

DECEMBER 2020

IAH NEWS



Upcoming conference: Perth 2021

NOVEMBER 22-24, 2021

VENUE: Perth Convention & Exhibition Centre

Australasian Groundwater Conference 2021

"Science, Resilience & Adaptation"

Conference Chair Sarah Bourke (University of Western Australia) and the head of the scientific committee (Phil Hayes, University of Queensland) have brought together an organisational team that is committed to delivering an outstanding event.

Start planning now and look out for the call for abstracts, which will be released shortly.

We look forward to seeing you all in Perth!



Meanwhile, one year on, the team behind the highly successful AGC2019 conference have now caught their breath and are looking forward to attending AGC2021.

MESSAGE FROM IAH AUSTRALIA

Hydrogeology hasn't slowed down in 2020, despite a global pandemic. We've adapted, with an increasing focus on online communication platforms and the development of the IAH Australia Webinar Series. We've continued to engage with stakeholders, including submissions to the Productivity Commission and the Murray Darling Basin Commission. IAH Australia has invested time and energy into updating our communications channels, with more real-time information via our online communications channels. This newsletter is a summary of what's happened in IAH Australia in 2020. Please provide feedback ([link](#)), so that we can better reflect what's going on in your hydrogeology community.

Ian Brandes de Roos
President, IAH Australia

WEBINAR SERIES

Presented by Martin Pujol (May 2020)

On 13 May 2020 Martin Pujol ([link](#)) became our inaugural IAH Australia Webinar Series presenter. His presentation covered the geothermal injection issues at Peninsula Hot Springs in Victoria.

Martin was kept in line by event-moderator Kelly-Jane Wallis ([link](#)).

Thank you IAH members for engaging in this event and submitting questions and feedback during the event.



Presented by Titus Murray (July 2020)

On 15 July 2020 Titus Murray ([link](#)) addressed an extremely challenging aspect of hydrogeology: how do we characterise faults in hydrogeology systems.

Phil Hayes ([link](#)) did a great job as event-moderator.

Titus' presentation was wide-ranging and presented practical ways of considering fault-impacts on hydrogeology systems.



2020 Distinguished Lecturer: Dr Wendy Timms (Oct 2020)

In October Wendy Timms ([link](#)) gave the annual NCGRT/IAH Distinguished Lecture to an audience of about 350 over two Microsoft Teams online events. Wendy introduced some innovative elements to the event, including interactive polls and real-time engagement.

In an IAH Australia first, Wendy's talk was also available on-demand, with Microsoft Teams event recording available for two months after the event. NCGRT is in the process of hosting the event longer-term on their Vimeo channel.

IN THE NEWS....

Phil Hayes and the Great Artesian Basin

Phil's Hayes (University of Queensland) recently contributed to an ABC online article ([link](#)) on the Great Artesian Basin. The article outlines how, over the past 100-odd years, the Great Artesian Basin has been depleted from uncapped or degraded bores' discharge. However, a basin-wide, co-ordinated approach to bore rehabilitation (the Great Artesian Basin Strategic Management Plan 2000) has led to the Great Artesian Basin Sustainability Initiative.

The upgrading of bores, decommissioning of bore drains and the installation of more-efficient pipe drains has saved more than 250 gigalitres of water per year.

Phil outlined the positive impact that this has had on groundwater heads in the basin.



Craig Simmons from Flinders University explains the basics to the drought-impacted

Craig Simmons' ([link](#)) recent contribution to an ABC online article ([link](#)) does a great job in explaining the basics to those contemplating drilling and constructing a groundwater bore.

He explains the concepts of groundwater sustainability in a manner that's frank, covering the risks and opportunities that groundwater presents.



"If we all put in backyard bores and they weren't known about, we could easily start to deplete the resource."



JOHN WISCHUSEN

Northern Territory member

The vast majority of IAH Australia members live in coastal cities. IAH member John Wischusen has made Alice Springs his home for the last 15 years, having been attracted to the Northern Territory's wide open spaces and opportunities. John works for the Northern Territory's Department of Environment, Parks and Water Security.

What initially motivated you to pursue hydrogeology?

International aid work. I worked for the International Rescue Committee in Kosovo (former Yugoslavia) in 1999 and 2000, rebuilding water infrastructure and sanitation after the war.

It's work that draws on all our skills, not just hydrogeology. Landmines were widespread but it was road accidents caused the most accidents. It was bureaucratic but constructive. It was work that a local could arguably do, though international workers had the advantage of being above local politics and impartial.

It was petroleum geology that started the journey, studying at Monash University. Petroleum geology took me to the eastern Australian states, New Zealand and South East Asia.

