

Activity Report 2020



INTERNATIONAL WATER RESOURCES ASSOCIATION

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MESSAGE FROM THE PRESIDENT

Gabriel Eckstein



We all know that 2020 has been challenging in ways we did not expect. Most notably, this included having to postpone the XVII World Water Congress to late 2021. However, not only did IWRA manage to continue its work in these challenging times, we also managed to increase our outputs.

IWRA took on some big projects, including holding its first fully online conference with the sponsorship of UNESCO IHP, as well as our first online general assembly. We have been busy publishing more policy briefs and holding more webinars than ever before. Our excellent journal, *Water International*, has been as busy as ever, thanks to a very hard-working editorial team. We have even launched new member-led Task Forces on a variety of water-related topics.

The Association continued to collaborate with many international partners in 2020. We published with UNESCO i-WSSM a new case study report on water security in a circular economy, and we are now working on a follow-up report on water security and ground water. We have also launched an exciting new multi-year project on smart water cities with K-water from the Republic of Korea.

Finally, IWRA has laid the groundwork for numerous undertakings in 2021, including the implementation of a new, simpler membership structure that was approved by the IWRA Board in 2020. This new structure will refocus all of our activities on our members, and preparations have been made to celebrate IWRA's 50th Anniversary in 2021.

The key activities that took place in 2020 are summarised in this report. They represent the collaborative activities of many great people, from the executive office staff, to the members of the executive board, to our members and partners across the world. Without their support and dedication, we would not be able to share knowledge and information on water resource management so broadly. This list of activities, while not intended to be exhaustive, highlights many of the main tasks and initiatives carried out by IWRA.

I hope that in the coming year, 2021, we can continue to expand on these activities, as the COVID-19 shadow begins to dissipate and we can finally see each other again face-to-face to continue this important work. I look forward to seeing as many of you as possible in Daegu and through our various online events in the coming year. Until then, keep safe and healthy.

A handwritten signature in black ink, likely belonging to Gabriel Eckstein. The signature is stylized and cursive, written on a light blue background.

AN OVERVIEW OF IWRA'S 2020 KEY FIGURES AND MAIN ACTIVITIES



FIRST IWRA ONLINE CONFERENCE ON
"ADDRESSING GROUNDWATER RESILIENCE
UNDER CLIMATE CHANGE":

2½ DAYS (28-30 OCTOBER)	2,600 REGISTERED PARTICIPANTS	131 COUNTRIES REPRESENTED, FROM AFRICA, ASIA, EUROPE, OCEANIA AND THE AMERICAS	100 SPEAKERS AND MODERATORS	20 POSTER PRESENTATIONS	13 SESSIONS
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LAUNCH OF
"THE ROAD TO DAEGU"
IN PREPARATION FOR
XVII WORLD WATER CONGRESS
TO TAKE PLACE
29TH NOVEMBER - 3RD DECEMBER 2021
WITH:

- DEDICATED INTERVIEWS FROM CO-HOSTS
- WORLD WATER ENVOYS STORIES FROM EVERY REGION OF THE WORLD
- PROMOTIONAL VIDEOS
- XVII CONGRESS APP (UPCOMING)

PRODUCED MULTIPLE OUTPUTS
ON **WATER AND COVID-19**:

- IWRA WEBINAR ON "WATER AND COVID-19"
- COVID-19 POLICY BRIEF ENTITLED "COVID-19 CHALLENGES THE WATER SECTOR"
- WATER INTERNATIONAL COVID-19 COMMENTARY SERIES (VOLUME 45, ISSUE 5 & ISSUE 7-8)
- 10 DEDICATED ARTICLES IN OTHER ISSUES OF WATER INTERNATIONAL
- NEW SUBTHEME ON "RESPONDING TO A CRISIS: LESSONS LEARNED FROM THE COVID-19 PANDEMIC" UNDER THE THEMATIC FRAMEWORK OF THE XVII WORLD WATER CONGRESS



150 REGISTERED
PARTICIPANTS
FOR IWRA'S FIRST
INNOVATIVE
GENERAL
ASSEMBLY HELD
ENTIRELY ONLINE



2 NEW
MEMBER-LED
TASK FORCES,
ONE ON THE ISSUE OF
GROUNDWATER, AND
ONE CATERING TO YOUNG
AND EARLY CAREER
PROFESSIONALS



8 NEW
"GREEN SERIES"
POLICY BRIEFS AND
4 "BLUE SERIES"
POLICY BRIEFS



11 WEBINARS
ON WATER
INTERNATIONAL SPECIAL
ISSUES AND OTHER
TIMELY TOPICS



8 ISSUES
PUBLISHED OF IWRA'S
FLAGSHIP JOURNAL,
WATER INTERNATIONAL

PUBLICATION OF A POPULAR CASE STUDY
REPORT WITH UNESCO I-WSSM ON WATER
SECURITY IN A CIRCULAR ECONOMY,
AND THE START OF ANOTHER REPORT ON
WATER SECURITY AND GROUNDWATER.

A SIX-MONTH MEMBERSHIP
CAMPAIGN, WHICH HELPED IWRA
GAIN MORE THAN 450 MEMBERS
BRINGING CURRENT ACTIVE
MEMBERSHIP TO OVER 1000.

LAUNCH OF AN
EXCITING NEW,
MULTI-YEAR PROJECT
ON SMART WATER
CITIES WITH K-WATER,
REPUBLIC OF KOREA.

IMPLEMENTATION
OF A NEW, SIMPLER
MEMBERSHIP STRUCTURE
THAT REFOCUSSES ALL OF
OUR ACTIVITIES ON OUR
MEMBERS.

PREPARATIONS TO
CELEBRATE IWRA'S
50TH ANNIVERSARY
IN 2021!

EXECUTIVE OFFICE

IWRA'S EXECUTIVE OFFICE CONTINUES TO BE HOSTED IN IN NANTERRE near central Paris, France, at the Agence de l'Eau Seine-Normandie-AESN (Seine-Normandy Water Agency). IWRA has a single office space with IT and printing services fully supported by the AESN.

The address is 51 rue Salvador Allende,
92027 Nanterre, France.

The main email address is office@iwra.org.

The main office telephone number is +33 1 41 20 16 28.

Having already shifted to a remote working structure in 2019, the Executive Office had little difficulty adapting to the different working realities of 2020 caused by the COVID-19 pandemic. The full-time team is currently scattered across Belgium, Portugal, Namibia, and Spain. The part-time members of the team are scattered across Australia, Canada, France, Hong Kong, and the USA. The geographic spread of our Executive Office team mirrors to some extent the very geographically diverse Executive Board listed in the next section, further emphasising the international nature of the association.

DURING 2020, THE EXECUTIVE OFFICE EXPANDED SLIGHTLY IN SIZE. THE MAIN POSTS WERE:

• Executive Director

(Callum Clench)

• Administration Officer

providing general admin support and book-keeping
(Monica Garcia Quesada, replaced in December by Elizabeth John)

• Communications Officer

leading on all communication activities
and the 2020 online conference (Ignacio Deregibus)

• Project Officer

working on international partner engagement
and membership activities and transition (Alice Colson)

• Special Project Officers

- 1 working full-time on the Smart Water Cities project (Monica Garcia Quesada since July)
- 1 working part-time on the UNESCO i-WSSM project (Mary Trudeau)

• Policy Brief Officers

part-time editing and drafting of policy briefs
(Claire Miller, joined in 2020 by Kara DiFrancesco and Kris Hartley)

• Webinar Officer

part-time planning and chairing of IWRA webinars (Scott McKenzie)

• Graphic Designer

designing all of IWRA's reports and main website (Nathalie Lyon-Caen)

• Webmaster

ensuring the security of the IWRA website (Sergio Vallejo)

EXECUTIVE BOARD

2020 WAS THE SECOND YEAR in the three-year mandate of the current IWRA Executive Board. This Board remained unchanged from 2020. In many cases, people in the Executive Office and Board also hold nationality in non-resident countries, making the geographic balance of the Association richer than ever. All Board members have been assigned a portfolio of committee responsibilities and meet together a minimum of four times per year. These meetings occur primarily through teleconferences due to their geographic dispersion.

MEETINGS & GENERAL ASSEMBLY

The Executive Board held a total of five meetings in 2020, four of which were regular quarterly teleconference meetings, and one being a special meeting held in July to focus on the revision of the membership structure. Due to Covid-19 travel restrictions, no face-to-face meetings were organised in 2020.

On September 24th 2020, IWRA held its first online General Assembly through the platform, Zoom. The General Assembly was chaired by the Secretary General, Guy Fradin, and it featured short informative presentations by the President, Gabriel Eckstein; the Treasurer, Renée Martin-Nagle; the Chair of the Membership Committee, Tome Soo; and the Executive Director, Callum Clench. Communications Officer Ignacio Deregibus was also present to provide Zoom guidance as needed.

The objective of the General Assembly was to be informative and focused on member benefits. No votes from the membership were proposed during the meeting. With a view to making IWRA more participatory and inclusive, feedback and ideas from the membership were encouraged and could be submitted either as comments or via email.

