

NEWS

& information

IAH - THE WORLD-WIDE GROUNDWATER ORGANISATION

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

AUGUST 2013

Also in this issue:

Media and world reports
Book and journal latest
Chapter, commission
and networks news
Conference listings

and the usual IAH
announcements and
updates

CAN LAND PRODUCE MORE FOOD AND HARVEST ACCEPTABLE GROUNDWATER?



LuWQ2013 highlights, page 10

PROMOTING HYDROGEOLOGICAL EDUCATION IN AFRICA

IAH New South Wales, Australia, at work with a scholarship scheme for African students.

See page 16

COMMUNICATING GROUNDWATER MORE EFFECTIVELY

Report from recent workshop organised by the UKGroundwaterForum and the Hydrogeological Group of the Geological Society *See page 17*



INTERNATIONAL
ASSOCIATION OF
HYDROGEOLOGISTS

Keep up to date: visit our website for the latest news <http://www.iah.org>

Contact us: email info@iah.org with your news, views or questions

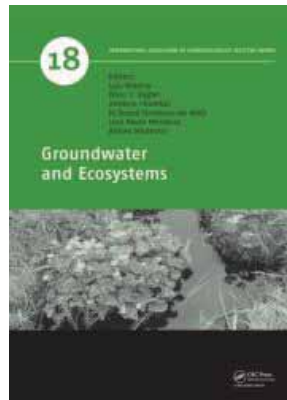
Latest IAH Book

GROUNDWATER AND ECOSYSTEMS

Edited by Luis Ribeiro; Tibor Y. Stigter; Antonio Chambel; M. Teresa Condesso de Melo; Jose Paulo Monteiro; Albino Medeiros.

Groundwater resources are facing increasing pressure from consuming and contaminating activities. There is a growing awareness that the quantitative and qualitative preservation of groundwater resources is a global need, not only to safeguard their future use for public supply and irrigation, but also to protect those ecosystems that depend partially or entirely on groundwater to maintain their species composition and natural ecological processes. Known as groundwater dependent ecosystems (GDEs), they have been a fast-growing field of research during the last two decades.

This book is intended to provide a diverse overview of important studies on groundwater and ecosystems, including a toolbox for assessing the ecological water requirements for GDEs, and relevant case studies on groundwater/surface-water interactions, as well as the role of nutrients in groundwater for GDEs and ecosystem



dependence (vegetation and cave fauna) on groundwater. Case studies are from Australia (nine studies) and Europe (12 studies from nine countries) as well as Argentina, Canada and South Africa.

This book is of interest to everybody dealing with groundwater and its relationship with ecosystems. It is highly relevant for researchers, managers and decision-makers in the field of water and environment. It provides up-to-date information on crucial factors and parameters that need to be considered when studying groundwater-ecosystem relationships in different environments worldwide.

June 2013: 358pp

Hb: 9781138000339 £99.00/ \$159.95

Members: receive 60% discount by downloading order form/instructions from IAH website

ADVERTISING AND COPY 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 associated members of the International Association of Hydrogeologists, reaching more than 4000 people and can also be freely downloaded by individuals worldwide.

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 sponsors and corporate members of IAH are entitled to 50% off the above rates. Why not contact us now? Email info@iah.org.

All copy must be provided electronically - please contact knicholson@iah.org for acceptable formats. Copy dates are 1 March, 1 June and 1 October.

The yearly administrative life cycle of our association has quieter and busier periods. This year, the busy mid-year time of reporting on the past year and preparation for congress has been made busier by the meeting of Council and work on the new website. The Secretariat has been quite severely stretched in recent weeks and, consequently, this issue has been put together more quickly than usual. There is, however, I believe plenty of interest to members. We are grateful to our contributors, whose names you will see associated with the various news items from all corners of our global IAH family. We continue to welcome all such contributions; this is, after all, your newsletter.

JOHN CHILTON



IN THIS ISSUE

IAH news.....	4
Media Focus.....	6
Commissions and Networks.....	7
From our President	8
LuWQ13 Report.....	10
IAH “Family” visits.....	12
Chapter news.....	14
Promoting Hydrogeological Education in Africa: IAH NSW at work.....	16
Communicating Groundwater.....	17
New members.....	18
Journal News.....	20
Congress updates.....	22
Conference listings.....	24



PICTURE OUR IAH

Win Amazon vouchers* with our returning competition - final reminder for entries

As announced in our previous newsletter and beyond we have brought back our photo competition “Picture our IAH”. See our website for full details of the competition, terms and conditions, etc.

The closing date for entries is 31st August 2013. Already we have received some interesting entries. With Amazon vouchers* and an IAH book of your choice as prizes it really is worth entering - do you have any good photos?

IAH SECRETARIAT

* Individuals living in countries/regions where Amazon vouchers are not available may be offered an equivalent cash prize in euro, dollar or sterling. This is at the discretion of IAH’s Secretariat and would be in agreement with the prize-winning individual.

http://www.iah.org/news_current_popup.asp?id=184

ANNUAL REPORT?

Keen-eyed members may have noticed the absence of IAH’s Annual Report, normally included alongside the newsletter in the August *Hydrogeology Journal*.

Be assured we have not forgotten. Moving with technology, and to help keep costs down, this year’s report will be presented as “online” information via our website and will also be available in print format.

We remain committed to reporting each year’s highlights and IAH’s financial status to our key stakeholders - our membership. As we regularly advise in this newsletter, IAH is in good financial shape and we are definitely not hiding anything... The report will be available soon, in good time for IAH’s congress, and members will be duly alerted when it is ready to view.

IAH SECRETARIAT

COUNCIL MEETS IN READING

Members will recall that September 2012 saw the new IAH Council take office. One of the consequences of being a truly global association is that our Council members are widely dispersed and normally meet only at IAH congresses. Although the new Council members who were present during congress usually meet briefly during the latter part of the week, after the elections have been declared, it is then a full year before new Council members really have a chance to immerse themselves in their new roles. This is one whole year into their four year terms. For this reason, the IAH Executive decided at its February meeting that Council should meet in the middle of 2013 to enable the association to benefit more quickly from the fresh ideas and energy that new members bring to Council. Moreover, it is always difficult to cover everything that needs to be done even in a full day meeting ahead of the congress. The more developments the association embarks on, the more there is to discuss!

Thus, the IAH Council met from 27-29 June at Pincents Manor Hotel on the edge of Reading, following a meeting of the Executive on 26 June. Ten of the thirteen Council members were able to come, together with a representative of the ECHN and members of the IAH Secretariat. The group photo shows the participants assembled outside the hotel. Meeting in the UK also enabled us to arrange a half day session of trustee training, as described in the president's message on page 8.

WEBSITE AND FORWARD LOOK PROGRESS CONSIDERED

In addition to the routine reporting of progress and financial performance, which will be summarised soon in the annual report to members, Council was able to review and comment on the Forward Look programme and receive a presentation on the development of the new website and comment on its appearance and structure. Progress has been a bit slower than hoped for, partly because we have been developing a new and improved membership database and communication applications as an integral part of the site, and partly because it has taken longer than anticipated for us to provide some of the content needed for the site.

However, we are approaching the time when the site can go live.

