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EWRA International Conference in Porto 26-29 June 2013 "All roads lead to Porto"

G. Tsakiris

At the end of June, the scientists and engineers of the water sector will meet in Porto – Portugal for the 8th International Conference of the European Water Resources Association (EWRA) "Water Resources Management in an Interdisciplinary and Changing Context". The Conference in Porto comes four years after the EWRA Conference in Lemessos – Cyprus in 2009 and two years after the EWRA Symposium in Catania – Sicily, two very successful scientific water events held in Europe.

The conference in Porto seems to be even more successful, bringing together people from the most prominent universities and research centres, and experienced professionals from the water sector of many countries around the world. More than 300 high quality papers will be presented in oral or poster form where several discussions will take place in particular related to

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<http://ewra2013.ewra.net>



the progress of the Water Framework Directive (WFD) and the flood directive implementation in the member states of the European Union.

The 8th International Conference of the European Water Resources Association is dedicated to the objectives of the International Year for Water Cooperation of the United Nations. As known, in December 2010 the United Nations General Assembly declared 2013 as the International Year of Water Cooperation aiming at raising awareness, both on the potential for increased cooperation, and on the challenges facing water management in light of the increase in demand for water access, allocation and services. In particular, the 8th International Conference of EWRA will give the opportunity to distinguished participants to bring and discuss new ideas and innovative methods addressing some of the key issues which are given high priority by the UN. These include, among others, international legal frameworks, sustainable water resources, transboundary water management, water diplomacy, financing cooperation for water resources development, climate change impacts on water resources etc. studied in an interdisciplinary context.

During the 8th International Conference in Porto, EWRA members will have the opportunity to honour two distinguished EWRA members, Professors Evan Vlachos and Luis Santos Pereira. Both of them have offered great contributions in various aspects of water resources management and have published benchmark papers which influenced the modern paradigm of water resources management. We will all be delighted to hear from them their new ideas for a more effective and sustainable management of water resources in the decades to come.

Finally, there are more reasons for us to participate in the Conference in Porto: First, Porto is the city of beauty and secondly, it is the friendly South European atmosphere which the organisers promise to create. For all of these and many more, Porto will be the central point of the water people of Europe and the rest of the world for the last week of June. It is not far from reality to say that "All roads lead to Porto!" in June.



*Prof. George Tsakiris
President of EWRA
Director of the Centre for the Assessment of
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The Water Supply Systems (Bulgaria 2011)

Water loss in water distribution networks is a serious problem and deserves immediate attention and appropriate action to reduce stress on scarce and valuable water resources. Several big cities have already started programs geared towards a step-by-step reduction of losses and it is well known that many institutions and water utilities have developed and implemented strategies and technologies to control leakage and water loss. These strategies have proven highly efficient and received worldwide recognition.

EWRA within the context of the Memorandum of Understanding which was signed in February 2011 with the Bulgarian Water Association supports their annual conference on 'Water Loss Reduction in the Water Supply Systems' which is usually held in November.

The conference is considered to be the major annual water loss event in the Balkan region and is aimed at decision-makers, experts in the water supply sector and water supply operators as well as at companies - producers of the respective equipment.

The Editorial Board of the Water Utility Journal of the European Water Resources Association selected a number of important papers presented in this event and published these in the Water Utility Journal Issues 1 and 2. These papers were chosen based on originality, clarity, relevance, contribution to knowledge and which will present interesting solutions to water utility problems, technological innovations and practical guidelines for enhancing the efficiency of water systems as well as good practices and success stories.



*Bambos Charalambous
Secretary General of EWRA*

Papers of the EWRA International Symposium published in WARM journal

The 6th International Symposium of EWRA held in Catania-Sicily on June 29-July 1st 2011, covered a wide range of key topics related to water resources under the general title "Water Engineering and Management in a Changing Environment".