Then, after a short stint starting a Diploma of Education, I went to South Australia, completing a Graduate Diploma in Hydrogeology supervised by Don Armstrong (South Australian Mines Branch).

What are some key issues in groundwater management that you face?

There are so many people working in water decision making processes without technical skills. Generic managers are relying almost exclusively on computer models, as opposed to trying to understand the model's potential shortcomings.

The amount of water that people want is certainly growing. Alice Springs' Amadeus Basin is being mined for town supply, and Northern Australia's groundwater resources attract a lot of overseas interest.

Future plans?

I've worked on some great collaborative projects, including Geoscience Australia projects, palaeovalley projects, and work across Australia, working with state and federal bodies.

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MEMBER PROFILE: JOHN WISCHUSEN

CONTINUED.....

These projects are a great way of working with a variety of professionals and having the opportunity to influence continent-wide outcomes.

Hopefully I'll get to continue to include these projects in my workload.

What are hydrogeologists getting wrong/right? What are the lessons for early career hydrogeologists?

The people who manage water resources aren't often getting the message.

I think we need to speak up more, including using IAH to get the message across.

As for early career hydrogeologist – learn as much as you can. Understand what people have done before you.

If in doubt draw a conceptual diagram and refer to text books like Freeze and Cherry (1979).

What gets you away from hydrogeology? I love snow skiing. I ski in Japan, Victoria, anywhere I can. It's certainly a change from Alice Springs!

I swim (in Amadeus Basin groundwater) too – both water-based!

If you weren't a hydrogeologist?

A pilot [ed: you made the right choice, COVID has curtailed that career]

MEMBERSHIP RENEWAL

The website has been updated again as the membership team have worked hard to simplify the membership-renewal process.

<https://www.iah.org.au/become-a-member/>

Members are now able to login, check their details, and renew their subscription.

CORPORATE MEMBERSHIP

Corporate membership is a great way to add your team to the IAH network and to gain exposure for your contributions to hydrogeology.

A huge thank you to our corporate sponsors below for their continued support throughout 2020.



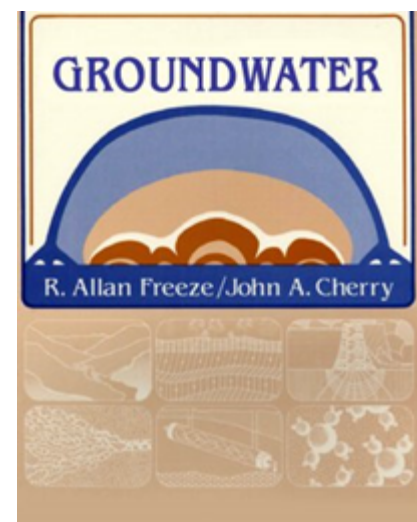
THE GROUNDWATER PROJECT - FREE ONLINE HYDROGEOLOGY TEXTBOOKS

Dr John Cherry's contributions to hydrogeology continues, now with his pivotal role in The Groundwater Project ([link](#)).

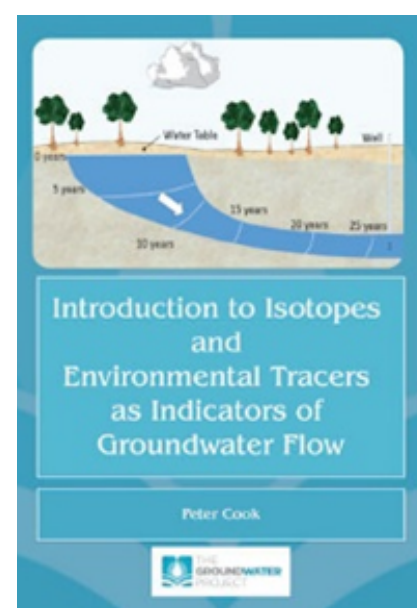
It's a non-profit organisation that makes groundwater educational material available for free online.

Dr John Cherry, recipient of the 2020 Stockholm Water Prize, leads a 11-member international Steering Committee and a larger and globally diverse Advisory Committee.

It's a remarkable contribution and you can hear John speak more about the initiative on YouTube ([link](#)).



The Bible



Peter's Cookbook



"2020 updates out now"

Minimum Construction Requirements for Water Bores in Australia

The Minimum Construction Requirements for Water Bores in Australia is the accepted authority in all states and territories for the minimum requirements on constructing, maintaining, rehabilitating and decommissioning water bores in Australia.

Used extensively by regulators and the drilling industry it provides a consistent standard reference for the licensing of bores and drillers.