Having a longer meeting also enabled Council to discuss important items in some depth. One substantial area of work that is becoming more in need of attention is the governance and management of our national chapters. Understandably, these have grown up rather independently and according to local needs and requirements over a long period of time and many have grown into established and successful



groups. While we need to be fully sensitive to the independence of national chapters, they do carry IAH's name and reputation, and it is clear that we are not always following our own rules and guidance with respect to the way in which national chapters are managed. At its meeting in February, the IAH Executive decided that there was a need to review our rules and guidance to national chapters, and we are currently seeking information from chapters as part of this process.

One particular area where clarification is needed is in the cases in which a national hydrogeological association is in effect also the national chapter of IAH. For some of these we have formal agreements

or Memoranda of Understanding, some of which envisage national members also having Associate Member status in IAH. However, these have also come into being at various times and with differing commitments for each party to the agreement. As we are increasingly in discussion about the establishment of new chapters with colleagues who naturally ask us for guidance, this review of our chapter rules and procedures has become an important activity for the present Council.

If you have any questions, comments or would like any further information on any of the issues discussed please email info@iah.org.

JOHN CHILTON, SECRETARIAT



Back: Nick Robins; Kellie Nicholson; Michael Rivett; David Kreamer; Sue Duncan; John Chilton; Callist Tindimugaya; Bruce Misstear; Viviana Re; Shammy Puri; Luiz Amore
Middle: Sharon Warden; Willi Struckmeier; Teodora Szocs
Front: Antonio Chambel; Ken Howard, Mohamed Aboufirras



MEDIA FOCUS

A selection of groundwater features from around the world

Experts urge water's inclusion in development goals

As the world faces growing water security challenges, experts are calling for better monitoring of the availability, quality and use of water, and its inclusion in the UN's Sustainable Development Goals as a key issue in the post-2015 development agenda.

May 2013, © <http://www.scidev.net/global/>

<http://www.scidev.net/global/water/news/experts-urge-water-s-inclusion-in-development-goals.html>

Effects of shale gas development on water quality: experiences from the Marcellus shale gas

The impact of shale gas development on surface water quality has been explored in a recent study. Focusing on the Pennsylvania portion of the Marcellus Shale formation (which stretches from West Virginia to the Canadian border), the researchers conclude that shale gas wells and the treatment of shale gas extraction waste have measurable impacts on downstream surface water quality.

June 2013, © EC News alert

<http://ec.europa.eu/environment/integration/research/newsalert/pdf/332na5.pdf>

Germany - Groundwater study reveals climate-model variability

A comprehensive study of renewable groundwater resources has highlighted the variability between different climate models. The research, which used five climate models to project future levels of groundwater recharge under four greenhouse-gas scenarios, found large discrepancies between the models.

June 2013, © <http://environmentalresearchweb.org/>

<http://environmentalresearchweb.org/cws/article/news/53655>

Launch of international water management research centre

Water efficiency, food security and environmental sustainability will be the focus of a new joint research centre between Australia and China, officially launched in Beijing last week. The Australia-China Joint Research Centre for River Basin Management, led by the University of Melbourne, will provide both countries with a new capacity to address national priorities for water resources management.

June 2013, © <http://www.spatialsource.com.au/>

<http://www.spatialsource.com.au/2013/06/04/new-international-water-management-research-centre-launched-in-china/>

Hungary, Thailand agree to cooperate on water management

"We fully support Hungary's initiative on Danube-Mekong cooperation and will explore the possibility of having concrete cooperation in the near future," Foreign Minister Surapong Towichukchaikul said after meeting with his Hungarian counterpart Janos Martonyi in Budapest.

June 2013, © <http://www.nationmultimedia.com/index.php>

<http://www.nationmultimedia.com/national/Hungary-Thailand-agree-to-cooperate-on-water-manag-30207705.html>

Water nanofilter ‘could cut diarrhoea-related deaths’

Indian scientists have developed a cheap filter that can rid drinking water of the bacterial and viral contaminants responsible for hundreds of thousands of diarrhoea-related deaths in developing countries each year. They say that their device can deliver safe drinking water to families in rural areas for just US\$2.50 a year, including both the cost of the device and running costs. Their work was published online in Proceedings of the National Academy of Sciences (6 May).

June 2013, © <http://www.scidev.net/global/>

<http://www.scidev.net/global/disease/news/water-nanofilter-could-cut-diarrhoea-related-deaths.html>

Fukushima groundwater shows “high levels” of strontium contamination

News of various contamination found, including high levels of strontium and others, is announced by TEPCO and rapidly makes its way around the world. See:

TEPCO: <http://www.tepco.co.jp/>

Reuters: <http://www.reuters.com/article/2013/06/19/japan-nuclear-strontium-idUST9N0BQ01W20130619>

And many more reports...

UPDATE ON COMMISSIONS AND NETWORKS

One of the important agenda items for the recent meeting of IAH Council (see page 4) was to consider progress with IAH’s new commissions and networks. According to the provisions in the new framework, some of them are due for their mid-term review during 2013, and the way in which this will be done was discussed by council. Those due for review will be hearing from António Chambel, Vice President for Science Programme, in due course.

Council also reviewed and accepted a revised proposal for a Network on Fractured Rock Hydrogeology. This is being led by Uwe Troeger of the Technical University of Berlin, Stanislaw Stasko of the University of Wroclaw, Poland and Sandor Grehs from Brazil, and has been given a four year term. One of the first activities of the network will be to convene a conference on hard rock hydrogeology in Porto Alegre, Brazil in 2014. Members who are interested in participating in this network should contact uwe-troeger@tu-berlin.de.

Council felt that groundwater quality issues are still less well represented in our present commissions and networks than quantity, and would still welcome proposals for new commissions or networks. As well as being the “home” for IAH’s core scientific activities, we should have groups with activity on topics that look outwards from the core science of hydrogeology and are of strategic importance. These could include groundwater and agriculture and groundwater and energy, and members are urged to give consideration to these. We would also like to encourage wider participation of members in our commissions and networks, and all of them welcome new colleagues to join. The contact details for the commissions and networks are given on the IAH website.

IAH SECRETARIAT



The buck, it seems, stops here!

“You can delegate tasks, but you can never delegate responsibility” is one of the many take home messages now indelibly inscribed in the minds of Council members attending the second meeting of the new IAH Council held from June 27-29 in Reading UK. Since the incorporation of IAH in 2000, members of Council are the directors

of IAH as a Limited Company and the trustees of IAH as a charity. They do not receive any financial reward for their work but both roles have clear obligations and responsibilities, for which ignorance may be bliss but cannot be used as a legal defence in a court of law. This is one important reason we need to receive Commission, Network and National Chapter reports in a timely fashion!

You won't be surprised to learn that Council members listened attentively and asked many questions as an expert on company and charity law and risk management took us through a three-hour training session during the first day of our meeting. In a professional membership organisation in which the directors and trustees are elected as members of Council we need to be careful to make them fully aware of their roles and responsibilities but at the same time not frighten members from standing for election. All agreed that it was very useful to have an experienced external consultant provide a structured but informal afternoon defining and illustrating these roles. Remarkably (or perhaps due to the timely reminder of its responsibilities?), Council remained fully engaged throughout the three day meeting, often working well beyond the 6 pm closing.

