



IWRA UPDATE

Newsletter of the International Water Resources Association

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Message from the President, Dr. Cecilia Tortajada

As the newly elected President of IWRA for the 2007-2009 period, let me first welcome you all to a new stage of dynamism and growth of the Association.

All members are cordially invited to visit our web-page to become acquainted with the activities of the Association and be able to participate as an integral part of IWRA. In the web-page, you will also find the IWRA Constitution and bylaws. I encourage you to read them so that all of us are aware of the rules of our Association and our governance practices.

The main strength of IWRA is its members, the most important component of our Association. The new Board is actively working to develop a forward-looking strategy for IWRA which will respond to the challenges in the water and water-related sectors of both the present and the future. This strategy will include, but will not be limited to, developing

special niches for the Association in the water sector; formulating partnerships with other water-related institutions all over the world; and strengthening the roles and impacts of IWRA through activities at national, regional and international levels. We also plan to develop innovative studies and come out with new state-of-the-art publications; coordinate our activities with other national, regional and international water-related associations; increase our membership in both under-represented sectors and countries, and keep on working to maintain the present membership base; establish geographical and national committees and make them functional; formulate and implement a communication strategy through which IWRA is able to communicate with the present membership in a more effective manner and also reach a much larger global audience; improve the quality of Water International, Newsletter and the web-site; promote the World Water Congress actively; and attract young professionals and students to our Association. These are all challenging tasks, but I am confident that we shall be able to accomplish them.

Among the activities already initiated following the Executive Board meeting in Cairo, February 2007, is the establishment of a Programme Task Force which I am chairing; a Task Force on Finances, chaired by Ms. Alexandra Pres, InWent Capacity Building, Germany; and a Task Force to review our Constitution and Bylaws, chaired by Dr. Lilian del Castillo Laborde, Ministry of Foreign Affairs, Argentina.

The Chairs of the Awards, Membership and Publications Committees, Dr. Ismail Najjar, Founder and President of Hydrosult, Canada; Dr. Gunilla Björklund, GeWa Consulting, Sweden; and Dr. James Nickum, Department Chair and Professor, International Studies, Tokyo Jogakkan College, Japan,

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respectively, are working to develop their strategies to improve the credibility, visibility and impacts of IWRA, always taking into consideration the interests and expectations of the IWRA members. Dr. Nickum and his team are also developing a communication strategy for IWRA, both for members and non-members of the Association. Once the strategies, plans and reports are reviewed by the Executive Board, we shall request our members to comment on them. Following these comments, the respective Chairs will amend their reports as appropriate and will present them to the Board for final approval and implementation.

The most important activity of the Association is the World Water Congress, which is organised every three years. The XIII IWRA World Water Congress on Global Changes and Water Resources will be held in Montpellier, France, 1-4 September 2008, by an extraordinary team led by Dr. Pierre Chevallier, Director of the Languedoc Research Institute of Water and Environment. The Chair of the International Scientific Committee for the Congress is Dr. Olli Varis, Helsinki University of Technology, who is also doing a remarkable job. Our Association is most grateful to these two very talented individuals for their dedicated and hard work.

We invite all members and non-members of IWRA not only to attend this Congress, but also to submit abstracts for possible presentation either as papers or posters. This Congress represents for all of us an opportunity to share with others our interests, experiences and work.

Our Executive Board has taken a special interest to foster IWRA activities in different parts of the world. During our 3-year period of office, 2007-2009, we plan to increase the activities of our Association manifold. Already, we have organised the following activities: International Workshop on Inundation-related Issues from Reservoirs, in Cairo, Egypt, February 12-13, 2007; International Seminar on Hydropolitics and Impacts of High Aswan Dam, Cairo, 14 February 2007; and International Workshop on 30th Anniversary of Mar del Plata: Achievements and Expectations, Zaragoza, Spain, 12-14 March 2007. These three workshops were attended by

leading water experts and decision-makers from all over the world. Reports on these meetings will soon be available in our web-site. Information on the future meetings is being updated in the web-site for your information.

IWRA is an interdisciplinary and multi-sectoral association where our strengths are reflected by our collective wisdom, knowledge and experience. Individually, each one of us can accomplish only limited results. Together, we can bring synergy, and a much richer pool of knowledge. I invite all of you to play an active part in the work of our Association. Only when we can mobilise the efforts of our members, the Association can reach its full potential. Thus, I most cordially invite all our members to contact me and/or our Executive Director as to how best each of you can contribute to the future developments and activities of our Association. Your views and suggestions will be most welcome, as will be your initiatives to help in our current and future activities.