Eighteen (18) selected papers from the EWRA Symposium were published in a special issue of Water Resources Management (Volume 27, Issue 6, April 2013). The titles and the author names of these articles are presented here:

- Dimming/brightening in Athens: Trends in Sunshine Duration, Cloud Cover and Reference Evapotranspiration
Gianna Kitsara, Georgia Papaioannou, Athanasios Papathanasiou
- Optimal Management of an Overexploited Aquifer under Climate Change: The Lake Karla Case
P. Sidiropoulos, N. Mylopoulos, A. Loukas
- Water Management of Irrigation Dams Considering Climate Variation: Case Study of Zayandeh-rud Reservoir, Iran
Mahnoosh Moghaddasi, Shahab Araghinejad, Saeed Morid
- Regional Drought Modes in Iran Using the SPI: The Effect of Time Scale and Spatial Resolution
Tayeb Raziei, Isabella Bordi, Luis Santos Pereira
- Large Scale Probabilistic Drought Characterization Over Europe
Brunella Bonaccorso, David J. Peres, Antonino Cancelliere
- Diagnosing Causes of Water Scarcity in Complex Water Resources Systems and Identifying Risk Management Actions
Francisco Martin-Carrasco, Luis Garrote, Ana Iglesias
- Methods to Assess Costs of Drought Damages and Policies for Drought Mitigation and Adaptation: Review and Recommendations
Ivana Logar, Jeroen C. J. M. van den Bergh
- Using the Meteorological Information for the Regional Rainfall Frequency Analysis: An Application to Sicily
Salvatore Gabriele, Francesco Chiaravalloti
- Identification of the SCS-CN Parameter Spatial Distribution Using Rainfall-Runoff Data in Heterogeneous Watersheds
Konstantinos X. Soulis, John D. Valiantzas
- Dam-Breach Hydrograph Modelling: An Innovative Semi- Analytical Approach
George Tsakiris, Mike Spiliotis
- A Numerical Model of the Wave that Overtopped the Vajont Dam in 1963
Silvia Bosa, Marco Petti
- Water Costs Allocation in Complex Systems Using a Cooperative Game Theory Approach
Giovanni M. Sechi
- Tariffs and Cost Recovery in Water Reuse
M. Molinos-Senante, F. Hernandez-Sancho, R. Sala-Garrido
- Incorporating Non-market Benefits of Reclaimed Water into Cost-Benefit Analysis: A Case Study of Irrigated Mandarin Crops in southern Spain
Francisco Alcon, Julia Martin-Ortega, F. Pedrero

- Water Distribution System Reliability Based on Minimum Cut – Set Approach and the Hydraulic Availability
Stavros Yannopoulos, Mike Spiliotis
- Water Network Protection from Intentional Contamination by Sectorization
Armando Di Nardo, Michele Di Natale, Mario Guida
- Multi Objective Simulation-Optimization Approach in Pollution Spill Response Management Model in Reservoirs
Motahareh Saadatpour, Abbas Afshar
- Sustainability Issues in Water Management
Nilgun B. Harmancioglu, Filiz Barbaros, Cem P. Cetinkaya

The General Assembly of EWRA in Porto

As known, the General Assembly (GA) of EWRA will be held in Porto during the international conference of EWRA (26-29 June 2013).

In the GA all members of EWRA are invited and attendance is open to all participants of the conference.

During the GA two distinguished EWRA members Prof. Evan Vlachos and Prof. Luis Santos Pereira will be honored for their significant advanced contributions in the area of water resources management during the last decades.



Prof. Luis Santos Pereira between Dr. H. Vangelis and D. Tigkas, secretary and deputy secretary of the EWRA secretariat, during the International Symposium of EWRA (Catania, 2011).

Apart from some administrative matters, the GA will discuss and decide upon the new organization of EWRA, the results of the permanent groups, the venue of the next conference, the new journals etc.

The GA will close with the elections of the new Executive Committee (Jan 2014 - Dec 2017). Nominations for all the posts of the EC can be submitted by any EWRA member to the President or the Secretary General, from the 1st of June till the beginning of the GA.

EWRA International Conference in Porto - Tentative programme

Since the program is tentative all interested participants should check regularly the website of the Conference (<http://ewra2013.ewra.net>).