I would like to thank Council for taking time out of their busy schedules to attend the meeting. As will be reported elsewhere in the coming months, excellent progress was made on a series of key initiatives including the new website which will soon be going live! Thanks go too to Viviana Re, Special Advisor to Council as representative of our Early Career Hydrogeologists' Network. Viviana was never shy to voice her opinion and was a welcome reminder of the valuable role our younger members are starting to play in the work of our association. During the meeting, Council gratefully received reports and updates from Sue Duncan (Technical Editorial Advisor for Hydrogeology Journal), Nick Robins, (Editor-in-Chief, books) and Sharon Warden (Membership Administrator). Also, Mike Rivett came by to update us on the activities of the UK National Chapter. Thanks Mike!

Of course, none of this work would have been possible without the considerable efforts of John Chilton and Kellie Nicholson who spent weeks organising the meeting and prepared and distributed much of the Council material. While Council members can never delegate responsibility, they can at least rest assured that those on the IAH Secretariat carrying out important Association tasks do so with a high degree of competence and professionalism!

KEN HOWARD, IAH PRESIDENT



IAH'S LINKEDIN GROUP REACHES 1000 MEMBERS

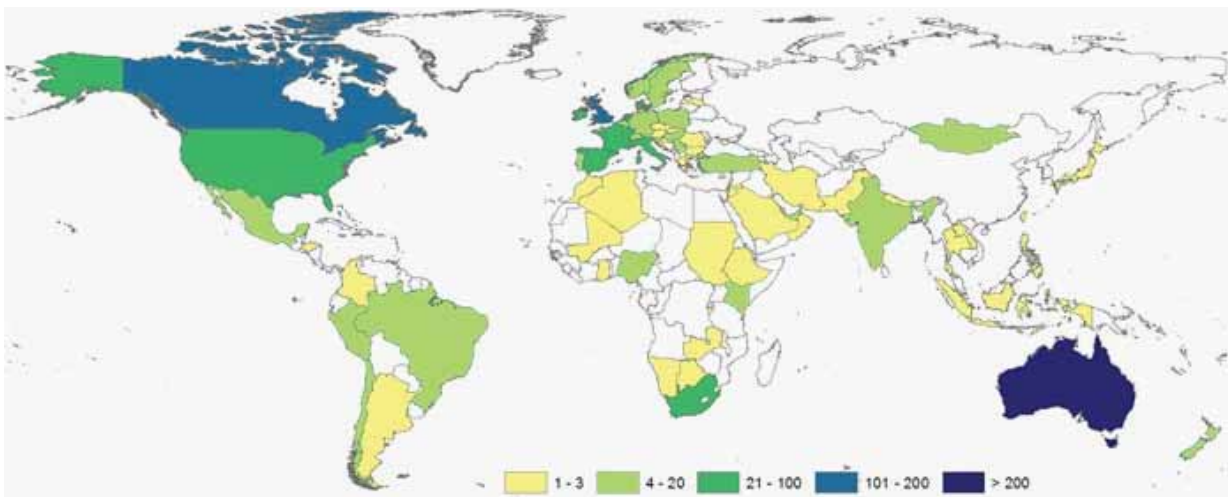
On 1 April 2013 the 1000th IAH member joined IAH's LinkedIn group. Since its inception three years ago, the group has become increasingly valuable - so much so that a quarter of our Association's total membership is part of the group. IAH's Early Career Hydrogeologists' Network (ECHN) also started a subgroup, which now has almost 200 members. Earlier this year IAH's Karst commission also set up a LinkedIn group.

Why is LinkedIn so valuable?

Members can keep control over personal information regarding their career path and organisations they are affiliated with, sharing this with other like-minded colleagues, expanding their network of professional contacts. The group also allows members, IAH staff and volunteers to disseminate relevant groundwater news, information and publications, start discussions, etc.

Where are the LinkedIn members located?

Statistics on country residence of these members are presented in the map below. Some countries are very well represented, others less. All time zones seem to be represented though.



IAH's LinkedIn group was an initiative of the Netherlands Chapter, and we are grateful to them, and to Sophie Vermooten, for their continued support.

Find out more

To view/join IAH's main group go to:

<http://www.linkedin.com/groups/IAH-International-Association-Hydrogeologists-3213735/about>

IAH's Early Career Network's group is at:

<http://www.linkedin.com/groups?gid=3717583>

IAH's Karst Commission's group is at:

<http://www.linkedin.com/groups?gid=4957376>

SOPHIE VERMOOTEN AND IAH SECRETARIAT



CAN LAND PRODUCE MORE FOOD AND HARVEST ACCEPTABLE GROUNDWATER?

Highlights from the International Interdisciplinary Conference LuWQ-2013
Dico Fraters (RIVM/Chair Organising Committee) and Stephen Foster (IAH/Scientific Advisory Committee)

CONFERENCE SCOPE AND OBJECTIVES

Some 160 water managers, policy advisors and scientific researchers converged on The Hague from 10-14 June 2013 to discuss their understanding of, and approach to, achieving a balance between economically viable agriculture and 'harvesting' water of acceptable quality from farmland. Whilst inspiration for the meeting came from the North Sea Basin countries (with The Netherlands and Denmark at the helm), interest proved to be much wider, with participants from 30 different countries attending. Many of the abstracts and 100 oral power-point presentations (see P-references cited) are being posted on the conference website (www.LuWQ2013.nl). IAH was a conference co-sponsor, and this brief report focuses on the primary interest of its members – the groundwater dimensions of the proceedings.

The conference discussed the entire policy cycle from initial problem assessment to formulation of technical management options (with economic considerations), the process of policy development and implementation with stakeholders, and monitoring water-system response to evaluate policy effectiveness. The conference was also intended to be a forum for exchange between scientific researchers and water managers, the hydrological, agricultural and ecological sciences, and environmental and agricultural policy-makers.

CONFERENCE CONTEXT – THE EU DIRECTIVES

Growing population and increasing wealth are the drivers for continuing intensification of agricultural production worldwide. This intensification carries with it an increasing risk of pollution of terrestrial and



Dico Fraters presenting. Picture supplied by Stephen Foster

aquatic environments with nutrients and pesticides, as has been witnessed widely since the 1950s in some developed countries. The protection of groundwater quality is important not only as a major source of drinking water-supply, but also because of its role in sustaining ecosystems.

EU legislation (Nitrates Directive (ND) of 1991, Water Framework Directive (WFD) of 2000 and Groundwater Directive (GWD) of 2006) aims to reduce agricultural impacts on the aquatic environment. Member States are obliged to define a 'programmes of measures' to reduce agricultural emissions and achieve a pre-defined water-quality goal, with each programme being evaluated and refined periodically by governments, in liaison with drinking water utilities, ecological protection groups and farming associations. Successful implementation requires acceptance of the measures – and this is facilitated by public awareness campaigns and consistent regulatory enforcement.

More info: <http://www.LuWQ2013.nl>

GROUNDWATER QUALITY PROTECTION – PROGRESS AND CHALLENGES

The Netherlands has the highest livestock density in Europe. From 1995 to 2010 much progress has been made in reducing nitrogen surpluses on dairy farms (by 50%) and on arable farmland (by 40%) in the so-called 'sandy region' of the country (P-242) – with the nitrate concentration of shallow groundwater decreasing from 120-150 mg/l to 60-70 mg/l. Shallow groundwater quality in nature reserves has also improved significantly, in part as a result of limiting ammonia emissions from livestock housing and manure spreading (P-65).

