu, R. Suleman)
- 21 - Water Risks Assessment in China Based on the Improved Water Risk Filter (G. Hong, Q. Yaqin, L. Qiong, N. Cunwen, W. Na, J. Liu, G. Yondge, Z. Na, X. Ding) **(R)**
- 22 - The virtual water trade: the case of Tunisia (I. Yosra, A. Benalaya)
- 23 - Reservoirs performances under climate variability: A case study (A. Longobardi, M. Mautone, C. De Luca) **(R)**
- 24 - Research on mechanism of bilateral interaction between natural water cycle and socio-economic development by coupling CGE and WEP (C. Hao, Y. Jia, C. Niu, N. Wei, J. You)
- 25 - Study on the Water Resources Efficiency in China from the Economic Perspective (X. Ding, X. Wang, W. Li, B. Zhang)
- 26 - An L-moment approach to assess changes in regional flood frequency distributions in Austria (J. L. Salinas, A. Castellarin, S. Kohonová, T. R. Kjeldsen, G. Blöschl)
- 27 - Water, a limiting factor for economic development in the Kandi region of Jammu, India: novel way to mitigate the problem for food security (U. C. Sharma, V. Sharma)
- 28 - Water use and Sustainable Social-economic Development of Yulin city in Northwest China (W. Xiao-jun, Z. Jian-yun, S. Shamsuddin, G. En-Hong, G. Juan, H. Rui-Min, Y. Yu-Qiu)
- 29 - On the use of DPSIR model to two basins in the Northern of Algeria. Socio-economic pressures (A. Hani, S. Chouchane, L. Djabri, H. Chaffai, B. Sakaa)
- 30 - An assessment of future surface water levels of the lake Chad and consequences on livelihoods (M. B. Ngamdu)
- 31 - Does the Demand Responsive Approach (DRA) in Ghana's rural water delivery ensure improved functionality and equitability in a sustainable manner? (D. D. Sedegah)
- 32 - Impact of human activities on groundwater quality Case of Tebessa area; NE Algeria (F. Baali, M. Bouter, C. Fehdi, R. Mouici)
- 33 - Evaluation of Quantitative Precipitation Criterion (QPC) derivation for mountainous flash flood (Deg-Hyo Bae, S-K. Moon, M-H. Lee)
- 34 - Evaluation of urban flash flood forecast using flow nomograph & radar rainfall (J-B. Kim, D-H. Bae, S-S. Yoon)
- 35 - Analysis of drought characteristics using the bivariate joint drought index (J-M. So, K-H. Sohn, D-H. Bae)
- 36 - Study on Water Risk Assessment in River Basin of China Based on WWF Water Risk Assessment Tools (N. Wei, Y. Qiu, H. Gan, C. Niu, L. Jiajia, G. Yondge, Z. Na) **(R)**
- 37 - Optimization In Searching Daily Rule Curve At Mosul Regulating Reservoir, North Iraq Using Genetic Algorithms (Thair M. Al-Taiee)
- 38 - Impact of hydraulic works on the balance of the ecosystem of the Oued Seybouse (NE of Algeria) (S. Habes, L. Djabri, A. Hani, M. C. Djouamaa, S. Bouhsina)
- 39 - Optimal hydropower plant operation: A case study in Red River basin in Vietnam (R. Soncini Sessa, E. Weber, T. Van Anh)

13:00 - 13:30 Conference Closure

CONTACTS

DICAM- Department of Civil, Chemical, Environmental and Materials Engineering
University of Bologna
Viale Risorgimento 2
40136 Bologna
Italy

e-mail: dicam.iahs2014@unibo.it

web site: <http://www.iahs.info/bologna2014>