THE 2019-2021 EXECUTIVE BOARD IS LISTED BELOW:

PRESIDENT

Gabriel Eckstein, United States of America

PAST PRESIDENT

Patrick Lavarde, France

VICE-PRESIDENTS

Blanca Jiménez-Cisneros, Mexico

Karin Krchnak, Slovakia

Yuanyuan Li, People's Republic of China

SECRETARY GENERAL

Guy Fradin, France

TREASURER

Renée Martin-Nagle, United States of America

COMMITTEE CHAIRS

Awards

Rabi Mohtar, Lebanon

Membership

Tom Soo, Australia

Scientific, Technical Activities & Publications

Henning Bjornlund, Australia

DIRECTORS

Asma Bachikh, Morocco

Birgitta Liss Lymer, Sweden

David Molden, Nepal

Eiman Karar, Sudan

Farda Imanov, Azerbaijan

Gary Jones, Australia

Guillermo Donoso, Chile

Jun-Haeng Heo, Republic of Korea

Mingna Wang, People's Republic of China

Raya Marina Stephan, Palestine

Yoonjin Kim, Republic of Korea

EXECUTIVE BOARD

The General Assembly included the following components:

- Statement from the President
- Activity report
- Financial update
- Membership update
- A “Call to Action” - how to get more involved

▼
**ALL RELATED DOCUMENTS AND
A RECORDING OF THE GENERAL ASSEMBLY
IS AVAILABLE ONLINE AT:
[www.iwra.org/
how-we-work/#general_assemblies](http://www.iwra.org/how-we-work/#general_assemblies)**

COMMITTEES

In 2020, the following committees were in place:

AWARDS COMMITTEE

This committee is mandated in the IWRA bylaws and works to select the recipients for the Ven Te Chow Memorial Award and Lecture, both the Crystal and Water Drops awards, and also the IWRA's Honorary and Fellow memberships. In 2020, it clarified some of the processes and criteria for the nomination and selection of Fellow and Honorary members.

BUDGET & FINANCE COMMITTEE

This committee has fiscal and budgetary oversight, and works to develop and monitor the annual budget with the Executive Director, reporting to the Executive Board. It also focuses on raising funds and identifying new revenue streams.

CONGRESS & EVENTS COMMITTEE

This committee worked with the Executive Office to identify and evaluate appropriate hosts and venues for the XVIII Congresses. It also had oversight to develop policies related to Congresses and other Association events.

EXTERNAL & PUBLIC RELATIONS COMMITTEE

This committee is charged with assessing, developing, and maintaining relationships with other relevant organisations, affiliated entities, IWRA regional and national chapters, and other parties. It also advised the Executive Office on matters pertaining to the Association's promotion and public relations efforts.

GOVERNANCE COMMITTEE

Led by the IWRA President, this committee is mandated in the IWRA bylaws to take all necessary and appropriate

decisions in the intervals between meetings of the Executive Board, to implement administrative actions, and to act in emergency situations.

MEMBERSHIP COMMITTEE

This committee is mandated in the IWRA bylaws and focuses on how IWRA can engage with members, offering discounted group membership options and extended membership agreements. Its main activities in 2020 have been related to the restructuring of IWRA membership which will be implemented in 2021.

SCIENTIFIC, TECHNICAL ACTIVITIES & PUBLICATIONS

This committee is mandated in the IWRA bylaws and works to provide proposals and advice on scientific and technical activities and publications, including Water International, policy briefs, webinars, task forces, and projects.

50TH ANNIVERSARY COMMITTEE

In 2021, the Association will celebrate its 50th Anniversary. This ad hoc committee was set up in 2020 to decide how best to mark this milestone. It takes a historical perspective on the organisation's history, looking for key outcomes and activities and working with an advisory group of long-time members of IWRA, including past Presidents, to develop a strategy and plan to make the 50th Anniversary a pivotal celebration for the Association.

BYLAWS REVIEW COMMITTEE

This ad hoc committee was established in 2020 to recommend to the Board any changes necessary to the Association's Bylaws in order to implement the new membership structure, as well as fix minor discrepancies in the existing document.

EXECUTIVE BOARD

THE EXECUTIVE OFFICE PROVIDES SUPPORT TO THESE COMMITTEES WHERE NECESSARY. THE COMMITTEES ARE MADE UP OF BOTH MEMBERS AND NON-MEMBERS OF THE EXECUTIVE BOARD. IN 2020, THE COMMITTEES AND THEIR MEMBERS WERE:

AWARDS

Chair: Rabi Mohtar

Members: Ben Braga, Guy Fradin, David Molden, Mingna Wang

BUDGET & FINANCE

Chair: Renée Martin-Nagle

Members: Guy Fradin, Blanca Jiménez-Cisneros, Gary Jones, Mingna Wang

CONGRESS & EVENTS

Chair: Yuanyuan Li

Members: Asma Bachikh, Henning Bjornlund, Gary Jones, Jun-Haeng Heo

EXTERNAL & PUBLIC RELATIONS

Chair: Karin Krchnak

Members: Guy Fradin, Eiman Karar, Yoonjin Kim, Birgitta Liss Lymer, Renée Martin-Nagle

GOVERNANCE

Chair: Gabriel Eckstein

Members: Guy Fradin, Blanca Jiménez-Cisneros, Karin Krchnak, Patrick Lavarde, Yuanyuan Li, Renée Martin-Nagle

MEMBERSHIP

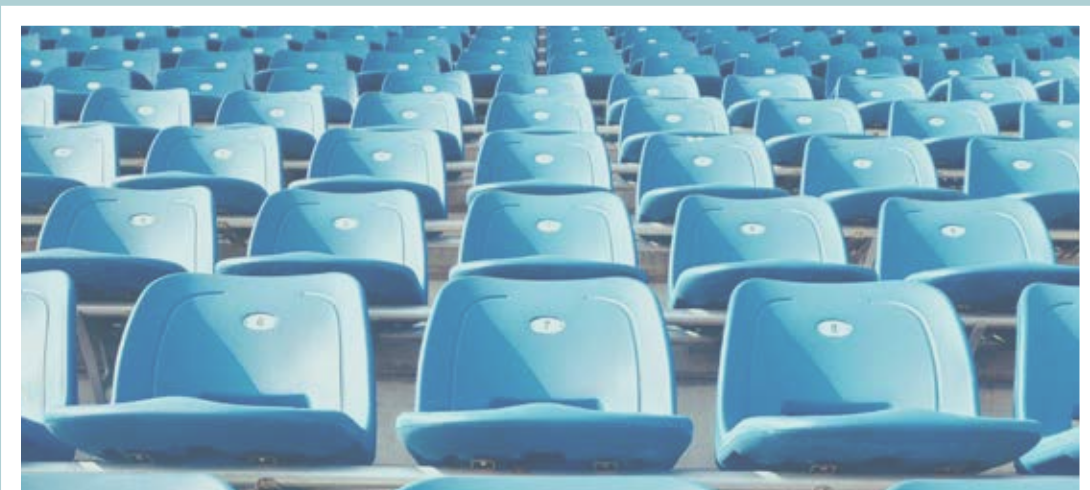
Chair: Tom Soo

Members: Victor Arroyo, Asma Bachikh, Guillermo Donoso, Lili Yu

SCIENTIFIC, TECHNICAL & PUBLICATIONS

Chair: Henning Bjornlund

Members : Guillermo Donoso, Farda Imanov, Stephanie Kuisma, Jim Nickum, Raya Stephan, David Molden, Cai Ximing



IWRA MEMBERSHIP

NEW IWRA MEMBERSHIP STRUCTURE

As IWRA reaches its 50th Anniversary year, it was decided to opt for a more simple and user-friendly membership structure that is entirely based on our members’ benefits. This change follows an intensive review with the Executive Board and member groups, and it aligns with IWRA’s ongoing strategy **to put our members back at the centre of everything we do**.

Instead of defining membership based on “who our members are” (student, retirees, etc.), it was decided to shift our focus to how our members want to interact with IWRA. As such, we are now offering three individual levels of membership: Bronze, Silver, and Gold. Each level of membership will have different levels of benefits: each higher level adding to the basket of benefits for the level below.

BRONZE MEMBERSHIP - FREE

Bronze Membership is a free, unlimited membership for people who just want to keep an eye on IWRA’s activities and to obtain minimal benefits at no financial cost.

Bronze Members can:

- Receive newsletters and updates through our IWRA mailing list
- Join Task Forces and Chapters as a participant
- Access some “members only” content through the Membership platform

Upgrade your membership in order to:

- Gain access to *Water International*
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau
- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Promote activities and publications through the IWRA network
- Receive discounts to all IWRA Congresses and Conferences
- Access exclusive content for paying members only (in the first year following IWRA events)
- Receive invitations to attend in-person board meetings or workshops, “Gold Events,” or the President’s reception at Congress
- Get invited to attend all in-person Board meetings/workshops

SILVER MEMBERSHIP – 65 USD/YEAR

Silver Membership is aimed at anyone who wants to network, get involved in our activities, and have a full IWRA experience. Silver Members are given the opportunity to leverage their membership to advance their careers and reputations with the possibility of gaining a lead role in IWRA activities.

Silver Members can:

- Receive newsletters and updates through our IWRA mailing list
- Join Task Forces and Chapters as a participant
- Access most of the “members only” content through the IWRA Membership platform
- Gain access to *Water International*
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau
- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Access exclusive content for paying members only
- Promote activities and publications through the IWRA network

Upgrade your membership to Gold in order to:

- Receive discounts to all IWRA Congresses and Conferences
- Receive invitations to attend in-person board meetings or workshops
- Receive invitations to attend “Gold Events” or the President’s reception at Congress

GOLD MEMBERSHIP – 165 USD/YEAR

Gold membership is aimed at members who want a “Premier” experience and who are planning to participate in IWRA events. This membership provides a discount on registration and provides access to many exclusive events.

Gold Members can:

- Receive newsletters and updates through our IWRA mailing list
- Join Task Forces and Chapters as a participant
- Access all of the “members only” content
- Gain access to *Water International*
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau

IWRA MEMBERSHIP

- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Access exclusive content and events for paying members only
- Promote activities and publications through the IWRA network
- Receive discounts to all IWRA Congresses and Conferences
- Receive invitations to President’s reception at Congress
- Receive invitations to at least one online “Gold event” a year
- Receive invitations to attend in-person board meetings or workshops.

Because we want the best for our members, we decided that current individual paying members would be made Gold Members of IWRA, and Student Members would become Silver Members. All memberships would last until the members’ current expiration date, even if they opted for a three-year Membership.