	Wednesday, June 26 th	Thursday, June 27 th	Friday, June 28 th	Saturday, June 29 th			
09.00-09.15	Registration		Session 7 Water Quality	Session 8 Water loss management	Session 13 Management and Modelling	Session 14 Droughts and Water Scarcity	Field trip
09.15-09.30	Welcome ceremony						
09.30-09.45	Keynote Speaker						
09.45-10.00	Coffee break						
10.00-10.15	Coffee break						
10.15-10.30	Coffee break						
10.30-10.45	Coffee break		Coffee break				
10.45-11.00	Coffee break		Coffee break				
11.00-11.15	Session 1 Lessons learned from WFD application	Session 2 Adaptive IWRM and new paradigms	Session 9 Optimal vs. Rational decision making	Session 10 Droughts and Water Scarcity	Session 15 Management and Modelling	Session 16 Droughts and Water Scarcity	
11.15-11.30							
11.30-11.45							
11.45-12.00							
12.00-12.15							
12.15-12.30							
12.30-12.45	Lunch		Lunch				
12.45-13.00	Lunch		Lunch				
13.00-13.15	Lunch		Lunch				
13.15-13.30	Lunch		Lunch				
13.30-13.45	Lunch		Lunch				
13.45-14.00	Lunch		Lunch				
14.00-14.15	Keynote Speaker		Keynote Speaker				
14.15-14.30	Keynote Speaker		Keynote Speaker				
14.30-14.45	Session 3 Floods Directive and applications	Session 4 Water and Energy	Session 11 Water Quality	Session 12 Incorporation of climate change effects and adaptation in WFD implementation	Session 17 Urban water cycle	Session 18 Water reuse and recycling	
14.45-15.00							
15.00-15.15							
15.15-15.30							
15.30-15.45							
15.45-16.00							
16.00-16.15	Coffee break		Coffee break				
16.15-16.30	Coffee break		Coffee break				
16.30-16.45	Session 5 Lessons learned from WFD application	Session 6 Risk management oriented approach	Poster session	Side event	Roundtable		
16.45-17.00							
17.00-17.15							
17.15-17.30							
17.30-17.45							
17.45-18.00							
18.00-18.15	Port of honor		Closing ceremony				
18.15-18.30	EWRA General Assembly						
18.30-18.45	EWRA General Assembly						
18.45-19.00	EWRA General Assembly						
19.00-19.15	EWRA General Assembly						
19.15-19.30	EWRA General Assembly						
19.30-19.45	EWRA General Assembly						
19.45-20.00	EWRA General Assembly						
20.00-20.15	EWRA General Assembly						
20.15-20.30	EWRA General Assembly						
20.30-20.45	EWRA General Assembly						
20.45-21.00	EWRA General Assembly						
21.00-21.15	EWRA General Assembly						
21.15-21.30	EWRA General Assembly						
21.30-21.45	EWRA General Assembly						
21.45-22.00	EWRA General Assembly						
22.00-22.15	EWRA General Assembly						
22.15-22.30	EWRA General Assembly						
	Gala dinner						

Could Sandy be more catastrophic?

G. Tsakiris

Centre for the Assessment of Natural Hazards and Proactive Planning, National Technical University of Athens

Hurricane Sandy hit the East coast of the United States on 29th October bringing destruction to the States of New Jersey and New York. The death toll in these two states and the Caribbean is estimated, up to this moment, to be above 200 deaths and with economic damage (according to the media) reaching something around 50 billion USD, only in the USA territory.

Sandy was named as “the hurricane of the century” mainly because it hit the centre of the Western World causing so much destruction to a vast area. Needless to say that the total impacts are still not fully known, since there are many indirect losses and intangible losses not accounted for, during the first days after the disaster.

However, a closer look on the phenomenon shows that Sandy could have been more destructive than it was. Some reasons for limiting the damages at the level mentioned above, can be attributed to two categories of reasons ;Physical reasons and reasons related to preparedness planning and emergency operations.

a. Physical Reasons

- i. The hydrometeorological event was transformed to a tropical storm when it reached the US coast due to a collision with a cold winter front. Therefore, Sandy lost a lot of its strength when it reached the US coast.
- ii. The timing of the year was not favourable for the development of a very strong event. There is no doubt that Sandy would be a lot stronger if it took place in August.
- iii. From the physics of the phenomenon, the resulting rainfall intensity is dependent on the radius of the vertical structure of the tropical cyclone in a reciprocal way. The larger the radius the less the rainfall intensity. In the case of Sandy the area hit was quite vast compared to the commonly encountered radii of the most tropical storms of the past. Therefore the vast size of the phenomenon resulted in smaller intensity and less damages.

b. Preparedness Planning and Emergency operations

It is widespread opinion that both, the preparedness planning and the emergency operations worked successfully, totally opposite to the case of Katrina some years ago. Early warning systems, evacuation plans, and emergency operations seem to have worked with efficiency and professionalism. This preparedness, the infrastructure available, and the determination of the Federal Government to assist the suffering areas were the decisive factors for keeping the damages and losses to the originally estimated figures.

