

NEWS

& information

IAH - THE WORLD-WIDE GROUNDWATER ORGANISATION

Furthering the understanding, wise use and protection of groundwater resources throughout the world

AUGUST 2019

Also in this issue:

President's message
Education and resources
Member news and initiatives
Competitions and calls
Chapter updates
Commissions & Networks
Events listing

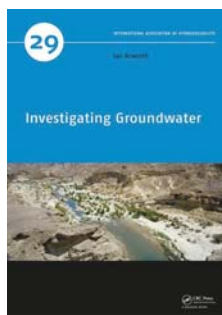
and the regular IAH
announcements and news



"Affection and faith in MAR is noticeable and contagious"

Such was the feedback received during ISMAR10 – the 10th International Symposium on Managed Aquifer Recharge, held in Madrid on 20-24 May. In April, IAH colleagues in South Africa hosted a Managed Aquifer Recharge (MAR) workshop held in Stellenbosch. Both events highlighted the potential of MAR to large-scale water users and providers, and as a technique to combat the adverse effects of climate change, as an adaptation mechanism.

Meeting reports, pages 26-27 ; new committee for the MAR commission, page 32



PRIZE DRAW: INVESTIGATING GROUNDWATER BOOK

We have another book competition for IAH members. *Page 18*



CLIMATE CHANGE ADAPTATION AND GROUNDWATER

New, in our Strategic Overview Series. *Page 10*

**INTERNATIONAL
ASSOCIATION OF
HYDROGEOLOGISTS**

Find us at <https://iah.org>. Connect by email info@iah.org and on social media:



AUGUST 2019

SHARE WITH US

IAH would like to help more companies and organisations – and their staff – participate in global groundwater affairs and publicise their products and services.

We understand that corporate relationships should cater to different needs. Some companies and organisations may be seeking membership for their staff and perhaps a few additional benefits, whereas others may be more interested in publicising products or services to IAH members and those who receive information from us, including through our email communications and News & Information magazine, at meetings and events.

Information about the options and opportunities now features on our website. We have also produced a brochure, which can be downloaded and passed on to colleagues. Find out more by following the link below.

 <https://iah.org/join-us/corporate-membership-and-opportunities>



ADVERTISING INFORMATION

IAH News and Information is published 3 times a year. It is distributed as an insert in Hydrogeology Journal and is also published via IAH's website and email alerts. It reaches all members and supporters of the International Association of Hydrogeologists – around 8000 people – and can also be freely downloaded by individuals worldwide for personal/not for profit use.

We accept commercial advertisements. Advertising rates are €300 per full-page advert and €200 per half page. These rates apply for one issue. If you take an advert in two successive issues then the third is offered free of charge.

Corporate members, supporters and sponsors are offered special rates. Contact us for more details.

Copy dates are 1 March, 1 June and 1 October.

Email knicholson@iah.org for further details.


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GROUNDWATER MANAGEMENT AND GOVERNANCE
COPING WITH WATER SCARCITY

22nd - 27th SEPTEMBER 2019

MALAGA - SPAIN



CEHYUMA
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The Congress is a contribution
to the 8th phase of the UNESCO
International Hydrological
Programme (IHP-VIII, 2014-2021)



IAEA
International Atomic Energy Agency



International Groundwater Resources Assessment Centre



Groundwater, scarcity and climate change...

It's turning into a long hot summer in Europe, even for the UK. Glastonbury Music Festival, which takes place at the end of June in Somerset, England, normally turns into a soggy mud-bath, but this year the ground was baked hard under the sun – and in the UK, as with water managers and suppliers in different parts of the world there are concerns about lack of 'meaningful' rain and the possibility of drought. The concerns aren't as pointed as in some parts of the world though. The forecasts of major cities running out of water in India – but which is in stark contrast to the devastating floods that have occurred in Mumbai – have taken over from last year's headlines for Cape Town, for the time-being at least.

The 46th IAH Congress in Malaga, on 'Coping with Water Scarcity', and the latest paper in our 'Strategic Overview Series', on 'Climate Change Adaptation and Groundwater', are timely. We aim to add our groundwater message to the voices and rallies across the world about how the world's climate is changing and that responsible and sustainable management of groundwater can help with adaptation. This follows two successful meetings on managed aquifer recharge, continuing the promotion of this technique for managing scarce water resources. To do this effectively requires a wide understanding of the challenges and a will to take action. There will be more news on this front coming very soon...

Turning from MAR to Mars... it has been in the media that diurnal freeze-thaw activity on this planet is causing hydrofracking and seismicity. With this resource, to reply belatedly to David Bowie, there could be life on Mars yet (though from other news reports that need not necessarily include menfolk!).

There's lots to read in this summer edition of the News and Information magazine. I especially liked Vicki Kretsinger's points about the importance of sharing our collective knowledge and experiences from across the world – and how being a member of IAH can help this no matter where your day to day work is carried out. I shan't detain you any longer from reading all the articles. If you would like to tell us about items you would like to see in the News and Information magazine contact us at info@iah.org. We look forward to hearing from you!

IAN DAVEY, IAH EXECUTIVE MANAGER

IN THIS ISSUE

Media Focus	6
From Our President	8
News from GRIPP.....	9
Education/new SOS paper on Climate Change....	10
Mining Enterprises and Groundwater	11
IAH News	12
Ask a Member.....	14
Applied Hydrogeology Award - call.....	15
Member competitions.....	18
New Members and updates.....	20
Meeting Reports	26
Chapter News.....	28
Commissions & Networks.....	30
Hydrogeology Journal	33
2019 Congress, Diary Dates and Events.....	34-36

2019 IAH ANNUAL GENERAL MEETING



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- The AGM agenda will include receiving the report and accounts for the period ended 31st December 2018. The full financial statement is available on the annual reports pages of the IAH web site <https://iah.org/about/reports/management>.
- Minutes of the 17th Annual General Meeting held on 11th September 2018 are available at: <https://iah.org/members/iah-meetings>.



MEDIA FOCUS

A selection of groundwater features from around the world... and Mars

INTEGRITY RISKS IN PROFESSIONAL BOREHOLE DRILLING

Integrity risks can be high in some professional borehole drilling projects, particularly the risk of corruption, but such risks may be brushed over or not even acknowledged. By acknowledging and addressing integrity risks from the earliest project stages, WASH managers in both government and NGOs can take steps to prevent these risks and ensure sustainable infrastructure.

<https://www.geodrillinginternational.com/wells-boreholes/opinion/1365074/integrity-risks-in-professional-borehole-drilling>

SCIENTISTS CREATE A GLOBAL MAP OF WHERE GROUNDWATER MEETS OCEANS

Scientists have created high-resolution maps of points around the globe where groundwater meets the oceans — the first such analysis of its kind, that may help protect both drinking water and the seas.

<https://www.thehindu.com/sci-tech/science/scientists-create-a-global-map-of-where-groundwater-meets-oceans/article27697520.ece>

ANCIENT GROUNDWATER IN EGYPTIAN AQUIFERS

Researchers have found evidence that older water from the deep Nubian Aquifer is discharging along faults in the rocks and mixing with shallow, younger groundwater. This potentially valuable resource could ease pressure on water available from the River Nile and could help in future development plans for the area.

<https://phys.org/news/2019-05-age-groundwater-egyptian-aquifers.html>

LOW COST WAY TO EXPLORE GROUNDWATER RESOURCES COULD BE GAME CHANGER

UNSW Sydney water engineers have revealed that investigating and managing groundwater resources more sustainably can be achieved at lower cost by using existing Earth and atmospheric tidal data.

<https://newsroom.unsw.edu.au/news/science-tech/low-cost-way-explore-groundwater-resources-could-be-game-changer>

QUEENSLAND GROUNDWATER PLAN APPROVED: QUESTIONS REMAIN OVER MODELLING

The Queensland government has approved the groundwater management plan for the controversial Adani coal extraction project. This follows advice from CSIRO and Geoscience Australia in which “a number of limitations” requiring additional work had been identified.

<https://www.theguardian.com/business/2019/apr/09/coalition-approves-adani-groundwater-plan-despite-questions-over-modelling>

COULD MARSQUAKES BE CAUSED BY FROZEN GROUNDWATER?

During the day, liquid groundwater seeps into tiny pores in the ground. As temperatures plunge at night, the top layers of groundwater freeze, building pressure inside those pores, resulting in seismic activity – as suggested in a recently published paper.

<https://phys.org/news/2019-06-ice-squeezed-aquifers-marsquakes.html>

See also: <https://www.jpl.nasa.gov/news/news.php?feature=7433>

Image source: <https://www.jpl.nasa.gov/news/news.php?feature=7433>, credit NASA/JPL-Caltech



21 INDIAN CITIES WILL RUN OUT OF GROUNDWATER BY 2020

Three rivers, four water bodies, five wetlands and six forests have completely dried in Chennai despite having better water resources and rains than any other metro cities, a recent report says.

<https://www.ndtv.com/india-news/21-indian-cities-will-run-out-of-groundwater-by-2020-report-2056129>

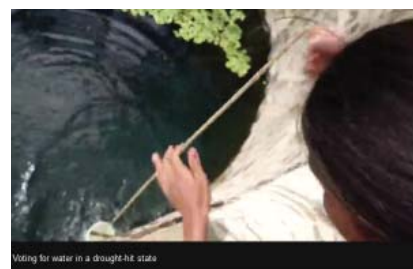


Image source: <https://www.bbc.co.uk/news/world-asia-india-48294157>, Credit BBC

See also: INDIA ELECTION 2019: THE LOOMING WATER CRISIS POLITICIANS IGNORE

<https://www.bbc.co.uk/news/world-asia-india-48294157>

IN BATTLE FOR LIBYA'S OIL, WATER BECOMES A CASUALTY

While Libya's oil lies at the heart of three months of fighting over Tripoli and years of power struggles before that, water is becoming a far bigger concern for its people.

<https://in.reuters.com/article/uk-libya-security-water-insight/in-battle-for-libyas-oil-water-becomes-a-casualty-idINKCN1TX0KU>

AFTER AQUIFER CONCERNS, GOOGLE'S \$600M SOUTH CAROLINA EXPANSION FINDS NEW WATER SUPPLY

Google's \$600 million South Carolina expansion can continue as planned as a new water pipe that could cool its servers will go ahead. The company had been locked in a two-year battle with local conservation groups over plans to take 1.5 million gallons of water per day from the Charleston, South Carolina aquifer.

<https://www.datacenterdynamics.com/news/after-aquifer-concerns-googles-600m-south-carolina-expansion-finds-new-water-supply/>

GOOGLE CELEBRATES PUERTO PRINCESA UNDERGROUND RIVER

On Sunday 30 June Google put out a special doodle celebrating the 7th anniversary of the Puerto Princesa Subterranean River making the Ramsar List of Wetlands of International Importance.