I am looking forward to working with all of you during the next three years.



**Message from the
Executive Director,
Prof. Dr. Chandra A.
Madramootoo**

World Water Day was observed in March 2007, and this year's theme was: Coping with Water Scarcity. The Comprehensive Assessment of Water Management in Agriculture program has produced a map showing the regions and countries of the world either affected by, or approaching physical water scarcity, and those with economic water scarcity. Look at the map from any angle, and it's evident that Mexico, most of the African continent, large parts of the Middle East, the Indian subcontinent, Central Asia and small sections of southern Australia and the southern US are the worst affected by water scarcity. Those regions combined have over ½ of the world's population.

Water scarcity is brought on by a range of phenomena including natural climatologic dry spells or extended precipitation free periods, extreme events such as El Niño, anthropogenic influences including climate change, forest fires, and diminished availability of freshwater due to water pollution. As human beings we have control over some of these factors, but not all. In areas where we do have control such as anthropogenic influences and water pollution, the tools are in our hands. The question is whether we have risen as a community of water advocates to take charge. In the case of natural climatologic phenomena, these are clearly outside our control. But the question still remains: How dare we sit back?

The human faces of drought are well ingrained in us. We have seen the stark images of famine and death, particularly of infants and children, in the Horn of Africa. Malnutrition and destruction of rural communities in several regions continue. Economic and social livelihoods have collapsed. And poverty has crept in. The inaccessibility to good quality water that allows communities to function, children to attend school, and the production of basic food requirements is threatening the credibility of all of us working in the water sector and our various professional associations.

We the members of IWRA, now more than ever, have an obligation to rise up and act. We must embark on dedicated activities which will tackle head on the problems of world water, including water scarcity. The question we need to ask ourselves is: “What is IWRA doing to address the problems of water scarcity?” What initiatives are we leading in this and other areas?

Put 1-4 September 2008 in your calendar. IWRA will organize its 13th World Water Congress in Montpellier, France, on those very days. The Congress preparations have been in full force for more than one year now, and the congress is gradually finding its shape.

The local organizers of the Congress are the Languedoc Research Institute of Water and Environment (ILEE), an important French research organization in water sciences with 600 scientific staff in 11 government institutions; VERSeau Développement, a 30 years old association working on water research enhancement for public authorities, international partnerships and private companies; and Enjoy Montpellier, a company specialized in organization of events and the manager of the CORUM, the convention center in Montpellier where our Congress will take place.

The National Organizing Committee (NOC) is operating the process with IWRA. The NOC has a representation of the local organizers, IWRA, local authorities and water agencies, and water industry. Its permanent working cell consists of Dr. P. Chevallier, Dr. B. Pouyaud and Dr. E. Servat who chair the committee, S. Fonbonne, T. Soo and S. Vallejo who take care of the organization, and M. Tapiau with I. Valarie on communication and public relations.

In the capacity of the chair of the International Scientific Committee (ISC) and as one of the three Vice Presidents of IWRA, I have had the privilege to work closely with this team and link it with the ISC and IWRA Board. The progress so far is excellent and we IWRA members can set our expectations very high for this most important IWRA event in the second half of this decade.

According to the pre-registrations we may expect a rich participation from all parts of the world. We already have over 464 pre-registrations. But since we have still well over one and half years to go for the congress, we decided to extend the submission deadline until 31 August. With this move, we give authors more time to prepare abstracts without making us too busy since the preparations are already in a very good shape.



News on the Montpellier Congress, March 2007

Dear members of International Water Resources Association,

The NOC has set up an excellent web-based system for various purposes related to the congress. I encourage you to become acquainted with www.worldwatercongress2008.org.

We welcome you to join us in Montpellier. It is a challenge to think of a more attractive site for our congress, although our water planet abounds attractiveness in its all parts. Montpellier is in the deep south of France, in an area in which natural beauty of Mediterranean coast and beaches meet world's most ancient and still most productive vineyards, Camargue's bird paradise and mountains with karstic caves that have been the source of Montpellier's advanced water system for centuries. If I add the unique gastronomy and architecture of Languedoc, and ultramodern water research environment of prime quality, you might already think that nothing can stop you from opening your browser and buying an air ticket to Montpellier right away.

