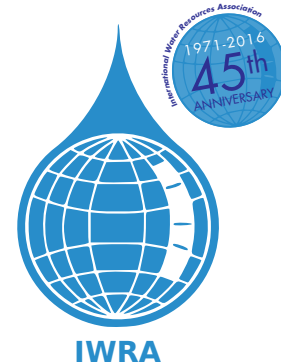


IWRA *Update*

Newsletter of the International Water Resources Association

DECEMBER 2016 | VOLUME 29 | ISSUE 4



SUMMARY

> EDITORIAL p.2

Special Editorial 45th Anniversary
Callum Clench, Executive Director

> XVI WORLD WATER CONGRESS p.5

> IWRA UPDATE p.9

> INTERVIEW p.10

Cecilia Tortajada,
IWRA Former President

> LATEST ACTIVITIES p.12

> PUBLICATIONS p.17

> PHOTO GALLERY p.22

> UPCOMING EVENTS p.26

> SCHOOL PROGRAMME OPPORTUNITIES p.28

> PHOTO GALLERY ON PAGE 22
South to North Water Transfer Project
in China

www.iwra.org



SPECIAL EDITORIAL 45TH ANNIVERSARY

Callum Clench, Executive Director

On November 29th, IWRA hit another milestone: the 45th Anniversary of our official founding by Ven Te Chow! The past 45 years have seen many changes for the IWRA and of course many developments in the world of water.

Our executive office has been located in numerous places in Virginia, Washington, Illinois, and New Mexico in the USA, as well as in Canada, South Africa and now France. We have held 15 World Water Congresses in 13 different countries on every continent. The Crystal Drop Award and the Ven Te Chow Memorial Lecture have both been awarded 11 times since the 1980s. The Cairo Statement was produced at our VIII World Water Congress in 1994 to establish the World Water Council. Our first newsletter Water International became a journal in 1975, and we are now up to Volume 41, and are about to expand from 7 to 8 issues per year from 2017.

Throughout all of this history, the contributions made by our boards, our members, and our partners have helped to keep us running and make us one of the oldest water NGOs of our kind in the world. For this support, on behalf of everyone involved in IWRA today, I express my sincere gratitude.

Internationally, water has risen in prominence over the past 45 years, with the growth of the modern environmental movement, to the creation of the Millennium Development Goals, and now the Sustainable Development Goals where water features strongly, and not just in Goal 6. The number of NGOs now either dedicated to water, or with divisions/programmes explicitly focused on water has also grown immensely. This is excellent news, and offers us all the chance to create new partnerships and synergies to ensure that water resources are managed in ever more efficient and sustainable ways, and that the competing demands on the water available to communities everywhere are treated in a balanced and fair way.

The IWRA recognises, that even with the support of so many members and partners, we too need to continue to forge closer relationships with other organisations, so that you, our members, can access a wider network in order to share your latest research and knowledge, and to discover what is happening in related fields, and in different regions. To this end, the IWRA has been busy over the past 3 months participating in a number of collaborations.

I went along with Mr. Guy Fradin our Secretary General to the Republic of Korea to participate in the Korea International Water Week, and also to sign a MoU with the Asia Water Council. This was followed by a visit to the organisers of the IWRA China Chapter in Beijing, to discuss ways of working more closely with our Chinese colleagues in the coming months and years. Our hosts in both Korea and China were incredibly welcoming, and we thank them for their kind hospitality.

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SPECIAL EDITORIAL 45TH ANNIVERSARY (CONT.)

Callum Clench, Executive Director

Furthermore IWRA Board members were present at the COP22 meeting in Marrakech where water featured heavily, and then also at the World Water Council's 60th Board of Governors meeting in Marseille and the Budapest Water Summit in Hungary. These were all great opportunities to meet with representatives from other organisations and to discuss ways of collaborating with them in future. It is expected that a number of new MoUs will be signed in the coming 12 months.

Finally, as we look forward to the year ahead, the XVI World Water Congress in Cancun, Mexico, of course features prominently in our calendar. Registration is now open and I hope to see as many of you there as possible. It is shaping up to be one of best Congresses to date. The Congress is now also clearly earmarked as a key milestone on the road to the 8th World Water Forum in Brasilia in 2018, meaning that a number of associated preparatory events will be taking place in Mexico; another great example of collaboration.

So as we approach our half century, let's continue to work together across this broad international water community to ensure that we continue to use sound science to develop strong policies for water management. This can only be done with all of your on-going support, participation and collaboration. See you in May 2017 in Cancun!



Cancun International Convention Center - Mexico © Unsplash.com





SEASON'S GREETINGS AND BEST WISHES FOR THE NEW YEAR!

The entire executive office and board of the International Water Resources Association (IWRA) joins in saying THANK YOU to our members and partners, and send Season's Greetings with best wishes for the New Year!

This year 2016, has been again fundamental for water; raising the profile of water resources on global climate negotiations and international development agendas, filled with numerous water events in all regions of the world; developing multiple new ideas, partnerships and cooperative activities, contributing towards a more sustainable and prosperous future.

IWRA warmly wishes you a happy festive season and looks forward to seeing you in Cancun for the XVI World Water Congress (29th May – 2nd June, 2017)!

Best wishes,

Patrick Lavarde
IWRA President



WORLD WATER CONGRESS



REMINDER

 **XVI**
World Water Congress
International Water Resources Association (IWRA)
Cancun, Quintana Roo, Mexico 2017
29th May to June 2nd 2017

REGISTRATION IS OPEN!

The Organising Committee of the XVI World Water Congress, composed of the International Water Resources Association (IWRA), the National Water Commission of Mexico (CONAGUA) and the National Association of Water and Sanitation Utilities of Mexico (ANEAS) is pleased to invite you to participate in the Congress to be held in ICC Cancun Convention Centre in Cancun, Quintana Roo, from 29 May to 2 June 2017.

We look forward to your participation!

Follow the link to the registration platform :

iwra2017.xporegistro.com



XVI WORLD WATER CONGRESS

MORE ABOUT THIS INTERNATIONAL EVENT

The International Water Resources Association (IWRA) in partnership with both Mexico's National Association of Water and Sanitation Utilities (ANEAS) and National Water Commission (CONAGUA) warmly invite you to attend the XVI World Water Congress in Cancun, from May 29th to June 2nd, 2017.

The World Water Congresses provides a meeting place to share experiences, promote discussion, and present new knowledge, research and developments in the field of water policy and science from around the world. The main aim in 2017 is to help build strong water policies based on sound science.

There will be around 250 scientific papers presented, 100 poster presentations, and numerous special sessions.

