



## INTERNATIONAL WATER RESOURCES ASSOCIATION

Asociacion Internacional de Recursos Hidricos  
Association Internationale des Ressources en Eau

# PRESS RELEASE PRESS RELEASE

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**IWRA announces the selection of a paper by : Vladimir Smakhtin, Carmen Revenga and Petra Döll as the recipient of its Best Paper for Volume 29 of Water International Journal.**



**The Award will be presented at the 12<sup>th</sup> World Water Congress ,  
November 22-25 ,2005 , New Delhi , India.  
URL <http://www.worldwatercongress.org>**

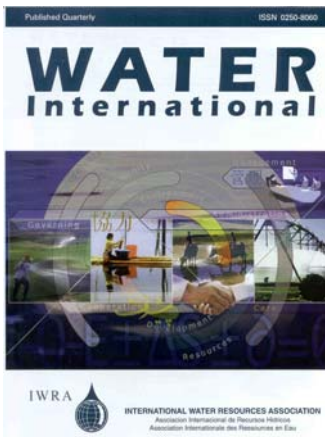
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## **April 29, 2005, IWRA announces.**

Aly M. Shady, President of the International Water Resources Association (IWRA) announces that the Executive Board of the IWRA has selected the paper by Vladimir Smakhtin, Carmen Revenga and Petra Döll as the Best Paper for Volume 29 (2004) of IWRA official journal, Water International. “The work of these three authors is another step forward for better understanding of the environmental water requirements among the many other competing demands.” Declared President Aly Shady. “Sustainable development requires a healthy ecosystem and wise management of scarce water resources. The authors have shown that water science can rise up to the challenge and help in finding the way for applying the integrated water resources management system so that an efficient, balanced and sustainable development can take place in serving the people needs while protecting the ecosystem”.

"I am delighted that young women scientists are taking their proper place in leading the integration of environmental issues in water resources. IWRA supports and encourages young talents to grow and present their work for the world to benefit from. This is a good example to follow in the future." Concluded Dr Lilian del Castillo Laborde Chairperson of the Awards Committee of IWRA.

### **Best Paper Awards:**



The winning papers are selected from all papers published in the last three volumes of the IWRA official journal, Water International (WIn). Nomination is made by a jury of the Editorial Board of WIn and vetted through the Awards Committee of IWRA. This paper is one of three winners covering the three volumes 27, 28 and 29 published in 2002, 2003 and 2004 respectively. The selected papers represent the lead thinking on international water issues of global concern. The selected papers represent the lead thinking on international water issues of global concern. The Award will be presented at the 12<sup>th</sup> World Water Congress on 22-25 November, 2005, at New Delhi, India.

Full texts of papers are available online for IWRA members at <http://www.iwra.siu.edu>.

Alternatively they may be obtained by contacting the Executive Director at E-mail: [iwra@siu.edu](mailto:iwra@siu.edu)

### **Background – The Paper**

**Paper 3, 2004 Volume 29, 'A pilot global assessment of environmental water requirements and scarcity', by Vladimir Smakhtin, Carmen Revenga and Petra Döll, (p. 307)**

**Abstract:** This paper presents a first attempt to estimate the volume of water required for the maintenance of freshwater-dependent ecosystems at the global scale. This total environmental water requirement consists of ecologically relevant low-flow and high-flow components and depends upon the objective of environmental water management. Both components are related to river flow variability and estimated by conceptual rules from discharge time series simulated by the global hydrology model. A water stress indicator is further defined, which shows what proportion of the utilizable water in world river basins is currently withdrawn for direct human use and where this use is in conflict with environmental water requirements. The paper presents an

estimate of environmental water requirements for 128 major river basins and drainage regions of the world. It is shown that approximately 20 to 50 percent of the mean annual river flow in different basins needs to be allocated to freshwater-dependent ecosystems to maintain them in fair conditions. This is unlikely to be possible in many developing countries in Asia and North Africa, in parts of Australia, North America, and Europe, where current total direct water withdrawals (primarily for irrigation) already tap into the estimated environmental water requirements. Over 1.4 billion people currently live in river basins with high environmental water stress. This number will increase as water withdrawals grow and if environmental water allocations remain beyond the common practice in river basin management. This paper suggests that estimates of environmental water requirements should be the integral part of global water assessments and projections of global food production.