But let me add the most attractive and imaginative supply of exciting, top-quality congress events that include the scientific programme to which we all can contribute, but besides this the local community will be involved to enjoy the programme in various ways. I dare draw the curtain a bit: an open-air night session, open to public, in one of Montpellier's beautiful parks... an exposition "water for everyone", produced by "La Cité des Sciences et de l'Industrie" which is one of the planet's leading-edge science museums... a design contest between all the primary schools of Montpellier... come and see what other activities one week in Southern France can offer!

So, book those days and join us in the process towards Montpellier! Let's make this a great event!

Dr. Olli Varis
Vice President
Chair International Scientific Committee of the
IWRA World Water Congress 2008

Note from the Awards Committee

IWRA awards have always aimed at recognizing excellence, intellectual achievements and innovation

in the various fields of water resources. These non materialistic awards, such as the Crystal drop, the Ven Te Chow Memorial Lecture, Best Paper Award, IWRA Distinguished Lecture and Fellowship of the IWRA, have always targeted sources of excellence in the various aspects of Water Resources. The Recipients of these awards have traditionally and deservedly been the role models, the great achievers and the Pundits and Gurus of the water sector.

These awards and their targets should be maintained, but at the same time the IWRA should extend its outreach to the new generation – our young professionals and students. It is important to encourage the young generation of water scientists and university students to maintain the advocacy, innovation, intellect and excellence in this important and vital field of water resources management.

IWRA Awards Committee is planning to embrace the younger generation and extend its reach by offering awards to those students who have excelled in the study of water sciences, and perhaps also scholarships to those who choose to specialize in some important aspects of water management. A well publicized Awards Trust Fund established by the IWRA would certainly attract donations from concerned sources and make this proposal viable. This will also allow the IWRA to expand its popular base, enhance the execution of its mandate and nurture the young generation of water scientists from which the future Pundits of the water sector would emerge.

An additional category of awards will also be suggested, which would be based on specific themes in water resources which would be announced two years in advance. IWRA is also planning to reach out to the private sector and offer awards for best managed or best executed water development or planning project.

For all the awards to be offered, the Awards Committee will focus on codifying the terms, conditions, and selection criteria of each award, as well as the scheduling of each.

Dr. Ismail Najjar
Chair of the Awards Committee

Note from the Membership Committee

The IWRA Membership Committee consists of Dr. Gunilla Björklund, GeWa Consulting, freshwater policy and climate change consultant and university lecturer, Sweden, Chair; Dr. Undala Alam, Post-doctoral Research Officer, Centre for Water Science, Cranfield University, UK; Mr Brian Burrell, Consulting, Senior Engineer, Hydro-Com Technologies, Fredericton, NB, Canada; Professor Kaoru Takara, Coordinator, Group on Integrated Arts and Sciences for Disaster Reduction, Disaster Prevention Research Institute (DPRI), Kyoto University, Japan; Dr. Cecilia Tortajada, IWRA-President, Director of the International Centre for Water, Zaragoza, Spain, and Vice-President of the Third World Centre for Water Management, Mexico (ex-officio); and Dr. Anthony Turton, Research Group Leader: Water Resources Governance Systems, Council for Scientific and Industrial Research (CSIR), South Africa.

The IWRA Board, at its meeting in Cairo in February 2007, agreed that the Membership Committee should *inter alia* consider steps to increase membership further in underrepresented sectors and regions, to encourage members of national and regional water resources associations to become IWRA members and to attract members from international organisations. An important step has been taken by forging close cooperation with the Water Institute of Southern Africa.

Currently, the Committee is actively formulating a new strategy that seeks to understand how we might bring maximum value and benefits to the present and future membership with a view to growing IWRA in a way that naturally attracts water professionals by virtue of the complimentary personal and organizational objectives.

Dr. Gunilla Björklund
Chair of the Membership Committee

Note from the Publication Committee

According to the IWRA Bylaws, the Publications Committee “shall keep under review all the publications and the publications’ policy of the Association.” At the moment, however, IWRA has no formal publication policy, so one of the first items on the committee’s agenda is to draft a policy that suits the competitive environment that our Association is facing, making full use of the possibilities of contemporary electronic publications. This means moving from paper to webpage, and beyond the conventional understanding of “publications” to include communications strategies more generally.