<https://news.abs-cbn.com/news/06/30/19/google-celebrates-puerto-princesa-underground-river>



Image source: <https://news.abs-cbn.com/news/06/30/19/google-celebrates-puerto-princesa-underground-river>, Credit ABS-CBN and Google

Share groundwater news items in your region - all languages - by email info@iah.org and on social media:





News from our Association...

IAH continues to defend our profession and professionals all around the world. Thanks to the international activities and efforts of the IAH champions, groundwater is being mentioned in more meetings, in more documents and on international agendas, via water related institutions and associations such as UNESCO, UNWater, the WWC and INBO.

IAH's budget is limited, however, and because of such financial constraints, our Council has to carefully choose the main meetings involving water in which it is important to be present in order to influence the global politics on water. Each year, IAH acknowledges on its accounts some of the "contributions in kind" received from our employers and other international institutions. Certainly such contributions provide a strong incentive to maintain our presence in some of the main meetings. One of the IAH priorities in the future will be the diversification of our income sources, in order to allow us to be still more proactive in maintaining and developing new contacts with international organisations and institutions.

As the Association is based in UK, Brexit is an issue that is also a source of future concerns at least for the immediate future, in terms not only concerning finances, such as fluctuating exchange rates and the impact they have for the annual final accounts, but also in the overall management of the Association. This year we have invested in a new accounting package which enables the Secretariat to keep a closer eye on such fluctuations - but of course, none of us are able to greatly predict the future.

IAH's website, after the upgrade in 2012-2013, continues to be updated and the education page was the priority in 2018. More of our groups - chapters, commissions and networks - are also coming on board, thanks to the "subsite" system. Our Secretariat has a list of website tasks and potential developmentments that it gradually prioritises and adds to over time, working alongside IAH's website developers in Oxford.

In the world of publishing, IAH is also facing changes and it seems that for many, the Hydrogeology Journal is moving toward a preference for the electronic version. Just over half of our members now prefer this format and the future of the printed journal will continue to be deliberated. Also, as you will read in this newsletter, we have just released a new paper in the Strategic Overview Series, concerning Climate Change Adaptation and Groundwater, a topic which reflects our real concerns for the future.

Some of our National Chapters, Commissions and Networks are strongly active, giving their best to bring groundwater science, education and governance to a higher level. The organisation of several meetings in the last few years shows the great work of our members.

IAH Council, especially the Executive Committee, involved in the day by day management of the Association, deserve also my thanks for all the voluntary time and work dedicated to IAH. And a special mention to the IAH Secretariat and the Executive Manager, the Executive Editor and the Editor-in-Chief for Books by the professional way they all work and represent our Association.

This year the IAH Congress will be organised in Malaga, Spain, by our colleagues from the Spanish chapter. It's time to register, it's time to meet, it's time to contribute for the future of hydrogeology in the world. We count on you to be there. All the best.

ANTÓNIO CHAMBEL

GRIPP-ING NEWS

IAH continues to support GRIPP, the 'Groundwater Solutions Initiative for Policy and Practice', which is now in its third year of existence. Several IAH commissions and networks together with GRIPP are confronting a range of challenges - the IAH Commission on Transboundary Aquifers (<https://isarm.org/IAH-TBAcommission>), the IAH Commission on Managed Aquifer Recharge (<https://recharge.iah.org/>) and the IAH Commission on Groundwater and Climate Change (<https://gwclimate.iah.org/>).

GRIPP is currently bringing together evidence-based solutions for sustainable groundwater management (<http://gripp.iwmi.org/natural-infrastructure/>) and is documenting case studies (<http://gripp.iwmi.org/knowledge-products/gripp-case-profile-series/>) from around the world. GRIPP with IAH and other partners continues to emphasise to decision makers the importance of groundwater in achieving the Sustainable Development Goals <http://gripp.iwmi.org/2018/12/10/new-report-groundwater-and-sdgs/>.

You can find out more about GRIPP and its partners at <http://gripp.iwmi.org/>

SECRETARIAT

 <http://gripp.iwmi.org/>



GRIPP

GROUNDWATER SOLUTIONS
INITIATIVE FOR
POLICY AND PRACTICE

YOUR OPINION COUNTS! 2019 IAH SURVEY

We are currently undertaking a survey to seek opinions about how we're doing and ideas for new benefits and services IAH might provide to its members and supporters. Can you spare a few minutes to give your feedback and suggestions?

The survey will be open until the end of August 2019. We are seeking as much representation as possible, from all around the world, so please do pass the message on.

Summary results will be published later in the year and will be considered carefully by IAH's Executive and Council. Look out for reports and next steps later in the year and beyond.

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 <https://www.surveymonkey.co.uk/r/IAHsurvey2019>



EDUCATION AND RESOURCES

New in our Strategic Overview Series: Climate Change Adaptation and Groundwater

Climate-change is predicted to have a major impact on water resources, with more frequent surface-water droughts and intense rainfall events, and adaptation to avoid future water-supply crises will require better use of water storage.

Accelerated global warming, resulting primarily from over-dependence on 'fossil fuels', has rightly become the predominant environmental concern of our times. Even if this can be rapidly curtailed, climate-change is widely predicted to have a major impact on water resources, causing more frequent surface-water droughts, higher evaporation from lakes, reservoirs and wetlands, and more intense rainfall events with land flooding and 'flashy' streamflow. The geographical distribution of these impacts is still subject to considerable uncertainty, but they are likely to be more severe in the semi-arid climatic zones.

Whilst acting to reduce 'net carbon emissions' greatly, we also need to focus on climate-change adaptation. This will widely require making better use of (and developing more) water storage in one form or another.

Groundwater has always displayed excellent drought resilience, and the presence of aquifers (with their large volumes of stored water) provides a 'natural solution' for deployment in climate-change adaptation.

Drafting of this further paper in our Strategic Overview Series has been led by former IAH President Stephen Foster and a team that includes Peter Dillon (Australia), Tibor Stigter (Netherlands), Richard Taylor (UK), Bridget Scanlon (USA), Bartolome Andreo (Spain), Seifu Kebede (Ethiopia), Oscar Escolero (Mexico), Makoto Taniguchi (Japan) & Franziska Wende (Germany) and Gillian Tyson (UK).

In total we now have 9 papers in the Series:

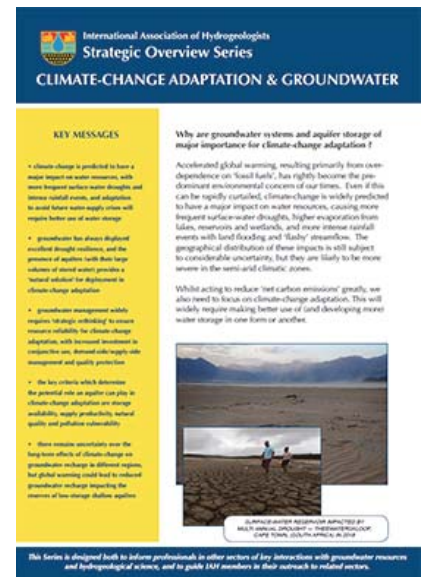
- Ecosystem Conservation and Groundwater
- Energy Generation and Groundwater
- Food Security and Groundwater
- Global Change and Groundwater
- Human Health and Groundwater
- Resilient Cities and Groundwater
- The UN-SDGs for 2030 – Essential Indicators for Groundwater
- Mining Enterprises and Groundwater
- Climate Change and Groundwater

Planned developments in our Strategic Overview Series

We intend to prepare further papers in due course, with topics such as emerging pollutants, poverty reduction and basin management under consideration. We also propose to make the Series more accessible to a global audience by publishing translations of the papers in the world's major languages. We will be beginning this work shortly.

IAN DAVEY

 View all papers at: <https://iah.org/education/professionals/strategic-overview-series>





Mentoring Scheme - Last call for 2019!

Registration to IAH's mentoring scheme will remain open until mid August, after which we will begin to review the information received from applicants.

We are accepting new registrations from mentees (receivers of advice) and mentors (givers of advice). If you are an IAH member and the scheme is of interest to you, please complete the relevant form from the links below. It is important that you provide as much detail as possible on the form – we are unable to consider applications that contain scant information and/or vague requests. In 2018, around a third of the applications received provided insufficient information. Detailed applications help us in our responses. They also help inform IAH more generally about members' interests and needs from IAH and beyond.

Demand for mentors continues to outstrip supply. Please, if you could give a little time to help support mentees, we know it would be appreciated. Volunteering as a mentor does not take up as much time as you might think.

The scheme is only open to IAH members – but if you are not yet a member you are welcome to join us now!

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<https://www.surveymonkey.co.uk/r/IAHmentor18> (giver of advice)

<https://www.surveymonkey.co.uk/r/IAHmentee2019> (receiver of advice)

<https://iah.org/education/professionals/mentoring> (general information about the scheme)

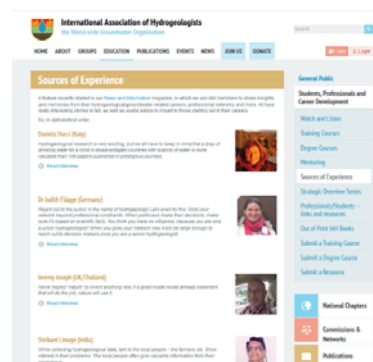
Sources of Experience

We know that many of you have appreciated the introduction of the “Ask a Member” feature in our newsletters, in which we ask IAH champions to share insights and memories from their hydrogeological/groundwater-related careers, professional networks and more. Based on this, we have now begun a compilation of the interviews on a new area of our website called “Sources of Experience”. You may also have seen quotes on our social media from them that we hope will inspire others in their work and perhaps some to consider a career in hydrogeology or similar. We are very grateful to those who have agreed to participate in this manner. All have really interesting stories to tell, as well as useful advice to impart to those starting out in their careers - do take a moment to have a look, and to pass on this useful resource to others.

SECRETARIAT



<https://iah.org/education/professionals/sources-of-experience>



INFLUENCING, ENGAGING AND PLANNING

IAH, with its global membership and a wide range of experience and expertise, is frequently asked to input to international initiatives on water and environment management. So far this year the IAH has been invited to participate in the work of UNESCO, UN-Water, and to co-operate with organisations such as INBO (International Network of Basin Organisations), IAHS (International Association of Hydrological Sciences), SADC (Southern African Development Community), IWA (International Water Association) and EEGS (Environmental and Engineering Geophysical Society) amongst others. Our Executive and Council members, and members of our Commissions, Networks and National Chapters make available their time and knowledge to help ensure that groundwater is not overlooked in the wider debate on water and environment, often seeking to influence socio-economic matters and governance.

Proposal for an ISO standard for water management

Uwe Troeger of TU Berlin represented IAH at international workshop where a proposal for new guidance for managing water under ISO 14001 was considered. As part of a new series of standards for environmental management systems, ISO 14002-2 would focus on groundwater and surface water. In total, 30 participants from 14 different countries and various stakeholder groups attended the event.