This new membership structure was voted by the IWRA Executive Board in July 2020, and the Executive Office prepared this transition during the second part of the year. Together with the membership platform, Raklet, the Executive Office prepared for a smooth transition planned for February 2021, along with new features on the membership space.

MEMBERSHIP CAMPAIGN

IWRA’s six-month **membership campaign** ran between January 15th to July 15th, 2020. The selected platforms were [ResearchGate \(RG\)](#), [Twitter](#), [LinkedIn](#), [Instagram](#), [Taylor & Francis online](#) and [Water International](#). From January 15th to April 15th the campaign focused on brand awareness, and from April 15th to some days after July 15th, it engaged and invited the same audience to join IWRA. The main goal of this campaign was to raise the profile of IWRA while also increasing its membership.

The first three months aimed to inform and promote **IWRA and its members’** work and activities. It positioned the Association on digital platforms, reached out to the international water communities far and wide, and directed these communities to IWRA’s homepage for general familiarization. This same audience, having understood and learnt more about the Association, was then invited to join IWRA, by visiting the Members’ webpage, discovering all benefits and fees, and, eventually, signing-up.

In terms of IWRA membership, between January 15th and late July 2020, the Association gained more than **450 members** moving **from 574 active members to over 1000**. In subsequent weeks and months after the campaign, many more that had started to sign-up during the early period finished their applications and officially joined IWRA.

Main Results

	Key Performance Indicators	Research Gate	LinkedIn	Twitter	Instagram
15 Jan 15 April	Total views	1 487 593	103 091	726 695	8 620 546
	Total views av. per day	ca. 16 500	ca. 1 150	ca. 8080	ca. 95 800
	Total clicks on ad	1 553	696	65 113	9 345
	New followers	-	452	1 137	130
	Number of likes, shares, or reactions, etc.	-	954	174 560	26 116
15 April 15 July	Total views	1 556 019	21 454	941 271	1 470 328
	Total views av. per day	ca. 17 300	ca. 240	ca. 10 500	ca. 16 350
	Total clicks on ad	1 148	324	18 741	2 041
	New followers	-	1621	1 330	85
	Number of likes, shares, or reactions, etc.	-	637	41 127	4 005

This campaign also provided the **opportunity to** renew IWRA's branding, with a more fresh and dynamic identity, while revamping IWRA's website and social media channels. It also allowed for the opening of a new IWRA Instagram account ([@IWRA_water](#)), re-evaluation of other work and activities (such as policy briefs, webinars, newsletters, calls for abstracts, online conference preparations, etc.), and raising IWRA's global profile.

Due to the **success** of this initiative, other smaller and similar campaigns have been discussed and are proposed to take place in 2021 with the support and guidance of IWRA's Membership Committee with the External and Public Relations Committee.

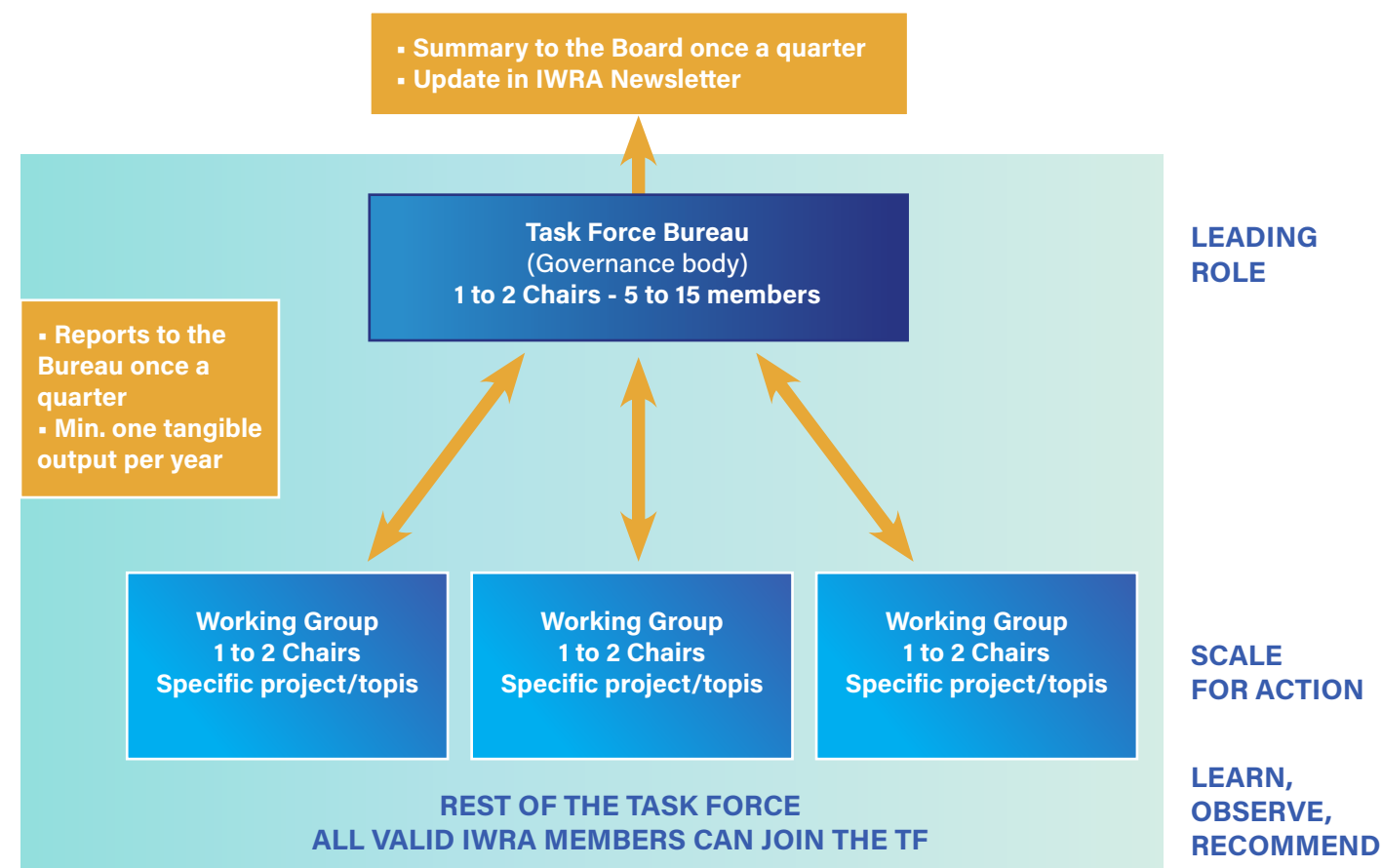
TASK FORCES

2020 was a proactive year for IWRA Task Forces. Not only have the number of Task Forces (TFs) multiplied, but their structure and governance management have also improved. In the idea of putting back our members at the centre of everything we do, there was also a shift in the

way TFs are managed: instead of being a group of selected experts, TFs can now be initiated and led by members. As a result, in 2020, each Task Force created its own bureau, which is meant to be the governing body of a Task Force. Then, working groups were created in almost all Task Forces. Working groups are meant to be the action level of TFs: they can either focus on a subtheme (for instance: urban water security within the Water Security TF) or focus on a specific deliverable, like a webinar or a publication. This new structure is depicted in the image below.

The main highlights from the various TFs for 2020 are:

- **Water Security Task Force:** Initially led by Mary Trudeau, Project Officer, the Bureau of this TF is now led by Amgad Elmahdi and Kanophan Jongjarb. Different working groups have been created: one is still meant to assist in the GWSI Paper Series, another one addresses the theme of Urban Water Security, and a third one is working on the development of a podcast series.
- **Climate Change Task Force:** The Bureau is still led by David Molden, Director on the Executive Board. This TF has been very active over the year and has created seven working groups on the following themes



and deliverables: afforestation; carbon dioxide removal strategies; climate change, energy and water; flood risk management; mountains and plains; water pollution; and the publication of a special issue of Water International.

- **Early Career & Young Professionals:** This Task Force was created in 2020. It works to create activities aimed at helping Young and Early Career Professionals in their career development or visibility. Led by Bassel Daher, this Task Force also created a number of working groups on communication campaigns, mentorship activities, outreach, and partnership, as well as created a webinar series. Its first webinar will be held in early 2021.

- **Ground Water:** This Task Force was set up in 2020 following the success of, and interest raised by, the online conference on Groundwater and Climate Change. The bureau is led by Anita Milman, but no sub working groups have been created yet.

The **Water Quality Task Force** and the **Smart Water Management Task Force** are both going to be re-launched in 2021.

GEOGRAPHIC CHAPTERS

THE IWRA CONTINUED TO HAVE FOUR NATIONAL OR REGIONAL CHAPTERS, namely in China, Oceania, Japan, and India, as well as a student chapter at the University of Illinois. In order to be consistent in the way IWRA interacts with its different groups, it has been decided that Chapters would be managed like task forces, with similar structures and obligations. Each Chapter will have to constitute its bureau and will report to the Executive Office and Board a minimum of once per quarter. Additionally, each chapter will have to deliver at least one outcome per year.

CHINA

The China Chapter is chaired by Yuanyuan Li at the Chinese Ministry for Water Resources and has an active membership of over 120 members, making it the largest chapter. The Chapter was successfully involved in the organisation of an IWRA webinar on Environmental Flows: Harmony between Humans and Nature, held on 22 July 2020. This webinar gathered more than 330 participants.

INDIA

Uday Chander from the Central Board of Irrigation and Power (CBIP) in India is still leading this chapter. The India Chapter continued to be more active during 2020. It worked to raise its profile and encouraged more members from

India to join IWRA. This effort translated in the increase of institutional membership applications, distributions of *IWRA India Journal* to thousands of Indian institutions, and increased participation in international events.

LATIN AMERICA AND CARIBBEAN CHAPTER

IWRA's newest Chapter was created following the initiative of an Executive Board Director, Guillermo Donoso. Created during the last quarter of the year, this Chapter is in the process of creating its Bureau and is planning to contact all IWRA members from the LAC region to join the Chapter's activities and to create Working Groups.