Practically, one of the most pressing issues facing IWRA is a large backlog of accepted manuscripts for *Water International*. The committee is working with the Editor-in-Chief, Dr. Raja Sengupta, who has been appointed an ex officio member, to clear this backlog, speed up and tighten up our screening process for new manuscripts, and narrow our acceptance criteria to reflect the objectives and nature of the Association as policy-oriented, multidisciplinary, and international.

The committee chair, James E. Nickum, an institutional economist specializing in water and environmental governance issues in Asia, is a professor at Tokyo Jogakkan College in Japan and a partner in the Asian Water and Resources Institute. Yoon Kum Chan, a civil engineer, is Assistant Chief Executive for Water Supply of the Public Utilities Board, the national water agency of Singapore. Christopher Scott, a hydrologist, is an Assistant Professor in the Department of Geography and Regional Development and the Udall Center for Studies in Public Policy at the University of Arizona.

Publications and communications are primarily to serve the members of the IWRA, and so are we. Please feel free to contact the committee through the IWRA webpage.

Dr. James Nickum
Chair of the Publications Committee

Announcement of the Ven Te Chow Memorial Lecture

The Ven Te Chow Memorial Lecture is one of the most prestigious awards of the IWRA. It is named after Dr. Ven Te Chow (1919-1981), Founder and First President of IWRA.



Dr. Ven Te Chow was an eminent water scientist and a leading figure in water resources in the second half of the 20th Century.

He was a prolific worker and organizer. He served on numerous scientific delegations and committees and actively organized and participated in numerous professional conferences in the United States and worldwide. His honors included five doctorates, four special awards and three fellowships. He authored over two hundred monographs, books and technical papers covering the whole spectrum of water resources throughout the world. He was a remarkable man who, according to the doctoral citation from the University of Waterloo, had *“done more than any other living person to advance the field of water resources in the United States and in the world”*

The Ven Te Chow Memorial Award has been instituted by the IWRA in his memory, to be delivered at its triennial World Water Congresses.

The Awards Committee is pleased to receive nominations for the forthcoming Ven Te Chow Lecturer at the IWRA Triennial World Congress to be held in Montpellier in September 1-4, 2008. Nominations should be sent to the Chair of the Awards Committee no later than August 15th 2007, at the following Address.

The Winner will be announced on The World Water Day March 22, 2008.

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Water News - Innovations

New processes in the field of industrial effluents and the recovery of by-products –a Southern Africa perspective

J P Maree and S J Oosthuizen

Natural Resources and the Environment, CSIR, Pretoria, South Africa

For more than a century, South Africa's mineral industry - largely supported by gold, diamond, coal and platinum group metals production - has made an important contribution to the national economy, however the mining and processing of these minerals has had a significant environmental impact. South Africa is a semi-arid country in which large sections of the population have inadequate water supply. The apparent shortage of water is contrasted by the large amounts of waste water generated by mining operations. In the province of Gauteng 320 Ml/d acid mine water is generated by the current and defunct gold mines, and the coal mines of the Mpumalanga province generate 60 Ml/d of neutral and acidic mine water. For this reason, the Council for Scientific and Industrial Research (CSIR), Africa's largest research and development body, is working in conjunction with international partners to utilize the polluted excess water from the mines to alleviate predicted water supply stresses. Apart from the treatment and utilization of waste water, the CSIR is also developing technologies to break Africa's cycle of converting imported sulphur to sulphurous waste. The same technologies can be used to capture and convert natural sulphurous pollutants such as sulphur dioxide generated during the burning of sulphur rich coal, and gypsum precipitated during the neutralization of acid mine drainage.

South Africa imports more than 1,5M tons per annum of sulphur from Canada and the Middle East. The sulphur imported is processed, mainly into sulphuric acid, and utilized. Post-utilization the majority of

the sulphur ends up as waste gypsum. There are also several other sources of sulphur pollution from mining and industry, for example: the planet's second largest single polluter of sulphur dioxide is Selibe Phikwe, a mining town in Botswana where a copper-nickel smelter emits sulphur dioxide into the air. When sulphur dioxide combines with rain water, sulphuric acid is formed. Sulphuric acid is highly corrosive and as a result kills vegetation and corrodes infrastructure. Instead of venting or releasing these sulphur bearing compounds to the environment, technologies can be developed and implemented to capture and process the pollutants into valuable industrial chemicals.