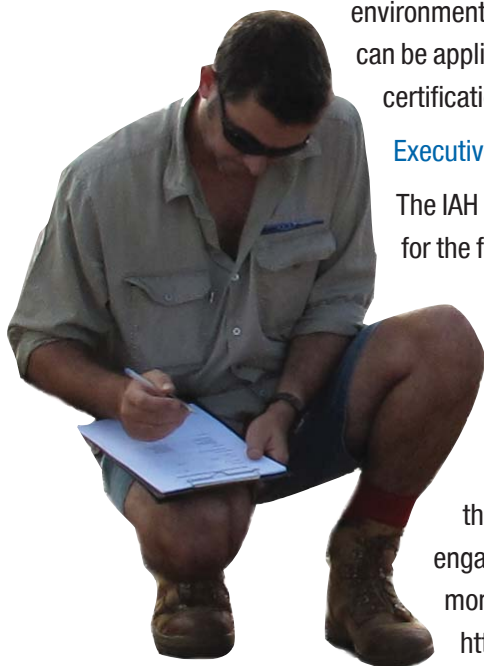
The aim of the guidance is to consider water-related environmental matters, both quality and quantity, and also the impacts of these on an organization. It will therefore refer to risks for both the environment and for the business itself. It will help organisations understand the water cycle in the catchment where they are located and their own sphere of influence and impact. It will also show how businesses will need to work with others in the catchment for a water management EMS to be effective. Existing ISO and non-ISO guidance, as examples of best practice, will be referenced.

The guidance will be designed for use by all organisations, with either a formal or informal environmental management system (EMS) in place. Flexibility will be needed so that the guidance can be applied by different types of organizations, without being prescriptive or requiring certification.

Executive Meeting

The IAH Executive met in June to review activities from the first half of 2019 and to make plans for the full IAH Council meeting in September in Malaga. The meeting took place in the World Heritage city of Evora in Portugal, where President Antonio Chambel is Professor at the Universidade de Evora. The University itself dates back to 1559 and students still take lectures in rooms decorated with traditional Portuguese blue and white 'azulejos' depicting the subjects taught in past times.

The Executive reflected on progress with the Forward Look priorities remaining during their term of office. Educational matters, professional development opportunities and engaging with and influencing other organisations were highlighted. During the last few months more conference keynote videos have been uploaded to our Vimeo site (see <https://vimeo.com/channels/1415869>). The Executive team proposed that coverage



should be extended to include additional themes, such as those featured in the papers from IAH's Strategic Overview Series and the work of the Commissions and Networks. The mentoring scheme is once again open to applicants, with both those seeking support and willing mentors welcome to participate. Support has been provided to several Commissions and Networks in setting up websites, organising elections and with publicising events. The Exec also noted that Tibor Stigter, Chair of the Groundwater and Climate Change Commission, had commented that in re-launching their website and circulating information about it via IAH's social media and other channels, they had gained a significant increase in membership.

Forward Look had envisaged a review of IAH's congress strategy and the Exec reflected on what this should entail. At present there was interest from several countries in running congresses each year, though this has not always been the case and in the 1990s congresses were organised every 2 years. It was felt that generally congresses served a useful purpose and provided an opportunity for members and others from all countries to meet and discuss groundwater matters at all levels. They also host our annual general meeting, an obligatory requirement. The Exec noted that IAH commissions and networks conduct well-attended, highly technical, 'thematic' meetings, which complement the often more general congresses. Nonetheless, it was thought that a strategy for congresses should be given further consideration.

The Executive also turned their attention to 'Making the invisible visible', IGRAC's successful proposal for World Water Day in 2022, which IAH had supported. The Exec considered that now was the time to start making plans with national chapters, and commissions and networks, as well as external partners for this important event and proposed that a working group should be convened. Look out for further calls on this - and the Executive would also welcome ideas.

IAN DAVEY



In contemplation: Dave Kreamer (USA), IAH Executive team member and Vice President for Science and Education Programme

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Ask a Member...

A feature for IAH members to share thoughts, experiences and suggestions...

This issue features insights from Vicki Kretsinger Grabert (USA). President of Luhdorff & Scalmanini, Consulting Engineers (LSCE), Vicki has for many years been a champion for IAH and other groundwater related organisations, both within the US and worldwide, as you will discover.

Tell us about yourself....

I grew up in northern California and throughout my life I have been surrounded by family, friends, colleagues, peers, and persons interested in water resources, and especially groundwater. My dad worked for California's Department of Water Resources (DWR) for 39 years, and my brother, Carl, a fisheries biologist, recently retired from the U.S. Bureau of Land Management in Fairbanks, Alaska. When my brother and I were young, my dad would round up our family for outings with other DWR families in Yosemite National Park to camp and hike and to ski in the Lake Tahoe area. We were also camping frequently at future reservoir sites. In later years, my dad and I would spend a week every summer backpacking above the treeline, "peak bagging" mountains in the High Sierras, and glissading on remnant snow patches. When I began college, I knew water was "in my blood", and I studied water resources, water quality, and environmental toxicology as an undergraduate at the University of California at Davis (UCD).

Following a few years working, in 1981 I had the good fortune of meeting Joe Scalmanini, who was teaching courses at UCD and, as a founding partner, actively establishing a new California groundwater consulting business (Luhdorff & Scalmanini, Consulting Engineers; LSCE). He took time late one evening to counsel me on career paths. His insights and experiences led to my decision to return to UCD for graduate studies with an emphasis on groundwater hydrology and water quality. Joe also connected me to my advisor at UCD, Professor Verne Scott, who excelled in applied engineering and water science and had a legacy of mentoring students. While at UCD, I worked as a Research Assistant and received grant support for research



on groundwater quality on California's coast on behalf of the University Public Service Research and Dissemination Program and the Kellogg Foundation. While doing field work for my master's degree, I began doing aquifer testing at well sites where LSCE was concurrently evaluating groundwater management approaches to avoid saltwater intrusion. Initially, my graduate program and volunteered field work were mutually beneficial to me and LSCE, but I became a part-time groundwater hydrologist and then a full-time hydrologist with LSCE. In 1991, I became a partner in the firm. Thirty-six years later, this is now my eighth year as the company's President.

Gene Luhdorff, founding partner of LSCE, was heavily involved in the California Groundwater Association, an organization founded in 1948 and comprised mostly of drilling contractors. In 1989, Gene encouraged my participation in the technical division of this organization. This was the beginning of my volunteered time and involvement in numerous groundwater-related organizations. In 1992, I became the Founding President of the Groundwater Resources Association of California (GRA) and member of the Board of Directors for 23 years and now Emeritus Director for the past 6 years; member of the University of California Center for Water Resources Center Advisory Council (1994-2009); Board Member University of California Water Resources Center Archives (2009-2011); Past Chair and Board member of the Association of Ground Water Scientists and Engineers (AGWSE), division of the National Ground Water Association (NGWA) (1998-2007); and Executive Committee of the United States National Chapter of the International



"Learning is an endeavour in perpetuity. Seek and engage with many mentors - mentors open doors and pathways to invaluable life and career experiences."

Association of Hydrogeologists (IAH USNC) (2009-present). In 2010, on behalf of GRA, I helped launch a new Contemporary Groundwater Issues Council. The Council consists of nearly three dozen local, state, and national distinguished executives and leaders who are providing their input on the most pressing information, education, and programming needs to address California's groundwater challenges. I have served as the USNC Treasurer, and I am currently serving a second term as the USNC Secretary. On behalf of the USNC, I have also served as the Membership Coordinator (2009-2012) and Geological Society of America Liaison (2009-2013).

For more than 30 years, I have enjoyed working on regional groundwater resource management, groundwater quality assessments, long-term groundwater quality monitoring and protection programs, and groundwater sustainability planning. Beginning in 2011, I worked with a County Groundwater Resources Advisory Committee for two and a half years at their regular bimonthly meetings to educate the Committee on the County's groundwater resources and to aid County staff and the Committee in community outreach and education efforts. Since 2009, I have managed groundwater-related work conducted for the Central Valley Salinity Alternatives for Long-Term Sustainability initiative (CV-SALTS), a collaborative effort initiated in California in 2006 to find solutions to the salt and nitrate problem in the State's Central Valley. This work has included numerous technical presentations to the Executive/Policy Committee during the development of the Central Valley Region Salt and Nitrate Management Plan (2017) and the subsequent development of the Basin Plan Amendment for the Sacramento, San Joaquin, and Tulare Hydrologic Regions (approved by the California Regional Water Quality Control Board May 31, 2018 and now under consideration by the State Water Board). I am currently leading groundwater quality characterization efforts for two pilot Management Zones in the San Joaquin Valley; these pilot efforts are being funded by a State Water Board grant. A main objective of this work is to provide clean drinking water to persons

relying on private domestic wells where groundwater quality is impaired with elevated nitrate concentrations. Since 2012, I have also been actively involved in work on behalf of 11 agricultural coalitions and the dairy industry addressing groundwater quality assessment and monitoring requirements throughout most of California's Central Valley. I co-led the Groundwater Caucus for DWR's California Water Plan Update 2013. Since 2015, I have served as a member of DWR's Practitioner Advisory Panel that is providing input to DWR on 2014 Sustainable Groundwater Management Act (SGMA) implementation. Our firm is involved in implementing groundwater sustainability plans in numerous California basins and subbasins.

Why did you join IAH?

When I joined IAH in July 1991, my main interest in the association was the IAH journal (then called the Applied Hydrogeology International Journal). I had received a letter from Eugene Simpson, Editor of the Journal, announcing that IAH would be launching its own official journal in October 1991. The letter (which I still have!) contained the IAH address in the UK and also the address for USA information from Patrick Leahy, then USNC Secretary-Treasurer and later the USNC Chair. Activities with the association seemed too remotely located to practically attend them. However, I recognized that IAH's Commissions and Workgroups were accomplishing many successes directed at raising awareness and understanding of groundwater resources. I also appreciated that IAH represents a globally recognized scientific voice and develops and maintains collaborative partnerships with other scientific organizations and NGOs.

In 2001, after discussions with state, national and international colleagues, and in recognition of GRA's and IAH's compatible missions and objectives, a joint membership structure was proposed to GRA's Board and the IAH USNC. I conveyed to GRA's Board that IAH is a scientific and educational organization whose aims

[continued over...]

MEMBER MATTERS

[...continued from previous]

are to promote research into and understanding of the management and protection of groundwater for the common good throughout the world. I also emphasized IAH as a valuable forum for scientists and engineers working in the fields of hydrogeology and groundwater resource planning, management, and protection who have a broad interest in and an international or global perspective on groundwater resources and hydrogeological issues. With the GRA Board of Director's approval, and under Lenny Konikow's leadership as USNC Chair, a joint membership arrangement occurred for many years. Andrew Skinner (Secretary General, IAH) supported the proposed joint membership and believed that "IAH could do more for its members and for the application of our science by promoting even stronger technical interchanges between Europe, and other parts of the world like Australia where we are strong, and the US." He also believed that "US expertise can help more than it currently does in "technology transfer" to professionals in developing nations for whom IAH membership is one of their few contacts with internationally recognised best practice."