In Flanders-Belgium (P-227), which also has intensive livestock rearing, a 'nitrate indicator' has been developed for evaluation and prediction of changes in groundwater nitrate concentration resulting from restriction of manure applications and livestock densities to achieve loadings of < 140 kg N/ha/a. This indicator uses selected wells in nitrate vulnerable zones from the national network of 2100 multilevel monitoring wells (the densest in Europe with >1 well per 4 km²).

Denmark also has very intensive livestock rearing (especially pigs). Action on controlling nitrate leaching to groundwater began in 1987 (before the ND came into force) and a 50% reduction was achieved by 2003 (P-244). In the most vulnerable zones, additional measures have been taken. For example on Tunø Island (P-20) groundwater nitrate concentrations had reached 150 mg/l in the upper aquifer and over 70 mg/l in the deeper aquifer in 1988 – but by designating a sizeable 'inner protection zone' of permanent grassland, long-term set-aside of other land and best-practices for market garden crops in the 'outer protection zone', nitrate concentrations had been reduced to <50 mg/l by 2000.

In England 'catchment sensitive farming' (CSF) is being deployed, through public awareness campaigns and voluntary farmer action, to counteract diffuse agricultural pollution (P-127). CSF started in 2006 and today includes 65 sub-catchments, together with 3 demonstration areas (P-211) to evaluate in detail the cost-effectiveness of management measures. One success has been a reduction in water samples above the EU drinking-water pesticide standard from 5.4% in 2006-07 to 2.1% in 2010-11, but the situation as regards nitrate leaching is variable, with problems persisting in the most sensitive areas, despite considerable reductions on average.

In Germany the Federal Environmental Agency (UBA) has collated information from the 16 Federal State agencies on measures to reduce surplus N on agricultural land – concluding that their implementation and effectiveness was variable given the differing denitrification capacity of aquifers. During the WFD 2nd Management Period a programme of measures to reduce N-surpluses specific for each groundwater body concerned was required (27% of the total of 324 specified bodies exceeded 50 mg/l) and a project is underway to support state agencies in this regard (P-240).

Four other important conclusions were evident from numerous presentations:

- in aquifer recharge areas most vulnerable to soil leaching it will be necessary to change the balance of agricultural land-use and/or reduce the intensity of agricultural production to achieve an average groundwater recharge quality conforming to EU standards;
- for aquifers with thick unsaturated zone and/or large saturated-zone storage the 'lag-time' in overall system response to management measures will be measured in decades;
- localised 'protection' of public drinking-water sources (but not overall environmental quality) can often be engineered by establishing special protection zones with negligible nutrient and pesticide input, coupled with recharge augmentation;
- aquifer denitrification can be an important mechanism under some specific hydrogeological conditions, but should not be assumed as the norm.

Clearly under more-arid climatic conditions, the challenge of controlling agricultural emissions and their impact on groundwater quality is significantly different. Irrigation provides both an added challenge and an opportunity for control, with groundwater salinisation being an additional hazard (as was evident from presentations from Australia, Italy, South Africa, Spain, Turkey and the USA). However, some of the principles established and models/tools developed for nutrient management can be of universal application.

IAH FAMILY VISITS

António Chambel (Portugal), IAH's Vice President for Science and Programme Coordination, reports back from recent trips and endeavours...



ANGOLA

Between 11 and 15 March 2013, António Chambel was in Angola at a meeting of the Network of Environmental Studies of the Countries of the Portuguese Language (REAPLP) held near Luanda. Angola has an approximate surface of 1,250,000 km², has around 20 million inhabitants, and, because it has been involved in a civil war for many years, is just now beginning to create the right conditions for the education of a group of national hydrogeologists. At this meeting, a young hydrogeologist from the University Agostinho Neto was present. Invited to join IAH (see page 18), she is our first member in this African country in which most of the hydrogeological work has been done by geologists or hydrogeologists working for private foreign companies. Hydrogeology in Angola has strong potential for future local professionals, and the universities are now beginning to train and form their new young groundwater scientists.

CZECH REPUBLIC

One important component of IAH's activities associated with the Forward Look is to improve our links to and between national chapters. As a contribution to this process, the IAH Executive has decided that any time one of them is involved in a personal or professional activity in a country, there could be an opportunity to meet IAH members or chapters in the country. Thus, between 15 and 19 May 2013, António visited the University Karlova, Prague in the Czech Republic to take classes under the EU Erasmus programme, and requested a meeting with the Czech National Chapter. The Chapter's President was unable to come to Prague and so António met the

Secretary of the National Group, Zbynek Hrkal. The Czech National Chapter has been strongly involved in the preparation and organization of meetings in the Czech Republic, mainly in the scientific areas of fractured rock hydrogeology, but also in modeling and other issues. In May 2012 they were involved in the organization of the GwFR2012 – International Conference on Groundwater in Fractured Rocks, which was a great success. An IAH Special Publication based on selected papers from this conference is at the final stage of preparation.

Czech hydrogeologists are always very active and have a strong informal network with neighbouring countries, which over time has permitted the organization or support of an extended set of meetings in central Europe. However, the Czech National Chapter expressed some concern over the actual number of IAH members in the country. In fact, IAH faces the same issue in several other countries: where there is a strong and productive national association of hydrogeologists with somewhat similar objectives to IAH, there is bound to be some competition and a risk of a diminishing number of IAH members. This is the case of the Czech Republic, where the IAH national chapter comprises just 23 members and where the national association of hydrogeologists has between 200 and 300 members. Even so, the Czech Chapter is one of the most active of our smaller groups, with strong links to Poland, Slovakia, Germany, Scandinavia, the Iberian Peninsula and Southeastern Europe in the study of hard rock aquifers, in a strong bond created and consolidated over many years mainly at the initiative of the prominent Czech hydrogeologist Jiri Krásny.



...and John Chilton, IAH's Executive Manager, also has been away visiting...

MOZAMBIQUE

Between 27 and 31 May 2013 António packed his bag again and was in Mozambique, at the 11th Symposium of Hydraulics and Water Resources of the Countries of the Portuguese Language and the 8th Congress on Planning and Management of Coastal Areas of the Countries of Portuguese Expression, which were held together in the city of Maputo. Mozambique has an approximate area of 800,000 km² and, like Angola, has around 20 million inhabitants and has also suffered a long civil war. IAH currently has two members in Mozambique, and the number of local hydrogeologists is scarce. Most of the hydrogeological work in this country is still greatly hampered by mine fields installed around some old water facilities (wells, tanks, pipes) during wartime. There is a strong need for wells for water supply and many parts of the country have saline aquifers linked with sedimentary formations, including in areas related to thick coal layers. So, it's a country with a strong need of scientists in this area of knowledge and the local universities are still struggling to create conditions for internal education in groundwater resources.



Flowing artesian well in Inhaminga, Mozambique, picture courtesy of António Chambel

NAMIBIA

Showing commitment while on holiday, John Chilton contacted IAH colleague Greg Christelis to see if a meeting with local hydrogeologists could be set up. As a result, the committee of the Namibian Hydrogeological Association (NHA; who are also the national chapter of IAH) was able to arrange to meet while John was in Windhoek. One of the primary objectives of the NHA is to make the general public more aware of the importance of groundwater to national life. This is crucial in such a dry country. One of the ways they are doing this is by giving talks to students at national science week. The NHA also has regular technical meetings for members and others who are interested on groundwater topics. The NHA is planning to improve their website with information for members and the general public.