Some High Level Speakers have already confirmed, including:

- **András Szöllösi-Nagy** – Chairperson, UNESCO's International Hydrological Programme (IHP) Bureau
- **Karin Krchnak** – Director, Freshwater Program, WWF
- **Aziza Akhmouch** – Head, OECD Water Governance Initiative
- **Mark Smith** – Director, IUCN Global Water Program
- **Cecilia Tortajada** – Senior Research Fellow, Institute of Water Management, Lee Kuan Yew School of Public Policy
- **Benedito Braga** – President, World Water Council

In addition, there will also be several High Level Panels:

- Water & Business
- Water & the Sustainable Development Goals
- Water & Climate Change
- Integrated Water Resource Management
- The Water Energy Food Nexus

The collaboration between the IWRA and the Mexican Government will also see the participation of other influential Congress attendees, including representatives of the OECD and UNESCO. The World Water Congress is also officially recognised as an important stepping stone to the 8th World Water Forum planned to take place in Brasilia in 2018.

We are expecting around 1,500 attendees in Cancun. In addition to the sessions described above, there will also be a programme aimed at maximising your ability to network with other attendees, including receptions, a Gala dinner, awards ceremonies, and technical visits. Finally, there will also be an IWRA General Assembly for members. More details on all events can be found on the Congress website: www.worldwatercongress.com.

We warmly encourage you to join us at the XVI World Water Congress, to participate in this important process, and to help bridge the gap between science and policy.

We look forward to welcoming you to Cancun, Mexico in 2017!

[Register here](#)



XVI WORLD WATER CONGRESS



LAST CALL FOR AWARDS NOMINATIONS

Crystal Drop Award and Ven Te Chow Memorial Lecture

IWRA is calling for nominations for the following distinguished awards, to be presented at the XVI World Water Congress in Cancun, May 2017. Nominations should be sent by e-mail to awards@iwra.com, before 10th January 2017.

Crystal Drop Award

The Crystal Drop Award is provided to organizations or individuals in recognition of their laudable contributions to the improvement of the world's water situation. These contributions may be through a) path-breaking research on water issues; b) practice in water management or governance; c) knowledge transfer or dissemination and/or d) outstanding contributions not covered by the above.

A nomination for the Crystal Drop Award must include:

1. name of organization or person nominated;
2. basic information on the candidate, including:
 - i. a short (up to 1,000 words) synopsis (for an organization) or curriculum vitae (for a person);
 - ii. a description of the most important contributions to be considered for nomination;
3. at least two letters of recommendation from persons other than the nominator.



XVI WORLD WATER CONGRESS

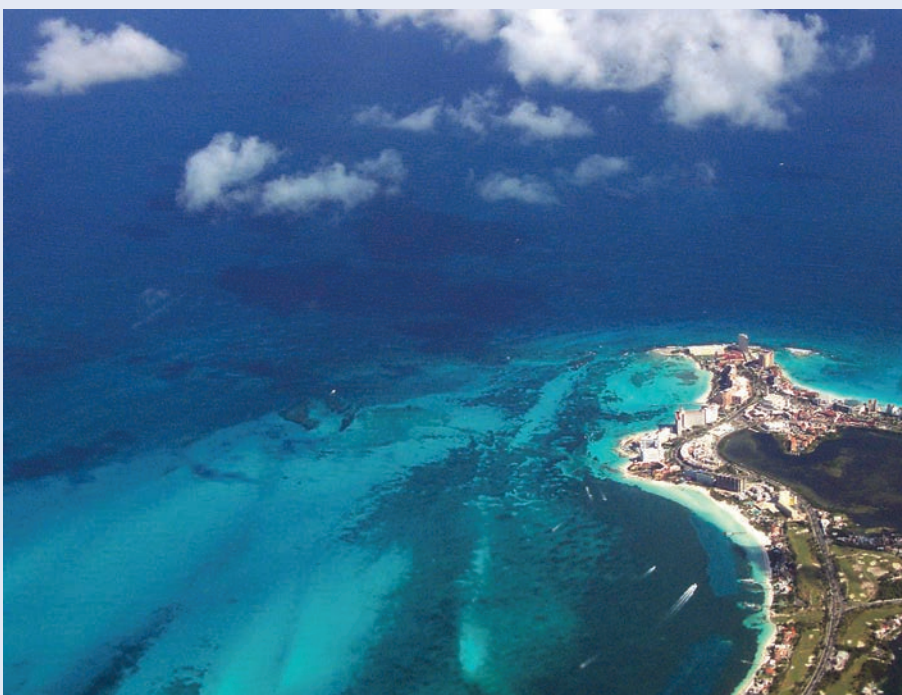
Ven Te Chow Memorial Award and Lecture

The Ven Te Chow Memorial Lecture provides for an outstanding lecture at its Congresses in honour of the first president of the IWRA. Nominees should be well-known in the water community, and have a demonstrated ability to give outstanding lectures. The awardee will be expected to deliver a lecture at the World Water Congress that promotes the objectives of the IWRA, especially to a) lead and influence water policy and governance; b) develop and publicize tools for assessment, improvement and conjunctive use of water; c) advance water resources planning, management, development, technology, research and education at international, regional, and national levels and d) generate, synthesize, and disseminate knowledge and information in the area of water and related resources and the environment.

A nomination for the Ven Te Chow Award and Lecture must include:

1. name of person nominated;
2. basic information on the candidate, including:
 - i. a short (up to 1000 words) curriculum vitae
 - ii. a description of the most important contributions to be considered for nomination
 - iii. an indication of the topic(s) of a lecture to the World Water Congress
3. at least two letters of recommendation from persons other than the nominator.

Both IWRA members and non-members may propose nominations. Nominees do not need to be IWRA members, but if they are not, they will be encouraged to join. Members of the Awards Committee may not be nominees but can and should make nominations, in which case they will recuse themselves from voting on their own nominees. No person or organization may be nominated for more than one award. Past IWRA Presidents are not eligible for these Awards.

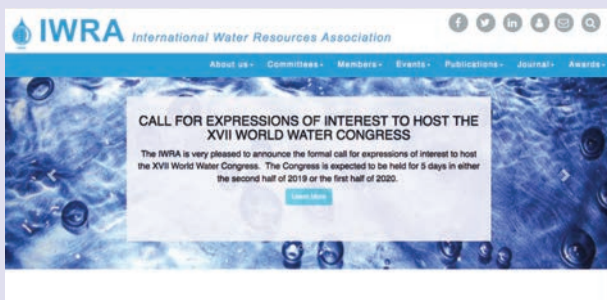


IWRA UPDATE

WEBSITE

The International Water Resources is proud to announce its newly redesigned website

www.iwra.org.