What are your concerns now or for the future, relating to groundwater/hydrogeology?

More than 50 years ago, groundwater was often viewed as an economic commodity. Today, this view is balanced with the recognition that groundwater resources are vital for future generations. Consequently, groundwater resources have evolved in the broadest view from being a commodity to attaining greater recognition as an essential resource. We are undergoing a transition where strategies toward sustainable groundwater resources are being advocated by the entire groundwater industry. In light of this transition, all groundwater professionals, including all interrelated water resources disciplines, benefit from opportunities to work in unison to communicate the importance of groundwater.

What three tips might you give to someone just starting out on their study or career?

Three timeless values that I wish to emphasize to students and recent graduates interested in groundwater include:

- Professionalism: Learning is an endeavour in perpetuity. Seek and engage with many mentors — mentors open doors and pathways to invaluable life and career experiences. Sharing knowledge accelerates learning for the individual and others. Professionals demonstrate the highest regard for learning and sharing when they continually apply their knowledge with quality and care in their work or research.
- Innovation: Continued relevance of the groundwater industry requires constant innovation. Keep thinking "big" ideas; something is bound to translate to a scientific or technological advancement or a new problem-solving approach. Multidisciplinary approaches will be critical for addressing the world's ever more complex water resources problems.
- Communicate informed and responsible use of groundwater resources: Groundwater resources constitute a globally important resource. Sustaining these resources requires ongoing professional and public education and water awareness programs that ensure responsible use, management, and protection of the world's groundwater resources. Seek ways to contribute to educational and public outreach efforts.

What has being a member of IAH brought to you?

I greatly appreciated the opportunity to participate in IAH's Forward Look Initiative in 2010, when a group of IAH leaders met in England for several days to develop a future vision and strategies for IAH's growth and recognition for its role in addressing challenges associated with sustaining and protecting the world's groundwater resources.

I am honored to be serving on the IAH USNC Executive Committee. I greatly admire many colleagues from all over the world who are also friends and mentors, and in some instances co-authors (including Emilio Custodio and Ramon Llamas). Their wisdom, enthusiasm, guidance, and efforts in their research, work or volunteering endeavors have deeply inspired me and expanded my horizons to places I could not have imagined. Most of all, I am thankful for the gift of friends around the world --- the



*“Communicate informed and responsible use of groundwater resources...
sustaining these resources requires ongoing professional and public education...”*

“IAH family”. Through our collective efforts to give back to the science and the profession, kindred affiliations and life-long connections have been created.

Additional comments – matters you would like to raise?

I wish to share thoughts generally excerpted from what I wrote as Column Co-Chair for the introduction to the Groundwater Journal’s Groundwater News & Views Column (November-December 2016; Groundwater Management Directions: Stewardship to Sustain Our Water Resources).

“The interconnected technical, social, political, and governance aspects of groundwater management are becoming increasingly prevalent in all walks of society, including its continual presence in social media, local and regional news, and worldwide forums. “Many challenges related to achieving effective groundwater management and groundwater sustainability are not new; however, new directions, including innovations, technology, and multidisciplinary approaches increase the opportunities and potential for progress. Fundamental needs to realize such potential involve leadership and stewardship. Everyone living, working, and enjoying groundwater and other natural resources have cause to embrace groundwater sustainability as a shared responsibility. Groundwater professionals face unparalleled opportunities to contribute to improved hydrogeologic conceptualization of interconnected groundwater and surface water systems, engage in identification of data gaps at local and regional levels, promote technical advances and tools that provide greater understanding of groundwater system responses to natural and human stresses, identify strategies to increase groundwater replenishment, and contribute to education and outreach efforts that make everyone aware that they need to participate in groundwater protection to accomplish groundwater sustainability.”

VICKI KRETSINGER GRABERT



Vicki (sixth from left) with fellow participants of the Forward Look meeting in 2010. Many recognisable faces...

Over to You...

Another book draw and a feature writing competition...

Prize draw: win a copy of “Investigating Groundwater” by Ian Acworth

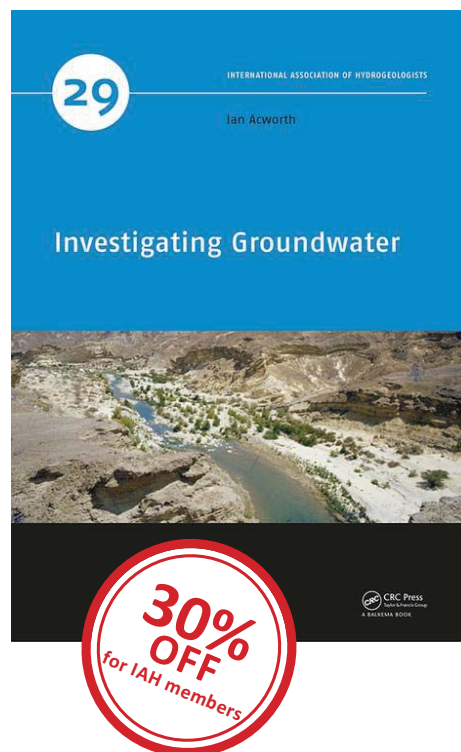
Thanks to our book publisher CRC Press/Taylor and Francis, we’ve two copies of “Investigating Groundwater” by author Ian Acworth to give away to IAH members in a prize draw.

Investigating Groundwater provides an integrated approach to the challenges associated with locating groundwater. It provides a review of the wide range of techniques that can be deployed to investigate this important resource. Many of the practical examples given are based upon Australian experience but the methods have worldwide applicability. The book is published in colour and includes many original diagrams and photographs. Particular effort has been made to provide consistent terminology and SI units are used throughout the text.

Written for a worldwide audience of degree level geology/engineering practitioners, academics and students involved in groundwater resource investigation methods, Investigating Groundwater is essential reading for those working in groundwater research.

April 2019; 586 pp; ISBN 9781138542495 Published price £148.99

(30% discount for IAH members)



Information about the book can be found on the CRC/T&F website <https://www.crcpress.com/Investigating-Groundwater/Acworth/p/book/9781138542495>; and for the member discount code on the IAH website https://iah.org/members/discount_perks

To enter to win, complete your details including membership number here:

<https://www.surveymonkey.co.uk/r/InvGW>

Terms and conditions:

Prize draw closes 11.45am GMT on Saturday 30th November. Entries are open to current IAH members only (2019 dues paid). One entry per individual (additional entries will be discarded). Two copies of the book are on offer for this draw. The winners will be picked by random draw and will be contacted by email soon after the closing date. The winner will be also be announced in the May 2020 edition of “News and Information”.

SECRETARIAT

 <https://www.surveymonkey.co.uk/r/InvGW>



Members Area - Discounts, Competitions and Perks https://iah.org/members/discount_perks

If you were an IAH Council Member, what groundwater/hydrogeology related issues would you most like to raise with colleagues, either within IAH or beyond?
We really want to know!



Receive 100€* with our feature writing competition

We are inviting IAH members around the world to send an article of up to 500 words, the best of which will be featured in IAH's newsletter, website and beyond.

To help inspire, you might want to take a look at the profiles and personal statements of each of our current Council members, which can be found here: <https://iah.org/about/council>. As you will read, each have groundwater issues and professional interests that are important to them. What is important to you? This might be concerning your region of work, your profession (or studies), matters overlooked, challenges or positive outcomes.

If there are challenges, we especially would like to know if you have ideas for possible solutions. We would be also interested to know individuals' thoughts on how to improve aspects of groundwater awareness in their region and, perhaps, what might encourage more local students and professions to join IAH and participate in its activities.

What is important is that you write succinctly and in a way that can reach out to others, as IAH's Council members are expected to do as part of their role for our organisation. You may find it helpful to include one or two images.

Entries will be judged by a panel of IAH representatives. They will also be checked for originality and clarity.

Neither a fine writing style nor perfect English is needed. What is important is your messages.

IAH SECRETARIAT

Entry information

This competition is open to all IAH subscribed members (2019 dues paid), with the exception of the current IAH Council and the IAH Secretariat. Entrants may submit an article of no more than 500 words plus up to 2 images.

Entries should be in PDF or MSWord format and emailed to info@iah.org. Please give your full contact details and membership number and provide a brief explanation about your photo(s) if submitted alongside your article.

The winning articles will be featured in IAH's News and Information magazine and its website – and of course, they will help inform IAH and beyond. IAH will therefore take it in good faith that entrants have considered copyright and privacy issues prior to submitting articles and photographs.

The competition will close on Sunday 1 September, 2019, 12.00 noon GMT. Winners will be contacted by email in November 2019 and will be announced on the Members' Only area of the IAH website thereafter.

* Winners will receive 100€ (or sterling/dollar equivalent).



New Members

A warm welcome to the following new members, who joined our Association in the period 17 March - 12 June 2019:

AUSTRALIA

Amy AIRD
Benjamin BIRT
Kerstin BRAUNS
Ms Kittiya BUSHAWAY
Stephanie CHAN
Katie COLEBORN
Kirsten COWLEY
Sophie CURREY
Ashley DUNN
Ms Katharine GLANVILLE
Ms Emma GOLDER
Elin GRIFFITHS
Lili KOTI
Sebastien MCCULLOCH
Dr Christa PLACZEK
Steve ROCKS
Walter ROWLANDS
Dadang SAEPUULLOH
Sarah SAWYER
Joanna SMALLACOMBE
Mr Grant SMITH
Miss Aditi SONDKAR
Steph STONE
Jake TURI
Matthew VEAR
Mr Derek WALTERS
Stephanie WATSON
Jeff WHITTER

BELGIUM

Mr Mathieu AGNIEL
Dr Koen BEERTEN
Mr Hadrien MICHEL
Mathieu VEECKMANS

BOTSWANA

Edmore KEAITSE
Oteng LEGADIKO
Mr Oteng LEKGOWE

BRAZIL

Dr Joao Carlos SIMANKE DE SOUZA
Mr Rogério Tadeu de SOUZA

BURUNDI

Robert NIJIMBERE

CANADA

Rashid BASHIR
Anna BEST
Martin BOBYN
Lea BUSSIÈRE
Julia CANTELON
Prof Gwenaëlle CHAILLOU
Meite DAOUDA
Mrs Catherine DOMINGUE
Elyasse EL MRABET
J. Paulynn ESTRELLA-LEGAL
Mr Philippe FORTIER
Prof Shaun FRAPE
Jordan HARRINGTON
Steve HEDBERG
Richard KEEVIL
Marwa KRAOUAIA
Ms Lori LABELLE
Joelle LANGFORD
Nicole LEROUX
Colin MATASSA
Brahim MAYLAL
Gaelen MERRITT
Aidan MOWAT
Gerry PAPINI
Dan PUDDEPHATT
Benjamin ROESKY
Mr Moise ROUSSEAU
Chrystyn SKINNER
Ms Laura ST. MARSEILLE
Claire STECKLE
Mrs Gwendoline TOMMI-MORIN
Denis VACHON