Over the past few decades the CSIR has developed several technologies for the sustainable and cost effective treatment of mining wastes, these include the limestone/lime process for acid mine drainage neutralization, a biological sulphate removal process utilizing grass as a low cost substrate, and the GypSLiM process for the recovery of sulphur, lime and magnesium from waste gypsum. With these and similar novel technologies an integrated chemical process can be designed which will allow for the environmental problems of the past to become an economic mainstay for the future.

An integrated chemical process is currently being developed to treat the acid mine water for removal of free acid, metals and sulphate to levels suitable for discharge into public streams or for re-use. It is noted that sulphate can be removed from 4 510 to less than 250, magnesium to less than 2 mg/l and metals to less than 1 mg/l. A portion of the sulphate precipitates as gypsum which is converted to elemental sulphur and calcium carbonate. The produced calcium carbonate is recycled in the process while sulphur can be sold or used as raw material in the manufacturing of sulphuric acid.

Water News - International Conference “Water Resource Systems Management under Extreme Conditions”, 4-5 June 2008, Moscow, Russia

International Exhibition Centre “Crocus Expo”

The conference will be organized under the auspice of the Federal Agency for Water Resources and co-sponsored by the International Water Resources Association. The objective of the Conference is to enhance collaboration between specialists and knowledge exchange in such an important field as water resource management under extreme conditions. The conference will be a platform for meeting of specialists involved in different aspects of water resource management. Participants will gather to discuss the current state and methods of water resource management under extreme conditions and to present results of the latest research in order to provide possible trends for further development of resources management policy. Also representatives of World Meteorological Organization are expected to present within the frameworks of the conference the International Flood Management concept, and this will be a good opportunity to consider the needs and advances of flood management policy as well. This event should become a tool for making practical managerial decisions.

At the conference there will be made differentiation between the two basic origins of extreme conditions, and aspects on both categories will be discussed during the sessions.

The conference will focus extreme conditions of the following origins:

Natural

Forecast of extreme hydrological conditions

Risks assessment and planning of water resource systems regimes

Monitoring and operating management of water resource systems

Methods and technologies of information support for operation of water resource systems

Man made

Territory development and water resources management

Technical state of water facilities infrastructure and extreme situations risks assessment

Mistakes in management, their origin and impacts

Social and economic factors in making decisions to

manage water resource systems.

The Conference will be a part of the biggest in Russia/ CIS water congress ECWATECH (www.ecwatech.com). Parallel water exhibition with 700 exhibitors will increase synergetic effect of this important water event.

Contacts

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Forthcoming Events

International Conference on Water Resources Systems Management under Extreme Conditions (Crocus Expo Exhibition Centre in Moscow, 4-6 June 2007). During the Russian Water Congress ECWATECH (www.ecwatech.com). Additional information: Dr. Viktor Dukhovny, IWRA Director, at dukh@icwc-aral.uz

Managing the Largest Transboundary River Basin of the World: The Amazon Basin. During the Stockholm Water Week, August 2007. Additional information: Prof. Benedito P. F. Braga, past President IWRA at ben.braga@ana.gov.br

Session on Corruption in the Water Sector, Annual Conference of the Royal Geographical Society and the Institute of British Geographers (London, UK, 28-31 August 2007). (RGS-IBG) www.rgs.org
Additional information: Dr. Undala Alam, IWRA Director, at u.z.alam@cranfield.ac.uk

The Third International Congress on Climate and Water (Helsinki, Finland, September 3-6, 2008) <http://www.ymparisto.fi/default.asp?contentid=169172&lan=en>. Additional information: Dr. Olli Varis, IWRA Vice President and Chair, ISC, 2008 IWRA Montpellier Congress, at olli.varis@hut.fi

Third International Conference on Water Quality Management (Nagpur, Maharastra, India, 6-8 February 2008) Organised by the Geographical Committee of International Water Resources Association (India) in association with the Central Board of Irrigation and Power, New Delhi. Additional information: Mr. G. N. Mathur, Member Secretary, IWRA Indian Geographical Committee and Director, at uday@cbip.org

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