This site aims to simplify and extend our content, streamline our menus, provide clear navigation and a responsive layout for all our communication platforms, as well as to increase the visibility of all our work and activities. We are continuing to add more content from past congresses, including the XV World Water Congress in Scotland (2015), the XIV World Water Congress in Brazil (2011) and the XIII World Water Congress in France (2008), as well as the ongoing inclusion of photographic materials and illustrations regularly received in relation to events and publication in our journal, policy briefs and webinars.

The new design will certainly allow us to better connect and stay closer to our members and partners, together with the international water community and other non-water related actors.

Please visit our new website, as well as our social media channels (Twitter, Facebook, LinkedIn and YouTube) to discover, explore and learn more about the full spectrum of our work and activities worldwide.



EXECUTIVE OFFICE



The Executive office is glad to welcome our new Communications Officer, *Ignacio Deregibus*, who joined our team in Paris at the beginning of December. Ignacio has previously worked with UNESCO's International Hydrological Programme (IHP) and with the Water Team at the Environment Directorate of the Organisation for Economic Co-operation and Development (OECD), and is a graduate from Sciences Po-Paris. Ignacio will support IWRA in the lead-up to the XVI World Water Congress - www.worldwatercongress.com, in Cancun, Mexico in late May 2017 as well as help to redefine and implement the new communications strategy for 2016-2018, and assist us build a stronger programme of engagement with members and partners.

INTERVIEW 45TH ANNIVERSARY

Cecilia Tortajada, IWRA Former President



Dr. Cecilia Tortajada is a Senior Research Fellow at the Institute of Water Policy with Lee Kuan Yew School of Public Policy in Singapore. The main focus of her work at present is on the future of the world's water, especially in terms of water, food, energy and environmental securities through coordinated policies. She has been an advisor to major international institutions like FAO, UNDP, JICA, ADB, OECD and IDRC as well as a past President of the International Water Resources Association (2007-2009) and an honorary member of the IWRA. Likewise, she is Associate Editor of Water International and IWRA (India) Journal, and she is the author and editor of more than 30 books by major international publishers. Her work has been translated into Arabic, Chinese, French, German, Japanese and Spanish languages.



> It is indeed a special year for the IWRA celebrating its 45th anniversary. What does it mean to you as a former president?

When IWRA was first established by Ven Te Chow, he wanted it to be a cross-sectoral and multidisciplinary association that would work on both technical and policy issues. Throughout this time, IWRA has taken the challenge and has made itself relevant technically and policy-wise and has become an association that focuses on multi-sectoral and multidisciplinary issues. IWRA is a respected association that has played a very important role in putting water high in the international agenda, for example, by creating the World Water Council.

> In your view, what was and still is IWRA's distinctive role and where do you see progress has been achieved the most in these last 45 years in water resources? Where do you see the IWRA evolving towards?

One of IWRA's distinctive roles has been to contribute towards the holistic study of water resources management. No other association has done it. IWRA has not had any hidden agenda or pursued any specific paradigm or dogma. It has remain focused on its role: distill knowledge, disseminate it, and provide platforms for discussion of topics that have been important throughout the past four and a half decades.

INTERVIEW

Advances in water management practices have been incremental but the world has changed very rapidly in ways that had not been anticipated. The role that IWRA has to play in the future includes the realisation of how the world is changing, anticipate the type of knowledge that will be necessary, provide new and innovative platforms for discussions, and further improve communication exchanges with academics and policy-makers on topics that are relevant to both the groups.

> Please could you share some memorable moments from past World Water Congresses as well as learning experiences from the work and activities of IWRA?

Congresses have seen the involvement of more and different type of participants that have brought with them new insights to each one of the events. Many well established academics and practitioners have either been members of the Association or have participated in the congresses. These have been some of the most memorable moments: to see that the Association has been relevant for junior and senior scholars with different backgrounds and varying interests in different times in history.

> What are the major remaining water challenges being faced globally and what do you think needs to be done to address these problems by the international water community?

Global challenges are many: increasing demand, surface and groundwater pollution, scarcity, mismanagement, mis-allocation, inefficiency, simplicity when analysis complex topics, etc. The main challenges, however, have been that institutions have not been able to respond to the challenge of formulating and implementing policies that address the needs of the different sectors in an integrated manner.

> Lastly, if you have to leave a message to the youth and young professionals working on the water sector or related areas, what would that be?

Do more and do it better: contribute, become relevant, be more realistic, innovative and adventurous, and consider every time whether something is still missing. Above all, challenge prevailing wisdom, including the own ideas.

Water is a prerequisite resource for global sustainability, plays essential roles in every other sector and sustain political, economic, social and environmental systems. It also provides an entry point to address development objectives. Until and unless there are people and institutions that can study water resources comprehensively, management and policy making will not advance to the level that is required.

LATEST ACTIVITIES

VISIT TO KOREA: NEW MOU WITH THE ASIA WATER COUNCIL & THE KOREA INTERNATIONAL WATER WEEK 2016



In October, IWRA was invited to the Republic of Korea by the Ministry of Land, Infrastructure and Transport (MOLIT), K-Water, the Korea Water Forum and the Asia Water Council. The purpose of the visit was twofold. Firstly, IWRA went to sign a Memorandum of Understanding (MoU) with the Asia Water Council at its 3rd Board of Council meeting in Andong. Signed by IWRA's Secretary General, Guy Fradin, on behalf of the President, this agreement seeks to build on collaborative initiatives in the areas of water and water-related topics through the improvement of water resources decision-making, programme research synergies and joint activities. IWRA also became member of the Asia Water Council.



Secondly, IWRA participated in the Korea International Water Week (KIWW) 2016 in Daegu, which focused on the theme of "Water Partnership for Sustainable Development". IWRA's Executive Director, Callum Clench, moderated a session on "Smart Water Management" and was a judge on the evaluation committee for the "World Water Challenge 2016" competition. Meanwhile, Guy Fradin provided a Keynote Address in the opening ceremony and also took part on the Water Leader's Roundtable. Furthermore, he addressed the audience

at the Implementation Roadmap Review Meeting on behalf of the World Water Council.

This proved to be a very productive visit for IWRA to Korea on both fronts, and also provided the opportunity to meet with a number of high ranking officials from MOLIT, K-Water, the Korea Water Forum, and the City of Daegu to discuss options for future collaboration with IWRA.

The IWRA would like to extend its immense gratitude to MOLIT, the organisers of the KIWW, and the Asia Water Council for inviting and receiving IWRA in the Republic of Korea.