Shunde YIN

Alireza ZEBARJADI

CHINA, PEOPLE'S REPUBLIC

Mr Jianhong LI
Mr Hanqing ZHAO
Prof Yan ZHENG

CHILE

Leonardo ALMAGRO
Patricia ARRIZAGA
Felipe AVILES MALDONADO
Martin BROWN
Maria Soledad CALDEBUHERE
Gustavo CALLE
Manuel ESCUDERO
Ronny FIGUEROA
Javier FUENTES
Mario GARCÉS MUNOZ
Antonia GENOT
ITASCA CHILE (c)
Bruno LAPI
Mr Fernando LARA
Julia MAZO
Javier MENDEZ
Rodrigo MENESES
Gustavo MORAGA
Sofia MORDOJOVICH
Claudio MOYA
Roberto NAVARRO
Beatriz OLIVARES
Jimmy PIZARRO
Giselle PLACENCIA MARÍN
Carlos QUINTANA SOTOMAYOR
Ignacio QUIROGA
Javiera RAMOS
Ricardo RUANO
Barbara RUIZ
Daniel VALDES
Carlos VASQUEZ
Dr Benoît VIGUIER
Jose Luis VILLA

COLOMBIA

Neida ALVARADO
Miss Wendy P ARIAS
Miss Karen L AVILA
Mrs Maria P BUSTOS MORENO
Mr Miguel CACERES
Mr Carlos A CASTELBLANCO OSSA
Deivi DIAZ MONTANA
Mr Chrisitan A FERNANDEZ
Miss Laura R FRACICA GONZALEZ
Donna P GRANADOS CELY
Miss Sara M ORJUELA SALAZAR
Mr Jarib Fabian RINCON
Mr Sebastian O ROMERO
Mr Eduardo TORRES ROJAS
Alejandro P VEGA

COTE D'IVOIRE

Auguste KOUASSI KOUAME

CROATIA

Iaura BACANI
Ivana BOLJAT
Marina FILIPOVIC
Igor KARLOVIC

DENMARK

Ms Mehrrdis DANAPOUR

FINLAND

Mr Petri JOKELA

FRANCE

Antoine COUSIN
Faustine GANIVET
Julio GONCALVES
Dorota JAROMIN
Ms Agnès LABARCHÈDE
Benoît LAUZIER
Vincent MARDHEL
Laurence PLENECASSAGNE

GERMANY

Mr Chukwuka AKIBOR
Dr Yan LIU

Mr Julien MONFORT

Dr Robert SIELAND

INDIA

Pawan Kumar AGRAWAL
Dr Parwez AKHTAR
Mr Mohammad Faiz ALAM
Mr KAUSTUBH AMTE
Harshita ASTHANA
Dr Prawal ATHAIYA
Dr Rajesh KUMAR CHANDRA
Rajat DHIMAN
Govind GUPTA
Surbhi GUPTA
A HIMANSHU
Swati JAIN
Jabbar KHAN
Dr Anil KUMAR
Dr Anup KUMAR
Mr Santhosh M C PARSA
G.C PATI
S PUSHPA
Baru RAM
Vijay RANA
Pardeep RANGA
Vikash RENA
Nidhi ROY
Dr ADITYA SARKAR
Divya SHARMA
Shubham SHARMA
Dr Chander Kumar SINGH
Neha SINGH
Priyadarshini SINGH
Joyita SINHA
Riddhi SRIVASTAVA
Chandrashekhar VISHWAKARMA

INDONESIA

Mr Suherman Dwi NURYANA
Mr Himmes Fitra YUDA

IRAN

Ms Maryam TORKASHVAND

IRELAND

Mr Joseph GREENE
Ms Sonya O'LOUGHLIN
Dr Michael O'SHEA
Ms Michelle RYGUS
Mr Jake SHIEL

ITALY

Mirco ALFARANO
Matteo ANTELM
Alessandro BAIETTO
Stefano BERNARDINETTI
Manuel BONZI
Dr Gianluigi BUSICO
Corrado CAMERA
Alessia CAO
Davide CARAGNINI
Marcello CARBONI
Davide CASABIANCA
Andrea CASAZZA
Andrea CITRINI
Adele CLAUSI
Elena COGO
Maria DI PRIMA
Cristina DI SALVO
Giacomo FABBIANO
Stefano FABIANO
Giovanni FORMENTIN
Matteo FRANCESCONI
Davide FRONZI
Rossella Maria GAFA
Dr FRANCESCO GALIZIA
Andrera GIUGLIUTO
Martina GIZZI
Dr Nicolas GREGGIO
Vladislav IVANOV
Luigi LANA
Dr Marta LAZZARONI
Alberto LEONBRUNI
Carlotta LEONCINI

NB: Those marked (c) are new IAH corporate members.

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MEMBER MATTERS

[...continued from previous]



More New Members

Continuing our warm welcome to the following new members, who joined our Association in the period 17 March - 12 June 2019:

ITALY (CONTINUED)

Susanna MANCINI
Arianna MARCOLLA
Palmira MARSIGLIA
Lucio MARTARELLI
Lucia MASTRORILLO
Veronica MATTIAZZI
Stefano MATTIUZ
Mara MEGGIORIN
Maria Teresa MELIS
Gabriele OBERTO
Angelo ORTELLI
Paola PANZERI
Roberto PERICO
Giovanni POLI
Licia C POLLICINO
Miriam ROMEO
Davide SARTIRANA
Antonio SESSINI
Giulia SPINI
Luca TERRIBILI
Ilaria VILLA

JAPAN

D Prof Shinji NAKAYA
Mr Ryogo TAKADA

KENYA

Ms Sarah MUTUA

LEBANON

Ms Reda ELGHAWI

MALAWI

Bridget BANDA
Andrew CHAPOLA
Limbani CHIKU
Mike CHILIMMADZI
Mr Peter Zondiwe CHIPETA
Simeon CHIRAMBO
Rapi GHAMBI

Vincent HOROWANYA

Chawanangwa JANA

Ms Emily KAMBALAME

Zione KAMTAMBE

Ignatius KAMWANJE

Stella KASO

Steve KUMWENDA

James LISUNTHA

Howard MALAMBA

James MANDA

Dalitso MANDANA

James MANDO

Emma MBALAME

Ephraim MBEWA

Kings MDHULI

Harry MLAUZI

Peter MOYO

Thoko MTEWA

Deborah MUHEKA

Salome MUMBA

Gloria MUSOPOLE

Alex MWAKIKUNGA

Edbert MWANZA

Vitumbiko MWAUSEGHA

Charles MWENDA

Given NYASULU

Onances NYIRENDA

DB PHIRI

Oliver PHIRI

Peaches PHIRI

Smorden TOMOKA

Enock ZIMBA

MAURITANIA, ISLAMIC REPUBLIC

Mr Yelly CAMARA

MEXICO

MI Benito AGUIRRE SAENZ

M.C. Lilia E. ARRIAGA DÍAZ DE LEÓN

Martha L. CALDERON FERNANDEZ

Ing. Rubén CHÁVEZ

DRA Guadalupe I G ESTRADA GUTIERREZ

Dr Eduardo F. HERRERA PERAZA

Guadalupe IBARRA OLIVARES

ING ROSSELA ALEJANDRA LEON

Mr Juan Manuel LESSER

Arturo MONROY NIETO

Mr LUCAS ANTONIO OROZ RAMOS

Dr JOSE ALFREDO RAMOS LEAL

Dr Marusia RENTERÍA-VILLALOBOS

M.I AMPARO M RODRIGUEZ GALLEGOS

M. Eng. David SANCHEZ

M.A JESUS RUBENSANCHEZ NAVARRO

Mr JESUS RUBEN SANCHEZ RODRIGUEZ

Carlos ZETINA

MONTENEGRO

Mr Momčilo BLAGOJEVIĆ

MOROCCO

Mourad AQNOUY

Meriyem MHAMDIA ALAOU

NAMIBIA

Miss Asteria L MWETULUNDILA

NETHERLANDS

Stijn BEERNINK

Janine DE WIT

DELTAES (c)

KWR WATER (c)

Tess OP DEN KELDER

Gemma SPAAK

Teun VAN DOOREN

Geoff ZIMMEL

NEW ZEALAND

Mr Pete MCGOWAN

NIGER

Boubacar IBRAHIM

Amadou R ISSAKA SABO



NIGERIA

Dr Akinola B ELUWOLE
Mr Rasaq R OWOLABI

NORWAY

Dr Esther BLOEM
Mr Craig William CHRISTENSEN
Mr Lars Aaberg STENVIK

OMAN

Dr Ahmed HADIDI

PAKISTAN

Tafsser ALI

POLAND

Dr Wioletta GORCZEWSKA-LANGNER
Dr Malgorzata PRUSZKOWSKA-CACERES

PORTUGAL

Bruna ALMEIDA

SOUTH AFRICA

Ms Yaa AGYARE-DWOMOH
Dr Francois FOURIE
Mr Andrew MKALI
Mr Thapelo MONGALA
Dr Andrew WATSON

SPAIN

Dr Rotman CRIOLLO
Raúl MORENO GONZÁLEZ

SWEDEN

Ms Michelle NYGREN

SWITZERLAND

Mr Álvaro PARDO-ÁLVAREZ

TURKEY

Mr Mehmet Ruhi AKCIL

UKRAINE

Prof Viacheslav LEGUPOV

UNITED KINGDOM

Mr Arran CLARKE
Mrs Natalie KIEBOOM
Mr Zachary KRIPS
Mr Pablo LUCHINGER
Miss Anna REED

UNITED STATES OF AMERICA

Ms Marsha ALLEN
Mr Alex BRAUN
Dr Bruce DARLING
Ashish DAW
Mr Charles ELLINGBURG
Adam HOBSON
Ms Sarah MCKNIGHT
Francisco MUNOZ-ARRIOLA
Ms Neeraja SETLUR
Mr Christophe SIMBO

ZAMBIA

Jemias MAZIBUKO

NB: Those marked (c) are new IAH corporate members.

REMINDER: CHECK YOUR RECORDS

Are you receiving your regular IAH messages and alerts with HJ link, latest news digests, competitions and initiatives?

Ensuring that our members receive their IAH entitlements such as the Hydrogeology Journal is important to us. Do you work for a large government/commercial/educational organisation? Many such employers have firewalls in place. You may have to provide an alternative email address to receive your member mailings, or speak to your IT department. IAH emails are always sent from an @iah.org address. Please check your details and IAH settings regularly - we'd hate you to miss out.

SECRETARIAT



Questions or comments? Email info@iah.org

23: Number of bounce "domains" for IAH June alert...



**International Association of Hydrogeologists**
the World-wide Groundwater Organisation

IAH Members' Alert - June 2019

Dear Colleagues,

Here is your latest alert from the International Association of Hydrogeologists, bringing you news and resources from our global groundwater family.