OCEANIA

This Chapter was initially chaired by Board Director, Gary Jones, from the Australian Water Partnership. However, due to management changes of the Chapter, it transferred last year to Nicholas Schofield and then to Gregory Lawrence Leslie, both at the University of New South Wales.

OTHER CHAPTERS

IWRA is continuing to work with the Japan Chapter and is following up on discussions with constituencies around the world to establish new Chapters, for instance in Central Europe, the Republic of Korea, and in Africa.

WORLD WATER CONGRESSES

XVII WORLD WATER CONGRESS

IWRA has signed a Memorandum of Agreement (MoA) with the Korea Water Resources Association for the Congress to take place in Daegu, Korea. This MoA was supported by a further Memorandum of Understanding (MoU) between the KWRA and the Ministry of Land Infrastructure and Transport (later to be replaced by the Ministry of Environment), Daegu Metropolitan City, and K-water to co-host the XVII World Water Congress together.

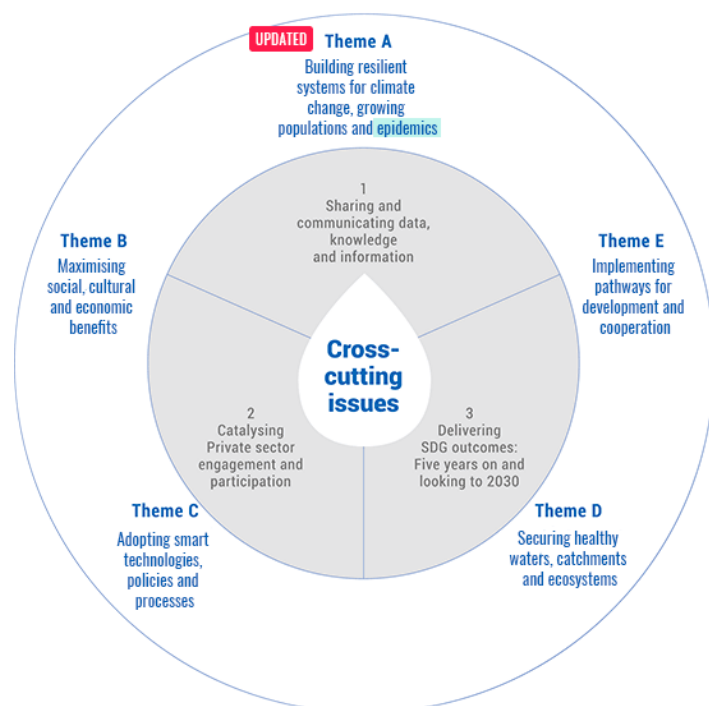
The initial date set for the Congress was May 11th-15th, 2020. Due to the unprecedented impacts of the COVID-19 pandemic on travel and gatherings, it was initially postponed to September 21st-25th, 2020. Following further discussion with the local hosts, it was decided to postpone the Congress again until 29th November - 3rd December 2021, as the global situation has not improved in the interim. The venue will not change, and while there is still uncertainty at the time of writing this report, plans continue with a “On the Road to Daegu” communications

campaign, launched at the end of 2020, to keep up interest and momentum in the planning and preparations of the event. It is expected that the Korea International Water Week will continue to be held in parallel to the XVII World Water Congress in Daegu, creating a unique opportunity for synergies with additional stakeholders.

The theme of the Congress continues to be “Foundations for Global Water Security and Resilience: Knowledge, Technology, and Policy”. This is structured around five sub-themes and three crosscutting issues. A new subtheme has been added to reflect the concern that has arisen due to the pandemic. The major sub-themes and crosscutting issues are shown in the image below.

Ensuring the successful delivery of an event to the scale of a World Water Congress requires the hard work of many individuals, the vast majority of whom volunteer their time to work on various committees.

The International Scientific Committee (ISC) for the XVII Congress is still in place. It is responsible for the content of the Congress, including the development of its thematic framework, congress programme, call for and selection of abstracts for presentation or posters, as well as proposals for special sessions and side-events. Working with the Executive Board and Office, as well as the National Organising Committee (NOC), it also has ultimate responsibility for plenary sessions, such as high-level panels, and the opening/closing ceremonies, etc. Currently, the ISC is comprised of 34 members, half of whom are appointed by the National Organising Committee (NOC) in Korea. Gary Jones, a member of the Executive Board, has volunteered to Chair the Committee.



XVII WORLD WATER CONGRESS THEMES

- A.** Building resilient systems for climate change, growing populations, and epidemics
 - A1.** Balancing critical water needs: the people-food-energy-environment nexus
 - A2.** Managing water scarcity: supply-side and demand-side options
 - A3.** Reducing disaster risks: improving preparedness and resilience
 - A4.** Water sanitation and health: deepening inclusion, access, and service
 - A5.** Financing resilience: challenges, opportunities, and risks
 - A6. (NEW)** Responding to a crisis: lessons learned from the COVID-19 pandemic
- B.** Maximising social, cultural, and economic benefits
 - B1.** Valuing water: perspectives from grass roots to governments
 - B2.** Water allocation and governance: balancing equity, legal, and economic needs
 - B3.** Access and authority: empowering youth women and other disadvantaged groups
 - B4.** Cultural water: traditional and indigenous values in water policy, planning, and law
 - B5.** Community participation: local programs improving water access and quality
- C.** Adopting smart technologies, policies and processes
 - C1.** Water-smart cities: re-thinking the urban water cycle from site to basin scale
 - C2.** Smart water and ICT: applications for developing and developed countries
 - C3.** Water and food: improving efficiency, productivity, and nutritional outcomes
 - C4.** Appropriate technologies: low-cost innovations from concept to business plan
 - C5.** Smarter water: latest advances in education, research, and development
- D.** Securing healthy waters, catchments and ecosystems
 - D1.** Basins and catchments: implementing IWRM from source to sea
 - D2.** Rivers and wetlands: ecological and engineering approaches to rehabilitation
 - D3.** Environmental water: innovations and outcomes in policy, law, and practice
- D4.** Improving water quality: new economic, legal, regulatory, and technical approaches
- D5.** Climate change and ecosystems: repairing impacts and preventing damage
- E.** Implementing pathways for development and cooperation
 - E1.** Managing trans-boundary waters: advances, regressions, and prospects
 - E2.** Water and migration: understanding and mitigating key drivers and risks
 - E3.** Water governance: reflections on progress in policy, law, and institutional reform
 - E4.** River basin organisations: case studies highlighting successes and challenges
 - E5.** Grass-roots action: collaboration in local government and civil society programs

- 1.** Sharing and communicating data, knowledge and information
 - 1.1** Education and capacity building: meeting the needs of developing countries
 - 1.2** ICT platforms and apps: new initiatives and approaches to information sharing
 - 1.3** Bridging science and policy: reflections on the Cancun Declaration from WWC XVI
- 2.** Catalysing private sector engagement and participation
 - 2.1** Water risks: improving water use and quality at sites and in supply chains
 - 2.2** Financing needs: making the water sector more attractive for investors
 - 2.3** Local participation: emerging roles and opportunities for small and large business
- 3.** Delivering SDG outcomes: Five years on and looking to 2030
 - 3.1** Progress on implementation: national, regional, and thematic perspectives
 - 3.2** Predictions for 2030: best case, likely, and worst-case scenarios
 - 3.3** Technology and knowledge needs: availability, affordability, and sustainability