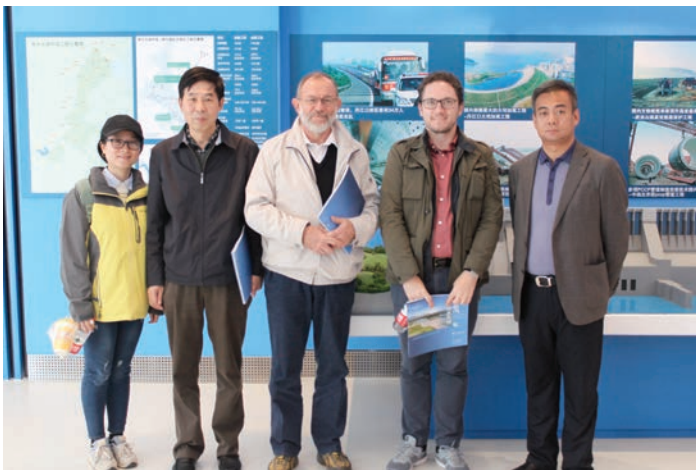
LATEST ACTIVITIES

VISIT TO THE PEOPLE'S REPUBLIC OF CHINA



Following their visit to the Republic of Korea, our Executive Director and Secretary General also travelled on to Beijing to meet with members of IWRA's China Chapter. Guy Fradin made a presentation on water management in France, followed by bilateral talks on how to boost collaboration with the Chapter and China's Ministry of Water Resources.

Our hosts, the General Institute of Water Resources and Hydropower Planning and Design, Ministry of Water Resources, also kindly arranged a fascinating technical visit to where the South to North Water Transfer Project arrives in Beijing. This project draws water from rivers in the south to supply dry areas in the north of the country, and in particular the growing capital Beijing. At over 1,000 km long, it is indeed a massive initiative that has already taken 50 years from design to deployment. It carries water through a system of canals, pipes and aqueducts to holding ponds near the centre of Beijing. Aiming to link China's four main rivers – the Yangtze, Yellow River, Huaihe and Haihe - by 2050, this project will eventually divert 44.8 billion cubic metres of water annually to the population centres of the drier north, expecting to cost \$62 billion by its finalisation.



Resources of China, and in particular our Vice-president Professor Yuanyuan Li, for their kind hospitality.

The International Water Resources Association would like to thank again the Ministry of Water

LATEST ACTIVITIES

ROAD TO THE 8TH WORLD WATER COUNCIL, BRASILIA 2018



In the framework of its 20th Anniversary, the World Water Council held its '60th Board of Governors' meeting on November 25th-26th, 2016, in Marseille, France. Gathered in preparation and planning for the 8th World Water Forum to take place in Brasilia in 2018, this last meeting of the year served as a special occasion to commemorate the Council's achievements in the past two decades putting water challenges and priorities high in the political agendas worldwide.

IWRA also joins in congratulating the World Water Council for its anniversary and is proud of its 20th celebration, particularly following the Council's conception at the 8th World Water Congress in Cairo in 1994.

Brasilia, Brazil



LATEST ACTIVITIES

BUDAPEST WATER SUMMIT

From 28-30 November 2016, Hungary hosted its second Budapest Water Summit, and IWRA was actively present there. With approximately 2,600 participants from 117 countries, IWRA's President, Patrick Lavarde, and Executive Director, Callum Clench, participated in many discussions and events at the Millenáris Park conference center. IWRA's President participated in the high-level panel discussion on "How to get more green?" and addressed the Youth Forum at the summit. Also present at the summit were heads of state and ministerial-level delegates from Bangladesh, Mauritius and Tajikistan as well as high level representatives from other international organisations, the private sector and civil society. In addition, other keynote speeches were given by H.E. Mr János Áder, President of the Republic of Hungary, H.E. Mr Peter Thomson, President, United Nations General Assembly. Video messages were sent by H.E. Mr Ban Ki-Moon and His All Holiness, Bartholomew I, Archbishop of Constantinople, New Rome, and Ecumenical Patriarch. An address was also made by Mr Joaquim Levy, Managing Director and Chief Financial Officer, The World Bank Group, highlighting the importance of today's water challenges and threats on climate change, and the urgent global need for action and multidisciplinary and multisectorial coordination.



For more information on the Summit's closing document, main messages and recommendations please visit:
 > www.budapestwatersummit.hu

WORLD TOILET DAY



In this year's World Toilet Day - 19 November, IWRA took part of the 2016 Task Force, helping to raise awareness internationally and inspire action from multiple actors around the globe to tackle this ongoing and long lasting sanitation crisis.

Under the general coordination of UN-Water with governments and partners, this year's theme on 'Toilets and Jobs' emphasised how livelihoods are impacted by sanitation or the lack of it. Access to decent sanitation in the workplace plays a major role in creating more opportunities, more jobs and a stronger economy, together with improving and protecting the health of populations, especially the most vulnerable groups of society like women, youth or children. According to UN-Water, presently 2.4 billion people struggle each day to keep themselves healthy and their children alive, and to obtain proper sanitary working conditions.

The World Toilet Day was a real success. Final figures indicate an estimated social media reach of 976 million people around the planet, a significant increase of 35% from last year. Yet, the challenge is still enormous. As former UN Secretary-General Ban Ki-moon said back in 2013 "we must (first) break the taboos" to make significant, real progress.

LATEST ACTIVITIES

MEMBERS ACTIVITIES

COP22 #CLIMATEISWATER EVENT



Several Board members from IWRA were present and active at events at COP22 in Marrakesh, Morocco. This COP was special for water as it was the first ever to have a dedicated and official 'Action Day for Water – Dialogues Sessions' (9 November) in the blue zone. Board members helped moderate topics on financing mechanisms and water adaptation and mitigation, and knowledge generation, cooperation and capacity building. Moreover, Dogan Altinbilek, former President of IWRA and Vice-President of the World Water Council (WWC), was invited to the "Global Climate Action Agenda Water Event Showcase" session as a key speaker. He also expressed his satisfaction with "... a large number of champion organisations from all sections of water – UN agencies, NGOs, some water ministries it's very good all these people are working for the same targets – to put water as a solid agenda item in the climate discussions". The members of the international initiative "#ClimateIsWater" of which IWRA is part of the Steering Committee, worked actively in both green and blue zones to ensure a strong visibility for water.