Some reminders for you. We are seeking your opinions about IAH - how well we are doing, and considerations for the future... and suggestions for our Applied Hydrogeology Award. And don't forget the mentoring scheme is open to new applicants, and that we have two member competitions! See below for further details.

Of course, we are in regular contact with the congress organising committee in Spain, who we know is busy preparing for this year's event. There are some updates below about abstract processing, poster submissions and discounts - IAH members, early bird and students. Those planning and hoping to come to Malaga should read this information carefully. We are looking forward to seeing you there - sharing knowledge and ideas!

We will be drafting the next News and Information Magazine (August edition) over the next couple of weeks. With this in mind, we would be happy to receive news, announcements and initiatives from our IAH members for inclusion. If you have any information or comments to share, do feel free to get in touch - email info@iah.org or via social media.

Ian, Sharon, Kellie and Sue
IAH Secretariat

In this email

Congress C: submissions, general information

Congress B: "early birds", scheduling and exhibiting

In Memorium

We are sad to report the passing of Professor Jan Dowgiałło, who died on 15th May at the age of 87.

Prof. Dowgiałło was one of the greatest Polish hydrogeologists and also well-known internationally. Specialising in mineral, thermal and therapeutic waters, during his career Prof. Dowgiałło published nearly 150 scientific publications including monographs and atlases, and around 250 reports, reviews and analyses.

Born on 29 February 1932 in the town of Nowomalin (Volynh region), Prof. Dowgiałło's scientific career began in 1949 at the Faculty of Chemistry of the Gdańsk University of Technology. Jan moved across from chemistry to geology in 1951, beginning study at the Faculty of Mathematics and Natural Sciences of the University of Poznań. He continued his studies at the Faculty of Natural Sciences of the University of Wrocław, where in 1953 he obtained a master's degree in philosophy in the field of geology and paleontology.

In 1956 Jan was accepted at the position of an assistant at the Faculty of Geology of the University of Warsaw, where he received his PhD degree in natural sciences in 1963. Meantime, in 1957 he started working for the State Enterprise "Technical Service of Health Resorts", supervised by the Ministry of Health, where he worked as the manager of the Geological Laboratory and later as the Deputy Chief Geologist of the Central Board of Health Resorts. After obtaining his PhD, Jan started working at the Balneoclimatic Institute as the head of the Geological Laboratory. In 1973 he obtained a postdoctoral degree in natural sciences at the Department of Geology and was appointed Associate Professor at the Balneoclimatic Institute. In January 1973, he started working at the Institute of the Geochemistry of the Polish Academy of Sciences (ING PAN), as the head of the Hydrogeological Laboratory. In the years 1974-2014 he was a member and (periodically) the Chair of the Scientific Council of ING PAN. From 1957 to 2019 he was a member of the Hydrogeological Documentation Commission and since 1981 a member of the Committee of Geological Sciences of the Polish Academy of Sciences.

During his long scientific career Prof. Jan Dowgiałło participated in many international projects working for ONZ and WHO. He was also an academic teacher at the University of Bordeaux. For his merits for Poland he has been awarded many national awards including the Golden Cross of Merit (2006) and the Honoured for the Polish Hydrogeology medal (2016). In addition, between 1990-1994 he performed the function of the Polish Ambassador in Israel.

For many years Prof. Jan Dowgiałło was an active member of IAH, his efforts including being co-founder and Chair of the Commission on Thermal and Mineral Waters. For his achievements he was awarded Honorary Membership of the IAH.

Prof. Dowgiałło was active until his last days, working on scientific projects, mentoring students and planning new activities.

ANNA KUCZYŃSKA (POLAND NATIONAL CHAPTER) AND IAH COMMISSION ON MINERAL AND THERMAL WATERS



IN THE IAH BOOK SERIES

Selected Papers on Hydrogeology (IAH-SP)

Series editor Nick Robins, formerly of British Geological Survey, Wallingford, UK

Solving the Groundwater Challenges of the 21st Century

Edited by Ryan Vogwill, University of Western Australia

Groundwater is integral to many human and environmental systems but there are significant challenges in dealing with the impact of anthropogenic activities on groundwater systems. These challenges need innovative solutions.

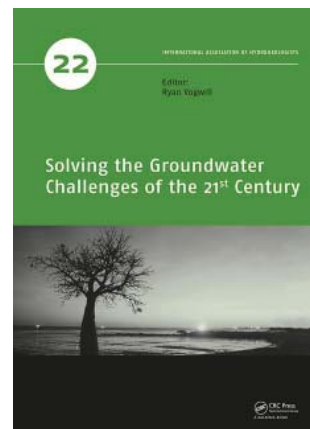
This book contains a wide range of content, from a discussion of the Australian regulatory framework for unconventional hydrocarbons, the extraction of which has the potential to significantly impact groundwater systems, to the best way to apply numerical models to help solve complex, real world problems. The impact of urbanisation on groundwater systems in the developing world is also discussed, at both a local scale in Nigeria and at a world scale. The use of innovative tools such as managed aquifer recharge, a critical tool in solving the groundwater challenges of the 21st century, is also discussed. The framework used to manage the legacy of agricultural contamination in Denmark, covering investigation to regulation and remediation, is also presented, focussing on how the many challenges in implantation were solved.

This book is targeted at professional hydrogeologists, experts in governance, law and policy as well as other professionals who need to incorporate an understanding of groundwater. The book will also appeal to politicians, resource managers, regulators and others interested in sustainable water supply.

April 2016: 128 pp; ISBN 9781138027473 - CAT# K25534

Available in hardback (30% discount for IAH members), ebook and ebook rental

<https://www.crcpress.com/Solving-the-Groundwater-Challenges-of-the-21st-Century/Vogwill/p/book/9781138027473>



International Contributions to Hydrogeology (IAH-ICH)

Series editor Nick Robins, formerly of British Geological Survey, Wallingford, UK

History of Hydrogeology

Edited by Nicholas Howden, John Mather

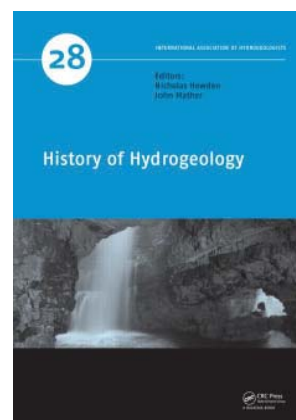
The History of Hydrogeology, is a first attempt to bring the story of the evolution of the science of hydrogeology together from a country- or region-specific viewpoint. It does not cover history to the present day, nor does it deal with all countries involved in groundwater studies, but rather takes the story for specific key countries up and until about the period 1975 to 1980. This is when hydrogeology was still evolving and developing, and in some areas doing so quite rapidly.

The book has been written not only for practitioners of hydrogeology and hydrology but also for teachers and students to see the context of the evolution of the science around the globe. The History of Hydrogeology will also be of interest to science historians and all those interested in the role that individuals, institutes and nations have played over the years in defining modern day studies of groundwater.

ISBN 9780415630627 - CAT# K15478

Available in hardback (30% discount for IAH members), ebook and ebook rental

<https://www.crcpress.com/History-of-Hydrogeology/Howden-Mather/p/book/9780415630627>



MEETING REPORTS

ISMAR 10, Madrid

“Affection and faith in MAR is noticeable and contagious”

ISMAR10 – the 10th International Symposium on Managed Aquifer Recharge, held in Madrid on 20-24 May, was a great success! The slogan of the congress was “MAR to solve the global water crisis” and the event clearly endorsed this at a most opportune moment. The organisers were delighted to see so much proactivity among the participants from a variety of hydrogeological and engineering backgrounds, particularly so among those earlier in their careers, who are clearly well prepared to grab the torch from others.

The MAR technique, as seen throughout the 22 sessions, was demonstratively recognised as an ideal technique for combatting the adverse effects of climate change, as an adaptation mechanism: “recharged aquifers, a solution for the future” and to solve many local water management problems. The Spanish Public Administration participated actively in round tables and throughout there were many excellent international cases of success.

Comments and outcomes arising included:

- There is an urgent need for a legal basis adapted to the current circumstances of climate change and abundance of emerging pollutants, so that MAR technique may develop its full potential within a favourable legal background;
- The European Commission is favouring the MAR technique, always within a conjunctive and integrated system;
- The catalogue of possibilities and the diversity of uses of the MAR technique, its self-adaptability, transparency and resilience make it a solid alternative for environmental sustainability, circular economy and open lines of research and development.

Among all the comments received, we have drawn upon the feedback from a technician participating for the first time at an ISMAR event, referring to the general atmosphere: “The affection and faith in MAR is noticeable and contagious”.

An insightful report of the symposium can be found on the

GRIPP website at <http://gripp.iwmi.org/2019/06/07/ismar10-managed-aquifer-recharge-best-practice-is-showcased-and-shared-in-madrid/>, likewise statistics and photographs can be found on the IAH-MAR website <https://recharge.iah.org/ismar10-madrid-may-2019>.

We congratulate colleagues from the commission, particularly Enrique Fernández Escalante and colleagues from Grupo Tragsa and Instituto Geológico y Minero de España (IGME), and thank them for their efforts. The organisers in turn would also like to thank all those who assisted and collaborated, and the sponsors, including Suez.

ISMAR10 ORGANISING COMMITTEE AND IAH SECRETARIAT



The symposium included three technical field trips, including one to the Los Arenales managed aquifer recharge facilities in Segovia Province;. Photo shows participants at the Roman MAR aqueduct.



[http:// www.ismar10.net](http://www.ismar10.net)

<https://recharge.iah.org/ismar10-madrid-may-2019>

<http://gripp.iwmi.org/2019/06/07/ismar10-managed-aquifer-recharge-best-practice-is-showcased-and-shared-in-madrid/>



Managed Aquifer Recharge Workshop, Stellenbosch

IAH colleagues in South Africa hosted a Managed Aquifer Recharge (MAR) workshop held in Stellenbosch from 10 to 12 April 2019. It was organised by GEOSS (Global Earth Observation System of Systems), and attended by a total of 56 delegates from scientific and engineering consultancies and organizations, municipal and governmental institutions, as well as from several South African universities.

Delegates were predominantly South African, with a few members of other southern African countries. The event was opened by Julian Conrad of GEOSS, president of IAH South Africa. Christine Colvin from WWF-South Africa gave context to the workshop by addressing the overall concerns regarding water security in the changing climate, with particular emphasis on the growing importance of a good understanding of managed aquifers. Russell Martin of WGA in Australia and Dr. Ricky Murray of Groundwater Africa then presented the 3-day workshop, which included a Field trip to the Cape Flats Aquifer. Ten companies sponsored and/or exhibited at the workshop. The 3-day event was registered with SACNASP (South African Council for Natural Scientific Professions) and ECSA (Engineering Council of South Africa) for CPD points for the delegates.