### **Background – Biographical sketch of the Authors**



**Vladimir Smakhtin** holds an M.Sc in Hydrology from Moscow State University (1981) and a Ph.D. in Hydrology and Water Resources from Russian Academy of Sciences (1985). He is currently a Principal Scientist (Hydrology and Water Resources) in the International Water Management Institute, Colombo, Sri Lanka. He worked extensively in the fields of hydrological modelling, hydrological data provision for water projects in data poor regions, low-flow and drought analyses and environmental flow requirements of rivers and estuaries. Dr. Smakhtin is an author of over 60 research publications, numerous international presentations and specialist reports. **E-mail:** [v.smakhtin@cgiar.org](mailto:v.smakhtin@cgiar.org)



**Carmen Revenga** holds a M. Sc. in Conservation Biology and Sustainable Development from the University of Maryland, USA. She is a Senior Freshwater Scientist at The Nature Conservancy's Global Priorities Group, in the USA. Her main interests and focus are on policy research and analysis on freshwater ecosystems, including developing indicators on the condition of goods and services derived from freshwater systems. Ms. Revenga is the author of multiple research publications including the famous PAGE: Pilot Analysis of Global Ecosystems: Freshwater Systems (2000), Status and Trends of Biodiversity of Inland Water Ecosystems (2003) and Watersheds of the World:

Ecological Value and Vulnerability (1998). **E-mail:** [crevenga@tnc.org](mailto:crevenga@tnc.org)



**Petra Döll** holds a M.Sc. in Geology from the University of Colorado, Boulder, USA, a Ph.D. degree from Technical University of Berlin, Germany and a Habilitation (second doctorate) from University of Kassel, Germany in global and regional modeling of water availability and water use. She is a Professor of Hydrology at the Institute of Physical Geography, University of Frankfurt, Germany. Prof. Döll has 15 years of experience in hydrological and geohydrological modeling including water flow and contaminant transport in groundwater and unsaturated zone, water use and hydrology at various scales and extensive expertise in global change research and development of integrated

qualitative-quantitative scenarios. She has authored and co-authored over 50 research publications.

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## **International Water Resources Association (IWRA)**

IWRA is an international nongovernmental, nonpolitical, nonprofit, educational association comprising individuals, irrespective of race, color, age, gender, creed, religion, nationality, and political affiliation. IWRA has been recognized and respected as a leading advocate in advancing the understanding and management of water resources worldwide since its establishment in 1972. The members of IWRA from 110 countries represent every profession and academic discipline involved in the sustainable management of the world's water resources. IWRA is deeply committed to the sound management of water resources by improving our understanding of the physical, ecological, chemical, institutional, social and economic aspects of water. IWRA accomplishes its vision through dialogue, education, research, and information exchange between countries and across disciplines.

IWRA's Mission is to serve as an international gateway to the people, ideas and networks, which are critical to sustainable management of water resources around the world. The IWRA Constitution sets forth the following principal objectives of the Association.

- Advancement of water resources planning, management, development, technology, research, and education at international, regional and national levels.
- Establishment of a multidisciplinary forum for engineers, planners, administrators, managers, scientists, educators and others who are interested in water resources.
- Dissemination of knowledge and information in the area of water and related resources and the environment.
- Encouragement and promotion of international, regional and national water resources programs for the common benefit of the mankind.

IWRA strongly endorses water resources education activities worldwide for all sectors of society. Improved education is the key to solving our water resources problems and IWRA is the leader in promoting water education based on sound scientific and social principles.

IWRA's aims are to build and strengthen partnerships and mechanisms to facilitate the sustainable use of water resources worldwide. IWRA recognizes that its efforts must actively transcend many types of boundaries. IWRA's unique role is to serve as a bridge in networking people, information, and organizations removing the boundaries of geography, disciplines and professions .

### **The 12<sup>th</sup> World Water Congress**



The International Water Resources Association in association with Central Board of Irrigation and Power are cooperating to bring to the world community the 12<sup>th</sup> World Water Congress from 22-25<sup>th</sup> November 2005 at New Delhi, India.( for details visit : <http://www.worldwatercongress.org> )

**The main theme of the 12<sup>th</sup> Congress is: "Water for Sustainable Development– Towards Innovative Solutions"**

The following topics have been identified to address the theme of the Congress:

1. Integrated Water Resources Management
2. Water Infrastructure Development
3. Water Governance
4. Urban Water Management
5. Rural Water Management
6. Water Security and Risk Management
7. Economics and Financing of Water
8. Capacity Building for Water Resources Management

For further information about the Award , IWRA and the World Water Congress , Contact Dr Ben Dziegielewski , the IWRA Executive Director at:

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**Or visit the World Water Congress website at <http://www.worldwaatercongress.org>.**