For more information please visit:

> cop22.ma

INTERNATIONAL CONFERENCE ON 'WATER SECURITY AND CLIMATE CHANGE: CHALLENGES AND OPPORTUNITIES IN ASIA', Asian Institute of Technology, Bangkok, Thailand 29 November - 01 December, 2016

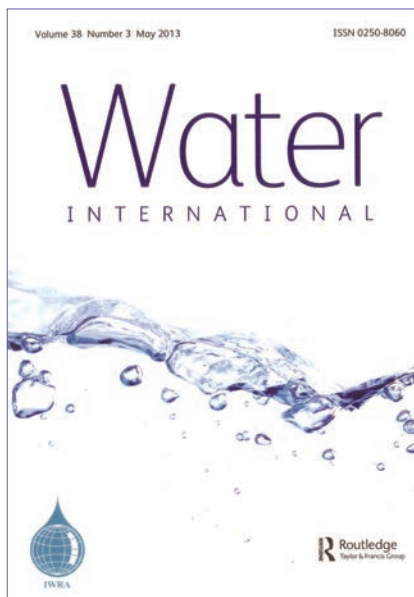
Organized by the DAAD exceed centres CNRD at TH Köln, Germany and SWINDON at Technical University (TU) Braunschweig, Germany together with the Asian Institute of Technology, Thailand, the International Conference on 'Water Security and Climate Change: Challenges and Opportunities in Asia' has provided a main platform to address Asia's many water security challenges. For decades multiple drivers such as increasing population, socio-economic development, urbanization, and migration, among others, are putting pressure on Governments in this region to make their societies water-secure.

More than 150 leading experts from almost 30 countries in Asia and beyond participated in the numerous technical and special sessions, with 82 oral and 18 poster presentations and many round tables discussions. Participant discussions included water security and the environment; urban and rural water security; climate change adaptation and water; water security enhancement interventions; water security assessment and quantification; water security philosophies and stakeholders engagement; wastewater reuse for water security; and water energy food nexus challenges. The event aimed at initiating dialogue on concrete suggestions for future research priorities, as well as recommending adequate and innovative formats for research projects. The discussions on new research collaborations between scientists and practitioners were particularly insightful as they also focused on bridging science and policy.

An edited book and a special issue of the Water Resources Management journal based on the papers presented at the conference are planned. It is also intended to present the conference outcomes at the XVI World Water Congress of IWRA in Cancun, Mexico on 29 May – 02 June 2017.

More information and update are at:

> sea.exceed-swinton.org



PUBLICATIONS

Water International

Issue 7, 2016

Putting practice into policy

EDITORIAL

The need to put practice into policy: editors' introduction to the special issue of papers from the IWRA XV World Water Congress, James E. Nickum, Cecilia Tortajada & Philippus Wester - Pages: 945-947

RESEARCH ARTICLES

Towards best water management policies: how current irrigation reservoir operation practices compare with theory in Alberta, Marie-Ève Jean & Evan G.R. Davies - Pages: 948-965

ARTICLES

- *Can water users' associations improve water governance in China? A tale of two villages in the Shiyang River basin, Haiyan Yu - Pages: 966-981*
- *The cultural dimensions of household water security: the case of Kathmandu's stone spout systems, Olivia Molden, Nicholas Griffin & Katie Meehan - Pages: 982-997*
- *A framework for strategic river restoration in China, Robert A. Speed, Yuanyuan Li, David Tickner, Huojian Huang, Robert J. Naiman, Jianting Cao, Gang Lei, Lili Yu, Paul Sayers, Zhongnan Zhao & Yu Wei - Pages: 998-1015*
- *A typology of water market intermediaries, Jennifer Möller-Gulland & Guillermo Donoso - Pages: 1016-1034*

COMMENTARIES

- *A water-energy-food security analysis tool for mining in Suriname: operationalizing the Mining Policy Framework of the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, Dimple Roy, Darren Swanson, Carter Borden, Alec Crawford, Livia Bizikova & Gabriel Huppe - Pages: 1035-1043*
- *Rethinking China's water policy: the worst water quality despite the most stringent standards, Xueqiang Lu, Bin Zhou, Rolf D. Vogt, Hans M. Seip, Zhiwei Xin & Östen Ekengren - Pages: 1044-1048*

BOOK REVIEW

Claudia Pahl-Wostl, Anik Bhaduri and Joyeeta Gupta, Handbook on water security, Andrea Beck - Pages: 1049-1051

PUBLICATIONS

Policy Briefs & Webinars

WEBINAR

Grand Ethiopian Renaissance Dam (GERD)

With more than 90 attendees, the Grand Ethiopian Renaissance Dam (GERD) webinar on November 23rd was our strongest yet. This event brought together contributors from the special issue of *Water International* (Vol.41 Issue. 4) and others to discuss technical, legal, economic, and political problems and solutions for this major development. Distinguished panelists included Prof. Anthony Turton, University of Free State (South Africa), Remy Kinna, Mekong Legal Director at EarthRights International (Thailand), Milgros Sosa Landeo, Wageningen University (The Netherlands), Prof. Robert Patrick, University of Saskatchewan (Canada), and Peter Rosewarne, SRK Consulting (South Africa). It was moderated by Scott McKenzie, PhD Student, University of British Columbia (Canada).

The GERD represents both a source of electricity for Ethiopia and a potential threat to Egypt's water security and has played a major factor in international relations between basin states. Even though this is a changed issue, our panelists agreed on the need for dialogue, openness, and the exchange of data. Many of you may remember that these issues were brought up during a special session at the XV World Water Congress in Edinburgh Scotland, and a special thanks goes to the special issue editors Zeray Yihdego, Alistair Rieu-Clarke & Ana Elisa Cascão for their hard work on this project.

Please be on the lookout for a policy brief on the GERD and our next webinar in early 2017.