THE INTERNATIONAL SCIENTIFIC COMMITTEE

CHAIR

Adj. Prof. Gary Jones – Australia

DEPUTY CHAIR

Prof. Dongil Seo – Korea

BUREAU

Prof. Henning Bjornlund – Australia/Denmark

Prof. Kun Yeun Han – Korea

Prof. Blanca Jiménez Cisneros – Mexico

Dr. No Hyuk Park – Korea

Dr. Youssef Filali-Meknassi – Morocco

Mr. Eui-Rak Hong – Korea

COMMITTEE MEMBERS

Dr. Victor Hugo Alcocer Yamanaka – Mexico

Dr. Brenda Bateman – Usa

Prof. Kwang-Ho Choo – Korea

Prof. Maria Donoso – Panama

Mr. Jean-François Donzier – France

Ms. Danielle Gaillard-Picher – Usa/France

Prof. Jun-Haeng Heo – Korea

Prof. Kazumasa Ito – Japan

Dr. Torkil Jønych Clausen – Denmark

Prof. Kyung Soo Jun – Korea

Prof. Tae Yong Jung – Korea

Prof. Jinyoung Jung – Korea

Prof. Seong Joon Kim – Korea

Dr. Karin Krchnak – Usa/Slovakia

Prof. Soontak Lee – Korea

Prof. Yuanyuan Li – China

Ms. Jae Lim Lim – Korea

Dr. Bindu Lohani – Nepal

Mr. Takashi Fukuwatari – Japan

Dr. Somkiat Prajamwong – Thailand

Dr. Götz Reichert – Germany

Ms. Adelina (Lennie) Santos-Borja – Philippines

Prof. Abdoulaye Sene – Senegal

Dr. Vladimir Smakhtin – Russia/Canada

Dr. Cecilia Tortajada – Mexico/Singapore

Prof. Chieko Umetsu – Japan

XVII WORLD WATER CONGRESS
CONTENT COORDINATORS

GENERAL

Oral Sessions: Maria Donoso

PROGRAMME

Poster Sessions: Asma Bachikh

Special Sessions: Dong-il Seo

HIGH-LEVEL PANELS

Private Sector Participation: Karin Krchnak

Science & Policy for SDGs: Rabi Mohtar

Data & Technology for Development: Tom Soo

PROTOCOL ADVISORS

International: Patrick Lavarde

Korean: Soontak Lee

REPORTING

Rapporteurs: Alice Colson

Proceedings: Rosario Sanchez

NATIONAL ORGANISING COMMITTEE

CHAIR

Prof. Jun-Haeng HEO,
Korea Water Resources Association/Yonsei University

BUREAU

Mr. Sung Dae LEE, Daegu Metropolitan City

Mr. Hwan-chin CHOUNG, Ministry of Environment

Mr. Jong-jin LEE, K-water

COMMITTEE MEMBERS

Mr. In Jong CHOI, Korea Water Cluster Conference

Prof. Zuwhan YUN, Korea Water Partnership

Dr. Il Pyo HONG,

Korea Institute of Civil Engineering and Building Technology

Mr. Ik Hun CHOI, Korea Environment Corporation

Ms. Jeong Soo LEE, Korea Climate & Environment Network

Ms. Yoonjin KIM, Korea Water Forum

Dr. Ae Sook SUH, Korean Foundation for Quality

Prof. Won Sik SHIN, Kyungpook National University

Prof. Kwang Ik SON, Yeungnam University

Prof. Kwan Sue JUNG, Chungnam University

Prof. Hung Soo KIM, Inha University

Prof. Kyungtaek YUM, Sungkyunkwan University

Prof. Kyung Sook CHOI, Kyungpook National University

Prof. Chang Hae LEE, Daejin University

Prof. Dongil SEO, Chungnam National University

Prof. Mi Young SONG, Gyeonggi Research Institute

Under the guidance of the ISC chair, additional individuals have agreed to take on responsibilities related to programme planning.

Led by the host institutions, the **National Organising Committee (NOC)** is responsible for working with the ISC to make high-level decisions and to direct the Local Organising Committee (LOC) and Congress Secretariat, also based in Korea, in executing the decisions of the ISC. The NOC is made up of 20 Koreans from different universities, foundations, institutes, or organisations involved in water-related issues in Korea, and is chaired by IWRA Board Director, Jun-Haeng Heo.

It is the first time that the World Water Congress will be held in East Asia. Its main objective is to provide an ideal platform for researchers, professionals, experts, policy-makers, students, and stakeholders in order to exchange ideas, present new knowledge, and learn from each other in the field of water policy and sciences around the world.

WORLD WATER ENVOYS PROGRAMME

In 2019, IWRA launched its World Water Envoys Programme, connected to the World Water Congress. As the XVII World Water Congress focuses on Water Security, IWRA launched a competition to identify stories from communities facing Water Security issues. Applicants had to submit a short video and a single photo to explain the water security issue affecting them and their community. The five selected representatives are called “World Water Envoys”.

The programme gives an opportunity to young people that are not necessarily from the water world to become the ambassadors of their communities, to meet with international water experts, raise the profile of the water issues their communities face, and hopefully bring some concrete solutions back to where they live. Despite the postponement of the World Water Congress, this unique programme continued in 2020 to work with the Envoys and to share their stories in advance of the Congress. The Congress will mark only the beginning of IWRA's relationship with the Envoys, as the Association is planning to invite them to future events in order to follow up with them and their communities' situations.

During the opening ceremony of the XVII World Water Congress, the World Water Envoys will have the opportunity to talk about their water security challenge and its impacts on everyday life. They will then have the chance to discuss this issue in more detail over the following days with experts who are attending the Congress. They will then be asked to summarise in the Closing Ceremony what they have learned over the week, including what connections they have made that might help their community to overcome its water security challenge.

Out of the more than one hundred applications received, the finalists remain unchanged for the Congress in 2021:



1. **Georgina Mukwirimba – Zimbabwe.** Georgina focuses on the economics of water supply in big cities, in the context of a failing economy. She is currently doing an internship at UNESCO in Harare, working on the “City Blue Print” programme.



2. **Deepesh Jain – India.** Deepesh focuses on the right to water and sanitation in slums. He holds a Master's degree in Water Policy and Governance, has worked with the Indian Sanitation Coalition, and currently works on installing temporary toilets during giant pilgrim gatherings similar to Kumbh Mela.



3. **Maria Almonte – Dominican Republic.** Maria focuses on urban river management, specifically on the recent contamination of a river in Santo Domingo, leading to severe health problems in her neighbourhood, such as dengue fever. She sees education and raising awareness around waste and water management as a key priority for her community. Maria holds a Bachelor's degree in Civil Engineering.



4. **Bayan Khalaf – Palestine, West Bank.** Bayan focuses on agrochemical pollution caused by intensive use of pesticides in rural areas of Palestine, which have impacted people's health. Bayan is currently enrolled in a PhD program in Germany on the topic and is very passionate about the subject.



5. **Pallavi Pokharel – Nepal.** Pallavi focuses on groundwater pollution in the city of Kathmandu, Nepal, where 90% of people depend on groundwater. This groundwater, however, is contaminated with arsenic, chemicals, and viruses. Pallavi understands well the multifactorial complexity of the situation and is very eloquent. In 2020 Pallavi was completing an undergraduate program in the environmental sciences.

XVIII & XIX WORLD WATER CONGRESSES

At the end of 2018, the call for expressions of interest to host the XVIII World Water Congress was launched. Initial applications were required by the end of March 2019, consisting of a two-page letter confirming interest. This was followed by an invitation to submit full applications by the middle of 2019. A preferred candidate was selected by the end of 2019. In 2020, however, negotiations regarding the XVIII World Water Congress were delayed due to the impacts of the Covid-19 pandemic. It is expected that the contract will be signed and formally announced in early 2021, with the XVIII World Water Congress taking place in 2023.

In 2020, the call for expressions of interest to host the XIX World Water Congress in 2025 was held and a number of expressions of interest were received. These are to be reviewed in early 2021, and invitations for full applications will be issued. The deadline for these will be the end of 2021.

ONLINE CONFERENCES

2020 ONLINE CONFERENCE ADDRESSING GROUNDWATER RESILIENCE UNDER CLIMATE CHANGE

FROM OCTOBER 28TH-30TH, IWRA HELD ITS FIRST EVER ONLINE CONFERENCE. The planning for the event started in 2019, with the idea of hosting an online congress that would enable people who are not able to travel to a face-to-face event to present their latest research. This would allow those from low-income countries, or based in nations limited by visa requirements, as well as those who chose not to travel for ethical reasons. In particular, the online conference encouraged participation by experts and attendees from Africa, women, and youth. Little did anyone realise that in 2020, almost no one would be able to travel due to the impacts of the COVID-19 pandemic.

It was decided to make the theme for this first online conference “Addressing Groundwater Resilience under Climate Change”. The reason for this was that while climate change has become an undeniable major pressure on the world’s freshwater resources, the effects of climate change on groundwater, are still poorly understood. It is a topic, therefore, somewhat neglected by policymakers and ignored by the public, with groundwater management, governance and monitoring being less developed compared to surface water.

The conference’s main goal was to promote the sharing and exchange of the latest scientific research, policy knowledge, and experience on the links between increased resilience of groundwater resources and climate change. In particular, the conference was interested in issues related to sustainable governance and the use and management of these resources in all regions of the world.

ONLINE CONFERENCE STATISTICS

OVER **2,650** REGISTERED PARTICIPANTS
FROM MORE THAN **130** COUNTRIES



MORE THAN

95

SPEAKERS AND MODERATORS



A TOTAL OF **13** DISTINCT SESSIONS HELD OVER
2 AND A HALF DAYS, INCLUDING:

10 TECHNICAL SESSIONS

2 PLENARY SESSIONS

1 HIGH-LEVEL PANEL

NEARLY **20** ONLINE POSTER PRESENTATIONS

A DIVERSE LIST OF SPONSORS
AND SUPPORTERS, INCLUDING:



UNESCO INTERGOVERNMENTAL
HYDROLOGICAL PROGRAMME (IHP)



INTERNATIONAL ASSOCIATION OF
HYDROGEOLOGISTS (IAH)



IHE DELFT INSTITUTE FOR WATER
EDUCATION

THERE WERE 5 MAIN SUB-THEMES OF THE CONFERENCE

GROUNDWATER NATURAL RESOURCES ASSESSMENT UNDER CLIMATE CHANGE

- 1.1 Long-term groundwater monitoring and climate variability
- 1.2 Groundwater-surface water-atmosphere interactions
- 1.3 Groundwater indicators, data and reporting
- 1.4 Groundwater sustainability for different uses such as water supply, irrigation, industry...
- 1.5 Offshore and coastal aquifers, small islands

CLIMATE CHANGE EFFECTS ON GROUNDWATER RESILIENCE (POLLUTION AND REMEDIATION)

- 2.1 Groundwater pollution from agriculture (nitrates, pesticides)
- 2.2 Groundwater pollution from natural disasters (floods, tsunamis, hurricanes, etc.)
- 2.3 Groundwater pollution and public health
- 2.4 Groundwater salinization
- 2.5 Aquifer restoration: existing and emerging methodologies
- 2.6 Bioremediation and bio-stimulation of aquifers
- 2.7 Wastewater treatment and aquifer recharge
- 2.8 Managed Aquifer Recharge (MAR)

CONTRIBUTION OF TECHNOLOGY TO GROUNDWATER RESILIENCE

- 3.1 Advances technologies for monitoring and observation of data and processes relevant for understanding of impact of climate change on groundwater resources
- 3.2 Technological novelties improving simulation and prediction of impact of climate change on groundwater resources as well as effects of adaptation measures
- 3.3 Technology and technology-supported measures for groundwater management, including cross-sectoral and multidisciplinary approaches to building resilience to climate change

GROUNDWATER GOVERNANCE, MANAGEMENT AND POLICY

- 4.1 Multi-level groundwater governance: institutions and management plans, innovative network governance
- 4.2 Groundwater equitable use and groundwater in the SGDs
- 4.3 Groundwater tariffication and pricing, (ground)water markets and incentives
- 4.4 Groundwater law, policy, monitoring, and evaluation
- 4.5 Groundwater rights, licensing, and regulation (incl. for groundwater mining)
- 4.6 Groundwater community and ecosystem-based adaptation and resilience
- 4.7 Public consultation, stakeholders' information, participation, and co-management

GROUNDWATER EDUCATION AND CAPACITY BUILDING

- 5.1 Groundwater education, training, and capacity building
- 5.2 Technologies and models for distance e-learning
- 5.3 Cooperation and co-management of transboundary aquifers
- 5.4 International education activities

The online conference was made free for all presenters and participants through the generous support of UNESCO, who sponsored the event and covered the costs of the Zoom platform and other related expenditures. This support ensured open access to all conference materials, including recordings, conference policy briefs and reports, as well as conference proceedings. IWRA would like to specifically thank UNESCO Intergovernmental Hydrological Programme (IHP), the International Association of Hydrogeologists (IAH), and IHE Delft Institute for Water Education for their support (both financial and in kind) to help ensure the success of the online conference. In addition, IWRA thanks all the members of the International Scientific Committee (ISC) which were responsible for deciding the subthemes, selecting abstracts to be presented, managing speakers, and moderating sessions.