The background to the current review of the operation of our national chapters (see page 4) was explained, While there are currently seven IAH members in Namibia, the national association has significantly more who are nominally Associate Members of IAH although, as in several other countries, this arrangement currently operates rather in name only. The members of the NHA committee agreed to consult and feed back to IAH their own ideas for the benefits that they would like to see from this arrangement. The formal NHA committee business was followed by a short presentation on IAH and a more technical one on groundwater resource security. We would like to thank the Namibian Hydrogeological Association for their welcome and hospitality and look forward to working with them to strengthen the relationship with IAH.



Hungary

Central European Groundwater Conference

The first Central European Groundwater Conference was held successfully between 8th and 10th May 2013 in Mórahalom, Hungary. In recent years the importance of good quality of groundwater and its protection has gained increasing recognition, and this trend inspired the Hungarian National Chapter of IAH to launch a series of regional hydrogeology conferences. On this first occasion István Forizs, chair of the Hungarian chapter, informs us that 81 hydrogeologists participated from ten countries (Romania, Serbia, Croatia, Poland, Italy, Germany, Russia, Ireland, Canada and Hungary). One of the main goals of the conference was to provide a forum for IAH national chapters in Central Europe to gain insight into each other's activities and to look for possibilities for greater cooperation in the future. It was very enlightening to hear reports of the national chapters and to see the variety of their activities. It was clear that the most active national chapter in the region is the Polish group, and there is a large range between the most active and least active chapters. The photo shows chairs of several of the IAH chapters who were at the meeting, together with two members of IAH Council.

For this first conference, the investigation and development of thermal waters was the focus. The scientific part of the conference started with keynote lectures from three well known speakers: 1) József Tóth (University of Alberta, Canada): "Geothermal phenomena in the context of gravity-driven basinal groundwater flow", 2) Ladislaus Rybach (ETH Zürich, Switzerland): "Innovative energetic use of shallow and deep groundwaters: Examples from China and Switzerland" and 3) Judit Mádl-Szőnyi (Eötvös University, Budapest, Hungary): "Geothermal potential of Hungary: what can we learn from the flow-system approach?" These reviews served as a good basis for the later presentations.



Iulian D. Popa (Romania), Bruce Misstear (Ireland, Vice President - Finance and Membership), Andrzej Jaroslaw Witkowski (chair of Polish Chapter), Teodóra Szöcs (Vice President - Europe (West and Central) , István Fórizs (chair of Hungarian Chapter), Petar Milanovic (chair of Serbian Chapter), Marco Pettita (chair of Italian Chapter)

The venue was chosen purposely, because the use of thermal water in Mórahalom is varied (heating of communal buildings, balneology, wellness) and can serve as a model for other settlements. Finishing the second day the participants were taken on a guided visit to the main thermal water applications. Besides thermal waters, other topics were included in the programme: for example; “Drilling technologies, well completion and hydrodynamic investigations”, “Education and training in hydrogeology”. ZERLUX Hungary Ltd (the main sponsor) gave a very interesting report on a new laser based drilling technology. This technology is a 100% Hungarian development.

A round table discussion was held on the teaching of hydrogeology in different countries. The participants emphasized the importance of maintaining high quality education, and to reverse the opposite trend. Several social events were included in the programme for the enjoyment of participants, including the “Tea Kvartett” string quartet (Szeged University), the “Cuháré” Folk Dance Ensemble (Szeged) and a laser show by ZERLUX Hungary Ltd, which all helped to make the conference unforgettable. As mentioned at the head of this article, this was the first Central European Groundwater Conference, and István informs us that, following its success, there is every intention to establish this as a regional event every two years.

ISTVÁN FÓRIZS, CHAIR, HUNGARIAN NATIONAL CHAPTER

[... The Hungarian Chapter of IAH can be very pleased with their vision of establishing a Central European Groundwater Conference and proud of their achievement in organising a scientifically and socially successful meeting. We look forward to further news of the next one in the series, and will bring you that news here, and we would encourage other chapters to consider whether something similar might work in their region...Ed...]



India

New Committee elected

We are pleased to announce the results of the recent elections for a new committee for the Indian National Chapter of IAH. Returning officer Professor D C Singhal of the IIT Roorkee informs us that 47 members of IAH took part in the election, as a result of which Sushil Gupta, the current Chairman of the Central Groundwater Board (CGWB) was elected unopposed as president, Elango Lakshmanan of Anna University, Chennai as Vice-President, similarly unopposed. Dr D K Chadha, former Chairman of CGWB was elected as Secretary, Dr Sudhanshu Shekhar of the CGWB in Faridabad was elected as Treasurer and the remaining executive members, who were elected unopposed, are Shilpi Saxena of Delhi University and Gulab Prasad also of CGWB. One executive member post remains vacant and may be filled by nomination of the President. We congratulate the new office bearers and wish the new committee well as it takes up its tasks from the previous committee, and we will be keen to support them to build up IAH in India. For contact details of the new committee see IAH's website.

JOHN CHILTON, SECRETARIAT

Australia

Promoting Hydrogeological Education in Africa - IAH New South Wales at Work

In 2012, IAH NSW initiated a scholarship scheme for African hydrogeology students. Our two successful applicants were to each receive a maximum of three payments of AUD 1,500 provided they remained as full-time students and demonstrated satisfactory progress, assessable on an annual basis.

Mr. Arabi Suleiman Abdullahi from Ahmadu Bello University, Zaria – Nigeria, and Mr. Brian Munihango Matengu from the University of the Western Cape, South Africa were selected based on the social/economic impact and technical/academic soundness of their proposed research agendas.

Arabi is a PhD student working on radioactivity and chemistry of groundwater from Uranium- mineralized areas of Gubrunde and its environs, North-Eastern Nigeria.



Pictured above, Arabi has been assessing uranium-mineralised groundwater in Nigeria. His field campaign focused on the water wells from which 98% of the Gubrunde community's water supply comes. He has completed sampling and laboratory analysis to determine the radioactivity and chemistry of groundwater in the study area. The sampling results will be assessed for compliance of the major, minor and trace elements with WHO, EPA and NIS guidelines, and a groundwater radioactivity map for uranium and radium will be produced.

Mr Brian Munihango Matengu, pictured below, is a PhD student working on groundwater resource evaluation and sustainable management in Namibia.



Brian's project focuses on the Omaruru Delta aquifer (Omdel Aquifer) situated approximately 80 km north of Swakopmund in Namibia. In 2012 he gathered information on aquifer stratigraphy, geology, hydrogeochemistry and groundwater levels. Following data acquisition, this year he has been developing a numerical flow model of the aquifer to provide an essential water management tool for the region.

Gladly, IAH NSW has received satisfactory reports of progress for both students during the past year and hence looks forward to continuing its support for these hard working colleagues. Lange reports that this was an initiative to use the profit earned from local groundwater symposia run by IAH NSW over the past few years. Particular thanks go to IAH NSW committee members Sara Merabi and Jay Punkathey who have been the driving force behind this initiative. It showed great initiative to make this happen, is a demonstration of applying the core values of IAH, and has contributed to the successful study of two of our members from financially challenged areas.