PUBLICATIONS

Policy Brief & Webinars

POLICY BRIEF

THE GREAT ETHIOPIAN RENAISSANCE DAM (GERD)
 from *Water International*, Volume 42, Issue 1, January 2017

> Links www.iwra.org | www.tandfonline.com

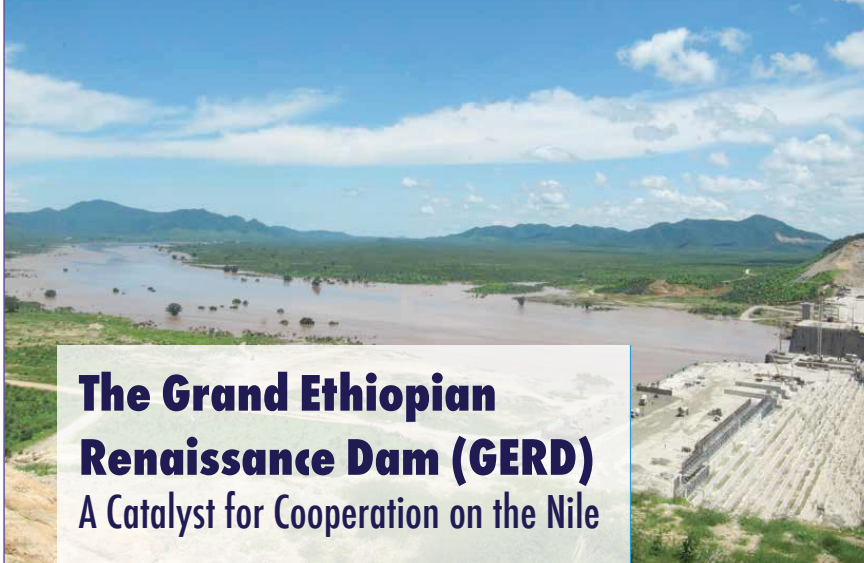


Water

INTERNATIONAL

POLICY BRIEFING

Water International
Number 5
December 2016



The Grand Ethiopian Renaissance Dam (GERD) A Catalyst for Cooperation on the Nile

KEY POLICY MESSAGES


- GERD can provide a catalyst for further cooperation on water among the Nile Basin states.
- Potential benefits extend beyond energy and could trigger regional integration and foster sustainable economic development across the basin.
- At the same time, the GERD is a large-scale project and mitigating its associated potential negative impacts will require close collaboration.
- If riparian countries, particularly in the Eastern Nile Basin, can continue to work jointly to establish a suitable legal and institutional framework, there can be a significant payoff in the transparent, sustainable and equitable implementation of water-related infrastructure and development plans.

■ GERD Main dam and upstream natural flooding due to high rainfall, July 2016 © Ana Casado

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- or subscribe only to the journal at: www.tandfonline.com/loc/cwin20/current

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POLICY BRIEFING / The Grand Ethiopian Renaissance Dam (GERD): A Catalyst for Cooperation on the Nile / www.iwra.org

PUBLICATIONS

by members

Preserving Groundwater in a Changing Climate

by Renee Martin-Nagle

This article raises awareness about the world's limited freshwater resources and argues on the importance water in aquifers, commonly known as groundwater, especially have in agriculture. It also informs on basic types of aquifers - recharging and non-recharging, the dependency of human activities on these sources and the effects of climate change have on groundwater systems. The case of California is highlighted and is contrasted to the European Union's Water Framework Directive (WFD), adopted in 2000. Given the global dependence of agriculture on groundwater, preserving the resource for this and future generations is imperative.

> Read

Sustainable Water Resources Planning and Management Under Climate Change

by Kolokytha, E., Oishi, S., and Teegavarapu, R.S.V.

This book discusses different aspects of water resources under changing climate, ranging from hydrology and modeling to management and policy responses. Climate changes and the uncertainty of future hydrological regimes make sustainable water resources management a difficult task, requiring a set of approaches that address climate variability and change. The book focuses on three main themes: hydrological changes, adaptive decision-making for water resources, and institutional analysis and risk management.

The book contains contributions of ten authors. Chapter 7 "Adaptation to Climate Change: Risk Management" is authored by S.P. Simonovic, Fellow of IWRA. Adaptation to climate change is a challenge that is complex and involves increasing risk. Efforts to manage these risks involve many decision-makers, conflicting values, competing objectives and methodologies, multiple alternative options, uncertain outcomes, and debatable probabilities. Adaptation occurs at multiple levels in a complex decision environment and identifying the best adaptation response is difficult. Risk management techniques help to overcome these problems. Here,

risk management is presented as a decision-making framework that assists in the selection of optimal strategies (according to various criteria) using a systems approach that has been well defined and generally accepted in public decision-making. In the context of adapting to climate change, the risk management process offers a framework for identifying, assessing, and prioritizing climate related risks and developing appropriate adaptation responses. The theoretical discussion is illustrated with an example from Canada.

The 12 OECD principles on water governance

– *When science meets policy*

by Akhmouch, A. and Nunes-Correia, F.

On the 4th of June 2015 the OECD Ministerial Council welcomed the "OECD Principles on Water Governance". This is one of the most visible and high-level results of two years of activity of the Water Governance Initiative (WGI), a multi-stakeholder platform of more than 100 delegates from public, private and non-profit sectors and gathering twice a year in a policy forum since March 2013. This new guidance for policymakers is rooted in six years of work on multi-level governance of water policy at the OECD, and more recently in the areas of stakeholder engagement, governance and performance of water services, basin governance, and integrity and transparency. The Principles were developed in a bottom-up fashion and led to extensive consultation of multiple and diversified interested parties in the early stages of their preparation. They are clustered around three main driving goals of water governance, namely its effectiveness, its efficiency, and its ability to generate trust and engagement, and are meant to inspire actions leading to better water governance at all levels of government and across the range of stakeholders involved in water policy design and implementation. Based on the authors' advisory, policymaking and academic experience, the paper will seek to discuss the rationale of the 12 principles and scope the needed conditions for their effective implementation by governments and stakeholders.

> Read

PUBLICATIONS

by members

*Wiley International Encyclopedia of Geography
 - Drinking Water*

by Rajagopal, R., Brands, E. and Wichman, M.

Nature dominates in shaping the availability and distribution of freshwater. Only a fraction of 1% of all water on the earth is available for human use. Over centuries, societies have devised physical, biological, and chemical treatments to transform available water and make it fit for human consumption as drinking water. An adequate supply of drinking water is essential for human life. Currently, available drinking water per capita varies from 500–800 L/day in developed nations to 60–150 L/day in developing nations, and in some cases is as low as 20 L/day. Lack of availability poses a significant burden on women and children who often carry heavy loads of water over long distances. Mismatches in distribution of populations and resources, coupled with large-scale industrial and agricultural consumption and pollution, and global climate change impacts, will test the resilience of our economic, regulatory, and governance systems from the local to the global.

> Read

*Wiley International Encyclopedia of Geography -
 Groundwater*

by Brands, E., Rajagopal, R., Eleswarapu, U. and Li, P.

Water below the land surface, both from unsaturated and saturated zones, is referred to as groundwater. This source is estimated to contain more than 100 times that available from streams and freshwater lakes. Since groundwater is difficult to observe and track directly, monitoring, modeling, and mapping are crucial to its shared and sustainable use. Uneven distribution of human populations, and industrial and agricultural development, combined with variations in availability and accessibility to groundwater have resulted in overexploitation and contamination of several major aquifers leading to numerous local, regional, and international conflicts. Unconventional fossil fuel exploration and extraction, contamination from underground storage tanks and industrial activities, uneven agricultural withdrawals, natural pollution from arsenic, and global climate change have led to numerous social and political conflicts at various spatial and temporal scales. Development of institutional capacity to deal with such conflicts is urgently needed.