INTERNATIONAL SCIENTIFIC COMMITTEE

CO-CHAIRS

Jean Fried, IWRA Fellow member & University of California
Jacques Ganoulis,
Aristotle University of Thessaloniki & UNESCO - INWEB

TECHNICAL COORDINATOR

Tibor Stigter, IAH & IHE Delft Institute for Water Education

COMMITTEE MEMBERS

Nader Al Khateeb, Water and Environmental Development Organization (WEDO)
Alice Aureli, UNESCO-IHP
Michael Campana, Oregon State University
Lilian del Castillo Laborde, University of Buenos Aires
Enrique Fernandez Escalante, IAH MAR Commission & Tragsa Group
Malcolm Gander, U.S. Department of Defence
Abror Gadaev, Samarkand State Architectural and Civil Engineering (SSACEI)
Dinis Juizo, Eduardo Mondlane University, Mozambique
Jeltsje Kemerink, IHE Delft, University of Amsterdam & Oregon State University
Neno Kukuric, IAH & IGRAC
Elena Lopez-Gunn, ICATALIST & University of Leeds
Renée Martin-Nagle, A Ripple Effect LLC, Eckert Seamans & Environmental Law Institute
Jodie Miller, University of Stellenbosch
Adrian Parr, University of Texas
Damien Serre, University of French Polynesia
Craig Simmons, Flinders University; National Centre for Groundwater Research & Training
Raya Stephan, Deputy Editor-in-Chief for *Water International*
Richard Taylor, IAH & University College London

▼
THE RECORDINGS, CONFERENCE REPORT, AND PROCEEDINGS (INCLUDING ABSTRACTS, PRESENTATIONS, AND POSTERS) ARE ALL AVAILABLE ONLINE AT: www.iwraonlineconference.org



2021 ONLINE CONFERENCE WATER, FOOD, AND HEALTH

FOLLOWING THE SUCCESS OF THE 2020 ONLINE CONFERENCE, plans were launched immediately to make this an annual event, and the second online conference is being planned for 2021 with the support of the Congress & Events Committee. Our planned theme is “Water, Food, and Health” and more information can be found at www.iwraonlineconference.org



PUBLICATIONS AND WEBINARS

WATER INTERNATIONAL

In 2020, eight issues of *Water International* were produced, including 2 special issues. The special issues were:

- ***Water in Power Diplomacy***, July (45.4) Sumit Vij, Jeroen Warner & Anamika Barua, eds.
- ***Smart Water Management: Truly intelligent or just another pretty name?***, August (45.6) Henning Bjornlund, Stephanie Kuisma, James E. Nickum & Raya Marina Stephan, eds.

Two special issues were initiated in 2020 to be completed in 2021. One was on Source to Sea, in collaboration with the Stockholm International Water Institute and their Source 2 Sea Platform. The other will be a special 50th Anniversary Issue, led by the 50th Anniversary Committee.

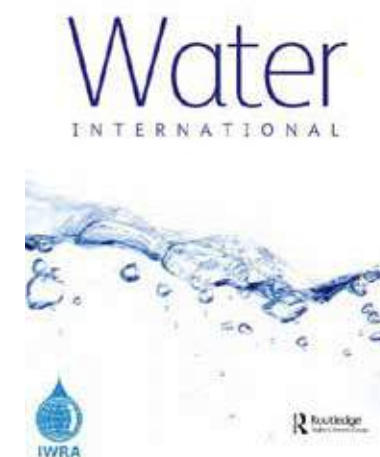
The Editor-in-Chief of IWRA's flagship publication, *Water International*, continues to be James E. Nickum, backed with the strong support and hard work of Raya Stephan, Deputy Editor-in-Chief, and a wonderful Editorial Team & Editorial Board.

The Editorial Team

Editor-in-Chief: James Nickum – IWRA, Japan	Associate Editors: Charlotte MacAlister – Climate Smart Communities, Canada
Deputy Editor-in-Chief: Raya Marina Stephan – IWRA, France	Pedi Obani – University of Bradford, UK
Book Review Editor: Olivia Molden – Earth Economics, USA	Yizi Shang – China Institute of Water Resources & Hydropower Research (IWHR), China
	Cecilia Tortajada – Lee Kuan Yew School of Public Policy, Singapore
	Kevin Wheeler – Oxford University, UK

The Editorial Board

Nani G. Bhowmik – University of Illinois at Urbana-Champaign, USA	Rabi Mohtar – American University of Beirut, Lebanon
David Brooks – International Institute for Sustainable Development, Canada	Daanish Mustafa – King's College, UK
Regina M. Buono – University of Texas at Austin, USA	Raul Pacheco-Vega – Facultad Latinoamericana de Ciencias Sociales, Mexico
Ximing Cai – University of Illinois, Urbana-Champaign, USA	Raja Sengupta – McGill University, Canada
Misganaw Demissie – University of Illinois, Urbana-Champaign, USA	Christopher Scott – University of Arizona, USA
Ben Dziegielewski – Southern Illinois University, USA	Slobodan Simonovic – University of Western Ontario, Canada
Surina Esterhuysen – University of the Free State, South Africa	Olli Varis – Aalto University, Finland
Bruce Hooper – Bruce Hooper & Associates, Australia	Yuliya Vystavna – Czech Academy of Science, Czech Republic
Malin Falkenmark – Stockholm Resilience Center, Sweden	Philippus Wester – International Centre for Integrated Mountain Development, Nepal
Shaofeng Jia – Chinese Academy of Sciences, China	Sarah Wolfe – University of Waterloo, Canada
Krasposy Kujinga – WaterNet, Zimbabwe	Mark Zeitoun – University of East Anglia, UK
Jennifer McKay – University of South Australia, Australia	



Manuscripts received in 2020 exceed 356, up roughly 100 over the previous year. This averaged one per day. The publishing figures for 2019 and 2020 YTD were released by Taylor & Francis in October 2020. The key highlights were:

DOWNLOADS 2020 YTD: 116,637,
PERCENTAGE INCREASE: **40% HIGHER**
THAN DOWNLOADS IN 2019 YTD.

MOST DOWNLOADED ARTICLE:
LEGAL PERSONALITY AND ECONOMIC LIVELIHOOD OF THE
WHANGANUI RIVER: A CALL FOR COMMUNITY ENTREPRENEURSHIP,
DOWNLOADS: 3,622

TOP ALTMETRIC SCORING ARTICLE:
THE EXPOSURE OF A FRESH FRUIT AND VEGETABLE SUPPLY CHAIN
TO GLOBAL WATER-RELATED RISKS,
ATTENTION SCORE: 98

TOP CITED ARTICLE:
INTERNATIONAL WATER CONFLICT AND COOPERATION:
CHALLENGES AND OPPORTUNITIES,
CITATIONS: 14

2019 IMPACT FACTOR: 1.899,
RANK & CATEGORY: 55/94 WATER
RESOURCES

TOTAL PUBLICATIONS IN 2019:
60

OPEN ACCESS PUBLICATIONS IN 2019:
15

IWRA's Mentored Publishing Scheme for Early-Career Professionals

IWRA launched a new innovative programme in 2020 aimed at supporting early-career scholars and water professionals to publish papers that are either co-authored with or supervised by senior water professionals, in what will be a mentored Special Issue of *Water International*. Robert G. Varady is leading this initiative.

At the beginning of 2020, early-career scholars and water professionals were invited to submit abstracts for this programme. The special issue, to appear in 2021, will endeavour to promote interdisciplinarity and transdisciplinarity. It will encourage integrated-systems approaches in water research, avoiding very specific and narrow topics. Of particular interest are innovations on policies, management, development, and technological development that look to the present as well as the future. The special issue resulting from the mentoring effort will have as a theme, “Fresh perspectives and approaches by new water professionals to meeting challenges in the water sector”.

More than 60 prospective papers were submitted, 43 from women and 17 from men, from 32 countries, including developed and developing nations. The review committee selected 9 submissions, two of which had 2 co-authors, resulting in 11 early career applicants (including 8 women) being selected. Through this mentorship programme, they will benefit from a valuable chance to work and network with established senior water professionals and experts. Each selected participant has been paired with a senior mentor who will help guide the paper as an advisor or, possibly, a co-author.