LANGE JORSTAD, IAH NSW, AUSTRALIA

[...this is indeed an excellent initiative which we would encourage others to take up, Ed...]

COMMUNICATING GROUNDWATER



Picture provided by Andrew McKenzie, British Geological Survey

We all know from our own professional experience how difficult it can be to communicate the importance of groundwater to the broader public. Misconceptions abound, and sometimes we hydrogeologists are not very good at dispelling the myths surrounding the way groundwater occurs and getting the real messages across. So it was with great interest that I set off for the British Geological Survey in Nottingham, UK to attend a national workshop organised by the UKGroundwaterForum and the Hydro Group of the Geological Society on “Communicating Groundwater - Bringing understanding to the water table”.

About 75 participants from the Environment Agency, water companies, consultants, the Geological Survey and universities were welcomed by the workshop facilitator. The first session dealt with the UK climatic extremes of 2012. Following two dry winters, the water industry had come to April 2012 with an expectation of depleted water resources and supply constraints, and was preparing a sometimes sceptical public for use restrictions and the introduction of hosepipe bans. In the event, what followed was an extremely wet few months through the summer, resulting in widespread flooding!! In 2012, UK rainfall was 115% of average and second highest since 1910 (only 2000 was wetter). England was the wettest since 1910,

and the only wetter years since records began in 1766 for England and Wales were 1768 and 1872 (Data from the UK Meteorological Office).

One essential lesson is that, for groundwater, it is often dry winters with little or no rainfall recharge that are more problematic in water resource terms than dry summers. While we hydrogeologists know this very well, it can be hard to explain to the public that the drought had its origins in the cold, dry winter months; drought is associated in the general perception and in newspaper stories and pictures with hot sunny weather. Secondly, it is not easy to maintain usage restrictions in the face of heavy and persistent rain. This was necessary for some time at the beginning of the summer until it was clear that the resource situation had eased. We saw pictures of water company and Environment Agency staff briefing the media under umbrellas and against a background of heavy rain. Thirdly, we learnt the importance of the main agencies involved – central government, local government, environmental regulator, meteorological office and water companies - providing consistent advice and information. This has not always been the case in past UK droughts.

[continued on page 19]



NEW MEMBERS

A warm welcome to the following new members who joined our Association in the period 1 April - 30 June 2013:

ANGOLA

Mrs Irena Liudimila de Ferre MIRANDA MIGUEL

ARGENTINA

Dr Sandra MARTINEZ

Mr Agustin ALURRALDE

Ma Pilar ALVAREZ

Jorge GARCIA

AUSTRALIA

Sean BERRY

Mr Matej CERVENAN

Mr Freeternity RUSINGA

Mr Hiro TOKI

Ms Tricia WILLIAMS

Mr Nathan LITTLEWOOD

Mr Andrew HARBOUR

Daniel BARCLAY

Kurt BLACKMAN

Mariah CHUDE

Garth COOPER

Brendan COX

Dennis ENT

John LEYLAND

Craig LOOBY

Alex WARRIS

Jeremy HAYNES

Ms Debra THOMAS

Dr Tao CUI

Jacquie BELLHOUSE

Mr Ron BUSH

Elisabetta CARRARA

Eloise NATION

Maree DOYLE

Jessica M FOSTER

David HOFFMAN

Rochelle IRWIN

Catriona MURPHY

Donal NEVILLE

Wolfgang SCHMID

David VAN BROCKLIN

Dr Eddie BANKS

Alessandro COMUNIAN

Dr Dougal CURRIE

Dr Richard SILBERSTEIN

Jordin BARCLAY

Jordi BATLLE-AGUILAR

Tim BLEBY

Anthony GOODE

Steven JOHNSON

Evelien MARTENS

Stuart PEARSE

Dr Margaret SHANAFIELD

Garth WALTER

Rob HOLLIS

Jon LEECH

Stan SMITH

Axel SUCKOW

Stephanie VILLENEUVE

Dr Arash MOHAJERI

BELGIUM

Vincent LEBRUN

Michael BORREMAN

Davina D'ORAZIO

Antoine GAUFFRIAUX

Serge GODART

Tanguy ROBERT

CANADA

Grant CAREY

Dr Peter DUCKWORTH

Elini BELAY

Jared ETCHEVERRY

Simon FLEURY

Guillaume MAYZONNAT

Gerard BALLIVY

Paul BOWEN

Ms Marcia MORA

Kevin MUMFORD

Mr Donald WEIR

Mr Peyman SAYYAH

Lucas CARSON

Yaming CHEN

Julie-Ann ISHIKAWA

Casmir ROGAL

Shawn TRIMPER

CHINA, PEOPLE'S REPUBLIC OF

Dr Junbing PU

Dr Tianming HUANG

COLOMBIA

Prof Oscar Alberto Villaba TORRES

Jamer ZUNIGA

Ms Vanessa Paredes ZÚÑIGA

FRANCE

Martin DE BECHILLON

Paul JARDIN

Dr Jessie JAUNAT

Mr Marc DISTINGUIN

Edouard PESQUET-ARDISSON

Mr Jacques DENTZER

GERMANY

Mr Omed MUSTAFA

Dr Christine STUMPP

Mr Thomas HAEHNEL

GHANA

Mr Kofi ASANTE

HUNGARY

András JAKAB

Mr Szabolcs KISS

INDIA

Mrs Chirashree MOHANTY

Dr Himanshu KULKARNI

Dr Panduranga REDDY INAVOLE

Prof Ashok TEJANKAR

Dr Suresh KARTHA

IRELAND

Mr Eoin MCALEER

Ms Suzanne TYNAN

Laura MCGRATH

ITALY

Ing. Muriel LAVY

Dr Roberto SALVATI

Livio CAMPAGNOLI

Daniele PARRONE

Dr Marco DOVERI

Dr Stefania STEVENAZZI

Dr Valentina MARINELLI

KENYA

Chrysanthus M GICHERUH

KOREA, REPUBLIC OF

CHOLWOO LEE

YUN UK

NETHERLANDS, THE

Ms Laura del Val ALONSO

NEW ZEALAND

Ms Magali MOREAU

Dr Gil ZEMANSKY

Mr Mark UTTING

Mr John HADFIELD

Stewart CAMERON

NIGERIA

Oduyiga OLUWAKEMI OMOLARA

Olumide Moses SOLOMON

NORWAY

Mansoor AHMAD

Simen BERGER

Lena EVENSEN

Maria FORSGARD

Eivind HALVORSEN

Arnt O HAOYA

Johan KNUDSEN

Abdul Samad KHAN

Mr Michael HINTZKE

RUSSIA
Alexandra GOREVA

RWANDA
Odillo MUKIZA

SERBIA
Vladimir MITROVIC
Suncica NINKOVIC
Milan RABRENOVIC

SOUTH AFRICA
Ms Elzet GOUWS

SPAIN
Andrés GONZÁLEZ QUIRÓS
Salvador JORDANA MARGALIDA

SRI LANKA
Mr Ashvin K WICKRAMASOORIYA

SWEDEN
Dr Peter DAHLQVIST
Charlotte DEFOORT
GEOLOGICAL SURVEY OF
SWEDEN (c)
Bjorn HOLGERSSON