Participants were guided through the scientific and technical pre-requisitions in assessing potential MAR applications, as well as further discussions on the requirements of MAR feasibility studies. This included key factors in understanding the availability and chemical requirements of the water sources and what MAR schemes to expect from different aquifer types and parameters. Also discussed were the determining factors on the financial success of MAR schemes and how these stacked up against their common competitors (typically desalination and water transfer schemes) and how to facilitate end-user concerns and hesitations in order to produce high quality MAR schemes that are well received and locally supported.

The workshop took a more detailed focus on the key technical issues associated with planning, feasibility assessments, authorisation, design, construction, operation, performance evaluation and management of MAR systems via boreholes and infiltration basins, two of the most common MAR methods applied worldwide. Case studies from Southern Africa and Australia were used to illustrate the focal areas of the workshop, how these are applied under different conditions and where improvements or changes could have been made in the testing phases and designs to improve the schemes.

Overall, the workshop was a huge success! MAR has gained a lot of international traction in the last few decades, as well as more recently in South Africa and other African countries. This workshop was well timed to inform those involved with planning and implementing potential MAR schemes in the near future, as well as the authorities whose responsibilities it will be to approve these schemes. The event enabled delegates to learn from start to finish what the potential of MAR is to large scale water users and providers, as well as facilitated discussions between consultants, clients and authorities on how to begin and proceed with these schemes within the South African legal framework.

JULIAN CONRAD

 <https://iah.org.za/>



AUGUST 2019

Forming a chapter...

We have received enquiries about establishing new national chapters in several countries including Algeria, Bulgaria, Cuba, Ecuador, Namibia, Oman and Singapore. As well as continuing our discussions with these countries we welcome enquiries from others.

A new chapter could be a new and independent organisation in a country or in some cases might be hosted by an existing organisation in a country. Existing associations within countries and regions, with common goals to those of IAH, can be also be recognised as Associated Organisations with which IAH agrees to co-operate.

As you will read, chapters and other groupings can act as a focus and help promote contacts, between senior professionals and students alike. They organise national and regional scientific meetings, training courses and field visits and may also be able to develop co-operation between organisations and promote the importance of sound groundwater management in their own country. If you and your colleagues would like to know more about forming an IAH group contact us at info@iah.org.

SECRETARIAT



<https://iah.org/groups/national-chapters>



Italy

Flowpath 2019

Colleagues from our Italian national chapter contributed to the 4th Edition of FLOWPATH, a biennial event for Italian hydrogeologists to exchange ideas and knowledge on different groundwater topics. Sessions included groundwater resources management; contaminated sites; fractured rock and karstic systems; and urban hydrogeology. In addition, early career hydrogeologists organised a discussion panel, with awards for best posters. Participants enjoyed a field trip, learning about the Naviglio Grande. Congratulations and thanks to all those involved.

SECRETARIAT



<http://www.iahitaly.it/>



Serbia/IAH CEG

Fourth conference

The fourth in a series of Conferences of the Central European Group of IAH (CEG 2019) was organised in June by the National Chapter of the Serbian IAH and Serbian Geological Society, jointly with Geotrip, as part of the activities of the IAH Karst Commission. It was hosted at the broad and beautiful karst area at both sides (Romanian and Serbian) of the Danube Gorge area (Iron Gate Area).

The subject of the conference was “Towards Sustainable Management of Groundwater Resources”. More than 50 participants from 14 countries attended, 36 papers were presented, including 4 key note speeches.

The 5th in series of CEG Conference will be organised by the IAH Slovenian National Chapter next year.

PETAR MILANOVIC AND VLADIMIR ZIVANOVIC

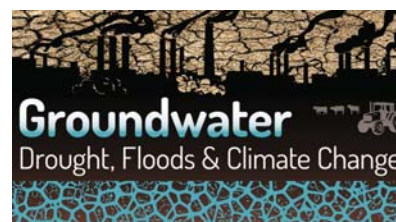


www.karst.edu.rs/en/



Ireland

Annual conference



The 39th annual IAH Irish Group groundwater conference: “Groundwater: drought, floods and climate change”, was held in the Tullamore Court Hotel on April 30th and May 1st, 2019.

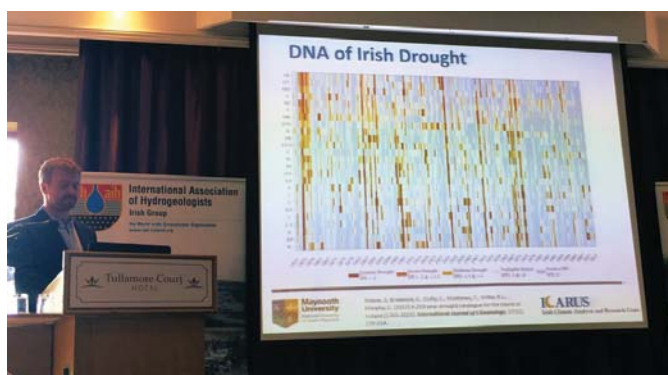
The conference explored the varied impacts of climate change on groundwater in Ireland and further afield, with particular focus on the effects of the 2018 drought on Irish groundwater resources.

We were delighted to present three keynote speakers; Bridget Scanlon from the University of Texas, Vincent Fitzsimons from SEPA, and Mark Cuthbert from Cardiff University, alongside a variety of talks and posters from consultants, academics and state agencies. The discussion sessions provided food for thought about our groundwater resources, and where the future will lead us in this era of rapid and unprecedented change. Our conference finished with a workshop on open source QGIS for hydrogeologists.

IRELAND NATIONAL COMMITTEE



<http://www.iah-ireland.org>



DNA of Irish Drought, a record from 1851 - by Conor Murphy, Maynooth University



Canada

2019 Conference Report (GAC-MAC-IAH 2019) and Award

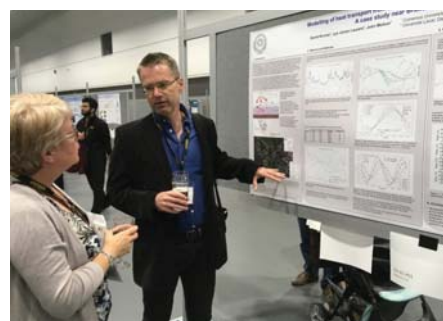
The 2019 IAH-CNC meeting was another successful joint meeting. In total, there were 11 IAH-CNC sessions, and 106 IAH-CNC presentations or posters. The Early Career Hydrogeologists' Network also hosted a social event. We thank our Quebec colleagues, in particular Dr. Christine Rivard (Natural Resources Canada), Dr. René Lefebvre (INRS), and Dr. John Molson (Laval), for their involvement in organizing GAC-MAC-IAH and representing IAH on the organizing committee. A more detailed conference report is available on the IAH Regional Groundwater Flow Commission Website, <https://regionalgwflow.iah.org/activities>.

The Tóth Award for the Best Student Paper in Canadian Hydrogeology was awarded to Rob Wu, a Ph.D. student in the Department of Earth and Planetary Sciences at McGill University (supervisor, Dr. Jeff McKenzie). His presentation was titled “Hydrogeological monitoring of infiltration through waste rock using active fibre optic distributed temperature sensing”

BARRET KURYLYK



<http://www.iah.ca/K345/index.php>



Dr. David Krcmar (Comenius University, Bratislava, Slovakia) explaining his poster to Dr. Diana Allen, president, IAH/CNC Canada

COMMISSIONS & NETWORKS

Activities of IAH's commissions and networks include contributing to the science of groundwater and undertaking outreach, education and training. Many participate in IAH and other events worldwide - if you are planning to come along to congress in September, do check the programme to see which ones will be organising sessions and meetings. In any case, we encourage you to find out more and to make direct contact with them (you do not have to be an IAH member to participate - though for groundwater specialists we would hope them to join in the fullness of time). We also welcome suggestions for new topics or activities - and on this note, keep an eye out for an upcoming announcement for a brand new network... just in time for a congress "kick off"...

For the full listing and contact/website information, go to <https://iah.org/groups/commissions-networks>.

SECRETARIAT



<https://iah.org/groups/commissions-networks>

Questions, ideas or comments? email info@iah.org

COMMISSION ON TRANSBOUNDARY AQUIFERS

A reminder that our Commission on Transboundary Aquifers will be organising a workshop on 22nd Sept 2019 in Malaga, ahead of the IAH 46th Congress. This workshop will consider aspects concerning transboundary aquifers that have evolved over the past twenty years since the launch of the IAH Commission and it will also look ahead to the next decade. As preparation for this important event, the Commission has circulated a short questionnaire to the whole of the Commission network of about 300 scientists and welcomes further replies.

The scope of the workshop will include taking stock of opinions and perceptions of scientists and practitioners about the extent to which such aquifers are recognised in national and international water management, the appreciation and the understanding of the science governing them, and the degree to which international water law (ie UN and other Conventions) enable their sound governance.

The questionnaire seeks practitioners views on what would be needed to make institutions more effective in addressing these issues in their 2030 Water Agenda. It also seeks views on the scope of work that the IAH Commission should focus on in the coming years.

If you have not yet seen the announcement or the questionnaire, you are cordially invited to visit the web links below. We look forward to a very fruitful and interesting dialogue and discussion at the Workshop in Malaga.

SHAMMY PURI AND COMMISSION COLLEAGUES



<https://isarm.org/stocktaking-and-strategizing-transboundary-aquifer-work>

<https://www.un-igrac.org/IAH-TBA-questionnaire>

Did you know: the World Transboundary Aquifer Systems Map is one of a collection of hydrogeological maps available under the World-Wide Hydrogeological Mapping and Assessment Programme (WHYMAP); IAH is one of the network partners. Find out more and access the map collection at the link below.



<https://www.whymap.org/whymap/>



IAH-BGID ACTIVITIES AT IAH 2019

Hydrogeology of Africa: Wikipedia Edit-a-thon

Help us create the first Hydrogeology of Africa pages in Wikipedia! The Africa Groundwater Atlas is an online portal providing a synthesis of the groundwater resources of Africa at a country scale. At the 46th IAH Congress, we will be running a Wikipedia edit-a-thon to create “Hydrogeology of...” pages for every country in Africa based on the content of the Atlas. During this 3-hour session, anyone with an interest in African hydrogeology can come along to help us edit Wikipedia to make hydrogeology information for Africa more visible and accessible to a wider audience.

Who can participate? Anyone! No experience of Wikipedia or African hydrogeology is required

When is it happening? Monday 23rd September, 4pm – 7pm, at the IAH Congress in Malaga

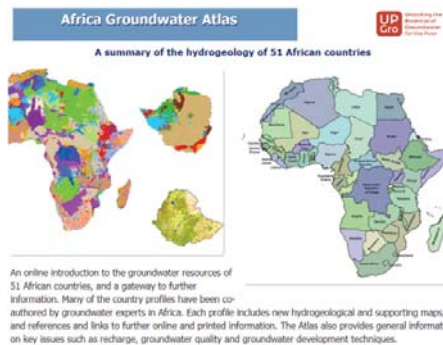
Will there be refreshments? Yes!