The selected early-career scholars and water professionals and their mentors are:

1. Asma Bachikh (mentor: Koen Verbist)
2. Mary Belle Cruz-Ayala (mentor: Cecilia Tortajada)
3. Hannah Hilbert-Wolf (mentor: Andrea K. Gerlak)
4. Hussam Hussein (mentor: Koen Verbist)
5. Imad Antoine Ibrahim (mentor: Salman Salman)
6. Semina Kafle (mentor: Francisco Meza)
7. Aristarick Mkenda (mentor: Henning Bjornlund)
8. Irene Pasqua (mentor: Sharachchandra Lele)
9. Manita Raut (mentor: Robert G. Varady)
10. Nathalie Richards (mentor: Henning Bjornlund)
11. Pía Weber (mentor: Barbara Willaart)

IWRA POLICY BRIEFS

Four Policy Brief documents were published in 2020, as part of the “Blue Series” based on *Water International* special issues. In addition, eight issues of the “Green Series” were also released. The latter are typically published in association with key partners and in the framework of IWRA events and activities. *Water International* Editor, James Nickum, has been the coordinator of the production of these Policy Briefs, working with the team of Policy Brief editors.



The four new “Blue Series” policy briefs produced:

Water International Policy Brief N° 15:

Flood-Resilient Cities Start at Home

Water International Policy Brief N°16:

OECD Principles on Water Governance: From Policy to Practice

Water International Policy Brief N°17:

Virtual Water and Trade: Lightening Water Footprints

Water International Policy Brief N°18:

Wicked Problems Swamp Water Quality Governance

Eight “Green Series” Policy Brief was also published:

IWRA Policy Brief N° 4:

Water Security and the Sustainable Development Goals

IWRA Policy Brief N° 5:

Covid-19 Challenges the Water Sector

IWRA Policy Brief N° 6:

Want Progress in Water? Let Women Lead

IWRA Policy Brief N° 7:

Groundwater Assessment Under Climate Change

IWRA Policy Brief N° 8:

Climate Change Effects on Groundwater Resilience – Pollution and Remediation

IWRA Policy Brief N° 9:

Contribution of Technology to Groundwater Resilience

IWRA Policy Brief N° 10:

Groundwater Governance, Management & Policy

IWRA Policy Brief N° 11:

Groundwater Education and Capacity Building



IWRA UPDATE

IWRA Update, the Association’s quarterly newsletter, produced its usual four editions in 2020. The objective of the newsletter is to inform IWRA members and key partners on the latest and upcoming activities of the Association, as well as recent water news, publications, and information. These four newsletters were made available entirely online and were distributed via email, as well as promoted on social media channels, such as Twitter, Facebook, Instagram, and LinkedIn. For each issue, contributions from members through open calls were requested to update the IWRA community on their latest activities and research.

IWRA WEBINARS



In 2020, IWRA held webinars on eleven different topics. These online events were based on selected special issues of *Water International*, or in relation to other water related events:

Webinar n°27:

Flood Resilience of Private Properties – 28th January 2020

Webinar n°28:

World Water Day 2020, Water & Climate Change – 23rd March 2020

Webinar n°29:

Water & COVID-19 – 30th April 2020

Webinar n°30:

Women & Resilience in Water Sector – 27th May 2020

Webinar n°31:

Water Reuse in a Circular Economy – 17th June 2020

Webinar n°32:

Environmental Flows: Harmony between Humans & Nature – 22nd July 2020

Webinar n°33:

Power and Water Diplomacy – 26th August 2020

Webinar n°34:

Sustainability of Engineered Rivers in Arid Lands: Challenge & Response – 23rd September 2020

Webinar n°35:

Policy to Support Water Reuse Technologies – 21st October 2020

Webinar n°36:

World Toilet Day 2020: Sustainable Sanitation & Climate Change – 19th November 2020

Webinar n°37:

Agricultural Water Reuse: Challenges & Opportunities – 16th December 2020

More than 1,300 registrants participated for free in these eleven webinars. Throughout the year, all webinars were recorded and are now accessible both on IWRA’s website and YouTube channel.



11,000
followers
2,300,000
impressions



15,250
followers



11,000,000
impressions
250
posts



250,000
impressions
6,000
followers



28% women
72% men

9% 18-24 years old
63% 25-34 years old
17% 35-44 years old

MEDIA COVERAGE

Social media channels helped to promote IWRA’s activities and to raise its profile. The platforms used included Twitter, Facebook, LinkedIn, YouTube, and Instagram. A new Instagram account (@IWRA_water) was opened in early 2020 in order to target young and early career professionals. Moreover, media articles were released in water related journals and magazines.

On Twitter, IWRA reached more than 11,000 followers with over 2,300,000 impressions overall for its tweets during the entire year. One or two tweets were posted on average per day. On Facebook, IWRA gained 15,250 new page followers (28% women, 72% men; 63% 25-34 years old, 9% 18-24 years old, and 17% 35-44 years old), and more than 15,000 likes. In addition, the Association published more than 250 posts on Instagram and received as much as 11,000,000 impressions. On LinkedIn, IWRA saw the biggest increase in profile, as it gained nearly 6,000 new followers in a year and received over 250,000 impressions.

On top of this, articles on online magazines and portals were published. This included mainly a media article on Future of Water interview with IWRA’s President, Gabriel Eckstein, in March, and an IISD written piece on “**The Underexposed Effects of Climate Change on Groundwater: An Out-Of-Sight Crisis**” by Ignacio Deregibus in October.

STRATEGIC PARTNERSHIPS, COLLABORATIONS AND EXTERNAL EVENTS

IN 2020, IWRA CONTINUED TO LIAISE WITH MANY INTERNATIONAL WATER ORGANISATIONS AND INSTITUTIONS to further its work and activities, despite the limitations on travel and events in 2020. Much work went online, and the use of teleconferencing facilities increased significantly. It is difficult to list all of the collaborations that took place in 2020, but some of the key highlights include:



KOREA WATER FORUM

2020 KOREA INTERNATIONAL WATER WEEK (KIWW)

It was planned to co-convene the 2020 KIWW along with IWRA's XVII World Water Congress, in Daegu, Republic of Korea. Due to the postponement of IWRA's Congress to 2021, this did not happen, and KIWW was reduced to a small number of online events, including the World Water Challenge. IWRA was part of the Jury Panel at the World Water Challenge and was represented by Executive Director, Callum Clench.

UNESCO

In 2020, IWRA collaborated with two different parts of UNESCO: the Intergovernmental Hydrological Programme (IHP) and the International Centre for Water Security and Sustainable Management (i-WSSM).



UNESCO IHP was the main financial sponsor of the 2020 Online Conference covered on section 5 of this report. Their generous support ensured that registration was made free for all participants and audience members. It particularly encouraged participation by experts and attendees from Africa, low-income countries, women, and youth. This support also ensured open access to all conference materials, including recordings, conference policy briefs and reports, as well as conference proceedings. Both Alice Aureli, Chief of Section of the Groundwater Systems and Settlements Section (GSS), and Jorge Ellis De Luca, Programme Specialist of the Eco-hydrology, Water Quality and Water Education Section (EQE), chaired sessions under the Online Conference sub-theme "Groundwater Education & Capacity Building", as well as managed speakers and promoted the event across their networks.



UNESCO i-WSSM has a contract with IWRA to produce their annual Global Water Security Issues (GWSI) series, collecting case studies on emerging and future global water security issues in the context of specific themes that are identified annually. Mary Trudeau manages this project for

IWRA, with the support of the IWRA Water Security Task Force who works as peer reviewers.

The specific objectives of the GWSI Series include:

- To share research and studies on similar topics in order to strengthen cooperation among researchers, policy advisors, and decision-makers engaged in the international water sector
- To encourage and enhance research on water security-related issues
- To identify solutions for improving global water security-related issues and to contribute towards achieving water security in the long term.



The 2019 report was published in 2020. It focussed on "Water Reuse within a Circular Economy Context". The report included case studies from all over the world, and on a number of subthemes:

1. Water Reuse & Principles

1. Water and the Circular Economy in Cities: Observations and Ways Forward
2. From Waste to Resource: Shifting Paradigms for Smarter Wastewater Interventions in Latin America and the Caribbean
3. Water Reuse in Singapore: The New Frontier in a Framework of a Circular Economy?

2. Decision-Making for Water Reuse

1. Water Availability and Water Reuse: A New Approach for Water Resources Management
2. Industrial Water Recycling in Australia's Circular Economy
3. Wastewater Treatment and Reuse Best Practices in Morocco: Targeting Circular Economy

3. Understanding Challenges of Water Reuse

1. Marginal Water Resources for Food Production
2. SWOT Analysis of Reclaimed Water Use for Irrigation in Southern Spain
3. Wastewater Production, Reuse and Management in Nigeria

4. Water Reuse and Key Stakeholders

1. Market for Reclaimed Water through Private Water Tankers – Sustainable Service Provision in Peri-Urban Areas in India
2. Toward SDG 6: Exploring the Potential for Wastewater Reuse in Nairobi, Kenya

5. Technology for Water Reuse

1. The Capability of Forward Osmosis Based Hybrid Processes in Adaptation to Water Scarcity and Climate Change

This edition of the GWSI provides examples through case studies of policy and technical innovations for water reuse, wastewater recycling, and reduced water consumption that recognize the true value of water and closed production loops. Biofuels, energy, fertilizers, and high-grade reclaimed water are some of the recovered products that provide input to other processes. Institutional and governance regimes that are rising to the challenge to update regulations, create markets for recovered products, and address potential quality, health, and safety issues are profiled. With the necessary planning on a water basin or aquifer basis, rather than being a burden, marginal water resources can provide socio-economic opportunities that close the resource use loop while providing essential resources on local and regional scales. Successful pilot projects may be scaled up if the social and economic conditions exist within a governance framework amenable to a circular economy.

The 2020 report is due for release in 2021 and focuses on "The Role of Sound Groundwater Resources Management and Governance to Achieve Water Security". It was also decided that the theme for 2021 report will be "Water Security and Cities – Integrated Urban Water Management".



K-WATER

On 8 July IWRA signed a memorandum of agreement (MoA) with the Korea Water Resources Corporation (K-water) and the Asian Water Council (AWC) to establish the basis of a new project dedicated to the analysis of smart water solutions in urban developments around the world. This has been titled the **Smart Water Cities project**.