SWITZERLAND
Pascal SUDAN
Chantal CRISINEL
Harald PLEISSNIG
Ms Jana VON FREYBERG

TOGO
Mr Kossitse Venyo AKPATAKU

UGANDA
Charity KISIRISA
Rebecca KUNYA-BAGAYA

UNITED KINGDOM
Mr Christopher WOOLHOUSE
Mr Flann CORCORAN
Miss Zoe PATTINSON
Mr Amando BORGE
Uche O CHUKWURA
Mr Ian SUTTON
Dr Chris BRADLEY
Mr Jim FORDE

Mr David JONES
Dr Marie ARCHBOLD
Mr Richard GRAHAM

UNITES STATES OF AMERICA
Prof. Dirk SCHULZE-MAKUCH
Margo MORELL
Stephanie DESAULNIERS

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

[...continued from page 17]

COMMUNICATING GROUNDWATER

In the second session, we learnt from recent university research that water users do not receive and respond to official drought messages entirely as the communicators intend them to. Memory of past water company performance and perceptions of fairness play key roles in how customers react. “Why is it me who is being restricted?” We also heard an interesting reflection on how the study by the British Geological Survey on groundwater storage in Africa had become global news (featured in the August 2012 IAH News and Information) and how difficult it had been to keep things in perspective and to remind people that although on a continental scale there was indeed substantial groundwater in storage, on a local scale careful investigation is often needed to abstract groundwater.

In the afternoon, participants were able to choose 3 from 12 short table top workshops which offered case studies, tools and techniques for communicating groundwater science in simple and often visual ways – for example bottled water tasting and dilution of coloured “pollutants” in water. One of the workshops was presented by Andrew Stone, chair of the IAH Commission on Groundwater Outreach. A final discussion collected some of the key messages and ideas from the day with respect to keeping the spotlight on groundwater. Groundwater education and better promotion of the value of groundwater were the clear front-runners in terms of actions to take forward. Overall, it was an excellent and stimulating day and I for one will be looking forward to the next steps. Interested colleagues can see the work of the Groundwater Forum at www.groundwateruk.org and a report and presentations from the day will be available from the website.



Editors' Choice

Free article downloads for members and non-members of IAH

“Editors' Choice” articles are specially selected by the Hydrogeology Journal (HJ) Editors and Guest Editors of the year's theme issue. Selections are made for any of several good reasons including: outstanding science, innovative approach, potentially important

conclusions, interesting field area or phenomenon, unusual topic, political/social/historical/philosophical interest, etc. Editors' Choice articles are ones that the HJ Editors believe that readers will find particularly interesting or useful.

At the end of each publishing year, only five articles from among the year's crop of about 150 published articles are designated as Editors' Choice. HJ's publisher, Springer Verlag, makes the full articles freely available for viewing and downloading for about two years, at no cost to everyone - www.springer.com/10040 (follow link to “Editors' Choice”).

The articles selected so far are summarised in the following tables.

DR CLIFF VOSS, EXECUTIVE EDITOR - HYDROGEOLOGY JOURNAL

2012 articles

Authors	Title; DOI	Vol/no, pages
I.P. Holman, D.M. Allen, M.O. Cuthbert, P. Goderniaux	Towards best practice for assessing the impacts of climate change on groundwater; DOI: 10.1007/s10040-011-0805-3	20/1, 1-4
A. Izady, K. Davary, A. Alizadeh, B. Ghahraman, M. Sadeghi, A. Moghaddamnia	Application of “panel-data” modeling to predict groundwater levels in the Neishaboor Plain, Iran; DOI: 10.1007/s10040-011-0814-2	20/3, 435-447
A. Revil, M. Karaoulis, T. Johnson, A. Kemna	Review: Some low-frequency electrical methods for subsurface characterization and monitoring in hydrogeology; DOI: 10.1007/s10040-011-0819-x	20/4, 617-658
J. Gillespie, S.T. Nelson, A.L. Mayo, D.G. Tingey	Why conceptual groundwater flow models matter: a trans-boundary example from the arid Great Basin, western USA; DOI: 10.1007/s10040-012-0848-0	20/6, 1133-1147
François Henri Cornet	The relationship between seismic and aseismic motions induced by forced fluid injections; DOI: 10.1007/s10040-012-0901-z	20/8, 1463-1466

2011 articles

Authors	Title; DOI	Vol/no, pages
Martin O. Saar	Review: Geothermal heat as a tracer of large-scale groundwater flow and as a means to determine permeability fields; DOI: 10.1007/s10040-010-0657-2	19/1,31-52
Jean-Michel Lemieux	Review: The potential impact of underground geological storage of carbon dioxide in deep saline aquifers on shallow groundwater resources; DOI: 10.1007/s10040-011-0715-4	19/4, 757-778
P. B. McMahon, L. N. Plummer, J. K. Böhlke, S. D. Shapiro and S. R. Hinkle	A comparison of recharge rates in aquifers of the United States based on groundwater-age data; DOI: 10.1007/s10040-011-0722-5	19/4, 779-800
Yu Zhou, François Zwahlen and Yanxin Wang	The ancient Chinese notes on hydrogeology; DOI 10.1007/s10040-010-0682-1	19/5,1103-1114
Jerome Perrin, Shakeel Ahmed and Daniel Hunkeler	The effects of geological heterogeneities and piezometric fluctuations on groundwater flow and chemistry in a hard-rock aquifer, southern India; DOI: 10.1007/s10040-011-0745-y	19/6, 1189-1201

2010 articles

Authors	Title; DOI	Vol/no, pages
Rory D. Henderson, Frederick D. Day-Lewis, Elena Abarca, Charles F. Harvey, Hanan N. Karam, Lanbo Liu and John W. Lane, Jr.	Marine electrical resistivity imaging of submarine groundwater discharge: sensitivity analysis and application in Waquoit Bay, Massachusetts, USA; DOI 10.1007/s10040-009-0498-z	18/1, 173-185
Lawrence D. Lemke and Joseph A. Cypher	Postaudit evaluation of conceptual model uncertainty for a glacial aquifer groundwater flow and contaminant transport model; DOI 10.1007/s10040-009-0554-8	18/4, 945-958
Nico Goldscheider, Judit Mádl-Szönyi, Anita Eröss and Eva Schill	Review: Thermal water resources in carbonate rock aquifers; DOI 10.1007/s10040-010-0611-3	18/6, 1303-1318
Erick R. Burns, Larry R. Bentley, Rene Therrien and Clayton V. Deutsch	Upscaling facies models to preserve connectivity of designated facies; DOI 10.1007/s10040-010-0607-z	18/6, 1357-1373
Elizabeth J. Screaton	Recent advances in subseafloor hydrogeology: focus on basement–sediment interactions, subduction zones, and continental slopes; DOI 10.1007/s10040-010-0636-7	18/7, 1547-1570

<http://www.springer.com/10040> (follow link to “Editors’ Choice”)

IAH CONGRESS UPDATES

Perth, 2013 host



At the time of writing, there are only 10 weeks to go to IAH Congress 2013 in Perth. The sun is shining beautifully and final preparations are being made for the 40th Congress.

With almost 500 delegates currently registered for the Congress and a full programme including 9 plenary speakers, 425 accepted oral presentations and 160 posters this is sure to be an educational week.