How do I get involved? Find out more at: http://earthwise.bgs.ac.uk/index.php/Wikipedia_edit-a-thon or register by emailing: AfricaGWAtlas@bgs.ac.uk

IAH-BGID Annual General Meeting

If you are interested in groundwater and international development, if you are curious about our Network activities and you want to know how be involved: join our Annual General Meeting that will be held during the forthcoming IAH Congress on September 24 (Multi-uses room n° 1) from 18:30 to 19:30.

KIRSTY UPTON AND THE IAH-BGID STEERING COMMITTEE



<https://burdon.iah.org/>

The poster is for the 'IAH Congress Book Exchange'. It features a background image of a bookshelf. At the top, the title 'IAH Congress Book Exchange' is in large black letters. Below it, the IAH logo is on the left and the 'Early Career Hydrogeologists' Network logo is on the right. The text 'Open to all' is in the center. Below that, 'Donate by Tuesday morning before 9.30am at IAH stand' is written. Then, 'Exchange open from Tuesday morning coffee break onwards at IAH stand' is written. Below that, 'You don't have to bring a book - you can take without donating' is written. At the bottom, there are three book covers: 'Developing Groundwater', 'Applied Hydrogeology Fourth Edition', and 'GROUNDWATER'. At the very bottom, the 'Burdon Groundwater Network For International Development' logo is shown. Two large curved arrows, one yellow and one blue, frame the central text.

[continued over...]

EARLY CAREER HYDROGEOLOGISTS' NETWORK (ECHN)

As always at IAH congresses, ECHN has plenty planned for this year's in Malaga:

- Monday - the ECHN AGM and the African Hydrogeology Atlas Wikipedia Edit-a-thon, alongside BGID
- Tuesday will see the ECHN social event in Old City Malaga, with Hydrogeology bingo.
- Thursday - ECHN side session on groundwater governance - A round table discussion with industry and academic professionals on the processes associated with GW governance and geoethics.
- Friday - ECHN Keynote titled: The Good, the Bad and the Bottled given by Stefano Viaroli from Roma Tre University, Italy.

The network will also be helping out at the book exchange again. Last but not least, ECHN members are also invited to join sessions as co-conveners, expressions of interest should be made via email to echn.iah@gmail.com, stating session of interest. Act fast - there are only 20 spots available!

ECHN STEERING COMMITTEE



<https://echn.iah.org/>

COMMISSION ON MANAGING AQUIFER RECHARGE (MAR)

A new committee for the commission has been elected; announced during ISMAR10. We welcome the three co-chairs, namely: Catalin Stefan, Yan Zheng and Enrique Fernandez Escalante.

Contact details for the new committee can be found on the commission website. We are advised that they intend to undertake a review and update of the commission website in the forthcoming period and they welcome enquiries from those interested in participating in the commission.

SECRETARIAT

[Ed: This also means that Peter Dillon is stepping down from the role as co-chair, after many years. We thank Peter for his enormous contribution to the work of the MAR Commission - and we also hope that he will continue to contribute to both this group and the wider work of the IAH. Thanks Peter!]



<https://recharge.iah.org/>

REGIONAL GROUNDWATER FLOW COMMISSION (RGFC)

RGFC will be organising a session at this year's congress in Malaga entitled "Innovative approaches for understanding groundwater flow systems" under Topic 5 "Tools, methods and models to study groundwater."

Away from meetings and events, the commission has launched a ResearchGate project entitled Selection of papers related to Regional Groundwater Flow. This project was created and is managed by RGFC-IAH in cooperation with the József & Erzsébet Tóth Endowed Hydrogeology Chair and contains a selection of international papers related to the research and practical application of regional groundwater flow theory. Find out more via the website.

SECRETARIAT



<https://regionalgwflow.iah.org/>

Hydrogeology Journal



As briefly mentioned in the last newsletter, the Hydrogeology Journal (HJ) editorial team met in April to discuss the future work and plans for the journal. This was the first full meeting in 3 years and was timely, with 2 new Editors on board and an ever-increasing workload: in 2019 it is expected that 600 articles will be submitted and around 190 papers will be published. HJ has strong loyalty with both authors and readers (it continues to be seen as one of the major benefits of IAH membership) but while there is scope for further growth of the journal this needs to be carefully managed.

Following a reorganisation at Springer Nature (HJ's publisher), responsibilities for journals and books are now separate and we welcome Fritz Schmuhl as Springer's new HJ Editor. Fritz, originally from South Africa and now based in Dordrecht in the Netherlands, is responsible for a range of journals concerning water, environmental economics, earth sciences and geography.

IAH's HJ team met with Fritz and with Deidre Hudson Reuss of Springer's marketing department in June. It was good to hear about the increasing success of HJ, with the 5-year impact factor (IF) at 2.4 and also, it was later confirmed, the 1-year IF had risen to 2.4 last year, the highest it has been.

In fact the performance of HJ compares very well with similar journals. Author satisfaction remains very high and use of articles, measured by full text requests and downloads, has continued to increase. This may in part relate to the increasing number of articles published each year. As might be expected, open access papers are the most downloaded. Papers from past years remain popular, and content is likely to remain relevant over many years: papers from 1997 to 2017 constitute 70% of downloads.

It is not clear what the balance of users is – practitioners vs academics – and Fritz will try to investigate. Some of the highest cited articles are now from Chinese authors, reflecting the increasing number of papers from China. Springer actively market HJ through content alerts and as well as using Twitter (@SpringerGeo has 7800 followers) they used WeChat and Weibo posts for last year's HJ China Special Issue. We are hoping to encourage an increase in the number of IAH members in China alongside this.

Many of you will be aware that the European Union has proposed that European state-funded research organisations should publish their work in a way that is open to all in the future, for example through open access. Both IAH and Springer are considering the implications for HJ. IAH members benefit from a substantial discount for publishing open access papers in HJ. Springer have indicated that they would consider further discounts where a group of authors would like to publish a large number of papers as open access. We are also in discussion with Springer and the Executive Editor of the journal Sustainable Water Resources Management (SWARM) about extending the open-access discount for IAH members to this journal too. Watch out for further information on this subject.

Online-only IAH-member subscriptions have risen to 55%, though the rate of change has slowed, and it seems that many readers still like to sit back and relax with their paper copy of HJ or leave it on the office coffee table for others to enjoy.

IAN DAVEY



<https://iah.org/hydrogeology-journal>

46th IAH Congress, Malaga

Hopefully by now you have the 22-27 September 2019 booked in your diaries for the 46th Congress in Malaga, Spain. This is proving to be very popular, with 778 abstracts submitted and 450 oral presentations proposed.

At the time of writing this, almost 600 people had already signed up.

The Congress takes place at the Malaga Congress Centre, which is a short distance outside the city centre, but is easily reached by public transport – the organisers are proposing to lay on special buses for delegates too. The Congress will begin with an informal icebreaker at the Congress Centre from 1900 on Sunday 22nd September. The opening ceremony takes place at 0900 on Monday 23rd September, followed by the first presentations.

Many of our commissions and networks are planning meetings and initiatives during the week, so do look out for announcements. On Tuesday we will be running a book swap at the IAH stand so if you have a book to swap or would just like to see what's on offer come along and see us. For IAH members, the Annual General Meeting takes place at the Congress Centre at 1700 on Tuesday 24th September – and after this there is social event for the Early Careers Hydrogeologists Network (for all the young at heart too!) in the city centre. Mid-week field trips to hydrogeological and cultural hotspots run on the Wednesday. You might need to hurry if you want to go on your favourite trip – trips 3, 4 and 5 (Eastern Coast, Costa del Sol and Karst Hydrogeology) are already booked up and there are only a few spaces left on trip 1 (wetlands) and 8 (Serrania de Ronda)! On Thursday evening there is the gala dinner, which will be in a former, historic tobacco factory, now a museum, before we reconvene for the final sessions on Friday.

Although the discounts for early registration are no longer available, the organisers have set even the standard fee at a very competitive rate. If you haven't already registered you still have time to do so and with plenty of accommodation of all kinds available in Malaga you should still be able to participate at reasonable cost. Although many of the tourists will back at work, the sun will still be shining on this picturesque and historic city, and you'll have plenty of opportunity to network with like-minded colleagues and relax too. What's not to like – see you there!



Congress website - <http://www.iah2019.org/>



www.facebook.com/iah.org

See you in Malaga @iah2019congress



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2019 - SELECTION

9-13 September – Liège, Belgium

Groundwater Quality 2019

Groundwater quality in the transition between rural and urban environments. GQ is a triennial conference dedicated to Groundwater Quality organised on behalf of the International Association of Hydrological Sciences (IAHS) and supported by IAH, the H2020 Marie Curie ITN INSPIRATION project and the CL:AIRE and NICOLE professional organisations.

<http://aimontefiore.org/GQ2019>



22 September – Malaga, Spain

Workshop: Future of Transboundary Aquifers: Research, Management, and Policy Directions

Pre-conference event, ahead of the IAH 46th Congress. This workshop, organised by the IAH Commission on Transboundary Aquifers, will take stock of the whole question of “transboundary aquifers” that has evolved in the past twenty years – setting out “the way forward” on the required research, policy directions and effective management. This will guide the next phase of the work of IAH’s dedicated Commission, as well as offer a framework for other partners (such as UNESCO, UN ECE, and others) to engage in the sustainability of these resources.

<https://www.linkedin.com/groups/8553068/>



22-27 September – Malaga, Spain

46th IAH Congress: Groundwater management and governance – coping with water scarcity

<http://www.iah2019.org>



2-5 October – Pyatigorsk, Russia

IAH Commission on Mineral and Thermal Waters (CMTW) meeting: “Mineral waters: origin and variety of the chemical types”

Meeting includes meals and two day hydrogeological field trip around the Caucasian Mineral Waters area.

<http://geospbu.ru/geonews/25-iah-cmtw-meeting-2019>



21-24 October – Valencia, Spain

Quest for Sustainability of Heavily Stressed Aquifers at Regional to Global Scales

(AGU Chapman Conference series)

This conference will draw together researchers interested in the general topic of the sustainability of heavily stressed aquifers. An emphasis will be placed on large regional aquifers supporting irrigated agriculture, as agriculture is the major user of groundwater. The ultimate objective of the conference will be to define promising paths forward for these heavily stressed systems. IAH’s President, Antonio Chambel is on the programme committee.

<https://connect.agu.org/aguchapmanconference/upcoming-chapmans/aquifers-sustainability/general-info>

24-27 November – Brisbane, Australia

IAH/NCGRT Australasian Groundwater Conference 2019

This conference will feature a stimulating technical program around the theme of “Groundwater in a Changing World” covering a broad range of applications to resources, infrastructure and environment. The program will include stimulating plenary speakers, engaging panel discussions and enticing social events. We are looking forward to welcoming groundwater researchers, industry professionals and policy development specialists to this unique event.

<http://www.groundwater.com.au/events/1116>



<http://iah.org/events>

For a fuller list of conferences, events and meetings and to submit an event