This project aims to contribute to knowledge-sharing of smart water technologies in urban environments around

the world and to promote their implementation. It will run for three years from July 2020 to December 2023. The activities in the project are divided into three parts: the first part is entitled “Identifying Solutions” and seeks to examine a diverse range of current smart water city projects. The second part is entitled “Measuring Impact” and works to develop a new standards framework and Key Performance Indicators (KPIs) for Smart Water Cities. The third part is called “Certification” and it will propose a new internationally recognised certification scheme for Smart Water Cities.

In September 2020, IWRA launched a call for proposals inviting researchers from international organizations, government agencies, research institutions, not-profit institutions, and the private sector to submit case study proposals for the first part of the project. The selection of cases will continue in 2021. The first report of the project will be published in December 2021.



WORLD WATER COUNCIL 9TH WORLD WATER FORUM

The IWRA and the World Water Council (WWC) have a long history together, as the WWC was created as a result of the *Cairo Statement* that came out of the VII World Water Congress held in Cairo in 1996.

IWRA continued in 2020 to actively participate on the Board of Governors (BoG) for the World Water Council (WWC). IWRA is represented on the BoG by Vice President, Yuanyuan Li (Governor), and Executive Director, Callum Clench, (Alternate Governor). With the impacts of COVID-19, only one face-to-face BoG Meeting was held in 2020. This occurred in Liège and Brussels, Belgium, in February, and included a visit to both the European Union Parliament, where the BoG was welcomed by MEP Soraya Rodriguez from the Committee on the Environment, Public Health and Food Safety, and to Water Europe, where presentations were made by the President of Water Europe,

Tomas Michel, and Veronica Manfredi, Director for Quality of Life in DG Environment at the European Commission.

The remaining two BoG meetings for the year were held by teleconference. This limited the work done by the World Water Council's Water Security Task Force that IWRA co-chairs.

Furthermore, the 9th World Water Forum in Dakar, Senegal, has been postponed from March 2021 to March 2022. IWRA is working as a key strategic partner in the preparations for this Forum, which will focus on “*Water Security for Peace and Development*”. The four priorities of the thematic framework are: Water Security, Rural Development, International Cooperation, and Means and Tools. Patrick Lavarde, IWRA's Past President, which is also the co-President of the World Water Forum; Guy Fradin, IWRA Secretary General, is a special advisor for the Forum. IWRA's XVII World Water Congress has been formally recognised as a key milestone on the road to the Dakar, leveraging the water security theme of the XVII Congress. IWRA Project Officer Alice Colson, has been leading Action Group 1B on Water Quality, under the Priority Area of Water Security. This has involved leading a large group of stakeholders through the preparatory process for the Forum.



ASIA WATER COUNCIL (AWC) THE 2ND ASIA INTERNATIONAL WATER WEEK

IWRA has been an active member of the AWC since 2017. Since then, IWRA has been elected to the Board of Governors (BoG) for the Council. IWRA was initially represented by IWRA Vice-President, Yuanyuan Li, as Governor, and Gary Jones as Alternate Governor. Due to other work obligations, these positions were later taken over by Executive Director Callum Clench as Governor, and Mingna Wang from the IWRA Executive Board as Alternate Governor. Due to COVID-19, no face-to-face meetings were held in 2020. Instead, two short virtual Board of Council (BoC) meetings were held; one in July and the other in December.

IWRA is also supporting the preparation efforts for the AWC's 2nd Asia International Water Week (AIWW). This event was supposed to take place in October 2020 in Labuan Bajo, East Nusa Tenggara, Indonesia. Due to the restrictions on travel and gatherings caused by the COVID-19 pandemic, this event has been postponed to November 2021.

IWRA is a strategic partner in the preparatory process and a champion for the sub-theme on Water for Ecosystems, under the main theme of Water Security addressing local, regional and global challenges. IWRA Project Officer, Alice Colson, is leading this work on behalf of IWRA, in collaboration with UNESCO's office in Indonesia. This sub-theme focuses on “Catchment and Biodiversity Protection”, “Managing Hydrology and Environmental Flows”, “Nature-based solutions for resilient human settlements”, and “Delivering ecosystem services through stakeholder engagement and water quality guidelines”.



OECD WATER GOVERNANCE INITIATIVE (WGI)

IWRA supports the OECD's Water Governance Initiative, a multi-stakeholder network of more than 100 delegates from public, private, and non-profit sectors. Members from these networks gather twice a year in a Policy Forum to share on-going reforms, projects, lessons, and best practices in support of better governance in the water sector. June 2020 marked the 5th anniversary of the OECD Principles on Water Governance. IWRA has been part of this initiative since the beginning and has specifically supported the WGI through the publication of a Special Issue of *Water International* dedicated to this subject and the work being undertaken in the WGI. This publication was supported by an IWRA webinar and Policy Brief on focussing on the WGI. IWRA continues to sit in the working groups for indicators and best practices.

IWRA's Executive Director Callum Clench, and Communications Officer Ignacio Deregibus, represented the Association at OECD's 13th WGI meetings held in

Paris at the OECD Headquarters on January 9th and 10th. This meeting focussed on the release of the report *Water Governance in Argentina*. The more than 80m delegates were able to share updates on their research and analysis on water governance, including IWRA making the links the XVII World Water Congress, and building on the work already undertaken in *Water International*. There were numerous sessions over the two days which focused on specific water governance issues in Asia, Peru, Brazil, and Africa, as well as on issues related to indigenous peoples.

On 2-3 November 2020, the OECD Water Governance Initiative (WGI), held its 14th meeting virtually. IWRA Executive Director Callum Clench attended. The meeting gathered more than 80 participants. Not surprisingly, one of the key focal points was the impact of COVID-19 on water governance. Again, there were presentations on *Water Governance in Asia and Africa* (and particularly in South Africa)



UN-WATER

UN-Water was set up because there is no single UN entity dedicated exclusively to water issues. Over 30 UN organizations carry out water and sanitation programmes, reflecting the fact that water issues run through all of the UN's main focus areas. UN-Water's role is to coordinate so that the UN family ‘delivers as one’ in response to water related challenges. UN-Water is made up of Members (UN agencies, programmes and other UN entities dealing with water-related issues, including sanitation and natural disasters) and Partners (international organizations, professional unions, associations or other civil-society groups that are actively involved in water, international in structure and membership). IWRA is an official Partner of UN-Water. IWRA holds a webinar for both days each year: World Water Day (22 March) and World Toilet Day (19 November).

In January 2020, IWRA Communications Officer, Ignacio Deregibus, attended the 32nd UN-Water meeting on behalf of the Association, held in Rome. The 33rd UN-

Water meeting was held fully online in September, and was attended by Executive Director, Callum Clench.

The first UN-Water meeting was held at the headquarters of the International Fund for Agricultural Development (IFAD) between January 28th and January 29th. During this meeting, the UN-Water Members and Partners committed to develop the SDG 6 Global Acceleration Framework. Updates were provided on the activities of UN-Water Members and Partners. And there was a discussion on the draft UN-Water 2030 Strategy. Exchanges were also held on the 2019 World Water and World Toilet Days (Leave No One Behind) and the 2020 World Water and World Toilet Days (Water and Climate Change). A task force was set up to start planning for the 2021 World Water Day and World Toilet Day. IWRA also had the chance to present information on the XVII World Water Congress.

The second UN-Water meeting understandably had a strong focus on the impacts of COVID-19 on the activities of the Members and Partners of UN-Water, as well as on the water sector in general. Further discussion was held on the SDG 6 Global Acceleration Framework. The nature of the online event meant it was more limited in scope and detail.



SOURCE TO SEA (S2S)

Under the leadership of the Stockholm International Water Institute (SIWI), the Action Platform for Source-to-Sea Management (S2S Platform) is a multi-stakeholder initiative that helps freshwater, coastal, and marine experts contribute to global knowledge generation on source-to-sea interconnections, connect and engage in collaborative projects, promote best practices, and take collaborative action to improve the management of land, water, coastal, and marine linkages. IWRA is member of the steering committee for this platform.

In 2020, IWRA supported the S2S initiative by accepting a proposal to develop a Special Issue of *Water International* on the subject. Work on this Special Issue continued through 2020, delayed slightly by the COVID-19 pandemic. It is now expected to be released in 2021.

IWRA was represented by Executive Director Callum Clench, and Project Officer Alice Colson, in a number of virtual steering committee meetings in 2020, with a primary focus on the new S2S strategy, as 2020 marked the final year of the S2S's current strategy and presented the opportunity to look ahead to the future of the platform and to the application of source-to-sea management.



HUMAN RIGHT 2 WATER

IWRA collaborated with WaterLex to organise the 1st World Summit on 'Leaving No One Behind' that took place in Geneva in February 2019. Unfortunately, due to funding issues, WaterLex was not able to continue operating. As a result, the Human Right 2 Water (HR2Water) organisation was set up in its place to continue its work. The mission of HR2Water is to use and share expert knowledge on how the human right to water and sanitation should be integrated into law, policy, and practice. The aim is to realise safe and sustainable access to water and sanitation for all, including the most vulnerable and marginalised.

IWRA is represented on the Board of the HR2Water by IWRA Executive Director Callum Clench, who holds the position of Secretary. The Board is the executive governing body of HR2Water, providing governmental support and oversight to this international non-governmental organization, in accordance with the guidance of the HR2Water statutes. The Board reviews HR2Water activities and approves its policies, global and country programmes, and budgets.

HR2Water is a not-for-profit organisation building on WaterLex's legacy of legal research into the international laws, standards, and norms supporting the human rights to water and sanitation (HRWS). Experts at HR2Water have developed the expertise and knowledge to assess and make recommendations to reform national legal frameworks such that Sustainable Development Goal 6 (SDG 6 on water and sanitation) can be more readily attained. They especially focus on the more vulnerable and marginalised sectors of society.





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