Some conclusions drawn from this catastrophe are that additional protection of the areas, vulnerable to flooding from repeated storms, is needed and that the capacity of Federal organizations like FEMA should be increased and not dismantled. Hopefully the decision makers and the people will not forget this catastrophe soon. This hope is clearly described by a US official who admitted “we need hardening for the risk we’ve always faced”.

Water Quality Modelling for Rivers and Streams

Benedini M., Tsakiris G.

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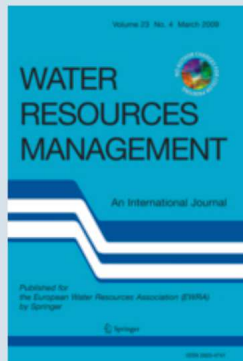


This title provides a comprehensive and detailed primer to water quality modelling. It provides the knowledge needed for a deeper understanding of these models and the development of new ones, which will fulfill future quality requirements in water resources management. The future quality requirements in water resources of the European countries include the main objective of the Water Framework Directive which is the achievement of “good status” of all the water bodies. Dispersion, advection,

dispersion and sinks or concentrated sources or sinks of contaminants lead to the formulation of the fundamental differential equation of contaminant transport. Its integration, according to appropriate initial and boundary conditions and with the knowledge of the velocity field, allows for contaminant behaviour to be assessed in the entire water body. Integration in the numerical field is useful for taking into account particular aspects of water body and pollutants. To ensure their reliability, the models require accurate calibration and validation, based on proper data, taken from direct measurements. In addition, sensitivity and uncertainty analysis are also of utmost importance. All the above items are discussed in detail in the book chapters which treat key water modelling issues, including: Water Quality in the Context of Water Resources Management, Basic Notions, Mathematical Interpretation of Pollution

Transport, Fundamental Expressions, Dispersion in Rivers and Streams, The Biochemical Pollution, The Most Frequent Pollutants in River, Temperature Dependence, Application of the General Differential Equations, The Steady-State Case, Interpretation in Finite Terms, Progress in Numerical Modelling: The Finite Difference Method, The Finite Element Method, The Finite Volume Method, Multidimensional Approach, Thermal Pollution, Optimisation Models, Model Calibration and Verification, Water Quality Measurements and Uncertainty, Model Reliability and Final Thoughts and Future Trends. This book is a must read for water planners and managers, watershed users, postgraduate students and professionals in the fields of environmental planning, water quality, civil engineering, and catchment management.

European Water Resources Association Journals



Water Resources Management

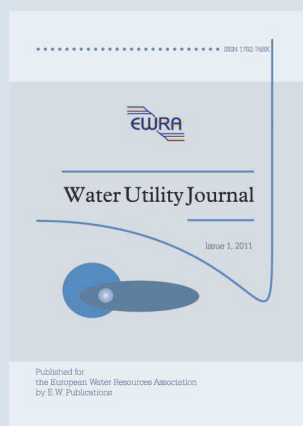
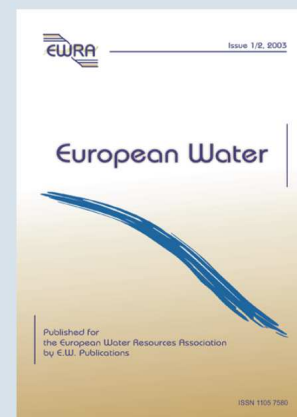
- starting date: 1987
- schedule: 15 issues per year

www.springerlink.com/content/0920-4741/

European Water

- starting date: 2003
- schedule: 4 issues per year

www.ewra.net/ew



Water Utility Journal

- starting date: 2011
- schedule: 2 issues per year

www.ewra.net/wuj