In addition, the Perth programme of IAH meetings during the congress week is taking shape. Council will meet on Sunday 15th September in the congress venue, and members are welcome to attend as observers. The Annual General Meeting of the Association will be held on the evening of Monday 16th September (see the formal announcement on the next page). There will be a meeting of IAH chapter representatives, probably on the Tuesday evening, and a number of the IAH commissions and networks will be holding meetings in Perth. Final confirmation of these is still in progress, and details will be provided on the congress website and probably through the commissions and networks themselves. Those who are interested in participating in IAH's commissions and networks are cordially invited to attend.

Full details of registration, accommodation, field visits and the technical and social programmes can be seen at <http://www.iahcongress2013.org>. We look forward to seeing you in Perth from 15 to 20 September!

AUSTRALIA 2013 ORGANISING COMMITTEE

<http://www.iahcongress2013.org>

Morocco, 2014 host



Preparations for the IAH 2014 congress are progressing well. The venue chosen is the Royal Mogador Congress Center located in Marrakech, part of a 5 star hotel of the same name with a beautiful view towards the Atlas Mountains.

The organising committee is planning to have a stand in Perth during IAH 2013 to provide information and will offer registration and sponsoring documentation. The website of the Congress is now operating (<http://www.iah2014.org>) and offers an easy way for registration of interest, along with information about accommodation and parallel activities.

At the request of some colleagues, a new session dealing with groundwater and oil production (with strong regional interest) has been added to the congress topics. The Congress will be giving special attention to:

- (i) Early career hydrogeologists, for whom a special sub-committee has been established, coordinated by our colleagues Fekri Ahmed from the Moroccan Chapter and Viviana Re of the ECHN. A dedicated and rich programme is being prepared, aiming to provide specifically for the younger hydrogeologist.
- (ii) Groundwater resources in the African and MENA regions, for which special sessions will be dedicated, aiming to raise the profile of groundwater in these regions to the forefront of the thinking of regional and international water organizations.

Interest for the congress is steadily increasing - look out for further news and announcements.

2014 CONGRESS ORGANISING COMMITTEE

<http://www.iah2014.org>



and we're off to Italy, 2015

At its meeting in June, Council received proposals for hosting the 2015 congress from the national chapters of Italy and Croatia. Both were excellent and of high enough quality to be acceptable and for us to be confident there would be a successful outcome. It is some years since we received two such strong proposals at the same time, and this must be an indication of the growing strength of our national chapters.

Council considered that the Italian proposal was slightly stronger and approved the award of the 2015 congress to Italy, although it was a close thing. In fact, Council liked many aspects of the Croatian proposal and agreed that they would like to encourage the Croatian committee to consider offering to host the 2017 IAH congress. Obviously we could not have successive congresses in neighbouring European countries, but based on the experience of Lisbon and Krakow, there is no doubt that a good IAH congress in Europe will attract large numbers of groundwater professionals.

We sincerely thank both committees for the care and thought they put into the proposals. The time from now until September 2015 will go very quickly, and the Secretariat is already helping our Italian colleagues to get off to a flying start. Watch the newsletter and website for further news.

IAH COUNCIL

DATE FIXED FOR IAH ANNUAL GENERAL MEETING, 2013



Notice is given that the 2013 Annual General Meeting of the International Association of Hydrogeologists will be held in the Perth Exhibition and Convention Centre, Perth Australia on Monday 16th September 2013 from 18.00 to 19.30.

All members of the Association who have fully paid their subscriptions for the current year are entitled to attend and participate in the proceedings. Guests are welcome.

IAH EXECUTIVE

2013

20-21 August: Dushanbe, TAJIKISTAN. High Level International Conference on Water Cooperation. Organised by Government of Tajikistan jointly with UN institutions. Web: <http://www.hlicwc.org/>

22-23 August: Berlin, GERMANY. Groundwater Systems in Europe. International workshop. Organised by The Geological Surveys of Europe (EuroGeoSurveys, EGS) and the German Federal Institute for Geosciences and Natural Resources (BGR). Web: <http://www.bgr.bund.de/gw-systems-2013>

1-6 September: Stockholm, SWEDEN. World Water Week; Water Cooperation - Building Partnerships. Organised by SIWI (Stockholm International Water Institute). Web: <http://www.worldwaterweek.org/>

2-6 September: Madrid, SPAIN. IAMG2013. 15th annual conference of the international association for mathematical geosciences. Web: <http://www.igme.es/internet/iamg2013/>

2-7 September: Budapest, HUNGARY. International Symposium on Hierarchical Flow Systems in Karst Regions. Organised by A collaboration of IAH Commission for Regional Groundwater Flow and IAH Karst Commission; IAH Hungarian Chapter; Karst Hydrogeology and Speleogenesis Commission of International Union of Speleology. Web: <http://www.karstflow2013.org/>

15-20 September: Perth, AUSTRALIA. Solving the Groundwater Challenges of the 21st Century. IAH 40th annual congress. Web: <http://www.iahcongress2013.org>

17-20 September: Buenos Aires, ARGENTINA. VIII Congreso Argentino Hidrogeología. Web: <http://www.hidrogeolaplata.com.ar>

17-19 September: Durban, SOUTH AFRICA. Groundwater: A New Paradigm. 13th Biennial Ground Water Division, GSSA Conference and Exhibition. Organised by GSSA. Web: <http://www.gwd.org.za>

23-24 September: Burlington, USA. NGWA Conference on Groundwater in Fractured Rock and Sediments. Organised by NGWA. Web: <http://www.ngwa.org/Events-Education/conferences/5017/Pages/5017sep13.aspx>

29 September - 3 October: Montréal, CANADA. Geoscience for Sustainability (GeoMontreal 2013). 11th Joint CGS/IAH-CNC Groundwater Conference. Organised by Canadian Geotechnical Society (CGS) in collaboration with the International Association of Hydrogeologists (IAH/CNC) and the North American Geosynthetics Society (NAGS). Web: <http://www.geomontreal2013.ca/>

14-17 October: Nairobi, KENYA. IWA Development Congress and Exhibition. Web: <http://www.iwa2013nairobi.org/>

15-19 October: Beijing, CHINA. ISMAR8. 8th International Symposium on Managed Aquifer Recharge. Web: <http://ismar8.org/>

15-16 October: Glasgow, SCOTLAND, UK. International Water Cooperation and Transboundary Aquifers. Roundtable conference. INFO: Web: http://www.cifalscotland.org/index.php?option=com_content&view=article&id=236:international-water-cooperation-and-transboundary-aquifers&catid=1:forthcoming-programmes

16-18 October: Jachranka, POLAND. XIVth Symposium - Contemporary Problems in Hydrogeology. Web: <http://www.wph2013.uw.edu.pl/>

21-24 October: Beijing, CHINA. 3rd Asia-Pacific Coastal Aquifer Management Meeting. Web: <http://www.apcamm.org/>

27-30 October: Denver, USA. Celebrating Advances in Geoscience – GSA 125th Anniversary. 2013 GSA Annual Meeting & Exposition. Organised by Geological Society of America. Web: <http://www.geosociety.org/meetings/2013/>

4-6 November: Lille, FRANCE. Climate change impacts on water security and safety. WFD Lille 2013: Third Water Framework Directive international conference. Web: <http://www.wfdlille2013.eu/>

For a fuller list of conferences and more details visit www.iah.org/

We are happy to accept information concerning upcoming groundwater events from organisers; email knicholson@iah.org with full details.