The requirements focus on protecting groundwater resources from contamination, deterioration and uncontrolled flow associated with poorly constructed bores and on the construction of bores to provide a clean water supply.

Submissions....

IAH Australia submission to the Productivity Commission

We weren't the only ones, there were 109 submissions in total, though IAH's submission was the only groundwater-focussed response. The submission included the following recommendations:

- Include conjunctive water management (CWM) in a meaningful way in state water planning processes, especially for drought and climate change planning.
- NWI: recognise the challenges and opportunities of the increasing overlap between groundwater and energy; and provide guidance regarding a workable regulatory and compliance framework for states to follow.
- Provide adequate budget for reviews and updates of water management plans, including assessments of the ongoing impacts of climate change.
- Provide adequate budget for groundwater monitoring and groundwater compliance assessments, including: the development and maintenance of monitoring bore networks; investment in data-capture and data-storage processes; and regular updating of conceptual and numerical models. Consider adopting NWI instruments such as cost-recovery to support these ongoing requirements.
- The Commonwealth establish best practice guidelines for GDE assessments and management plans.

- The NWI develop an improved funding model for the states, as underfunding of state groundwater agencies is severely affecting the delivery of groundwater services and approvals.
- Review the application of NWI principles with respect to water storage.

Management of the Murray-Darling Basin Plan



In March 2020 IAH Australia also provided a submission to the Select Committee on Management of the Murray-Darling Basin Plan.

This submission covered the following subject areas/recommendations:

- Update Groundwater Sustainable Diversion Limits (SDLs) to reflect water quality
- Address compliance issues
- Adopt Conjunctive Water Management in the MDB
- Adopt surface water - groundwater interaction science
- Increase focus on groundwater 'water banking'
- Increase groundwater research

SOCIAL DISTANCING GATHERING

IAH WA SOCIAL NIGHT

IAH WA's annual social night was held on 6 November 2020 at the Generous Squire in Perth. Close to 50 groundwater professionals attended the function, which was great, considering the year we've had.

The famous hydrogeology shirts were on sale (see below). IAH WA have a few for sale, from small to XL, if you missed out on one on the night. If you require a larger size we can order them in. Shirts are \$30, with all proceeds going to the water-related charity of choice (to be revealed soon). Contact IAH WA ([link](#)) for further information.



IAH QLD SOCIAL NIGHT

On 11 December IAH Queensland celebrated the end of 2020 with a fantastic group of people.

Dariarne Edwards from The University of Queensland and Sandie McEwan from Queensland University of Technology were awarded the Undergraduate Awards for Excellence in Hydrogeology.

**IAH QLD COMMITTEE WISHES
YOU ALL A SAFE AND HAPPY
CHRISTMAS.**

KEEPING UPDATED....

IAH on LinkedIn and Facebook

Where do you get your news?

What's the best way to procrastinate when a report is due?

IAH's LinkedIn page is both. It's one of the best ways to get up-to-date information on what's going on in our Australian hydrogeology community.

This information is mirrored on IAH Australia's Facebook page, though, judging by page-interaction numbers, hydrogeologists feel better about using LinkedIn for on their work computers..



Groundwater Modelling Decision Support Initiative



The GMDSI team

In a major industry–research partnership, 2020 witnessed the rollout of GMDSI (link), an ‘industry-funded and aligned project focused on improving the role that groundwater modelling plays in environmental management and decision making’.

GMDSI has held a series of free lectures this year and hosts modelling resources on its website.

These resources include worked examples and educational resources.

Funding Bodies



IAH INTERNATIONAL

NEW COMMITTEE MEMBERS

In 2020 Antonio Chambel (University of Évora) handed over the role of IAH President to Prof. David Kreamer (University of Nevada, Las Vegas). Congratulations David!.

Closer to home, our very own Sarah Bourke (University of Western Australia [[link](#)]) was awarded the role of Vice President - Australasia and the Pacific.

Congratulations Sarah!

Sarah takes over the role from Wendy Timms.

The 2020 IAH International conference was postponed, which means that in 2021 we get the choice of two IAH congresses:

São Paulo, Brazil (22–27 Aug 2021)

Brussels, Belgium (6–10 Sept 2021)



*Prof. David Kreamer,
IAH President*



*Sarah Bourke, Vice President -
Australasia and the Pacific*



THE TIME CAPSULE

Does age mellow or antagonise hydrogeologists? Do we become optimistic for the future or pessimistic from all we've seen and experienced?

IAH has online interviews with over a dozen international hydrogeologists ([link](#)).

Follow the interviews and let us know what you think ([link](#)).

You'll find insights into hydrogeology from those that have experienced it over distinguished careers.