> Read

PHOTO GALLERY

South to North Water Transfer Project in China

IWRA's Executive Director and Secretary General had the opportunity to visit the Beijing terminus of the South to North Water Transfer Project on their recent visit to the People's Republic of China. Here is a selection of photos from this visit arranged by the General Institute of Water Resources and Hydropower Planning and Design, Ministry of Water Resources. This impressive project brings water from the rivers in the south of the country to the drier region of Beijing.

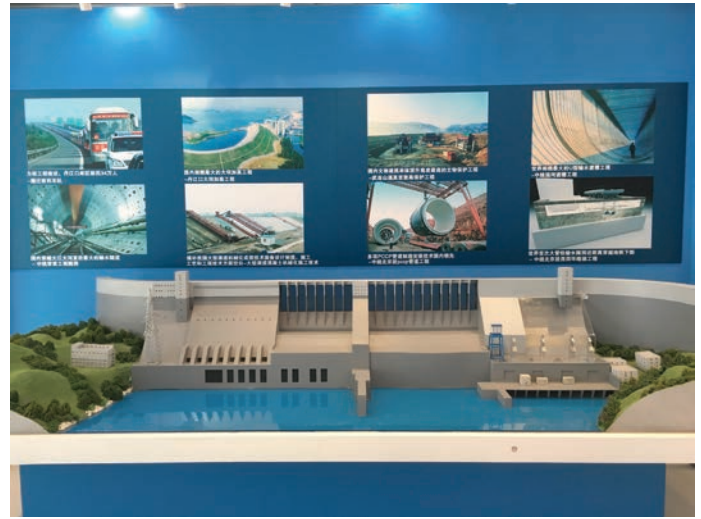


> [WATER RESERVOIR NEXT TO THE SUMMER PALACE IN BEIJING](#) - a UNESCO World Heritage Site, ending of the central part of one of the 3 main diversion routes stretching south-to-north across the eastern, central and western areas of the country. © Callum Clench

PHOTO GALLERY



> EDUCATION FACILITY IN BEIJING FOR THE SOUTH TO NORTH WATER TRANSFER PROJECT © Callum Clench



> EDUCATION FACILITY IN BEIJING FOR THE SOUTH TO NORTH WATER TRANSFER PROJECT (CONT.) © Callum Clench



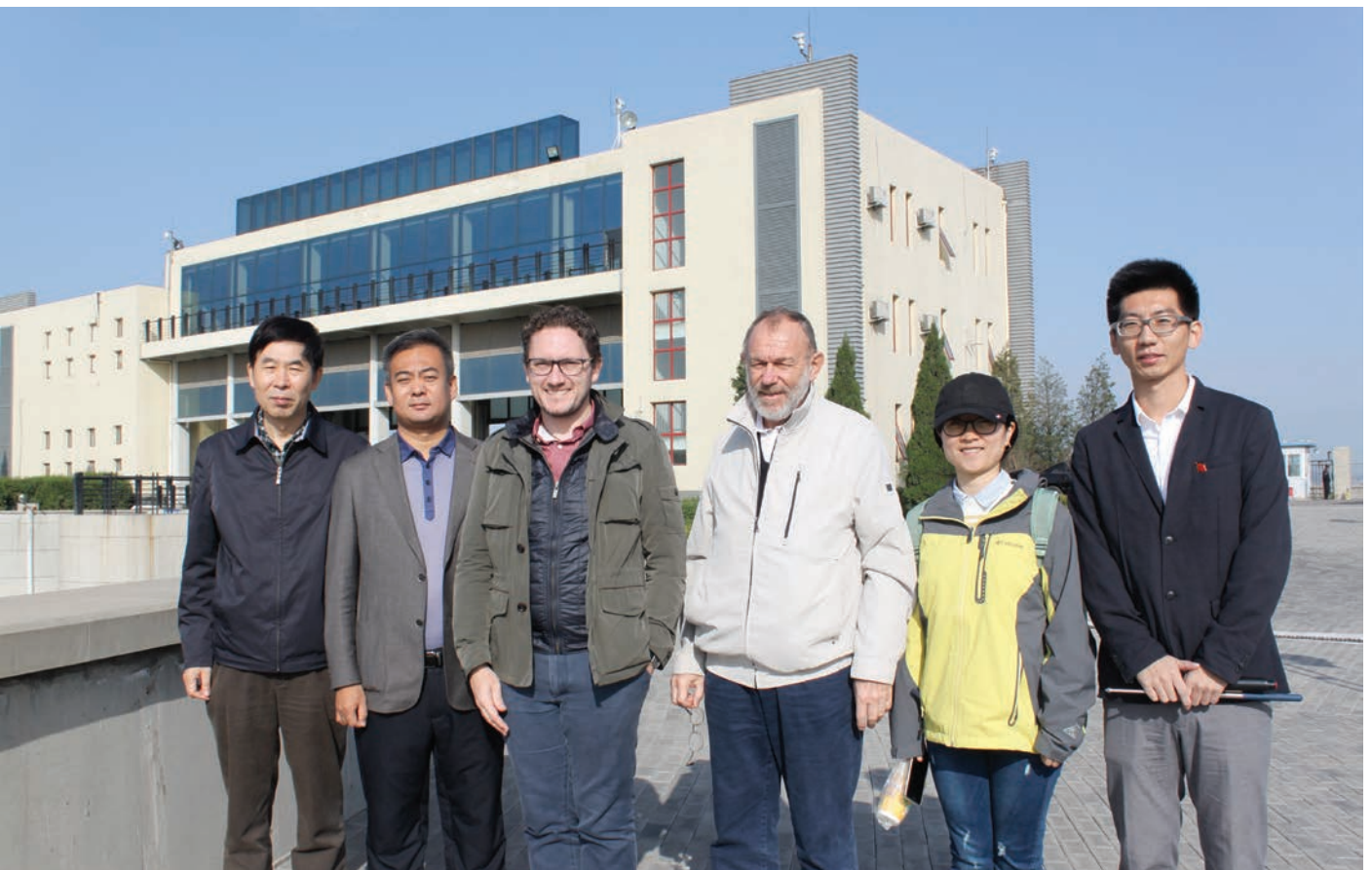
> BRONZE MAP OF THE SOUTH TO NORTH WATER TRANSFER PROJECT IN BEIJING AS WELL AS PIPES AND CHANNELS ALREADY IN USE TO TRANSFER WATER AND SUPPLY TO THE CITY.

© Callum Clench

PHOTO GALLERY



► HOLDING PONDS ON THE OUTSKIRTS OF THE BEIJING. © Callum Clench



► TECHNICAL VISIT ORGANISED FOR IWRA WITH CHINESE WATER AUTHORITIES FROM THE MINISTRY OF WATER RESOURCES. © Callum Clench

PHOTO GALLERY



► CHINESE INSCRIPTION AT THE SOUTH TO NORTH WATER TRANSFER PROJECT FACILITIES IN BEIJING © Callum Clench

UPCOMING EVENTS

ICGCE
2017

4th International Conference on Geological and Civil Engineering (ICGCE 2017)

8-10 January 2017, Penang, Malaysia

The aim objective of the 2017 4th International Conference on Geological and Civil Engineering (ICGCE 2017) is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Geological and Civil Engineering. More information can be found at: www.icgce.org



8th Meeting of the OECD Water Governance Initiative

12-13 January 2017, Rabat, Morocco

The 8th Meeting of the OECD Water Governance Initiative will be held at the Headquarters of the Delegated Ministry for Water in Rabat, Morocco, between 12 and 13 January. The meeting aims to update WGI members (renewal of the Chair, Steering Committee, outreach & consultations), carry out bottom-up consultations on water governance indicators and best practices, discuss WGI contribution to the Global Agenda, and share knowledge and experience on water governance, reforms, research and events. All relevant details on the event can be found here: www.oecd.org



Asia Water Council Calendar

- > **31 Jan 2017** - 1st AIWW Kick-off Meeting (Tentative)
- > **17 Apr 2017** - 4th Board of Council Meeting (Tentative)
- > **19 Sep 2017** - 2nd General Assembly (Tentative) & 5th Board of Council Meeting (Tentative)
- > **20-23 Sep 2017** - 1st Asia International Water Week



First AfriAlliance Conference

22-24 March 2017 in Ekurhuleni-Johannesburg, South-Africa

The first AfriAlliance Conference will be held from 22-24 March 2017 in Ekurhuleni (suburbs of Johannesburg), South-Africa, and serves as the inaugural meeting of the AfriAlliance innovation alliance. AfriAlliance is a 5-year project funded by the European Commission aiming to facilitate the collaboration of African and European stakeholders in the areas of water and climate innovation, research, policy and capacity development.

Interested participants are invited to send to afrialliance@unesco-ihe.org by Monday 9 January 2017, 5pm CET, their proposal of contributions to host a 90-minute demand-driven workshop, host a "Showcase African initiatives" session and/ or present a poster. Themes of the proposals should address 'Integrated Water Resource Management (IWRM)', 'Food security / agriculture', 'Human capacity development', 'Climate change adaptation & mitigation', 'Water & Climate data monitoring, forecasting, collection & analysis'. Notifications of acceptance of contributions will be announced on January 13th, 2017.

Please check the call for contribution for more details on the information you are required to submit at: afrialliance.org

UPCOMING EVENTS



Waterpower Week

01-03 May 2017, Capital Hilton, Washington D.C., US

The Waterpower Week in Washington gathers IMREC, METS and NHA's Annual Conference providing a unique opportunity to network and discuss about policy change and government affairs in the hydro and marine industry. This event will highlight perspectives on the role of hydro, explore issues affecting hydro and marine resources, and help participants develop a future game plan to meet challenges and ensure the future sustainability of the hydro and marine industry. Please find more information on: www.nationalhydroconference.com



4th Istanbul International Water Forum

10-11 May 2017, Istanbul, Turkey

The 4th Istanbul International Water Forum under its theme "Water and Peace", will be devoted to the impacts of the latest regional political setting on water issues. The Forum will put a spotlight on the two-sided relationship between immigration and water services, bringing together participants from the region and the international water community. Held every 3 years, prior to each World Water Forum, this event will aim to provide important inputs to the 8th World Water Forum, which will be held in Brazil in 2018. Registration to the 4th Istanbul International Water Forum will be free of charge. More details in the following link: www.suen.gov.tr



3rd International Conference on Advances in Environment Research (ICAER 2017)

23-25 May, 2017, Beijing, China

The 2017 3rd International Conference on Advances in Environment Research (ICAER 2017), sponsored by the Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBES) will focus to present novel and fundamental advances in the fields of Advances in Environment Research. This conference also serves to foster communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in improving Advances in Environment Research related techniques. The website with registration information on this conference is as follows: www.icaer.org



ASTEES 96th Annual Conference

6-9 June 2017, Liège Theatre, Belgium

ASTEES holds its annual conference bringing together water and environment professionals for information sharing and knowledge exchange on good practices and lessons learned in. Under its theme on "Regions and the EU, working together to foster environmental transition", the French Scientific and Technical Association for Water and Environment holds its 96th Annual Conference. Dedicated this year to EU policies challenges heavily influencing regional management, investment and development projects, particularly those dealing with water, environment and waste management, the conference will be organized in order to prepare for the upcoming cycles in the fields of water and waste. Mainly, it will take stock of the progress accomplished through EU directives as well as the difficulties in implementing them, by comparing case studies and feedback from different regions and member states. More information can be found at: www.astee.org

SCHOOL PROGRAMME OPPORTUNITIES

Joint-Master Programme on Water Cooperation and Diplomacy - Applications Open for the 2017 Academic Year

The Water Cooperation and Diplomacy Joint Master's Programme is recruiting competitive applicants from around the world for enrollment in a two-year, three-degree international master's programme. Students of the Programme have the opportunity to earn three master's degrees by completing two years of focused scholarship at three premier academic institutions: as a cohort, students begin their experience at the University for Peace (UPEACE) in Costa Rica, and they continue at UNESCO-IHE Institute for Water Education in the Netherlands and then at Oregon State University (OSU). Students of the Programme cultivate cutting-edge skills in water cooperation and diplomacy by 1) establishing a strong theoretical and applied understanding of peace and conflict studies and water management and governance, 2) gaining hands-on skills training in both the Global South and Global North contexts for actual water dispute resolution processes, and 3) networking with a wide variety of experts, professionals, and representatives in the field of water and governance. Students customize their academic programme based on their skills and future career goals while they complete the three stages of the Programme.

> Learn more about the Programme and how to apply: gradschool.oregonstate.edu

**If you have an event you wish to promote through the
IWRA Newsletter, please contact office@iwra.org**